European Monitoring Centre
for Drugs and Drug Addiction

EUROPOL

EU Drug Markets Report

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Foreword

Europe is confronted with a rapidly evolving drug market. The increased potency and purity of illicit drugs, the record numbers of seizures and increased production in the EU, all indicate that the availability of illicit substances is growing. We also see a dramatic increase in the number of new, and often highly potent, synthetic substances present on the market.

Moreover, organised crime benefits significantly from the drug trade but, more worryingly, these criminals have shown determination and ruthlessness in trying to grow their market share. The direct impact of these developments is to be found in the number of fatal drug overdoses, of which there were 8 238 in the EU in 2017, and individuals seeking help from treatment providers or emergency services.

The increasingly global reach of organised crime groups involved in drug production and trafficking also represents a major cross-border security threat. They are forward-looking and quick to innovate in order to counter threats to their business model, but also quick to take advantage of new opportunities. Indeed, the drug market has become increasingly digitally enabled. Drugs purchased online can be transported across Europe and delivered to consumers by post and parcel services. This creates new challenges for law enforcement.

The report also highlights the way drug market-related activities complicate and make other security and health threats worse. It shows that the drug market is one of the major sources of income for organised crime and how it is linked to other areas of criminality. The drug market is also an important driver for the recruitment of young people into criminal organisations and gangs, as well as the exploitation and trafficking of vulnerable individuals.

The negative impact of drugs and drug use in Europe must also be measured in terms of its societal consequences. Violent crime in producer and transit countries leads to reduced social development, failing institutions, ecological damage and blighted communities.

The evidence provided in this third European Drug Markets Report and the links to organised crime that it highlights are a major contribution to informing policymakers. Confronted with such a growing threat, the European Union must be innovative and forward-looking; it must step up its effort to fight the criminal activities, while keeping drugs policy anchored in a balanced and evidence-based approach.

Paraskevi Michou
Director-General Migration and Home Affairs

Introduction

It is with great pleasure that we present this new joint report by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and the European Union Agency for Law Enforcement Cooperation (Europol). The report focuses on the drug supply chain, the associated criminal activities and actors, and the policy, strategic and operational responses to these. It highlights the importance of the drug market as a key source of revenue for organised crime, its links to terrorism and wider criminal activity, and the negative impact it has on the legal economy and society more generally, demonstrating how the drug trade and its wider ramifications affect all aspects of the European security agenda and why tackling them is essential to the European Union's fight against serious and organised crime. It describes, for example, the links between drugs and trafficking in human beings, the increasing levels of violence and corruption associated with the drug trade, and the environmental harms from drug production — all of which are now increasingly visible within Europe.

The analysis underpinning this report is strengthened by the complementary perspectives our two organisations bring to this topic. The synthesis of the operational intelligence provided by Europol, with research data and the information available from the ongoing monitoring undertaken by EMCDDA has produced a report and accompanying online materials that provide a contemporary strategic and action-oriented analysis of Europe's drug markets. This will be a valuable source of evidence to inform policies and actions and a strategic understanding of how criminal enterprises operate to assist the targeting of operational activities.

This is the third EU Drug Markets Report – it builds upon the analysis provided in the 2013 and 2016 editions and many of the conclusions and recommendations of the previous reports remain relevant today. However, this new report is able to paint a richer picture and provides additional insights. For example, it highlights the way in which many of the harms more traditionally associated with drug production and trafficking outside Europe are becoming a growing threat within the EU. It also shows how the EU is increasingly important as both a drug producing and transit region, while EU-based organised crime groups are adapting their modi operandi and extending their reach, resulting in both increased harms and new challenges for enforcement.

The increasingly globalised and digitally-enabled nature of drug markets illustrated in the report means that the law enforcement activities countering these are becoming more complex and resource intensive. This underlines the need to ensure the adequate resourcing and prioritisation of supply reduction activities, including not only law enforcement interventions and investigations, but also importantly activities to enhance international cooperation, at both the national and EU level. The continued development of joint programmes, networks, partnerships and capacity building in relation to drug supply reduction among key regional partners, such as the Western Balkan and other neighbouring countries as well as those in the drug producing regions of Latin America and Central Asia, therefore needs to remain a high priority.

This report also illustrates the importance of continued investment in research, monitoring and analysis, which is necessary to underpin the flexible and dynamic responses that Europe requires to tackle the problems generated by drug markets. Having a reliable and comprehensive picture of the drug market and its wider impacts available is essential for decision-makers at both the national and EU Level as well as to law enforcement authorities in planning resource allocation and deciding on investigative focus areas. The EU Drug Markets Report helps to address these needs by providing an indispensable reference point

for audiences ranging from policy-makers with responsibility for both security and public health to investigators, analysts and managers working on activities in the area of criminal investigations and drug supply reduction.

The breadth of topics covered in this report means that it inevitably synthesises and summarises a large amount of detailed information. We take this opportunity to thank not only our own staff but also all the experts, both in Europe and internationally, who have provided input and comments that have been essential to ensuring the quality the analysis found here. We also thank the EU and national institutions and bodies, and especially our colleagues in the European Commission, who have contributed so generously with their time to provide comments on this report; these insights have been invaluable.

Finally, we must acknowledge that the hidden and criminal nature of the drug market makes it challenging for research and monitoring, and inevitably there are knowledge and data gaps in many areas, which can hamper the development of evidence-based responses. Our analyses are necessarily based on triangulation between diverse, partial and sometimes contradictory information sources. While putting these together helps provide a more complete picture, uncertainty still exists and critical information gaps remain. Therefore, throughout this report we give attention to the issue of 'what we don't know, but need to know' about the European drug market. Nevertheless, we are confident that this report provides a state-of-the-art review of the data currently available in this area. It also draws out key learning and action points that provide a strong platform for developing future policies and actions, to enhance our understanding not only of the rapidly changing drug markets but also of what we need to do in Europe if we are to take effective measures to tackle them.

Alexis Goosdeel

Director, EMCDDA

Catherine De Bolle

Executive Director, Europol

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- the EMCDDA reference group on drug supply indicators;
- law enforcement officials from the EU Member States;
- the EU Agency for Law Enforcement Training (CEPOL), the EU Judicial Cooperation Unit (Eurojust) and the European Border and Coast Guard Agency (Frontex).

As well as these, many other people have been involved and while it is not possible to thank everyone personally, we would like to acknowledge those who have given generously of their time to support this work. In particular, thanks are due to staff of the following organisations for providing supplementary data and information:

- Belgian Federal Police;
- Colombian National Police;
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- Netherlands Forensic Institute;
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- Public Health Agency of Sweden;
- Romanian National Police;
- Swedish Police Authority;
- United States Drug Enforcement Administration.

We also thank the experts who have kindly answered the questions of the authors, and all those who have allowed us to reproduce their photos in the report.

Finally, we would like to thank the many individuals and organisations whose research and analysis we have cited.

Explanatory note on data

This report utilises data from multiple sources. Primarily it includes data and information reported to the EMCDDA and Europol. The EMCDDA data presented in this report are based on annual data collection using standardised reporting tools by the EMCDDA via its network of 30 national focal points across the 28 EU Member States (as of August 2019), Norway and Turkey. Unless otherwise stated, data presented in this report relate to the 28 EU Member States and 2017 data year. EU+2 denotes data for the EU Member States, Norway and Turkey. Where lists of countries are not in alphabetical order, they are in order of importance. The analyses presented here are also informed by open source information, including an EMCDDA database of reports of individual seizures identified through an ongoing monitoring programme. There are sometimes inconsistencies between the data from different sources and, in addition, data supplied by Member States to the EMCDDA, such as seizures, may themselves be collated from a large number of different data sources and in some countries the total values supplied may represent minimum estimates.

Estimates of the total size of the retail drug market in the European Union (EU) in 2017 for cannabis, heroin, cocaine, amphetamines and MDMA have been constructed using a demand-side approach. These estimates are likely to underestimate the size of the market due to gaps and underestimations in the currently available data, on which they are based. Nevertheless, the process has proved valuable in identifying key gaps in our knowledge. Some key principles underpinning the approach taken are:

- European estimates were obtained by summing individual country estimates;
- wherever possible, the data used came from routine EMCDDA data collection;
- where imputation of missing data was essential to produce a national estimate, this was based on related country-specific data, if possible, or else the average across those EU countries for which data were available was used;
- all imputations and assumptions made within the estimation process are noted, so that the limitations are clear.

However, in areas where data on which to base assumptions are lacking or are of insufficient quality, no imputations have been made. This includes, for example, the extent of underestimation and undercoverage in the general population survey data underpinning the estimates. Therefore, the retail market value reported here is a minimum estimate. In addition, it only reflects the amount consumers spend on illicit drugs and provides no information on other aspects of the drug market, such as the profits and losses for criminal groups at different stages of the supply chain.

Global data are sourced from the United Nations Office on Drugs and Crime (UNODC) and the International Narcotics Control Board (INCB).

Currency conversions to euros throughout the report are based on European Central Bank exchange rates for the year corresponding to the data used (European Central Bank, n.d.).

Executive summary

This report provides a strategic and action-oriented analysis of the information available on Europe's drug market. It uses a broad definition of the illicit drug market, encompassing the illicit production, trafficking, wholesale distribution and sale of controlled substances to the end user. The drug market has wide-ranging impacts on both security and public health, and therefore such a holistic and systemic perspective is important for the effective delivery and monitoring of drug control policy and supply reduction activities.

Impacts and drivers of drug markets

The drug market is a major source of income for organised crime groups (OCGs) in the EU, with minimum estimated retail value of EUR 30 billion per year. In addition to the economic impact, drug-related deaths and other harms to public health, there are broader consequences of drug markets, such as links with wider criminal activities and terrorism; the negative impact on the legal economy; violence in communities; damage to the environment; and the increasingly important issue of how the drug market can fuel corruption and undermine governance.

Analysis of OCG activities highlights the importance of the drug market and that strong links exist with other areas of serious crime. More than one third of the 5 000 OCGs identified in the EU's Serious and Organised Crime Threat Assessment (SOCTA) 2017 were directly involved in the drug market and, overall, illicit drugs represent the most valuable market for criminal organisations operating in the EU. About two thirds of those engaged in the drug trade are also involved in other criminal activities. There are also signs of increasing competition between groups leading to escalating violence within the EU drug market. All data indicate that overall drug availability within Europe, for both natural and synthetic drugs, remains very high. The European drug market is increasingly characterised by consumers having access to a wide variety of high-purity and high-potency products that, in real terms, are usually equivalent in price or cheaper than they have been over the past decade.

This reflects high levels of production globally and within the EU. Cocaine production in South America and heroin production in Afghanistan are estimated to be at historically high levels. Europe is also a major producer of cannabis and synthetic drugs for the EU market and to some extent is a global supplier of MDMA and amphetamine. Developments in the area of precursors have been an important driver of the expansion of drug production.

The drug market is becoming more globally connected and technologically enabled. The main drivers of change behind the developments and new threats detailed in this report stem from the ability of OCGs to exploit the opportunities arising from the existence of global commercial markets and the associated logistical developments and digitalisation.

Globalised commercial markets require the transportation of goods across borders as rapidly and simply as possible. There has been a rapid growth in the volume of trade using both intermodal transportation networks for large-volume shipments, often involving containers, and rapid parcel and postal delivery services for smaller volumes. These are increasingly exploited by OCGs for drug-trafficking activities. OCGs are becoming more internationally connected and exploit the gaps and differences that exist in regulatory and drug control environments.

The drug market is increasingly digitally enabled. Both the surface web and darknet markets are used for online drug sales, as are social media and mobile communication apps. Encryption and anonymised services are also increasingly used by OCGs for secure

communication in the trafficking and sale of illicit drugs. This can disrupt existing markets by lowering the barriers for market entry, reducing the need for some of the capacities and infrastructure traditionally needed for drug trafficking and distribution, and creating new challenges for law enforcement and public health.

The drug market in the EU needs to be viewed from both global and regional perspectives. There are specific challenges associated with different regions. Developments in drug production in South America and Afghanistan have a clear impact on the EU drug market. China is also important as a source country for drug precursors and new psychoactive substances. In some neighbouring countries, such as Morocco, Turkey and the Western Balkans, there are OCGs that are closely linked to ethnically-based groups residing in the EU, which is changing the dynamics of drug supply. Africa is also important because of its growing role as a trafficking and transit area, with the potential for this to be a destabilising influence and have a negative impact on security and governance, and increasing drug problems within the region.

Key themes and implications for action

The overarching themes emerging from the analysis have important implications for action. In addition to those elaborated in the individual chapters of the report, the following broad areas need to be addressed for an effective response to the challenges identified in the European drug market.

Strengthening efforts to target top-level OCGs active in the global drug market
The threat posed by the changing OCG business models and their growing ability to exploit new opportunities requires continuing investment to strengthen information sharing, analysis and cooperative actions at the operational, strategic and policy levels. This is necessary to tackle major OCGs across different drug types and areas of criminal enterprise.

Reducing vulnerabilities at external borders
Reducing the opportunities for wholesale trafficking of drugs through key entry points into the EU requires continued investment in risk analysis and profiling, intelligence sharing and implementation of proven approaches to strengthen the external borders of the EU. Effective cooperation within and across borders between police, customs, border control, other law enforcement agencies, and across the EU between judiciaries, is a critical requirement for success.

Focusing on key geographical locations for trafficking and production
Areas in which drug market activities are concentrated are identified in this report. Targeting these key locations with special measures while remaining vigilant to the potential for the displacement of activities, should be a strategic priority.

Investing in forensic and toxicological capacity
Innovations in drug production and trafficking methods for all drugs, the growing importance of highly potent synthetic substances, and the introduction of new psychoactive substances and precursor chemicals has meant that forensic and toxicological analysis is becoming increasingly important. However, overall capacity is limited, potentially impeding the development of effective policies and actions. Investment is required both at the European and Member States' level.

Addressing the links with other important security threats
It is increasingly recognised that there are some links between illicit drug markets and other criminal activities, such as trafficking in human beings and terrorism. Such links require further study and may be challenging to address. Tackling them effectively involves the strengthening of multiagency partnerships in order to step up action in the areas of prevention, prosecution of perpetrators as well as protection of victims.

Recognising the costs of drug-related violence and corruption
Historically drug-related violence and corruption were most commonly associated with production and trafficking activities outside Europe. This report identifies a growing threat that the European drug market is becoming a driver for increasing violence and corrupt practices within the EU. Combating this threat is a major challenge that requires concerted actions across a number of policy areas.

Responding to digitally enabled drug markets
A proactive analysis of the threats posed by the introduction of new technologies is needed. The success of law enforcement actions against digitally enabled drug markets will increasingly rely on the ability to identify and employ new tools and technologies — to anticipate and respond to the emerging threats. This requires the harnessing of specialist skills, for example in forensic science, financial investigations, and information and communications technology.

Acting at a global level
Engagement with international organisations and third countries is a crucial element in responding to a globalised drug market. Understanding developments in drug production, trafficking and use in non-EU countries is therefore becoming increasingly important to responding more effectively to the drug market in Europe. Working with countries neighbouring the EU or on the main trafficking routes to the EU is essential. This is particularly relevant in those countries where, for historical reasons, OCGs exist with links to ethnically-based groups residing in the EU.

Cannabis

Europe's biggest drug market is for cannabis and significant production of the drug takes place within the EU. With around 25 million annual users, the retail market for cannabis was estimated to be worth at least EUR 11.6 billion in 2017. Around one in seven young adults in the EU reports having used cannabis in the past year, with prevalence rates generally stable but with early signs of possible increases in some countries. Herbal cannabis is more commonly used than cannabis resin in the EU. The cannabis market is rapidly becoming more diverse and complex, complicating and putting a strain on current regulatory, law enforcement and monitoring approaches to this drug. Resin and herbal cannabis, now of higher potency, still dominate but other products are appearing. These range from high-potency cannabis oils to a wide range of commercial medical and wellness products with low levels of tetrahydrocannabinol (THC).

Herbal cannabis is extensively produced within the EU, with estimates indicating that at least 20 000 cultivation sites are dismantled each year, and is a major source of income for the criminal economy. Despite efforts to counter production, the Western Balkans, and Albania in particular, appear to remain an important source of origin for seized herbal cannabis. In the case of cannabis resin, cooperation between European nationals engaged in cannabis production and Moroccan producers has led to the introduction of new cannabis strains and production methods in Morocco. These changes may have exacerbated the environmental impacts of production, such as soil erosion, deforestation and water security issues. In the EU, indoor production is also linked to environmental and health and safety risks. There appears to be diversification in OCG involvement in the cannabis market in the EU, with the competition leading to higher levels of intergroup violence. However, OCGs of Moroccan origin still play a major role in cannabis resin trafficking, and groups of Dutch, but also of Vietnamese, origin are important for large-scale production of herbal cannabis.

Spain remains the main entry point for cannabis resin into the EU, although Libya has emerged as a major transit hub alongside diffusion of trafficking activities throughout the Mediterranean region. The Netherlands and Spain remain the major trafficking hubs for intra-EU cannabis trafficking and are commonly identified as the sources of origin of seizures made by EU countries. While the scale is currently small compared with traditional offline supply, online sales of cannabis appear to be increasing and have the potential to expand further.

Heroin and other opioids

The use of heroin and other opioids still accounts for the largest share of drug-related harms. The retail value of the heroin market in 2017 was estimated to be at least EUR 7.4 billion. There are indications that heroin availability in the EU may increase: recent opium production estimates from Afghanistan, levels of seizures in Turkey and intelligence assessments of activity along the main trafficking routes to Europe are all high, and large consignments of heroin have been detected within the EU. Therefore, vigilance is required to identify any increases in heroin use. Synthetic opioids such as methadone, buprenorphine, tramadol and fentanyl derivatives are also available on the drug market. They appear to be growing in importance and pose additional challenges from regulatory, law enforcement and health perspectives.

Generally, Turkish OCGs maintain overall control over the wholesale importation of heroin into Europe. However, other OCGs, such as Balkan, British, Dutch, Iranian and Pakistani groups, are also important in different parts of Europe. Overlaps have been identified between OCGs involved in heroin supply and those involved in the trafficking of other drugs, precursors, weapons and other illicit commodities. The main heroin precursor, acetic anhydride, is far cheaper to source in the EU than in areas nearer to opium-producing countries, and there is evidence of increasing diversion and trafficking of the precursor from the EU along the Balkan route to heroin production areas. This appears to be linked to diffusion of heroin production outside Afghanistan to other places, including the EU. The Balkan route still remains the key corridor for heroin entry into the EU and therefore Turkey remains of central importance for actions to disrupt the trafficking of heroin to the EU market. While activities on the Northern route decline, there appears to be an increase in the trafficking of heroin on the Southern route, in particular through the Suez Canal. This is taking place against a backdrop of growing domestic opioid problems in some African countries.

For synthetic opioids, sources are diverse, including conventional trafficking approaches, diversion from medical use, online purchase and, although uncommon, production within the EU. High-potency synthetic opioids pose particular challenges for law enforcement and increased risks to health. They are increasingly traded online and dispatched by post, and small-volume packages can contain a large number of potential consumer doses.

Cocaine

The cocaine market is the second largest illicit drug market in the EU, with an estimated minimum retail value in 2017 of EUR 9.1 billion. Surveys estimate that about 4 million people in the EU will have used cocaine in the past year. Use is still concentrated in the west and south of Europe but appears to be becoming more common elsewhere. Production estimates in the three main producing countries and seizures in Europe were at record levels in 2017. Cocaine-manufacturing processes also appear to be becoming more efficient, and the EU is a potential source of precursor chemicals; attempted diversion of large amounts of the precursor, potassium permanganate, and significant seizures of other chemicals used in cocaine production have been reported in Europe.

While Colombian and Italian OCGs have historically played a central role in the trafficking and distribution of cocaine, increasingly other groups are becoming more significant, including Albanian-speaking, British, Dutch, French, Irish, Moroccan, Serbian, Spanish and Turkish OCGs. At the same time some European OCGs have established a presence in Latin American countries, developing a new 'end-to-end' business model for managing the supply chain, with large quantities of cocaine purchased near production areas at lower costs. This may be driving competition and conflict within the cocaine market and leading to increasing cocaine market-related violence and corruption within the EU. The use of containers for cocaine smuggling means that seizures of large volumes of the drug at ports are now common and the cocaine seized at the wholesale level in Europe is of high purity, often above 85 %. Belgium, the Netherlands and Spain remain main entry points and distribution hubs for cocaine in the EU. North Africa appears to be emerging as a more significant transit point for both air and maritime shipments of cocaine destined for the European and possibly other markets. The global market for cocaine appears to be growing and a knock-on effect of this is that the EU appears to be increasingly used as a transit area for cocaine destined for other markets such as Australia, New Zealand, Russia, Turkey and countries in the Middle East and Asia. The cocaine market is increasingly enabled by digital technology, including darknet markets and the use of the surface web, social media and mobile phone apps to advertise and facilitate the delivery of cocaine to consumers. Innovation seen in the supply chain at the consumer level is suggestive of both high availability and attempts by OCGs to increase market share.

Synthetic drugs: amphetamine, MDMA and methamphetamine

Europe's synthetic drugs market, particularly in respect to stimulants like amphetamine, MDMA and methamphetamine, is evolving rapidly. Within the stimulant market, these drugs compete for market share alongside cocaine and a number of new psychoactive substances. Of the two closely related stimulants, amphetamine continues to be more commonly used than methamphetamine in most EU countries, though there are growing signs of a gradual diffusion of methamphetamine use. The value of the EU retail market for amphetamines (amphetamine and methamphetamine combined) in 2017 is estimated to be at least EUR 1 billion, and for MDMA EUR 0.5 billion.

Most production takes place in the EU, and a variety of developments in production methods and source materials have made lower costs and higher profits achievable from production. Another knock-on impact of these developments is the potential increase in the strength or purity of synthetic drugs; for example, the MDMA content of ecstasy tablets has risen dramatically in recent years. Large-scale production of MDMA and amphetamine remains concentrated in the Netherlands, and to a lesser extent Belgium, with Dutch-based OCGs playing a major role. Methamphetamine production mostly occurs in central Europe, particularly in and around Czechia. Recently, however, methamphetamine production has also been detected in the Netherlands, with the possible involvement of Vietnamese OCGs formerly operating in Czechia. An additional development of some concern is the discovery in the Netherlands and Belgium, in the first half of 2019, of three large-scale methamphetamine production facilities, where Mexicans were working with local criminal groups. The dumping of waste products from synthetic drug production results in environmental damage, health risks and high clean-up costs. The use of novel chemicals for producing precursors has exacerbated this issue.

In synthetic drug distribution, changes in OCG practices and greater interaction between groups involved in other areas of the drug market are observable. These include Dutch OCGs working with criminals of Turkish origin to supply synthetic drugs to Turkey and beyond, and a trend for outlaw motorcycle gangs who are involved in synthetic drug distribution to become more involved in production. In addition, darknet markets facilitate mid-level suppliers and distributors to access synthetic drugs, such as MDMA, which can be purchased in batches of thousands of tablets and then be repackaged and sold on. OCGs in the EU increasingly play a key role in the global market for amphetamine and methamphetamine, as well as MDMA. Some amphetamine produced in the EU is trafficked to the Middle East to be sold as captagon tablets, and Europeans have been involved in amphetamine production in the Middle East. In addition, methamphetamine produced in Africa and the Middle East, and more recently Mexico, transits through Europe, usually with a final destination in Asia or Oceania.

New psychoactive substances

Policies relating to new psychoactive substances (NPS) appear to be having some impact, especially those aimed at reducing open trade in the EU as well as measures taken in source countries, such as China. There has been a slow-down in the number of first detections of NPS in Europe. Currently around 50 new substances are reported annually, giving a total of over 730 that have been reported to the EU Early Warning System. Despite this, NPS continue to represent a serious cross-border threat to health due to the number of potent opioids, synthetic cannabinoids and benzodiazepines appearing on the market and the associated reports of health emergencies and deaths. Problems attributable to synthetic cannabinoids appear to be growing, as their relatively low cost, easy availability and high potency are factors in increased use among marginalised groups, including the homeless and prison populations. In addition, new synthetic opioids are a growing cause for concern, with a rapid increase seen in the number of fentanyl derivatives, substances particularly associated with health problems, including fatal poisoning.

The main source countries, where NPS are sold openly by chemical and pharmaceutical companies, are China and, to a lesser extent but particularly for those sold as medicines, India. However, a small number of illicit laboratories have also been detected in EU countries, such as the Netherlands and Poland, usually producing synthetic cathinones. Interactions between the NPS market and the market in established controlled drugs have become stronger, with NPS increasingly sold alongside illicit substances or in mixtures with them. Overlaps also exist with the market for fake medicines. For example, new

benzodiazepines, often sold at very low prices and having the appearance of licensed medicines, have appeared on illicit drug markets in some countries and have been associated with harm, including an increased risk of overdose. Another group of NPS, the synthetic cathinones, has been associated with HIV outbreaks linked to their injection, and also with increased sexual risk-taking behaviours.

Policies and actions

A number of themes that have important implications for EU policies and actions recur across the analysis presented in this report. The contemporary drug market is increasingly complex, adaptive and dynamic; it is also more global in nature and more interlinked than in the past. EU policies and responses need to be equally agile, adaptive and joined-up if they are to effectively address current and future challenges in this area. In addition to operational activities, it is important that full use is made of the range of policy tools available: these include coordination mechanisms and strategies, bilateral engagement with third countries and industry, and the use of legislative and financial instruments.

The identification, disruption and dismantling of serious organised crime groups involved in drug trafficking, money laundering and corruption remains a high priority. However, an important message emerging from this analysis is that, in addition to the direct impact on health and security, the drug market has indirect and wide-raging negative consequences in other important policy areas. These include violence and community safety, economic development and governance, and the environment. A better understanding of these links is needed to inform the further development of more integrated and stronger multi-sectoral responses.

Finally, the human and societal costs associated with the drug market remain considerable. The reduction of the harm associated with the drug market should remain a priority. This requires actions to be articulated across a broad range of policy domains at both EU and Member State level, and is consistent with Europe's commitment to a balanced and evidence-based approach to responding to challenges in this area.

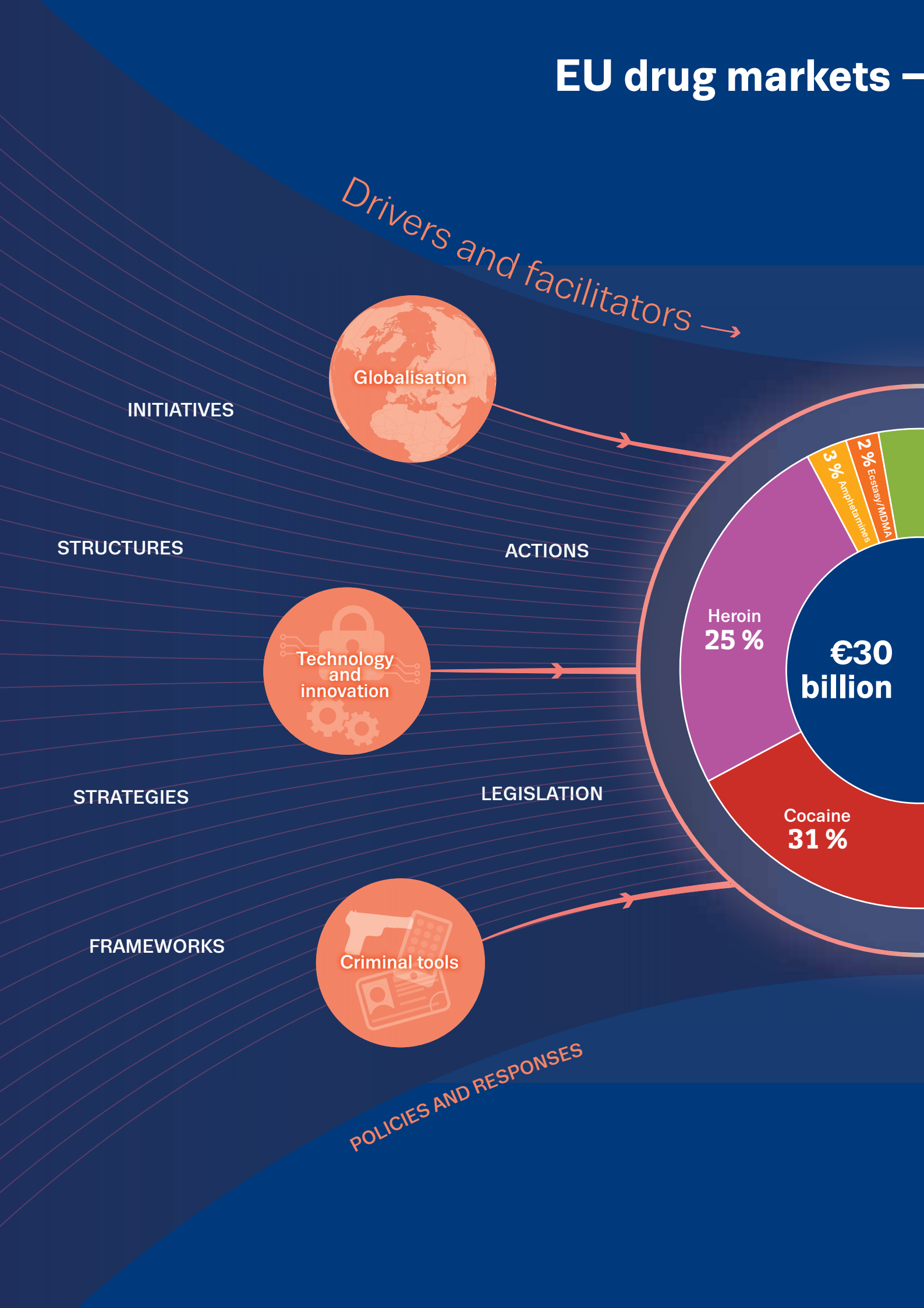
PART I

Impacts and drivers of drug markets

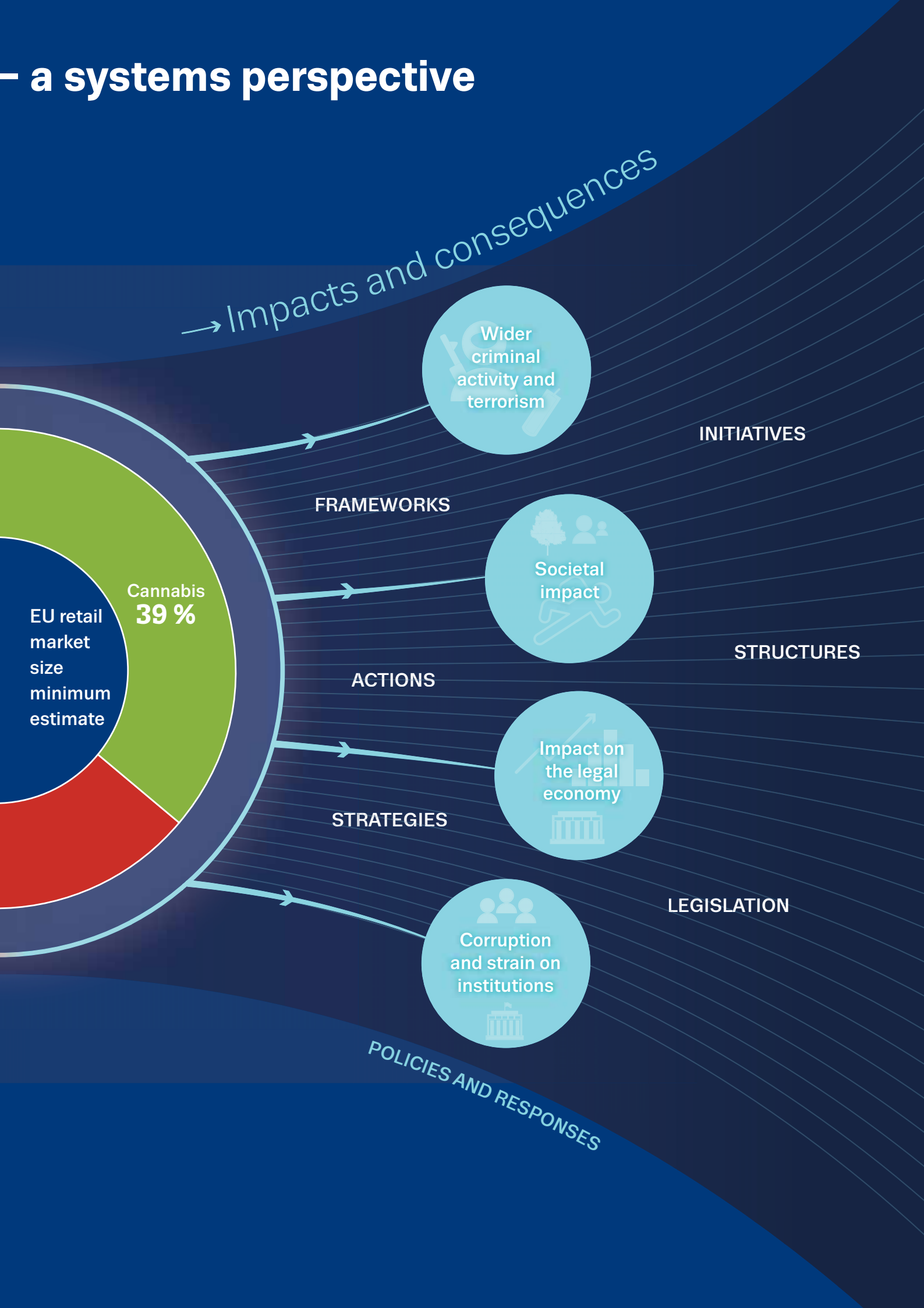
This report uses a very broad definition of the illicit drug market, encompassing the illicit production, trafficking, wholesale distribution and sale of controlled substances to the end user. The rationale for this is that, despite being one of the priority areas for drug control policy and supply reduction activities, the drug market is rarely considered holistically or systemically and yet such a perspective is likely to be critically important to both the formulation and the evaluation of activities in this area.

This part of the report introduces the latest findings on the impacts and consequences of the markets for illicit drugs in the EU and the key driving factors influencing their operation. The first chapter presents a revised estimate of the retail market size for the main illicit drugs before going on to examine the interlinkages between the illicit drug trade and other criminal activities and how the trade affects communities and society at large. The second chapter covers the key drivers and facilitators of drug markets. We examine their influence on today's drug markets and related trends, with a view towards the future.

EU drug markets –



– a systems perspective



Key points from Part I

Understanding the impact of the European drug market

▶ The drug market represents a major source of income for OCGs. The EU drug market was conservatively estimated to be worth about EUR 30 billion in 2017. Cannabis accounts for about two fifths of this total (39 %), cocaine (31 %), heroin (25 %) and amphetamines and MDMA (5 %).

▶ Illicit drug markets have both direct and indirect impacts on society that go far beyond the harms caused by the use of drugs themselves. These include the links that exist with wider criminal activities and terrorism; the negative impact on the legal economy and communities; and the increasingly important issue of how the drug market can fuel corruption and undermine governance.

▶ Globally, involvement in drug production and trafficking, either directly or indirectly, is an important source of funds for terrorist activities, although only one of many sources. In Europe, currently there appear to be no strong, systematic links between drug markets and terrorism beyond those arising from shared underlying factors or situations. Links to jihadist terrorism in the EU usually result from individuals' previous involvement in the lower levels of the drug market or in using drugs, which may then continue after their radicalisation. In contrast, some long-established paramilitary groups active in Europe have been observed to be involved in drug markets, and their operations appear to be closer to organised criminality.

▶ Trafficking in human beings and migrant smuggling may both have links with the drug trade when they are conducted by the same OCGs, although these links appear quite limited. More importantly, trafficking in human beings and exploitation may also be linked to drugs when individuals are enticed, or coerced, into becoming involved in low-level and expendable roles within the drug trade, for example as workers in cannabis farms or transporters of drugs, or when drugs are used to facilitate sexual exploitation. These uses of coercion and exploitation may not always be recognised.

▶ Trade in various other illicit commodities may also be carried out alongside drug trafficking. In particular, concerns are growing about the trafficking and use of weapons by OCGs involved in the drug trade, although at present this still seems limited and often more for their own use. The trade in falsified, counterfeit, substandard and unauthorised medicines is highly lucrative and represents a serious and growing public health problem. There is some involvement of OCGs, although the relationship between these groups and the drug market remains poorly understood.

▶ Drug market-related violence and intimidation is a growing concern in the EU. Some new models of supply have emerged that are associated with high levels of violence and exploitation. There is no systematic assessment of violent crime associated with the operation of the drug market. However, new data on drug-related homicides suggest it is a significant phenomenon in some countries and more likely to involve the use of firearms than other types of homicide. The violence and intimidation associated with the drug markets spills over and affects families and neighbourhoods as well as the individuals directly involved.

▶ Drug production, both within the EU and in other countries to produce drugs sold on the EU market, results in health and safety risks and environmental damage. The EU is a significant production area for synthetic drugs and cannabis, resulting in damage to the environment through the dumping of chemical waste and creating risks both to those involved and to the communities where production is located.

▶ The large amounts of cash generated by the drug trade have wide-ranging negative impacts on the legal economy. They need to be legitimised in some way, as well as often needing to be sent overseas to pay the costs along the different stages of the supply chain. The range of methods used to transfer money is increasing, and money-laundering services may be provided by syndicates providing this 'crime as a service' to other OCGs. The acquisition of businesses and high-value assets in order to 'launder' or transfer cash distorts markets and pushes out legitimate businesses, who are at a competitive disadvantage.

▶ Drug market-related activities also impose direct costs on businesses. For example, companies that produce chemicals used in drug production may suffer theft and diversion of these substances, while having to bear the financial burden of complying with legal controls and reporting. Seaport and airport operators must pay to provide additional security and facilitate detection of smuggled drugs. Some of these costs may be passed on to other businesses.

▶ Drug markets are one of the most corruptive influences in the EU and have a serious impact on governance in producer and transit countries. Corruption may be used by organised crime to obtain information, to facilitate the transit of illicit drugs and/or the diversion of chemicals to illicit markets, and to obstruct investigations. Despite this, the extent of this problem remains both poorly understood and poorly monitored.

▶ A substantial amount of government expenditure in the EU that would otherwise be available for other purposes is used in tackling drug markets and responding to the problems associated with them. In production and transit regions, many of which are in less economically developed countries, these costs and the associated corruption and violence can undermine social and economic development. This can also further destabilise these countries, leaving them vulnerable to increased exploitation and poor governance.

Globalisation and digitalisation driving innovation and facilitating change

▶ The drug market is rapidly becoming more globally connected and technologically enabled, reflecting wider societal changes. OCGs are quick to exploit the expansion of global trade, which provides more opportunities for transporting and concealing drug shipments. For example, they have adopted new methods for drug trafficking, such as using intermodal transportation networks and general aviation, as well as exploiting rapid parcel and postal delivery services for drug delivery.

▶ Globalisation also supports criminal cooperation internationally, leading to efficiency gains, facilitated by online communication opportunities. OCGs seek out and exploit the gaps and differences between different regulatory and drug control environments. This cross-border criminal interaction complicates law enforcement responses, increasing the need for international cooperation and coordination and technical sophistication.

▶ The drug market is increasingly digitally enabled. Both the surface web and hidden darknet markets as well as social media networks are increasingly used for online drug sales. The use of these technologies can significantly lower the barriers to entry into the market, be disruptive to established business models and create new challenges for law enforcement and public health.

▶ The use of encryption and anonymised services by OCGs to facilitate secure communication both facilitates global cooperation and poses challenges to law enforcement. High-end encrypted smartphones have become important criminal tools, used as their primary means of communication to reduce the visibility of their activities to law enforcement.

▶ Firearms and fraudulent documents are also increasingly important tools of OCGs engaged in the drug trade. The criminal use of firearms by OCGs involved in drug markets appears to be increasing. In addition to firearms, including automatic weapons, the use of hand grenades and explosives in the context of drug-related violence appears to be increasing. Many types of fraudulent documents are used for a variety of purposes, including the transport of illicit drugs, money laundering and cross-border transfer of cash.

Implications for action to address current threats and increase preparedness

Improvements in information gathering, data sharing and analysis are needed to address important information gaps that inhibit both strategic analysis of the current and future threats arising from the drug market and the targeting of operational activities. This will require:

- investment in information sharing and analysis to support a more holistic and dynamic understanding of the activities of OCGs across drugs, including interactions with other types of serious crime and terrorism, with particular attention given to identifying new operational models, market entrants and alliances;
- an improved understanding of the role of the drug market in violence, including drug-related homicide; gang involvement; money laundering; and corrupt practices;
- improved monitoring of the price, purity and content of drugs at different points in the supply chain, which should include drugs purchased from online sources;
- continued efforts to monitor developments in online drug sale, as well as the role of new technologies and social media in enabling drug markets;

- a better understanding of the trends, developments and variability in the operation of the retail drug markets in Europe and the implications for drug-related harms and responses.

Effective partnerships and interagency working are necessary to improve responses. In particular, there is a need to:

- promote greater collaboration and information sharing between intelligence services, law enforcement and other relevant agencies to facilitate a more integrated response, for example establishing a mechanism for cooperation between drug and cybercrime units;
- continue to support cooperation and information exchange between container ports in Europe and elsewhere;
- invest more in identifying and agreeing priorities for cross-border collaboration with EU and key external partners;
- develop a threat assessment and engagement strategy for industries whose services are used to enable or facilitate the drug market (e.g. financial services, telecommunication providers, technology companies, delivery and transportation businesses).

It is essential that responses keep pace with developments occurring in the drug market. To achieve this, there is a need to:

- strengthen operational and regulatory responses to drug distribution using parcel and post delivery services. This will require the development of a framework for risk analysis, and cross-sectoral cooperation. Consideration also needs to be given to parcel-forwarding services and anonymous pick-up and drop-off networks;
- continue to support the implementation of tools such as the Passenger Name Record database to enable resources to be more effectively targeted (e.g. continuing effort by Member States to improve the acquisition of passenger data submitted by air carriers);
- continue to support the development of a comprehensive suite of best practice tools for identifying and targeting criminal finances and money flows;
- raise awareness about the environmental impact and costs related to drug production and processing in Europe to support the development of appropriate responses.

1

Photo: Europol

CHAPTER 1

Impacts and consequences of drug markets

The size of the illicit drug market

The illicit drug trade is a major global industry, encompassing production, trafficking and retailing. The hidden nature of the illicit drug business makes it difficult to estimate the amount of money it generates, and published estimates are variable, covering different parts of the market and different geographical areas and involving many assumptions and associated uncertainties. One recent report on global transnational crime (Channing May, 2017) estimated the value of the global market for the main illicit drugs (cannabis, cocaine, opiates and amphetamine-type stimulants) to be between USD 426 billion and USD 652 billion in 2014. The large size of the market makes it attractive to criminals, and the drug market contributed over a quarter of the total value of the 11 major transnational crimes the report studied. However, it is important to note that, as with legal markets, the value of sales is not the same as profit; costs and losses occur at all stages along the supply chain.

In the EU, the total value of the retail market for illicit drugs in 2017 was estimated at EUR 30 billion — this figure must be viewed as a minimum estimate for a number of methodological reasons (see page 30). The cannabis market is the largest, accounting for about 39 % of the total, followed by cocaine (including crack cocaine) (31 %) and heroin (25 %) (Figure 1.1). These new estimates build on the initial estimates produced for the last EU Drug Markets Report (EMCDDA and Europol, 2016), but make use of new sources of data that have been developed in the interim. They are therefore not directly comparable with the previous estimates and cannot be used to assess trends. There are also still many gaps in the available data underpinning these calculations and they therefore remain minimum estimates that require ongoing work to improve them (see box 'The challenge of estimating the size of the illicit drug market'). Nevertheless, they illustrate the importance of the markets for different drugs and the large money flows associated with them.

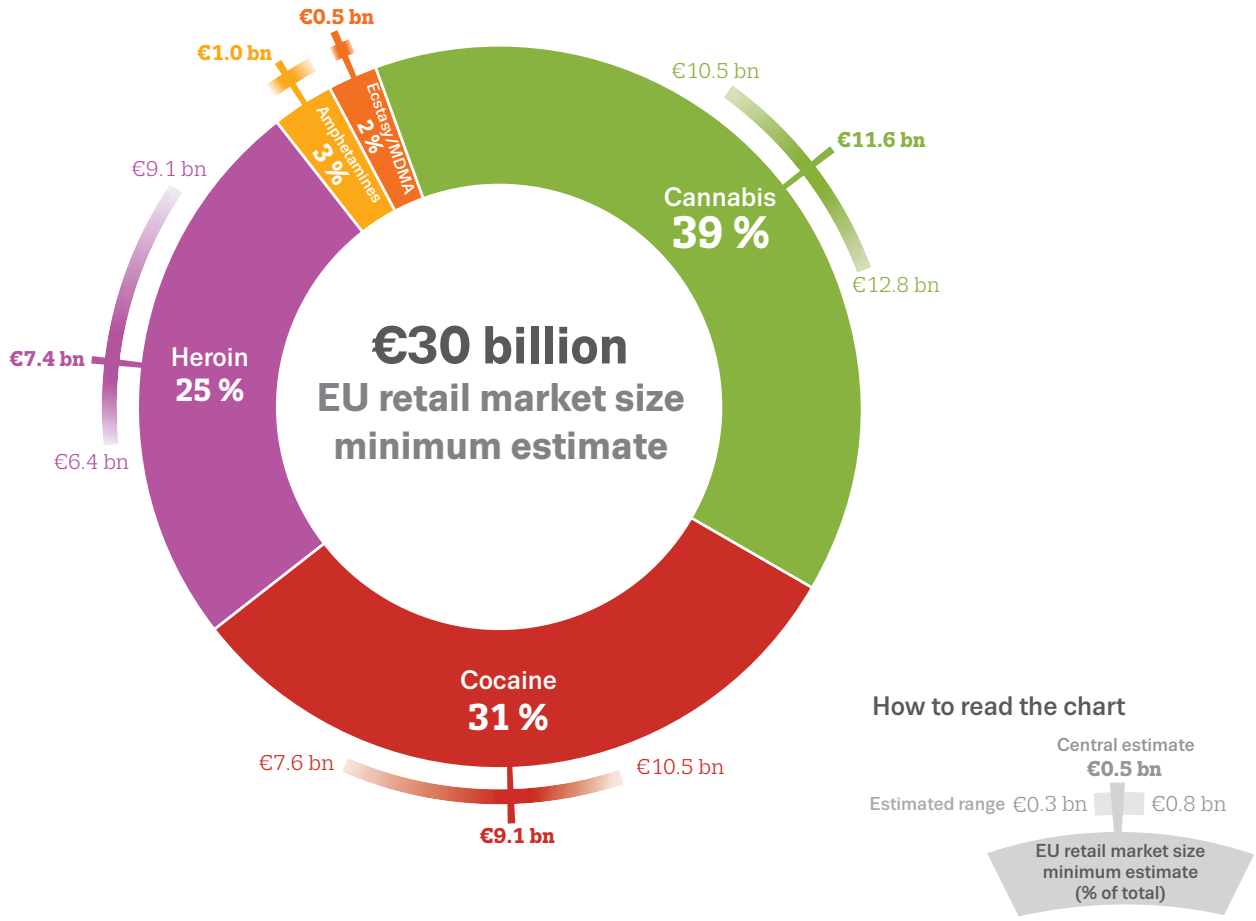
To put the size of the illicit drug market into the context of the wider economy in the EU, it has been estimated that illicit drug production and trafficking in the 10 Member States

Assessing the value of seized drugs

The value of the drugs seized may be an important component for assessing the impact of drug supply reduction. Despite being a fairly crude metric, it is one that most people can relate to. Because commonly available data relate to retail prices, the value is sometimes expressed in terms of the potential value at retail level. However, a more appropriate measure is to calculate the financial loss that the OCG would record on its balance sheet (Reuter and Greenfield, 2001).

This is best illustrated by an example. Consider a shipment of 100 kg of cocaine seized on entry to Europe. The estimated street value could be reported as EUR 6 000 000 (100 000 × retail price per gram in Europe, say EUR 60), making no adjustment for purity. However, the investment lost by the OCG, in this example, would be the much lower value of EUR 250 000 (100 × cost per kilogram of cocaine at the origin, say EUR 2 500). In addition, the OCG would also have incurred other costs, such as those relating to transport, which they would not be able to recoup. Estimating the value in terms of the loss may be a more transparent and realistic way to measure the impact of drug supply reduction interventions. However, this will require the collection of more data about a range of variables, such as price and purity, along the supply chain.

Figure 1.1
Estimated retail value of the illicit market for the main drugs in the EU



Source: EMCDDA (2019a).

for which data are available (1) ranged between 0.02 % (Luxembourg) and 0.6 % (Italy and Sweden) of the national gross domestic product (GDP) in the period 2004-15, and was 0.4 % or above in half of the countries (Eurostat, 2018a). This is broadly comparable with available global figures, showing retail drug sales in the US in 2010 being equivalent to 0.7 % of GDP and across 21 EU countries (2) in 2015 being equivalent to 0.32 % of the GDP (UNODC, 2017). Although all EU countries produce data on the contribution of illicit activities to GDP as part of their national accounts, often they are not disaggregated to allow identification of drug-related figures. Furthermore, where available, published studies vary widely in the period covered — from 2004 (Denmark) to 2013 (Luxembourg) (Eurostat, 2018a).

Beyond estimates of the retail market size, there remains a need to develop our understanding of the economics of other aspects of the drug market, such as production and wholesale supply activities and the costs of responses to drug markets. Some progress has been made in improving the data in these areas, for example commencing the collection of wholesale price and purity data, and developing estimates of the cost of the clean-up of waste from synthetic drug laboratories. Both of these topics are discussed in this report. Other institutions and organisations are also working in this area. For example, Tops et al. (2018) sought to estimate the potential value of synthetic drugs produced in the Netherlands for the global market, suggesting that it was at least EUR 18.9 billion at retail prices and that Dutch producers and traffickers may receive about EUR 3 billion to EUR 5 billion as revenue. Estimates are also often made of the value of seized shipments of drugs (see box 'Assessing the value of seized drugs'), but all these estimates are based on limited data and broad assumptions, so they need to be viewed with caution.

(1) Czechia, Denmark, France, Germany, Italy, Luxembourg, Netherlands, Spain, Sweden, United Kingdom.
(2) Austria, Belgium, Bulgaria, Czechia, Cyprus, Denmark, Estonia, Finland, Greece, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Portugal, Romania, Slovenia, Slovakia, Spain, Sweden, United Kingdom.

The challenge of estimating the size of the illicit drug market

The illicit nature of drug supply means that the market is hidden, and collecting data on the nature and extent of the phenomenon is very difficult; for this reason there are important gaps in our knowledge of key aspects. This hampers any estimation of the size of the market and its economic consequences. Any such estimates have a number of important limitations and often vary considerably as a result of variations in scope, the use of different data sources and the assumptions made to fill in gaps.

For this report our approach has been the same as in the previous EU Drug Markets Report, but using improved data sources. Our aim has been to use, wherever possible, routinely collected data sources that are reported to the EMCDDA by most EU countries to enhance consistency and facilitate ongoing development. Details of the estimation procedures, which take a demand-side approach, and the assumptions used can be found in the accompanying technical report (EMCDDA, 2019a). The estimation process essentially involves taking estimates of the number of people who use each drug in a year for each country in the EU and then multiplying these by an estimate of the average amount used in a year and the average retail price in each country. The national estimates are then summed to provide a European total.

A number of key limitations must be borne in mind when considering the estimates presented here.

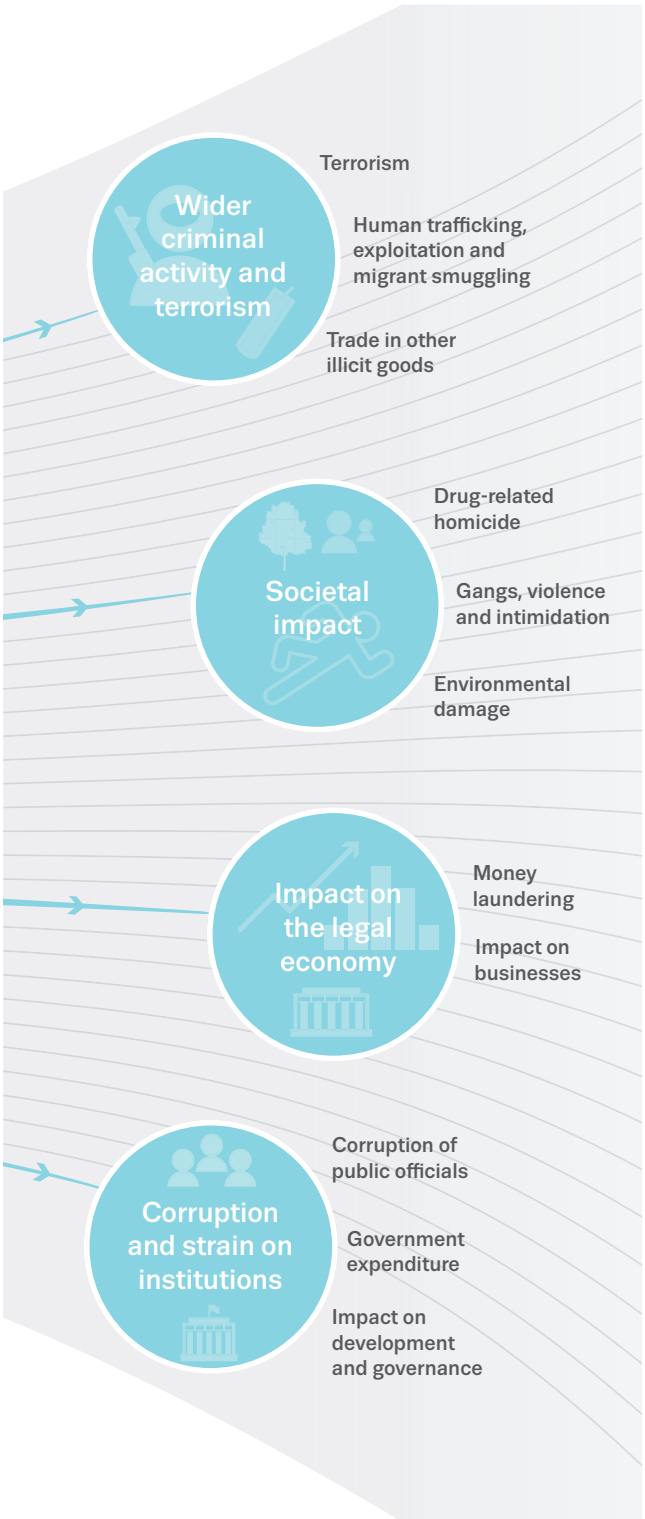
- **Undercoverage.** General population surveys have formed the basis of most of the estimates of numbers of people using drugs, but it is known that some groups, particularly some marginalised groups, may be under-represented in these surveys. Although we have used estimates of high-risk drug use and treatment data to identify use by some of these groups, gaps in coverage remain likely.
- **Under-reporting of use.** Many of the data used in these estimates, e.g. on the number of people who use drugs, frequency of use and amounts consumed, are based on self-reports. It is known that, particularly with respect to stigmatised behaviours, people will often underestimate or under-report use. We have not made any adjustment for this in our core estimate because we currently have no robust data on which to base such an adjustment. However, the technical report includes some analyses of the potential impact of different levels of underestimation on the overall estimate.
- **Knowledge gaps.** In our previous report we highlighted a number of important knowledge gaps hampering the estimation process. In the intervening period we have increased the number of countries for which we have data on amounts of drugs used by different groups of users, the use of different forms of drugs (e.g. cannabis resin versus herb, or MDMA powder versus tablets) and the quantities consumed in different countries. However, significant knowledge gaps remain.

These types of limitations are common to most estimates of economic aspects of drug markets. The knowledge gaps around other aspects, such as profits and losses at different stages of supply activities and the costs of responses to drug markets, may be even greater. In the light of these limitations and others described in the accompanying technical report, it is clear that the estimates presented in this report and elsewhere must be interpreted with caution. Our estimates, because we have chosen not to make adjustments where information is not generally available, must be seen as minimum estimates. There is a need to continue work to improve the basic data on which such estimates are based, in order to improve future estimates and to enhance our understanding of other economic aspects of the illicit drug trade. Interpreting estimates of retail market size is also challenging; it is necessary to take into consideration issues such as the fact that changes in content may not be reflected in retail price data but may have an impact on quantity consumed. For example, in the case of MDMA/ecstasy, the average MDMA content of tablets has markedly increased in recent years but the price has remained stable. In such circumstances the value of the market may decrease even if use has remained stable or increased, since fewer tablets may be needed to get the same effect.

The ramifications of the illicit market extend beyond its financial value, inflicting a wide range of harms and thus a heavy burden on societies (Figure 1.2). In the previous edition of this report (EMCDDA and Europol, 2016) these were grouped into four broad categories: links to terrorism and wider criminal activity; the impact on the legal economy; strain on government institutions; and the impact on society more generally through harms to individuals, families and neighbourhoods (EMCDDA and Europol, 2016).

Within these categories the report identified a number of data and knowledge gaps that hampered the analysis and quantification of the impacts. These included the need for monitoring and analysis of possible dual involvement of individuals in both drug-related organised crime and terrorist activity; the need to establish suitable data collection methodologies for the monitoring of the relationship between drugs and violence; and the need to systematically implement data collection on the environmental damage caused by dumping waste from synthetic drug production sites in Europe. In the three years since the last report, we have addressed a number of these knowledge gaps, with a focus on selected priority policy areas: terrorism, trafficking in human beings, trade in other illicit goods, drug-related crime, violence and intimidation, and environmental impacts. In the following sections, the findings from this additional work and other new sources of evidence are used to update our analysis of the broader impacts of the drug market, based on the latest evidence available.

Figure 1.2
Key impacts and consequences of drug markets



Links to terrorism and wider criminal activity

The previous EU Drug Markets Report (EMCDDA and Europol, 2016) highlighted the different ways in which drug markets may be linked to other criminal activities and terrorism, based on the limited evidence available at that time. It described how the links are often opportunistic, for example where shared trafficking routes encourage the trafficking of other commodities. Other links are more instrumental, for example when terrorists, both individuals and groups, use drug dealing or trafficking to fund their terrorist activities, or when drug traffickers exploit trafficked individuals in drug production or drug dealing. In this report we update the earlier findings, incorporating additional studies that have been undertaken in the intervening period.

Terrorism

There is considerable concern about the links between the illicit drug trade and terrorism, both in Europe and globally (e.g. US Senate Hearing, 2012; Coats, 2017). The European Agenda on Security of April 2015 (European Commission, 2015) highlights the need to tackle the nexus between terrorism and organised crime, pointing to the way organised crime may feed terrorism through a variety of channels, including supplying weapons, financing terrorist activities through drug distribution and infiltrating financial markets.

The data available on this topic are limited and much of the research relates to concerns about the role of drug markets in funding terrorist groups active outside Europe. Only limited information is available on the situation in Europe, where the nature of terrorist activities is very different. Nevertheless, a richer intelligence picture is emerging (Europol, 2019f) and more research has been undertaken recently, including that described in the background paper 'A new high? Terrorists and drugs in Europe' (Basra, 2019) commissioned for this report. The main findings are highlighted below, but there remain significant knowledge gaps.

Overall, the new research confirms the picture described in the previous EU Drug Markets Report, that the links between terrorism and drug markets are opportunistic and not systematic. Globally, terrorists use participation in drug markets as an important source of funds for their activities, but it is one source among many. In Europe the involvement of the perpetrators of terrorism in drugs and drug dealing is generally part of a wider picture of, mostly petty, criminality.

The global picture

The drug trade as a funding source for terrorist groups — one among many

The involvement of terrorist organisations in the drug trade as a source of funding for their terrorist activities has been recognised for some time. For example, since the 1980s, the involvement of insurgents and terrorist groups in the cultivation, manufacture and trafficking of drugs has been observed in Latin America and the Middle East (Felbab-Brown, 2005; Piazza, 2011). This may generate funds directly through active participation in the drug production and supply chain, or indirectly through the levying of 'taxes' on producers or traffickers passing through territories under a group's control. These connections between drug markets and terrorism have also been noted elsewhere in the world, for example in Central Asia (Omelicheva and Markowitz, 2018).

However, drug trafficking is not the only source of funding for such terrorist groups. Al-Qaeda in the Islamic Maghreb, for example, is reported to have profited from a variety of crimes, including drug trafficking, in North and West Africa (del Cid Gómez, 2010) as has the Taliban in Central Asia (Omelicheva and Markowitz, 2018). Therefore, the relative importance of drug trafficking compared with other sources of income has been questioned (Tupman, 2014). Nevertheless, in Central Asia, drug trafficking has been reported as top of the list of illegal money-making activities of terrorist groups (Reyes and Dinar, 2015). More recently, based on best estimates from a range of sources (official reports, academic assessments and criminal intelligence), it has been estimated that drug-related income makes up more than a quarter of the finances of seven major terrorist/insurgent groups (Table 1.1).

Terrorists, insurgents or criminals: a diverse picture

Some of the terrorist organisations that are heavily involved in the drug trade have been found to resemble organised criminal groups in the nature of their operations and how they shift and conceal their finances. However, there is considerable variability between groups. How terrorists meet their financial needs depends on a range of factors, in particular the size of the organisation, the scale and geographical location of its operations and the availability of external support. For example, small groups have been found to require only modest resources to carry out relatively low-tech attacks (Keatinge et al., 2018).

It has been suggested that the ideological and operational divide between criminal and terrorist organisations would prevent their collaboration (e.g. Wang, 2010), but on the other hand there are reports of increasing networking and

Table 1.1
Sources of income for selected armed (terrorist and insurgent) groups

Source	Income in millions of EUR (USD)	%
Drugs	297 (330)	28
Oil and gas	207 (230)	20
Illegal mining	183 (203)	17
Taxation and extortion (not drug-related)	177 (197)	17
Confiscation and looting	89 (99)	9
External funding and donations	32 (36)	3
Kidnapping for ransom	32 (36)	3
Antiquities	14 (15)	1
Charcoal	14 (15)	1

Source: Nellemann et al. (2018, p. 135).

Note: Groups included are al-Shabaab, Boko Haram, the Revolutionary Armed Forces of Colombia (FARC), Hay'at Tahrir al-Sham (HTS), Jama'a Nusrat ul-Islam wa al-Muslimin (JNIM), Islamic State and the Taliban plus some groups in the Democratic Republic of the Congo.

convergence of terrorism and transnational crime due to globalisation and related geopolitical changes (Reyes and Dinar, 2015). Internationally, there is good evidence that interlinkages do occur. For example, at the end of fiscal year 2015, a quarter (10) of the US Department of Justice's Consolidated Priority Organisation Targets list of key drug trafficking and criminal organisations were reported to have links to designated terrorist organisations (US Department of Justice, 2017). A recent study of the effect of drug trafficking on terrorism in drug transit states in Central Asia also provides evidence that the drug trade facilitates terrorism to some extent, but it also illustrates how the relationship between drugs and terrorism is variable and may have much broader impacts (Omelicheva and Markowitz, 2018). It highlights how drug trafficking not only funds terrorist activities, but also how groups engaged in the drug trade may use political violence against the state to protect their interests or otherwise undermine or destabilise governments through their drug-related activities. However, it also shows the complexity of these relationships; for example, state actors potentially also engage in drug-trafficking activities, and OCGs and terrorist groups may forge strategic alliances to further their illicit activities.

A focus on Europe

European drug markets: links to global terrorist financing and recruitment

Terrorist activity in Europe currently is of a different nature to that described above. As a result, the links between the drug market and terrorism are also likely to differ, although the consumption of heroin and cocaine in Europe will help to fund terrorist groups such as the Taliban and FARC, as well as the organised crime groups with which they cooperate (see Case study 12, page 52), and European-based OCGs may also provide support to terrorist organisations operating outside Europe. For example, the Spanish authorities recently reported the dismantling of an OCG involved in the trafficking of illicit goods, including drugs, the exchange of cannabis resin for weapons, terrorism financing and jihadist propaganda (Ministerio del Interior, 2018).

Furthermore, the proceeds of criminal activity are reported to be among the key sources of terrorist recruitment financing (FATF, 2018) and in several cases law enforcement investigations have found drug trafficking activity to be the main source of funds used for recruitment for terrorist purposes (see Case study 1).

While some connections between terrorism and drugs have been identified in Europe, there is little solid, systematic and up-to-date evidence and analysis of how terrorists in Europe interact with drugs — as producers, dealers or users — and the dynamics and principles that guide those interactions. The lack of evidence has often resulted in speculative and, at times, sensational reporting that has raised policy concerns. However, to date there appears to be little evidence of systematic links between the criminal groups engaged in the local drug markets in Europe and terrorist activities. Nevertheless, within Europe, drug markets and terrorism appear to be linked to some extent, in that criminals and terrorists recruit from the same pool of people with shared vulnerabilities (Basra et al., 2016).

Throughout Europe there is evidence of some merging of criminal, including drug-related, and jihadist ([3]) social networks, environments and milieus, with many jihadists and foreign fighters having a criminal past. For example, in Germany, two thirds of the country's 778 foreign fighters who went to Syria and Iraq were known to the police prior

([3]) The terms 'jihadism' and 'jihadist' have been contentious ever since they entered common usage during the late 1990s. One of the most frequent complaints is that they unfairly associate the religious concept of 'jihad' with acts of terrorism and extreme violence. This study, therefore, distinguishes between 'jihadism', a modern revolutionary ideology, and 'jihad', an Islamic concept that means 'struggle' and can refer to all kinds of religiously inspired effort, be it spiritual, personal, political or military. For more, see Esposito (2002, pp. 26-28), Hegghammer (2009) and Maher (2016).

CASE STUDY 1

Low-level terrorist financing

The report by the Financial Action Task Force on financing and recruitment for terrorist purposes (FATF, 2018) includes a range of examples globally, including the following, which relate to the EU.

a. Drug trafficking and terrorist recruitment activities

'Several individuals were arrested on charges of terrorist-indoctrinating activities in Ceuta and Melilla, the Spanish autonomous regions in North Africa, in 2015. A large number of these individuals had criminal records in relation to drug trafficking. At the time of their arrest, materials related to Islamic State recruitment activities and to their criminal activities, as well as arms and drugs, were seized. Almost all the arrested individuals were unemployed and had no legal sources of income at the time. Nevertheless, they had high standards of living, including cars and houses. They organised meetings at which they would watch violent extremist videos and would set up personal defence and physical training sessions. The proceeds of their petty crimes financed all of these activities.'

b. Recruitment of first wave of Belgian foreign terrorist fighters

'In 2010, Person A founded Organisation X, an informal Antwerp-based network responsible for the recruitment of the first wave of Belgian foreign terrorist fighters in 2012 and 2013. Organisation X was dissolved in September 2012. Two years later, in September 2014, the judicial process started against 45 members of Organisation X, only seven of whom were present in court. The core members were sentenced to up to 12 years' imprisonment and a fine of EUR 30 000 in January 2016. All others were judged, in absentia, during February 2015. A large number of the accused had already departed to fight in Syria. Its leader, Person A, was also convicted of drug trafficking in 2008 and 2014. He was involved in the import of over 5 tonnes of cannabis from Morocco. The Belgian Financial Investigation Unit received suspicious activity reports on large cash deposits on the account of Person A. The origin of the cash was unclear but Person A's involvement in the drug trade led to suspicions that he was using the proceeds from the drug trade to fund part of the activities of Organisation X.'

Source: FATF (2018), p. 17.

to their departure (BKA et al., 2016), and in France over 40 % of jihadists convicted between 2004 and 2017 had criminal records (Hecker, 2018). Recent figures indicate that, of 125 foreign fighters linked to Italy, 55 (44 %) had a criminal record before departing for an area of conflict (Iraq, Libya or Syria), including an unspecified number relating to the production and selling of drugs (Marone and Vidino, 2019). Community workers have observed similar overlaps in Molenbeek, a Brussels neighbourhood that has been home to jihadist networks (*Le Soir*, 2017).

The importance of drug-related activities, and particularly drug market-related activities, relative to other criminality is less clear. A project entitled From Criminals to Terrorists and Back examined data on terrorism convicts from the 11 EU Member States with the highest number of arrests for terrorism offences (Austria, Belgium, Bulgaria, France, Germany, Greece, Ireland, Italy, Netherlands, Spain, United Kingdom), identifying 116 crimes committed by 56 individuals before 2015 (GLOBSEC, 2018). A third (38 out of 116) of the recorded crimes were of a relatively minor nature, such as drug possession or dealing, theft, burglary, speeding or affray. This is in line with previous research (e.g. Basra et al., 2016; Hecker, 2018) that suggests an association between petty criminality and terrorism in Europe. At the same time, there were other major categories of more serious crime, amounting to 67 % of all known crimes, including money laundering, violent robbery, assault, murder, and acts involving weapons and explosives. However, whether or not these more serious offences were linked to drug markets was not examined. In addition, although past events in Europe have shown that terrorist acts can be carried out with limited financial means, it has been argued that funding through crime, including drug-related crime, has the potential to become more significant in the future (Basra and Neumann, 2016).

A paper prepared as background for this report (Basra, 2019), looked at the nature and extent of the relationships between drug-related and terrorism-related activities based on information concerning more than 300 individuals or

incidents ([4]) in Europe, gathered between 2012 and 2017 from open sources (newspaper articles, court documents, and government or law enforcement reports), in which there was evidence of both these types of activity. The analysis separately considered two broad categories: jihadists, and ethno-nationalist and separatist terrorist groups (mainly republican and loyalist paramilitaries in Northern Ireland, but also other groups, including the Partiya Karkeren Kurdistan, PKK, or Kurdistan Workers' Party).

Jihadists' links to the drug trade: generally indirect and low level

Based on records relating to at least 148 individuals with jihadist links (Basra, 2019), it appears that jihadists may interact with the illicit drug trade in three broad ways.

The first is involvement in drugs prior to radicalisation. They are found to often have a history of consuming and/or dealing illicit drugs, which can have an ancillary, indirect role in their radicalisation process.

For a third of the sample, drug use was historical behaviour, often occurring many months or even years prior to their radicalisation, whereas for the remainder it directly preceded or overlapped with it. However, judging whether or not drugs played a role in a person's radicalisation is difficult. In general, it appears that drugs formed part of the overall personal circumstances, experiences and other factors that influenced the trajectory towards extremism and political violence, rather than a deciding factor in any individual's decision to engage in jihadism. Other factors were manifestly more influential, such as socialisation among extremists, the jihadist worldview and ideology, or perceived personal and political grievances. If anything, it appears that drugs may play an indirect role, having been the reason an individual was in prison, which in turn was the place that facilitated their radicalisation (Case study 2).

The second way is involvement in drugs after radicalisation. Jihadists' involvement with drugs can continue long after their initial engagement with extremism.

Drug dealing and/or use, long after an individual's radicalisation, was seen repeatedly in the dataset, contrary to stereotypes of religious observance. Those involved in drug dealing may envisage the crime itself to be a form of jihad (Basra et al., 2016; Basra and Neumann, 2017). While jihadists in Europe have mostly used legal means to finance their plots — such as salaries, welfare benefits, sale of property and loans — robberies, theft, fraud and to a lesser extent drug dealing have been used as means of financing jihadist activity (Nesser et al., 2016; Oftedal, 2015). However, large-scale drug dealing is rarely seen; most post-radicalisation drug dealing is relatively small in scale and ambition. For example, in February 2015, NL, a drug user with a history of domestic violence who was homeless at time of his arrest, was arrested for dealing heroin in Ravenna, Italy: he had 3 g in his possession. He was planning to use the proceeds to fund his travel to Syria, yet he had saved only EUR 40. There is not always such a clear connection, however, between someone's post-radicalisation drug dealing and their jihadist activities.

Finally, some take drugs preceding an attack. Jihadists have consumed drugs directly before carrying out a terrorist attack, thereby contradicting the stereotype of their uniform piety and religious observance.

Just as drug use can continue after an individual's radicalisation, it can also continue up to the point of carrying out an attack. In a handful of cases, there is evidence that jihadists have taken drugs in the days — or possibly hours — before carrying out a terrorist attack, although there is little sign that their drug taking influenced their decision to act. In general, drug use appears to have been a continuation of habitual use, and it does not appear to explain why they carried out their attacks.

Overall, among jihadists there appear to be no formal, structural or inherent links to the drug trade. Many have a background in either dealing or using drugs, which can continue long after their process of radicalisation and their engagement with extremist ideas and networks. This post-radicalisation behaviour generally mirrors their pre-radicalisation involvement. Many appear to fit the profile of volatile lone-actor terrorists in which 'radicalization is primarily characterized by inconsistency, brief interludes of intense political or religious engagement before reverting to patterns of hedonistic behaviour, including habitual drug consumption and, often, violent crime' (Lindekilde et al., 2017, p. 5). Understanding jihadists' profiles, patterns of radicalisation and how they may prepare for and undertake terrorist activities has implications for those seeking to identify those likely to participate in terrorism and either prevent or detect their activities.

Ethno-nationalist and separatist terrorist groups: varied involvement in the European drug trade

As well as the jihadist scene, some overlaps with the drug market have been observed among some ethno-

([4]) These figures represent a minimum number of individuals or events, as sources would often state that multiple members of a group had engaged in both terrorism-related and drug-related activity, without specifying how many members this applied to. In such cases, to err on the side of caution, only a single entry was included in the dataset.

CASE STUDY 2

Imprisonment for drug dealing leading to radicalisation

MM was sentenced for drug offences in October 2013 after being arrested in Lille. Police discovered EUR 1 500 in small denominations on his person, and in his room found 1 563 g of cannabis, EUR 5 595 in cash and weighing scales. MM claimed he was dealing drugs to pay off his debts: 'I'm under threat, I have to pay off debts because I was robbed, and the thieves took away a lot of cannabis and money' (*La Voix du Nord*, 2013). It was his 12th conviction.

While in Sequedin prison in 2015, MM met CB, who had been convicted of using fraudulent documents, and the pair formed a friendship after sharing the same cell for 2 months. It was inside prison that MM was radicalised, in part mentored by CB, a convert to Islam who had been involved with radical networks since 2007. Their commitment to jihadism continued after their release, culminating in a plan to carry out an attack in France. It was disrupted in March 2017, a week before the French presidential election.

In a Marseille apartment used by the pair, police discovered an Uzi sub-machine gun, 3 kg of the homemade explosive triacetone triperoxide (TATP) drying in a cupboard, a homemade grenade, a GoPro camera and an Islamic State flag. Even in such cases of prison radicalisation, the key point is not necessarily the criminal offence behind the conviction — be it for drugs or not — but the circumstances within prison that led them to engage with extremist ideas and networks.

Source: Basra (2019).

nationalist and separatist terrorist groups ([5]) (Basra, 2019). For example, long-standing overlaps have been noted in Northern Ireland, where both republican (Europol, 2019f) and loyalist groups have sought to either accommodate or eradicate the drug trade. In contrast to the jihadists in Europe described above, the operations of these groups, which include controlling or 'taxing' the drug trade, are much more akin to those of terrorist organisations such as the Taliban, or to organised criminality, with some groups existing as what might be described as 'hybrid criminal terrorist groups' and others having completely transformed into OCGs (Makarenko, 2012). The impact of these activities includes conflict between criminals and paramilitaries and internal tensions within paramilitary groups, both of which lead to violence, which in turn may lead to alienation of the very communities these groups claim to represent.

The 2015 Stormont Agreement *A Fresh Start* included commitments to 'challenge all paramilitary activity and associated criminality', and — recognising the cross-border nature of organised criminal activity — to establish a Joint Agency Task Force, led by officers from the Police Service of Northern Ireland, An Garda Síochána, the Revenue Commissioners, and HM Revenue and Customs (Northern Ireland Executive, 2015, p. 15). Similarly, the Paramilitary Crime Task Force was also established in October 2017 and includes the Police Service of Northern Ireland, HM Revenue and Customs, and the United Kingdom's National Crime Agency. Over the 2017/18 financial year, the Task Force seized an estimated EUR 67 000 (GBP 58 000) worth of drugs (OCTF, 2018, p. 68), although it is unknown how much of this was directly related to paramilitary activity, or what the quantities or types of drugs were.

The Northern Ireland Executive has similarly acknowledged the convergence between paramilitaries and organised crime. Its 2016 Executive Action Plan followed on from the Fresh Start Agreement. The plan stated that tackling organised crime should be an 'integral part' of the fight against 'Northern Ireland related terrorism' (Northern Ireland Executive, 2016, p. 18).

The PKK, a paramilitary group based in the Middle East — primarily in south-eastern Turkey, northern Syria and northern Iraq — has been reported to be involved in organised crime (Europol, 2019f; Roth and Sever, 2007), with few examples of its engagement in the drug trade in the EU (Basra, 2019).

The limited and patchy information available on the interaction between terrorism and drug markets in the EU makes it challenging to obtain a clear understanding of the importance and nature of the threat. In addition, most attention has been paid to links to jihadist groups and activities, which may lead to the activities of other groups being overlooked. For example, several countries in Europe are experiencing a resurgence of the far right and an increase in associated violence and terrorism (Europol, 2019f). Most of this appears to be perpetrated by

([5]) Ethno-nationalist and separatist terrorist groups are motivated by nationalism, ethnicity and/or religion. Separatist groups seek to carve out a state for themselves from a larger country or annex territory from one country to that of another. Left- or right-wing ideological elements are not uncommon in these types of groups. The Irish Republican Army (IRA), the Basque Euskadi Ta Askatasuna (ETA) and the Kurdish PKK fall into this category.

individuals, but there is some evidence of organised activity. For example, in Germany, in 2017, guns, ammunition and illicit drugs were seized at a paramilitary training camp for far-right extremists. According to newspaper reports, at least 13 known suspects were involved, including some from an internationally active group (Dearden, 2017).

In general it appears that currently there are no strong, systematic links between these activities beyond those arising from shared underlying factors or situations, as noted in the previous report. However, many EU Member States maintain a functional separation between their anti-drug agencies and their counter-terrorism agencies, which can potentially lead to crossovers being overlooked. The variability in the extent and nature of the interactions between drug markets and terrorism is also a challenge and there is a need to better understand the different profiles of those involved. It is an area that requires more research, but it would build on emerging findings from a recent project called PRIME (Preventing, Interdicting and Mitigating Extremism), which was funded by the European Commission. This project, which ended in March 2019, aimed to provide an improved understanding of lone-actor terrorism to inform the design of social and physical counter-measures for the prevention of lone-actor radicalisation, the disruption of lone-actor terrorist plots, and the mitigation of terrorist attacks carried out by lone extremists.

In addition, there is a need to develop statistics on terrorist financing in order to measure trends and assess risks better. Terrorist financing has been identified as a key threat at the EU level, and concerted efforts are being made to monitor and improve the situation. Such efforts include the adoption of the Commission Staff Working Document (European Commission, 2017a) and the accompanying Commission report on the assessment of the risk of money laundering and terrorist financing affecting the internal market and relating to cross-border activities (European Commission, 2017b).

Trafficking in human beings and migrant smuggling

There are differences between trafficking in human beings and migrant smuggling and the terms should not be used interchangeably as the legal consequences are different (European Commission, 2018c). Trafficking in human beings is a crime against the person which involves using threats, force and coercion to exploit vulnerable people in order to make financial profit. The exploited individuals may be traded by OCGs as commodities, sometimes, but not necessarily, internationally. Migrant smuggling refers to the illegal movement of persons across international borders or the facilitation of irregular stay in a country. It differs from trafficking in human beings in that the migrants are willing participants. However, smuggled migrants are vulnerable to coercion and exploitation, for example because of their illegal status in the destination country or because they become indebted to the smugglers.

Trafficking in human beings

Trafficking in human beings encompasses sexual exploitation, forced labour or services, including begging and practices similar to slavery, forced criminality, and the removal of organs. It is often committed within the framework of organised crime, generating high profits. The connections between drugs and trafficking in human beings are yet to be fully understood, but it is clear that some exist, although they may be quite limited and opportunistic in nature. Drugs and trafficking in human beings may be interlinked in three broad, sometimes overlapping, ways:

- when drug trafficking and human trafficking are conducted by the same OCGs;
- when trafficked individuals are coerced into playing a role in the drug trade;
- when drugs play a part in the human-trafficking process, facilitating and maintaining the exploitation of vulnerable individuals.

Lack of access to reliable data still hampers analysis and the development of a fuller understanding of the multifaceted nature of the relationship. However, since 2016 there has been increased recognition of the potential links between trafficking in human beings and drugs, and new data sources and case examples have emerged that shed more light on these interactions.

OCGs involved in both drugs and trafficking in human beings

A recent analysis focusing on the Balkans, a key crossroads for crime, illustrates the links between drugs and human trafficking that arise when both activities are carried out by the same OCGs (Kemp, 2017). The area provides many opportunities for such linkages. It has a history of conflict and associated instability, is situated on the main heroin-trafficking route from Afghanistan to Europe, the Balkan route (see Chapter 4), and is a transit corridor and destination region for trafficked individuals.

Among the OCGs active in this area, Albanian-speaking groups are prominent. After the Kosovo war at the end of the 20th century, some Albanian nationals took the

opportunity to obtain refugee status by claiming to be Kosovar, which then allowed them to move outside their territories, creating a new diaspora all over Europe. Within these communities, criminal elements have been able to operate. The term 'Albanian-speaking' is important, as it encompasses a range of different nationalities that share the same language and ethnic background, mainly Albanian nationals, but also Albanian speakers originally from Kosovo ([6]), Bosnia and Herzegovina, Montenegro, North Macedonia and various satellite communities within Europe. It should be noted that borders and nationality are not relevant to the operations of these complex networks of Albanian-speaking criminals. The main activities of Albanian-speaking OCGs in the EU extend to organised property crime, facilitation of irregular migration, trafficking of a range of drugs, money laundering, trafficking in human beings and document fraud. Albanian-speaking OCGs are involved in cocaine trafficking, are highly active in cannabis distribution (and more recently production) and play roles in support of long-established Turkish heroin activity (see Chapter 4). They are also showing signs of lower-level independent wholesale supply in established markets for cannabis and cocaine. A high level of ruthlessness and a reputation for violence are reported to be features in their operating model (Saggers, 2019).

Cases of transcontinental ties between drug-related organised crime groups for the transport of Nigerians to Europe for exploitation have also been reported. A report published by the Cambridge Centre for Applied Research in Human Trafficking identifies a Nigerian criminal network named Black Axe operating in Palermo in Italy — a centre of activity for the Cosa Nostra, Sicily's own Mafia — and across the EU. The report indicates that this Nigerian criminal network is involved in drug dealing, prostitution and the fraudulent transfer of money between Europe and Nigeria. Authorities in Palermo have noted that 'Cosa Nostra tolerates the Nigerian Mafia in Palermo. Cosa Nostra allowed the Nigerians to organise a subordinate structure. They were tolerated as long as they didn't come outside their perimeter' (Pemberton Ford, 2017, p. 48).

Involvement of coerced individuals in drug production and trafficking

The use of labour exploitation at cannabis cultivation sites is a well-known phenomenon and remains an issue in some Member States. OCGs exploit vulnerable victims, in most cases male irregular migrants, to work at indoor cultivation sites. The victims are typically kept at the cultivation site, often in very poor conditions, to look after the cannabis plants. The victims are often held in debt bondage and forced to pay off debts of thousands of euros incurred for facilitation services in the context of irregular migration. EU nationals are also exploited at cannabis cultivation sites with little or no pay. Some OCGs rely on teams composed of victims of trafficking in human beings to harvest large-scale cultivation sites.

Vietnamese OCGs continue to exploit irregular migrants of Vietnamese origin by forcing them to work at indoor cannabis cultivation sites in various Member States. Chinese OCGs are increasingly involved in the cultivation of herbal cannabis in the EU and also frequently rely on the exploitation of Chinese or Vietnamese migrants. Albanian nationals are also exploited at indoor cannabis cultivation sites operated by Albanian OCGs.

A striking feature of human exploitation is the involvement of children, estimated to make up more than 30 % of all migrants in Europe (UNHCR, 2016; UNICEF, 2016). The trafficking of Vietnamese children to work at indoor cannabis cultivation sites was discussed in the 2016 EU Drug Markets Report (EMCDDA and Europol, 2016), and cases continue to be reported. However, the increasing numbers of asylum seekers and migrants arriving in the EU in recent years has given rise to other examples

([6]) This designation is without prejudice to positions on status, and is in line with UNSCR 1244/99 and the ICJ Opinion on the Kosovo declaration of independence.

CASE STUDY 3

Child exploitation by OCGs in Sweden

In some cities in Sweden (Stockholm, Gothenburg and Uppsala), criminal gangs have been recruiting unaccompanied asylum-seeking children or children whose asylum applications have been rejected — in particular young Afghan males — to sell drugs. Criminal gangs usually force them to join by using threats and violence. Many of such children involved in drug dealing live on the streets, making them even more vulnerable and exposed to recruitment.

Source: FRA (2019).

(Case study 3). Given the very limited income-generating options available to them, they have been found to engage in illegal activities to pay smugglers, including drug dealing and theft. A recent analysis of sexual exploitation of migrant children in Greece highlighted a cascade of socio-psychological consequences evidenced by affected children, including both drug use and dealing (Digidiki and Bhabha, 2017). The report documents the trajectories of these children whereby sexual exploitation leads them to take up an active role in the drug trade, an 'important qualitative change of scope' (Digidiki and Bhabha, 2017, p. 25). Furthermore, as a result of this kind of exploitation, vulnerable children may engage in coping behaviours, such as drug use.

OCGs exploit victims of trafficking as drug couriers on commercial flights, buses or trains travelling both to and within the EU. In most cases these victims are female. Victims exploited as drug couriers are both EU and non-EU nationals. Victims originating from West Africa, particularly Nigerian nationals, and North Africa are most frequently encountered.

Other examples involve trafficking and coercion associated with the drug trade at the national level. For example, the 'county lines' model of drug supply has become widespread in the United Kingdom. Involving drug supply from a central base to one or more supply areas using dedicated mobile phone lines to take orders, it makes extensive use of the exploitation of vulnerable people (NCA, 2019). These include recruiting vulnerable children, for example in the care of social services or excluded from school, and adults. The vulnerable adults are often people dependent on drugs, who may allow the use of their accommodation for drug dealing (known as 'cuckooing') in exchange for drugs or to pay off drug debts but then are forced to continue engaging in drug dealing. This exploitative business model allows criminal groups to expand to new areas at low cost and minimal risk, as they do not have to pay the vulnerable individuals whom they exploit, who are also the most exposed to the risk of arrest.

The previous report raised the issue of trafficked individuals being prosecuted for their involvement in the illicit drug trade despite the coercive nature of their involvement (EMCDDA and Europol, 2016). It noted that attempts have been made to address this in EU Directive 2011/36 on preventing and combating trafficking of human beings, which came into force in 2013. This includes a non-punishment principle stating that victims should not be punished for crimes they committed as a direct consequence of trafficking, which is intended to safeguard the human rights of victims and to encourage them to act as witnesses in criminal proceedings against the perpetrators. Nevertheless, the recent review of action in this area found that many countries still highlighted this as a challenging area (European Commission, 2018a). Among the factors that make it difficult to identify victims correctly and provide appropriate support are that victims and perpetrators may come from similar ethnic groups, specialist drugs teams may not be aware of the potential for links to trafficking in human beings, and exploited individuals may fear prosecution because they were initially illegal migrants or are drug users with a criminal record. Although data that would allow assessment of progress in this area are not generally collected (see, for example, Anti-Trafficking Monitoring Group, 2018), the scale of the issue is illustrated by a report in *The Times* (Swerling, 2018) that between 2012 and 2017 more than 1 133 Vietnamese children were arrested in the United Kingdom for offences, including drug-related ones.

Drugs as a means of controlling trafficked individuals

Illicit drugs may also be used in a number of different ways by OCGs involved in trafficking in human beings and exploitation (Shelley, 2012). They are used to recruit victims for sexual exploitation. In addition, addictive drugs, such as cocaine, heroin and benzodiazepines, are also used to maintain victims' dependence on their exploiters. However, drugs may also be used in other forms of human exploitation; for example, stimulants may be used in forced labour to enable victims to work for longer hours.

Migrant smuggling

'Migrant smuggling' refers to the illegal movement of persons across international borders for financial gain. It differs from trafficking in human beings in that the migrants are willing participants who are paying to be smuggled. However, since smuggled migrants are vulnerable to coercion and exploitation, for example because of their illegal status in the destination country or because they become indebted to the smugglers, the smuggling of migrants may lead to trafficking and exploitation. In these cases drugs may be involved, such as when the migrant is coerced into smuggling drugs while en route to their final destination (Ventrella, 2017).

Many of the routes along which migrants are smuggled into the EU are also known drug-trafficking corridors. However, there do not appear to be any structural, sustained or widespread links between drug trafficking and migrant smuggling. Although these criminal activities coincide in individual cases, these are not part of an emerging pattern or trend. Some maritime vessels that were used by migrant smugglers were previously recorded as suspect vessels in drug-trafficking investigations. However, their use for

migrant smuggling does not typically coincide with drug trafficking.

There are, however, some opportunistic links arising from the geographical proximity of the activities as well as shared logistical and other needs (see Case study 4). For example, both make use of 'facilitators' who provide false documentation, act as guides and scouts, provide transport, accommodation and tickets, and bribe border guards. According to data provided by Europol, many such facilitators engage in polycriminality, including trafficking in human beings (20 %), trafficking drugs (15 %) and property crime (23 %).

Trade in other illicit goods

The possible links and interaction between the trade in drugs and other illicit goods have been noted in the previous edition of the report (EMCDDA and Europol, 2016), based on the similarities of criminal 'business models', supporting expertise and infrastructures in these areas. The 2016 report, however, highlighted a knowledge gap. Since the last edition, evidence has been gathered that begins to address this gap, and polycriminality among OCGs highlighted (Europol, 2019b).

Firearms trafficking

Links between the illicit trade in firearms and drug markets take two main forms. The first is when OCGs are engaged in the supply of both commodities, reviewed below. Secondly, firearms may be used by OCGs as part of their drug market-related activities — this is covered in Chapter 2. However, the distinction between these two forms is not always clear; OCGs that traffic both firearms and drugs are also likely to use firearms in the course of their drug-trafficking activities (Case study 5).

At the global level, the importance of reducing illicit arms flows is also acknowledged in the 2030 Agenda for Sustainable Development, Goal 16 (United Nations, 2015), and the United Nations Office on Drugs and Crime (UNODC) has begun gathering data on firearms trafficking, its trends and its modi operandi, including combined trafficking with illicit drugs (UNODC Working Group on Firearms, 2018). However, no systematic monitoring of firearms and links to drugs exists at present in Europe. Nevertheless, open source information monitoring can provide some information. Between April 2017 and March 2018, 12 seizures were identified, where firearms were being trafficked with heroin, and 19 with cocaine (see Chapter 9 for full methodology). As an example,

CASE STUDY 4

Smuggling of migrants and cannabis across the Mediterranean Sea

An OCG from Morocco used jet skis to smuggle migrants and cannabis across the Mediterranean Sea to Spain. The group was dismantled in a joint action day by the Spanish National Police and the Civil Guard, with Europol supporting them on the spot with a mobile office and a Universal Forensic Extraction Device — a stand-alone mobile forensic kit that can extract data from mobile phones. In total, 19 people were detained and 11.6 kg of drugs and over EUR 15 000 in cash were seized.

The OCG was made up of Moroccan citizens who were residing in various EU countries, mainly France, Italy and Spain. They transported and sheltered migrants who had been smuggled with falsified documents from the Spanish autonomous city of Ceuta, on the north coast of Africa, to mainland Spain, crossing the Strait of Gibraltar, which separates Europe and Africa by only 14.3 km. The criminals charged the migrants EUR 4 000 and an additional EUR 500 if they wanted to be housed in Spain.

The criminal organisation used the same modus operandi for trafficking cannabis from Morocco to Spain. According to an intelligence report issued by the European Border and Coast Guard Agency (Frontex), smuggling migrants on jet skis is a modus operandi specific to the Strait of Gibraltar and used exclusively by Moroccans, mainly to transport Moroccan males, most of whom have relatives in the EU who pay for their transfer. Although in terms of migratory impact the number of migrants being transferred with this type of asset is relatively low (one to three migrants, plus one skipper per jet ski), the number of incidents involving jet skis has sharply increased in the past few years.

The criminal intelligence development of this case was carried out in the framework of Europol's Joint Operational Team Mare, a specialised team of experts, hosted at Europol's headquarters.

Source: Europol (2018b).

in September 2018, two Polish men were intercepted at Dover in the United Kingdom in an attempt to smuggle 20 handguns, 1 000 rounds of ammunition and a variety of drugs (approximately 300 kg methamphetamine, 50 kg ketamine, 50 kg cocaine and 10 kg heroin) into the country concealed within the stated cargo of photocopier paper (NCA, 2018a).

The trafficking of firearms is often a supplementary source of income for OCGs that are primarily involved in other criminal activities, and the drug trade appears to be a significant factor in the proliferation of illicit firearms in the EU. Within the EU there are a number of OCGs known to be engaged in both drugs and firearms trafficking.

- Dutch OCGs have been known to supply both firearms and wholesale quantities of various types of drugs to OCGs based in other Member States.
- Seizures of drug shipments destined for the United Kingdom repeatedly also involve the seizure of firearms.
- Outlaw motorcycle gangs, present in almost all EU countries, are known to use existing criminal routes to traffic firearms and drugs, and are also heavily involved in the trafficking of firearms to and within the EU. The firearms trafficked by outlaw motorcycle gangs are primarily intended for distribution to their own subsidiaries rather than to supply other OCGs.
- There is some overlap between OCGs involved in the trafficking of firearms and of drugs via the Western Balkans — a region that remains a significant source of affordable, illegal firearms and also a key transit region for heroin and cannabis smuggled to the EU and elsewhere in the region. In some cases, illegal firearms are exchanged for drugs in the region.

Transnational organised crime networks involved in the large-scale trafficking of cannabis across the Mediterranean Sea are thought to be also involved in firearms trafficking. Vessels involved in the trafficking of drugs from North Africa to the EU are believed to be also involved in the trafficking of firearms and explosives to conflict regions, such as Syria and Libya. The OCGs involved in this activity are likely to be highly polycriminal and involved in trafficking various illegal commodities.

The trafficking of firearms is also linked to drug trafficking from South America to the EU. Firearms are trafficked to South America from Europe by OCGs originating from the Western Balkans region, which are heavily involved in drug trafficking and have established a permanent presence in key locations in South America to facilitate this activity. The price of firearms in some parts of South America exceeds the price in the Western Balkans by up to 10 times and makes the trafficking of firearms from Europe to countries such as Brazil a highly profitable opportunity. International operations such as the one described below

CASE STUDY 5

Operation Escalade: illicit firearms, anti-surveillance and violence

In December 2017 nine men pleaded guilty to a variety of charges linked to a sophisticated OCG mainly engaged in the importation of large quantities of cocaine and the trafficking of illegal firearms to the United Kingdom. A cache of firearms, seized in a raid at a garage in Glasgow, was estimated to have a resale value of EUR 45 000 (GBP 40 000).

Their activities were recorded over a 4-year period and were believed to extend overseas. The group used ingenious techniques to hide guns, ranging from handguns to sub-machine guns, in concealed compartments in a fleet of cars. The gang used a vast array of anti-surveillance technology to keep ahead of the police. Officers recovered listening devices and mobile phone jammers of the type normally used by only the police and security services. The group also worked from a network of rented premises, often industrial units in out-of-the-way locations. In all cases, the premises were rented using false documents. The group set aside dedicated phones at several of the premises to be used as 'fake tenant' phones. The gang also used sophisticated methods, painstakingly engineered to evade detection, to conceal and export large amounts of cash tightly wrapped in tape and hidden in bundles.

The violence used by the group to maintain their operation eventually led to their downfall. A gun recovered by police was linked back to an abduction and beating committed by the group. The group used weapons to enforce their own drug trade interests, while also supplying firearms to other crime gangs.

Source: BBC News (2018a).

(Case study 6) are another example of the complex ways in which criminal organisations may link to other groups outside Europe in mutually beneficial relationships that facilitate their different operations.

Falsified, counterfeit, substandard and unauthorised medicines

Globally, the sale of falsified, counterfeit, substandard and unauthorised medicines is big business and a serious and growing public health problem, which has been fuelled by globalisation. The combination of modern transport networks, the internet, low labour costs, and the rapid growth of the chemical and pharmaceutical industries, particularly in China and India, has facilitated the development of this large market. The potential for huge profits has also led to the involvement of OCGs, although the relationship between these groups and the drug market remains poorly understood.

Alongside the risks to health posed by using such medicines, consumers also face the risk of being victims of fraud by buying from this market. This risk may be compounded by the poor security of many online shops, which could lead to consumers having their personal and financial information stolen or exposed. Although information on the extent of these problems is limited, there are signs of both increasing misuse and greater availability of these substances on the illicit drug market.

Medicines that are traded illicitly may enter the supply chain and reach the consumer in different ways:

- they may be diverted from licit use, as is the case when people who are prescribed opioids or benzodiazepines sell a proportion of their prescription;
- they may be stolen from the legitimate supply chain, including manufacturers, wholesalers, pharmacies or prescribers;
- they may be obtained fraudulently through corrupt healthcare professionals or using forged prescriptions;
- they may be purchased from online pharmacies that do not insist on a prescription;
- they may be produced specifically for the illicit market;
- they may be manufactured by OCGs utilising their own clandestine laboratories and production lines;
- counterfeit medicines may be imported by OCGs from outside the EU, then repacked and distributed within the EU;
- some OCGs sell their own brands of pharmaceuticals, posing as reputable companies selling legitimate medicines.

Although strict regulations and enforcement in EU Member States mean that counterfeit medicines are not as common as in some other parts of the world, there has been a considerable growth in the trade in counterfeit medicinal products in recent years. The number of seizures of counterfeit medicines and other products by EU customs authorities increased from 1 554 in 2015 to 1 835 in 2017, although the number of items seized actually decreased from 895 324 to 568 122 (Europol and EUIPO, 2019).

CASE STUDY 6

Exchange of cocaine for weapons

In November 2018, the US Drug Enforcement Administration (DEA) in cooperation with Croatian law enforcement authorities disrupted an OCG proposing to trade cocaine for surface-to-air missiles and other advanced military-grade weapons. The Colombian broker was heavily involved in the trafficking of cocaine to the EU via West Africa and allegedly intended to pass on the weapons to the terrorist group Ansar al-Dine. This group is linked to al-Qaeda and promised the broker the use of smuggling routes passing through territory controlled by the group in the Sahara Desert for his drug-smuggling business. The exchange of cocaine for the weapons was to take place in Croatia. A sample of 1 kg of cocaine was seized in the operation in Zagreb.

West Africa is a known transit region for cocaine trafficked from South America to the EU. Various terrorist and extremist groups control territory along the land route from West Africa to Europe, and South American cartels are known to have previously made arrangements with these groups to ensure protection for their shipments transported along these routes. The cartels make payment to these groups in money, drugs or weapons.

Source: Petrušić and Dešković (2018).

This reflects the growing emphasis on trade in counterfeit medicines using parcel and postal services.

Most illicit drug monitoring systems were not designed to identify signals of misuse of medicines, so the available data are patchy. Nevertheless, data are available from the EU Early Warning System, and recent developments in EMCDDA annual data collections mean that some substances are now included. In particular, there is now more evidence concerning opioid medications, such as tramadol, which is presented in Chapter 4. The diversion of methadone and buprenorphine from opioid substitution treatment is reported to be a significant problem in some countries, accounting for a non-trivial proportion of overall drug-related harms. Data from both individual studies and routine monitoring suggest that, besides the opioid analgesics, the other main types of medicines misused in Europe are benzodiazepines (for example alprazolam or Xanax) and 'Z-drugs' (hypnotic drugs such as zolpidem and zopiclone). Users of benzodiazepines may develop dependence on them, and their use together with alcohol and opioids increases the risk of drug-related death.

Not only are benzodiazepines increasingly being sold on illicit markets, but in a number of EU countries concerns have recently been raised that the availability of extremely cheap illicit benzodiazepines, often counterfeit, on the internet may be leading to the increased use of these drugs by vulnerable teenagers, often in combination with alcohol (Byrne, 2018). This pattern of use is reported to be linked to behavioural problems, as well as posing a risk of overdose, particularly when using counterfeit versions, which may be of variable dosages and may contain contaminants. Of particular concern is that some contain highly potent fentanyl derivatives.

There are different modi operandi when it comes to the production of counterfeit medicines. In some cases, the medicines and packages are produced in the same clandestine laboratory, while in other cases the production is done at separate sites or even by separate OCGs. In one case, an OCG was found to send samples of branding to China, where stickers can be produced on a large scale and sent back to be placed on the packaging. Finally, there are also filler sites, where medicines and packaging manufactured elsewhere are put together.

One of the trends observed in this area is the importation of raw materials for local production. In recent years there have been regular seizures of pill presses, mixers, blister machines, bottles and labels. Raw materials are illegally brought into the EU from countries such as India and China, usually under a fictitious brand and with forged documentation. Illicit medicines are then manufactured in suitably equipped laboratories. In some cases, counterfeit medicines are produced by OCGs that are also involved in the manufacturing and trade of synthetic drugs, such as MDMA, LSD and ketamine.

There is a continuous expansion of unauthorised and unregulated online pharmacies, selling a range of counterfeit, illicit and substandard pharmaceutical products. Such online pharmacies capitalise on increasing self-medication and consumer demand for cheap medicines including performance and image-enhancing drugs. Some of these online shops advertise with the slogan 'original preparation at low prices', and are operated by criminal groups. In recent years, law enforcement authorities have also detected a growing number of counterfeit medicines in postal packages, often ordered through social media platforms or other online marketplaces (see Case study 7). There are also indications that counterfeit medicines are being traded using mobile instant messaging platforms.

Different approaches are needed to tackle these diverse phenomena. Some of them focus on reducing demand by increasing the awareness of potential problems and by improving prescribing practice to prevent dependence developing or the need for topping up. Similarly, good practice in medical waste disposal can reduce the risk of the diversion of used fentanyl patches. However, partnerships with industry, the development of regulatory controls, and customs and policing activity are all likely to be appropriate responses to the involvement of OCGs, which are more likely to divert larger quantities of medicines by infiltrating the supply chain or importing falsified, counterfeit and unauthorised medicines from outside the EU.

The EMCDDA and the European Medicines Agency routinely exchange information on the misuse of medicines through the EU Early Warning System. The EMCDDA also collects information on psychoactive medicines through its ongoing drug-monitoring activities. Nonetheless, the limitations of current monitoring systems mean that some potentially important developments in this area are difficult to observe; for example, the misuse of tramadol, gabapentin and pregabalin appears to be increasing, but this is difficult to detect in the routine data sources available (Griffiths et al., 2014).

Alcohol and cigarettes

Within the EU there are large markets for alcohol and cigarettes, which OCGs can exploit for profit. Alcohol and cigarettes are subject to excise duty upon production

in, or import to, the EU. Avoiding such duties provides OCGs with one such opportunity for profit (excise fraud). Another is through the sale of counterfeit goods. OCGs use various modi operandi to avoid excise duties and generate significant profits, selling both genuine and counterfeit excise goods at lower prices than their licit equivalents. Excise fraud deprives the Member States and the EU directly of significant revenue, which could be invested in infrastructure projects, regional development or other ventures benefiting EU citizens and businesses. Counterfeit goods, which may contain dangerous substances, on the other hand can expose consumers to serious harms.

Counterfeiting is identified in a number of European countries as a type of serious organised crime — one that includes violence, illegal immigrant labourers and children who are forced into it (see Local Government Association, 2015; Scottish Government, 2016, p. 8). Often counterfeiting schemes are initiated using money invested by criminal entrepreneurs, including drug traffickers, in the counterfeit alcohol or cigarette business, as risks are comparatively low (Antonopoulos et al., 2018). Since OCGs involved in drug trafficking often launder money through businesses such as nightclubs, bars and restaurants — venues that could provide opportunities for benefiting from illicit supplies of alcohol and tobacco — some links might be expected. However, at present the evidence for this is limited.

There are examples of OCGs involved in drug trafficking across the EU engaging in the smuggling of illicit tobacco products and alcohol as well as wholesale quantities of cannabis resin and cocaine. In addition to these smuggling activities, these OCGs also move criminal proceeds across Europe and to destinations in South America. Originating primarily from eastern European countries, these OCGs are present in established distribution hubs in Member States such as Belgium, the Netherlands, Spain and the United Kingdom, and maintain links to the main production regions outside the EU.

Harms to individuals, families and neighbourhoods

Illicit drug markets have wide-ranging impacts on society and can scar neighbourhoods and the people who live in them. The illegal nature of the drug market means that those who use drugs expose themselves to a broad range of harms, but the harms extend beyond the people who use drugs. Violence stemming from the drug trade, including homicide, contributes to feelings of insecurity within neighbourhoods, as does the operation of open drug markets. This was identified as a key issue in the previous report (EMCDDA and Europol, 2016) and may include gang-related violence and intimidation, which may extend to people who use drugs and to their families and friends. A further issue is the environmental impact of the drug trade, in particular that related to drug production. Production within Europe may directly harm the environment through the dumping of waste materials. In addition, drug production in other regions of the world may cause environmental degradation through, for example, deforestation and erosion, and these harms have an indirect impact in the EU through migration, destabilisation and climate change.

CASE STUDY 7

Operation Pangea XI: illicit medicines sold online

During an international week of action (9-16 October 2018) in Operation Pangea XI, coordinated and supported jointly by Interpol and Europol, police, customs and health regulatory authorities from 116 countries targeted the illicit online sale of medicines and medical products, resulting in 859 arrests worldwide and the seizure of EUR 12.3 million (USD 14 million) worth of potentially dangerous pharmaceuticals.

Almost 1 million packages were inspected, with 500 tonnes of illicit pharmaceuticals seized worldwide, including anti-inflammatory medication, painkillers, erectile dysfunction pills, hypnotic and sedative agents, anabolic steroids, slimming pills and medicines for treating HIV, Parkinson's disease and diabetes. More than 110 000 medical devices were also seized.

Source: Europol and EUIPO (2019).

Drug-related homicide

The extent and nature of drug-related homicide

One of the major manifestations of drug markets is serious violence and homicide, which, like drug-related crime more generally, may be psychopharmacological (committed while under the influence), economic-compulsive (to gain money or goods to obtain drugs) or systemic (part of the operation of the drug market) (Goldstein, 1985). The extent and nature of drug-related violence and homicide, in particular systemic violence, are likely to vary between countries and over time in response to differences in the way drug markets operate. Homicide cases range from those conducted as a 'crime as a service' (as in Case study 8) to ones that may be incidental to low-level dealing (as illustrated by Case study 9). However, although homicides are well recorded internationally, there is very little information on the extent and nature of the link between homicide and the involvement of organised crime in the supply and distribution of illicit drugs, and there is currently no systematic collection of data on the topic. This was identified as an important gap in available data and knowledge in the previous EU Drug Markets Report (EMCDDA and Europol, 2016).

Addressing drug-related homicide is important given the severity of such an event, affecting individuals, families and communities. Understanding the extent and nature of the issue is essential for this to be done effectively. Homicide is an extreme expression of violence and the most likely to be reported to the police and to be thoroughly investigated. It can also be an indicator of wider drug-related violent crime. Comparing homicide statistics between countries can help identify trends and new threats in order to plan and implement proportionate responses. However, there are considerable inconsistencies in the data available on drug-related homicide in Europe. For example, just 10 of the 28 EU Member States, Norway and Turkey systematically prepare data on this topic. This hampers efforts to tackle the issue, as this information is necessary for designing prevention efforts and monitoring their impact.

Since the importance of this information was highlighted in the previous EU Drug Markets Report (EMCDDA and Europol, 2016), a programme of work has been undertaken to explore how information on drug-related homicides can be improved at the European level and more complete and comparable data in this area generated. The initial findings already offer an improved understanding of the

Potential mechanisms underpinning the drug-violence nexus

Psychopharmacological — Direct relationship between drugs and violence where the violent crime involves drug use by those involved.

Economic-compulsive — Indirect relationship between drugs and violence: some drug users engage in economically oriented violent crime in order to support costly drug use.

Systemic — Refers to the aggressive patterns of interaction within the system of drug markets.

Source: Goldstein (1985).

CASE STUDY 8

Murder as a service: Stockholm's Death Patrol

About 20 members of a Swedish OCG known as the Death Patrol (*Dödspatrullen*), specialising in contract killings on behalf of drug-trafficking organisations, were arrested in coordinated operations in Sweden and Spain between December 2018 and February 2019. The arrestees are all young Swedish nationals aged between 20 and 30 years. According to the media reports, the gang originates from a poor immigrant suburb of southern Stockholm. It is suspected of being responsible for torturing and killing at least 15 people in Sweden and Spain since 2016. Many of its victims were drug traffickers murdered by order of rival OCGs, including Colombian cocaine cartels. In addition to providing murder as a service, the Swedish OCG also trafficked drugs such as cocaine, cannabis resin and amphetamine in Sweden, Spain and Morocco. Charges against the gang members also include money laundering and document fraud.

Sources: García Rey and Palmkwist (2018); Madueño (2019); Ortega Dolz and Sánchez (2018).

ramifications of the drugs phenomenon and also highlight opportunities for improving future monitoring in this area (de Bont et al., 2018; EMCDDA, 2018a).

In collaboration with the European Homicide Monitor, which gathers data from Finland, the Netherlands and Sweden (Denmark, Estonia, Italy, Norway and Switzerland are in the process of joining), a pilot study was conducted aimed at collecting some standardised comparable data on homicide. Crucially, a set of drug-related variables were added to the monitor, allowing a re-assessment of homicide cases and an initial analysis of the relationship between drugs and homicide events in selected countries (for fuller details of the pilot study, methodology and findings, see EMCDDA, 2019a).

The pilot study found that a similar proportion (about 50 %) of the homicides committed across the Netherlands (2012-16), Finland (2014-15) and Sweden (2013-14) for which sufficient information was available were drug related (Table 1.2). However, there were differences in the types of drug-related homicides between the countries. While psychopharmacological cases predominated in Finland (100 %) and Sweden (89 %), in the Netherlands these made up only 24 % of the cases; in contrast, systemic homicides were more frequently found in the Netherlands (63 %) than in Finland (13 %) and Sweden (30 %) (see Case study 9).

In general, homicides are committed by a single perpetrator, but this study found that, in all three countries, drug-related homicides were more likely to involve more than one perpetrator than other homicides; about one in four drug-related homicides involved more than one perpetrator per case compared with about one in 10 for non drug-related homicides.

There was also a difference in the settings in which drug-related homicides and other homicides took place. Drug-related homicides were slightly more likely to take place in an urban area in all three countries. In the Netherlands and Sweden, drug-related homicides also took place in public settings such as parks, public roads, bars, restaurants and hotels more often than other homicides (64 % versus 42 % respectively in the Netherlands and 47 % versus 24 % in Sweden). In all three countries, the victims of drug-related homicides were more often male (84 % versus 65 % in Finland; 82 % versus 55 % in the Netherlands; and 88 % versus 65 % in Sweden) and typically younger (about two thirds in all three countries were under the age of 45) compared with non drug-related homicide victims (the majority of whom were 45 years and over in Finland and Sweden or 35 years and over in the Netherlands).

Factors associated with drug-related homicide

In an exploratory study of contract killings in the Netherlands, carried out by van Gestel and Verhoeven (2017), drug market control and money emerged as key themes. Killings were identified as serving as instruments for 'compensation' for failure to pay for or deliver drugs; for punishment, intimidation and for asserting one's position within the drug market; as a precaution in order to avoid becoming a target; or to silence witnesses. Although no increase in contract killings was noted, the phenomenon appeared to be changing, involving processes of specialisation and professionalisation. Crucially, an increased number of people were available to commit the crime in return for cash, there was increased use of heavy automatic firearms (noted to have become the standard for contract killing), and perpetrators were more likely to cover up or avoid leaving evidence.

Analysis of global homicide trends has shown that in 2003/04 rates began falling (Eisner, 2008). However, between 2014 and 2016, a number of countries, including

Table 1.2
Drug-related homicide in Finland, the Netherlands and Sweden

Type	Country (years studied)		
	Finland (2014-15)	Netherlands (2012-16)	Sweden (2013-14)
Psychopharmacological, *N* (% of drug-related cases)	83 (100)	44 (24)	66 (89)
Economic-compulsive, *N* (% of drug-related cases)	2 (2)	13 (7)	10 (14)
Systemic, *N* (% of drug-related cases)	11 (13)	116 (63)	22 (30)
Drug-related homicides, *N* (% of total)	83 (49)	186 (51)	74 (49)
Non drug-related homicides, *N* (% of total)	87 (51)	181 (49)	78 (51)
Total	170	367	152
Drug involvement unknown	*0*	*277*	*16*

Note: Because categories of drug-related homicides are not mutually exclusive, percentages do not add up to 100 %. These figures need to be read also in context of the population size of the three countries.

CASE STUDY 9

Systemic homicide in Europe

A drugs war broke out in 2012 between Moroccan gangs, which brought a new level of gangland violence to Europe. It started when a Dutch gang known as the Turtles stole cocaine worth EUR 15.6 million (GBP 14 million), part of a larger shipment — much of it destined for the British market.

The torso of a 23-year-old Moroccan, Nabil Amzieb, was discovered in a burning car, and his head was found on a busy street in Amsterdam early one morning. This was seen as a clear message to authorities and rival gangsters that this was a gang war of greater severity than usual in Europe and closer to the level of violence seen in countries such as Mexico. Since then, the feud has resulted in at least 16 killings in Belgium, the Netherlands and Spain. In response there has been an unprecedented level of cooperation between police forces across Europe in order to identify and bring to justice the key people responsible for the violence.

Richard Eduardo Riquelme Vega was arrested in a Santiago hotel in October 2017 after flying into Chile's capital from Dubai. He is believed to be at the top of the gang responsible for the beheading of Nabil Amzieb and to be the right-hand man of Naoufal Fassih, who was arrested in Dublin in 2016 in a safe house operated by the Kinahan gang, key players in the drug trade. Vega and his Moroccan associates in the Netherlands had become closely involved with the Kinahan gang, illustrating the global interactions between OCGs in the drug trade, the international impact of the market and the importance of cross-border collaboration by law enforcement agencies.

Sources: Gangsterism Out (2017); Henley (2016); Pieters (2016); Tallant (2017).

Canada, Germany, Sweden, the United Kingdom and the US, recorded increases ranging between 3 % and 22 % (Home Office, 2018). Although further observations are necessary before an upward trend can be confirmed, it has been suggested that these recent changes may be at least partly due to drug markets. Important market shifts that have been suggested as possibly contributing to the rise in serious violence include an increase in synthetic cannabinoids, linked to serious violence in prison and homeless communities (Ralphs et al., 2017); a rise in coca cultivation in Colombia, the main supplier of cocaine for Europe; and higher (crack) cocaine purity. Another market development is the phenomenon of county lines, in which drug-selling gangs from the capital city, possibly driven by excess supply, seek new markets in provincial areas. The 2017 National Crime Agency threat assessment on county lines showed that nearly every police force in England and Wales has been affected to some degree. The involvement of vulnerable people and, generally, the more violent nature of county lines drug-selling gangs than local drug dealers have been noted (Coomber and Moyle, 2018; NCA, 2017).

The pilot study demonstrated that the European Homicide Monitor can capture the role of drugs in European homicides in a reliable way, although it also highlighted some challenges. The main limitations identified concerned the lack of readily available data sources, missing data and intercountry variations in data quality. Future research is needed to identify new sources of more detailed information about drug-related homicides, such as incorporating tactical intelligence (e.g. blood tests) available at the police level, and reports on the use of alcohol and drugs at the time of offending.

Extending the number of countries monitoring drug-related homicides, and incorporating this into analysis of drug markets, would be valuable for identifying changes in the level and nature of the use of extreme violence. For example, anecdotal evidence suggests that Dutch systemic homicide in particular, and Dutch organised crime in general, has become more brutal over the years. Recent observations indicate that this dynamic could be explained by highly fragmented, occasional criminal networks (rather than the classic hierarchical criminal network structure) involving less-experienced young men (rather than 'professional' hitmen) as perpetrators (Stoker and Thijssen, 2018; Voskuil, 2018). What further characterises these cases is the use of highly lethal automatic weapons, and the relatively reckless way in which homicides are committed — resulting in bystanders being killed, children witnessing their parents' homicide and several cases of mistaken identity.

Finally, there should be an exploration of ways to apply a similar data collection model to other crime areas to better understand the role of drugs. Ultimately such developments could provide a solid, data-driven basis to inform adequate drug-related policy responses in Europe.

Gangs, violence and intimidation

An important area of impact on communities arises from drug dealing at the local level and the fear arising from the violence and intimidation often used by the different groups involved in the trade. They may range from loosely organised local groups of young people to offshoots of national or international OCGs, with national and international connections.

There is a growing body of research that looks at drug supply from the perspective of gang (or group) processes, which can inform drug enforcement practice and policy. Research in Scotland illustrates that early offenders in young street gangs are typically involved in social supply and only rarely involved in retail-level drug supply. Over time these groups may move beyond social supply and mature into young crime gangs that can penetrate higher levels of the illicit drug market. Those gangs that are able to avoid law enforcement action and grow may eventually move on to wholesale buying. If sustained, wholesale activity and increased market share create the potential for development into serious organised crime, including the adoption of business-like principles. McLean and colleagues noted that gangs have evolved not necessarily to control drug markets but to participate in them and benefit from territorial control (McLean, 2017; McLean et al., 2018, 2019).

Spread of gang influence and related violence

In parallel with the traditional model of drug supply, where local dealers from provincial towns source their drug supply from a nearby city, a new phenomenon of drug supply groups has emerged in some parts of Europe. This has been extensively documented in the United Kingdom (Coomber and Moyle, 2018; NCA, 2017, 2019) but a targeted data collection exercise in 2018 (EMCDDA and Europol; 60 % response rate) identified evidence of similar phenomena in Belgium, Estonia, Greece, Ireland and Sweden. These are groups based in major cities, expanding their selling operations to provincial towns and almost exclusively supplying heroin and crack cocaine. Thus, end users located in these provincial areas are buying directly from dealing networks from the big cities. The provincial towns are considered attractive thanks to the direct access to local users and potentially new customers and the comparatively weak competition from local drug dealers. The phenomenon critically challenges the established understanding of drug markets in that the export of illicit drugs from big cities to one or more provincial towns blurs the boundaries between national wholesale and local street dealing (Coomber and Moyle, 2018).

It has been argued that the cause of this phenomenon, especially in the case of heroin, is the saturation of markets in major cities. This would appear a relatively credible explanation given recent trends of an ageing heroin-using population and marginalised inner-city youths increasingly associating themselves with gang culture, of which drug dealing is a component in some countries. The new supply model typically consists of more established 'elders' recruiting younger (often teenage) associates and sending them to provincial areas to act as dealers, while a dedicated phone line is established in the city (Spicer, 2018). Users in the provincial areas call this line to place orders, which are then relayed to the dealers residing in the provincial town. This ensures that the provincially based dealers remain dependent on the city-based 'elders'.

The phenomenon has become associated with a range of harms, such as violence and the exploitation of vulnerable populations, including children. They are discussed in the section on human trafficking and exploitation above. The city-based drug-dealing groups seek to establish themselves and assert a dominant presence in new localities through aggression and intimidation. Another manifestation of the phenomenon is seen in the increasing overlap between drug markets and sexual exploitation, as highlighted in an analysis of the nature of violence in the Stockholm drug scene (Stallwitz, 2018) and recent assessments of the impact of organised crime in local communities in the United Kingdom (Crocker et al., 2017).

It is important to note that markets with apparently similar structures manifest themselves differently in terms of operation in different geographical locations, particularly regarding violence and intimidation. Responses to drug market-related violence are discussed in detail in Chapter 9.

Intimidation

Intimidation carried out by those involved in the distribution of drugs can manifest itself as disciplinary intimidation, used to enforce social norms within the drug distribution hierarchy, to discourage or punish informants, or as a means to reclaim drug debt, and successional intimidation, used to recruit new members or gain control over networks or territory. Disciplinary intimidation, much of it related to drug debt, has escalated in certain areas, related to the particular way in which drug markets operate.

Notably, in Ireland many communities have been severely affected, with major impacts on the health and wellbeing of individuals, families and communities and the functioning of local services and agencies (Murphy et al., 2017). This is reflected at policy level. The current strategy recognises the problem and stresses the importance of appropriate responses in the community (Department of Health, 2017).

The drug distribution networks in Ireland appear to be structured as a three-tier hierarchy, which has some parallels with the gang model mentioned above in Scotland: (1) a lower tier of highly disadvantaged young people generally involved in bullying, assaulting, stealing, vandalising and spreading fear on behalf of the network; (2) a middle tier of young people typically engaged in high-risk, low-reward activities, such as transporting, holding or dealing drugs, carrying guns, and conducting shootings, beatings and serious intimidation; and (3) a higher tier of serious players, often formed around a kinship core, which controls the other tiers (Murphy et al., 2017). The framework underlies a number of responses (see Chapter 9). The issue was also recently highlighted in an assessment commissioned by the Scottish Government of the experiences of serious organised crime in Scotland (Fraser et al., 2018).

The use of intimidation tactics and violence by Belgian and Dutch criminal organisations against each other and against accomplices working at the port of Antwerp has been increasing. Between 2016 and 2017, 20 violent incidents suspected to be retaliations related to the cocaine trade were registered in Antwerp. Intimidation, violence and corruption are increasingly affecting the port area itself as well as surrounding areas. The risks are high, but corrupt workers at Belgium's port of Antwerp can earn between EUR 75 000 and EUR 125 000 for each drug shipment they help move safely (Stoker and Thijssen, 2018). According to European port authorities, OCGs approach port workers in Antwerp and offer up to EUR 5 000 just for their availability to 'have a conversation'. The port workers are easily identifiable by their uniforms. Once a worker has cooperated with the drug-trafficking OCG, they do not have the option of ceasing their facilitating work lest they and their families become subject to intimidation.

Environmental damage

The illicit production of plant-based and synthetic drugs entails a range of environmental harms where it takes place. Synthetic drugs can be produced using a number of different production techniques, involving a range of different chemical precursor substances. Several methods can be used to produce the different synthetic drugs, and may involve the use of additional chemicals and processes that are inherently dangerous. Furthermore, the waste generated by the production process (which takes place on a fairly large scale in the EU, particularly in Belgium and the Netherlands) is often dumped, causing environmental harm, and risk to public health and safety. The dumping of waste was highlighted as a growing problem in the 2016 edition of this report, and further work has shed more light on this issue.

Indoor cannabis cultivation may generate a number of health, safety and environmental risks, such as booby traps, unsafe electric wiring (leading to possible electrocutions and/or fire), toxic atmospheres, toxic liquids (such as pesticides and fertilisers) in the grow rooms, growing lights emitting harmful ultraviolet radiation, mould and structural damage to the buildings used for cultivation (Tytgat et al., 2017). Furthermore, the used materials from indoor cultivation, such as used compost, containers and plant waste, are sometimes dumped or abandoned in remote places (see Chapter 3).

The production of 1 kg of MDMA, amphetamine or methamphetamine is estimated to result in many more kilograms of waste: 6-10 kg for MDMA and 20-30 kg for amphetamine or methamphetamine. Containers of the waste product may be dumped in a forest or field, left in abandoned premises, loaded in stolen vehicles or buried underground. There are also reports of synthetic drug production waste being mixed with industrial waste and disposed of at sea. Recent estimates by the Dutch Police Academy (Tops et al., 2018) indicate that synthetic drug production — and by implication the amount of associated waste — in the Netherlands is much higher than had been previously assumed. The dismantling and cleaning up of synthetic drug production and waste dump sites require considerable resources, financial as well as human (Claessens et al., 2019) (see Chapter 6).

When waste is discharged into the sewers, water treatment plants are affected and the drinking water of nearby residents is contaminated (Boerman et al., 2017; Boles and Wells, 2010; Schoenmakers et al., 2016). The sewage system may be blocked by clogging, and the acidity of the waste can disturb the working process of the water treatment plant (Schoenmakers et al., 2016; see also Case study 10).

In other drug-producing regions of the world a range of other harms are associated with the cultivation of cannabis, coca and opium poppies. In addition to the dumping of waste materials from production, threatening fragile ecosystems, the extensive cultivation of these crops leads to a range of harms, including deforestation and erosion.

These harms, although they affect countries outside Europe, may nevertheless have an indirect impact in the EU through migration, destabilisation and climate change.

Impact on the legal economy

The pernicious effect of drug-related organised crime on society includes the penetration of the legitimate economy. The illicit drug trade is an international business requiring large amounts of money to be transferred around the world. It also generates large profits that need to be laundered, that is, made to appear legal, before they can be used further.

These illegal financial flows have impacts on the legal economy in many ways, such as when businesses and high-value assets are acquired to launder cash. These 'investments' distort the true economy, leaving legitimate businesses and consumers at a competitive disadvantage. A further issue identified is that the activities of criminals engaged in the drug market may also have a direct impact on legitimate businesses, such as exposing companies to the risk of being associated with trade-based money-laundering schemes, the theft of electricity or damage to rental properties used for drug production.

Money laundering

The laundering of profits from the drug trade often requires the involvement of specialists and professional intermediaries from the legal and financial sectors, although the degree to which they are criminally complicit may vary; some will be fully aware of the illegal source of the money involved, whereas some will be indifferent and others simply negligent or incompetent in applying anti-money laundering (AML) measures. The role of the professions in facilitating the objectives of organised crime is multifaceted and includes the concealment of the proceeds of crime, obscuring the beneficial ownership of assets (the person who actually benefits from property that is owned in another person's name) and evading AML regimes (Europol, 2017a). The global nature of organised crime is reflected in the area of money laundering: the systems and services can be complex, involving a number of countries and employing a range of enablers to ensure continuity to their criminal activity. Countries that have not implemented appropriate AML regulations represent an unregulated 'back door' into the global financial system (FATF and Egmont Group, 2018).

Overall, despite robust legislation, the global AML framework has a poor success rate in identifying and seizing illegal funds generated by criminal organisations, as it is implemented now. Europol estimates that authorities in the EU confiscate as little as 1 % of all criminal proceeds, including money from the trade in illicit drugs. In many cases, investigations into drug-trafficking activity are not complemented by money-laundering or criminal asset investigations. However, efforts to investigate money laundering and dismantle money-laundering syndicates are being strengthened and, for the majority of Member States, money laundering is now a national priority. Dedicated money-laundering investigations, better implementation of AML strategies and more efficient collection of financial data are expected to enhance the ability of law enforcement authorities to identify illegal funds and increase the number of investigations initiated (see Addressing money laundering, page 213).

CASE STUDY 10

Dumping leads to closure of municipal waste treatment plant

It has been determined that the malfunctioning of a small wastewater treatment plant in the Netherlands was caused by the discharge of chemical waste from a drug production site into the sewage system. Further analysis revealed the process used for manufacturing the drugs involved. The study confirmed that the chemical waste profile found in the sewage system from the illicit production of synthetic drugs can contain useful information for law enforcement purposes. The early identification of such waste profiles may be used to identify ongoing drug production processes in the wastewater catchment area (Emke et al., 2018).

Photo: Europol

Well-publicised money-laundering investigations over recent years such as those into the Panama Papers, Paradise Papers, Offshore Leaks, Swiss Leaks and Bahamas Leaks have highlighted the global nature of money-laundering activities and increased public awareness of the extent of this phenomenon (see Case study 11).

Establishing a link between suspicious funds and a specific predicate offence (the offence whose proceeds are to be laundered) remains a key challenge for law enforcement authorities. Drug offences account for 15 % of all predicate offences in the EU, according to a survey of the Member States conducted by Europol — ahead of cybercrime (6 %), corruption/bribery (4 %), counterfeiting (3 %) and trafficking in human beings (2 %) (Europol, 2017a).

Drug-related organised criminals use a range of techniques and mechanisms to obscure their ownership and control of illicitly obtained assets, in particular through schemes that exploit otherwise legal arrangements and structures. Tools that are designed to encourage business growth and development, such as trusts, foundations and other corporate vehicles can be used to facilitate money laundering. The globalisation of trade and communications has only increased this threat, and countries now face the challenge of enforcing national laws in a borderless commercial environment (Lord et al., 2018).

Some OCGs and criminals still launder their criminal profits themselves. However, using the services of money-laundering facilitators is increasingly common for OCGs (see Case study 12). The facilitators rely on simple money-laundering techniques, which mostly involve the smuggling of cash, trade in gold and other precious metals, investment in real estate and trade-based money-laundering schemes. Money service businesses, alternative banking systems and remittance services such as hawala provide currency exchange and transfer services. These services are frequently used to move money and legitimise profits.

Money-laundering syndicates

Money laundering in itself has become a profitable criminal business for some criminals who provide money-laundering services to other OCGs. Money-laundering syndicates launder illicit proceeds in exchange for a percentage of the laundered funds as commission. These 'superfacilitators' operate highly professional money-laundering enterprises, which may involve the conclusion of contracts with OCGs

CASE STUDY 11

Panama Papers and PANA Committee report

As of April 2016, the International Consortium of Investigative Journalists, together with reporting partners from around the world, started revealing more than 214 000 offshore entities connected to people in more than 200 countries and territories, including EU Member States. Following these revelations, commonly known as the Panama Papers, the European Parliament set up a special committee of inquiry to investigate alleged contraventions and maladministration in the application of EU law in relation to money laundering, tax avoidance and tax evasion, known as the PANA Committee.

Regarding the practical effect of AML regulation in those EU countries that have applied it to the professions, the evidence has been inconclusive. The PANA Committee highlighted how a range of intermediaries, including banks, lawyers, accountants and consultants, play a prominent role in 'designing offshore structures and networks for their clients', which have the effect of facilitating money laundering, tax avoidance and tax evasion (European Parliament, 2017, p. 27). The committee recognised a continuum of culpability, from tacit knowledge of the criminality, through suspicion, to unknowing participation in it (Smith, 2013). The report highlighted the weaknesses in current systems of regulation of these intermediaries. For example, highlighting how self-regulation of the legal profession in many states had failed in the prevention of money laundering. According to the report, lawyers (and other self-regulated professions) in the EU were generally found to have filed a low number of suspicious transaction reports, often in a reactive fashion, following media reports. This was compounded by insufficient supervision by their professional associations and a low risk of debarring — to the extent that there was no effective AML regulation of lawyers.

Source: European Parliament (2017).

that detail remuneration rates and payment guarantees. They offer their services at scale and operate highly complex money-laundering schemes exploiting gaps in the financial system or accessing the financial system in 'cash-friendlier' jurisdictions, where the level of regulation allows easier integration.

Money-laundering syndicates use a variety of money-laundering schemes, including cash transfers as well as trade-based money laundering, and rely on complex networks of legal business structures within and outside the EU. Organised networks of 'collectors' physically gather and transport criminal proceeds in the form of cash, precious metals and jewellery. The use of professional enablers such as solicitors, accountants and consultants provides money-laundering syndicates with the skills and knowledge to operate highly complex schemes. Money-laundering syndicates launder large amounts of money and have a considerable impact on the ability of other OCGs to disguise and invest criminal proceeds. It is common for a money-laundering network to work with several OCGs.

The money-laundering activities of Asian criminal groups, particularly Chinese criminal groups, present a growing threat to Europe. In recent years, the number of money-laundering investigations against Chinese criminal groups has been steadily increasing in the EU. So have cash seizures and suspicious transaction reports involving Chinese nationals or China as a country of destination/origin. Law enforcement inquiries show that Chinese OCGs are extremely flexible (showing a tendency to move where opportunities for crime flourish) and polycriminal (involved in different predicate offences across Europe, from which they gain substantial proceeds). Because of the large-scale Chinese cargo trade, they operate and exploit legal structures and extensive trade-based money-laundering techniques. Chinese OCGs merge their expertise and resources in order to be able to exploit vulnerabilities and loopholes in specific local environments, legislations and systems. Money-laundering activities are, thus, conducted at international level through complex and well-organised schemes.

Money transfer systems

Cash and liquid assets

The money-laundering threat related to cash couriers (the physical transporting of criminally obtained cash) continues to be significant and has features in common with terrorist-financing threats (European Commission, 2017b). For instance, both types of groups make use of cash couriers for reasons related to the ease of access, low level of expertise required, low cost, and little or no planning involved. This modus operandi is attractive for organised crime, since it offers an alternative to the use of the formal financial sector to move funds while allowing full anonymity.

Proceeds generated by the distribution of drugs are collected from street distributors by designated

CASE STUDY 12

Money-laundering 'superfacilitators': Operation Cedar

On 24 January 2016, law enforcement and judicial authorities from France, the US, Germany, Belgium, Italy, the Netherlands and Spain, supported by Europol and the EU Judicial Cooperation Unit (Eurojust), took action against a prominent OCG responsible for the laundering of profits from cocaine sales throughout Europe. The OCG's modus operandi involved the use of cash couriers travelling across Europe by car to collect the proceeds of crime, followed by the purchase of expensive cars, luxury watches and jewellery. These high-value goods were then exported to Lebanon, where they were sold and the proceeds placed into the financial system for onward transfer to cartels in South America. Financial investigations revealed that in 2014 alone the group spent EUR 26 million in cash to purchase luxury watches, without triggering any suspicious activity reports. The sums involved in 2015 are thought to have been even higher, by which time the group was laundering an estimated EUR 1 million per week.

The targeted OCG was mainly composed of Lebanese nationals also suspected of being involved in financing terrorism through Hezbollah's 'military wing'. In the wake of coordinated days of action, one of the main suspects of Operation Cedar was placed on the Specially Designated Nationals and Blocked Persons list by the US Office for Foreign Asset Control for his involvement in the financing of terrorist activities.

Source: Europol (2017a).

collectors. OCGs then use money brokers, most often based outside the EU, who rely on money-laundering networks composed of contacts in different countries to move the cash. Cash couriers typically smuggle larger amounts of money using large denomination banknotes such as EUR 500 and EUR 200 banknotes. These high-denomination banknotes are used by criminals both to store value and for transportation. The EUR 500 banknote is no longer being issued, but remains legal tender.

A recently published study of cash and drug seizures at selected airports and postal centres illustrates the magnitude of cash smuggling in the EU (Groupe Pompidou and RILO WE, 2019). In 2018, a total of EUR 64.3 million was seized in 1 688 separate incidents at airports in 17 EU Member States. Spain seized the largest amount (almost EUR 19 million), followed by the Netherlands (almost EUR 16 million) and Italy (EUR 14 million).

Cash profits from criminal activities are also often converted to gold or jewellery. To address this issue, new EU-level regulatory measures now include other instruments or liquid commodities, such as cheques, traveller's cheques, prepaid cards and gold, within the definition of cash. In addition, criminal cash may be converted into goods in high demand in non-EU markets. Vehicles are one of the most common commodities bought with criminal cash and exported to North Africa and the Middle East, along with luxury watches, gold and jewellery. Machinery is exported to Iraq and Kuwait.

EUR 500 banknotes have also been used in money-laundering schemes that make use of bitcoin automated teller machines (ATMs). These ATMs accept cash and convert it to virtual currencies, and fall outside clear regulatory statutes. For instance, an increasing number of bitcoin ATMs in Colombia are being used to convert EUR 500 banknotes, which have been smuggled from the EU to South America, into bitcoin.

Virtual currencies and crypto cards

An increasing number of investigations have focused on the use of virtual currencies in money-laundering schemes, including money-laundering related to the trade in illicit drugs. Techniques used in the laundering of proceeds from the sale of cocaine by Colombian OCGs provide two examples that illustrate the shift from using electronic means to transfer money internationally to the use of virtual currencies.

In one approach, the OCGs use 'money mules', based in key destination markets such as the EU, to deposit illicit proceeds in their bank accounts. The mules then request bank cards for these accounts, which are sent to countries of origin such as Colombia, where the cash is withdrawn.

The second method also involves the depositing of proceeds in bank accounts by money mules, but, rather than being withdrawn in cash, the proceeds are exchanged into virtual currencies. The virtual currency is then sold to buyers in Colombia, who transfer the value to accounts held by the OCG.

Currently over 1 500 virtual currencies exist (WorldCoinIndex, n.d.). Although bitcoin remains the most popular for criminal-to-criminal transactions (EMCDDA and Europol, 2017), some Member States highlight a small shift towards more privacy-oriented currencies such as monero or zcash (see Case study 13).

Virtual money laundering maintains anonymity and hides the illicit origins of funds. Instead of adopting traditional money-laundering approaches, for instance purchasing expensive items such as gold bars, cars, jewellery or real estate, and then reselling them, in the virtual world this involves moving money into the cryptocurrency system and moving it around by using mixers, tumblers and chain hopping, services designed to obscure the origin of the currency by mixing it with funds from other sources. The more dirty crypto money that goes into the systems and the more it moves around, the harder it becomes for investigators to see through the web of action and trace a path back to the source. In addition, the pseudo-anonymous nature of virtual currencies makes it more difficult to trace these funds than cash.

The next step towards clean money is integration of the funds into the mainstream financial system. There is a risk at this stage of triggering suspicious activity reports, which flag high-risk transactions. However, once the funds are legitimised, the criminals have multiple options for recouping them from the financial system.

There are a number of money-laundering services available for virtual currencies, variously called mixers, tumblers, foggers and laundries. They take in funds from multiple customers, mix those funds together and then output the mixed funds. As in traditional money laundering, criminals generally lose a percentage of the funds in the process, but in the end the funds appear legitimate, making the loss worthwhile. They typically charge between 1 % and 3 % per transaction for their services. They are, however, increasingly being taken down by regulatory enforcement.

Informal value transfer systems

EU-level AML policies have made it more difficult to integrate large quantities of criminal cash into the financial

system, especially the banking system. However, regulation is less effective when money launderers rely on informal value transfer systems.

The term 'hawala' is often used to describe a number of different systems. These mechanisms or networks are primarily used for remittance payments by diaspora communities based in the EU and elsewhere to transfer funds to countries of origin. Transfers carried out through hawala take place outside the regulated banking system and are not subject to AML regulations or due diligence practices. Hawala providers, known as hawaladars, often run parallel businesses such as currency exchanges, travel agencies or telephone shops.

Hawala is frequently used by OCGs involved in the drug trade to transfer criminal proceeds. Moroccan OCGs and South American cartels are known to use the services of hawaladars as bankers and brokers. In some cases, hawaladars also manage cash deposits and transfer cash using cash couriers.

Impact on businesses

The drug trade has both direct and indirect impacts on legitimate businesses. For example, the indoor cultivation of cannabis requires large amounts of electricity, which may be stolen, reducing revenues and tax payments, and potentially increasing costs to legitimate customers (Dadgari, 2018). A recent analysis of Office for National Statistics data (for the financial years ending 2016 and 2017) related to seizures of illicit drugs, a freedom-of-information request to police forces and insurance claims data in England and Wales revealed that since the start of 2016 there had been 4 225 investigations by police into electricity theft, with 31 % of cases relating to the cultivation of illicit drugs (mainly cannabis) (Direct Line for Business, 2018). According to the same report, the volume of insurance claims made by landlords for malicious damage related to cannabis cultivation nearly doubled between 2015 and 2017; the average value of a claim where cannabis was a contributing factor was 40 % higher than the average claim. In 2018, the Dutch electricity provider Netbeheer Nederland estimated that around 1 billion kilowatt hours of electricity was stolen each year to power the growth operations across the country's 30 000 illicit cannabis cultivation sites (see Chapter 3).

CASE STUDY 13

Operation Tulipan Blanca

Coordinated by Europol and conducted by the Spanish Guardia Civil with the support of the Finnish authorities and the US Homeland Security Investigations, the operation resulted in 11 arrests and 137 investigations of individuals. Members of a crime ring used credit cards and virtual currencies to launder money that other OCGs made by selling drugs.

The criminals based in Spain picked up the illicit proceeds in cash, which was then split into small quantities to be deposited into hundreds of third-party bank accounts (a criminal method known as smurfing). As the cash was already circulating in the financial system, the ring just needed to transfer the criminal money back to the drug dealers in Colombia. The investigation revealed that the criminals acquired credit cards linked to the bank accounts in which criminal proceeds were deposited. Certain criminals then travelled to Colombia with credit cards and made several cash withdrawals from the bank accounts. Once the criminals realised that cash withdrawals and bank operations were easy to track, they changed their laundering methods and turned to virtual currencies, mainly bitcoin. The criminals used a bitcoin exchange based in Finland to convert their illicit proceeds into bitcoin, then change it into Colombian pesos and deposit it in Colombian bank accounts on the same day. The authorities in Finland gathered all the information on the suspects held by the cryptocurrency exchange. As a result of the operation the Spanish Guardia Civil carried out eight searches and seized several computers, devices and the equipment used to commit the crimes, such as money bags or money-counting machines. The suspects had deposited more than EUR 8 million in cash using 174 bank accounts.

Source: Europol (2018c).

There are impacts on companies that produce drugs that have both legitimate pharmaceutical and illicit uses, and on those that produce chemicals that can be used as drug precursors. There is a financial burden of compliance with legal controls and reporting. They can also suffer theft and diversion of these substances. Counterfeit versions of their products sold on the black market can lead to reputational damage. Similarly, there are considerable costs for banks in applying AML procedures, for example the costs for staff and systems for suspicious transaction reporting. There have also been some high-profile cases in which major banks have been implicated in money laundering, resulting in considerable reputational damage and significant fines (see, for example, Reuters, 2019).

Port operators are affected in several ways, such as costs associated with dealing with corrupt employees, providing security for goods passing through and facilitating the detection of smuggled drugs, and some of these costs may be passed on to other businesses. The operators of ports impose charges on shipping companies to provide security. Any rise in port charges or any infrastructure surcharge levied by port authorities will have an impact on the cost of doing business. The security charge is applied to port users to recover the costs of installing security systems and any ongoing security measures the port operator provides. There are no specific data on investments related to increasing security at ports.

The drug trade can also have a more general and insidious impact on the economy of a whole area (see Case study 14), distorting property markets and putting legitimate businesses at a competitive disadvantage.

Corruption and strain on public institutions

Drug markets may place particular strain on governments and public institutions in three main ways (EMCDDA and Europol, 2016), which are discussed further in this section.

- The corruption of public officials in law enforcement and the judiciary, as well as those operating at the political level, facilitates the operation of the illicit drug market and exerts a corrosive effect, undermining the authority of governments and the rule of law.
- Law enforcement places a strain on the public purse. The resources required for drug supply reduction activities account for the largest share of drug-related expenditure in most EU countries. These activities are financed from budgets for public order and safety, which are under increasing pressure.
- The drug trade has adverse effects on the development and stability of transitional and developing countries where drugs are produced or through which they are transported. Criminals often target them because of their weak governance structures. In such countries, where there may be few alternative options for legitimate income generation, drug policies need to be integrated with international development programmes.

Corruption of public officials

OCGs use corruption to infiltrate both public and private sector organisations, relying on bribery, conflicts of interest, trading in influence and collusion in order to facilitate their criminal activities. Over the past two decades, the issue of

CASE STUDY 14

The criminal phenomenon of 'undermining' (*ondermijning*) in the Netherlands

In the past few years the Netherlands has been facing the problem of criminal organisations involved in drug production and trafficking 'undermining' the legal economy. The Dutch police describe undermining as the intermingling of the underworld with legitimate society, the insidious threat to the integrity of public administration, civil servants and the business world, the extortion and blackmailing of administrators, the infiltration of criminal phenomena into urban life or the emergence of 'free-zones' (Politie, 2019).

Many regions in the Netherlands have established task forces against undermining, following the principle indicated by the national government: the phenomenon cannot be simply approached as a crime problem, but needs to be understood as a wider social problem that requires more than repression. This phenomenon depends on the combination of access to extensive illicit assets, threats of serious violence and the ability to exert pressure on society (Tops and Schilders, 2016).

corruption has rapidly entered the agenda of international organisations and the EU. It was noted in the 2016 edition of this report that drug markets have been identified as one of the most corruptive influences in the EU. Although most Member States have legislation to address corruption, data are not routinely collected.

Corruption perceptions have been repeatedly found to differ between government sectors and also between countries (e.g. Gemperle, 2018). Customs authorities are, however, often viewed as one of the most corrupt government institutions in many countries (Chêne, 2018). There are a number of specificities that make border activities particularly vulnerable to corruption, notably pressure from organised crime. Corruption mechanisms related to organised crime may involve the selling of information to criminal groups, facilitating the transit of illicit drugs and/or the diversion of chemicals to illegal markets and obstructing investigations (see Case study 15). In Europe, 31 % of the respondents to the European Barometer think that the giving and taking of bribes and the misuse of power are widespread among customs officials and the police (European Commission, 2017c).

Government expenditure

A substantial amount of government expenditure that would otherwise be available for other purposes is used in tackling drug markets and responding to the problems associated with them. A challenge in estimating drug-related expenditure, which is particularly relevant to supply-related activity, is that much drug-related activity occurs as part of general day-to-day work, so it is not separately identified in budgets or accounts (indirect or unlabelled expenditure). Only funding for specialised activity, such as drug squads or drug treatment services, is usually identified as drug-related (direct or labelled expenditure). Changes in the way in which policing is organised may occur in response to a range of factors, including new challenges and priorities or resource constraints, and they may have an impact on the amount of drug-related expenditure that is readily identifiable as such. For example, a survey of police forces in 2015, a follow-up to a similar survey in 2013, suggested that the number of countries with specialised drug squads had reduced (EMCDDA, 2017a). A shift to having more drug-related activities carried out as part of the general work of police or border forces might therefore have an impact on measures of drug-related expenditure.

A growing number of EU Member States have in the last decade attempted to produce estimates of the amount of drug-related public expenditure (EMCDDA and Pompidou Group, 2017). Currently, 19 EU Member States have produced estimates of drug-related expenditure for years that range from 2006 to 2017. Within these estimates the share of drug-related expenditure relating to supply reduction activities ranged from 8 to 80 %, with expenditure in nine out of the 19 countries split fairly evenly between supply and demand interventions; that is, the proportion of spending on supply-related activities was within the range of 40-60 %. Of the remaining countries, five reported spending less than 40 % of their drug-related expenditure on supply-related activities and five reported spending over 60 % (EMCDDA, 2019b).

Estimating the total social costs of licit and illicit drugs in Belgium, Lievens and colleagues (2017) found that law enforcement expenditure accounted for about a third of all direct costs and was mainly attributable to illicit drugs (EUR 549 million, 54 %, 2012 prices) and alcohol (EUR 363 million, 42 %, 2012 prices).

CASE STUDY 15

Corruption of law enforcement officials

In April 2018, law enforcement authorities in Algeciras, Spain, arrested an officer of the Guardia Civil suspected of being involved in the importation of a container containing 8 740 kg of cocaine concealed within banana crates. The seizure of almost 9 tonnes of cocaine was one of the biggest ever in Spain. The officer who was under suspicion was closely cooperating with members of the OCG thought to be orchestrating the cocaine trafficking. The officer facilitated the removal of the container from port facilities without inspection. Outside the port, the crates of bananas concealing cocaine were removed and replaced, and the container was resealed. Then the container was returned to the port for inspection.

Source: Morcillo (2018).

Impact on development and governance

Illicit drug markets, and the organised crime associated with them, are increasingly seen as a development issue (Reitano and Hunter, 2018). The EU drug market is inextricably linked to production and transit regions, many of which are in developing countries. The associated corruption and violence can undermine both social and economic development. Trafficking groups are attracted to areas of the world where governance and judicial structures are weak. In these countries, for the poorest sections of society, participation in the drug trade may be the only viable source of income, while for elite groups the large profits available from the trade may provide access to power. The dominance of the illicit economy also encourages other forms of criminality, decreasing tax revenues and reducing respect for the law and state institutions in a vicious circle that increases vulnerability to further exploitation and destabilisation. In addition, a frequent spill-over from the drug trade is an increasing problem of drug use and addiction within these producer and transit countries (Channing May, 2017; Shaw, 2017).

There is growing international recognition that tackling the drug trade in developing countries cannot focus solely on eradication and interdiction but should also promote economic and social development (see Chapter 8), in line with the Sustainable Development Goals ([7]). In some communities, the drug trade represents one of the few available sources of income. Tackling the drug trade without providing alternative economic opportunities for its participants will at best result in short-term disruption.

One approach focuses on substituting licit cash crops for illicit crops. Although there has been debate and concerns about the effectiveness of these interventions, innovative new initiatives are being evaluated. There has been renewed interest in Colombia, following the 2016-17 ceasefire in the long-running civil war. In the region of La Macarena, an innovative approach to replacing illicit crops is based on dialogue with the communities affected and expert knowledge about linking prosperity and rural development. It has produced promising early results (Ceron et al., 2018). However, expanding coverage and ensuring they reach and are viable in the more remote and disadvantaged areas remains a challenge for such programmes.

There remains a need for more comprehensive evidence gathering and evaluation. Similarly, in the policy arena, it is important that drug policies are integrated with international development policies and programmes to maximise their impact. The EU and Member States make significant investments in both drug control measures and development support to countries in Asia, Africa and the Americas where drugs are produced and transported, so ensuring coherence and seeking synergies between these areas is important.

([7]) See United Nations System Task Team on the Post-2015 United Nations Development Agenda (2012), which categorises the Millennium Development Goals along four dimensions: inclusive social development; inclusive economic development; environmental sustainability; and peace and security.

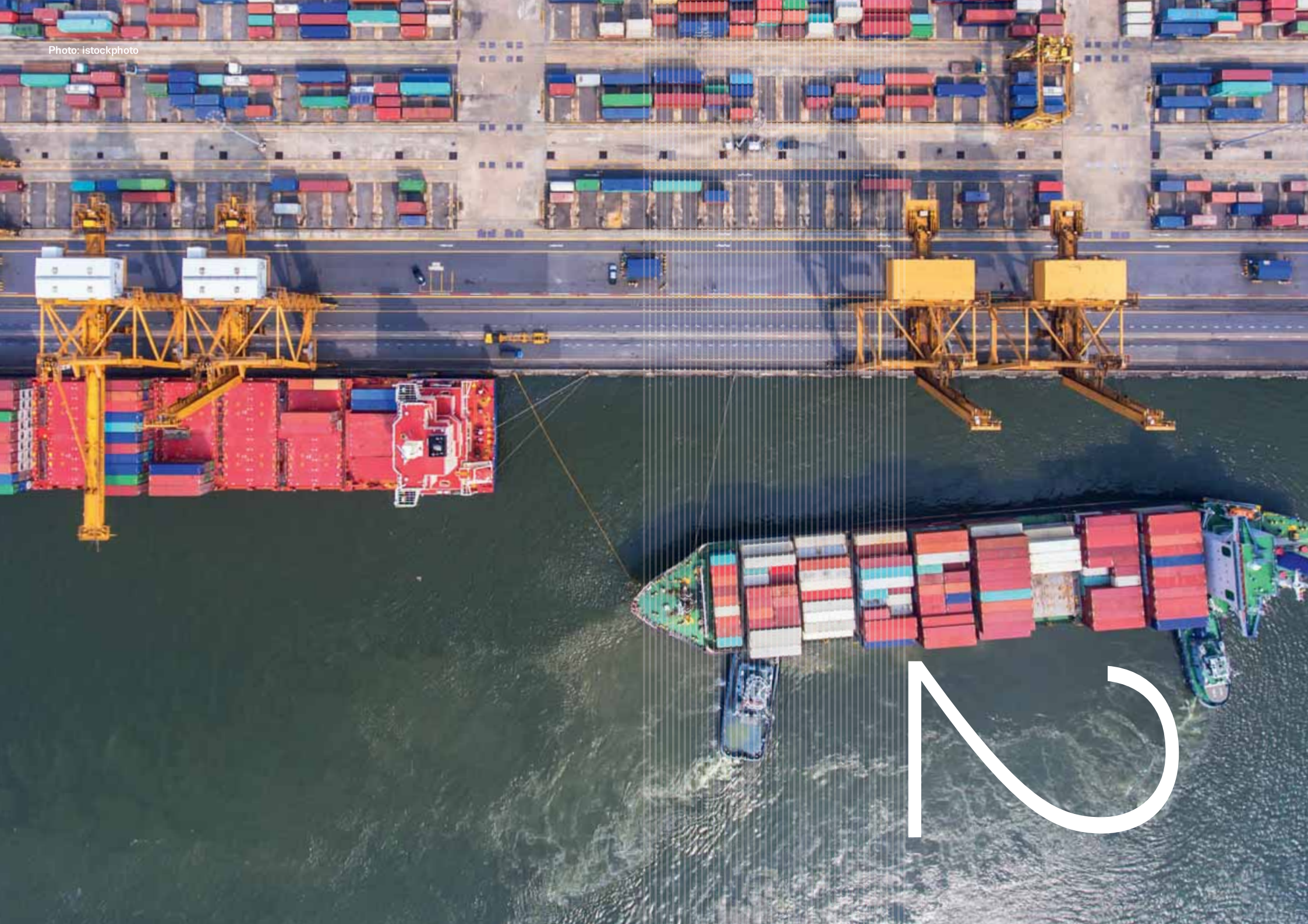


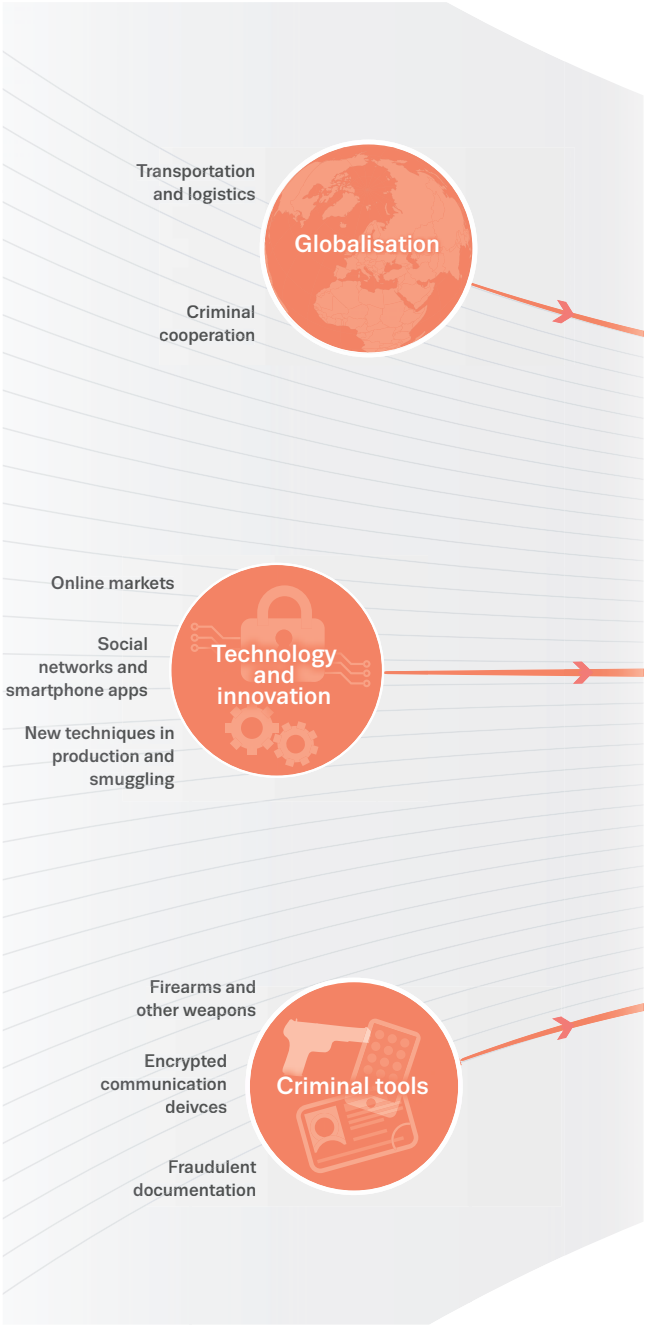
Photo: istockphoto

CHAPTER 2

Drivers and facilitators of drug markets

The drug market is globally complex, highly adaptable and innovative. The growing transport infrastructure and mobility of people are reflected in increasingly globally integrated drug production and trafficking networks. In addition, the use of the internet and the effect of information technology on all segments of society have meant new transformational opportunities for organised crime in a number of essential areas, including logistics, criminal cooperation and financial flows. The use of encryption — a small subset of the impact of the internet — makes it easier to engage in illicit activities, a trend exacerbated by both the cross-border nature of internet activities and the challenge of enforcing constraints on online behaviour (Figure 2.1).

Figure 2.1
Key drivers and facilitators of drug markets



Globalisation

Globalisation is the process by which organisations become globally interconnected through networks of communication, trade and transportation of goods and people. This process has a significant effect on illicit drug markets, as the actors involved in them seek to harness these developments and achieve similar benefits to those in the legal economy.

Transportation and logistics

Infrastructure development and transportation technology are fundamentally important factors that continue to have a significant impact on illicit drug markets and their wider ramifications. Innovation in transportation and logistics enables cheaper, more efficient and safer (thanks to decreasing inspections) organised crime operation and movement of large quantities of illicit drugs without disruption.

The transportation methods used are diverse and evolving, and are influenced by a range of factors, including the geographical locations of producer, destination and transit countries, and historical ties and cultural links between them. Some modes of transport, such as container ships, are able to transport large quantities at a time, while others focus on the movement of large numbers of small quantities, as when couriers are used to smuggle drugs on commercial flights.

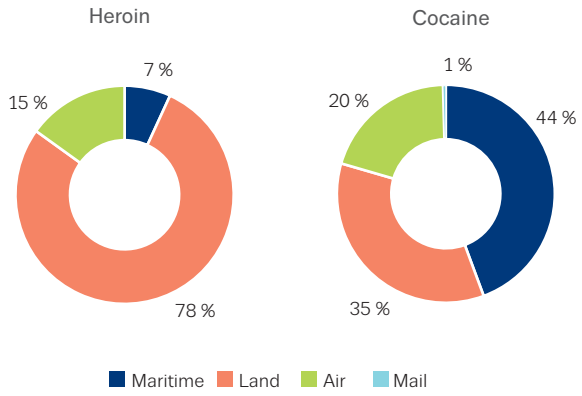
Our understanding of the relative importance of different routes and modes of transport is largely obtained from drug seizures and so is inevitably skewed. However, based on open sources (73 heroin and 239 cocaine global seizures for the European market, identified between March 2017 and April 2018; see Chapter 9), the majority (78 %) of the heroin shipments seized appeared to have travelled by land, while just under half (44 %) of the cocaine shipments were intercepted on maritime routes (Figure 2.2).

The exploitation of maritime routes constitutes a growing threat. More than 750 million 20-foot equivalent units ([8]) are transported by sea every year, accounting for 90 % of the global cargo trade. Fewer than 2 % of shipping containers globally are ever screened (UNRIC, 2018). Ninety per cent of the EU's external trade and 40 % of its internal trade is transported by sea (European Council, 2018). Large container ports in Europe and other continents are being increasingly exploited by drug traffickers for bulk transportation. For example, in 2017, the port of Antwerp, the busiest in Europe after Rotterdam, saw incoming traffic of up to 3.5 million maritime shipping containers, of which only around 1 % were inspected (Schneider, 2018). Except for a brief fall in 2009-10, at a time of financial crisis in large parts of the world, the number of containers moving through these two ports has generally been increasing for the last decade (Figure 2.3).

Recent years have seen diversification in the methods for maritime drug trafficking, as shown in Figure 2.4. New methods have been developed that allow larger quantities of drugs to be transported in individual consignments. The choice of method by drug-trafficking OCGs would typically involve an element of risk management and mitigation (Boerman et al., 2017).

Figure 2.2

Mode of transport for global trafficking of heroin and cocaine for the European market: number of seizures for each mode, March 2017 to April 2018

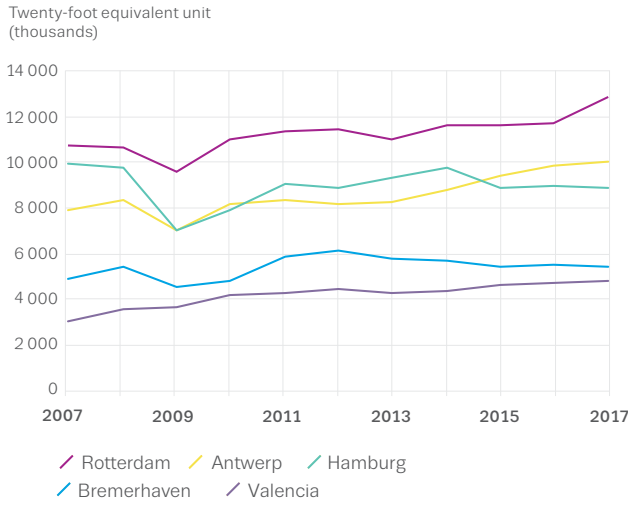


Source: EMCDDA open source information database.

Another aspect of globalisation is the digitalisation of international logistics planning. The key role played by information technology in controlling and managing traffic flows at air and sea ports has increased the importance to criminals of having access to automated systems. They may obtain such access either through the cooperation of staff or by hacking into relevant computer networks. Furthermore, looking forward, it is conceivable that entire logistical chains can be automated and thus vulnerable to exploitation.

Figure 2.3

Container traffic at five major European ports, 2007-17

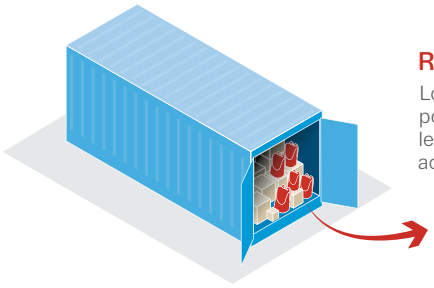


Source: Eurostat (2019a).

Note: The number of containers is based on a 20-foot equivalent unit, the most common international standardised container type, including incoming, outgoing and empty containers handled.

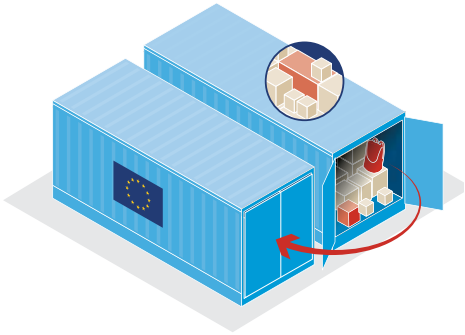
([8]) A 20-foot equivalent unit represents the cargo capacity of a standard multimodal container.

Figure 2.4
Maritime trafficking: diversification of modi operandi



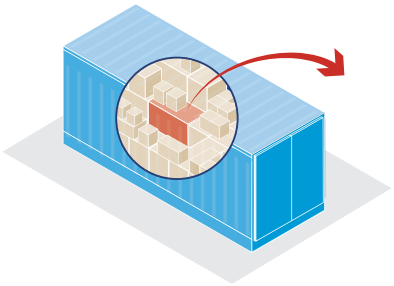
Rip-on/rip-off

Loading the drugs in the port of departure and recovering them in the port of destination, typically without the sender or the recipient of the legal cargo being aware their container is being used for drug-trafficking activities. Typically requires corruption in both ports.



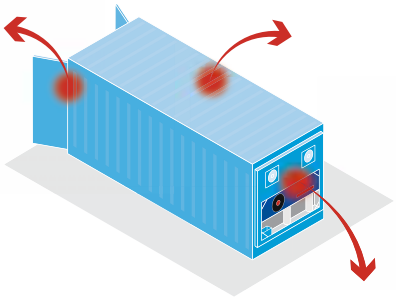
Switch

A variant of rip-on/rip-off, increasingly used in the EU. In the port of origin the drugs are placed in an easily accessible place in the container. At the EU destination port, before the container is inspected, corrupt dock workers retrieve the drugs and transfer them to a different container — either one that has already been cleared by customs or one that doesn't require inspection (e.g. intra-European transit). This requires involvement of port employees and either the transporter or receiver of the new container.



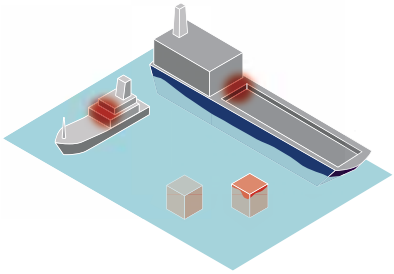
Within legitimate goods

Drugs are disguised as or incorporated into the legitimate goods. Typically this requires the involvement of the owners of the legal cargo, but can also involve a corrupt dock worker or others involved in the handling of the goods.



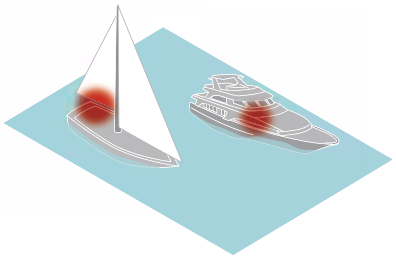
In container structure

Drugs are concealed in areas of the container such as cooling compartments, insulation materials within the walls and floorings or in the exterior beams. This method requires the involvement of corrupt port employees to place and retrieve the drugs.



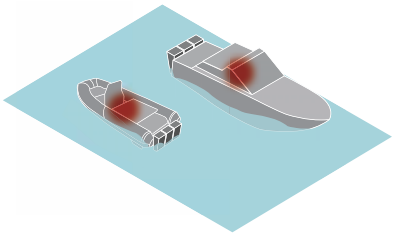
Commercial vessels and drop-off

Drugs can be transported by a range of commercial vessels such as cargo ships, fishing vessels, tankers and tugboats.
Close to the destination, drugs can also be dropped off in the sea for collection.



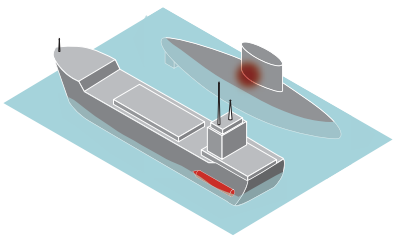
Pleasure vessels

Pleasure vessels such as yachts are frequently use, as checks on them are typically less stringent.



Inflatable and speed boats

Small vessels adapted or custom-made and powered with multiple outboard motors are used for the transportation of drug shipments over short to medium distances. Drugs are loaded and unloaded in remote areas. The vessels are fast enough to avoid detection or capture. They are extensively used in the Mediterranean Sea and Atlantic coastal waters.



Underwater attachments and semi-submersibles

Drugs are transported in missile-shaped containers attached to the hull of the vessels below the water. This method requires the use of specialised divers at both the origin and destination ports. Semi-submersible and submarine-type vessels are typically human-piloted, although unmanned crafts may be seen in future.

The misuse of general aviation for drug trafficking in and to the EU

In addition to maritime transport, air transport is also used for drug trafficking in and to the EU. There are two main categories of civil aviation that can be used: scheduled air transport, including passenger and cargo flights operating on regularly scheduled routes, and general aviation, which includes all other commercial and private civil flights. General aviation, when used for criminal purposes, involves a wide variety of aircraft, ranging from business jets to smaller aircraft, such as light and ultralight aircraft, helicopters and most recently unmanned aerial vehicles (UAVs), such as drones. This includes privately owned aircraft, rented aircraft owned by an aero or flying club and aircraft owned by general aviation companies, which may be booked.

General aviation possesses some inherent vulnerabilities. It is a flexible and fast mode of transportation, making it more difficult to monitor than other means of transport. Monitoring is also made more difficult by the large number of airports, airfields and small airstrips in the EU. Small international airports and general aviation airfields are particularly attractive for OCGs, as they may be more susceptible to criminal infiltration, allowing traffickers to cross borders without passing through regular custom checks or border controls. Moreover, some general aviation aircraft can land almost anywhere or do not even need to land to deliver their illicit cargo.

Compared with other transport means, the number of cases reported to Europol involving general aviation is low, although it has increased during recent years. Under-reporting by the EU Member States and a lack of awareness and effective controls mean there are probably a large number of unrecorded events. The real scale of the threat is therefore almost certainly higher than reported.

Trafficking of illicit drugs is the most common criminal use of general aviation (56 % of reported cases). Cocaine trafficking is the most frequently reported activity related to the criminal use of general aviation (28 % of all cases and 49 % of the reported drug cases). Cannabis resin and, to a lesser degree, herbal cannabis, are also trafficked by means of general aviation (20 % of the reported drug cases). Cases involving the transportation of heroin, amphetamine and MDMA are rare and mostly occur in the context of polydrug trafficking.

General aviation is mostly used for the secondary distribution of small shipments of illicit drugs within the EU, mainly cocaine and cannabis. However, it is sometimes used for trafficking drugs to the EU, and in these cases the typical volume of individual shipments is considerably higher than on intra-EU flights. For example, the quantities of cocaine transported on transatlantic general aviation flights ranges from 500 kg to 1 200 kg.

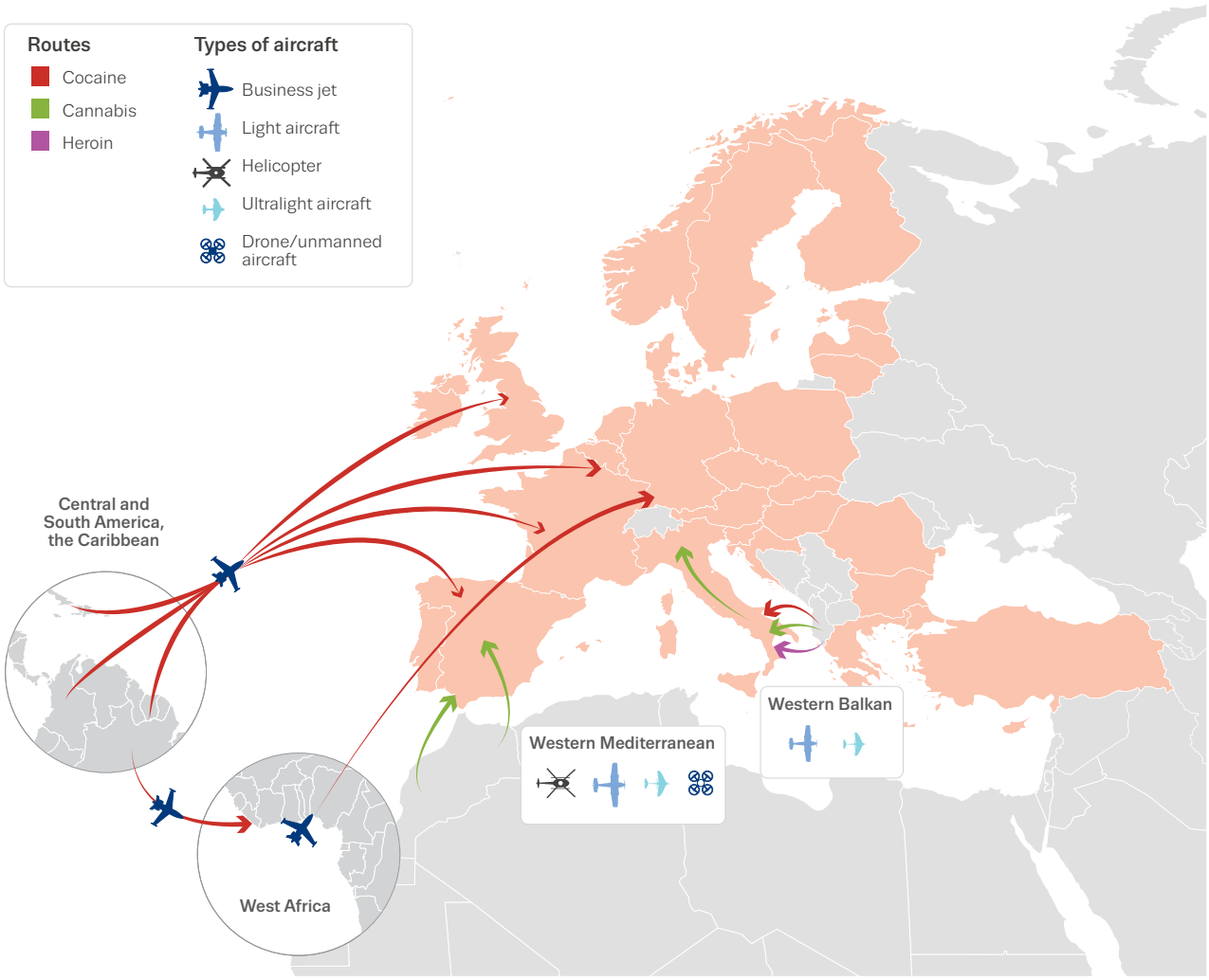
General aviation is also used to facilitate the movements of fugitives and OCG members. For instance, UAVs are used for the surveillance of law enforcement activities and border patrols, to inspect the security of unloading sites, or for the remote surveillance of cannabis cultivation sites.

Figure 2.5 shows the different routes and types of general aviation used for trafficking drugs. Cocaine is directly trafficked into the EU using business jets suitable for long-haul flights. The airports of departure are located in the Caribbean, mainland South America, or even the Andean region. The countries of destination are mostly located in western Europe. General aviation flights for the trafficking of cannabis resin depart from the south of the Iberian Peninsula to return from Morocco carrying cannabis resin. These flights, organised by OCGs based in Spain in cooperation with Moroccan OCGs, are clandestine, carried out at very low altitude to avoid being detected by conventional radar, relying on only very basic navigation systems and visual references of the terrain. Helicopters are most commonly used for this activity and can transport up to 900 kg of cannabis per trip. OCGs also use light aircraft. For example, drug trafficking occurs between Albania and Italy, with flights departing from Italian aero clubs or remote airstrips, flying at low altitude under the cover of a pleasure trip. They cross the Adriatic Sea and land in remote areas in Albania.

Criminal flights may be operated in four different ways:

- 'white' flights, properly operated in accordance with general aviation regulations;
- 'grey' flights, apparently conducted in accordance with general aviation rules, but deviating at some point (abuses of reporting, unscheduled stops/touch-and-go and drop-off);
- 'black' flights, fully clandestine flights, unreported, operated at very low altitude, on radio silence, transponder off and relying on external visual references;
- unmanned flights using UAVs.

Figure 2.5
General aviation and drug trafficking: routes and types of aircraft employed



The OCGs using general aviation are highly diverse. They range from loose networks of criminal entrepreneurs, mostly pilots collaborating in ad hoc projects, to highly developed and hierarchically structured groups. The pilots involved in the use of general aviation for criminal purposes are typically EU nationals, well experienced, with strong knowledge of general aviation and advanced piloting skills. This is necessary because of some of these flights take place in difficult conditions.

The use of post and parcel services for drug trafficking

Over the last few years the use of post and parcel services to transport drugs has expanded rapidly. Although the quantity shipped through these means is still limited compared with other forms of transportation, their use has been increasing. As a consequence, law enforcement authorities in EU Member States, customs in particular, have had to increase their controls of postal hubs.

The increasing trend for shopping online in Europe is associated with an increase in parcel deliveries, which are predicted to increase by 69 % between 2017 and 2021 (Graham, 2017). This increase in delivery volumes makes systematic controls of all parcels challenging. This presents an opportunity for drug traffickers to expand their use of this medium for delivering drugs too (Figure 2.6). In particular, there has been a growth in online drug purchases through social media, the surface web and darknet markets, in which the postal system is exploited (Council of the European Union, 2017).

The trafficking of drugs using post and parcel services affects all Member States, and a number of countries are seeing considerable increases in letters and parcels containing drugs. The specific routing of parcels can

Figure 2.6
Illicit drugs seized in postal traffic

Photo: Federal Police, Belgium

vary widely, including direct routes from the source to destination or via EU transit hubs and non-EU locations. In 2018, the amount of cocaine seized in postal parcels sent to Europe decreased notably from 2017, and only the Netherlands seized more than 100 kg that year. Parcels containing cannabis mostly departed from the United States, Canada and Spain. Heroin arrives in the EU from Pakistan, often via Africa. The Netherlands continued to be the main source of MDMA seized in postal parcels in 2018, mostly destined for South America, the United States and Asia. While NPS continued to be shipped mainly from China and Hong Kong, in 2018 few seizures of fentanyl derivatives in postal parcels occurred in Europe (Groupe Pompidou and RILO WE, 2019).

Dutch-based OCGs send postal packages and parcels from Belgium, France, Germany or the Netherlands to customers worldwide. For example, a Europe-based darknet drug-trafficking organisation called ItalianMafiaBrussels was dismantled in a joint US-European enforcement action in which two members of the organisation were extradited from Romania to the US on charges of money laundering and MDMA trafficking, primarily to US and Canadian customers through the now defunct markets Silk Road and Silk Road 2.0, using regular postal services to send the drugs from Belgium to the US. Germany, as well as Belgium, is increasingly used as a transit hub for the trafficking of amphetamine and MDMA, NPS, cocaine or cannabis using post and parcel services (Case study 16). Large EU parcel hubs are located in Germany (Frankfurt and Leipzig) and Belgium (Liège). The amount of ecstasy and amphetamine found in the post more than tripled from 137 kg in 2016 to 460 kg in 2018, according to information from customs authorities in the Netherlands — and these numbers are regarded as a small fraction of the bigger picture (Boffey, 2019a). Intermediaries in Germany appear to be frequently used for the dispatch by mail of illicit drugs produced in the Netherlands and purchased on the darknet. Since August 2016, about 8 500 postal items containing illicit drugs have been identified at international airports across Germany, amounting to a total of 404 kg of illicit drugs (287 kg amphetamine and 111 kg MDMA, as well as cocaine and cannabis) and 307 250 MDMA/ecstasy tablets.

There are notable challenges in identifying postal items containing drugs. For example, the total volume handled every day by a major postal centre such as the Mail Centre Vienna amounts to 4 million items. Furthermore, there is currently no mechanism in place for the reporting of suspicious parcels akin, for example, to the existing one for reporting suspicious financial transactions. Although systems are in place for service providers to remove and destroy suspicious parcels, they do not have a legal obligation to inform police authorities.

CASE STUDY 16

International drug-trafficking network disrupted

National investigations into an OCG composed of 13 members, including some of Afghan and Dutch origin, began in September 2018. The suspects in the Netherlands prepared parcels or envelopes with drugs, which were mailed to Germany. The perpetrators in Germany used various mailboxes and post offices to ship the packages on to recipients around the world. The orders were made online through the darknet, using cryptocurrency, such as bitcoin and paysafecards. Members of the OCG were also suspected of being involved in money-laundering activities related to their profits. Amphetamines, MDMA, cocaine and heroin, with a total street value of more than EUR 400 000, were seized. Ten private residences and business premises were searched at the German-Dutch border. Large amounts of drugs, including 40 kg of amphetamine and 1 kg of ecstasy tablets, as well as mobile phones, computers, documents and EUR 10 000 in cash, were seized. Twelve suspects were arrested, four under European Arrest Warrants.

Source: Europol (2019a).

In practical terms, targeted screening could aid identification of postal items with illicit content, especially in cases when express postal services are employed. Such measures could have a significant impact in disrupting illicit drug distribution by this modus operandi and limiting related harm. They can also help protect postal service staff from coming into contact with potentially lethal substances.

Europol analysis indicates that smaller EU-based secondary distributors also trade several types of illicit drugs and subsequently distribute them through their national post and parcel services. Some criminals simply rely on innocuous packaging shipped by post, parcel and express parcel services. Some suppliers ship vacuum-packed parcels. In some cases, the higher-level OCGs are largely uninvolved in the trafficking of the illicit drugs, relying on intermediaries who receive or dispatch the products using fictional identities and addresses.

More generally, the origin and content of parcels is often concealed by making false declarations and using fraudulent documents to circumvent risk indicators used to identify parcels for checks. The identification of the suppliers is to some degree also hampered by the nature of the non-EU postal systems and the use of parcel-forwarding services.

Individual criminals and OCGs use parcel-forwarding services to facilitate the trafficking of illicit commodities. Postal companies provide their clients with addresses in other jurisdictions, repack the parcels and ensure international shipment. This creates opportunities for criminals intending to conceal the origin, final destination and nature of illicit shipments. Since these companies usually do not open the packages, the nature of the shipments can easily be concealed by sending a false customs declaration.

Criminal cooperation

Globalisation facilitates drug supply by providing new opportunities for criminal cooperation and integration along the supply chain, thus improving the efficiency of operations. Currently important features of the operations of many OCGs in Europe are polycriminality and online cooperation.

Polycriminality

Polycriminality remains a feature of many of the OCGs active in the EU. According to the most recent data, 45 % of the OCGs reported for the SOCTA are involved in more than one criminal activity, a marked increase compared with 2013 (Europol, 2017b).

OCGs often engage in more than one criminal activity to mitigate risks, reduce operational costs, increase profit margins, or finance or facilitate other criminal activities. For instance, an OCG may finance the maintenance of several legal business structures to launder incomes from drug trafficking by engaging in organised property crime.

Many OCGs are highly flexible and able to shift from one criminal activity to another or to add new criminal activities to their crime portfolio. In many cases, OCGs operate on an on-demand basis and become active only once new profit opportunities emerge. The increasing availability of knowledge, tools and expertise provided to OCGs through 'crime as a service', in which criminals use the services of other specialised criminals, has enabled a greater number of OCGs to engage in multiple criminal activities despite lacking specific expertise or experience. As a result of an increasingly complex and interconnected criminal world, there are more and more OCGs specialising in offering a wider range of highly specialised services to different OCGs, both offline and online.

The OCGs involved in the trafficking of illicit drugs are the most polycriminal groups in the EU. They traffic different types of illicit drugs, with polydrug trafficking continuing to be a common feature among mid-level suppliers and distributors, and increasingly for top-level OCGs. Polycriminal OCGs most frequently combine the trafficking of cannabis and cocaine. There is also some overlap in the activities of OCGs involved in the trafficking of illicit drugs and illegal firearms. In some cases, OCGs involved in drug trafficking also engage in migrant smuggling, organised property crime or different types of fraud.

Online cooperation

Online technologies are used extensively by OCGs for communication, and the internet and new technologies facilitate the formation and operation of new models of criminal groups. As some have put it, 'knowing the right people' (the concept of social capital) may have transformed into knowing one's way on the internet (Leukfeldt, 2017). An example can be seen in the fentanyl market. Anecdotal evidence suggests that vendor networks, particularly for the supply of fentanyl derivatives via darknet markets, form and exist online only, regardless of physical world location, sometimes across continents.

UK investigation and prosecution of several fentanyl vendors has confirmed that some prolific UK-based vendors actively seek to 'recruit' re-seller vendors in other countries where they enjoy large customer bases. The UK vendors supply wholesale amounts to their network of re-sellers so that customers in those countries can receive expedited delivery

from their 'local' reseller. In one UK case a prolific fentanyl vendor arrested in April 2017 was supplying wholesale amounts of its fentanyl preparations to three separate US-based re-seller vendors, which enabled more timely deliveries to satisfy escalating demand from US customers. There is also some evidence that vendor brands are being serviced by a networked collective of individuals based in several different countries, which enables these brands to offer prompt local deliveries in the countries in which their constituent members reside. It is likely these mutual arrangements also assist such a collective vendor brand in becoming more resilient to law enforcement detection, as a greater proportion of their transactions would be undertaken within local national postal systems rather than passing through the more stringent border checks imposed on international postal traffic (S. Welsh, National Crime Agency, personal communication).

Technology and innovation

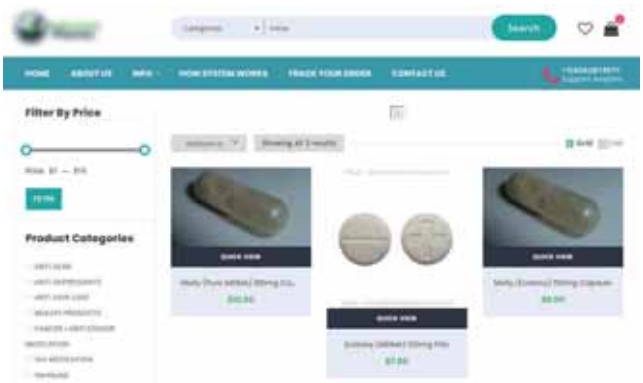
The impact of the rapidly evolving technological world extends to drug markets. In 2017, 87 % of EU households had internet access and 57 % of individuals aged 16-74 had bought goods or services over the internet (Eurostat, 2018b). Drug dealers have capitalised on this pool of potential buyers and the technological opportunities.

Online markets

Surface web

The surface web is an important medium for the sale of NPS and misused medicines. To a limited extent, it is also used for the sale of traditional illicit drugs, as illustrated in Figure 2.7. Legislative measures removing NPS from the legal market have resulted, for example in the United Kingdom, in the restriction of the role of the surface web in their distribution (Wadsworth et al., 2018). UK-registered online shops were found to close down or move domain location, but it is unknown whether the UK retailers have ceased selling NPS or have been relocated to darknet markets. Further research is also required to understand how long-lasting this effect will be. The trading of illicit drugs typically involves more clandestine approaches.

Figure 2.7
Surface web 'pharmacy' offering MDMA



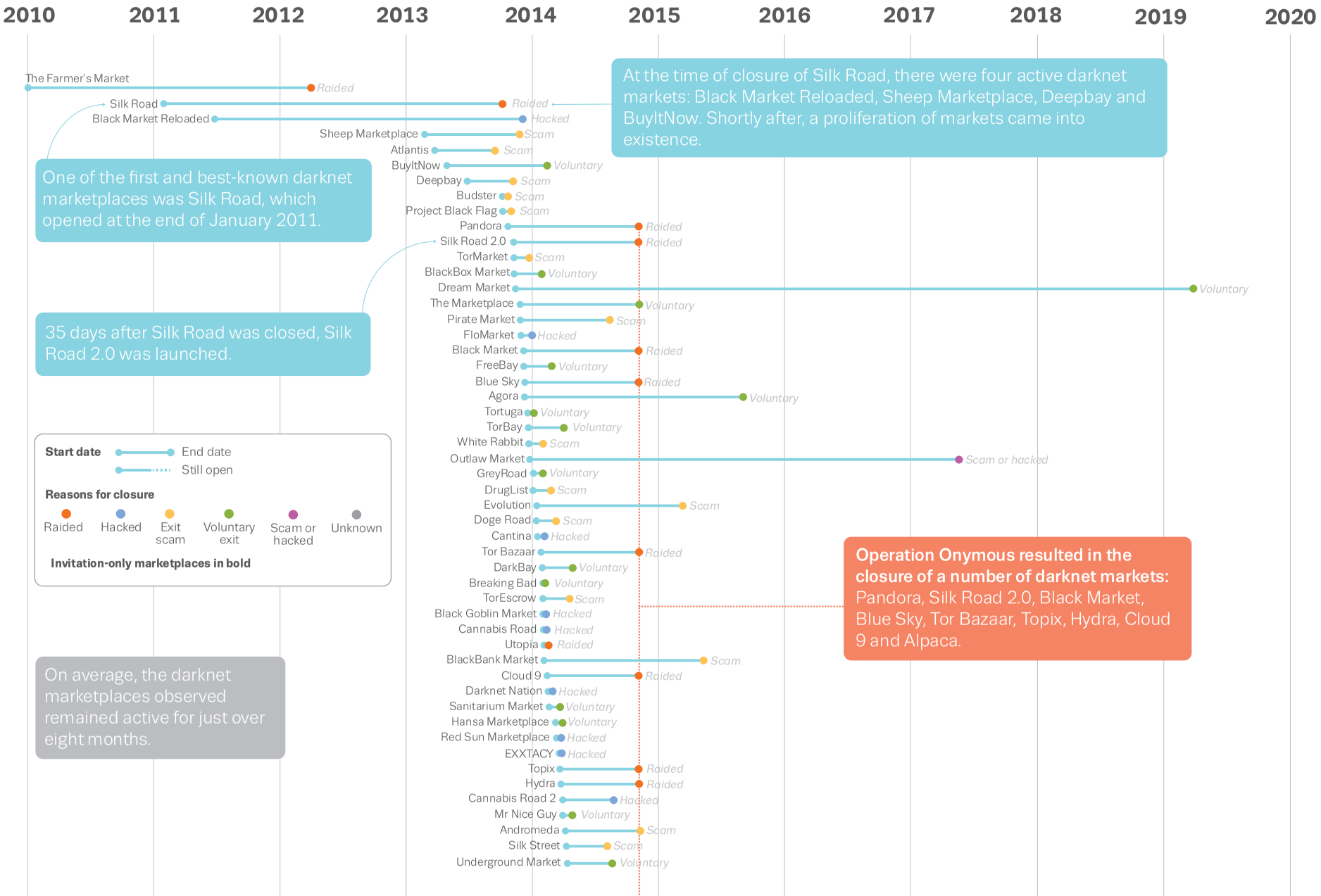
Darknet drug markets

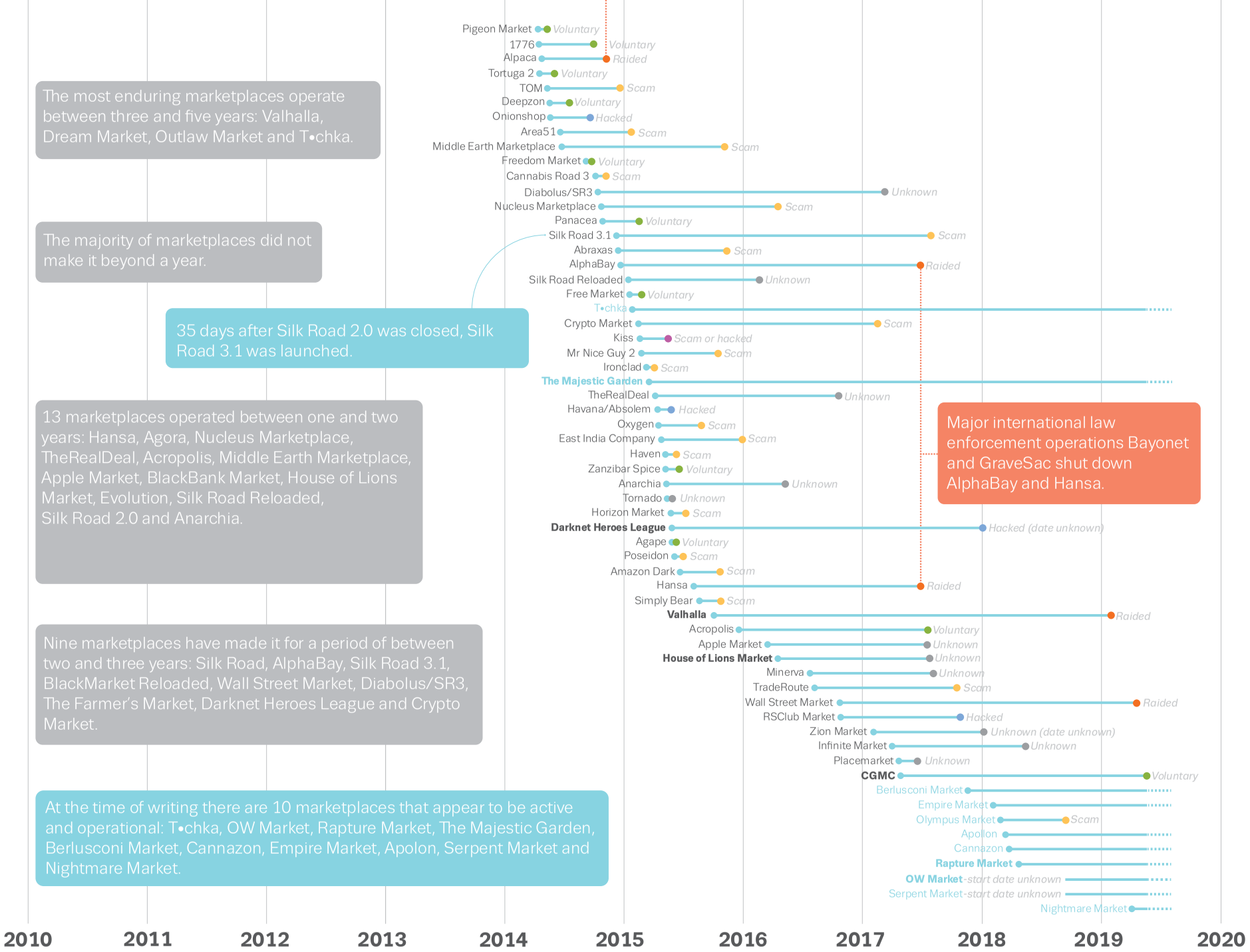
The combination of digital technologies, namely of anonymity technology (e.g. Tor; Dingledine et al., 2004) and pseudo-anonymous (Nakamoto, 2009) or anonymous (Ben-Sasson et al., 2014; van Saberhagen, 2013) payment systems, has led to the emergence of darknet markets in which sellers and buyers can conduct transactions online with a high level of anonymity. It is estimated that about two thirds of the offers on darknet markets are drug-related, with the remainder related to a range of other illicit goods and services (EMCDDA and Europol, 2017). Darknet markets are most often global and operate in English, although some cater to a particular country or language group.

The darknet markets ecosystem is dynamic and resilient, with markets emerging and disappearing because of law enforcement activities, exit scams or voluntary closure, and with different markets dominating at different times (see Figure 2.8 and Case study 17). At the time of writing, there appear to be 10 active and operational marketplaces: T•chka, OW Market, The Majestic Garden, Berlusconi Market, Cannazon, Rapture Market, Empire Market, Apollon, Serpent Market and Nightmare Market.

Figure 2.8

Darknet markets ecosystem: lifetime and reasons for closure of over 100 darknet markets offering drugs, sorted by date





Notes: A total of 112 darknet markets were identified along with key features. Start and end dates — the dates of the first and last known sales/withdrawals. Closure type — the reason for a market shut-down. Market status last checked on 16 May 2019.
Sources: EMCDDA (2016a), DarkNet Stats (2019), DarkWebNews (2019), Gwern Archives (2019).

Several Member States suggest that another consequence of these market closures, is the growth in both the number of vendor shops (shops run by a single vendor) and secondary markets, i.e. non-English language markets (Europol, 2018d, p. 47).

Well-established vendors with high trust levels and reputation are more likely to set up their own hidden service platforms. Some of these vendors can continue doing business solely with clientele established on the now-defunct markets, especially in relation to sales of products that are purchased repetitively, such as drugs.

Within the next five years, we can expect to see continued fragmentation of the darknet market scene. While a number of larger, multi-vendor, multi-commodity markets may survive, there will be an increasing number of vendor shops and smaller secondary markets catering to specific nationalities or language groups. These smaller markets will be less likely to attract the coordinated international law enforcement response that larger markets invite.

Some vendors will abandon web shops altogether and migrate their business to encrypted communications apps, running their shops within private channels/groups and automating the trade process using smart contracts and bots. Industry and media already report a trend in the abuse of apps like Telegram or Discord, despite the provider's efforts to curtail such activity (Europol, 2018d).

To obtain more information about darknet drug markets and in particular on the role of European suppliers within them, the EMCDDA commissioned a study, which collected regular snapshots from four major global darknet markets (Dream Market, Berlusconi Market, Valhalla and TradeRoute) during the period 15 July 2017 to 22 August 2018 ([9]). Based on an extrapolation of data from buyer feedback reports it was possible to estimate the volumes and values of drugs traded over time. Although not exhaustive, this approach does allow an audit of the target marketplaces over the study period and an assessment of the impact of the combined AlphaBay

([9]) It should be noted that the period November 2017 to March 2018 was excluded because of unreliable data.

CASE STUDY 17

Double blow to darknet markets

In April 2019, the German Federal Criminal Police shut down the Wall Street Market, under the authority of the German Public Prosecutor's office. They were supported by the Dutch national police, Europol, Eurojust and various US government agencies. Another marketplace, Silkkitie (also known as Valhalla) was seized by the Finnish customs service in cooperation with the French national police and Europol.

Wall Street Market was the world's second largest darknet market, enabling the trade in drugs (including cocaine, heroin, cannabis and amphetamines), stolen data, fake documents and malicious software. More than 1 150 000 customer accounts were registered on the online marketplace, and over 63 000 offers had been made by the 5 400-plus vendors. For payment, buyers used the cryptocurrencies bitcoin and monero. The alleged marketplace operators are said to have received commission payments of between 2 % to 6 % of the sales value for the settlement of illegal sales of the platform.

The operation led by the German authorities saw the arrest of three suspects and, as a result of the house searches carried out, police officers seized over EUR 550 000 in cash, as well as bitcoin and monero in 6-digit amounts, several vehicles and other evidence, such as computers and data storage. In the US, during the investigation by the Attorney General in Los Angeles, two of the highest-selling suppliers of narcotics were arrested.

Silkkitie has been operating on the Tor network for the Finnish market since 2013. It expanded operations internationally (under the name Valhalla) in late 2015. Silkkitie is one of the oldest and internationally best-known Tor trade sites. Based on the findings of the investigation, the Finnish customs service also made a significant bitcoin seizure. After the Silkkitie site was shut down by the authorities, some of the Finnish drugs traders moved their activities to other sites in the Tor network, such as Wall Street Market.

Source: Europol (2019e).

and Hansa take-downs on the darknet ecosystem (for fuller technical details see Christin and Thomas, 2019).

The analysis of the development of sales between 2017 and 2018 revealed three distinct trends.

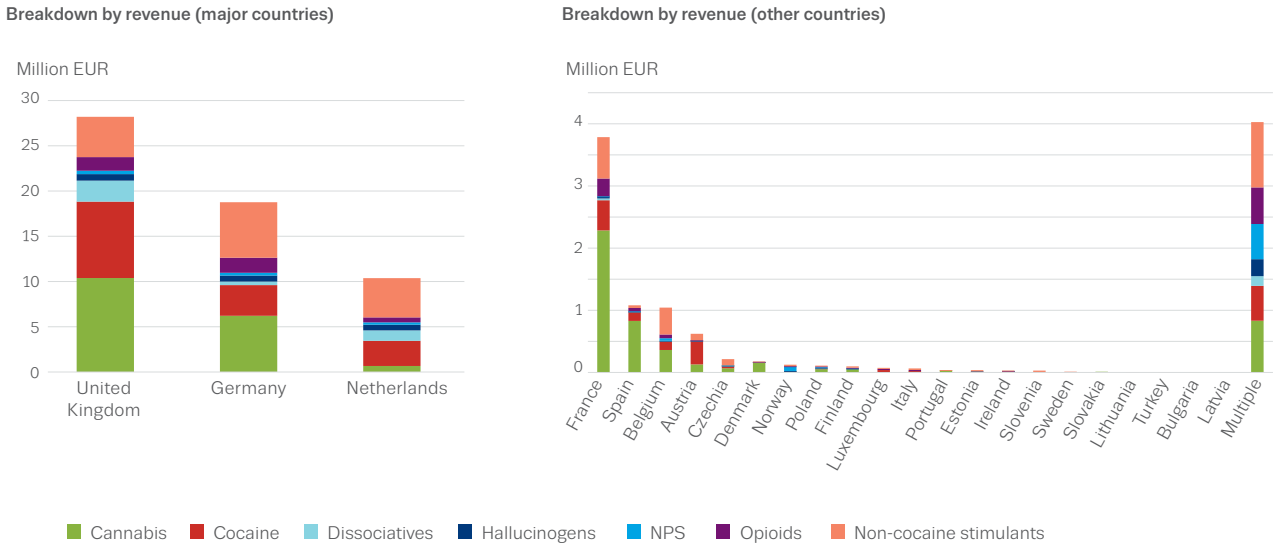
1. Revenue on Dream Market and TradeRoute experienced a strong increase starting in July 2017. This corresponds to the take-downs of AlphaBay and Hansa.
2. The overall revenue of these four markets reached approximately EUR 800 000 per day on average. This is comparable to AlphaBay's daily revenue at its peak (EMCDDA and Europol, 2017). This suggests that the AlphaBay and Hansa take-downs did not have a significant impact on the overall revenue of the ecosystem. This resilience of the darknet markets ecosystem was also observed after the Silk Road take-down and Operation Onymous.
3. Dream Market was by far the largest market by sales. TradeRoute was of significant size up to October 2017, when it closed in an apparent exit scam.

A comparison of sales of drugs originating from the EU with those originating from other countries showed that EU countries represented roughly 44 % of global drug revenue, and 37 % of the weight sold during the period studied.

The data collected also showed that the vast majority of sales originating from the EU were from three countries: the United Kingdom, with EUR 28.2 million in total sales; Germany, with about EUR 18.8 million; and the Netherlands, with just over EUR 10.3 million (Figure 2.9). Sales of much lower values originated from France (EUR 3.8 million), Spain (EUR 1.1 million) and Belgium (EUR 1.0 million), while vendors purporting to ship from multiple possible locations were also prominent (EUR 4.0 million). In the top three countries, the highest revenue-generating substances were cannabis, cocaine and other stimulants. Vendors in the Netherlands generated a significantly lower proportion of their revenue from cannabis than those in Germany or the United Kingdom.

The general trends observed with respect to financial revenue also apply to the quantities of drugs traded by European darknet vendors: Germany (3 153 kg overall), the United Kingdom (2 825 kg overall) and the Netherlands (1 174 kg overall) dominate the ecosystem. In all other countries together, the total weight of products shipped was less than 1 tonne (1 000 kg). Vendors in the United Kingdom generated higher revenue than those in Germany yet sold a lower overall weight. This may reflect factors such as variations in price, as well as differences in the types of drugs offered by vendors in different countries.

Figure 2.9
Breakdown of sales revenues originating from the EU, Norway and Turkey by country, 2017-18



Notes: For readability, the three major countries (Germany, the Netherlands and the United Kingdom) are represented on a different scale from the other countries. 'Multiple' denotes that several EU countries are mentioned as country of origin. Cannabis: a range of forms. Cocaine: a range of forms. Dissociatives: ketamine, gamma-hydroxybutyrate (GHB), gamma-butyrolactone (GBL). Hallucinogens: LSD, PCP (excluding psychedelics). Non-cocaine stimulants: amphetamine, methamphetamine, MDMA, MDA. Opioids: heroin, opium, analgesics.

The dynamic nature of online markets, their ability to evolve to counter threats and exploit new opportunities, and the introduction or adoption of new technologies mean that enhanced monitoring capacity in this area is crucial to ensure that responses keep pace with developments and to reduce the health and security threats that developments in this area now present.

Social networks and smartphone apps

While attention is often focused on the use of the darknet for drug trafficking, the use of mainstream applications may be equally important and more readily accessible. In 2018, 75 % of people aged 16-74 in the EU used a smartphone for private purposes (Eurostat, 2019b). According to a social media report, the social networking platform Facebook has more than 1.6 billion registered users; the video-sharing site YouTube has more than 1 billion active users; and the social streaming site Twitter has more than 500 million registered users worldwide (Nielsen, 2016).

Following the development and diffusion of social platforms such as Facebook, YouTube and Twitter among young people, these platforms are being increasingly used by drug suppliers and dealers (Coomber and Moyle, 2018; Miliano et al., 2018; Moyle et al., 2019). The use of online social networks and smartphone applications, or 'apps', in the drug trade effectively negates the need for specific expertise (as with Tor-based darknet markets) but still provides a level of hidden or encrypted communication that is not provided by public listings on the surface web. Messenger services such as Wickr or WhatsApp can also be harnessed to provide dealers with end-to-end encrypted communication to work out transaction details at all levels of the drug market.

At the retail level, media reports have demonstrated how easy it may be to obtain a range of illicit drugs via social media platforms such as Instagram, Snapchat, Tinder and Facebook (Dooley, 2017). Journalistic reports must be viewed with caution (Coomber et al., 2000); however, they do illustrate some important aspects of technology-based distribution. On social media sites, the use of hashtags (user-generated labels that enable the identification of content on a particular topic) and emoticons (small digital images or icons used to express an idea) provides the gateway to advertisements for sale of a range of substances (Ferguson, 2016).

While drug sales and advertising on social platforms and messenger services appear to be acquiring prominence, there is relatively little research exploring the place of these technologies in drug markets. To systematically address the empirical research gap characterising drug distribution through social networks, the EMCDDA commissioned a background report on the role of these networks in selected European countries (Denmark, Finland, Iceland, Norway and Sweden) (Demant and Bakken, 2019).

Denmark, Iceland and Sweden have active open social media drug markets, especially within Facebook groups and on Instagram. These markets are characterised by high accessibility, facilitating dealing between strangers. In contrast, private digital markets predominate in Finland and Norway, with drug dealing facilitated through closed, peer-to-peer-only messaging applications such as Wickr, Snapchat and Facebook Messenger. Accessing the markets then demands a higher level of previous knowledge to be able to contact a seller (whom and how to contact), which is often achieved by friends acting as intermediaries. Depending on the app in use, sellers sometimes send group messages (e.g. by Wickr) or public stories (e.g. by Snapchat) giving information about newly arrived drugs or special deals. In Norway, if Facebook is used to sell and buy drugs, it is only through private messages or groups strictly exclusive to Facebook friends. In Finland, a large public digital market operates on a forum, placed as a hidden service on the darknet and available only with a Tor browser. This darknet forum functions very much like the groups on Facebook observed in Denmark, Iceland and Sweden. The main characteristic of these markets is that sellers publicly post their drug offers, including their contact information, and encourage further communication on private channels such as Wickr. Despite the variations between countries, the overall process is similar: parties first meet online, where price and amount are discussed, and then meet physically to exchange cash and drugs.

A closer examination of drug dealing on Facebook revealed 113 Facebook groups where illicit drugs were sold: 26 in Denmark, 30 in Iceland and 57 in Sweden. Of them, 63 indicated a specific geographical coverage: 34 nationwide, 20 citywide, six covering large regions (often including whole counties or more than one city), two concerning small regions (i.e. a city and surrounding areas) and, finally, one market focused on a specific area within a city. Despite these data, an estimation of market demographics is challenging because almost half of the markets (50) did not inform members of their geographical reach (no specific instructions in the group summary). There are clear differences between countries. Denmark has national markets for the most part, which fit the geography of the country: every part is easy to reach in little time, and it is densely populated. Sweden, on the other hand, has a significant number of citywide groups. In Iceland, the majority of groups do not specify geographical reach, which may suggest they are open to nationwide sales.

New techniques in production and smuggling

Some cannabis resin producers based in Morocco have adapted their production techniques in order to improve the quality of their product, mainly through the introduction of crop varieties with higher yields (EMCDDA and Europol, 2016). Such agronomic techniques may be applied to other illicit crops relevant to drugs, for example opium poppies grown in Afghanistan, coca plants grown in Latin America or ephedra plants grown in China. Over the last few years, the production outputs of Afghanistan and Colombia have been very high and the output of illicit methamphetamine laboratories in south-east Asia also seems to have been boosted in recent times (UNODC, 2018a). Although there will be many factors contributing to the increases in each case, the adoption of new techniques play a part. This has been reflected in an apparent oversupply of cocaine and heroin in the global supply chain, with undesirable consequences for Europe. A number of other developments have also been taking place that are providing opportunities to increase drug production and supply.

Precursor innovation and chemically masking drugs

As well as the innovation in plant-based drug production, synthetic drug production has also been undergoing an era of transformational development. Much like hackers find vulnerabilities in computer systems to facilitate their work, chemical techniques are applied to drug precursors, modifying them in order to circumvent international control systems and facilitate the production of synthetic drugs.

Whereas in previous years synthetic drug production relied on the acquisition of highly regulated chemical precursors, the current practice in Europe is to use non-regulated chemicals that can be easily converted to those precursor chemicals, or even more novel ones that can be directly transformed into a synthetic drug (EMCDDA, 2019f). As well as confirming that drug producers are becoming more adept at borrowing techniques from the pharmaceutical industry and applying them to the drug trade in order to evade detection, these developments present a challenge to the international precursor control regime (see Chapter 6 for more details).

Traditional methods to avoid detection of smuggling attempts during the inspection of goods typically involve hiding drugs in some way or another. More recently, increasingly complex chemical methods have been observed, signalling an emerging new type of technological innovation in the drug trade. This technique involves modifying the drug into a new substance, which is undetectable by those conducting inspections even using advanced detection equipment. An example was found in 2017 when law enforcement officers in Spain found cocaine in a shipment of ion exchange resin, a polymer substance used for separating molecules. The cocaine was modified in order to chemically bond it to the resin, so the cocaine was not readily identifiable. Once the resin was smuggled, the cocaine could be recovered from the resin by the simple application of an acidic solution. Another example of a technique that makes the smuggled cocaine undetectable to customs inspection is the chemical combination of cocaine into a polymer such as polythene or polymethylmethacrylate (also known as Plexiglas or Perspex). This technique results in a plastic or rubber substance that incorporates the cocaine within the structure of the polymer. Extraction of the cocaine at the destination requires the specialist knowledge of illicit chemists who know the processes used at the place of origin. Typically, chemists from Latin America would be used to perform this recovery stage.

These developments indicate that maintaining a competitive advantage by improving drug production processes, minimising the risk of prosecution and avoiding detection is high on the agenda of international groups involved in the drug business. Aside from these innovations, recognising how drug production has become more globally complex, and how those who produce and traffic drugs are quick to exploit developments in the infrastructure supporting international trade and in information technology, is becoming ever more important. These developments have the potential to have a rapid impact on the kinds of problems we are likely to face in the future. Consequently, improving our monitoring and analytical capacity will remain a critical requirement for being better prepared to respond effectively to such future threats.

Criminal tools

There are indications that drug-trafficking OCGs have become more competent at using a range of items and techniques as crime tools or, in some cases, more adept at collaborating with people with such abilities. Here we highlight a few examples of material things that are being used to further the drug trade and related criminal activity.

Firearms and other weapons

The damage caused by criminal use of firearms by OCGs involved in drug markets is direct and indirect. Direct impact includes the number of killings and injuries, which may for example occur in disputes between rival gangs over territories, while indirect impact results from the use of firearms to intimidate and coerce their victims (UNODC, 2012a). The use of firearms by organised crime groups, particularly in high-profile incidents of violence between members of rival groups, attracts considerable public interest and can undermine community confidence and wellbeing (Crocker et al., 2017).

Changes in drug markets may affect firearms use. In the United Kingdom some provincial police forces have highlighted concerns about increasing firearms use related to the phenomenon of county lines: the supply of primarily heroin and (crack) cocaine from the capital and big cities to provincial towns, often associated with the exploitation of vulnerable people as discussed above, but also with intimidation and violence (see the section on harms to individuals, families and neighbourhoods in Chapter 1). For example, a recent report on the phenomenon indicated that 118 of these lines had been identified as having links to firearms (NCA, 2019).

This is one illustration of the strong connection between drug supply and firearms use, and how firearms may be used to protect and enable other criminal interests. When automatic weapons are recovered in the United Kingdom, for example, they are usually linked to drug supply (NCA, 2018b, p. 52).

The EMCDDA-commissioned pilot study of drug-related homicide in Finland, the Netherlands and Sweden shows that firearms were used in 54 % of the Dutch drug-related cases, compared with 19 % in Finland and 39 % in Sweden. Firearms featured in drug-related homicides twice as often as in non drug-related events. In general, drug-related homicides involved a firearm more often than non-drug-related homicides (EMCDDA, 2019c).

Recently there appears to have been an increase in the use of hand grenades in the context of drug markets (Barry and Anderson, 2018; Dalton, 2018). In Sweden increasing numbers of seizures of grenades linked to cases of illicit drug trade-related extortion and victimisation have been reported. According to police national figures, 43 hand grenades were seized in the country in 2017, of which 21 had been detonated. In 2016, 55 were seized, of which 35 had been detonated, whereas only 10 detonated grenades were seized in 2015 (Roden, 2018). A similar trend and related incidents of drug-related violence involving explosives have been reported in the Netherlands too. Former conflict zones, e.g. the Western Balkans, are a significant source of illegal firearms and explosives, including grenades (Hustad, 2018; Triebel, 2016).

Encrypted communication devices

Encrypted communication devices have become important criminal tools, making use of technological advances as highlighted above. High-end encrypted smartphones continue to be preferred by OCGs to reduce the visibility of their activities to law enforcement. OCGs use encrypted communication devices and apps as their primary means of communication, owing to the content protection features available on these devices and applications (see Case study 18).

A recent study on technology and organised crime in the smart city indicated that, just as mobile telephones revolutionised drug dealing back in the early 1990s, drug dealers have made extensive use of developments in mobile phones and other communication technologies and have a sophisticated understanding of their uses and potential vulnerabilities to law enforcement investigation (Berry, 2018).

With data encryption playing an increasingly important role in data protection, like other technological developments it provides opportunities for criminals and challenges for law enforcement. For example, the entry into effect of the EU General Data Protection Regulation (GDPR) means that all personal information on registrants of domain names has been redacted from the publicly available WHOIS database. Consequently, all public institutions whose task it is to combat fraud and protect consumers, to investigate and prosecute online crime and to protect network information systems (computer emergency response teams) have lost direct access to an essential source of information for their online investigations: domain name registration information (WHOIS data). The end of direct access to WHOIS data represents a threat to investigations, including those of terrorism, serious organised crime, child sexual abuse and cybercrime. EU Member States are reporting to Europol a steadily increasing number of investigations hampered and delayed by the lack of access to WHOIS data.

While data encryption is an important tool to provide protection and privacy to GDPR-mandated data, it should be stressed that increased availability and ongoing advancement in this area will probably continue to provide drug traffickers with a diverse range of resources to conduct their activity and impede law enforcement investigations.

Fraudulent documents

Fraudulent documents are a significant issue, as they enable a range of crimes, including drug trafficking, human trafficking and terrorism. Drug-trafficking OCGs use fraudulent documents for various purposes. For example, fraudulent personal identity documents may be used by truck drivers transporting illicit drugs; work contracts may be obtained to pretend that companies conduct actual businesses with employees or to provide cover to criminals who are falsely declared to be company employees; or fraudulent transportation and customs bills may be used to facilitate the cross-border transfer of cash, justified as payments (Savona and Riccardi, 2018).

A number of darknet markets provide access to such documents, some of which come with bills or bank statements as proof of identity. Based on open source information from darknet markets, in 2018 there were 425 listings of fraudulent papers that said they would be shipped from European countries.

As highlighted by Europol in its latest SOCTA, the use of fraudulent documents in the EU has significantly increased and is expected to emerge as one of the fastest-growing criminal markets over the coming years (Europol, 2017b, p. 20). In response, the Council of the EU in May 2017 identified document fraud as one of the 10 crime priorities to be addressed between 2018 and 2021 (see Chapter 8).

CASE STUDY 18

Encrypted phones for criminal purposes

In 2017 Dutch police arrested the owner of a company that sold encrypted mobile phones. Although the manufacture and sale of such phones are legal, Dutch investigators maintained that their primary purpose was to facilitate drug trafficking and other crime. The phones sold for around EUR 1 200 and were preloaded with additional encryption software.

Details emerged during the investigation of an assassination, when forensics were able to decrypt messages that were located on BlackBerry phones encrypted with Pretty Good Privacy (PGP) containing the communications between the perpetrators and the man who ordered the hit. All BlackBerry devices were provided by a single company; were paid for in cash; and lacked a camera and a microphone, able only to send out encrypted text messages. The objective for investigators was not only to prove that the company was acting as a crime facilitator but also to locate the Blackberry Enterprise Server (BES). Consequently, the director and managers of the company were arrested and financial assets were confiscated along with illegal firearms.

During the investigations, detectives found that communications between the criminals in the Netherlands were routed through a BES in Canada. In collaboration with police in Canada they were also able to secure several terabytes of encrypted data from the BES server. The (meta) data contained information on drug prices and the specific areas of crime in which a number of groups were active. Notably, detail was unveiled about the activity of the Mocro-Mafia, a group that received shipments of cocaine in Antwerp and ultimately was responsible for a number of assassinations across the Netherlands. Cases like this prompt a discussion on future procedures for law enforcement agencies in terms of questions around privacy/security.

Sources: Cox (2017); Egberts (2017).

Increasing preparedness through a future-oriented approach

A central message that comes through in this report is that the drug market is increasingly dynamic, with OCGs quick to innovate and take advantage of opportunities presented by the global and digital economies. This is in many ways no different from the situation observed across areas of legitimate commercial activity, in which successful business models are increasingly ones that are future-oriented and highly adaptive to changing circumstances. Drug policies and accompanying law enforcement responses, on the other hand, are usually reactive. An example can be seen around the emergence of NPS over the last decade, a phenomenon that has posed a serious challenge to existing policy and response models.

There is a growing body of knowledge of how taking a future-oriented approach can increase preparedness to respond to potential future challenges, helping to create institutional resilience and fostering more agile policy approaches. There are various approaches to future-oriented planning and analysis. Scenario planning is likely to be particularly useful for increasing Europe's preparedness to future challenges linked to a more dynamic and innovative drug market. This technique involves forecasting a range of different possible future developments and considering their implications for harms and appropriate response models.

There are a number of linked areas where this approach could prove valuable. These are all areas in which an impact on the drug market can already be seen but in which it can also be predicted that the future implications will potentially be even more profound.

Globalisation and developments in infrastructure to support trade. OCGs have been quick to recognise the opportunities provided by the creation of a global marketplace and to exploit these to circumvent existing control measures. Looking to the future, there are a number of areas in which new opportunities for OCG activities may arise. China's Belt and Road initiative, creating a 'new Silk Road', could have a profound impact on the flow of commercial goods both by road and by maritime routes. Rapid developments in virtual currencies and anonymised payment systems, which increasingly facilitate the online drug trade and allow OCG groups to reduce risks, are likely to continue. A number of other developments are likely to have an impact on the final stages of drug distribution models, such as the use of drone technology and the expansion in more anonymised 'pick-up and drop-off' networks, which are increasingly offering 24/7 options for deliveries.

Digitally enabled drug markets and cybercrime. The need to move large quantities of goods rapidly to consumers creates a parallel need to manage large amounts of information and underpins the moves towards digitalisation and automation in both the areas of intermodal transportation (containerisation) and of parcel and post technology. More generally, both the darknet and surface web and the use of social media applications are growing in importance for drug distribution, while the use of encryption, anonymised or semi-anonymised networks, and virtual currencies is also likely to become increasingly important and challenging for law enforcement. These digital and online developments bring with them new cybercrime risks but, at the same time, also potential opportunities for regulation and law enforcement, such as the development of artificial intelligence systems.

Exploitation of regulatory gaps and differences. The development of global e-commerce services has provided OCGs with the ability to exploit regulatory differences across geographical space, as illustrated in recent developments in the NPS area and in precursors for drug production. Potential opportunities for exploitation include regulatory differences in areas such as medicines, lifestyle and other products that may contain psychoactive chemicals or be converted into them, and also the existence of a regulated cannabis market in some parts of the world and the parallel rapid innovation in the products and forms of the drug available.

Disruption to existing market models. Many of the new developments described in this report lower the barrier to new entrants into the drug market. An obvious example of this is the way 'entrepreneurs' can sell synthetic opioids purchased online and thus compete with heroin suppliers, who require a complex infrastructure to transport and protect their product. They also create the conditions for OCGs to operate in new ways and diversify their interests across illicit products. Overall, these developments create the conditions for disruptive criminal business models, greater competition and associated conflict, with the potential for an increase in harms, including violence, associated with the drug market as highlighted, in this report.

Impact of the growth of new drug markets in less economically developed countries. Historically, drug problems were often viewed through a lens that focused on drugs produced in the developing world and consumed in the developed world. However, as noted in this report, the EU is increasingly both a source and a transit point for drugs consumed elsewhere. Moreover, demographic and social changes mean that the drug problems of the future will increasingly be manifest in less economically developed countries. This can be seen today in the growth in opioid problems in some African countries or in cocaine markets growing among more affluent populations in Asia. These changes often occur where capacity to monitor them is weak and where drug problems have the potential to exacerbate other health and security threats. The direct and indirect implications of these changes, both locally and on the EU, may potentially be profound.

Impact of conflict, political instability and climate change. The lowering of barriers to entry into the drug market already noted, combined with the considerable profits that involvement can deliver, especially when other means of income generation become difficult or when governance structures are weakened, mean that conflict and social instability is a strong pull factor for drug market involvement, both in the EU and elsewhere. Moreover, those affected by conflict and social instability also become more vulnerable to recruitment or exploitation by OCGs involved in the drug trade. A vicious circle can develop, as the income generated by the illicit trade adds further to instability by undermining governance, and alliances develop between OCGs involved in drug trafficking and other groups that pose a threat to security. Looking to the future, existing conflicts will continue to pose a multifaceted security threat to the EU, and drugs are likely to be an element in this that could be overlooked. Climate change will increasingly add to these pressures, while also potentially leading to a shift in the places in which drug production is possible.

PART II

Main drug markets in the EU

In Part II we take an in-depth look at the markets for the main drugs used in Europe, in each case following the flow from production and trafficking to distribution and use.

3

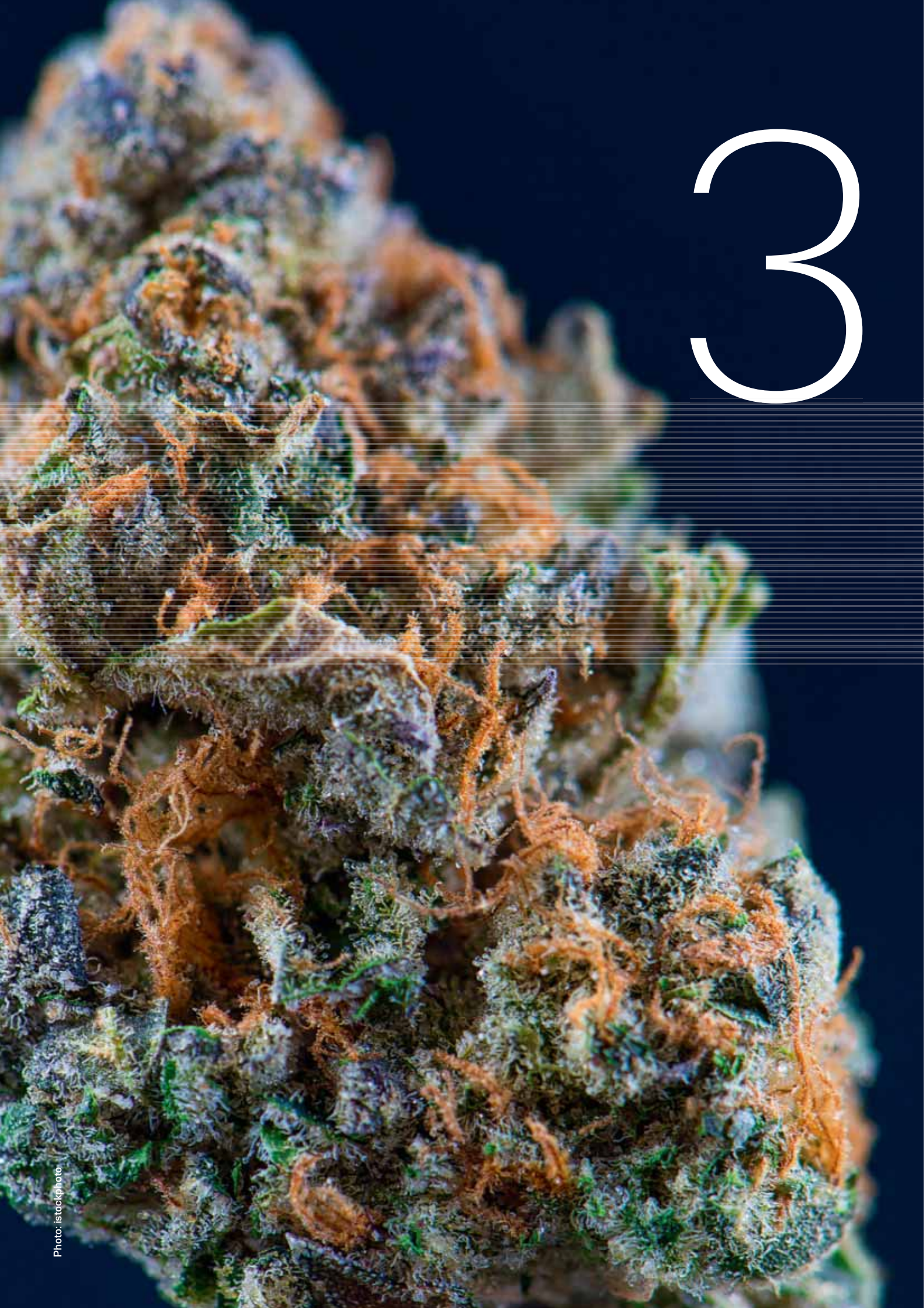


Photo: istockphoto

CHAPTER 3

Cannabis

Key points

Cannabis in Europe

▶ Cannabis is the biggest drug market in the EU and a major source of income for the criminal economy. With around 25 million people reporting having used the drug in the past year, the retail market for cannabis is conservatively estimated to be worth at least EUR 11.6 billion.

▶ Europe is a major cannabis producer; it is estimated that at least 20 000 cannabis cultivation sites are dismantled in the EU each year, although the number of sites producing cannabis at any given time is likely to be much higher.

▶ Diversity in OCG involvement and levels of intergroup violence appear to be increasing. OCGs of Moroccan origin still play a major role in cannabis resin trafficking, and groups of Dutch origin especially, but also of Vietnamese origin, are important for large-scale production. However, more generally, involvement in the cannabis market can be an important cash generator for both established and emerging OCGs, leading to increased intergroup violence.

▶ The cannabis market is becoming more diverse and complex. Illicitly produced herbal cannabis and cannabis resin continue to be the most commonly used forms of cannabis and tend to be much more potent than in the past. The market now also includes high-potency cannabis oils, synthetic cannabinoids, cannabis and cannabinoid products and preparations intended for medical use, and an increasing number of cannabidiol (CBD) or low-THC products being sold in a range of forms. The regulatory status of these varies considerably, posing new challenges for law enforcement, regulation and monitoring.

▶ Consumption estimates generally appear stable, with around one in seven young adults (aged 15-34) in the EU reporting having used cannabis in the last year, although there are recent signs of increases in younger age cohorts in some countries.

Developments in production and trafficking

▶ Production near to, or by, consumers creates additional challenges for law enforcement. A large proportion of the herbal cannabis consumed in the EU is grown there, closer to its place of consumption, rather than being imported from outside the EU, reducing the need to traffic the drug across external borders and lowering the risk of interdiction. This and how to address small-scale production, which is tolerated in some Member States, creates a more challenging landscape for law enforcement actions.

▶ Morocco's Rif Mountains are the region of origin of most of the cannabis resin available in Europe. Increased cooperation with European cannabis producers appears to explain the spread of high-yield, high-potency varieties of cannabis in this region and therefore the increase in the potency of cannabis resin observed in Europe over the last 10 years.

▶ Cannabis production causes a range of environmental harms. In Morocco it has been associated with soil erosion, deforestation and water security issues, probably exacerbated by the introduction of new plant strains. In the EU, production is also linked to environmental, and health and safety risks.

▶ Diffusion is evident in cannabis resin trafficking routes. While Spain remains the main entry point into the EU, the

trafficking of resin produced in Morocco and Lebanon now affects the Mediterranean Sea region as a whole, following the emergence of Libya as a major storage and transit hub for the drug.

▶ The Netherlands and Spain are commonly identified as the source of origin of seizures made by EU countries. In addition, despite efforts to counter production, the Western Balkans, and Albania in particular, appears to remain an important source of origin for herbal cannabis seizures.

▶ The frequency of small-volume online cannabis sales is increasing. Although the scale is currently small compared with traditional retail markets, it has considerable potential to grow.

Implications for action to address current threats and increase preparedness

To identify and respond to new threats related to the cannabis market there is a need to take the following actions.

- Give high priority to sharing information and best practice on law enforcement strategies to detect significant cannabis production sites in the EU, including models for cooperation with relevant utility services, and strengthen the standardised reporting of interdiction activities in this area.
- Improve the monitoring and assess the impact of trends in cannabis products available on the EU markets. This requires better forensic evidence on the content and sources of cannabis seizures as well as the identification of any new higher-potency forms of cannabis appearing on the market.
- Invest greater efforts in monitoring, analysis and information sharing to understand the dynamics of cannabis trafficking and production in countries bordering the EU. Crop-monitoring programmes in close cooperation with important countries such as Albania and Morocco would contribute to this.
- Strengthen EU interagency cooperation and develop targeted enforcement actions to identify and respond to any threats resulting from Libya's emerging role as a significant storage and transit country.
- Follow closely and assess the implications for the cannabis market, and the potential risks, of commercial, medical and regulatory developments occurring internationally and within EU Member States. Strengthen coordination of activities at EU level to ensure that the roles and responsibilities of various partners, including law enforcement and regulatory bodies, are well articulated.

Cannabis overview

Herb, resin

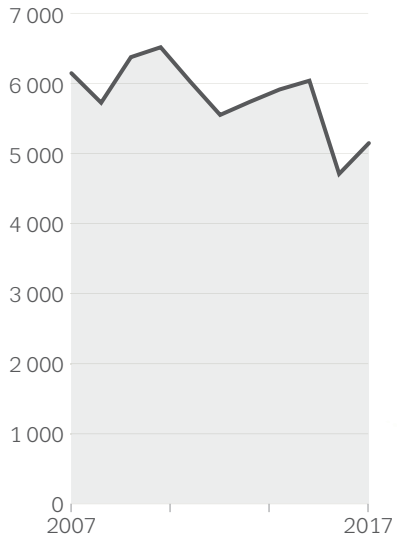
Global

World

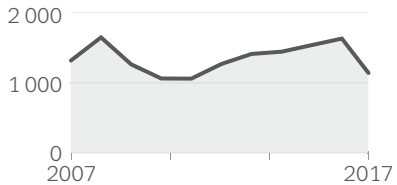
181 million

Estimated number using cannabis in the last year aged 15-64

Global seizures of herbal cannabis (tonnes)



Global seizures of cannabis resin (tonnes)



Wholesale price at key locations

Herb (EUR/kg)

*Mean **Mode ***Min-Max

Producer countries

Albania**	202
United Kingdom**	880
Spain*	1 343
Italy*	2 287
Belgium*	4 525

Selected transit and destination countries

Germany*	4 599
Poland**	5 000
Sweden*	5 662
Latvia**	6 000
Ireland*	8 000
Finland**	10 000

Resin (EUR/kg)

Producer countries

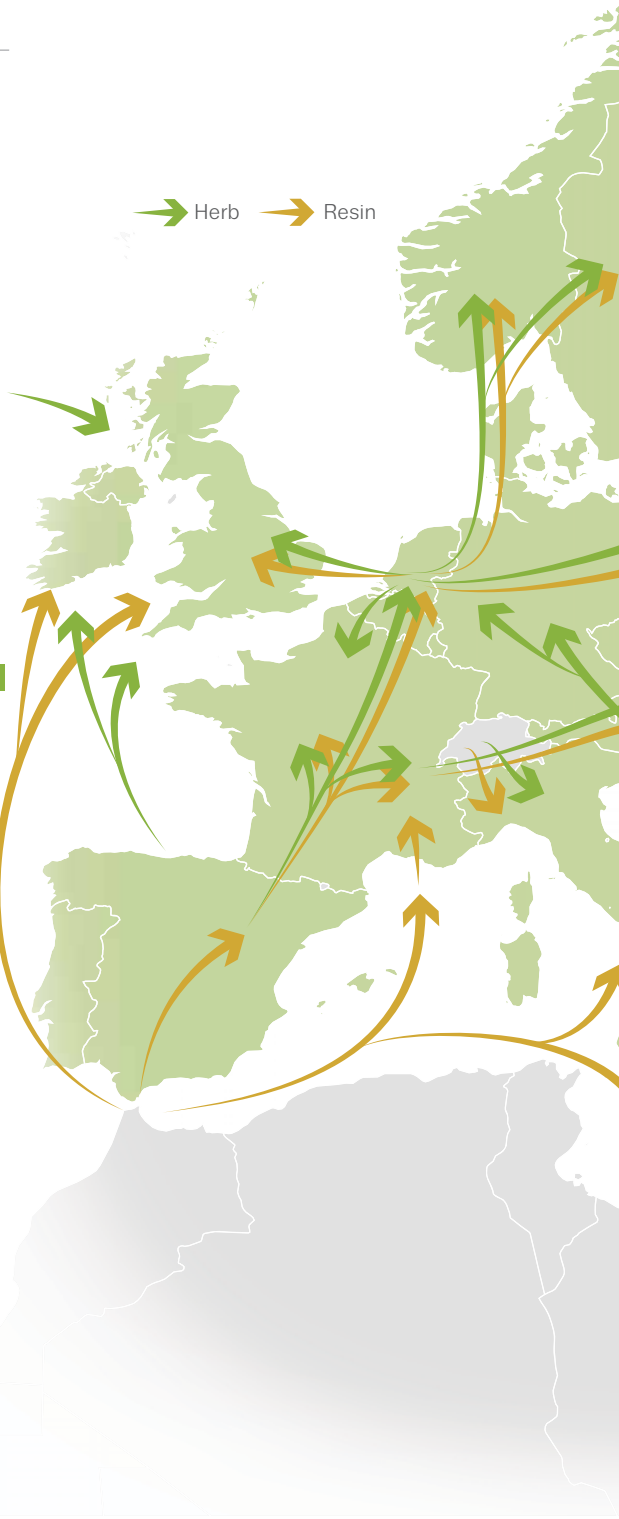
Afghanistan**	72
Morocco**	694
Lebanon**	1 080

Selected transit and destination countries

Algeria**	1 016 (2015 data)
Spain*	1 626
Albania***	1 495-1 994
Italy*	2 338

Selected destination countries

United Kingdom*	880
Germany*	2 775
Belgium*	3 140
Denmark*	3 842
Estonia*	5 500
Norway*	6 367

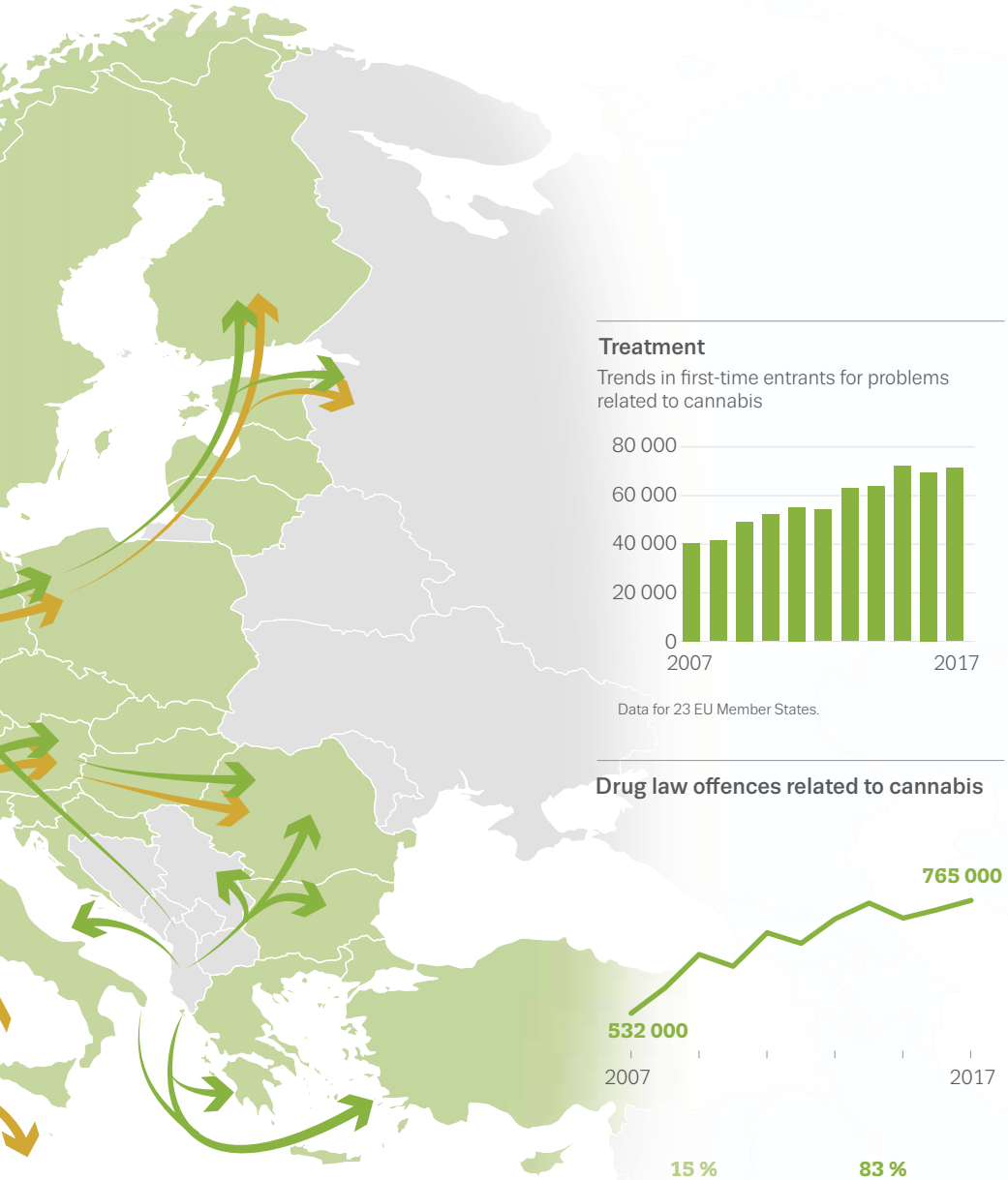


Europe

39 %
EU retail drug market share

EU
24.7 million
Estimated number using cannabis in the last year aged 15-64

17.5 million young adults (15-34)

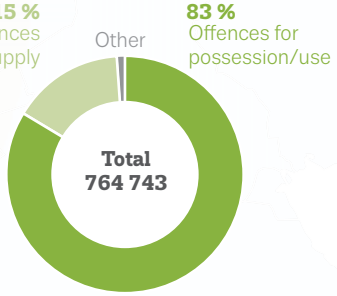


Treatment

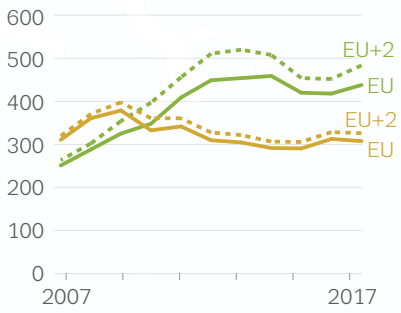
Trends in first-time entrants for problems related to cannabis

Data for 23 EU Member States.

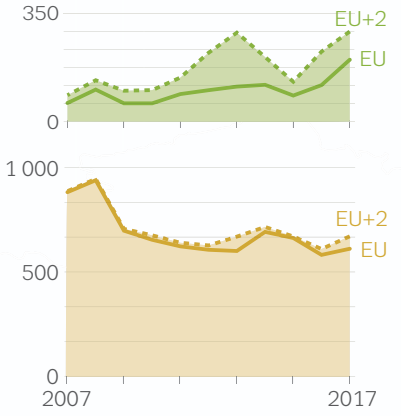
Drug law offences related to cannabis



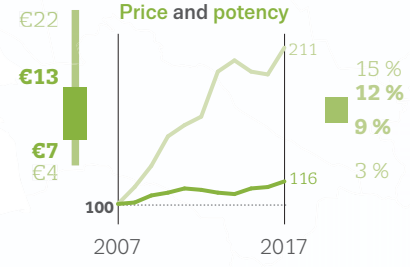
Number of seizures (thousands)

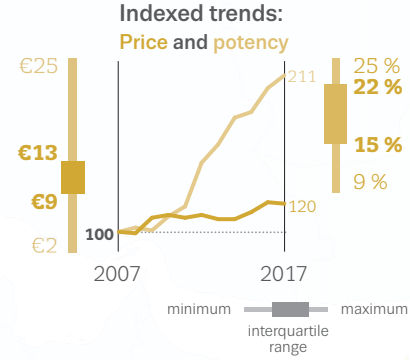


Quantity seized (tonnes)



Retail price (EUR/g) — Potency (% THC)





Introduction

The market for cannabis products is the largest drug market in Europe, since cannabis is the most commonly used illicit drug both in Europe and worldwide (UNODC, 2019a). It is estimated that 91.2 million adults in the EU (aged 15-64), or 27.4 % of this age group, have tried cannabis during their lives and 7.4 % have used cannabis in the last year. Use among young adults is even more common, with an estimated 14.4 % of people aged between 15 and 34 having used cannabis in the last year.

In most countries, recent survey results show either stable or increasing last year cannabis use among young adults. Of the countries that have produced surveys since 2016 and reported confidence intervals, six reported higher estimates than in the previous comparable survey, five were stable and one reported a decrease. In 11 of these countries, an increase in use among 15- to 24-year-olds has been reported in the most recent survey (EMCDDA, 2019b).

The illicit cultivation of cannabis mainly yields two distinct cannabis products: herbal cannabis (marijuana) and cannabis resin (hashish). Other cannabis products available in the EU include cannabis oil and hash oil. In the last few years a variety of other high-potency extracts of cannabis, collectively known as 'concentrates' (e.g. rosin, crumble and wax), have been seen on the European market, although reliable information about these products is rather limited (see Figure 3.1).

These products all differ in terms of their 'potency'. In pharmacology, 'potency' is often related to the amount (dose) of the drug required to produce an effect. Therefore, using 'potency' to describe the concentration of THC in cannabis products is not technically correct. A more accurate term would be 'strength', which is the amount of THC in a defined unit of the product. For consistency with previous publications and reports, however, we use the term 'potency' throughout this report (see box 'THC and CBD').

THC and CBD

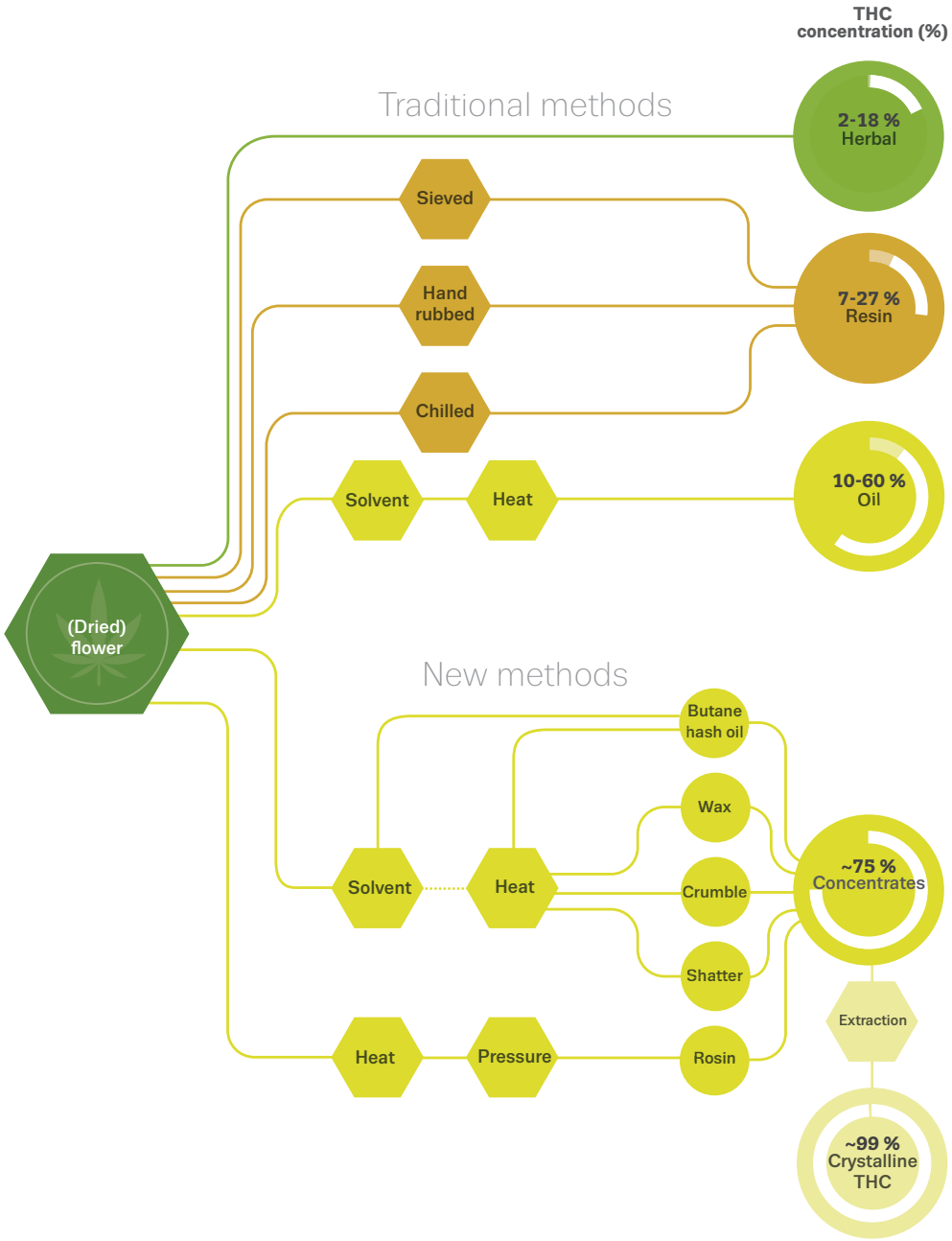
The cannabis plant synthesises at least 144 unique compounds known as cannabinoids. The most abundant of these is delta-9-tetrahydrocannabinol (THC), which produces effects such as feeling 'high', relaxation and altered perception, effects that people who use cannabis (recreationally) usually pursue from the drug.

Cannabidiol (CBD) is the second most abundant cannabinoid that is typically produced by the cannabis plant. CBD has been found to offset some of the possible harmful effects of THC (such as memory impairment and paranoia) without influencing the 'high' that users seek.

THC and CBD are both synthesised in the cannabis plant in the glandular trichomes, which are resinous and sticky, helping to defend the plant against herbivores and environmental stresses. The production of THC and CBD is genetically determined, with plants producing high levels of THC, high levels of CBD or a mixture of the two. In the cannabis plant, THC and CBD are synthesised from the same precursor, which means that CBD production limits the amount of THC synthesised and vice versa (EMCDDA, 2019d).

In the EU, it is legal to cultivate and supply cannabis plants for hemp fibre if they have low levels of THC. The granting of payments under the common agricultural policy is conditional upon the use of certified seeds of specified hemp varieties; only varieties with a THC content not exceeding 0.2 % may be used (EU Regulation 1307/2013) (EMCDDA, 2018f). However, this report focuses on the illicit production and distribution of cannabis products with a higher THC content.

Figure 3.1
Taxonomy of cannabis products old and new



Global overview

Cannabis is the most commonly used illicit drug in the world and is reported to be produced in almost all countries in the world, both indoors and outdoors. The extensive and diverse nature of cannabis production makes it impossible to produce reliable estimates of global production. However, based on expert opinion and information from 105 countries, the UNODC reports that global cannabis cultivation is likely to have increased between 2010 and 2017 (UNODC, 2019a).

In 2017, some 1 161 tonnes of cannabis resin was seized worldwide, about 30 % less than in 2016. After peaking at 6 800 tonnes in 2004, worldwide herbal cannabis seizures declined to 4 682 tonnes in 2016, but then rose to 5 109 tonnes in 2017 (UNODC, 2019a).

In addition to the legal production of hemp (see box 'THC and CBD'), legislative changes in parts of the world have led to the juxtaposition of regulated cannabis markets, in which products for medicinal and recreational use are produced and distributed by legal companies, and the illicit

cannabis market, in which cannabis is either produced, trafficked and distributed by organised crime groups or cultivated for personal use or for sharing with other people but still operates outside the legal framework. These changes have led to a diversification of products as well as complicating the context within which policy and operational responses are conducted. In 2019, the rescheduling of cannabis in the UN drug control conventions was recommended by the World Health Organization (see box 'WHO recommendations related to cannabis and cannabis-related subustances').

Production

Cultivation processes

The quality of the plant and of all the products derived from it depends on many factors. It is essential to have sufficient light exposure (natural or artificial) and have access to good-quality seeds, cuttings or clones. Further, the method of cultivation, the number of plants per square metre, water supply and soil acidity or alkalinity (which affects the availability of nutrients) may influence the yield of the cultivation site.

WHO recommendations related to cannabis and cannabis-related substances

In November 2018, the WHO Expert Committee on Drug Dependence (ECDD) critically reviewed cannabis and cannabis-related substances. In January 2019, the ECDD recommendations were submitted by the WHO to the Secretary-General of the United Nations as follows.

- *Cannabis and cannabis resin to be deleted from Schedule IV of the Single Convention on Narcotic drugs (1961).* The ECDD considered that the abuse and ill-effects associated with cannabis and cannabis resin were similar to drugs in Schedule I and were not commensurate with the other substances in Schedule IV. The Committee acknowledged there is now evidence that cannabis preparations have therapeutic advantages.
- *Dronabinol (delta-9-tetrahydrocannabinol) to be added to Schedule I of the 1961 Convention and deleted from Schedule II of the Convention on Psychotropic Substances (1971).* The criterion for recommending that dronabinol be included in Schedule I was the criterion of similarity in liability to abuse and to produce ill-effects to cannabis and preparations of cannabis. This follows a similar approach applied to coca leaf, where the plant and the drug that is included in the plant (cocaine) are controlled within the same schedule.
- *Tetrahydrocannabinol (the isomers of delta-9-tetrahydrocannabinol) to be added to Schedule I of 1961 Convention and deleted from Schedule I of the 1971 Convention*, subject to the adoption of the recommendation on dronabinol above. The isomers of THC, including the isomer dronabinol, comprise a varied group of substances for none of which there is convincing evidence that would satisfy the criteria for inclusion in Schedule I of the 1971 Convention.
- *Extracts and tinctures of cannabis to be deleted from Schedule I of 1961 Convention.* There are three main types of illicit products derived from the cannabis plant: extracts, tinctures and products derived by application of heat or pressure. Under the 1961 Convention, 'preparation' is a general term covering mixtures, solids or liquids containing a substance. The ECDD therefore concluded that by relying on control of preparations of cannabis there is greater certainty of the control measure.
- *Cannabidiol (CBD) preparations – a footnote to be added to the entry for cannabis and cannabis resin in Schedule I of the 1961 Convention that 'preparations containing predominantly cannabidiol and not more than 0.2 % delta-9-tetrahydrocannabinol are not under international control'.* It is noted that while CBD does not satisfy the criteria for control under the 1961 or 1971 Conventions, Member States can regulate its availability using their own national legislation.
- *Recommendation on pharmaceutical preparations of cannabis and delta-9-tetrahydrocannabinol (dronabinol) to be added to Schedule III of the 1961 Convention.* Preparations of controlled drugs included in Schedule III are exempted from some of the requirements for control of these drugs under Schedule I or II. However, they are still subject to a significant level of control.

Source: WHO (2019) and letter of the WHO Director General to the UN Secretary General.

Figure 3.2
Glandular trichomes on the surface of a cannabis flower bud

Photo: David Potter

Outdoor cultivation varies in scale and can produce up to three harvests per year depending upon the weather, the amount of light and the strain of cannabis used (EMCDDA and Europol, 2016). Indoor cultivation sites range from small-scale home-grown operations with fewer than 20 plants to professional ones of many hundreds of plants run by criminal networks that are often located in houses or apartments taken over for the sole purpose of growing, or in industrial warehouses or large sheds. The control that can be exercised over growing conditions (light, heat, water, plant density, pest control, etc.) allows continuous cultivation throughout the year and can result in four to six full harvests per annum (Vanhove et al., 2012). The benefits of indoor cultivation include lower risk of detection and generally higher yields of higher-potency strains and less chance of spoilage due to adverse weather or pest infestation.

The production of cannabis resin, or hashish, involves dislodging the glandular trichomes (small hairs that contain the resinous secretions; Figure 3.2) that form mostly on flowers (buds). The result is a fine powder that is high in THC, which is then compressed to form hashish. Traditional methods of resin production include rubbing and sieving (Figure 3.3). Leaves removed from the plants, and often discarded as waste from herbal cannabis, may be used for resin production by sieving, but using the flowers produces a higher-potency product. In addition to traditional methods of resin production, commercially available alternatives, often called pollinators, are also used. By reducing the temperature, using ice water or dry ice, these improve the efficiency of the process, as the trichomes are more easily removed, increasing the potency of the final product (EMCDDA, 2019d).

Figure 3.3
The production of cannabis resin through the 'sieving' method using a mesh screen

Photos: David Potter

In addition to resin production, there are several alternative methods for extracting cannabinoids from cannabis plants. The physical removal of resinous secretions from the trichomes can be performed more efficiently through the use of solvents or gases. These methods can achieve significantly higher potencies. Some of these processes, especially those using flammable gases, are known to be hazardous and have led to a number of accidental explosions in several Member States. One method of extraction uses liquefied butane gas to produce concentrated extracts ranging from 70 % to 80 % THC, known as 'butane hash oil' or BHO. In order to produce butane hash oil, ground cannabis flower may be packed into a sealed tube with a fine mesh covering the base. Butane is added from a compressed canister fitted to the top of the tube and the result is collected in a tray under the base. The solution is then evaporated through heating to produce the final product (this is sometimes referred to as purging). Depending on the solvent used and the method of purging, the finished product can vary in consistency. For example, 'shatter' is hard and brittle, 'wax' resembles a soft wax and 'crumble' is soft and flaky. 'Rosin' is a similar product made by heating and pressure, but it does not require any solvent.

Herbal cannabis

Production outside the EU

Albania has for several years been a major non-EU producer of herbal cannabis destined for the European market. In response to the large-scale outdoor cultivation of herbal cannabis, Albanian authorities have intensified eradication actions in cooperation with the Italian Guardia di Finanza law enforcement organisation, which conducted aerial surveillance to locate cannabis cultivation sites in remote and difficult-to-access areas. Overall, Albanian authorities dismantled 5 205 cannabis cultivation sites in 2016, 500 in 2017 and 379 in 2018 (Albanian State Police, 2019), suggesting that eradication efforts are having an effect on outdoor cultivation (Figure 3.4). Notwithstanding the law enforcement efforts and apparent scaling down of outdoor production, many countries in Europe reported an increase in seizures of Albanian herbal cannabis in 2017 (Austria, Croatia, Greece, Hungary, Italy, Romania, Sweden, Turkey and the United Kingdom). Furthermore, Albania seized over 30 tonnes of herbal cannabis in 2016 and more than 78 tonnes in 2017; of the EMCDDA reporting countries, only Turkey (92 tonnes) and Italy (90 tonnes) seized more herbal cannabis than Albania that year (EMCDDA, 2019b). The observed reduction in outdoor cultivation sites coupled with the apparently continuous flow of cannabis from the region to the EU could imply that stockpiles are held in the region, or that some cultivation may have moved indoors or to areas with restricted possibilities for aerial surveillance, or to neighbouring areas in Western Balkan countries. This suggests a need for further investigation and monitoring.

According to information reported to Europol, the production of herbal cannabis in some other Western Balkan states is also increasing and is intended in part for the EU market. Herbal cannabis produced in the Western Balkans is increasingly trafficked to the EU by vessels crossing the Adriatic Sea to Italy and by land on the Balkan route. The number of detected indoor cultivation sites in the region has also been increasing over the last few years.

Apart from the Western Balkans, herbal cannabis is cultivated in other regions of the world for the European drug market. For example, multi-tonne seizures of herbal cannabis originating from West Africa, south-west Asia and the Caribbean are discussed later in the section on trafficking.

Figure 3.4
Albanian police eradicating an outdoor cannabis plantation

Photo: State Police Albania

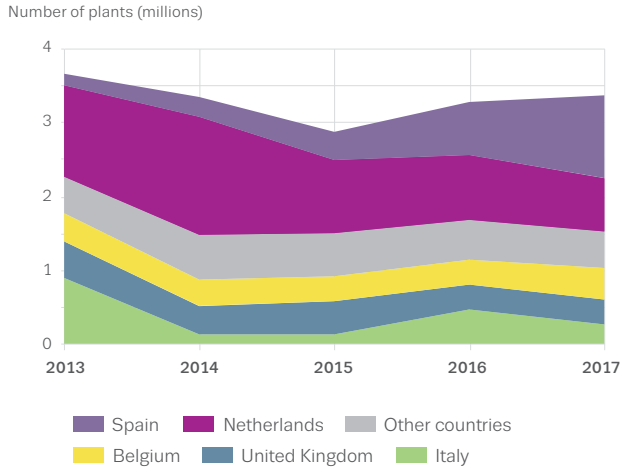
Production in the EU

In the EU, herbal cannabis appears to be mainly produced for sale on domestic markets and in neighbouring countries rather than for export outside the region, although data on the phenomenon are lacking. A tool has been developed by the EMCDDA and Europol for collecting data on the number and scale of the cannabis cultivation sites dismantled by law enforcement agencies in Europe (European Reporting on Illicit Cannabis Production, ERICP). Plant seizure data, national expertise and ad hoc data provided by law enforcement agencies and national focal points from the EU Member States are therefore used to illustrate important developments in cannabis cultivation in the EU.

Seizures of cannabis plants may be regarded as an indicator of the production of the drug within a country. However, differences between countries, in law enforcement priorities, resources and reporting practices, warrant caution in the interpretation of these data (e.g. Figure 3.5). Recent changes to data collection tools have facilitated the reporting of seizures of cannabis seeds. National control is not obligatory for cannabis seeds, although they are specified as subject to the drug control laws in Cyprus and Portugal. In other countries, supply of cannabis seeds for cultivation is often covered by a more general offence of 'facilitating drug production' or something similar (EMCDDA, 2018f). Although the data coverage is partial for now, it will improve with time. Seven countries (Belgium, Greece, Spain, Luxembourg, Malta, Portugal and Norway) reported a total of 1 483 seizures amounting to almost 50 kg and more than 18 000 packets of cannabis seeds in 2017.

In 2016-17 the number of plants reported by the Netherlands decreased while the number of plants

Figure 3.5
EU Member States that reported seizing the most cannabis plants, 2013-17



reported by Spain increased (Figure 3.5). The cultivation of herbal cannabis has been noted to have significantly increased in Spain over the last few years. Several factors seem to be influencing the situation in Spain. Hundreds of cannabis social clubs exist in Spain, which are supposed to produce cannabis for non-profit distribution to their members. In addition, there is an expanding network of so-called grow shops, which sell equipment, chemicals and literature that promote and facilitate cannabis cultivation.

Both the clubs and the shops are vulnerable to the penetration of criminals seeking to develop large plantations and profitable businesses. These groups are interested in trading and profiting from their crops, often by exporting their products (Alvarez-Roldan et al., 2016). It should also be noted that law enforcement intelligence confirms that some large growing operations in Spain are established as collaborations between Dutch and Spanish criminal groups. In addition, there are reports that producers of cannabis extracts (including high-quality resin) linked to these clubs are established in the Rif region of Morocco (see section below on cannabis resin). Cannabis clubs and grow shops may exist in other European countries, although it appears not to the same extent. Cannabis social clubs have been established in Belgium, France, Italy, the Netherlands, Slovenia, Spain, Switzerland and the United Kingdom. However, it is unclear if clubs still exist in all of these countries, and if they engage in production and distribution among members as in the Spanish model (Decorte and Pardal, 2017; Pardal, 2018).

Historically, the Netherlands has been an important source of herbal cannabis supply within Europe. Each year the Dutch police have dismantled more than 5 000 cannabis cultivation sites, the majority of them indoors, although the numbers have declined in recent years (Dutch Police, 2019). A major study conducted by Belgian and Dutch researchers has highlighted important details about how these operate. The multimethod study, entitled 'Dismark', used a varied range of data sources, including a review of public prosecutors' files and the collection of data from law enforcement personnel and convicted prisoners to investigate illicit markets for different substances (De Middeleer et al., 2018). In relation to cannabis, it was found that Dutch OCGs have established a business model that guarantees a continued supply of herbal cannabis to the Dutch domestic market, including the cannabis coffeeshops, or for further distribution to other European countries. The model involves the transfer of know-how and provision of professional growing equipment to 'caretaker-growers' in return for all or a portion of the harvests generated by the growing operations.

This business model has been extended to other EU Member States, first Belgium and Germany and more recently France and Spain. In Belgium, in addition to satisfying some of the national demand for herbal cannabis, large-scale production is distributed on various EU markets via the Netherlands using this model. Over time, Belgian OCGs have adopted the know-how and have expanded the domestic market. According to the study, in addition to Dutch and Belgian criminal cooperation, law enforcement agencies indicated cooperation among North African OCGs, Turkish and Bulgarian OCGs, Albanian-speaking OCGs, and South East Asian (Vietnamese or Chinese) OCGs and outlaw motorcycle gangs (De Middeleer et al., 2018). In addition, some reports suggest that individuals linked to Dutch coffeeshops have become established in the Rif region of Morocco, where they produce a range of extracts, including high-quality cannabis resin (Chouvy and Macfarlane, 2018; see also the section below on cannabis resin).

The high numbers of cannabis plants reported by Italy and the United Kingdom suggest that significant amounts of herbal cannabis are produced there (Figure 3.5). In the United Kingdom, domestic production is widespread, with British and South-East Asian OCGs controlling these operations. More recent information suggests that an increasing number of Albanian-speaking OCGs are also engaged in this activity. The majority of these growing operations produce a perceived lower-quality product;

the demand for 'branded' or high-quality herbal cannabis remains high, and it is usually imported from Belgium and the Netherlands and commands a premium price, compared with the domestically produced herbal cannabis.

The involvement of Vietnamese OCGs in cannabis cultivation in EU Member States is not a new phenomenon as they have been active in this area in the United Kingdom, Ireland and Czechia as well as Norway and Sweden for a number of years. More recently this has also been reported by Denmark, Slovakia and Greece. In recent years, Czechia has observed a reduction in cannabis cultivation associated with Vietnamese OCGs, probably as a result of their moving into methamphetamine production (see Chapter 6). Meanwhile, Czechia reports that Serbian criminal groups have stepped in, establishing indoor cannabis cultivation sites intended for the local market and for export. Europol information also suggests that the Bosnian, Croatian and Serbian OCGs are increasingly involved in the indoor cultivation and trafficking of herbal cannabis within the EU.

This diversification of OCGs involved in large-scale cannabis cultivation in the EU is likely to be the result of a combination of several factors, including high demand, increasing prices and lower penalties than for the trafficking of other illicit drugs. These groups increasingly rely on the support of specialists in cultivation, which allows groups without specific expertise to set up larger and more complex operations. This probably explains why almost all countries reporting to the EMCDDA have mentioned continued professionalisation and up-scaling of cannabis production.

Estimating the extent of cannabis production in Europe

Estimating the total production of cannabis in Europe remains a difficult exercise. There is currently little systematic monitoring of cannabis cultivation and production, not only in Europe, but also worldwide (EMCDDA, 2019b; UNODC, 2018a). Furthermore, the existing studies on yield determination (Toonen et al., 2006; Vanhove et al., 2014) are limited to fixed sets of growing conditions, which makes the calculation of yield in sites operating under different conditions problematic (Vanhove et al., 2017). To extrapolate these calculations to a national production estimate requires further data that are currently unavailable (van der Giessen et al., 2016). In spite of such limitations, it may be important for policy-making purposes to provide rough estimates of how much cannabis is produced in key countries (see box 'Estimating herbal cannabis production in the Netherlands').

Estimating herbal cannabis production in the Netherlands

Based on relatively recent research, we believe it is possible, even with the limitations of scientific studies on the subject, to arrive at a useful estimate of a harvest expressed in yield per square metre of cultivation surface. Vanhove et al. (2014), in their attempt to estimate cannabis production yields, arrived at an average of 575 g of herbal cannabis per cultivated square metre. When applying the average number of 16 plants per square metre in a modal cultivation site to the total number of plants seized in the Netherlands in 2017 (722 618), this would result in a tentative yield estimate for annual cannabis production in the Netherlands of 520 tonnes. This calculation is based on an average of four growing cycles per year and an estimated dismantling rate of 20 % (CBS, 2018).

In 2018, the Dutch electricity provider (Netbeheer Nederland) was able to detect energy theft that could be related to 2 600 cannabis cultivation sites. People running these growing operations stole a total of 95 million kilowatt hours in 2018, costing the provider a total of EUR 60 million and the government about EUR 135 million in tax revenues. Based on police estimates of about 30 000 illicit cannabis cultivation sites in the Netherlands, these would consume and possibly steal about 1 billion kilowatt hours of electricity, equivalent to the annual consumption of all households in the city of Rotterdam, which has 650 000 inhabitants (Netbeheer Nederland, 2019).

Environmental impact and hazards of cannabis cultivation

The indoor cultivation of herbal cannabis requires significant amounts of water and electricity, and often entails the use of chemicals, which may be discharged to land or aquatic environments and harm these ecosystems. The methods that are used in illicit cannabis cultivation are driven by the need to maintain profit margins and secrecy, rather than minimising environmental damage. Furthermore, to ensure high temperatures in indoor cultivation sites and appropriate lighting conditions, an average indoor cannabis cultivation site has been estimated to produce 4 600 kg of CO_2 emissions per kilogram of finished product (Jenkins, 2019). While some EU Member States report the dumping of used materials from cannabis cultivation, such as contaminated soil, filters and empty chemical containers, the environmental impact of cannabis-growing operations largely continues to be

a knowledge gap in need of more research (Ashworth and Vizuete, 2017).

Illicit cultivation sites do not comply with health and safety standards, so they present potential hazards not only to the public, but also to law enforcement and other professionals. These can be physical, electrical, chemical or biological hazards (Vanhove et al., 2018).

- Physical: booby traps may be installed to protect the crop from theft or destruction. Structural modifications made to the premises, e.g. holes made in walls to accommodate wiring, pipework and flexible ducting, may lead to instability and possible collapse of the building.
- Electrical: improper wiring may lead to electrocution, or to short circuits that may cause fires.
- Chemical: fertilisers, pesticides and other chemicals may cause dermatological or respiratory problems for those entering the premises.
- Biological: cannabis plantations are ideal environments for mould development, presenting a risk of inhalation of mould spores.

Although only rarely encountered, carbon dioxide generators may be used in sophisticated indoor cultivation sites to increase the rate of plant growth. In such cases, the resulting oxygen-deficient atmosphere is hazardous to personnel entering such sites. Sufficient training, equipment and expertise should be available to assess these risks.

Cannabis resin

Production outside the EU

Historically, for cannabis resin, Europe has relied heavily upon sources of production outside the region, predominantly Morocco. Afghanistan, Albania and Lebanon are mentioned as marginal sources by a limited number of countries. However, in the United Kingdom Afghanistan is mentioned as a major source, alongside Morocco, and Malta seized 11 tonnes of resin en route from Lebanon in September 2018, suggesting that Lebanese resin may be becoming more available in Europe (Malta Customs Department, 2018).

Data from Morocco indicate that both the area under cannabis cultivation (47 000 hectares) and the estimated quantities of cannabis resin produced in the country (between 700 and 760 tonnes) have remained constant since 2010 (UNODC, 2012b, 2018a). However, these figures do not take into account potential recent developments that affect cannabis resin production in Morocco and have an impact on the European market. More detailed evidence has emerged concerning the modernisation of the cannabis industry in Morocco mentioned in the previous edition of the EU Drug Markets Report. This strongly suggests that European producers established in the Rif Mountains have introduced cannabis hybrids of various origins that allow much higher resin yields and THC contents, replacing traditional varieties (Chouvy and Macfarlane, 2018). These European nationals are reported to have connections with cannabis social clubs in Spain and coffeeshops in the Netherlands, and are reported to produce cannabis resin and extracts with high potency. Although many traditional Moroccan producers seem to have adopted the modern high-yielding varieties of cannabis plants introduced by these European producers, most of them are still growing cannabis and producing resin in a traditional fashion (Chouvy and Macfarlane, 2018). These changes in Morocco are a major contributor to the dramatic increase in the potency of cannabis resin seized in many European countries since 2012.

Production in the EU

Some cannabis resin is produced in the EU using 'modern' methods, such as ice-cooling or 'pollinating' (see section on cultivation processes above). This appears to be at a small scale so far, although data on the origin of the cannabis resin available in the EU are limited. Production of cannabis resin has been documented in several Member States. In the Netherlands, annual monitoring studies in Dutch coffeeshops show that a number of shops sell a cannabis resin variety called 'Nederhasj', referring to the fact that the resin has been made in the Netherlands with domestic herbal cannabis (Niesink, 2000). However, there are no indications of large-scale production; only a minority of the coffeeshops in the research sample have locally produced resin available. In 2017, the potency of this locally produced resin was on average 35 % THC, and there were samples containing over 60 %, compared with an average of 21 % for imported resins (Rigter and Niesink, 2018).

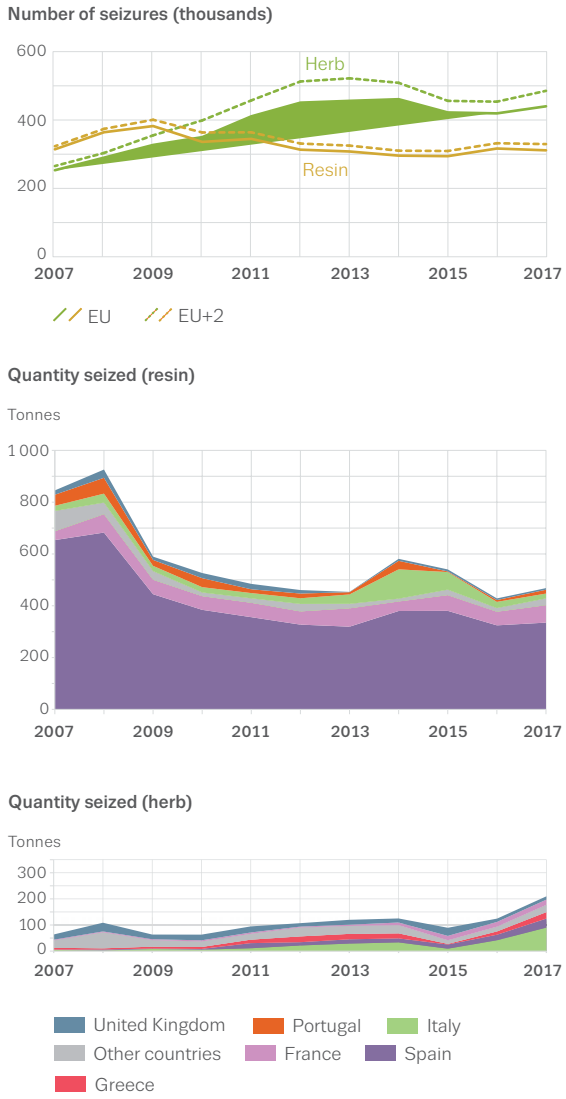
In recent years, a number of cannabis cultivation sites, specially equipped to produce resin and more potent extracts (such as butane hash oil), have been dismantled in Europe. For example, a cannabis cultivation site with specialised equipment for producing extracts, including resin, was dismantled in 2018 by the Hellenic Police, leading to the arrest of Dutch, Georgian, Greek and Vietnamese nationals. Given the widespread availability and apparent ease of purchase, for instance online, of resin-producing equipment, and the existence across Europe of extensive production of cannabis plants, this phenomenon has the potential to become more widespread. This is an area that will require monitoring.

Trafficking and supply

Since 2009, the number of seizures of herbal cannabis in the EU has exceeded that of cannabis resin, with relatively stable trends in both resin and herbal cannabis seizures since 2012 (Figure 3.6). In 2017, there were over 440 000 seizures of herbal cannabis and over 311 000 seizures of cannabis resin in the EU. In contrast, the quantity of cannabis resin seized is currently more than double that of herbal cannabis (466 versus 209 tonnes in 2017), partly as a consequence of cannabis resin being more frequently trafficked across borders and in large shipments. Because of their strategic location on major cannabis resin-trafficking routes and/or their comparatively large consumer markets, some countries are particularly important when it comes to quantities seized. Spain, for example, the major entry point for cannabis resin produced in Morocco, reported about three quarters (72 %) of the total quantity seized in the EU in 2017 (Figure 3.6).

Over the last few years, Turkey has been seizing large amounts of herbal cannabis, and a further recent increase in the overall quantity of herbal cannabis seized in the EU is mainly due to increases reported in Italy, Spain, Greece, France and Hungary.

Figure 3.6
Number of cannabis seizures and quantity seized in the EU, 2007-17



Herbal cannabis

Trafficking from outside the EU

As already discussed, Albania is likely to be the largest producer of herbal cannabis trafficked to the EU. During 2017 and 2018, the large-scale trafficking of herbal cannabis from Albania into the EU continued. Italian seizures of herbal cannabis increased from nearly 42 tonnes in 2016 to more than 90 tonnes in 2017, reflecting the intensified trafficking activity across the Adriatic Sea. In response to the increasing pressure exerted by Italian law enforcement authorities, Albanian-speaking OCGs, often in cooperation with Italian mafia-style OCGs, now target locations further north along the Italian coast as drop-off points. The Greek coast guard reports regular movements of small high-speed boats from Albania and Italy towards the Aegean and Ionian seas, with the intention of smuggling Albanian herbal cannabis to Turkey. Albanian-speaking OCGs cooperate with other OCGs in several EU Member States: Austria, Croatia, Greece, Hungary, Italy, Romania, Sweden, Turkey and the United Kingdom report increased seizures of herbal cannabis reported to be of Albanian origin. Albanian OCGs involved in herbal cannabis also use cash couriers, who typically smuggle cash to Albania from the EU by car. In Albania, the cash is used to invest in real estate, construction and tourism.

Other recent seizures of herbal cannabis produced outside the EU are reported by Belgium, Ireland and the United Kingdom. Some origin countries have been reported to include Ghana, Nigeria, Thailand and the Caribbean. The market for these exotic herbal cannabis products is not well understood, but such varieties can be found on offer in Dutch coffeeshops. It is also probable that some of this imported herbal cannabis is destined for African and Caribbean communities present in some EU Member States.

Trafficking inside the EU

Although herbal cannabis is produced in each EU Member State, this may not be sufficient to satisfy local demand; therefore, intra-EU trafficking exists.

There has been a sharp increase in the number of Member States reporting Spain as the origin of herbal cannabis seizures. Increased domestic production and the involvement of Dutch OCGs may contribute to explaining why Spain is now exporting herbal cannabis to the rest of Europe, sometimes via the Netherlands. Herbal cannabis is trafficked from Spain directly to Ireland and the United Kingdom, and, after transiting through several countries, to eastern and northern Europe (see Cannabis overview, pages 84-85). Passenger vehicles and lorries are still the modes of transportation most often reported, but many countries also report that postal parcels are used for trafficking non-trivial amounts of herbal cannabis, sometimes in connection with sales on darknet markets. Data collected in postal centres in 19 EU countries in 2018 indicate that 874 kg of herbal cannabis and 299 kg of resin were seized in parcels and letters. Most of the herbal seizures were carried out in Spain, and 62 % of those were made from parcels or letters posted to destinations outside Spain (Groupe Pompidou and RILO WE, 2019).

Belgium and the Netherlands together make up a distribution hub for herbal cannabis in the EU (see Cannabis overview, pages 84-85). The importance of Czechia as a country of origin for herbal cannabis seems to have diminished since the last edition of this report, possibly because of changes in the crime groups involved in production, discussed above. Only Germany and Slovakia still mention Czechia as a country of origin of cannabis found on their drug markets, illustrating how dynamic such drug markets can be.

The wholesale prices of herbal cannabis are available for some EU Member States. Prices tend to be lower closer to source countries or large distribution hubs. This is reflected in the lowest prices per kilogram being reported by Spain (EUR 1 343), Italy (EUR 2 287) and Belgium (EUR 4 525). The low prices observed in Italy suggest that cultivation is relatively extensive, as is suggested by data on seizures of cannabis plants (see above), although they could also reflect the large amounts of imported Albanian herbal cannabis available in Italy.

Cannabis resin

As mentioned above, most of the cannabis resin available on the European drug market comes from Morocco. Spain is a key entry point for Moroccan resin, although there has been some diversification in trafficking routes and modi operandi to the EU in the last few years (see Cannabis overview, pages 84-85).

The means of transport used to traffic cannabis resin to the EU are varied. Cannabis resin continues to be transported by lorries on ferries and in maritime shipping containers, as well as on recreational craft and fishing boats. The use of speedboats that can transport up to 3 tonnes has increased considerably over the last few years, prompting the Spanish government to impose restrictions on the use of such vessels (see Chapter 9). Small private aircraft are also used between Morocco and Spain, as well as for intra-EU trafficking.

After Spain, the countries that seize the largest quantities of cannabis resin in Europe are France and Italy, indicating that these continue to be major entry points to the EU drug market (Figure 3.6). Turkey, which seized the fourth largest quantities of resin in Europe in 2017 and indicates Morocco as the source, may now also be a significant entry point.

This reflects the frequent use of different branches of the Mediterranean Sea route, and the North African land route from Morocco to Libya, to traffic cannabis resin, which has become an important focus of law enforcement activity (see box 'Rose of the Winds', page 216). The proximity of Libya to two large cannabis resin-producing countries, Morocco to the west and Lebanon to the east, and the instability currently being experienced in the country make Libya a potential weak point in the region that may be exploited by traffickers (Figure 3.7). In addition to the potential EU market, other possible large consumer markets for the cannabis resin shipped to Libya include Egypt and possibly Sudan, and countries further afield such as those of the Arabian Peninsula. Although investigations indicate links in the trafficking of cannabis resin via Libya to the EU, firm evidence is lacking at present. Whatever the final destination of the drugs, the trafficking of cannabis via Libya may generate funds for armed insurgent and terrorist groups based in Libya, which could be used to finance terrorism-related activities outside the EU. It is worth noting that other North African countries may become departure points for cannabis resin destined for Europe, so this warrants close attention.

Trafficking also appears to be increasingly bidirectional. Air couriers departing from South America carrying cocaine may smuggle cannabis resin back to their region of origin, where the price of cannabis resin is approximately the same as the price of cocaine. Larger quantities of cannabis resin may also be smuggled to South America by sea. For example, three Portuguese nationals were arrested in northern Brazil in January 2019 for attempting to smuggle 2 tonnes of cannabis resin, probably of Moroccan origin, into the country (Lusa and Público, 2019).

As discussed in Chapter 1, migrant smugglers use similar routes and ships to transport irregular migrants to the EU from North Africa, although existing information suggests that structural, sustained or widespread links between drug trafficking and migrant smuggling are weak. OCGs transfer the profits from the sale of cannabis resin back to Morocco using cash couriers as well as trade-based money-laundering schemes. Cash couriers travel to the collection points in the EU and then transport the cash in their carry-on luggage on commercial flights going to Spain. Malaga is a key location for cash couriers, who depart from there to the Spanish territory of Melilla, where the cash is turned over to the OCGs. Moroccan OCGs also use the services of hawaladars.

Cannabis oil and other concentrated extracts

Cannabis oil, a dark green or dark brown viscous liquid, is produced by extracting cannabis or cannabis resin using solvents. When produced from resin it may be called hash oil, although the terms are often used interchangeably. Depending on the method, the potency can reach 60 % (UNODC, 2009). Although cannabis oil has been around for decades, it is a niche product, rarely mentioned in national reports to the EMCDDA, and monitoring of seizure data commenced only recently, in 2014. When monitoring commenced, 11 countries reported seizures totalling 124 kg. Spain accounted for most of this, reporting 105 kg of cannabis oil spread over 57 seizures. It is not known whether these seized batches were domestically produced or

Figure 3.7
Different forms of cannabis resin being trafficked to Europe

Photos: Malta Police Force (left); Romanian National Police, Antidrug Unit (right).

imported. In the subsequent years, the quantities reported by EU Member States have declined to fairly trivial levels. Turkey reported about 50 kg in each of 2016 and 2017, more than all EU Member States combined, and reports of production in nearby Albania may account for this (see box 'Albania: a potential source of cannabis oil for the EU market').

Trafficking cannabis oil instead of herbal cannabis or resin is attractive to traffickers because more psychoactive material can be contained in a smaller quantity of product. Being a liquid, it may also be easier to conceal, reducing the risk of seizure.

Albania: a potential source of cannabis oil for the EU market

Seizure data suggest that cannabis oil is available in countries in the south-east of the EU. Whereas production of cannabis oil is rarely reported in the EU, there is some information suggesting that it may take place in Albania. In 2014-15, Albanian authorities dismantled three cannabis oil production facilities (EMCDDA, 2017b). More recently, in 2017, the Montenegrin police seized around 17 litres of cannabis oil, suspected to originate in Albania, hidden in a passenger car at the Montenegrin-Croatian border (see image). Finally, data received from the Albanian forensic laboratory in Tirana confirmed the analysis of 312.5 litres of cannabis oil from five different cases in 2017 (Koçiraj, 2018). This amount is relatively large compared with the total amounts seized in the EU.

There is a need to adapt monitoring tools in order to collect data on other cannabis concentrates such as rosin, shatter and wax as they become more popular.

Photo: Montenegro Police Directorate, Criminal Police, Anti-drug Department

Criminal cooperation and competition in the cannabis trade

Organised crime groups involved in the cannabis trade appear to be increasingly cooperative and specialised in specific activities useful for different stages of the supply chain. These include setting up sophisticated cultivation sites, transportation and storage, as well as cash collection and money-laundering services. Networks operating at the distribution level also increasingly cooperate to fund the acquisition of larger quantities of cannabis in order to achieve more competitive prices and share the risks.

Conversely, increased competition between OCGs has also resulted in higher levels of violence between rival groups (see box 'Increased use of violence between OCGs involved in the cannabis trade'). This has included public shootings and other violent crimes in the context of conflicts over territory and access to sources of supply.

Increased use of violence between OCGs involved in the cannabis trade

Organised crime groups are continuously looking to increase their profits, and one way to do this is to try to gain control of different stages in the supply chain.

French intelligence reports have described how the vast majority of drug-related homicides ('liquidations') in the Marseille and Perpignan region of France are related to rivalry between crime groups. During law enforcement operations, automatic and semi-automatic weapons and even grenades have been seized (Service d'Information de Renseignement et d'Analyse Stratégique sur la Criminalité Organisée, 2018).

Furthermore, the violence is not only directed at other criminal groups: law enforcement agencies increasingly have to consider that drug traffickers and dealers will be armed.

Another example is from La Línea de la Concepción, the Spanish town bordering Gibraltar, where large cannabis resin shipments are reported to be brought to the European mainland on a daily basis. The media reported that Molotov cocktails were thrown at Spanish police vehicles by youths working for drug traffickers, in order to disrupt police surveillance activities (Cañas and Ortega Dolz, 2018). In the same town, an injured drug trafficker, under police custody in a hospital, escaped when a heavily armed group of masked men raided the hospital (Cañas, 2018). This example clearly shows how, in order to maintain their business, criminal groups in the EU apply guerrilla tactics normally associated with drug markets in regions such as Latin America.

Retail supply and use

As indicated above, cannabis is the most widely consumed illicit drug in Europe. Cannabis products account for the largest share (39 %) of the illicit drug retail market in the EU, with an estimated minimum value of EUR 11.6 billion (likely range EUR 10.5 billion to EUR 12.8 billion) in 2017. The market for cannabis herb in the EU was estimated to be at least EUR 9.4 billion (likely range EUR 8.6 billion to EUR 10.2 billion), equivalent to about 1 200 tonnes. The cannabis resin market was estimated to be worth at least EUR 2.3 billion (likely range EUR 1.9 billion to EUR 2.6 billion), equivalent to over 300 tonnes.

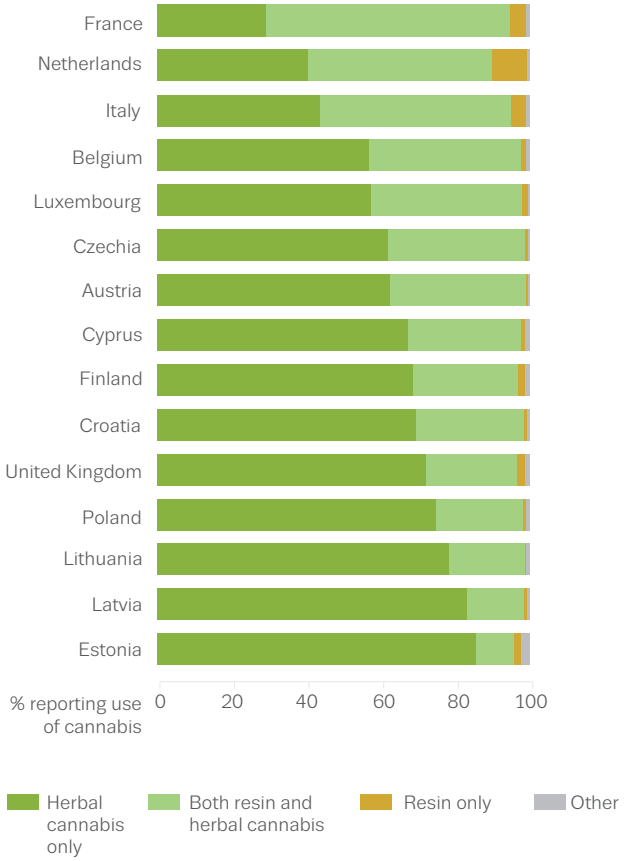
The information on the amounts of the different types of cannabis use, used to estimate the cannabis market size, was obtained from the European Web Survey on Drugs. It collected information about patterns of use and purchases of the most commonly used illicit drugs from 40 000 people who use drugs, recruited primarily through social media, in 15 EU Member States. It illustrates the variation between countries. The findings show that herbal cannabis was more commonly used than cannabis resin. However, many respondents reported using both types, particularly in France, Italy and the Netherlands. The use of cannabis resin only was reported infrequently (Figure 3.8).

The use of cannabis products other than herbal cannabis or cannabis resin was quite rare, which reflects the relatively low amount of seizures and production discovered in Europe. It appears that, at this stage, the use of concentrates such as rosin, butane hash oil and wax is uncommon in Europe, although there is potential for it to spread (EMCDDA, 2019d). It is becoming more popular in some regulated markets in the US (Krauss et al., 2015; Russell et al., 2018), so it is important that research and monitoring systems be alert to signals of an increase in this practice (Figure 3.9).

Although it is estimated that over 7 % of adults in the EU report having used cannabis in the last year, the majority of those use it only occasionally. Based on surveys of the general population, it is estimated that around 1 % of European adults are daily or almost daily cannabis users — that is, they have used the drug on 20 days or more in the last month. Data on those entering drug treatment for cannabis problems can provide some indication of the scale of high-risk cannabis use in the EU. In 2017 approximately 152 000 people entered drug treatment in the EU for problems related to cannabis use; of those, about 82 000 were entering treatment for the first time in their lives.

Although more than three quarters of a million offences related to cannabis supply and use are recorded in the

Figure 3.8
Cannabis product of preference



Note: The survey was carried out in two waves, one in 2016 (Croatia, Czechia, France, Netherlands, United Kingdom) and one in 2017/18 (remaining 10 EU countries).

Source: European Web Survey on Drugs.

Figure 3.9
'Dabbing': users heat a needle/nail holding cannabis concentrate with a blowtorch and inhale through a modified waterpipe-like device

Photo: istockphoto

EU each year, information on how cannabis is distributed within the EU Member States is not well documented. However, there is more detailed information available on some forms of retail distribution specific to cannabis: the coffeeshops in the Netherlands (see box 'Coffeeshops in the Netherlands: the "controlled cannabis supply chain experiment"') and cannabis social clubs in Spain and elsewhere (Decorte and Pardal, 2017).

The distribution level between wholesale and retail is poorly documented: these middle-level drug markets are less studied by researchers for various reasons. Suppliers higher up the distribution chain are likely to be less accessible to researchers. Furthermore, defining what this market segment covers remains a problem. Not only do law enforcement agencies have their own definitions, people involved in drug supply have their own specific definitions and terminology as well (Pearson and Hobbs, 2001). In general, it is assumed that middle-market distribution happens between importation and retail-level distribution (Smet et al., 2013). As mentioned earlier, OCGs increasingly act and cooperate on specific distribution levels; some of those crime groups even try to cover the entire supply chain from production to retail level.

At retail level, it is possible to identify a number of different cannabis distribution practices. These include house dealers, who operate from fixed premises, either openly or for a restricted number of clients; mobile phone dealers, who can be contacted and deliver cannabis at any given location; and street dealers, who frequent public places to sell small amounts of cannabis (Korf et al., 2005). There are also known to be closed distribution groups, whereby an individual buys a larger amount of cannabis and distributes it among friends and friends of friends. Many users do not buy cannabis themselves, but receive it through 'social supply' (i.e. when a person produces or buys cannabis and distributes it among his or her friends) or sharing. Another group are those who produce cannabis for self-supply and/or a limited number of other users (Werse and Bernard, 2016).

Price and potency

A study undertaken for the EMCDDA shows that the average potency of herbal cannabis in the EU doubled from 5 % to 10 % THC between 2007 and 2017. In addition, over the same period, the price of herbal cannabis increased from an average of EUR 9 to EUR 11 per gram (Figure 3.10) (EMCDDA, 2019d). The potency of cannabis resin in the EU has also increased substantially in recent years. The potency of resin remained relatively stable from 2007 to 2011 (8-10 % THC) before rising gradually to 18 % in 2017. At the same

Coffeeshops in the Netherlands: the 'controlled cannabis supply chain experiment'

The Dutch coffeeshop policy has long been a subject of public and political debate in the Netherlands and neighbouring countries. Coffeeshops are outlets where the sale of retail amounts of cannabis is tolerated (under strict rules) by means of prosecutor guidelines. The public debate is mostly centred on the anomaly this presents: sale and use are tolerated while production and supply are strictly prohibited. Under this policy of tolerance, sale and use are still criminal offences under Dutch law, but the authorities choose not to pursue or prosecute offenders (Government of the Netherlands, 2019). However, law enforcement agencies may act upon those supplying the shops, but also the shop owners.

In early 2019, to address this legal anomaly, the Dutch government opted to try a new approach called the 'controlled cannabis supply chain experiment'. The aim is for this to be conducted in six to ten large and medium-sized municipalities, involving an organisation to be selected by the government to cultivate cannabis and supply it to the coffeeshops.

Low-THC/high-CBD products

Since 2017, 'low-THC' herbal cannabis and 'CBD oil' have been offered for open sale in health food shops or specialist shops in several EU countries. Sales have been based on the claim that these products have little or no intoxicating effect and therefore are not controlled under drug laws; for high-CBD products, sales may be based on the associated health benefits, although currently the evidence for their effectiveness is weak.

Member States' responses to the open sale of such products have ranged from hard-line to tolerant. National limits for quantity of THC exist but may come with conditions, such as 'originating from an authorised variety of cannabis', 'if not viable for narcotic purposes', 'if not misused'. Other applicable laws may include (EU standardised) regulations on medicines, food and food supplements, cosmetics, general product safety, etc. The legality of marketing a product for its CBD content may therefore depend on the source of the CBD, the format of the product or how the product is presented.

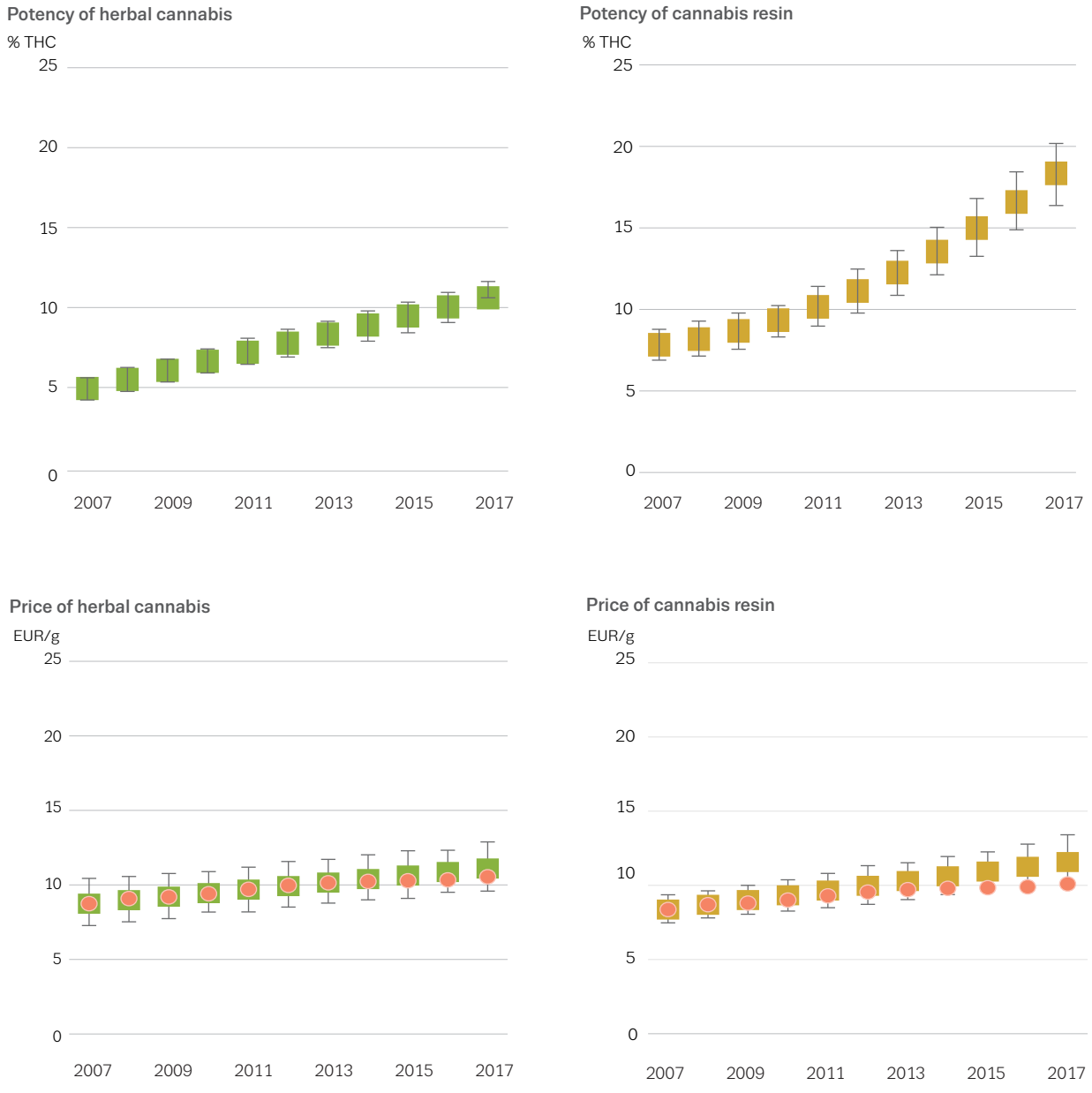
Source: EMCDDA (2018f).

time, cannabis resin prices increased, like those of herbal cannabis, from approximately EUR 9 to EUR 11 per gram.

These contrasting changes in potency and price appear to have altered the relative value of these products: when combining information on potency and price, the quantity of THC for every euro spent on herbal cannabis or 'price-adjusted dose' was similar in 2007 and 2017, at 13 mg THC per euro. For cannabis resin, the price-adjusted dose was similar from 2007 to 2011 (remaining stable at 10 mg THC per euro) before increasing to 19 mg THC per euro in 2016. As discussed earlier in this report, the introduction of new cannabis strains in Morocco enabled producers to create a more potent resin product in a cost-effective manner. As a result, cannabis resin may have become a more attractive product to some consumers in the EU.

In parallel with these developments is the emergence of low-THC/high-CBD products in the EU (see box 'Low-THC/high-CBD products'). It is important to note the distinction between these products and cannabis oil.

Figure 3.10
Potency and price of herbal cannabis and cannabis resin in the EU, 2007-17



Note: Data show means (+/– 95 % confidence intervals) for estimated trends after accounting for variation across countries. Expected changes based on inflation of consumer goods are shown in red circles.

Little is known about the adulteration of cannabis resin. However, a recent analysis of street vendor resin samples has concluded that most samples were adulterated and unsuitable for human consumption (Pérez-Moreno et al., 2019).

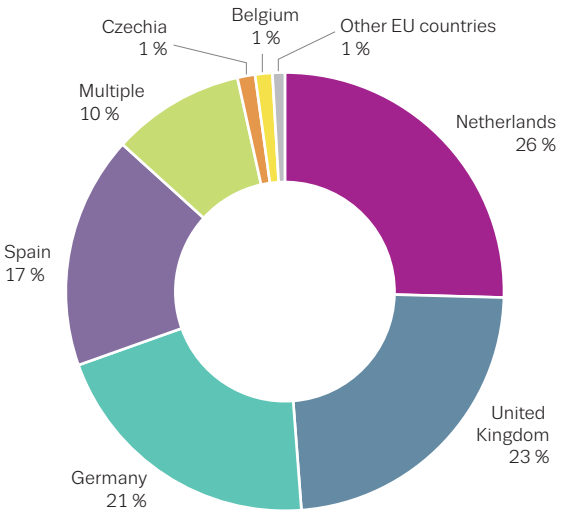
Monitoring patterns of use of cannabis consumption using the technique of wastewater analysis is not feasible at present. This is because THC-COOH, the main metabolite of THC, is the only biomarker found to be suitable so far, but its excretion percentage is low. Given the importance of the cannabis market, it will be important to try to develop alternative biomarkers so that wastewater monitoring becomes possible.

Online distribution

Overall, the scale of the online trade in cannabis remains small compared with traditional offline supply and distribution in the EU. Nonetheless, cannabis is increasingly sold online in high-frequency low-volume transactions and the online trade in cannabis and other drugs is expected to continue to expand.

Based on 2018 data from several major darknet markets ([10]), a total of 7 378 listings (sale offers) that could be attributed to vendors that said they would ship cannabis from an EU country were detected. These offers were distributed across five marketplaces: Dream Market (6 479), Olympus Market (699), Berlusconi Market (159), Valhalla (21) and Wall Street (20). The available data suggest that the majority of EU sale offers during 2018 originated primarily from four countries: the Netherlands (26 %), the United Kingdom (23 %), Germany (21 %) and Spain (17 %). Other reported EU origin countries included Belgium and Czechia (1 % each). An additional 11 % of cannabis listings offered shipping from another EU country (1 %) or from multiple EU countries (10 %) (Figure 3.11).

Figure 3.11
Proportion of cannabis listings on major darknet markets by EU Member State, 2018



Note: Multiple denotes where several EU countries are mentioned as country of origin.

Caution is needed in interpreting these data in respect of gauging the number of individual sellers offering cannabis on these marketplaces or the number of transactions — neither of which can be extrapolated from the number of listings alone. Nonetheless the number of listings provides a useful indicator of the scope of activity on darknet markets.

([10]) For more information on the data source and its limitations see the section on darknet monitoring in Chapter 8.

4

Photo: David Mansfield

CHAPTER 4

Heroin and other opioids

Key points

Europe's opioid problem

▶ Opioid use still accounts for the largest proportion of the harms associated with illicit drug consumption in the EU, including high rates of morbidity and mortality. It is estimated that there are about 1.3 million problem users of opioids, mainly heroin, in the EU. The retail value of the heroin market was estimated to be at least EUR 7.4 billion per year in 2017.

▶ There is evidence of a potential threat from increased heroin availability in Europe. Opium production estimates in Afghanistan are at historically high levels, seizures are increasing in Turkey, some large consignments have been detected within the EU and intelligence assessments suggest increased activity levels along major trafficking routes into Europe. Taken together, these indicate a potential for increased heroin availability.

▶ Vigilance is required to identify any availability-driven increases in heroin use. Currently, demand indicators still point to an overall stable and ageing population of heroin users, and the volume of heroin seizures in the EU is relatively stable but small in relation to both consumption and production estimates. However, monitoring systems may be relatively insensitive to new recruitment into heroin use. It is important, therefore, to be alert for other signs of increased availability.

▶ Synthetic opioids, such as methadone, buprenorphine, tramadol and fentanyl derivatives, are also available on the drug market in the EU and represent a growing threat. They now account for around one in five new opioid-related treatment demands. Because of the ways in which they are produced, sourced and used, synthetic opioids pose additional challenges from regulatory, law enforcement and health perspectives.

▶ Turkish OCGs continue to maintain control over the wholesale importation of heroin into Europe. This is because of their long-standing presence and capacities in key production and trafficking areas. In addition, other OCGs, including Dutch, British, Western Balkan, Iranian and Pakistani groups, are also major players in different parts of Europe. An overlap often exists between OCGs involved in heroin supply and those involved in the trafficking of other drugs, precursors, weapons and other illicit commodities.

Developments in production and trafficking

▶ There are signs of production spreading to new countries, including some in the EU. This is suggested by morphine seizures outside Afghanistan and the recent detection of heroin production in some EU countries. In part, this development appears driven by differences in precursor costs and availability.

▶ Attempts to divert acetic anhydride, the main heroin precursor, appear to be increasing within the EU. It is far cheaper to source in the EU than in areas nearer to opium-producing countries and there is evidence of it being trafficked from the EU, mostly by land but sometimes also by maritime container, along the Balkan route to heroin production areas.

▶ Sources of synthetic opioids are diverse. Conventional trafficking approaches, diversion from medical use and online purchase are all important for synthetic opioids. The last is especially relevant to non-controlled opioids appearing as NPS. Although uncommon, some production in the EU has also been detected.

▶ The Balkan route still remains the key corridor for heroin entry into the EU. This means that, in terms of organised crime activities and anti-trafficking measures, Turkey remains of central importance for actions to disrupt the trafficking of heroin to the EU market.

▶ Evidence suggests that heroin trafficking on the Southern route to the EU may be increasing while activities on the Northern route decline. Important changes appear to be taking place on the Southern route, particularly in relation to trafficking through the Suez Canal. This is occurring against a background of a growth in domestic heroin problems in some African countries.

▶ Recently seizures of very large heroin consignments, both by land and particularly at sea, have been made along trafficking routes towards the EU. Iran is reported as a departure country for many of these.

▶ High-potency synthetic opioids pose challenges for law enforcement and health. Synthetic opioids are increasingly traded online and dispatched by post. For some synthetic opioids this means that small-volume packages can account for a large number of potential consumer doses. Not only does this increase the challenges for law enforcement but the high potency of some synthetic opioids also results in an increased risk to both consumers and others, who may be accidentally exposed to these substances.

Implications for action to address current threats and increase preparedness

In order to respond effectively to current and emerging threats in the area, there is a need to take the following actions.

- Build on the lessons learnt from successful cocaine interdiction strategies at major ports. To address the relative rarity of large heroin seizures at EU borders, Member States need support to develop further risk analysis and profiling capacity at land border-crossing points and at smaller European ports located on potential heroin-trafficking routes into the EU, particularly on the Balkan route.
- In particular, respond to the growing threat resulting from the trafficking of large quantities of heroin and acetic anhydride by means of container shipping. This requires investment in monitoring, investigating and targeting of OCGs active in this area, and strengthening of screening programmes for both inward- and outward-bound containers and vehicles.
- Improve the understanding of the dynamics of heroin trafficking within, and to, the EU through better monitoring of, sharing information about and forensic analysis of heroin production sites, as well as the origins of large seizures of heroin, morphine and acetic anhydride.
- Give greater priority to the Southern route by increasing operational capacities and threat assessment. Efforts are particularly needed in affected African countries to strengthen the monitoring and interdiction of heroin in major ports and respond to any resulting displacement in trafficking activities.
- Raise stakeholder awareness and develop new regulatory and investigative tools to prevent the diversion of acetic anhydride. This requires better monitoring and back-tracking investigations by law enforcement agencies in close coordination with other relevant agencies that have a role in drug precursor control.
- Recognise the potential threat posed by synthetic opioids by scaling up information sharing about, analysis of and forensic profiling of seizures, internet sales, production sites and the diversion of opioids from legal or quasi-legal sources. Continuing engagement with producer countries such as China, India and Russia is also needed.
- Improve efforts and develop new tools to identify and provide early warnings of trends in the use of synthetic opioids, or new recruitment into heroin use, to facilitate the more rapid development and targeting of appropriate supply- and demand-related interventions.
- Raise stakeholders' awareness that responding to opioid-related problems should remain a policy priority and that vigilance is required because a threat exists that a rapid change in consumption patterns of either established drugs, such as heroin, or newer synthetic opioids is possible and could result in significant for individuals and society.

Heroin overview

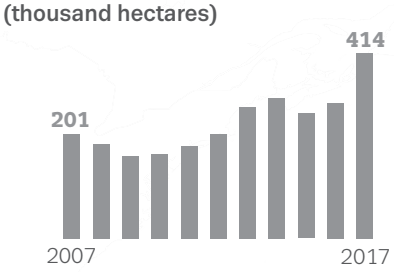
Global

World

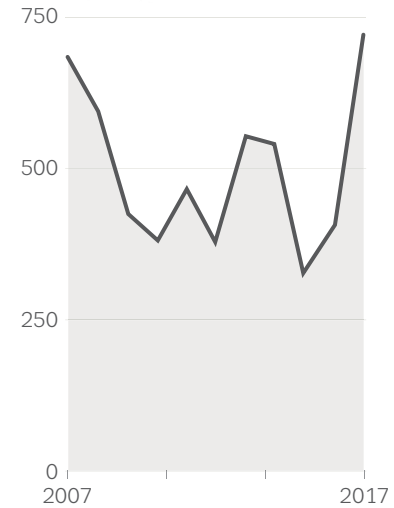
34.3 million

Estimated number using opioids in the last year aged 15-64

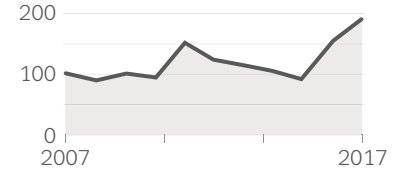
Estimated opium poppy cultivation (thousand hectares)



Global estimated potential heroin production (tonnes)



Global seizures of heroin and morphine (tonnes)



Wholesale price at key locations (EUR/kg)

*Mean **Mode

Producer countries

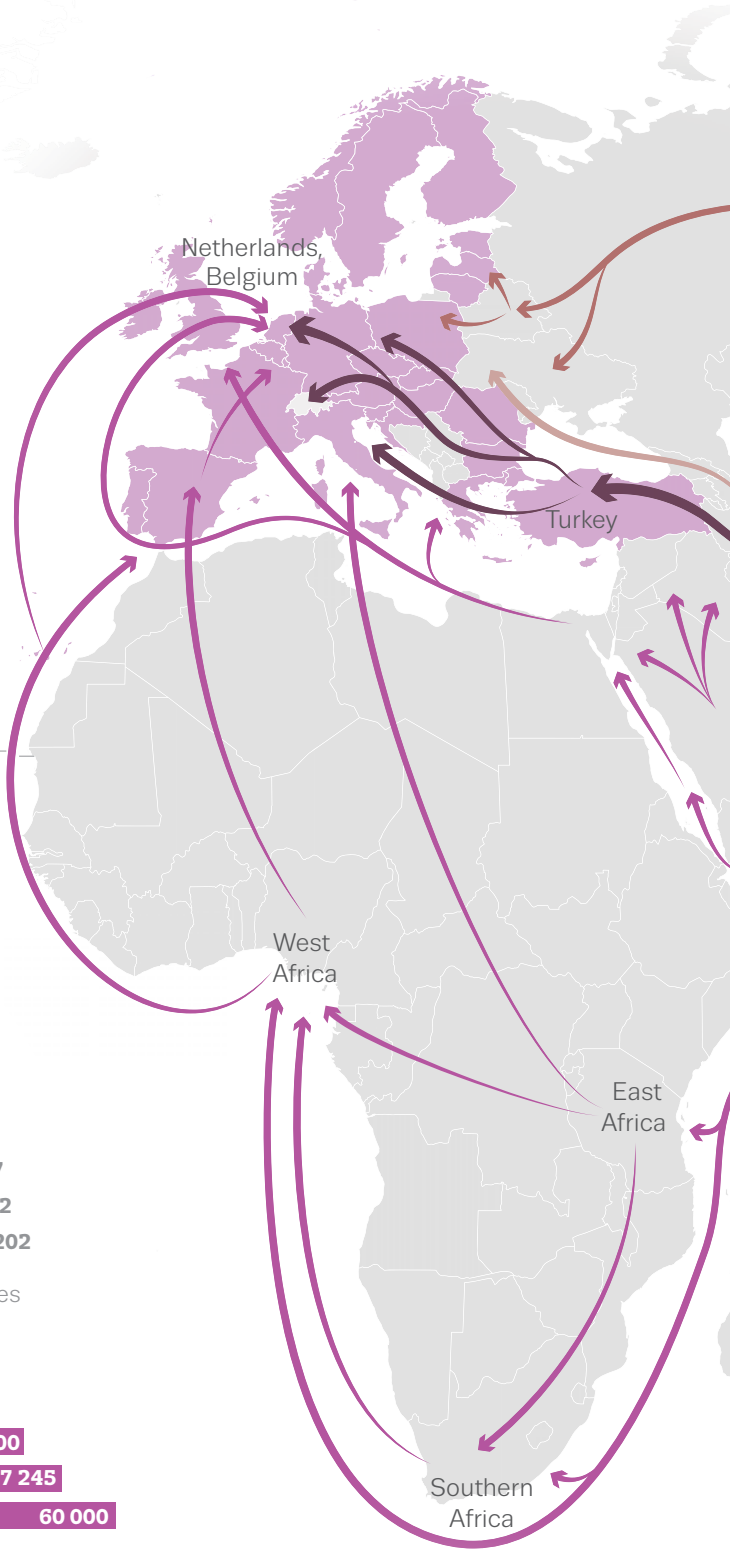
Afghanistan**	2 558

Selected transit countries

Pakistan**	2 575
Iran**	4 180
Egypt*	6 281
Kazakhstan**	13 699
South Africa**	14 457
Albania**	17 172
Montenegro**	20 202

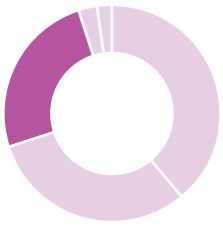
Selected destination countries

Italy*	19 059
United Kingdom**	27 500
Spain*	30 850
Poland**	38 000
Sweden*	47 245
Latvia**	60 000



Europe

25 %
EU retail drug market share



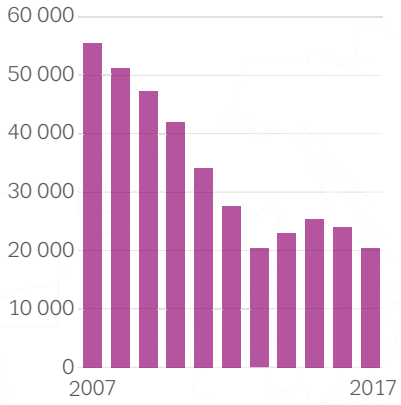
EU

High-risk opioid users 1.3 million

Estimated number using opioids (mainly heroin) in the last year aged 15-64

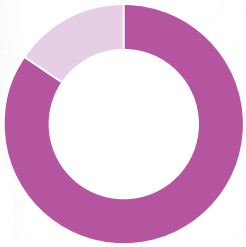
Treatment

Trends in first-time entrants for problems related to heroin



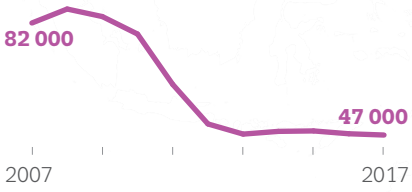
Data for 23 EU Member States.

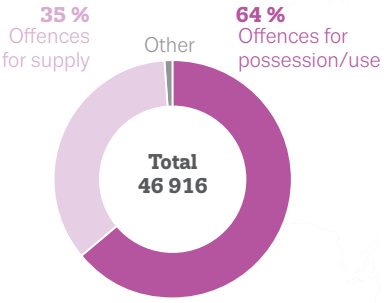
Drug-induced deaths



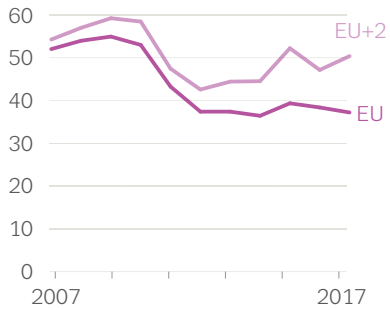
Opioids present in **6 581 or 85 %** of the deaths

Drug law offences related to heroin

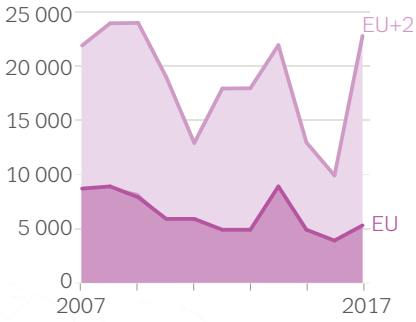




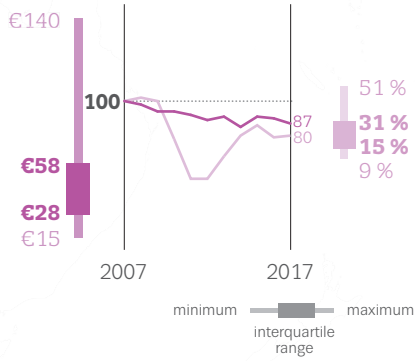
Number of seizures (thousands)



Quantity seized (tonnes)



Retail price (EUR/g) — Indexed trends: Price and purity — Purity (%)



Introduction

Opioid use remains a major part of the drug problem in Europe and a major contributor to the harms associated with it. Heroin is the most frequently used opioid, but other opioids such as methadone, buprenorphine, tramadol and fentanyl derivatives are also available on the illicit market. For definitions used in this report, see box 'Opiates, opioids and heroin'.

It is estimated that there are about 1.3 million high-risk opioid users in the EU and the retail value of the heroin consumed was estimated to be at least EUR 7.4 billion per year (likely range EUR 6.4 billion to EUR 9.1 billion) in 2017. Although the extent of opioid use in many countries in Europe has stabilised over recent years, the illicit use of opioids remains responsible for a disproportionately large share of drug-related harms. These include high levels of dependence, other health problems and mortality among people who use opioids. Primary opioid users still represent over a third of those entering drug treatment in the EU, and opioids are found in over 85 % of drug-related deaths. Injecting use is associated with an increased risk of acquiring blood-borne virus infections such as HIV and hepatitis. The harms associated with opioid use extend to users' families and the wider community. The wider social costs include the impact on neighbourhoods of open drug scenes, the costs associated with the acquisitive crimes that may be committed by people with opioid dependence to obtain money to buy their drugs, and the government expenditure on health and social support services and the criminal justice system.

The retail market for heroin in Europe appears to be quite stable, having recovered from a period of 'heroin drought' in some parts of Europe around 2010. However, the high levels of production as well as an expansion in the range of opioids now available may pose additional risks to existing users or lead to an expansion in the market.

Global overview

It is estimated that in 2017 there were about 29 million users of opiates and 53 million users of opioids (opiates and prescription opioids) worldwide. The prevalence rates of opioid use appear to be highest in North America, Oceania, West and Central Africa, the Near and Middle East and south-west Asia, while rates of opiate use (mainly heroin and opium) are estimated to be highest in the Near and Middle East and south-west Asia, Central Asia and Transcaucasia, North America, and eastern and south-eastern Europe (UNODC, 2019a).

Opiates, opioids and heroin

Opiates are drugs that originate or are derived from naturally occurring alkaloids found in certain poppy species, especially *Papaver somniferum*. Opiates include opium, heroin, morphine and codeine.

O*pioids* are generally substances that bind to the body's opioid receptors. As well as the opiates, they include synthetic drugs that produce opiate-like effects, such as fentanyl and methadone.

Heroin is a semi-synthetic product obtained by the acetylation of morphine; as such, it is also called diacetylmorphine or diamorphine. Morphine is found in opium, the dried latex obtained from poppies. Whereas opium has been smoked for centuries, heroin was first synthesised from morphine isolated from opium in the late 19th century. Heroin is used therapeutically for opiate dependence in some countries when other forms of treatment have not been effective.

Illicit heroin is a crude mixture containing other opium alkaloids and any added substances, such as caffeine and paracetamol. It usually comes as an off-white or brown powder that may be smoked, snorted/sniffed, or dissolved and injected.

The UNODC (2019a) reports that illicit opium production occurs in about 50 countries worldwide. Opium poppies are grown illegally in around 50 countries worldwide in three main regions:

- south-west Asia (mainly Afghanistan and to a lesser extent India and Pakistan), supplying Europe, Africa, south-west Asia, East Asia including China, the Middle East and Oceania;
- south-east Asia (mainly Myanmar and to a considerably lesser extent Laos), supplying mainly south-east Asia, China and Oceania;
- the Americas (especially Mexico but also Colombia and Guatemala), supplying the Americas.

Illicit poppy cultivation also takes place in some small areas in the EU (see section below on opiate production in the EU). However the vast majority (about 96 %) of global opium production occurs in just three countries: Afghanistan is the largest illicit producer of opium in the world, with Myanmar and Mexico distant second and third respectively.

Following several years of declining seizures, in 2016 the quantities of opiate drugs seized worldwide increased sharply, surpassing the former peak from 2011. Seizures increased again in 2017, although not as markedly, with approximately 693 tonnes of opium and 189 tonnes of heroin and illicit morphine seized worldwide (UNODC, 2019a). Most seizures of opiates occur in or near the main opium production areas, particularly in Iran (39 % of total seizures in 2017, expressed in heroin equivalents), Afghanistan (26 %) and Pakistan (14 %), with Turkey the next highest (7 % of total seizures) (UNODC, 2019a). This reflects the main routes by which these drugs have traditionally been trafficked from Afghanistan to western Europe, particularly on the Balkan route via Iran and Turkey but also by sea from Pakistan and Iran to countries of the Arabian Peninsula and along the coast of East Africa.

Production and precursors

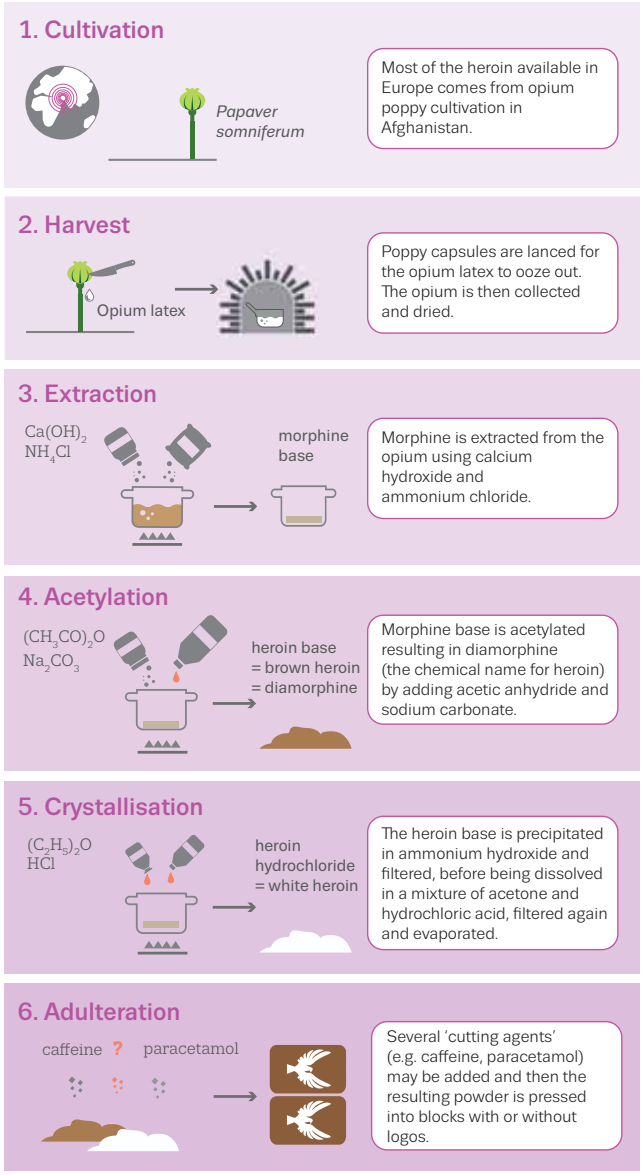
The process by which morphine and heroin are produced from the opium harvested from poppies is illustrated in Figure 4.1.

Trends in opium production

Afghanistan has been the largest illicit producer of opium in the world for about 20 years. In 2017 Afghanistan, with a record 328 000 hectares, was estimated to have accounted for 78 % of the total area of 414 500 hectares under poppy cultivation identified in the world. However, in 2018, the global area under poppy cultivation was estimated to be 345 800 hectares, a drop that was largely influenced by the 20 % fall in Afghanistan to 263 000 hectares. Despite this, the estimated cultivated area for 2018 remained at a high level by historical standards (UNODC, 2019a).

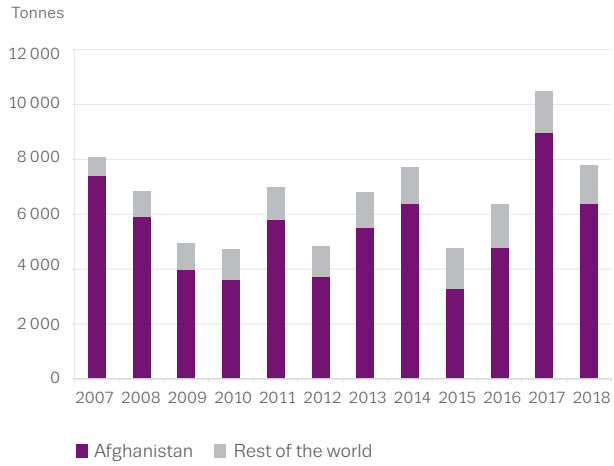
Afghanistan is estimated to account for around four fifths of global production, accounting for on average 81 % of annual global opium production since 2007. Over this period, estimated opium production in Afghanistan has fluctuated, with the lowest figure being 3 300 tonnes in 2015 and the highest being the 9 000 tonnes estimated in 2017 (see Figure 4.2). This variation not surprisingly represents a major contributor to the overall fluctuation in global production estimates observed over this period, underlining the importance of this one production location to the global heroin problem. A caveat here is to note that Afghanistan is not the primary source country for heroin consumed in North America.

Figure 4.1
The heroin production process



The estimated global opium production in 2017, at 10 500 tonnes, was the largest ever recorded (UNODC, 2018a), influenced by a number of factors, including agricultural innovation and developments that have an impact on opium poppy cultivation and, consequently, opium production (see Figure 4.3). For example, a large increase in the number of opium farmers using solar-powered tubewells has been observed in some areas of Afghanistan since 2013, resulting in an increase in both the surface under poppy cultivation and the opium yields of the crops, while also making it possible to harvest two crops a year (Mansfield and Fishstein, 2016). These developments may also have environmental consequences (see section of this chapter on environmental impact). In addition, improvements in morphine extraction methods have been reported.

Figure 4.2
Estimated global illicit opium production (tonnes) and proportion coming from Afghanistan, 2007-18



Sources: UNODC (2018a,b).

In 2018 the estimated global quantity of opium produced decreased to 7 790 tonnes mainly due to severe drought in Afghanistan affecting both the area under cultivation and yields in some parts of this country, but nevertheless the total quantity estimated produced remained among the highest in the past two decades.

Trends in heroin production

It is difficult to estimate the production of heroin. Improvements in technology and changes in methodology can have a big impact on these estimates. The UNODC stresses that its figures should be viewed as 'best estimates', giving an order of magnitude rather than precise measurements (UNODC, 2018a).

Uncertainties remain, due to information gaps on key factors such as heroin laboratory efficiency. This is true even in Afghanistan, the opioid producer country on which the most information is available. The proportion of the crop that is transformed into morphine and then exported out of the country and the fate of the opium exported to neighbouring countries are also poorly documented.

The UNODC estimated that in 2018, from the 7 790 tonnes of opium produced globally, between 1 225 and 1 525 remained unprocessed for consumption, while the rest was converted into heroin, resulting in an estimated 486-736 tonnes of heroin of export purity (UNODC, 2019a).

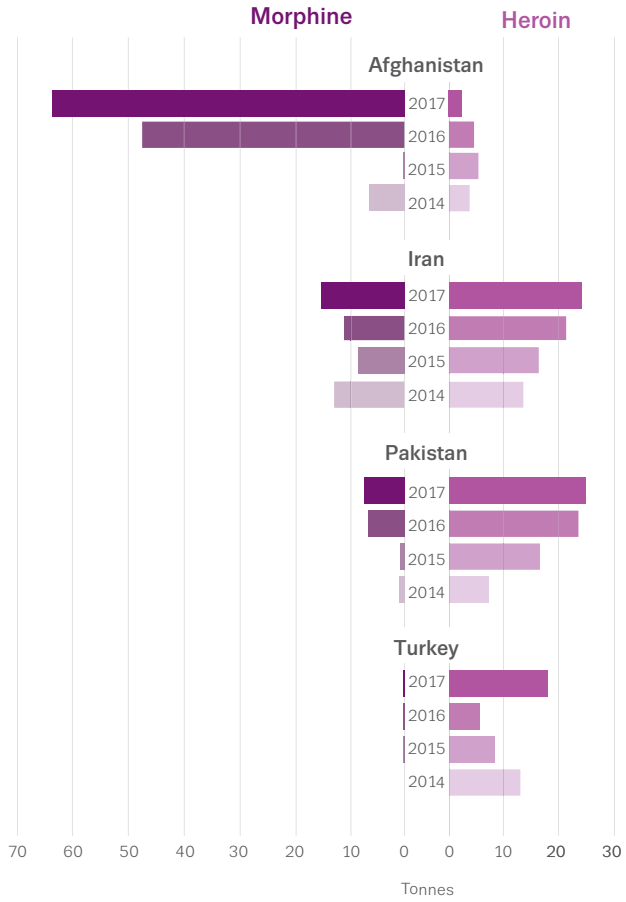
Most of the heroin consumed in Europe is believed to be manufactured from Afghan opium, but relatively little information is available on where this manufacturing takes place. Historically, Afghanistan is the country that has reported the most seizures of opiate laboratories. This indicates that large quantities of opium are processed into heroin in the country (UNODC, 2018a), although it should be noted that the last time that Afghanistan reported dismantling heroin production facilities was in 2014 (41 facilities dismantled). Following a period in which a constant decline in morphine seizures had been seen since 2011, in 2016 Afghanistan seized 47 tonnes, the largest quantity in the world, and seizures increased again in 2017 to 63 tonnes. The reasons for the sudden dramatic increase in morphine seizures in Afghanistan (Figure 4.4) are unclear.

Significant seizures of opium and illicit morphine in countries neighbouring Afghanistan suggest that heroin production could also take place there (see Figure 4.4). Although neither Iran nor Pakistan have reported dismantling heroin production facilities, seizures of opium totalled about 2 000 tonnes in Iran and 210 tonnes in Pakistan between 2014 and 2017, compared with only about 153 tonnes in Afghanistan itself. During the same four years, significant quantities of morphine were also

Figure 4.3
Harvesting opium in Afghanistan

Photos: David Mansfield

Figure 4.4
Heroin and morphine seizures in selected significant countries, 2014-17

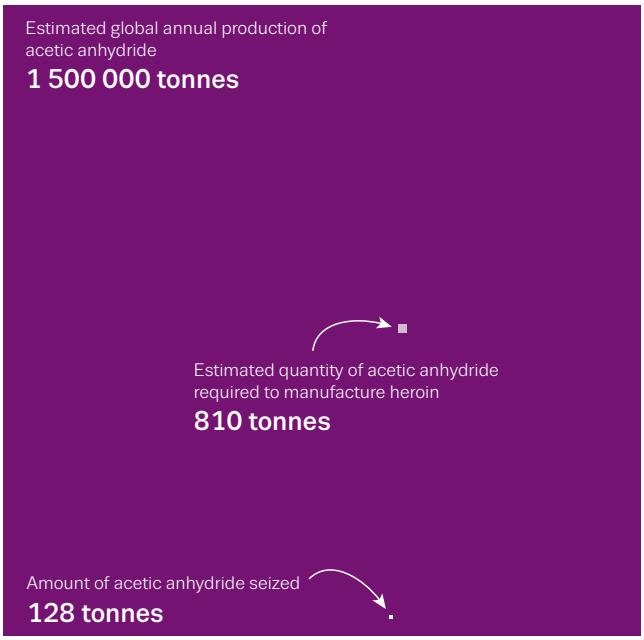


Source: UNODC (2019c).

seized in Iran (47 tonnes) and Pakistan (16 tonnes) (see Figure 4.4). This provides evidence that some of Afghanistan's opium crop is not processed into heroin in the country, and that there are markets for opium and morphine outside Afghanistan. Although fairly large quantities of opium are consumed as opium in Pakistan and especially in Iran, the amounts seized could suggest that there may be some manufacture of heroin and other opiates in both countries.

Hypotheses as to the possible intended uses for the large amounts of opium and morphine seized in the region surrounding Afghanistan were discussed in the previous edition of this report (EMCDDA and Europol, 2016). These included heroin manufacturing in Pakistan and Iran, and probably in other countries, and illicit manufacture of medicinal products, including injectable morphine and syrups containing codeine. No new evidence has emerged to confirm or deny such hypotheses, and this remains an important question for future consideration.

Figure 4.5
Estimating acetic anhydride requirements for heroin manufacture, 2017



Sources: INCB (2014, 2018, 2019); UNODC (2018a).

Acetic anhydride, the heroin precursor

Acetic anhydride is a key precursor for processing morphine into heroin. It is used as an acetylation agent and is subject to international control because of its critical role in the manufacture of heroin. However, it has many licit uses, particularly in the pharmaceutical industry (e.g. to manufacture aspirin), but also for the manufacturing of paints, plastics, polymers, cellulose (for cigarette filters) and explosives. As a result, the global legitimate manufacture of and trade in acetic anhydride is large and reported to be expanding. This, combined with the fact that comparatively small amounts are required in heroin manufacture, makes preventing diversion for illicit purposes a challenging task (see Figure 4.5).

Estimates of annual licit global production of acetic anhydride vary but the most recent estimate from the INCB put it close to 1.5 million tonnes (INCB, 2014). Set against this, the INCB estimates that the requirement for illicit heroin manufacture is between 450 000 and 1.1 million litres (or approximately 486 to 1 188 tonnes) (INCB, 2018, 2019), i.e. less than 0.1 % of global licit production.

Action to prevent the diversion of acetic anhydride for illicit uses includes the requirement for pre-export notification of shipments, which may lead to stopped or suspended shipments as well as seizures. The INCB undertakes global monitoring of both of these indicators and noted a sharp increase in demand for acetic anhydride during the period

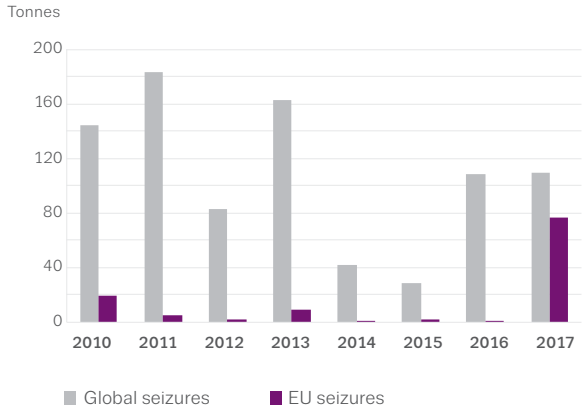
2016-17, as shown by an increase in suspicious supply requests as well as the number of seizures reported. Although these have since declined to some extent, in the year beginning 1 November 2017 globally 1 900 pre-export notifications were reported for a total of 611 million litres of acetic anhydride, of which approximately 15 % were objected to by the importing countries either for administrative reasons or for suspected diversion (INCB, 2019). In addition, global acetic anhydride seizures in 2017 amounted to 127 000 litres, with Afghanistan reporting the largest amount seized (37 700 litres), followed by Turkey (23 200 litres) and Iran (20 300 litres) (INCB, 2019) ([11]). This is a strong indication that demand for acetic anhydride for illicit purposes is high at present, which may be due to the increase in estimated Afghan and global opium production (see Figure 4.6).

However, it is known that acetic anhydride can also be used for the manufacturing of methamphetamine (INCB, 2018), and methamphetamine production seems to be increasing in countries traditionally connected with the production and trafficking of opiates. For instance, methamphetamine facilities are dismantled every year in Afghanistan, Iran, Mexico, Myanmar, and recently, according to media reports, Turkey (Ensonhaber.com, 2017; Haberayyildiz.com, 2017; Haberturk.com, 2019; Mansfield, 2019; Yenisafak.com, 2018).

Recent seizures, stopped shipments and suspicious queries or orders of acetic anhydride appear to confirm that heroin-trafficking routes from Afghanistan to Europe are used to traffic acetic anhydride in the opposite direction. Thus, for instance, the INCB suspects that a shipment of almost 3 tonnes of acetic anhydride seized in Afghanistan in 2017 had originated in the EU, while Iran reported the EU and Taiwan as the sources of the more than 23 tonnes it seized in 2017 (INCB, 2018). In addition, Pakistan seized more than 15 tonnes of acetic anhydride originating from Poland in 2018 (INCB, 2019).

The information on seizures and stopped shipments in or originating from Europe confirms the picture of high demand for acetic anhydride for illicit purposes in recent years and also that the EU has become a significant source of acetic anhydride diverted towards the illicit production of heroin (and methamphetamine) in Afghanistan and neighbouring countries (see Case study 19).

Figure 4.6
Total global and EU acetic anhydride seizures, 2010-17



Sources: INCB (2016, 2019); data from European Commission.

In 2016, only Germany, the Netherlands and Spain reported seizing or stopping shipments of small amounts of acetic anhydride (data from European Commission; INCB, 2018). By contrast, in 2017 and 2018, large amounts of acetic anhydride were seized on the 'reverse Balkan route' linking western Europe to Turkey, although some seizures could be linked to heroin production within Europe (see section below on opiate production in Europe). Thus in 2017, more than 81 000 litres of acetic anhydride (about 75 tonnes) were seized in the EU (67 500 litres in the Netherlands, 10 500 litres in Bulgaria, 2 000 litres in Belgium and 1 000 litres in Poland), while Turkey seized 23 000 litres (data from the European Commission; INCB, 2019).

The upward trend appears to have continued in 2018: Turkey seized 37.5 tonnes of acetic anhydride, according to information at Europol — of which the INCB indicates that approximately 14 tonnes originated in the Netherlands — and Romania seized 5 tonnes in August 2018 (data from INCB; data from Romanian Police). Information on the origins of acetic anhydride diverted from legal supply in the EU is limited. However, a number of the seized shipments reported to Europol during this period appear to have come from Czechia, Germany, the Netherlands, Poland and Slovenia, although some of these may be storage or transit countries for acetic anhydride procured elsewhere.

In addition to seizures, there were many instances of suspicious activities involving acetic anhydride in Europe in recent years, with Belgium, Bulgaria, Czechia, France, Germany, Latvia, the Netherlands, Poland and Spain all reporting suspicious queries or orders of acetic anhydride in 2017. In total, more than 100 such incidents were detected and investigated in the EU in 2016 and 2017, with the alleged destination countries including Azerbaijan, Iran, Iraq, Kyrgyzstan, Suriname and Turkey (INCB, 2018),

([11]) It is also worth noting that 45.4 tonnes of ammonium chloride, a non-scheduled chemical often used in the extraction of morphine from opium, was seized in Afghanistan in 2016. This was the highest amount ever reported seized by the Afghan authorities (INCB, 2018).

CASE STUDY 19

Two-way trafficking on the Balkan route

A recent report issued by the Dutch Police Academy highlighted the large-scale trade in drugs and precursors involving North Brabant criminals and Turkish OCGs, which is believed to have existed since the 1990s (Tops et al., 2018). Turkish OCGs have incorporated themselves into the legal scene in the Netherlands and own restaurants, bars, hotels and other enterprises. These OCGs coordinate two-way trafficking flows whereby heroin and morphine are transported to the Netherlands from Turkey while acetic anhydride, MDMA and other drugs are shipped in the opposite direction (Tops et al., 2018).

Recent seizures in EU Member States along the Balkan route, including large batches of heroin, hundreds of kilograms of morphine, millions of MDMA tablets and multi-tonne shipments of acetic anhydride, appear to confirm this barter trade between criminal gangs. For example, in August 2018, Romanian law enforcement officers seized 5 000 litres of acetic anhydride and 20 kilograms of high-purity cocaine (see photos), concealed in a lorry that was travelling from Germany through Slovenia and Romania to its final destination in Turkey. The lorry was registered in Georgia and driven by a Turkish national. The investigation revealed that the driver had picked up the cocaine in Germany and loaded up the acetic anhydride from an illicit storage location in Slovenia.

Photos: Romanian National Police, Anti-drug Service

and stopped shipments of acetic anhydride in the EU totalled 324 300 litres in 2017 (data from the European Commission).

The most frequently used modus operandi explaining the increase in diversion of acetic anhydride involves setting up new 'front companies' and applying for registration as precursor operators using fraudulent documents in order to be able to purchase large quantities of acetic anhydride from legal suppliers. In some cases, in order to conceal their illicit activity, these companies attempt to source acetic anhydride in small amounts from different suppliers and in different countries to avoid purchase limits set by authorities. The acetic anhydride is then pooled and stored in secret locations. Some law enforcement agencies in EU Member States have suggested that background checks related to entities requesting registration could be strengthened in order prevent diversion of acetic anhydride.

Although transport by road in trucks and lorries making use of the reverse Balkan route represents the most often detected means of transport of acetic anhydride from the EU to heroin production regions, the use of containers surpasses it in terms of the quantities transported and seized (see Case study 20). As observed of the smuggling of other commodities, containers represent opportunities for criminals and challenges for national authorities. This mode of transport presents significant vulnerabilities, allowing the transport of huge quantities of acetic anhydride to the heroin production regions. The OCGs exploit the fact that cargo exported through EU ports is subject to fewer checks than imports. In addition, customs and other law enforcement authorities in Afghanistan and other destination countries have difficulty implementing efficient checks based on risk profiles because they lack equipment or have insufficient resources.

The OCGs that have been linked to acetic anhydride trafficking are composed of nationals of Afghanistan, Iran and Turkey, often supported by EU-based OCGs and OCGs originating from the Western Balkan region. It should be noted that the OCGs involved and the routes used for acetic anhydride trafficking are similar to those for heroin, which will be discussed in greater detail in the following section.

In spite of the efforts of regulatory authorities at the European and national levels, it is likely that some suspicious purchases of acetic anhydride may have escaped detection and some acetic anhydride may be stockpiled in Europe, which could be used in the future for illicit heroin production in Afghanistan, neighbouring

CASE STUDY 20

Trafficking acetic anhydride from the EU to Turkey using roll-on roll-off ferries

A seizure of 14.8 tonnes of acetic anhydride occurred on 9 July 2018 in the port of Mersin, Turkey's gateway to the eastern Mediterranean. The acetic anhydride was transported in a lorry aboard a Turkish vessel that had departed from Italy. The shipment was declared to be monomer, and was allegedly loaded in the Netherlands. It is likely that this eastern Mediterranean route is being exploited by traffickers as an alternative route to the land-based Balkan route and the maritime container route to Iran. This modus operandi fits the recent trend, noted by Turkish authorities, of the increased use of roll-on roll-off intermodal infrastructure between Europe and Turkey. Roll-on roll-off networks offer fast services adjusted to different types of cargoes, such as trailers, other rolling cargoes and containers, and can combine rail and maritime freight. Reports from Turkey also suggest that trains carrying lorries are being used to smuggle acetic anhydride to Turkey and Iran.

Source: Daily Sabah (2018).

countries and Europe (information from INCB). Law enforcement agencies in various EU Member States report encountering problems with the fight against acetic anhydride diversion for illicit purposes. Issues include the fact that, in a majority of EU countries, the authorities in charge of monitoring precursors do not have investigative powers, which limits efforts to gather evidence, while in some cases acetic anhydride diversion attempts are treated as a low-level offence punishable by only a fine. Some Member States also report that the additional costs incurred in adequately storing and destroying seized precursors may represent a growing challenge.

Opiate production in Europe

The general picture of the European market in opiates is one of large-scale production of heroin in Afghanistan followed by smuggling into Europe by OCGs. However, it is increasingly clear that the true picture is more complex.

There is growing evidence that the final step of the heroin production process, the manufacturing of heroin from morphine using acetic anhydride, takes place in several countries of Europe. For example, in the period 2014-17, 21 production facilities were dismantled in Greece (18), Czechia (2) and Spain (1) according to UNODC reports. More recently, the Netherlands reported dismantling eight heroin production facilities in 2017 and Bulgaria dismantled one (data from Bulgarian Ministry of Interior, 2018). Heroin produced in these laboratories was made from morphine of unknown origin. In addition, in 2017 Czechia reported dismantling two facilities producing heroin from morphine extracted from tablets of medicinal products. In 2018, a site manufacturing heroin was dismantled in Germany, where about 30 kg of heroin and some acetic anhydride were seized (data from German Bundeskriminalamt), and a facility processing morphine into heroin was dismantled in Albania, where more than 180 kg of heroin was seized. The morphine had come from Turkey via North Macedonia and Kosovo, according to Albanian police reports (Meers, 2018a).

Seizures of opium have also increased in several countries: in 2017 Belgium seized 1 133 kg of opium and Bulgaria seized 221 kg of morphine and 43 kg of opium. The opium available in Europe could be used for heroin production or smoked by individual consumers. Open source information suggests that some heroin may also be produced in Turkey. For example, according to the Turkish press, a range of materials that indicate possible heroin production were found in Sakarya in July 2017 and in Van in April 2018 (*CNNTurk*, 2018; *Karar*, 2017).

There are several potential reasons for the emergence of heroin laboratories in Europe, although the information available makes it difficult to draw definite conclusions. However, the apparent widespread availability of cheaper illicit acetic anhydride in Europe is probably a significant factor. Indeed, the price of acetic anhydride has increased dramatically in Afghanistan in recent years, peaking at an average of EUR 605 per litre in August 2017 (MCN and UNODC, 2018). In the EU, acetic anhydride reaches no more than EUR 50 per litre on the illicit market and between EUR 1 and EUR 5 on the legal market. This also makes the trafficking of acetic anhydride to Afghanistan very attractive for OCGs based in the EU, especially since penalties are usually low for this type of offence, and recent information suggests there is increasing diversion of this precursor in Europe (see section on acetic anhydride above).

In addition to the production of heroin from imported morphine and opium, production of a range of other opiate preparations continues in some countries. Opium

poppy crops were destroyed in Greece and Italy in 2016 (Ekathimerini, 2018; UNODC, 2018a). Small-scale heroin production facilities using home-grown opium poppy straw or morphine extracted from medicines have also been dismantled. *Braun*, an opiate made from codeine, is traditionally consumed in Czechia, and *kompot,* a crude preparation of heroin produced from poppy straw and several chemical reagents, in Poland. Both are described in more detail in the previous EU Drug Markets Report (EMCDDA and Europol, 2016) and have continued to be produced.

Synthetic opioid production in Europe

A market for synthetic opioids has also been growing in Europe. The majority of illegally produced synthetic opioids distributed in the EU originate from source countries outside the EU. Depending on the country of destination and the mode of distribution, the two main source countries for synthetic opioids available on European drug markets are believed to be China and, to a lesser extent, Russia.

Some production of synthetic opioids does takes place in the EU, although currently it appears to be marginal compared with the manufacturing of other illicit drugs. There is no widespread or sustained illicit production of these substances. The production process for many of them is relatively simple and can be carried out at room temperature using a 'one-pot' method. The synthesis of the particularly potent derivative carfentanil is more complicated and several methods exist. Whatever production exists is thought to rely mainly on precursors originating from China.

A few laboratories carrying out the full production cycle of synthetic opioids, particularly fentanyl derivatives, have been dismantled over recent years (Table 4.1). Because fentanyl derivatives are very potent, these laboratories require only a small production capacity to produce sufficient material to satisfy national or even regional demand. Recently, a facility producing fentanyl was detected in France in November 2018 (Joany, 2018), and in Estonia a lab that had been active since 2014 was seized in August 2017. Large quantities of fentanyl precursors were also seized in Estonia in 2016-17.

In addition, methadone production has also been detected in Latvia: two large-scale illicit laboratories producing methadone using precursors acquired from the legal market in the EU, which were believed to have been active since 2013, were dismantled in 2017. Ukraine also reported dismantling an illicit large-scale methadone production laboratory in September 2017 (Ukraine, 2017).

Table 4.1
Synthetic opioid production sites dismantled in the EU, 2007-18

Year	Country	Type of production
2007	Germany	Fentanyl — small-scale laboratory
2010	Latvia	Methadone
2011	Slovakia	Fentanyl — small-scale laboratory
2013	Poland	Butyrfentanyl
2015	Germany	Fentanyl — small-scale laboratory
2016	Sweden	Fentanyl — 2 small-scale laboratories
2017	Latvia	Methadone
	Estonia	Fentanyl — medium-scale laboratory
2018	France	Fentanyl — small-scale laboratory

Processing and packaging centres are more commonly detected in the EU than full-cycle laboratories. In general, these laboratories receive bulk shipments of synthetic opioids from China, use cutting agents to increase the profit yield of a shipment and package the substance for street or online distribution. For example, in April 2017, British law enforcement authorities dismantled a processing centre used to distribute fentanyl and carfentanil online. Around 1 kg of fentanyl and carfentanil was seized on site as well as caffeine, the cutting agent presumably used to dilute the product prior to distribution (see section on new synthetic opioids, Chapter 7).

In Estonia fentanyl has been the main opioid consumed since 2001, when it displaced heroin, and Estonian law enforcement authorities have repeatedly discovered and dismantled conversion laboratories in the country since then. These laboratories typically convert liquid fentanyl, trafficked to the country from Russia, to fentanyl in powder form, which is then diluted with cutting agents prior to distribution.

Heroin adulteration

In addition to the substances, processes and skills used during drug production, drug purity depends on the cutting agents that are frequently added. Indeed, pure drugs are only rarely available on the market, especially at consumer level. These adulteration processes, also known as cutting, are generally adopted for reasons of profitability but may also increase if heroin is in short supply. They are common practice with all powdered drugs. Adulteration may occur at all stages of the supply chain. For instance, the UNODC estimated that Afghan heroin of 'export quality' was 51 %

pure in 2016 (UNODC, 2018a), and was found combined with a range of substances, some of which were harmful.

For heroin, the most commonly used cutting agents are paracetamol and caffeine, and premixed bags of brown paracetamol and caffeine powder have been seized by law enforcement agencies in Europe. Given the increasing segmentation of organised crime functions across distinct organisations, it is likely that some organised crime groups specialise in the procurement of these substances for subsequent resale to heroin traffickers. For example, law enforcement authorities in the Netherlands recently dismantled an illicit facility specialised in the production of cutting mixtures for heroin. The mixtures produced combined caffeine, paracetamol and a colouring agent.

Some insight into the range of adulterants that may be found in the opioids sold on retail markets can be obtained from analysis of the residue in used syringes. A study in six European cities in 2017-18 confirmed the widespread use of caffeine and paracetamol as cutting agents for heroin, with caffeine found in 66 % of all syringes that contained heroin, and paracetamol in 62 %. Less common adulterants included griseofulvine (4.5 % of syringes) and phenacetin (3.5 %) (Néfau, 2018). Furthermore, a recent analysis of substances bought from darknet markets and submitted to a drug-checking service also reported that the main adulterants found in heroin samples were caffeine and paracetamol. A range of other potentially dangerous adulterants were also detected. Most worryingly, almost a fifth of the heroin samples analysed were adulterated with other synthetic opioids (DoctorX et al., 2018).

Environmental impact of heroin production

Although not well documented in the scientific literature, the growing of opium poppies on the same piece of land year after year will have an environmental impact, especially on soil quality. Recent research highlighted how large increases in the use of solar-powered tubewells for opium poppy cultivation in the desert of Afghanistan since 2013 have been accelerating the drop in the water table (1-2 m per year 2017 compared with 0.5-1 m in 2015) (Mansfield, 2018). In addition, opium poppy cultivation practised in an unsustainable way may contribute to even greater water scarcity in the arid regions of Afghanistan, and to soil salinisation due to inappropriate drainage during irrigation (Mansfield and Fishstein, 2016). Finally, toxic chemicals, which include acetic anhydride, solvents such as ethyl ether and acetone, and hydrochloric acid, are needed to transform opium into heroin. The waste resulting from heroin production is often simply spilled on the ground or in streams and rivers and, although scientific assessment of the impact of this process on the environment is lacking, it is probable that tonnes of hazardous waste from heroin production are released into the environment each year (UNODC, 2015).

Trafficking and supply

Most of the heroin available on the European drug markets is produced in Afghanistan, and many different groups are involved in heroin-trafficking activities along the extensive supply chain from production zones to consumer markets. What we know about both the routes and groups involved is fragmentary and based mostly on information gathered through the activities undertaken by law enforcement agencies in order to disrupt supply. These are inevitably, to some extent, a reflection of the agencies' expertise and priorities but they also provide useful information about drug-trafficking organisations active in the EU, their modi operandi and the trafficking routes used.

Heroin trafficking to Europe

The main routes used to traffic heroin to the EU have remained essentially the same over recent years, although the intensity of use of particular routes appears to vary over time, depending on factors such as the state of transportation infrastructure, law enforcement activity and geopolitical stability. Four routes (see Heroin overview, pages 106-107) are generally recognised:

- the Balkan route — the main trafficking route to Europe from Iran to Turkey and then through Bulgaria and Greece or the Mediterranean Sea;
- the Southern route, through Iran and Pakistan to several countries in Africa and the Arabian Peninsula to supply local markets or for onward shipment to Europe locally — the branch through the Arabian Sea, Red Sea and Mediterranean Sea to Europe has gained some importance recently;
- the Southern Caucasus route, going from Iran to Armenia or Azerbaijan to Georgia and then through the Black Sea to Ukraine or EU Member States;
- the Northern route, from Afghanistan to Tajikistan and then through Kyrgyzstan or Uzbekistan to Kazakhstan, mainly destined for Belarus, Russia, Ukraine and, to a lesser extent, EU Member States.

Since 2013, heroin trafficking has increasingly involved large individual shipments in excess of 100 kg, a trend

that has continued in recent years, probably due to the increasing availability of heroin in the countries of origin. Large shipments are commonly transported from Iran to Europe, especially the Netherlands, through the Balkan route, and increasingly via the Suez Canal and across the Mediterranean Sea. Frequently these large shipments of heroin are transported by road hidden among legal cargo in lorries, as well as by sea in containers or in lorries on ferries (Europol, 2017b).

The Balkan route

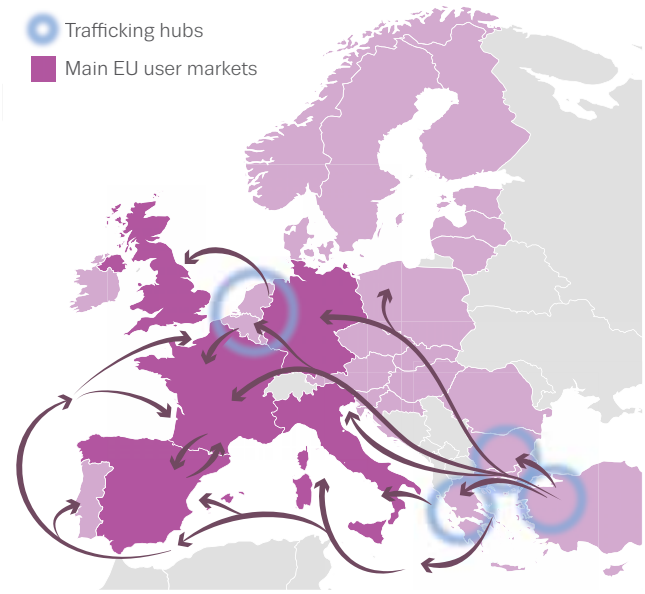
The route from Afghanistan through Iran, Turkey and Balkan countries represents the shortest distance and the most direct land route to European consumer markets, and it has continued to be the key corridor for the trafficking of heroin to the EU and for other drugs and acetic anhydride in the other direction (see Case study 21). Turkey is crucial to the Balkan route, and Istanbul is a key location for the orchestration of heroin shipments to the EU. In 2017, Turkey seized the largest quantity of heroin in the last decade, following a period marked by a significant decline in seizures, probably caused by both external and internal factors.

Heroin may be shipped from Turkey to EU markets using three branches of the Balkan route (Figure 4.7).

- The southern branch runs through Greece, Albania and/or Italy, using both sea and land transportation.
- The central branch runs through Bulgaria, North Macedonia, Serbia, Montenegro, Bosnia and Herzegovina, Croatia and Slovenia, and into Italy or Austria, essentially by land.
- The northern branch runs from Bulgaria and Romania to Hungary, Austria, Czechia, Poland or Germany, essentially by land.

The information available suggests that heroin mainly enters the EU at land border-crossing points in Bulgaria and Greece. In some cases, heroin is temporarily stored in warehouses in the Balkan region before being transported onwards. Bulgaria and Greece appear to be increasingly important transhipment points along this route. Iran is an increasingly significant hub for the trafficking of large quantities of heroin from Afghanistan and Pakistan to the EU via Turkey along the Balkan route using road transportation. Iran is also more frequently used as a departure point for large heroin shipments smuggled to the EU in maritime containers, in an effort by OCGs to avoid more strictly controlled land routes via Turkey. The

Figure 4.7
The Balkan route



increasing trade in recent years between Iran and the EU and others may have contributed to this increase in trafficking activity from Iran, as the greater volume of trade provides more opportunities for smuggling. Iranian trucks driven by Iranian drivers carrying hundreds of kilograms of heroin have also been detected more frequently on the Balkan route. On this route, the trucks travel via Turkey to enter the EU chiefly across the Bulgarian-Turkish border. From there, the heroin shipments are transported to distribution hubs in the EU.

Although the Balkan route is considered the most active smuggling route for heroin, the interdiction rate is quite low along the portion of the Balkan route located in Europe, relative to the large quantities of heroin seized in Iran and Turkey. This suggests that heroin trafficking through the Balkans is well organised, but may also benefit from poor enforcement and even possibly corruption among law enforcement officials (Kemp, 2017).

The usual method of transport for heroin smuggling on the Balkan route continues to be concealment in buses, cars and especially lorries. However, a development on this route is the increasing use of containers for onward transport from Turkey using a variety of modes of transport. These include by ship across the Mediterranean Sea to ports in the EU, by lorry on ferries and by train. This allows the transport of large consignments of heroin (see Case study 21). The same modus operandi is used to smuggle acetic anhydride from western Europe to Turkey.

CASE STUDY 21

Use of containerised maritime transport on the Balkan route

Spanish police seized 331 kg of heroin in 2017 in one of the biggest ever heroin hauls in the country's history. The largest part of the seized shipment comprised 263 kg of high-purity heroin and was found at the port of Barcelona, hidden inside a shipment of cement from Turkey. The remainder was seized in the residences of four individuals detained as part of a police operation. Two Dominicans, an Ecuadorian and a Spaniard were charged as a result of the operation.

Source: *Deutsche Welle* (2017).

The Southern route

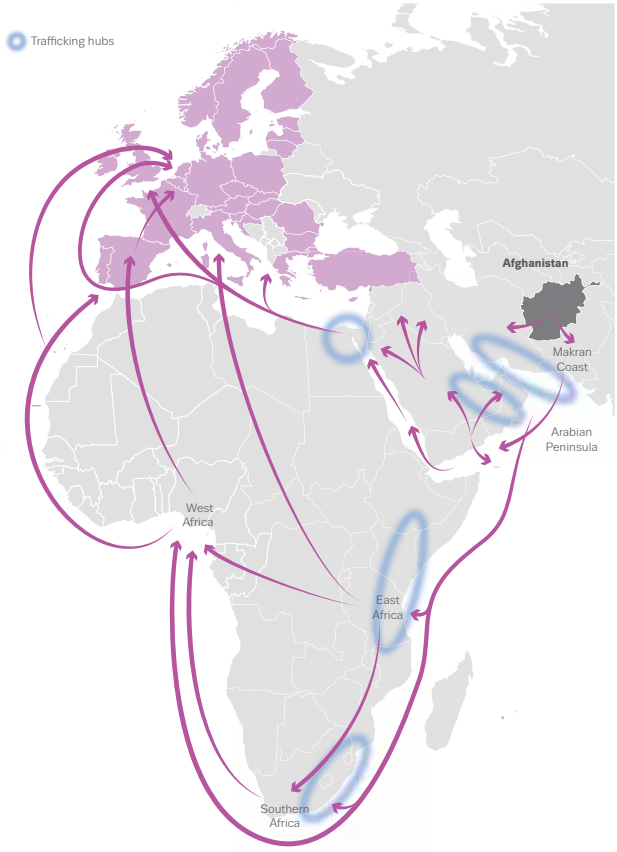
The Southern route for the trafficking of heroin to the EU remains of some importance (see Figure 4.8). In recent years large heroin consignments shipped from ports on the coast of Iran and Pakistan on the Gulf of Oman and the Persian Gulf (the Makran coast) have attracted international attention. Some of these shipments are destined for Europe. This Southern route to Europe entails several modes of transportation and transhipment points that may be combined in different ways. The heroin shipped on the Southern route leaves the Makran coast either concealed in containers or transported in traditional sailing vessels (dhows). Thus, heroin may be shipped to the EU using various branches of this route, all departing from ports in Iran and Pakistan.

- The first branch, which is the most relevant to Europe transits from the Arabian Sea and the Red Sea through the Suez Canal and Mediterranean Sea to reach EU or Turkish ports, mainly by containers.
- Another branch of this route uses transhipment ports in the Arabian Peninsula. From there the heroin is transported inland to reach countries on the Mediterranean Sea, or continues on the sea route to reach countries in East Africa.
- A third branch departs from smaller ports on the Makran coast to ports along the Swahili coast (Kenya, Tanzania and northern Mozambique), using dhows. From here, the heroin is smuggled onwards to the EU and/or other international markets.

There is evidence suggesting the route is growing in importance, not least because of the increasing demand reported for heroin and other opioids in large countries such as South Africa (Haysom et al., 2018), but also possibly because of its use as an alternative route to enable the transportation of large shipments of heroin to Europe while avoiding stricter border controls on the traditional Balkan route. In addition, the increasing use of multiple transhipment points for containers along this route makes it more difficult for authorities to intercept cargoes based on a risk analysis of their origins (Boerman et al., 2017).

Several large shipments of heroin seized in the port of Antwerp, primarily originating from ports in Iran — 4.3 tonnes in 2018 and 1.9 tonnes in the first quarter of 2019 — confirm the increasing activity along this branch of the Southern route. This route may also involve transhipment points in Turkey, from where heroin consignments are transported either by land via the Balkan route or by sea via the Mediterranean Sea directly to ports in western Europe.

Figure 4.8
The Southern route



At the same time, heroin departing from the Gulf of Oman and the Persian Gulf in dhows is unloaded in several countries along the East African coast and is typically transported onward over land to other countries in East Africa or to West Africa. Although the land routes used for further transportation from the East African coast to other countries in Africa and to Europe are complex and remain an intelligence gap, available data relating to seizures made in Europe highlight Egypt, Ethiopia, Iran, Kenya, Madagascar, Morocco, Mozambique, Pakistan, Qatar, South Africa, Tanzania and the United Arab Emirates as all being potential departure or transit countries for the heroin seizures made in the EU. For example, in April 2019, the Egyptian navy seized 2 tonnes of heroin and 99 kg of crystal methamphetamine from a European-flagged vessel off the Red Sea coast. The ship's seven crew members were arrested in the operation. This provides evidence that the Red Sea may serve as a transit point for Afghan heroin trafficked through Pakistani and Iranian ports into Europe and other destinations.

Finally, the Southern route also involves smaller amounts of heroin shipped by air couriers and freight, as well as postal parcels from India, Iran, Pakistan and Sri Lanka or from transit countries in Africa, especially South Africa, Kenya and Mozambique. Heroin seizures from couriers at European airports are reported to have increased dramatically in recent years, and a total of 486 kg was intercepted in 106 separate incidents in 2018. An increase in heroin seizures in postal parcels is also reported (Groupe Pompidou and RILO WE, 2019).

The Southern Caucasus route

The Southern Caucasus route continues to be used to smuggle large amounts of opiates from Iran to Europe via Armenia, Azerbaijan or Georgia. Heroin is smuggled on the ferries that cross the Black Sea from Georgia to Bulgaria, Romania and Ukraine. From Ukraine it is possible to reach both lucrative western European markets and the large Russian market by a variety of overland routes. Large heroin shipments were seized along the Southern Caucasus route mainly in 2015 and 2016. In 2016, one shipment of almost 100 kg of heroin was seized in the port of Batumi, Georgia, purportedly destined for the Netherlands, while several other large heroin seizures totalling more than 1 tonne, reported to be destined for Belgium and Ukraine, were seized in Azerbaijan (UNODC, 2018a).

More recently, several seizures of heroin in several regions in Ukraine, totalling more than 700 kilograms could confirm the hypothesis that this route has been preferred for some years due to increased law enforcement activity along the Balkan route in the context of the migration crisis combined with instability in Ukraine and the Caucasus region.

The Northern route

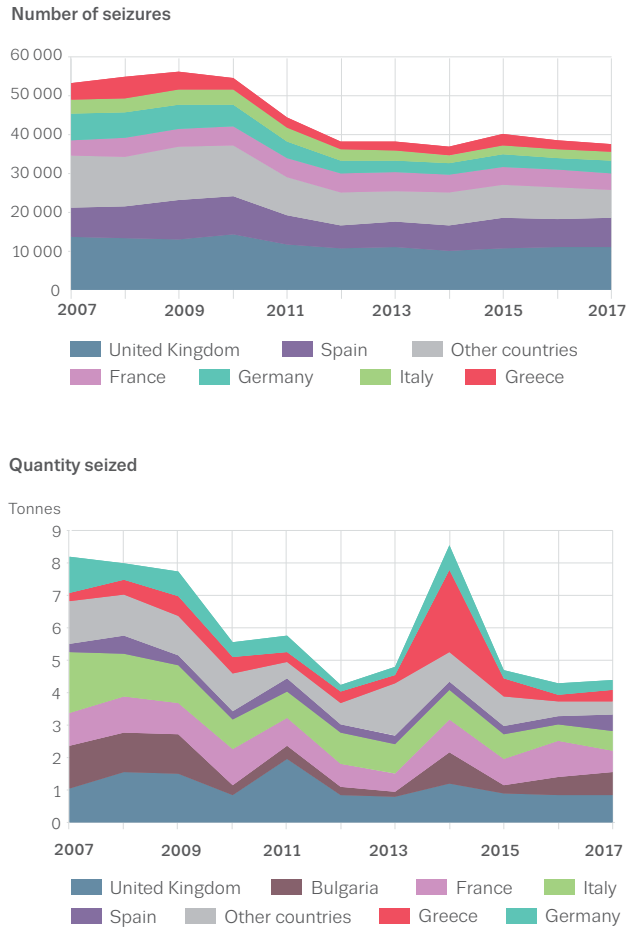
The heroin trafficked on the Northern route is exported by land from Afghanistan's northern borders and appears to be essentially destined for consumer markets in Central Asia, Belarus, Russia and Ukraine. Consignments cross from Afghanistan into Tajikistan and then are trafficked northwards through Kyrgyzstan or Uzbekistan to Kazakhstan before entering Russia. Less heroin is thought to arrive at the EU's external border via the Northern route than via the other established heroin-trafficking routes. Nevertheless, a proportion of the heroin shipped on the Northern route may eventually enter the EU through Poland and the Baltic countries, but also from Ukraine to Hungary, Romania and Slovakia. Some heroin seized in Belarus, Romania and Ukraine in the last few years was reported as originating from Central Asia and intended for western European markets.

Heroin trafficking within the EU

Once smuggled into the EU via the trafficking routes described above, heroin is then distributed to consumer markets. The Netherlands, in particular, and to a lesser extent Belgium, Bulgaria, France, Greece and Spain, appear to be important hubs for heroin trafficking within the EU, as these countries are the most frequently reported as origin or transit points for heroin shipments seized in other EU Member States. The heroin supply to the Baltic and Nordic countries is mostly secondary distribution from the main distribution hubs in the EU. The Øresund Bridge connecting Denmark and Sweden is the main transit point for heroin en route to the Nordic countries.

Available data suggest that, in terms of absolute numbers of users, the five main heroin markets are the United Kingdom, France, Italy, Germany and Spain. Therefore, large quantities of heroin are likely to be smuggled to these countries in order to meet demand (estimated to be about 115 tonnes at street-level purity in 2017). Within the EU there was an overall drop in both numbers of seizures and quantities of heroin seized around 2010 to 2012. Since then, seizures in the EU have largely stabilised, with 37 000 seizures amounting to 5.4 tonnes reported in 2017 (Figure 4.9). Heroin flows within the EU are influenced by factors including drug supply reduction activities and by changes in consumer markets.

Figure 4.9
Heroin seizures in the EU, 2007-17: number of seizures and quantity seized



Estimates suggest consumer markets for heroin are generally stable, with only limited fluctuation in the number of users in the short term. However, for a number of reasons these estimates may not give a particularly robust indication of consumption totals; for example, it is difficult to estimate the impact on consumption of the considerable expansion in substitution therapy that has been seen. Other indicators of heroin use also suggest an ageing population with low levels of new recruitment and high levels of service contact in most countries. The drop in the number of seizures after 2010 is difficult to explain. A heroin drought was reported in many countries at this time and linked to major law enforcement successes in Turkey. Consequently it is possible that law enforcement priorities may have changed because of greater emphasis on migration and terrorist-related activities. It is also possible that trafficking routes may have developed in ways that reduced the effectiveness of interdiction efforts. Seizures in Turkey and in countries along trafficking routes into the EU also need to be considered in an overall assessment of seizure dynamics as well as the long-term trend in heroin use in the EU.

Following a period of decline from 2009 to 2012, the amounts seized in the EU have remained stable at about 5 tonnes a year, apart from a spike in 2014 linked to a few very large seizures that year in Greece. The total amount seized yearly (5.4 tonnes in 2017) is less than 5 % of the amount estimated to be consumed (149 tonnes in 2017) in the EU. This ratio is much lower than for the other drugs considered in this report. The difference is difficult to explain and suggests a need to better understand the relative impacts of drug seizures on the markets for different drugs in Europe. Despite increases in heroin production, availability and use do not seem to be increasing strongly in Europe. This can be seen, for example, in the relative stability of price and purity estimates and in data from drug treatment reporting systems.

Organised criminal groups involved in heroin trafficking

Trafficking and distribution of heroin is a mainstay activity for some specific OCGs, which rely on well-established routes, contacts and infrastructure in the EU.

Overall, a two-tier structure in the heroin trade in the EU remains prevalent. Europol intelligence suggests that Turkish OCGs continue to be the main importers and facilitators of heroin distribution in key regions of Europe as they orchestrate the wholesale supply of heroin and maintain control over various links in the supply chain, including key connections to suppliers in production countries. They have established legal businesses in key locations along the trafficking routes in Bulgaria, Germany, Hungary, the Netherlands, Romania, the United Kingdom and Western Balkan countries, in order to facilitate their smuggling activities. Nevertheless, Turkish OCGs may also outsource some activities, such as the transportation of heroin from source countries to the EU, the laundering of criminal profits or the perpetration of violent crime. For example, Iranian OCGs manage shipping and transportation companies used to traffic heroin, while Turkish OCGs typically manage front businesses used to receive the heroin shipments. Turkish OCGs have also gradually expanded their activities to other drugs such as cocaine and synthetic drugs (see Case study 19, page 113).

Other OCGs are also engaged in heroin distribution in specific geographical areas and sometimes perform specific roles. They are often also engaged in trafficking of other drugs. As noted above, the Netherlands appears to be one of the hubs for heroin distribution in the EU. Dutch OCGs cooperate extensively with other crime groups. They receive shipments of heroin, and store them for further

distribution to final destination markets in different parts of the EU. Dutch OCGs are also involved in the diversion of acetic anhydride and have set up heroin-processing laboratories in the Netherlands (see section on opioid production in Europe above).

For many years, Albanian-speaking OCGs have also been identified as being involved in the supply and distribution of heroin in the EU, controlling sections of the Balkan route. Albanian-speaking OCGs, as well as Serbian and Bulgarian groups, procure heroin from Turkish OCGs and cooperate with other EU-based crime groups. Recently they appear to have been expanding their involvement in heroin distribution in EU Member States, especially the United Kingdom, and becoming more involved with local distribution. In some cases, they have displaced other players, including Turkish OCGs, in wholesale heroin distribution (Saggers, 2019).

Pakistani, Dutch and British OCGs have also been linked to large-scale drug-trafficking activities in some EU countries. Pakistani and British OCGs appear to jointly orchestrate large-scale importation of heroin to the United Kingdom. Pakistani OCGs are also active in Spain, directing the importation of heroin arriving in the EU in containers, and they also provide money-laundering services to heroin traffickers (Boerman et al., 2017).

African OCGs also have some involvement in heroin trafficking and distribution in the EU. West African OCGs, especially Nigerian groups, continue to be involved in importing and distributing heroin in the EU, relying on couriers travelling from Africa to major EU airports. In particular, they play a role in the heroin trade in northern and, to a lesser extent, western Europe. It should also be noted that Nigerian OCGs cooperate with OCGs composed of nationals from Ghana, Senegal and The Gambia, as well as Morocco and Tunisia, in the local distribution of heroin in some Member States. Moroccan OCGs based in some EU countries are involved in the cutting and repackaging of heroin, as well as its retail distribution (Boerman et al., 2017).

Some of the profits obtained from the distribution of heroin in the EU need to be transferred to the suppliers in the production regions, as well as the Turkish and Iranian OCGs that orchestrate the importation of heroin into the EU. Proceeds from heroin distribution in the EU are typically laundered using trade-based money-laundering schemes. In many cases, these profits are also smuggled outside the EU using cash couriers or relying on the hawala system. Hawala is a commonly used informal value transfer system used in heroin source regions (see Chapter 1, section on money laundering). Heroin also continues to be used as means of payment between OCGs bartering various types of drugs. As part of these deals, heroin is exchanged for acetic anhydride, cannabis, synthetic drugs and cocaine trafficked to destinations outside the EU (see Case study 19, page 113).

Synthetic opioid trafficking and distribution

The production of synthetic opioids in the EU is uncommon. Most synthetic opioids distributed in the region appear to originate outside Europe. An important caveat here is that the diversion of opioids intended for therapeutic purposes is a known problem, but the extent of this problem is currently unclear (Table 4.2). The trafficking of fentanyl derivatives is a particular recent concern for the EU due to the potency of these substances and an increase in the number and quantity of seizures as well as an increase in the number of poisonings associated with these substances.

The distribution of illicitly produced fentanyl derivatives in the EU can be viewed as two separate phenomena. On the one hand, fentanyl derivatives originating from Russia are trafficked for distribution in Baltic and, to a lesser extent, Nordic countries. On the other hand, fentanyl derivatives originating from China are often purchased throughout the EU via online platforms on the surface web and the darknet.

The trafficking of fentanyl and derivatives from Russia is undertaken primarily by OCGs with ties to Russian-speaking diaspora communities based in the destination countries. These substances tend to be of lower quality than those available through online distribution and are primarily intended for distribution on the Estonian market,

Table 4.2
Selected synthetic opioids seized in the EU, 2017

Opioid	Number of seizures	Quantity				Number of countries
		Kilograms	Litres	Tablets	Patches	
Methadone	1 428	17.2	26.4	30 381	–	18
Buprenorphine	2 649	0.5	0.01	58 682	–	17
Tramadol	4 290	13.8	0.1	118 935 898	–	11
Fentanyl derivatives	940	14.3	1.9	10 551	2 291	13

where fentanyl has replaced heroin as the main opioid consumed since 2001. In recent years, there has been an increase in the availability of fentanyl derivatives on neighbouring markets, especially Latvia and Lithuania as well as Sweden, where action has now been taken to tackle the issue (see Chapter 9).

China is a large-scale producer of synthetic opioids, particularly fentanyl derivatives, supplying large drug markets in south-east Asia and North America. China is also the main supplier of the synthetic opioids distributed in the EU via the surface web and the darknet. China has recently introduced some control measures, including some generic measures targeting fentanyl derivatives. The future impact of these measures on Europe will need to be evaluated. It is currently difficult to establish trafficking routes for fentanyl derivatives and identify countries of origin, transit and destination with any degree of certainty. However, it seems that fentanyl derivatives from China are trafficked to the EU either in bulk, and then redistributed by EU-based vendors in various Member States, or in smaller quantities directly supplied to users of online platforms. However, it appears that such shipments frequently come through key logistics hubs in the EU prior to arriving at their final destinations. Although the problem of synthetic opioids in the EU is much less severe than the opioid crisis in North America, the potency of fentanyl and its derivatives means that even relatively small-scale suppliers can have a significant harmful impact. This therefore remains an area requiring vigilance and requires some precautionary measures. The high potency of some of these substances can mean that they pose a risk, not only to those who use them, but also to family members, first responders or law enforcement or other professional groups who may come into contact with them.

Other opioids are also distributed within the EU, in some cases for use outside the region. For example, shipments of the synthetic opioid tramadol in transit to Africa have repeatedly been seized in Cyprus, Greece and Italy over the last few years, as reported in numerous media reports. Another synthetic opioid, buprenorphine, has been misused in Finland for many years, and the trafficking of this medicine via Lithuania to Finland is believed to have increased recently. Most of the buprenorphine misused in Finland is believed to originate in France. In December 2017 a Europol-supported operation dismantled a trafficking ring, which smuggled high-dose buprenorphine tablets (Subutex) from France to Finland in significant quantities.

In addition to production outside the EU or in the EU for the illicit market, medicinal products containing synthetic opioids, such as tramadol (see box 'Tramadol'), are known

Tramadol

Tramadol is a synthetic opioid analgesic widely used in human and veterinary medicine to relieve pain. Medicines containing tramadol are authorised in a large number of countries. In recent years, concerns have been raised both about the diversion and misuse of tramadol as a medicine and about its illicit production and sale as unlicensed and fake medicines on the drug market.

Tramadol's main mechanism of action is as an opioid, but other actions are thought to contribute to its pain-relieving effects. Overdose can cause acute opioid poisoning (such as respiratory depression), seizures and serotonin syndrome. It can also cause dependence and withdrawal.

Medicines containing tramadol are marketed in a range of formulations, such as tablets or capsules, sublingual drops, intranasal spray and injectable solutions. Globally, tablets and capsules are the most commonly used and easily available formulations. Oral formulations contain between 50 mg and 300 mg of tramadol. Alongside these legitimate products, a range of unlicensed and fake tramadol medicines, especially tablets and capsules, have appeared on the market in recent years. Some of these contain high doses, up to 500 mg of tramadol (WHO, 2018).

India appears to be one of the main producers of tramadol for use in medicines. Some of this is exported to other countries as finished pharmaceutical products; in other cases the bulk powder (hydrochloride salt) is exported and used to make the final products locally.

Both the licit and illicit markets for tramadol in some Middle Eastern and African countries appear to be large. A record amount of 125 tonnes of tramadol seized in 2017 combined with several studies and estimates highlight the increasing misuse of this substance in some regions. According to the World Drug Report 2019, most of the tramadol available on the illicit markets in Middle East and Africa is believed to have been produced in illicit laboratories in South Asia and only a small amount appeared to have been diverted from the market for medicines. However, the situation may be changing rapidly. This requires active monitoring to improve our understanding of the market.

Although tramadol is not currently under international control, some countries have controlled it over concerns about its potential to cause harm. These include India, which controlled the substance in 2017 (Government of India, 2018).

to be diverted from legitimate supplies and misused in some Member States. Synthetic opioids are key active ingredients in many legal pharmaceutical products prescribed and sold in the EU and come in a variety of forms, including tablets, patches, sprays or lozenges. In some countries, such as France, the diversion of these products, such as methadone or buprenorphine, is reported to be the main source for their illicit drug markets. Other Member States, including Latvia, reported an increase in the abuse of pharmaceutical products containing fentanyl in the early part of 2017. The pharmaceutical products containing fentanyl diverted from legal supply that are most commonly seized are patches, sprays and lozenges.

Many of the new synthetic opioids notified to the EU Early Warning System on new psychoactive substances are fentanyl derivatives. Occupational exposure to some synthetic opioids, especially fentanyl derivatives, is potentially dangerous for law enforcement officers. Law enforcement personnel could encounter synthetic opioids in a range of operational settings and they should be trained to recognise the signs of poisoning and how to respond to such a situation. This may include training in first aid, including basic life support and how to use the antidote naloxone.

Because of their high potency and therefore potential presence in very small quantities, certain synthetic opioids may be difficult to detect using some of the routine analytical methods and techniques currently used by forensic laboratories. Sniffer dogs can be trained to detect synthetic opioids, including fentanyl derivatives, and have been successfully used by law enforcement authorities for that purpose in some Member States, such as Estonia.

Retail supply and use

The consumer market for heroin

In Europe, the most common illicit opioid sold on the market is heroin. Most frequently, heroin is smoked, inhaled or injected.

Obtaining information on the number of users and the amount of heroin they use is challenging, firstly because people who use heroin are mainly dependent on the drug, living on the margins of society and unlikely to be included in surveys of the general population. Wastewater analysis, another source of information on drug use, cannot be performed for heroin because morphine, the most abundant metabolite of heroin, which can be used as a target residue to estimate heroin consumption, may also be an indicator of the commonly used medicines morphine and codeine.

Many other potential indicators of heroin use have some time lag. For example, the mean age of opioid users entering treatment for the first time in the EU is 34, while the mean age for first-time use is 22. Therefore, treatment indicators will identify opioid users only after approximately 12 years of use, and the number of opioid users entering treatment could be influenced by financial priorities or by EU Member States modifying the laws governing this activity.

Nevertheless, a number of indirect methods for obtaining estimates of the extent of use of opioids are available. The prevalence of high-risk opioid use among adults (aged 15-64) is estimated at 0.4 % of the EU population, the equivalent of 1.3 million high-risk opioid users in 2017, of which three quarters (77 %) were reported in the five most populous countries in the EU (France, Germany, Italy, Spain and the United Kingdom). However, there is considerable variation between countries; prevalence estimates of high-risk opioid use range from less than one to more than eight cases per 1 000 population aged 15-64. Synthetic opioids now account for 22 % of all primary opioid clients and, in some countries, non-heroin opioids represent the most common form of opioid use among specialised treatment entrants (EMCDDA, 2019b).

In most countries, it appears that the number of people who use heroin is quite stable. However, as discussed in the introduction to this chapter, the use of heroin is associated with a disproportionate amount of drug-related harms. Although the number of people reporting use of the drug is quite low compared with drugs such as cannabis and cocaine, a large proportion of people who use heroin are dependent on the drug; this means that they use it more frequently and in larger amounts than is the case for other drugs. This is reflected in the estimated size of the market — a minimum of EUR 7.4 billion (range EUR 6.4 billion to EUR 9.1 billion) in the EU in 2017. In terms of quantity, this is equivalent to at least 149 tonnes of heroin at street-level purity (range 127 to 181 tonnes) (EMCDDA, 2019a).

Most of the people who use heroin and other opioids buy their drugs on the traditional illicit market rather than online. These offline illicit drug markets in the EU evolve over time, and there are some general changes in these markets that also apply to the heroin market. For example, in the United Kingdom heroin is one of the main drugs now supplied through the county lines highlighted in Part I of

the report, by which OCGs in the big cities supply drugs to smaller towns. People dependent on heroin as well as young people from disadvantaged urban centres are frequently exploited and coerced into participating in this form of supply.

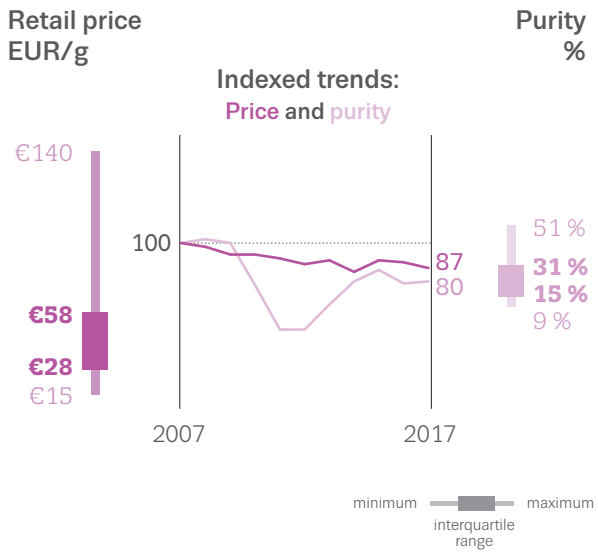
In general, the retail price is viewed as a marker of availability relative to demand. However, in an illicit drug market, where there are no quality controls and many users are dependent on drugs, the picture may be more complex and the market may react in other ways to supply problems. For example, purity may be reduced or users may seek substitute drugs, which may be one driver of the diversification of opioids on the market reported in this chapter. Among those countries that consistently report price and purity data, indexed trends suggest that, following a sharp decrease between 2009 and 2011, when several EU countries reported heroin shortages and dealers appeared to react by lowering purity rather than changing price (EMCDDA, 2015), heroin purity increased rapidly before stabilising in recent years. In contrast, overall the retail price of heroin has been declining slightly over the last decade. However, price and purity vary widely, both within and between countries (Figure 4.10).

As indicated in the section on adulteration above, the cutting agents most commonly used for heroin are caffeine and paracetamol.

Online distribution

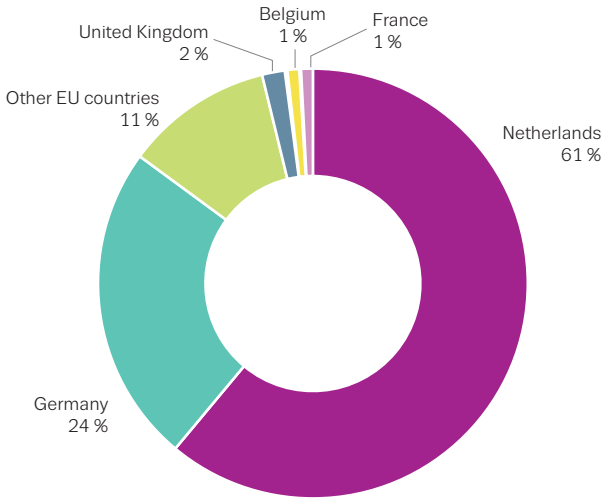
Heroin is also distributed across the EU via darknet marketplaces (see Chapter 2). The quantities offered are typically small, and purchases are typically delivered using post and parcel services. Although the online trade in heroin (and other drugs) remains marginal compared with traditional, offline supply, it is important to understand its scope. Based on 2018 data from several major darknet markets ([12]), we detected a total of 1 855 listings (sale offers) that could be attributed to vendors that said they would ship heroin from an EU country. These offers were distributed across three marketplaces: Dream Market (1 722), Berlusconi Market (110) and Olympus Market (23). The available data suggest that the majority of these sale offers during 2018 originated from the Netherlands (61 %) and Germany (24 %). Other reported EU origin countries included the United Kingdom (2 %) and France and Belgium (1 % each). An additional 11 % of heroin listings did not specify a country but indicated Europe as a shipping origin (Figure 4.11).

Figure 4.10
Indexed trends in price and purity of heroin



Note: Price and purity of 'brown heroin': national mean values — minimum, maximum and interquartile range. Countries covered vary by indicator.

Figure 4.11
Proportion of heroin listings on major darknet markets by EU Member State, 2018



Caution is needed in interpreting these data in respect of gauging of the number of individual sellers offering heroin on these marketplaces or the number of transactions — neither of which can be extrapolated from the number of listings alone. Nonetheless the number of listings has been used as a valid indicator of the scope of activity on darknet markets.

As indicated above, there is also a limited online retail market for opioids, mainly synthetic opioids (see also Chapter 7).

([12]) For more information on the data source and its limitations see the section on darknet monitoring in Chapter 8.

5

Photo: Anti-narcotics Directorate of the Colombian Police

CHAPTER 5

Cocaine

Key points

Europe's growing cocaine problem

▶ Cocaine is the second most commonly consumed illicit drug in the EU. The estimated minimum retail value of the cocaine market was EUR 9.1 billion in 2017. Survey estimates suggest that about 4 million adults in the EU have used cocaine in the past year. Although cocaine use is concentrated in western and southern Europe, use elsewhere appears to be increasing.

▶ Seizures in the EU are at record levels, reaching 104 000 seizures amounting to 140 tonnes in 2017. In addition, data indicate that cocaine seized at the wholesale level in Europe is of high purity, often above 85 %, suggesting that cocaine availability in Europe is currently high.

▶ Recent production estimates are similarly high. Coca cultivation and cocaine production in the Andean region have increased dramatically, the latter approaching 2 000 tonnes in 2017. Colombia accounts for the largest share of this total. The knock-on impact of this has been intensified trafficking to Europe.

▶ A wider range of OCGs now appear to be involved in the European cocaine market. Colombian and Italian OCGs historically played a central role in the production, trafficking and distribution of cocaine, but other groups are becoming more significant, including Albanian-speaking, British, Dutch, French, Irish, Moroccan, Serbian, Spanish and Turkish OCGs, resulting in increased competition.

▶ More European OCGs have now established a presence in Latin American countries. This permits a new 'end-to-end' business model for managing the supply chain, allowing the purchase of large quantities of cocaine near to production areas at lower costs. This could also be a factor driving competition and conflict within the cocaine market.

▶ Cocaine market-related corruption and violence are a growing problem within the EU. Historically, they were most prominent outside European countries. Now increased competition among OCGs appears to be driving higher levels of violence within the EU as well as fuelling corruption around some trafficking hubs, particularly in large European ports.

Expanding production and trafficking

▶ The EU is a potential source of a range of precursors and other chemicals for cocaine production. Attempts to divert the main cocaine precursor, potassium permanganate, from the EU have been observed recently and there have also been significant seizures in Europe of other chemicals used in cocaine production, such as sodium metabisulfite and calcium chloride.

▶ Cocaine-manufacturing processes in South America are becoming more efficient. Innovations in production allow cocaine hydrochloride to be produced in larger amounts at a time.

▶ The use of shipping containers for trafficking means that seizures of large quantities of cocaine at ports are now common. For example, large seizures are reported at the ports of Antwerp in Belgium and Algeciras in Spain, and in vessels bound for Europe at foreign ports, usually in Colombia and Brazil. Maritime containers continue to be the main mode of transport used to smuggle cocaine into Europe, and quantities per container appear to have increased. However, other trafficking methods remain important.

▶ The global market for cocaine appears to be growing, use is increasing in countries where previously it was uncommon, including some large developing countries. As a result, the EU appears to be increasingly used as a transit area for cocaine destined for other markets such as Australia, New Zealand, Russia, Turkey and countries in the Middle East and Asia.

▶ North Africa appears to be emerging as a more significant transit and storage hub for air and maritime shipments of cocaine destined for the EU and possibly other markets.

▶ The Netherlands, Belgium and Spain are the main entry points and distribution hubs for cocaine in the EU. From these locations, cocaine is distributed to other parts of Europe, mostly by road in lorries, although personal vehicles and, increasingly, post and parcel services may be used to move small consignments rapidly.

▶ Cocaine distribution at the local level in Europe is generally conducted by domestic OCGs. In some countries, Albanian-speaking, Moroccan and West African OCGs as well as outlaw motorcycle gangs also play a role.

▶ Digital technologies, including darknet markets, social media and mobile phone apps, are increasingly enabling the retail cocaine market. Innovation in the supply chain at the consumer level is suggestive of both high availability and attempts by OCGs to increase market share.

Implications for action to address current threats and increase preparedness

In order to respond more effectively to developments in the cocaine market there is a need to take the following actions.

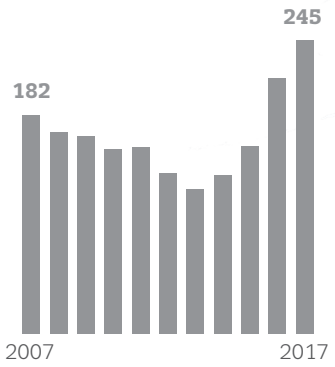
- Increase capacity to perform routine forensic profiling of cocaine seized at key points of entry in Europe, from dismantled cocaine production sites, and in forms requiring processing within the EU. It is also necessary to strengthen capacity to report on existing indicators on cocaine availability.
- Give greater priority to assessing and countering the threat posed by changing OCG business models, including European OCGs establishing a presence in South American countries and non-European OCGs becoming active within Europe. This requires greater cooperation with Latin American and Caribbean countries, including capacity building at key port facilities; intelligence sharing within the EU and with external partners; and investment in targeted operations along the supply chain.
- Continue to invest in intelligence sharing and joint maritime initiatives and operations in the Atlantic Ocean and Mediterranean Sea.
- Strengthen intelligence gathering and the collection of data at large container ports to inform both operational targeting and strategic planning. Measures are also needed to strengthen capacity through the sharing of best practice and delivery of specialised training.
- Recognise the growing importance of North Africa, particularly Morocco, in cocaine trafficking to Europe, and the greater involvement of Moroccan OCGs in the wholesale and distribution levels of the EU market. This requires proactive engagement with partners in the region and assessment of the implications for law enforcement of the links between the cannabis and cocaine markets.
- Support awareness raising and engagement among stakeholders, including business, labour representatives and local communities, to help counter the corruption that is inherent in smuggling methods used at ports and transportation hubs.
- Develop strategies to anticipate the displacement of smuggling through secondary ports or smaller airports. This requires targeted risk assessment and the development of preventative measures scalable to the potential vulnerabilities of different locations.
- Raise awareness and develop preventative approaches to reducing the recruitment of vulnerable individuals in the drug market, for example as drug couriers.
- Better understand and document the links between the retail cocaine market, localised violence, gang membership and young people's recruitment into crime, and share experiences of what measures may reduce these problems.

Cocaine overview

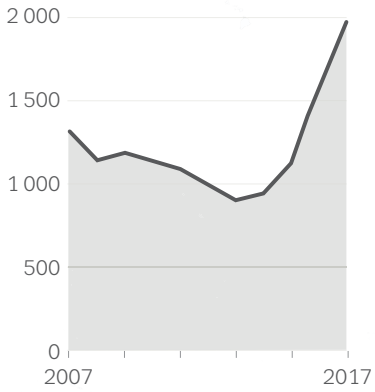
Global

World
18.1 million
Estimated number using cocaine in the last year aged 15-64

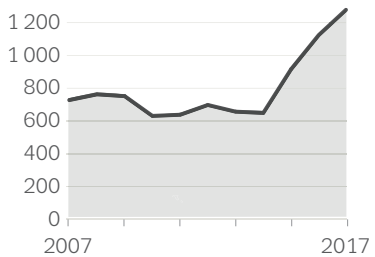
Estimated coca bush cultivation (thousand hectares)



Estimated cocaine production tonnes, 100 % purity



Global seizures of cocaine (tonnes)



Wholesale price at key locations (EUR/kg)

*Mean **Mode ***Min-Max

Producer countries

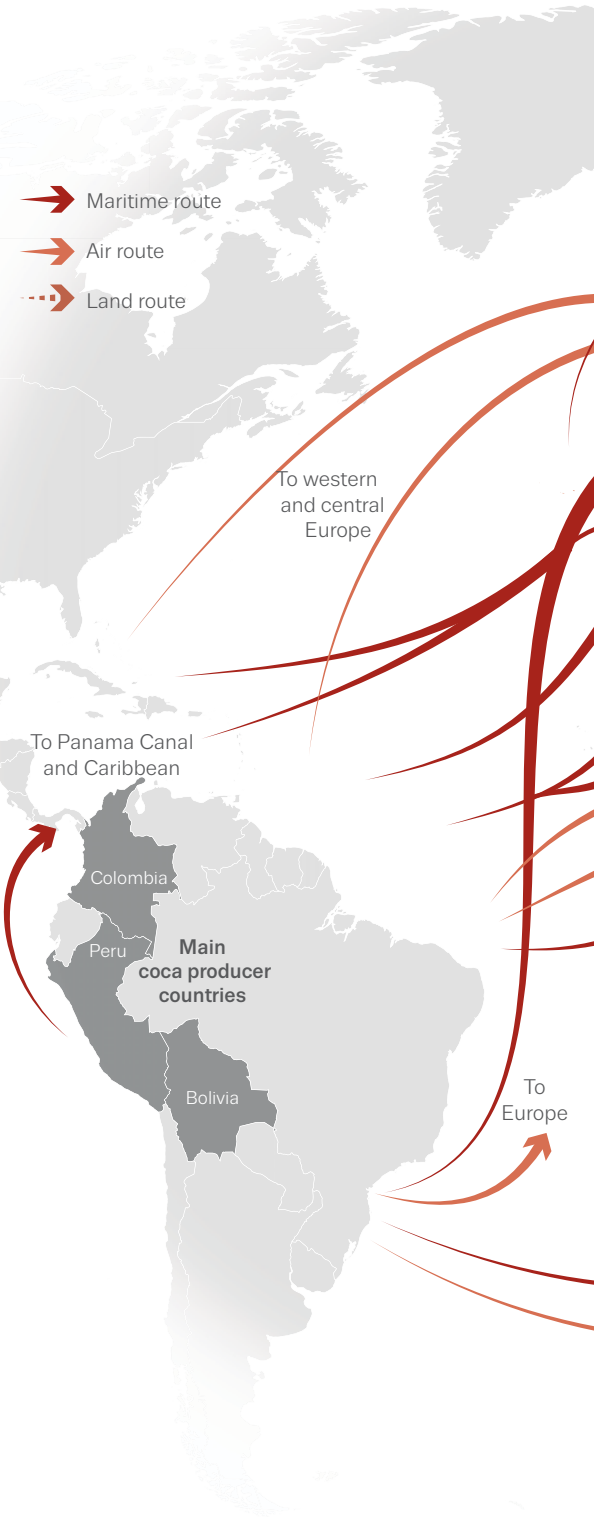
Colombia**	1 354
Peru**	1 808
Bolivia**	2 250

Selected transit locations

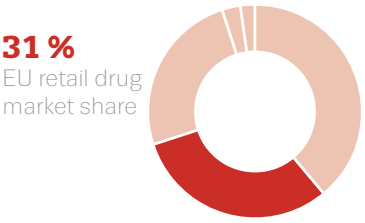
Paraguay**	3 240
Dutch Antilles*	4 000
Jamaica***	7 100-8 520
Uruguay**	7 200
Nigeria***	35 800 38 827
Morocco**	73 998

Selected European markets

Netherlands*	25 000
Belgium*	28 650
Spain*	35 415
Norway*	37 773
Slovenia**	40 000
Italy*	40 918
Poland**	50 000
Slovakia*	70 000



Europe

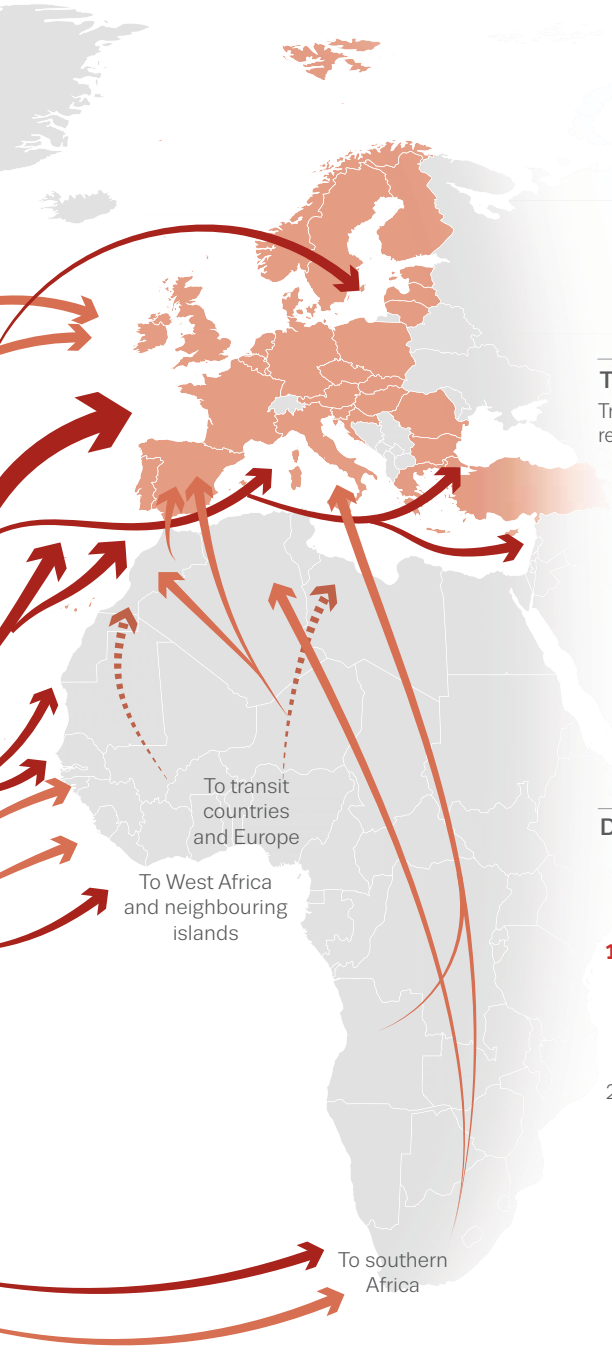


31 %
EU retail drug market share

EU
4.0 million

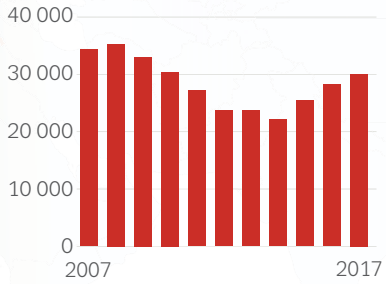
2.6 million young adults (15-34)

Estimated number using cocaine in the last year aged 15-64



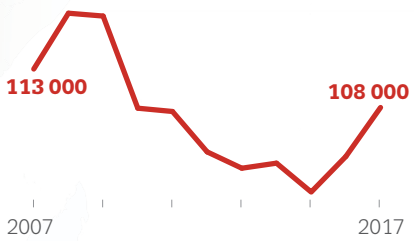
Treatment

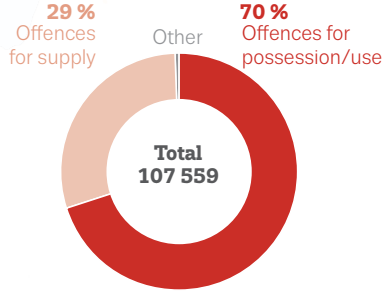
Trends in first-time entrants for problems related to cocaine



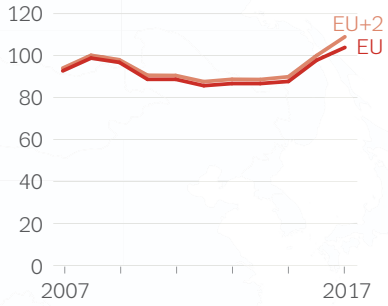
Data for 23 EU Member States.

Drug law offences related to cocaine

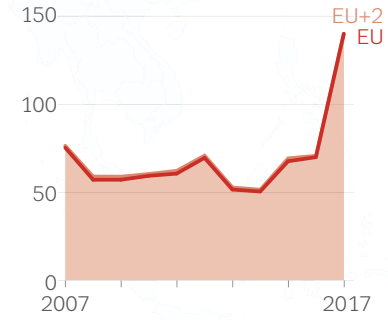




Number of seizures (thousands)

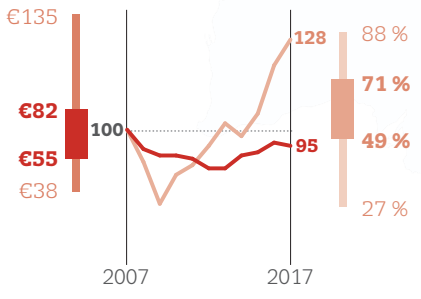


Quantity seized (tonnes)



Retail price (EUR/g) — Purity (%)

Indexed trends: Price and purity



minimum — interquartile range — maximum

Introduction

Cocaine is Europe's most commonly used illicit stimulant drug, but its consumption is most prevalent in the south and west of Europe. It is estimated that 18.0 million adults in the EU (aged 15-64), or 5.4 % of this age group, have tried cocaine during their lives. Among these are about 4 million who have used the drug in the last year. Cocaine is used in two main forms (see box 'Cocaine'). Cocaine powder is primarily sniffed or snorted, but is also sometimes injected, and the freebase form of the drug, crack cocaine, is usually smoked. Most use is of cocaine powder, comparatively infrequent — but a small proportion use it more frequently and may experience more serious problems. There are also a few countries in which there are small groups of people who use crack cocaine in a more harmful way, often in conjunction with heroin.

The minimum estimated value of the retail market for cocaine in the EU in 2017 was EUR 9.1 billion (range EUR 7.6-10.5 billion). This represents almost a third (31 %) of the total illicit market in drugs and makes it the second largest, after cannabis. This suggests that in 2017 about 119 tonnes of cocaine was consumed, with a likely range of 100 to 137 tonnes.

Recently, data from a range of sources have suggested that cocaine use and associated harms may be increasing in Europe. For example, surveys in those countries that can provide long-term trends suggest rates of cocaine use have stabilised or increased (EMCDDA, 2019b). These patterns are also reflected in data on people entering treatment; after a period of decline, the number of treatment entrants for cocaine increased by over 35 % between 2014 and 2017.

The health harms associated with regular cocaine use include dependence, heart and mental health problems, and an increased risk of accidents. Harms may be exacerbated when cocaine is used in conjunction with alcohol. Cocaine injection and the use of crack cocaine are associated with the greatest health risks. There were an estimated 1 220 cocaine-related deaths in 2016, or one in seven of all drug-related deaths that year in the 28 EU Member States, Norway and Turkey (EMCDDA, 2018b). This was a significant increase from the 800 cocaine-related deaths reported in 2013. Most of these deaths were attributed to drug overdose, with other substances also being detected in many cases, primarily opioids.

Cocaine is trafficked to Europe from the producer countries of South America by both air and sea using a range of methods and routes. The largest amounts of cocaine may now be smuggled into Europe hidden in cargo ships, especially in maritime shipping containers, departing South America, particularly from Brazil, Colombia, and Ecuador, and destined for large European ports, such as Antwerp and Algeciras. Another frequently used route, involving other forms of sea transport, appears to involve transit through the Caribbean or West Africa, including the islands off the coast of West Africa. In addition, North Africa appears to be emerging as a significant transit area. Cocaine enters Europe mainly through western and southern countries.

In 2017, the highest ever amount of cocaine, 140 tonnes, was seized in the EU. Belgium and Spain together were estimated to account for about 60 % of the total.

Cocaine

Cocaine is a natural product extracted from the leaves of *Erythroxylum coca* and *Erythroxylum novogranatense*. These tropical shrubs are cultivated widely in the Andean-Amazonian region, and are the only known natural source of cocaine ([1]), which is produced almost exclusively in Bolivia, Colombia and Peru. Cocaine has been used as a central nervous system stimulant since the early years of the 20th century.

In Europe, cocaine is available in two forms. The more common is cocaine powder (a hydrochloride salt). Less commonly available is crack cocaine, a smokeable (freebase) form of the drug. The crack cocaine available in Europe is typically manufactured from cocaine hydrochloride near to where it is retailed and used. Therefore, cocaine in crack form generates very little cross-border or long-distance trafficking.

([1]) It is possible to obtain synthetic cocaine by various methods, but this is rare and is less economical than the extraction of the natural product.

Global overview

In the three countries in which coca cultivation is almost exclusively concentrated, Bolivia, Colombia and Peru, coca leaves play a significant cultural role. In Bolivia and Peru, some growing of coca is permitted to supply licit domestic consumer markets for leaves and to supply de-cocainised flavouring agents to international manufacturers of soft drinks, which complicates efforts to control cocaine production.

The extraction of cocaine alkaloids from the coca leaves also takes place almost exclusively in the three coca

producer countries, which also account for the majority of the global production of cocaine hydrochloride. However, some cocaine-processing laboratories have been detected in other South American countries and elsewhere, including Europe (see section on cocaine production in Europe), and globally about 8 000 cocaine-type laboratories were reported to have been dismantled in 2017 (UNODC, 2019a).

The majority of cocaine users are found in North and South America and western and central Europe. Global prevalence rates are estimated to have increased between 2012 and 2017. Prevalence of use is particularly high in North America (especially in the United States), Oceania (especially Australia), and western and central Europe (Spain, the United Kingdom and the Netherlands); a potential increase in cocaine use is reported in West Africa and Asia in 2017 (UNODC, 2019a).

Global seizures of cocaine reported by UNODC totalled 1 275 tonnes in 2017, the highest quantity ever reported (UNODC, 2019a).

Figure 5.1
Colombian police operation against facilities producing coca paste, Caucasia, Antioquia, April 2019

Photo: Anti-narcotics Directorate of the Colombian Police

Coca and cocaine production

Recent trends in coca production

In the period 2014-17, the South American cocaine supply chains witnessed some changes, particularly with respect to the estimated areas under coca bush cultivation and the methods used to illicitly manufacture cocaine (Figure 5.1).

In 2017, global coca bush cultivation was estimated to have increased for the third consecutive year to reach 245 400 hectares (UNODC, 2019a), its highest level ever. This represents an increase of 15 % compared with 2016. The 2017 increase in the global coca acreage was due to increases in each of the three Andean producer countries, but the largest increase (17 %) took place in Colombia. As a result, in 2017 Colombia accounted for about 70 % of estimated global coca cultivation, Peru for about 20 % and Bolivia for about 10 % (UNODC, 2019a). The latest crop monitoring information available indicates that coca cultivation decreased slightly in Colombia in 2018 (UNODC, 2019d).

The increases in coca production in the three Andean countries are likely to be explained by the interplay of multiple factors. In Colombia, the main explanations are reported to be the suspension of eradication by means of aerial spraying of herbicides on coca crops; a reduction in alternative development programmes; the signing of a free trade agreement with the United States that made licit Colombian agricultural products less competitive; and an increase in new planting of coca by farmers seeking to benefit from compensation for stopping coca cultivation under the peace agreement signed between FARC and the government in 2016 (UNODC, 2018a).

The peace accord also had an impact on the Colombian criminal landscape linked to coca production. FARC had limited involvement in international cocaine trafficking but played a key role in the production of coca leaf in Colombia until 2017. Then the peace agreement led to the emergence of various FARC splinter groups and networks that took control of some coca cultivation regions for their own benefit. Some former and current insurgent groups thus remain involved in the cocaine trade. For instance, the National Liberation Army is increasingly exerting control over territories and cultivation operations previously dominated by FARC. This is reminiscent of the events following the demobilisation of paramilitary organisations in 2006, which led to the fragmentation of large paramilitary/criminal groups and the emergence of smaller gangs known as *bandas criminales* ('bacrim'), which took over cocaine production and trafficking activities in Colombia (Schultze-Kraft, 2016).

Recent trends in cocaine production

The increase in coca cultivation has resulted in a parallel increase in cocaine production, which the UNODC estimates at 1 976 tonnes in 2017, an all-time high (UNODC, 2019a) (see Cocaine overview, pages 128-129). More recent estimates of cocaine production for 2018, in Colombia only, at 1 120 tonnes show a 6 % increase compared with 2017 (UNODC, 2019d).

Larger harvests of coca leaves have contributed to the dramatic increase in estimated global cocaine production. In addition, there is evidence of increased optimisation of cocaine-manufacturing processes. A recently identified trend is the use of 'reoxidised base', which involves the standardisation of the oxidation level of cocaine base produced in different locations before it is processed into hydrochloride (INCB, 2018). Another recent development, which could be linked to it, is the processing of larger batches of cocaine base into hydrochloride, whereas previously hydrochloride was produced 1 kg at a time. This latter development may make it more difficult, or even impossible, to generate strategic intelligence by comparing seized cocaine by means of forensic analysis (Mallette et al., 2018).

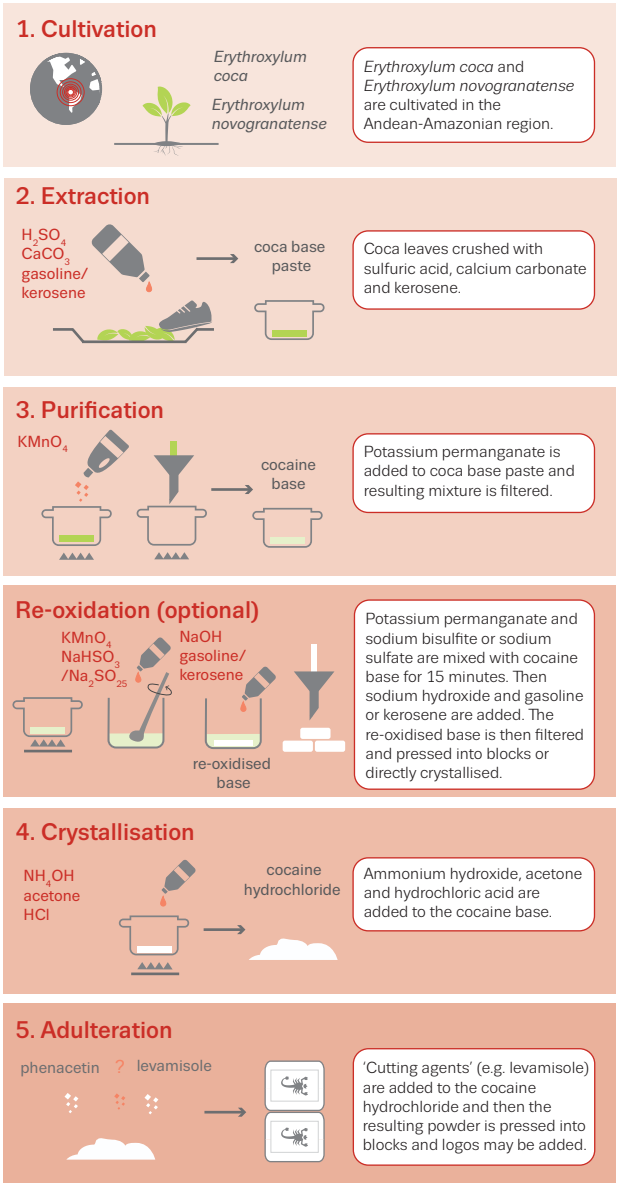
Cocaine laboratories and cocaine precursors

Most cocaine manufacture takes place in Bolivia, Colombia and Peru (see box 'Profiling of cocaine seized in Europe'). Together these countries are home to the majority of reported dismantled cocaine laboratories. However, there is also evidence that some cocaine hydrochloride is refined elsewhere in South America, further along the trafficking routes, and perhaps in Europe.

Potassium permanganate is an essential chemical in the illicit manufacture of cocaine, mostly used as an oxidising agent to turn coca paste into cocaine base (see Figure 5.2). It is listed in Table I of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988 (United Nations, 2017). Efforts to control trafficking in potassium permanganate are complicated by the fact that it is a chemical used extensively by industries throughout the world, for instance in drinking water treatment. According to the INCB, more than 25 000 tonnes was traded internationally in the November 2017 to November 2018 reporting period. Imports to the three main coca-producing countries accounted for 1.4 % of this (INCB, 2019).

Global seizures of illicit potassium permanganate increased dramatically in 2016, to a record-breaking 585 tonnes, before decreasing sharply to 103 tonnes in 2017 (see Figure 5.3) (INCB, 2018, 2019). The 2016 total is much greater than the estimated minimum of 319 tonnes required to manufacture the quantity of cocaine estimated produced globally that year. Colombia accounted for 99 % and 96 % of the total seizures in 2016 and 2017, respectively, and the major sources of these were diversion from domestic licit trade and illicit manufacture in clandestine facilities (INCB, 2018, 2019). Illicit manufacture of potassium permanganate using chemicals such as manganese dioxide and potassium manganate is a fairly long-standing phenomenon in

Figure 5.2
The cocaine production process

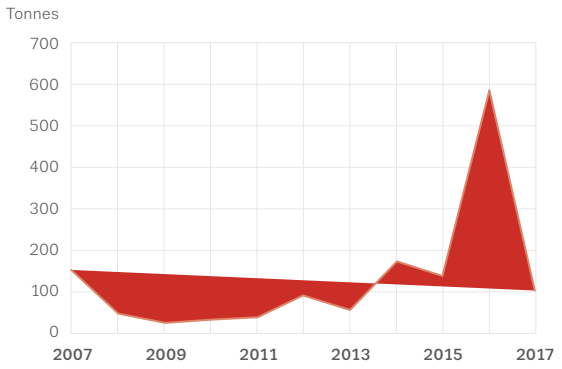


Note: This illustration is intended to provide an indicative schematic overview of selected stages of a production process. It must be noted that alternative methods, chemicals and procedures may be used.

Colombia, where, in 2016, 14 illicit potassium permanganate facilities were dismantled (INCB, 2018; UNODC, 2018a). A number of other, unscheduled, substances are used in the production of cocaine. These include nitric acid, a substitute for potassium permanganate used in the purification of coca paste (see Figure 5.2), and sodium hypochlorite; dozens of tonnes of these substances were seized in South America in 2016 (INCB, 2018). Sodium metabisulfite, a reducing agent used in the process of standardising cocaine base, and calcium chloride, a drying agent for solvents, are also seized in large amounts in South America.

In Europe, seizures of potassium permanganate were very small in 2016 and 2017, with a total of 13.5 kg confiscated,

Figure 5.3
Global seizures of potassium permanganate, 2007-17



almost entirely in Spain. However, there were several attempts at sourcing this chemical in Europe during this period, and Spain stopped shipments that had been requested and totalled a little more than 54 tonnes (data from the European Commission). In addition, sodium metabisulfite is also seized; for instance, the Netherlands seized notable amounts in 2016 and 2017 (INCB, 2018). Seizures of calcium chloride also occurred in Europe recently; in 2016 an unspecified quantity was seized in Spain and more than 1 tonne in the Netherlands (INCB, 2018). These seizures suggest that some cocaine hydrochloride production and processing takes place in Europe, especially the Netherlands.

Cocaine production in Europe

Except for seizures of chemicals used in the manufacture of cocaine, little information is available about facilities potentially manufacturing cocaine hydrochloride in Europe. This intelligence gap is a concern, especially as some OCGs have started to manufacture heroin from morphine in Europe (see Chapter 4). Some limited information suggests that the last stages of the cocaine production process, i.e. converting base, or even base paste, into hydrochloride (see Figure 5.2), may be carried out in Europe. For instance, it is suspected that two illicit laboratories dismantled in the Netherlands in the first half of 2018 were converting coca base paste into hydrochloride. In one of those facilities, additional evidence was found indicating that morphine was also processed into heroin on site.

If cocaine is being processed in Europe, cocaine needs to be exported to Europe in base or paste form. The data currently indicate that the vast majority of the cocaine seized is the hydrochloride salt. Other cocaine products are rarely mentioned, but seizures of about 377 kg (2015) and 86 kg (2016) of base paste were reported to the EMCDDA by Spain and Italy. In addition, there are occasional media reports of seizures of cocaine base paste in Colombia destined for Europe, and seizures in Europe, such as the 210 kg seized in Barcelona and nearby towns in 2016 (Cawley, 2014; Diariocronica.es, 2016).

The detection of base-to-hydrochloride laboratories in Europe could also be a consequence of the importation of cocaine hidden in carrier materials, such as plastic. In secondary extraction facilities, the cocaine is often retrieved in the form of base and then needs to be transformed into hydrochloride before being sold. Although it is known that using carrier materials to hide cocaine before importation in Europe is one of the methods employed by traffickers (EMCDDA and Europol, 2013, 2016), it seems that few 'secondary extraction' laboratories are dismantled in Europe; only five countries report a total of 10 facilities since 2014 via the ad hoc European Reporting on Illicit Cocaine Extraction-Conversion Sites (ERICES) tool, jointly developed by the EMCDDA and Europol. However, media reports suggest that more secondary extraction facilities are found than are reported through ERICES (Van Wely, 2019).

Environmental impact of cocaine production

Two categories of environmental harms are caused by cocaine production: those resulting from the agricultural production of the coca plant and those caused by the chemical extraction of the cocaine alkaloid from coca leaves. The first harm caused is deforestation. Removing the natural vegetation from a patch of land in order to grow a single-species crop harms biodiversity. Erosion is another negative consequence, especially due to the slash-and-burn practice frequently used in clearing land. Erosion, caused by wind and especially rain, leads to soil depletion. In addition, the drive to maximise yields of what are essentially cash crops, often leads to use of chemical fertilisers, herbicides and pesticides in order to increase production. In the context of drug production, this is likely to be done with little regard to dosage, further polluting already degraded soils and spreading to rivers and underground water deposits. In addition, aerial spraying of herbicides to eradicate coca plantations may pose a threat to the environment.

Many of the chemicals used to process coca leaves into cocaine hydrochloride, including potassium permanganate and solvents such as acetone, toluene, kerosene and acids, to mention only a few, are toxic. The waste product resulting from cocaine production where these chemicals are used is often simply dumped on the ground or in streams and rivers (EMCDDA and Europol, 2016).

It is probable that the environmental harms caused by the cocaine industry have increased in recent years because of the dramatic expansion of both coca crops and cocaine production in the Andean region, especially Colombia.

Trafficking and supply

Much of our knowledge about trafficking routes results from law enforcement activity and intelligence. Information on quantities of drugs seized and on the origin and destination of shipments can give an indication of the main routes and modes of transport. However, such information is also affected by many factors, including law enforcement strategies, resources and priorities, as well as changes to routes and practices in response to interdiction efforts or new opportunities. Hence, care is needed in interpreting these data. While the information below highlights the main known trafficking routes and other significant aspects, these are not set in stone, and the picture is constantly changing in response to new markets, technological and political developments and law enforcement activity.

The total of 1 275 tonnes of cocaine seized worldwide in 2017 was the highest ever to be reported. Because cocaine seizures are reported at varying levels of purity, the global quantities seized are not comparable with global production estimates, which are of 'pure cocaine'. At global level, a majority of the cocaine was seized at sea or at ports (55 % of the significant drug seizures reported to UNODC); the rest was intercepted on land (25 %) and at airports (15 %) (UNODC, 2019a). North, Central and South America together were estimated to have seized almost 90 % of the global total in 2017 (see section on trafficking routes to Europe, below). Western and central Europe accounted for about 11 % of the global total, and Belgium was the country that seized the largest amount (3.5 % of global total), followed by Spain (3.2 %) and France (1.4 %) (UNODC, 2019a).

Taken together, seizures in western, central and south-eastern Europe increased by 105 % between 2016 and 2017. Although small in comparison with seizures in the Americas and Europe, seizures in emerging cocaine markets in Africa and Oceania increased, in some cases considerably, for the fourth consecutive year in 2017 (UNODC, 2019a).

Trafficking routes to Europe: overview of recent changes

The main cocaine trafficking routes to Europe are illustrated on pages 128-129.

Profiling of cocaine seized in Europe

The Cocaine Signature Program has the potential to provide new insights into the origin of the cocaine being sold in Europe. This programme, run by the US Drug Enforcement Administration (DEA), performs in-depth chemical analyses on samples of cocaine hydrochloride obtained from bulk seizures. It is primarily focused on seizures made in the United States, but also examines a small number of samples seized in Europe. The analyses provide extremely accurate (97 % confidence level) evidence of the geographical origin of the coca leaf that is then processed into cocaine base, the starting material for cocaine hydrochloride (powder cocaine). The samples are also tested for purity.

Results pertaining to 474 samples of cocaine hydrochloride, submitted by 10 EU Member States between 2015 and 2018, have been compiled by the EMCDDA under the aegis of the policy cycle's European Multidisciplinary Platform Against Criminal Threats (EMPACT) (see figure). Although the samples are not representative of all of Europe and are biased towards larger seizures, the findings demonstrate the valuable insights this type of analysis can provide.

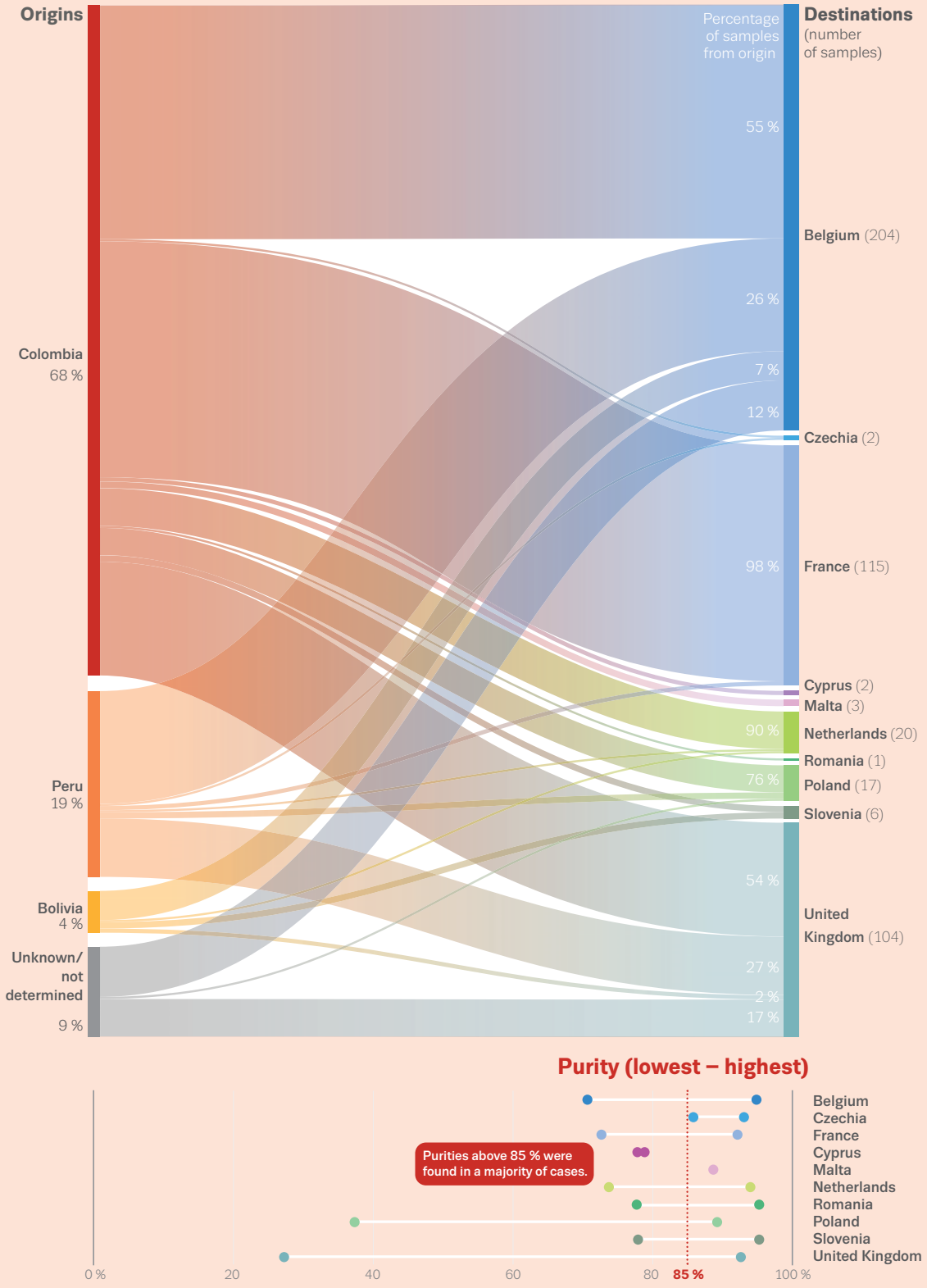
In the 474 EU samples, purities varied between 28 % and 95 %. In seven out of the 10 Member States, purities of 90 % or more were detected, while samples of less than 70 % purity were found in only two Member States (see figure). This suggests that, at the importation and wholesale levels, the cocaine available in Europe is of high or very high purity.

Over two thirds (68 %) of the EU samples originated from Colombia, and 60 % of those originated in the three large coca-growing regions of south-western Colombia, Cauca, Nariño and Putumayo. These regions have also been reported as the main sources of the cocaine available in the United States (Mallette et al., 2016). Colombia was the most frequent country of origin in eight out of the 10 EU Member States, as would be expected, since Colombia is by far the largest cocaine-producing country in the world.

Almost one fifth (19 %) of the total number of EU samples originated from Peru, the world's second largest coca producer, and half of them were submitted by Belgium. The vast majority of the Peruvian-origin samples were found to have

originated from the Upper Huallaga River Valley/ Ucayali region of central Peru. This is of interest, since this region is estimated to be a marginal coca producer in Peru in the most recent crop-monitoring survey available (UNODC, 2018c), while Peru's number one coca-growing region, the Apurímac, Ene and Mantaro Rivers Valley, is not identified as the origin of any of the EU samples. Bolivia, the third largest coca producer country, was identified as the origin of only 20 samples (4 % of the total).

474 samples of cocaine hydrochloride (HCl) submitted by 10 EU countries between 2015 and 2018



Departure points

Cocaine is shipped from Latin America to Europe mainly in vessels departing from Brazil, Colombia, Ecuador and other countries, such as Paraguay and Peru. The importance of Venezuela, which in the past was a major departure point, seems to have declined in recent years. Seizures made in 2017 at or en route to the port of Antwerp suggest that large, multi-tonne shipments departing from Colombian ports account for the biggest share of the cocaine entering the EU, followed by smaller, though more numerous shipments from Brazil and Ecuador (see Figure 5.6, page 140). These observations and the recent dramatic increase in cocaine production in Colombia suggest that Colombia is likely to remain a key departure point for maritime shipments of cocaine to Europe in years to come.

Transit areas

There have traditionally been two main areas through which maritime and air cocaine shipments transit en route to Europe: the Caribbean, and the West African mainland and neighbouring islands, Cape Verde, Madeira and the Canaries. While the Caribbean and West Africa and nearby islands remain significant transit areas today, the increase in the movement of cocaine hidden inside maritime containers and other developments seem to be fostering the emergence of newer important transit areas such as Central America and North Africa.

From the Caribbean, the cocaine is generally shipped by sea on pleasure craft via the Azores, or by air, either on direct flights or via a variety of transit points. The Dominican Republic, Trinidad and Tobago, and Jamaica are considered the main cocaine hubs of the Caribbean. In 2017 cocaine seizures in the Caribbean region amounted to 16.7 tonnes, or about 1 % of the global total (UNODC, 2018a, 2019a).

In contrast, more than seven times as much cocaine was seized in Central America as in the Caribbean, with 120 tonnes captured in 2017 (10 % of the global total), making it the region seizing the fourth largest quantity of cocaine in the world. Panama's location on Colombia's northern land and sea borders together with its recently expanded canal, through which about 14 000 ships transited in 2018, make it a key storage, transit and distribution hub for cocaine destined for Europe, and it accounted for over 50 % of the 2017 seizures in Central America (UNODC, 2019a). Spain and the Netherlands, two major entry points for the drug, are the only European countries listed in the top 15 destinations for goods transiting the Panama Canal in 2018 (Panama Canal Authority, 2018).

The other traditional transit area is the West African mainland and neighbouring islands, Cape Verde, Madeira and the Canary Islands. The West African coast, from Mauritania to Nigeria, may have decreased in importance in recent years. In 2017, the largest amounts seized were reported by Nigeria (92 kg) and neighbouring Benin (45 kg) (UNODC, 2019a). Although the yearly totals for the region are generally relatively modest, occasional large shipments are seized. For instance, in January 2019 a huge shipment of about 10 tonnes of cocaine was captured in Praia, Cape Verde, from a ship travelling to Tangiers, Morocco (Agência Lusa, 2019).

From West Africa, the cocaine is transported onwards to Europe by air, sea or land routes. It is therefore likely that countries located in the Sahel/Sahara region between the West African coast and North Africa are transit locations for shipments of cocaine smuggled by land to Europe, although they report only tiny or no seizures of the drug.

North Africa is strategically located at a crossroads between Europe, a major cocaine consumer market and transit area, West Africa and the Middle East, both emerging consumer markets and transit areas for the drug. Transport through North Africa, often taking advantage of pre-existing cannabis routes, was identified as an issue some years ago (UNODC, 2007). However, recent developments suggest that the region, particularly its coasts on the Atlantic and the Mediterranean, is a growing cocaine transit and storage hub for cocaine both arriving by sea directly from South America and coming via West Africa for onward transport to Europe or elsewhere. Conversely, some cocaine may be smuggled from North Africa to West Africa, particularly by air, as was suggested by the arrest of a Lithuanian courier smuggling 8.5 kg of cocaine from Brazil to Sierra Leone via Casablanca, Morocco, in July 2018 (H24Info.ma, 2018a).

The main hub appears to be Morocco, which seized more than 1.6 tonnes of cocaine in 2016, 2.84 tonnes in 2017 (UNODC, 2019a) and 1.6 tonnes in 2018 (Moroccan police, personal communication). Couriers smuggling a few kilograms of cocaine are frequently arrested at Casablanca airport, particularly on flights from São Paulo, Brazil. However, larger amounts have been seized elsewhere in the country, for example 200 kg at a cocaine and synthetic drug laboratory dismantled by police close to the Algerian border, 1.2 tonnes on a fishing vessel off Dakhla, in Western Sahara, 2.5 tonnes from two farms located between Casablanca and Rabat, in north-western Morocco, and another tonne reported as 'cocaine paste' (UNODC, 2019a) in the port of El Jadida, in western Morocco. Investigation of this last seizure led to the identification of a farm in the Boujdour area, in Western Sahara, where an airstrip was

under construction. The suspects arrested in connection with these seizures included nationals of Colombia, Morocco, Peru and Spain (Bladi.net, 2016; El Hamraoui, 2016; Europe1.fr, 2018; H24Info.ma, 2018b,c; Luaña, 2016; Sidiguitiebe, 2016). It appears that cocaine traffickers may be particularly targeting the contested and sparsely populated Western Sahara with its long coastline on the Atlantic.

Although apparently on a much smaller scale than Morocco, the possible roles of Algeria and Libya as transit points for cocaine en route between South America and Europe has been highlighted recently with the seizure of 701 kg of cocaine in a container of meat from Brazil in the port of Oran, in western Algeria, in May 2018 (Ben Yahia and Farrah, 2019). The modus operandi used in this case suggests that this was a well-established smuggling route. Similarly, several smaller cocaine seizures have been reported in Libya in 2018 (Micaleff, 2019).

Wholesale cocaine-trafficking activities in the region may lead to an increase in cocaine use in Algeria, Libya and Morocco.

Some large seizures of cocaine have suggested the use of south-eastern Europe as an entry point (EMCDDA and Europol, 2016). However, the data suggest that use of this region for cocaine smuggling seems to be sporadic and much less important than established primary routes. Thus, non-routine data reported by the European Border and Coast Guard Agency (Frontex) on drug seizures at a number of border posts between the EU and the Western Balkans in 2017 and the first 10 months of 2018 indicate that minimal amounts of cocaine enter the EU from that region, while similar Frontex data show large quantities of cocaine being seized in Spain, a known hub for cocaine importation into the EU (Frontex, 2018). Analysis of EU routine data on drug seizures appears to confirm that little cocaine enters the EU from the east, as the total amount seized in the 10 countries located on the eastern border of the EU during 2013-17 remains at under 2 % of all seizures. That said, recent seizures of large cocaine consignments in eastern EU countries and in countries bordering the EU, including about 2 tonnes seized in Latvia in January 2019, more than 1 tonne in the Danube Delta, Romania in March 2019 (see Figure 5.4) and 615 kg intercepted in Dürres, Albania, in February 2018, are warning signs of a changing situation.

It is also important to note that the EU and the Balkan region appear to be increasingly used as transit areas for cocaine destined for other markets such as Australia, Russia, Turkey, and countries in the Middle East and Asia. As the supply of cocaine meets or exceeds demand in the EU, EU-based

Figure 5.4
Cocaine bricks seized in the Danube Delta, Romania, March 2019

Photo: Romanian National Police, Anti-drug Unit

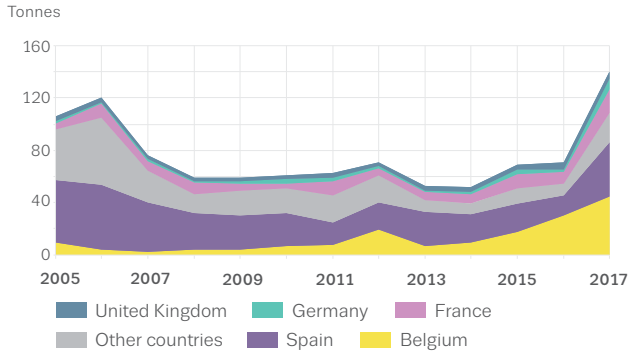
and other OCGs may be exploring opportunities in other, less saturated and potentially more profitable, markets and using Europe as an export platform. For instance, members of the so-called 'Kinahan cartel', an Irish OCG, were arrested in Ireland and Australia in 2018 as part of an investigation into the smuggling of cocaine using air couriers between Ireland, Australia and New Zealand (Meers, 2018b).

Importation and distribution in Europe: record quantities seized

The 142 tonnes of cocaine seized in the EU, Norway and Turkey in 2017 was the highest on record. It surpassed the previous peak, in 2006, by more than 20 tonnes and represented a doubling of the amount seized in 2016 (see Figure 5.5). Two countries, Belgium (45 tonnes) and Spain (41 tonnes), accounted for more than 60 % of the estimated European total, but large quantities were also seized by France (17.5 tonnes), the Netherlands (14.6 tonnes) and Germany (8 tonnes). Although smaller than in previous years, multi-tonne quantities of cocaine were also seized in Italy (4 tonnes) and Portugal (2.7 tonnes). Meanwhile, new records were established in 2017 in Turkey (about 1.5 tonnes) and Lithuania (623 kg), although these countries are not usually associated with cocaine trafficking or consumption.

Early indications suggest that the quantities seized in Europe could be even larger in 2018. For instance, preliminary data on cocaine seizures at the port of Antwerp, provided by the Belgian police, indicate that 50 tonnes was seized in 2018, that is, more than in the entire country of Belgium in 2017.

Figure 5.5
Quantities of cocaine seized in Europe 2005-17



Most of the cocaine available in Europe continues to be smuggled into the largest container ports of Europe, located in Belgium (Antwerp), Spain (Algeciras and Valencia) and the Netherlands (Rotterdam). However, other ports, in France (Le Havre), Germany (Hamburg) and Italy (Gioia Tauro) for instance, have now also become significant cocaine entry points. In addition, larger amounts of cocaine are increasingly shipped from South America to smaller ports in the EU, where security measures may be less stringent, such as Malta Freeport (Malta), Montoir-de-Bretagne (France), Vlissingen (Netherlands), Marin (Spain) or Tilbury (United Kingdom). Smaller quantities of the drug also continue to be smuggled by air by individual couriers, in luggage and in freight. All major European airports are targeted, as well as, increasingly, secondary ones. In addition, the transatlantic smuggling of cocaine using private business jets is a trend that seems to have accelerated in the last few years (see Chapter 2).

Cocaine importation: a more crowded and competitive criminal market

Historically, the wholesale supply of cocaine to the EU was dominated by cooperation between established cartels in South America and Italian OCGs, especially the Calabrian 'Ndrangheta (see Case study 22), acting as wholesale brokers for EU-based distributors. However, the cocaine-producing scene in Colombia has fragmented and diversified, and numerous Italian traffickers have been arrested in Europe and Latin America in recent years (McDermott, 2018). The disruption caused by these developments seems to have given a broader range of EU-based OCGs easier access to cocaine producers in South America (EMCDDA and Europol, 2016). Comparatively small players are now using this direct access to producers and pooling funds to purchase larger quantities of cocaine at more favourable wholesale prices.

Thus, Albanian-speaking, British, Dutch, French, Irish, Moroccan, Serbian, Spanish and Turkish OCGs are increasingly establishing their own operations to transport cocaine directly from South America to Europe, or even directly acquiring cocaine in or near producing countries. For instance, French OCGs make use of connections with French Guiana and the French Antilles to smuggle bulk loads

CASE STUDY 22

Operation Pollino takes down 'Ndrangheta clan

In a Eurojust-coordinated international operation by judicial and law enforcement authorities in early December 2018, 84 alleged members of a 'Ndrangheta mafia-style organised criminal group from the Reggio region of Calabria, Italy, were arrested in Belgium, Germany, Italy, Luxembourg and the Netherlands on charges of criminal association, drug trafficking and money laundering. Several tonnes of cocaine, more than 100 kg of ecstasy tablets and about EUR 2 million in cash were seized in several countries. The Calabria-based mafia-like organisation is established in several European and South American countries including Colombia, but also in Canada and the United States. It is often described as one of Europe's richest and most powerful criminal organisations, notably because of its role as one of the region's largest wholesale importers of cocaine and misappropriators of EU funds.

The initial investigation that led to Operation Pollino was launched in 2016 by the Dutch Fiscal Information and Investigation Service, acting on a suspicion that two restaurants in the southern Netherlands were being used to launder drug money. This case illustrates the value of 'follow the money' approaches in the fight against drug-related and other forms of organised crime. Financial investigations have been made a cross-cutting priority for all the crime areas covered by the present policy cycle.

Sources: Anesi and Rubino (2018); BBC News (2018b); Meers (2018c); OCCRP et al. (2018).

back to mainland France (see box 'The Guianese connection'). Western Balkan OCGs are also very active at key staging posts along the main trafficking routes and are involved in the infiltration of, and corruption at, key South American and EU ports (see box 'Balkan organised crime networks and cocaine trafficking'). Meanwhile, Turkish OCGs are increasingly involved in the transatlantic trafficking of cocaine to the EU and Turkey, relying on their own maritime transport infrastructure, which has also been used to traffic large quantities of cannabis resin across the Mediterranean Sea.

OCGs that were previously only marginally involved in the EU, such as Mexican cartels, are believed to have intensified their cooperation with other crime groups in order to orchestrate the trafficking of cocaine to the EU. Moroccan OCGs that used to be hired by established OCGs to retrieve cocaine shipments in the ports of Antwerp and Rotterdam are now becoming important players in their own right (Colman, 2018). Outlaw motorcycle gangs are also involved in trafficking of cocaine to the EU and distributing it in various EU Member States, mainly in the north of Europe. Outlaw motorcycle gangs are increasing their presence at some ports in the EU to facilitate this business.

Conversely, the relevance of West African (specifically Nigerian) OCGs to the trafficking of cocaine to the EU seems to be in relative decline, as they have been displaced in some European countries by criminal groups originating from the Western Balkans and North Africa. Nigerian OCGs primarily rely on the use of couriers to transport cocaine to the EU, often from West Africa and more recently also directly from South America.

South American representatives of Colombian organisations are established in the EU and supervise shipments, ensure payments and liaise with international money-laundering facilitators (McDermott, 2018).

Balkan organised crime networks and cocaine trafficking

OCGs originating from the countries of the former Yugoslavia (sometimes collectively referred to as the 'Balkan Cartel') continue to increase their role in international cocaine trafficking. These groups are mainly composed of Serbians together with Montenegrins and Croatians who cooperate regardless of nationality. Spain, the Netherlands, Germany, Austria and Croatia are emerging as key locations for their activities. They also cooperate with Albanian-speaking, Italian and Moroccan OCGs. They increasingly apply a crowdsourcing business model to the wholesale acquisition of cocaine. Several distribution networks collectively invest in very large cocaine shipments from various sources of supply in South America. They have also increased their footprint in locations where they can access cocaine at cheaper prices, such as Colombia, the Dominican Republic and Ecuador. However, they appear to be present mainly in Peru and even more in Brazil, where Serbian OCGs are particularly prominent at the port of Santos. They are also present at key staging posts along the main trafficking routes. These OCGs are involved in infiltration and corruption at key European international ports, and they use mostly containers and pleasure vessels to traffic the cocaine into the EU.

Cocaine in containers: targeting the port of Antwerp

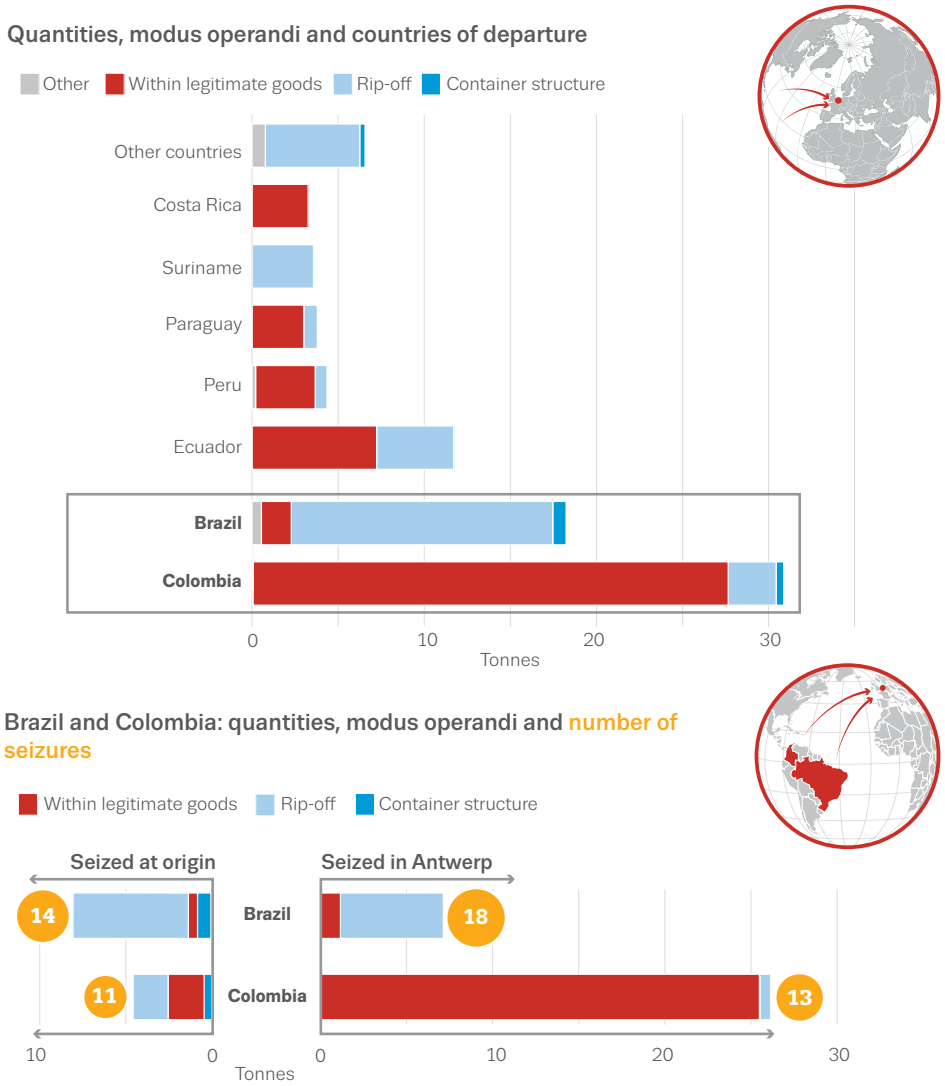
Cocaine traffickers make use of a wide range of trafficking methods, which are used flexibly and evolve over time in response to enforcement efforts and other factors. Although cocaine also enters the EU by air (see box 'The Guianese connection'), the main route used to smuggle the drug into Europe is still the maritime route from South America to western Europe, especially taking advantage of the containerised trade in goods. Maritime transport allows the transportation of large quantities at one time, and the nature of international commercial maritime traffic means that a vast number of routes can and will be used. In addition, smaller, private sailing boats are able to bring in large quantities of cocaine in single shipments, entering Europe at many points.

Large European container ports have recorded many seizures of large cocaine shipments in recent years. In addition to targeting major ports, OCGs are now increasingly shipping larger amounts of cocaine from South America to smaller ports in the EU or neighbouring countries, where security measures may be easier to circumvent.

It is important to note that corruption of port (and airport) employees and security officials in facilities throughout Europe is in most cases a key condition for the successful use of these facilities for cocaine importation by OCGs.

The port of Antwerp remains a key entry point for cocaine trafficked to the EU. Its role appears to have increased since the previous edition of this report (EMCDDA and Europol, 2016). From Antwerp, cocaine is frequently transported to the Netherlands by road for processing and cutting prior to redistribution to other EU destinations. In 2016, cocaine seizures at Antwerp totalled 26.5 tonnes, and that rose to almost 42 tonnes in 2017. In 2018, some 50 tonnes of

Figure 5.6
Cocaine seized in containers in or bound for Antwerp, 2017



Source: Belgian Federal Police.

cocaine was seized at the port (data provided by Belgian police, 2019). Information from seizures outside the EU in 2016 indicated that, in addition to these seizures at Antwerp, 36 tonnes of cocaine was intercepted in Latin America in shipments for which Antwerp was the final destination. In 2017 this rose to 45 tonnes and during the first half of 2018 at least 16 tonnes destined for Antwerp was seized outside Europe.

As mentioned above, the largest quantities of cocaine seized at Antwerp, or seized elsewhere and destined for Antwerp, were shipped from Colombia. In most cases they were concealed within consignments of goods, especially fruit such as bananas. Concealment within goods was also the main method used for cocaine shipped from Ecuador.

Meanwhile, the largest number of seizures involving the port of Antwerp were of smaller amounts of cocaine shipped from Brazil using mostly the rip-on/rip-off method (described in Figure 2.4, page 62). The largest quantity of cocaine shipped from Colombia was seized in Antwerp, while comparable quantities of cocaine shipped from Brazil were seized in Brazil and in Antwerp (see Figure 5.6).

There are multiple reasons why the port of Antwerp is a major hub for the importation of cocaine and other drugs in Europe. It is Europe's second busiest container port, after nearby Rotterdam, and handles millions of tonnes of containerised goods every year. It is physically a very open harbour area, located within the city of Antwerp and with many opportunities to break and enter. Antwerp is also

the largest fruit handler in Europe, with direct cargo lines from Colombia, Ecuador, Guatemala and Panama, and, given that it is imperative that fresh produce be processed rapidly through the port, it may be often difficult for limited numbers of customs and law enforcement officers to deal with the drug threat alongside their many other duties. Antwerp is close to the Netherlands, especially Rotterdam, which is another key hub for cocaine importation and distribution, and for organised crime groups involved in drug supply. It should also be noted that Moroccan OCGs have long been key players in the port of Antwerp, and that they have become much more involved in cocaine trafficking and distribution in Europe in recent years. This, together with the increasing role played by Morocco as a transit hub for cocaine destined for the EU, probably helps to explain why large amounts of the drug are trafficked through Antwerp. In addition, Turkish, Italian and Dutch OCGs, as well as OCGs from the Western Balkans, especially Albanian-speaking ones, are also known to be involved in trafficking drugs, including cocaine, through the port of Antwerp.

Drug importation methods

Although there have been no major changes to the established trafficking modi operandi, all methods of cocaine trafficking now appear to be encountered more frequently than before, reflecting the fact that larger amounts of cocaine are now smuggled in Europe. Smuggling consignments in maritime containers continues to be the most common modus operandi associated with cocaine, especially relying on the rip-on/rip-off method. However, use of this method may be declining, as it is less suitable for the smuggling of very large shipments of cocaine and made more difficult to implement by the automation of container handling in ports. OCGs also increasingly rely on variants such as the switch method (see Figure 2.4, page 62). Corruption remains a key facilitator for the trafficking of cocaine into the EU; OCGs rely on it to gain access to ports and airports.

OCGs involved in cocaine trafficking now also more frequently employ methods of transport such as mother ships, pleasure craft and fishing vessels, cruise ships and the drop-off method (see Chapter 2). Sophisticated means of concealment such as placing the illicit load in metal cylinders attached to the ship's hull are also encountered (see Figure 2.4, page 62).

The smuggling of drugs by air transportation includes the use of passenger commercial flights, air cargo aircraft and general aviation (private aircraft). Large quantities of cocaine, typically ranging from 500 to 1 200 kg, are increasingly trafficked directly from South America and the Caribbean to western Europe using private business jets. The use of general aviation for the trafficking of cocaine is expected to increase in future. Stricter border controls and more effective security checks can act as a push factor for OCGs to use secondary international airports and small general aviation airfields.

On commercial flights, cocaine is mainly concealed in baggage, but also swallowed, attached to the body or concealed in clothes, and to a lesser extent stuffed in body cavities. Cocaine air couriers depart from airports in South and Central America and the Caribbean, especially Colombia and Brazil, and fly to major European airports either directly or after stopovers in countries such as Morocco, Nigeria and the United Arab Emirates. An increase in cocaine seizures from Kenyan couriers has been observed at several European airports in 2018, which is a relatively new trend (Groupe Pompidou and RILO WE, 2019) (see box 'The Guianese connection').

The Guianese connection

National overseas territories are often used as transit locations by OCGs in order to take advantage of both their inclusion in the European Single Market and European customs territory and their geographical proximity to cocaine producer countries. A recent illustration is the case of the cocaine connection between French Guiana, France's overseas department in South America, and mainland France. Increasing amounts of cocaine have been smuggled on commercial flights between Cayenne, French Guiana's largest city, and Orly Airport in Paris since 2015. Arrests and seizures peaked in 2018, when 1 349 couriers were caught carrying a total of about 2.3 tonnes of cocaine, an average of 1.7 kg per courier. Most of the couriers are French nationals, but the cocaine is probably sourced in neighbouring Suriname. The vast majority of the cocaine seized in France from the 'Guianese connection' is destined to be sold in Paris and other French cities, but about 11 % is exported abroad, mainly to the Netherlands.

Sources: Office central pour la répression du trafic illicite des stupéfiants, L'Institut national des hautes études de la sécurité et de la justice and Observatoire français des drogues et des toxicomanies.

Negative consequences: violence and corruption

A serious consequence of the increase in cocaine importation and distribution in Europe is that corruption of seaport and airport employees by organised crime groups is likely to have become pervasive across Europe, since complicity in the ports is often an essential component of the smuggling methods used. Drug-related corruption also seems to be affecting larger numbers of law enforcement officials, especially customs officers, with cases emerging so far in Belgium, Spain and the Netherlands (Boerman et al., 2017). Some port workers, customs and other law enforcement officers have also been subjected to threats by crime groups.

Another grave concern is an increase in violence around cocaine importation activities. Homicides and kidnappings between crime groups in Europe now appear to be more frequent and violent than in the past. For instance, in March 2016 a severed head was left on the street in front of an Amsterdam shisha bar in an episode of a feud between rival Moroccan gangs involved in the cocaine business (Henley, 2016). An increase in homicides between OCGs is also affecting Antwerp (Colman, 2018), where harbour workers have been intimidated by crime groups. A war between two rival Irish gangs involved in cocaine importation and distribution in Ireland, the United Kingdom, Australia and New Zealand has led to at least 15 murders, many of them in public places, in Ireland and Spain since 2015 (McDonald, 2018; Meers, 2018b).

A service industry seems to be developing in order to supply the European cocaine market's demand for violence. For instance, the emergence of younger contract killers, or hitmen, has been documented in the Netherlands (Van Gestel and Verhoeven, 2017). Another example is in Spain, where the press has reported that some recent murders of cocaine traffickers were committed by Colombian *sicarios*, or contract killers, while observing that hitmen of North African origin are also active in the country. It apparently costs between EUR 30 000 and EUR 70 000 to have a person killed in Spain (Montero, 2019). In Sweden, a Stockholm gang known as the Death Patrol provided murder as a service to other OCGs, including Colombian cocaine cartels, before being dismantled between late 2018 and early 2019 (see Case study 8, page 45).

Trafficking within the EU

Roads remain the preferred means of transport for cocaine distribution within the EU. Lorries transport large shipments from the main EU distribution hubs in Belgium, the Netherlands and Spain to regional and local markets. Smaller shipments continue to be trafficked mostly in private vehicles. Like all other illicit drugs, smaller consignments of cocaine are frequently sent across the EU using post and parcel services, sometimes in connection with darknet drug markets.

OCGs involved in the intra-EU trafficking of cocaine use various methods to manage the risk of discovery by law enforcement agencies. They rely on fraudulent documents to conceal the nature and origin of their loads, employ advanced technologies and use sophisticated means of concealment in motor vehicles. In a continuing trend highlighted in the previous edition of this report (EMCDDA and Europol, 2016), OCGs continue to specialise in providing services related to particular stages of the cocaine supply chain. For instance, Bulgarian and Romanian criminal groups increasingly invest in road transport businesses in order to facilitate intra-EU trafficking of cocaine and other drugs.

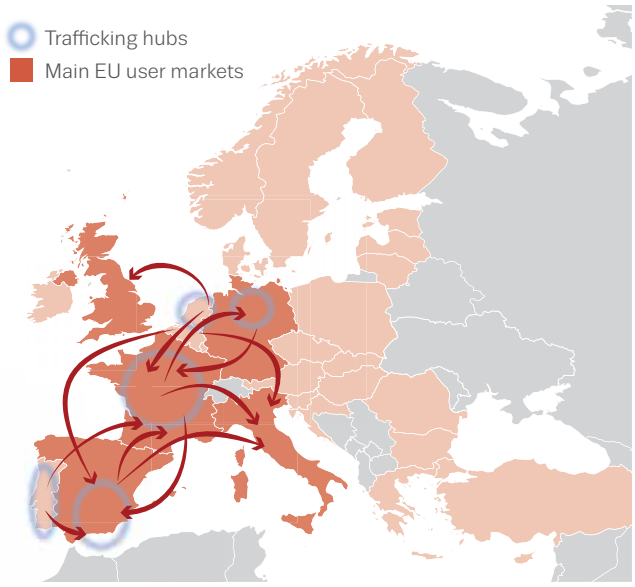
It is worth noting that Albanian-speaking OCGs continue to aggressively expand their involvement in the cocaine trade, becoming central players in distribution and retail sales in some large markets, such as the United Kingdom. In addition, they have extended their activities to comparatively smaller consumer markets in Belgium, Germany and the Netherlands (Saggers, 2019). Dutch, Spanish and British OCGs cooperate with international OCGs to transport or distribute cocaine in the EU. These OCGs are in close contact with the representatives of international OCGs who are based permanently or temporarily in the main entry points for cocaine to the EU.

Although criminal groups often compete with one another, cases of cooperation also exist. For instance, certain Dutch and Turkish OCGs are known to have been cooperating for some time in order to smuggle cocaine from the Netherlands to Turkey in exchange for heroin travelling in the opposite direction (Tops et al., 2018) (see Case study 19, page 113).

OCGs involved in the trafficking of cocaine often rely on cash couriers to transport large amounts of money from the EU to 'cash-friendlier' jurisdictions such as Dubai or Lebanon. According to a recent survey of seizures of cash leaving 17 EU and 5 Western Balkan airports in 2018, the top seven destinations in order of rank are Turkey, China, Morocco, Nigeria, Pakistan, Thailand and Egypt (Groupe Pompidou and RILO WE, 2019).

A single courier can transport up to EUR 1 million in cash. For instance, Lebanese money-laundering networks use designated couriers who travel from Lebanon to the EU. Cash couriers travelling from the EU to the Middle East

Figure 5.7
Intra-European cocaine-trafficking routes, top five trafficking hubs and top five consumer markets, 2017-18



often carry gold or jewellery, which has been bought using criminal cash proceeds in order to justify the transfer as trade activity and conceal it.

Trafficking of cocaine within the EU remains concentrated in the west and south of Europe, where the largest consumer markets are. The countries of the Iberian Peninsula, the Netherlands and to a lesser extent Belgium are key cocaine distribution hubs (Figure 5.7). This is likely to be because they are also key importation hubs (EMCDDA and Europol, 2013, 2016; see also section on importation and distribution in Europe above). They supply mainly the largest consumer markets in Europe, located in France, Germany, Italy and the United Kingdom, as well as other, comparatively small, markets further afield (see section on the expanding European retail markets for cocaine, below).

The presence of Germany and France among Europe's five main cocaine-trafficking hubs may be viewed as a relatively new and perhaps surprising trend. However, both countries are also relatively large cocaine importation points, especially because of their large container ports and international airports (see box 'The Guianese connection' and the section on importation and distribution in Europe, above). But additional factors may be at play. For instance, in the case of France, its geographical location between southern and northern Europe probably plays a role, since France sends and receives cocaine shipments to and from both Spain and Germany (see Figure 5.7). In the case of Germany, the presence in the country of Europe's largest air freight and dispatch centre, belonging to a global express parcel firm, may be a factor, since public and private postal services are increasingly used to traffic drugs within Europe (see beginning of this section). It is also important to note that a country's role as importer/distributor often coincides with, and probably helps to explain, the presence of a large consumer market in it.

Retail, supply and use

The expanding European retail markets for cocaine

Several indicators suggest that the European retail market for cocaine is expanding in line with the increase in importation and distribution of high-purity cocaine. As a result, cocaine availability to consumers in Europe could be at an all-time high. Although the vast majority of cocaine consumers appear to remain concentrated in a limited number of western and southern European countries, there are indications that retail markets are expanding in northern and eastern Europe.

The purity of cocaine at retail level has been increasing in Europe since 2010, and in 2017 it reached its highest level in the last decade; however, adulteration still takes place (see box 'Cutting cocaine'). Meanwhile, the retail price of the drug remained stable or slightly decreased between 2007 and 2017 (see Cocaine overview, pages 128-129). This indicates that more cocaine is now available on retail markets than was previously the case, most probably as a direct consequence of an increase in the availability of high-purity cocaine at the wholesale level and of competition between an increasing number of OCGs involved in the cocaine business (see box 'Profiling of cocaine seized in Europe', page 134).

In Europe, the retail market for cocaine has historically been concentrated in western and southern Europe, which is where most of the drug is imported, and is the most populated and one of the wealthiest regions of Europe. This remains very much the case today. For several years, a number of general population surveys reported a decrease in last year use of cocaine. Recent trends indicate that the decline has stopped and that levels of use are now stable. This would imply that retail markets for cocaine are also stable. However, this is at odds with trends observable in other datasets, which are reviewed below.

Cutting cocaine

Cutting drugs with cheaper materials (also known as adulteration; see Figure 5.2) is usually done to increase profit along the distribution chain but may also enhance or modify the effects of the drug and may affect the health of users. The purity of powder cocaine appears to be lowest at retail level, and a wide variety of substances can be used as cutting agents (Broséus et al., 2015; Villar Núñez et al., 2018). In addition to inert diluents such as sugars, talc, plaster and starch, pharmacologically active adulterants are often found in both powder cocaine and crack cocaine, including various local anaesthetics, analgesics, other licit and illicit stimulants, nootropic agents and anti-allergy drugs (Kudlacek et al., 2017).

Levamisole, a veterinary antiparasitic drug, has been the most common adulterant of cocaine products over the past decade, followed by the analgesic phenacetin; both were identified by forensic laboratories and drug-checking services in 40-70 % of cocaine samples analysed in recent European studies (Broséus et al., 2015; Brunt et al., 2017; Villar Núñez et al., 2018). In addition, levamisole appeared in used syringes in six European cities, where phenacetin was also detected (EMCDDA, 2019e). However, EMCDDA data covering the first half of 2018 indicate that caffeine may now be used more frequently than phenacetin, although levamisole remains the cutting agent most frequently used.

Levamisole is used as a cutting agent primarily because it is widely available on the market and is similar in colour and melting point to cocaine; it is cheap and heavier than cocaine and gives a specific cocaine-like sheen to the drug, allowing further adulteration down the retail chain (Brunt et al., 2017). Levamisole has also been described as an effect enhancer (Tallarida et al., 2014). This may be true but the main effect is probably related to aminorex, a metabolite of levamisole, which may prolong the perceived stimulating effect of cocaine (Solomon and Hayes, 2017).

Although cocaine has been described as the most adulterated illicit drug (Kudlacek et al., 2017), several recent studies point to a decrease in cocaine adulteration in Europe. For instance, an analysis of 902 samples submitted for testing to drug-checking services collected in seven EU Member States between January and July 2018 found that 62 % contained cocaine and no other substance, 31 % contained cocaine and cutting agents and 6 % contained no cocaine at all.

Data on prevalence of cocaine use expressed in estimated numbers of users during the last year may be viewed as an indicator of the location and approximate size of retail markets. The latest data available confirm that the largest retail markets are located in western and southern Europe. Thus, France, Germany, Italy, the Netherlands, Spain and the United Kingdom, which together represent about 66 % of the total EU population (Eurostat, 2018c), account for a little over 87 % of Europe's estimated 4 million last year cocaine users. Two Nordic countries, Sweden and Denmark, follow the top six, but report much lower estimated numbers of users. Poland ranks ninth and may therefore be viewed as the largest cocaine market in eastern Europe.

As already mentioned, new entries to treatment for problems associated with cocaine use have increased in Europe since 2015 (see Cocaine overview, pages 128-129). Furthermore, analysis of wastewater information shows a strong increase in cocaine residues in 26 of the 32 cities for which data were available for 2015 and 2017, following a relatively stable period between 2011 and 2015. However, this cannot be readily interpreted as an increase in the number of cocaine users, although this is certainly one of the possibilities, since other factors could have caused this increase in metabolites. Higher concentrations of metabolites could mean that the same number of people used more cocaine, or they could simply reflect the increased purity of cocaine found on retail markets mentioned earlier. Finally, a combination of these three causes could also be an explanation. Whatever the cause, wastewater data suggest an increase in cocaine consumption since 2015 in many of the cities studied.

Wastewater information also provides some detail on other characteristics of European retail markets for cocaine. Thus, a multi-city study covering 73 cities in 20 European countries in 2018 showed that higher concentrations of the cocaine metabolite benzoylecgonine tended to be found in larger cities, and in more than 75 % of cases higher concentrations were found at weekends than on weekdays, a finding confirmed by other data, which show that cocaine-related hospital emergency presentations are much more frequent at weekends.

Information on the number of drug seizures may be viewed as an indirect indicator of a drug's availability at the retail level, although they primarily reflect law enforcement activity and the factors affecting it (resource availability and allocation, priorities, etc.). This is because the vast majority of drug seizures reported in Europe are of small amounts of under 10 g seized mostly on retail markets. This is confirmed by information indicating that, of the 75 000 cocaine seizures reported by the 18 EU Member States that provided a breakdown by market levels (wholesale, middle market, retail), 83 % were carried out at the retail level in 2017.

Like cocaine purity, the number of cocaine seizures recorded in the EU has increased recently, and more than 104 000 individual seizures were reported in 2017, the highest level in 10 years (Figure 5.8). Out of the 29 countries that report sufficient information, only three (Latvia, Portugal and Slovakia) did not report an increase between 2015 and 2017.

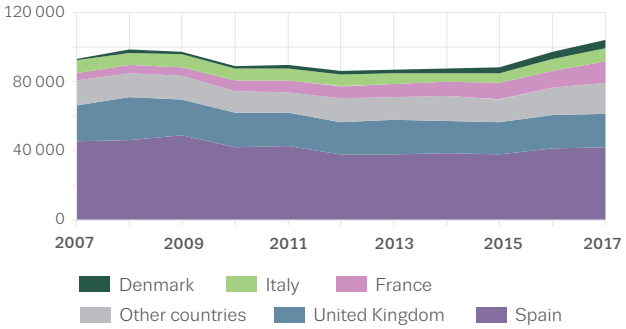
The country that reported the largest number of cocaine seizures in 2017 (and in previous years) is Spain, followed by the United Kingdom, France, Italy and Denmark (see Figure 5.8). Four of these also rank in the top six for estimated numbers of cocaine users; the exception is Denmark, which ranks eighth. It should be noted that the Netherlands, one of the top six retail markets in numbers of cocaine users, does not report numbers of drug seizures and as a result is not included in this analysis.

While the largest cocaine markets of western and southern Europe appear to be continuing to grow, others seem to be emerging or expanding in eastern and northern Europe. The Turkish retail market is a striking illustration of this trend. Turkey reported 3 829 cocaine seizures in 2017, more than 10 times the number reported in 2007 and its highest number on record. This probably signals the emergence of a sizeable retail market for cocaine in Turkey, which currently ranks 14th in Europe for reported numbers of cocaine users while Germany ranks fifth. The increasing involvement of Turkish organised crime in the cocaine trade mentioned earlier is likely to be a significant factor here (see sections on cocaine importation and on trafficking in the EU above).

Another example of market expansion is Sweden, which reported a record of 3 640 seizures in 2017. Likewise, but to a lesser extent, other Nordic countries such as Finland and Norway now report many more cocaine seizures than they did in the mid-2000s.

As far as countries in the east of Europe are concerned, the numbers reported are generally lower than in the countries mentioned above, reaching a few hundred annually. However, they have increased, sometimes dramatically, in the 10-year period considered here. Croatia, Cyprus, Czechia, Estonia, Latvia, Lithuania, Hungary, Romania, Slovakia and Slovenia all reported more cocaine seizures in 2017 than in 2007. Poland, mentioned earlier as eastern Europe's largest consumer market, reported only nine seizures of cocaine in 2017, and did not report data in previous years; however, data from the police are not available. Luxembourg and Malta, whose populations are quite small, reported both comparatively large numbers of seizures in 2017 and remarkable increases since 2007.

Figure 5.8
Number of cocaine seizures in the EU, 2007-17



Retail markets for crack cocaine

In general, a broad distinction can be made between retail markets for cocaine hydrochloride, or powder cocaine, and for crack. Consumers of the former are more socially integrated and often sniff the drug in a recreational context. Crack users are mostly marginalised, and inject or smoke cocaine freebase, or crack, often alongside the use of opioids. However, it should also be noted that not all crack is purchased on the market, since some consumers manufacture cocaine freebase themselves for their own use. Those who smoke cocaine freebase usually view themselves not as crack users but as cocaine users. This could mean that crack use is underestimated at present in Europe, especially because it may be difficult for law enforcement officers to distinguish cocaine freebase from purchased crack when it is seized. The practice of basification for own use may be rising among cocaine consumers in some countries. For example, the distribution of crack-smoking kits by low-threshold facilities and non-governmental organisations is increasing in many regions of France, although the commercial market for crack is largely restricted to the greater Paris area (Cadet-Taïrou et al., 2017).

Seizures of crack cocaine are generally low, and relatively stable, in both numbers and quantities in the countries that report them. Among other factors, this is likely to be because crack is manufactured from cocaine hydrochloride within Europe, close to the consumer markets, and is not transported across borders, where the largest quantities of drugs are usually seized.

Based on the latest data reported to the EMCDDA, the largest crack market in Europe continues to be the United Kingdom, which reported the largest quantity, 70.3 kg, and the highest number of crack seizures, 5 903, in 2017. Then come France, with 8.3 kg in 2016 (France does not report numbers of crack seizures), and Italy, with 5.5 kg and 262 seizures. Germany and Spain follow, reporting much lower quantities — in the hundreds of grams. Finally, Austria, Malta and Portugal report tiny amounts and numbers of seizures.

Turkey reported seizures of crack for the first time in 2017, amounting to 1.3 kg and 50 seizures. These indicate that Turkey could now be a significant consumer market for crack cocaine as well as cocaine hydrochloride (see section on the expanding European retail markets).

It should be noted that the crack trade is associated with increasing levels of violence in the United Kingdom, especially in connection with the county lines phenomenon (see next section). Meanwhile, in Paris, France, qualitative data suggest an expansion of crack markets outside the open drug scene, which is usually confined to a particular district and into more public areas, where it is linked to noticeable street violence.

How cocaine is retailed in Europe

There is less systematic information available on the methods used to sell cocaine directly to consumers in Europe than on other aspects of the market. The traditional view is that most sales to users are conducted in 'the street' or on open drug markets, where they exist, and in other such public or semi-public settings. Recent research has suggested that the delivery of drugs to consumers by dealers contacted by mobile phone may be an important additional mechanism for cocaine retailing in Europe (Søgaard et al., 2019). However, the nature of the connections between the players active at different levels of the market — importation, wholesale distribution, mid-market distribution and retail sales — is generally poorly documented. Until more and better data are systematically collected on this aspect, it will be difficult to paint a comprehensive picture of how retail drug markets operate in Europe.

That said, like the diversification of the OCGs involved in the importation and distribution of cocaine in Europe analysed above (see section on importation and distribution), some evidence exists to show that retail markets have seen the emergence of new players and are becoming more diverse, in both where and how they operate. A key factor likely to have brought about change in cocaine retail markets is the emergence of new technologies, especially internet-based platforms such as darknet markets, public social media and semi-private encrypted communications applications.

For instance, call centres dedicated to distributing cocaine by courier are reported to operate in some parts of Belgium but are physically located in Western Balkan countries, the Netherlands or in Spain (De Ruyver et al., 2018). Belgian consumers place an order at a central telephone number and then local couriers deliver the drugs to the location specified. Reports have suggested that a courier can sell up to 1 kg of cocaine per week. A similar phenomenon has been reported in the greater Paris area, where deliveries of cocaine to consumers are organised through similar call centres (Cadet-Taïrou et al., 2017; Kauffmann, 2018).

Research projects, official reports and media articles indicate that social media platforms and encrypted communication tools are commonly used across Europe for retail cocaine trafficking. For example, in the Nordic countries, communication among vendors and buyers may be conducted through encrypted applications such as WhatsApp and Telegram. Open public social media applications such as Instagram, Twitter and Facebook are used to promote time-limited offers to a wider public (EMCDDA, 2018b). A different model of retailing (crack) cocaine has become prominent in the United Kingdom, where 'county lines' are used to supply drugs from large urban centres to smaller provincial towns, couriered by young people. The drugs are ordered through a central mobile phone numberm, and mobile communication devices, often encrypted, support the delivery of the drugs.

Another potential form of diversification of the cocaine market may result from the use of new sophisticated technologies, such as the darknet, that allow an increasing number of suppliers to deliver small amounts of cocaine directly to consumers (see Chapter 1). Although the extent to which they are replacing traditional retail supply is unclear, cryptomarkets could alter the nature of cocaine retailing in Europe in future. Cocaine is one of the drugs that generate the highest revenues for dealers operating in anonymised darknet markets. For example, on AlphaBay, which was one of the leading cryptomarkets until law enforcement authorities shut it down in 2017, cocaine was the drug that generated the third highest revenue, with total sales estimated at EUR 5.81 million in the United Kingdom, EUR 2.65 million

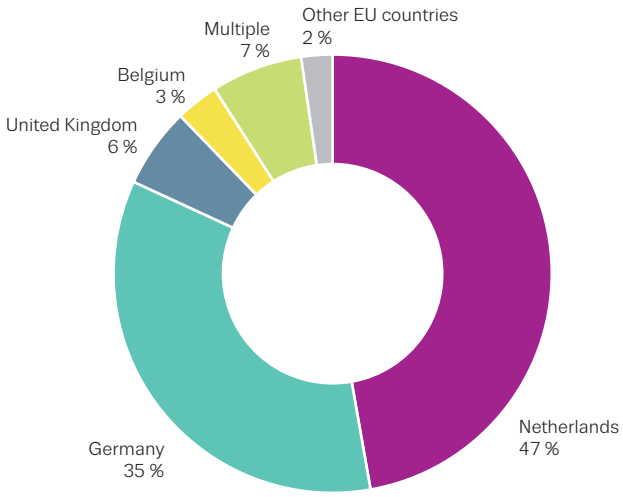
in the Netherlands and EUR 1.55 million in Germany over the lifetime of the market (EMCDDA and Europol, 2017). These three countries continued to be the largest sources of darknet cocaine sales in Europe in 2018 (see Figure 5.9).

Cocaine is one of the most expensive drugs sold on European cryptomarkets, with prices per gram varying by geographical location and ranging from EUR 72 in Sweden to EUR 145 in Finland (Janetos and Tilly, 2017). These prices are somewhat higher than retail prices reported by the Reitox network to the EMCDDA, but consumers may be willing to pay more on cryptomarkets because they feel secure in terms of evading both law enforcement and direct encounters with potentially dangerous individuals. In addition, the rating systems applied to the vendors may result in a perception of higher drug quality. Darknet cocaine vendors are primarily located in a small number of highly active consumer countries rather than in producer countries (Dittus et al., 2018), which seems to confirm that most cryptomarket vendors are local retailers who probably still rely on some of the same producers, importers and distributors involved in the conventional cocaine trade.

Online distribution

Based on 2018 data from several major darknet markets ([13]), we detected a total of 3 879 listings (sale offers) that could be attributed to vendors that said they would ship cocaine from an EU country. These offers were distributed across eight marketplaces: Dream Market (3 740), Olympus Market (50), Berlusconi Market (25), Valhalla (24), Wall Street (16), T•chka (12), Empire (8) and Zion (4). The available data suggest that the majority of sale offers during 2018 originated from the Netherlands (47 %) and Germany (35 %). Other reported EU Member States of origin included the

Figure 5.9
Proportion of cocaine listings on major darknet markets by EU Member State, 2018



Note: Multiple denotes where several EU countries are mentioned as country of origin.

United Kingdom (6 %) and Belgium (3 %). An additional 9 % of cocaine listings were offering shipping from multiple countries (7 %) or other EU Member States (2 %) (Figure 5.9). These findings are consistent with previous research, which found that cocaine vendors on darknet markets shipped from countries known to have a sizeable cocaine consumer market rather than from cocaine producer countries (Dittus et al., 2018).

Caution is needed in interpreting these data in respect of gauging the number of individual sellers offering cocaine on these marketplaces or the number of transactions — neither of which can be extrapolated from the number of listings alone. Nonetheless the number of listings provides a useful indicator of the scope of activity on darknet markets.

([13]) For more information on the data source and its limitations see the section on darknet monitoring in Chapter 8.

Photo: Netherlands Forensic Institute

CHAPTER 6

Amphetamine, MDMA and methamphetamine

Key points

The EU market for amphetamine, MDMA and methamphetamine

▶ The stimulant drug market continues to evolve rapidly, with amphetamine, MDMA and methamphetamine vying for market share alongside cocaine and a number of new psychoactive substances.

▶ Amphetamine continues to be more commonly used than methamphetamine in most, but not all, EU countries, but there are signs that methamphetamine production and use are spreading. Regional differences exist in the use of amphetamine and methamphetamine, which is more common in northern and central Europe, whereas the use of MDMA appears to be more generally diffused.

▶ All three drugs are produced in Europe. The production of MDMA and amphetamine is concentrated in the Netherlands, and to a lesser extent Belgium, under the control of Dutch OCGs. Methamphetamine production mostly occurs in central Europe, particularly in and around Czechia. It appears that some Vietnamese OCGs involved in methamphetamine production in Czechia may have relocated some of their operations to the Netherlands.

▶ Synthetic drug production in the EU, close to consumers, can be highly profitable. The value of the European retail market for amphetamine and methamphetamine is estimated to be at least EUR 1 billion and for MDMA about EUR 0.5 billion. These estimates imply that between 51 and 81 tonnes of amphetamine and methamphetamine and between 50 million and 70 million MDMA tablets will be produced for the EU market each year. Significant quantities are also produced for export, although exactly how much is difficult to quantify.

Developments in production and trafficking

▶ Innovation is increasing production capacity and creates new challenges. Developments include the use of low-cost, non-scheduled chemicals, mainly sourced from China, that can be converted into drug precursors; custom-made and industrial-scale equipment allowing larger production runs; and methods borrowed from the pharmaceutical industry, such as automating production processes. In some countries OCGs have also established chemical companies to facilitate the supply of materials. Among other factors, this has led to amphetamine and MDMA being readily produced cheaply in large quantities and may have contributed to the rise in the amount of MDMA in ecstasy tablets seen since 2009, which increases the risk to consumers.

▶ The dumping of waste products from production results in environmental damage, health risks and high clean-up costs. A variety of methods are used to dispose of the tonnes of chemical waste created during synthetic drug production. This creates health and safety hazards, has negative impacts on the environment and necessitates costly clean-up procedures. The use of novel chemicals for producing precursors has exacerbated this issue.

▶ Changes in OCG practices and greater interaction between groups involved in other areas of the drug market are observable. These include outlaw motorcycle gangs now becoming involved in the production of synthetic drugs as well as their distribution. In addition, Dutch OCGs appear to be working with criminals of Turkish origin, resulting in two-way trafficking: MDMA and other drugs are sent from the Netherlands to Turkey in exchange for heroin and morphine.

▶ Heightened awareness at border entry points to the main drug-producing countries has led importers to divert shipments of precursors and alternative chemicals to other EU Member States, from where they are trafficked by land once inside the Schengen Area.

▶ MDMA is exported to consumer markets globally, often exploiting parcel delivery services and online darknet marketplaces. Darknet markets facilitate access to EU-produced MDMA tablets by mid-level suppliers and distributors. MDMA may be purchased in batches of multiples of 1 000 tablets, which can then be repackaged, sold online and dispatched through post and parcel services or through traditional distribution networks.

▶ Europe also plays a role in the global market for amphetamine and methamphetamine. Some of the amphetamine produced in the EU is trafficked to the Middle East to be sold as captagon tablets. The dismantlement, in the Netherlands and Belgium in 2019, of three large crystal methamphetamine production facilities where Mexican nationals were involved suggests that Europe may also be emerging as a global supplier of this drug. In addition, methamphetamine produced in Africa and the Middle East, and more recently Mexico, transits through Europe, usually with a final destination in Asia or Oceania.

▶ Currently demand for amphetamine, methamphetamine and MDMA in the EU appears largely to be met by production in EU Member States. This means that most distribution occurs locally within the EU, limiting the opportunities for interdiction. A comparatively small number of groups are currently involved in distributing methamphetamine, in particular Vietnamese OCGs and outlaw motorcycle gangs.

Implications for action to address current threats and increase preparedness

To respond to the current and potential future threats posed by the synthetic drug market in Europe, the following actions are needed.

- Prioritise development of a comprehensive set of measures to respond to the growing threat posed by the emergence of alternative substances that can be easily converted to drug precursors. These would include:
  - strengthening regulatory approaches at both EU and international levels;
  - establishment of a European early warning system and database for identifying and profiling drug precursors, alternative chemicals and other relevant substances;
  - engagement with China and other source countries;
  - continued engagement with industry within the EU.
- Invest to improve the profiling and monitoring of the methods used in the production of synthetic drugs in Europe.
- Highlight and develop strategies to address the environmental impacts, hazards to health and costs to the public purse associated with the chemical waste generated by synthetic drug production.
- Give greater recognition to the implications of the EU's role as a global producer and supplier of synthetic drugs, and the need to do more to restrict drug flows leaving, or transiting through, the EU.
- Strengthen cooperation with Turkey to improve the understanding of synthetic drugs' availability and flows from and to the EU, for both operational and strategic purposes.
- Work with countries in the Middle East to better monitor amphetamine (captagon) production and supply. There is a need to gain information from the forensic analysis of seizures, locate source countries and identify trends in patterns of use in the consumer markets for this drug.
- Improve current knowledge and awareness about the health risks associated with synthetic drug production and dismantling of production sites, to inform the development of health and safety guidance for those at risk of occupational exposure.
- Assess the threats associated with Mexican OCGs that appear to be involved in the supply and production of methamphetamine in Europe, in order to develop responses.
- Improve the assessment of the size, nature and impact of the ketamine and GHB/GBL market in the EU.

Synthetic drugs overview

Amphetamine, MDMA, methamphetamine

Global

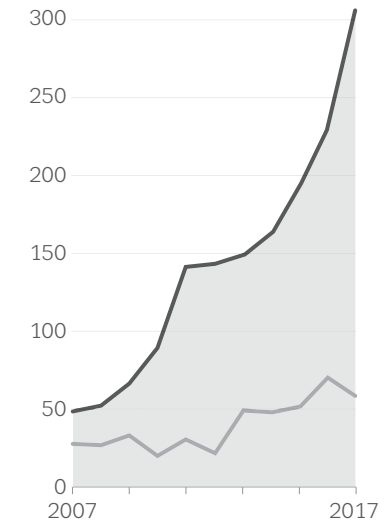
World

28.9 million

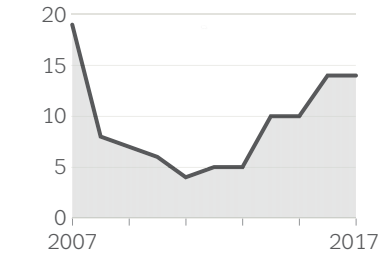
Estimated number using these drugs in the last year aged 15-64

21.3 million

Global seizures of amphetamine and methamphetamine (tonnes)



Global seizures of MDMA (tonnes)



Wholesale price at key locations

*Mean **Mode ***Min-Max

Amphetamine (EUR/kg)

Producer countries

Netherlands*	700
Belgium*	1 928

Transit and destination countries

United Kingdom**	1 430
Latvia*	3 500
Sweden*	7 225
Spain*	13 940
Slovakia*	35 000

MDMA (EUR/1 000 tablets)

Producer countries

Netherlands*	600
Belgium*	1 410

Transit and destination countries

United Kingdom**	1 650
Poland**	3 000
Lithuania*	4 000
Sweden*	5 381
Finland**	10 000

Transit/destination countries outside EU

Australia***	2 700-10 800
South Africa**	4 035
Malaysia**	6 256
Algeria**	8 129

Methamphetamine (EUR/kg)

Producer countries

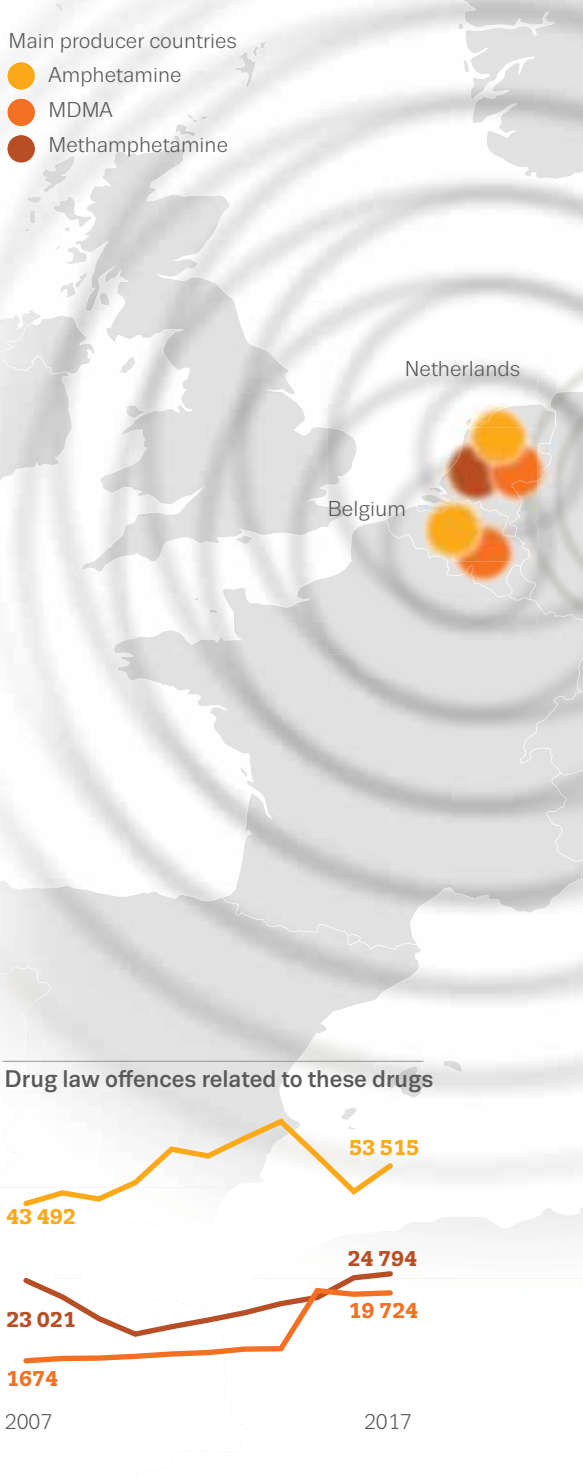
Netherlands*	15 500
Czechia*	21 000

Transit and destination countries

Austria**	30 000
Germany*	31 250
Slovakia*	42 000
Norway**	45 000

Transit/destination countries outside EU

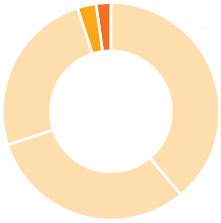
Australia***	54 795-193 282
Japan***	32 000-72 000



Drug law offences related to these drugs

Europe

3 % / 2 %
EU retail drug market share



EU **1.25 million** young adults (15-34)

Amphetamines **1.7 m**

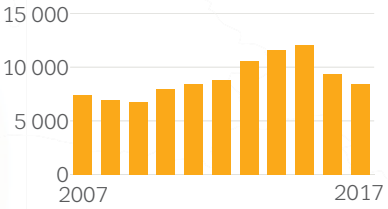
Estimated number using these drugs in the last year aged 15-64

Ecstasy/ MDMA **2.6 million**

2.06 million young adults (15-34)

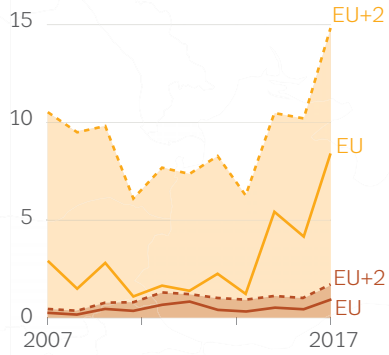
Treatment

Trends in first-time entrants for problems related to amphetamines

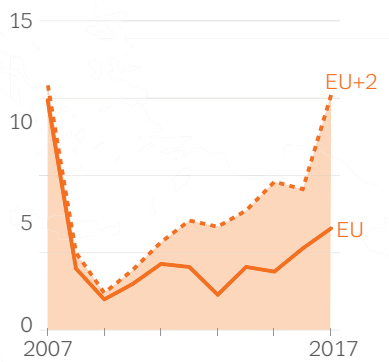


Data for 23 EU Member States.

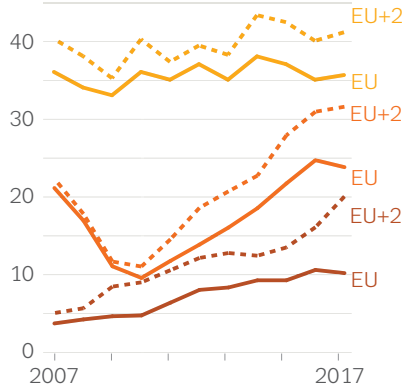
Quantity seized (tonnes)



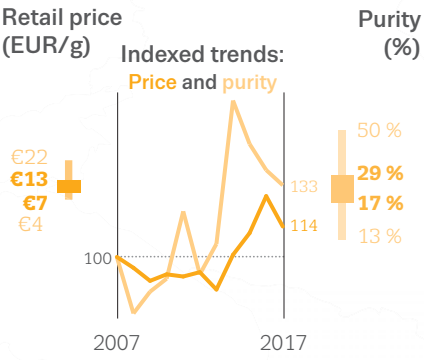
Quantity seized (million tablets)



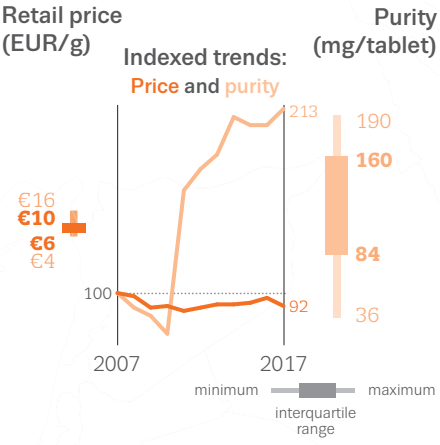
Number of seizures (thousands)

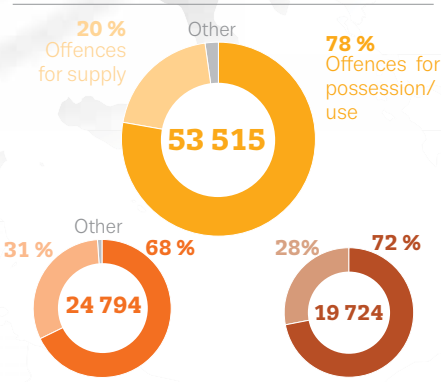


Amphetamine



MDMA





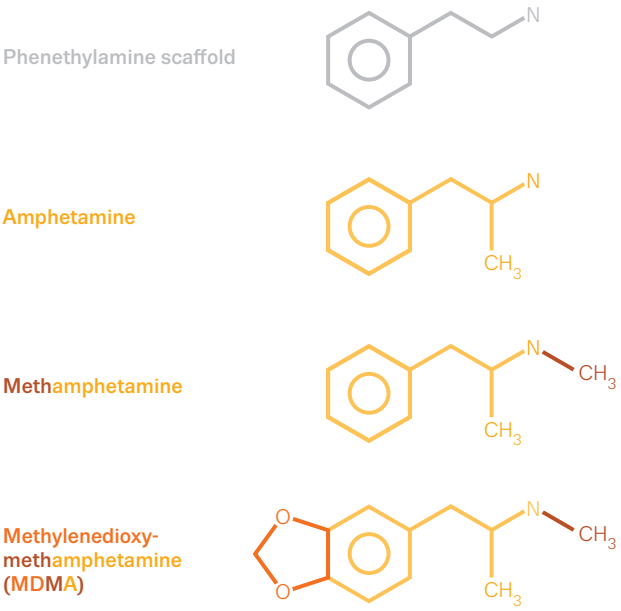
Introduction

This chapter describes the production, trafficking, distribution and use of amphetamine, MDMA and methamphetamine, the three main synthetic drugs available in the EU. Other, less widely used, synthetic drugs available on the EU drug market are worth mentioning, in particular ketamine, GHB and GBL, which are briefly discussed at the end of the chapter.

The synthetic drugs amphetamine, methamphetamine and MDMA (often known as ecstasy when in tablet form or MD in crystal form) compete with cocaine and a range of new psychoactive substances on the European drug market. They have chemical similarities (Figure 6.1) and are most commonly available in tablet, powder or crystal form (see box 'Common forms of synthetic drugs used in Europe'), but they have their own distinct patterns of use and profiles of users.

Amphetamine is much more commonly used in most countries than methamphetamine. However, in some datasets it is not possible to distinguish between these two substances; in these cases, the generic term 'amphetamines' is used. Methamphetamine consumption has historically been restricted to Czechia and Slovakia, although recent years have seen increases in use in other countries.

Figure 6.1
Amphetamine, MDMA and methamphetamine are from the same chemical family



Note: The phenethylamine scaffold comprises a six-carbon ring separated from a nitrogen atom (N) by a further two carbon atoms. 'O' represents oxygen and 'CH_3' represents a carbon bonded to three hydrogen atoms (a methyl group).

Common forms of synthetic drugs used in Europe

Amphetamine and methamphetamine are sometimes grouped together as 'amphetamines' and therefore can be difficult to differentiate in some datasets, whereas MDMA is normally reported separately. All three drugs exist in two chemical forms: base and salt. The pure bases are clear, colourless, volatile oils, insoluble in water, which can be readily converted into powders/crystals of the most common salt forms: amphetamine sulfate, methamphetamine hydrochloride and MDMA hydrochloride.

MDMA hydrochloride is a crystalline solid, soluble in water. It is normally found in the form of tablets (ecstasy), but also as crystals and powders; tablets are usually swallowed, while crystals and powder may be taken orally or snorted.

Amphetamine sulfate is a white or off-white powder that is soluble in water. Illicit products mostly consist of powders, usually mixed with other ingredients, such as lactose, dextrose or caffeine, but tablets containing amphetamine are also available and may carry logos similar to those seen on ecstasy tablets or alternatively the Captagon logo. Amphetamine sulfate may be ingested, snorted or, less commonly, injected. Unlike the hydrochloride salt of methamphetamine, amphetamine sulfate is insufficiently volatile to be smoked.

Methamphetamine hydrochloride is a crystalline solid that is soluble in water. In illicit methamphetamine powder, in the same way as amphetamine sulfate, finely ground crystals are usually mixed with other ingredients, such as lactose, dextrose or caffeine. Large white or translucent crystals of methamphetamine hydrochloride suitable for smoking, known as 'ice' or 'crystal meth', are also available, although this route of administration is not commonly reported during surveys of users in Europe.

It is estimated that 12.4 million European adults (aged 15-64), or 4 % of this age group, have tried amphetamine and/or methamphetamine during their lives and 1.7 million (0.5 %) during the last year. The available data suggest that use of these drugs is relatively stable.

Long-term, chronic and injecting amphetamine use has, historically, been most evident in northern European countries. For example, the estimated prevalence of high-risk amphetamine use was 0.2 % in Germany in 2015, and users of amphetamines are likely to make up the majority of the estimated 2 234 (0.2 %) high-risk stimulant users reported by Latvia in 2017. In contrast, methamphetamine use has been most apparent in Czechia and Slovakia. In Czechia, high-risk methamphetamine use among adults (aged 15-64) was estimated at around 0.5 % in 2017.

Approximately 28 000 clients (6 %) entering specialised drug treatment in Europe in 2017 reported amphetamine or methamphetamine as their primary drug. About 11 000 of them were first-time clients (7 % of all first-time clients). Considering route of administration, 14 % of all amphetamines clients reported oral consumption of the drugs, 65 % reported sniffing, 11 % reported smoking or inhaling and 9 % reported injecting.

It is estimated that 13.7 million European adults (aged 15-64), or 4 % of this age group, have tried MDMA/ecstasy during their lives and 2.6 million (1 %) in the last year. Use is more common among young people, and it is estimated that 2 % of young adults (15-34) have used MDMA in the last year.

The estimated annual value of the retail market for amphetamines in the EU is at least EUR 1 billion, with a range of EUR 0.8-1.3 billion, while the estimate for MDMA is at least EUR 0.5 billion (range EUR 0.4-0.6 billion). Together they make up about 5 % of the total illicit market in drugs. Estimates of amounts used suggest that in 2017 about 62 tonnes of amphetamines (likely range 51 to 81 tonnes) and 60 million MDMA tablets (50 million to 70 million tablets) were consumed.

Global overview

With a burgeoning market in Asia, methamphetamine is reported to be the most widely consumed synthetic stimulant in the world, whereas amphetamine and MDMA are more commonly used in Europe, although there are some indications that methamphetamine use may be slowly diffusing from the traditional zones of use. Europe is a producing region for these three drugs for the EU consumer market, but in addition Europe's role as an international supplier of these drugs is increasingly being recognised. For example, huge quantities of ecstasy tablets are trafficked to Turkey each year, and tablets and crystals are internationally distributed, including smaller quantities distributed via darknet markets. Bulk quantities of EU-produced methamphetamine have been seized in places such as Australia and, more recently, amphetamine in the form of captagon tablets has been produced in Europe for markets in the Middle East. The EU is also an occasional transit area for methamphetamine produced in Africa, Iran or Mexico on its way to the lucrative markets of Asia and Oceania, and there are a few signals emerging to suggest that methamphetamine from Mexico and West Africa may be available on the drug market in some EU Member States.

A potentially important development has been noted in a particular area of Afghanistan, where some heroin producers have been making methamphetamine. The process used was initially based on the extraction of ephedrine from cough medicine, and then more recently from ephedra plants grown in other regions of Afghanistan (Mansfield, 2019). It will be important to monitor this phenomenon, given the significant traffic of heroin to the EU from Afghanistan.

Production

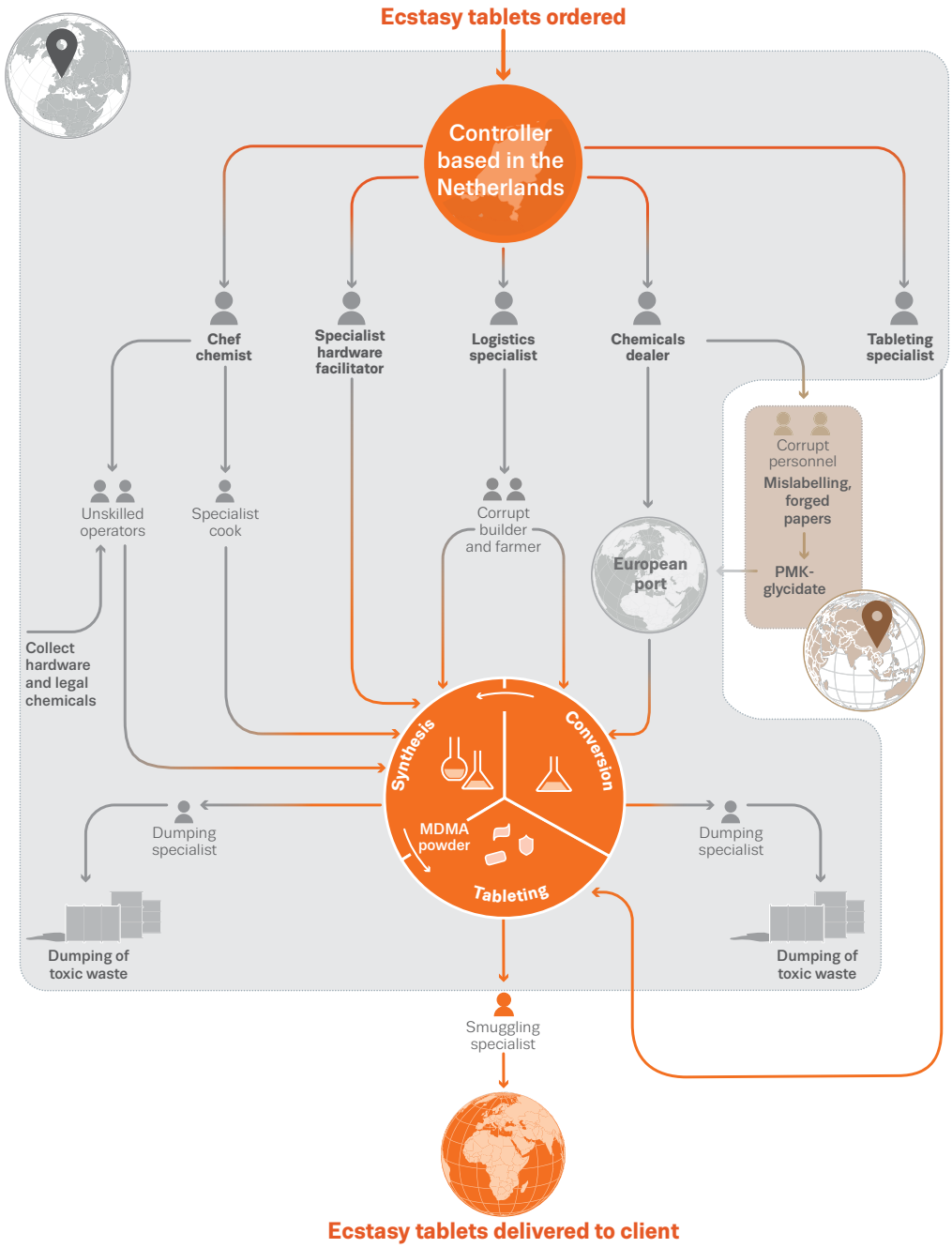
The amphetamine, MDMA and methamphetamine consumed in the EU are almost exclusively produced in the EU, although many EU Member States report no or very limited production of synthetic drugs on their territories (UNODC, 2019a). Europe has emerged as a main global production centre of MDMA, but the amphetamine and methamphetamine manufactured in Europe are primarily for European consumers, although some is exported, principally to the Middle East, East Asia and Australia.

Synthetic drug production relies on the availability of drug precursors. The global effort to reduce the supply of synthetic drugs therefore begins with the international drug precursor control regime, which for the last 10 years or so has been challenged by the emergence of alternative substances designed to avoid controls. Analysis of precursor developments suggests that producers have active research programmes to exploit chemical loopholes in the regulations. The development of this phenomenon is the topic of a supporting report (EMCDDA, 2019f), which concludes that the current regulatory approach

is struggling to achieve an appreciable reduction in the availability of amphetamine, methamphetamine or MDMA, and that a policy debate is needed to develop fresh ideas about how this problem should be tackled in the future.

The large-scale production of synthetic drugs is a complex operation, as can be seen from the illustration of MDMA supply chain logistics (Figure 6.2). It requires infrastructure and logistics that, to a certain extent, mirror those of many legitimate pharmaceutical manufacturing businesses. The correct combination of skills and access to drug precursors, other chemicals and equipment are needed, as well as secure locations in which to perform the various operations. This is the business model predominantly used in the Netherlands and Belgium for amphetamine and MDMA (and to a lesser degree methamphetamine), where large-scale production operations are most common. There is a developing trend of using larger and more sophisticated equipment, and both custom-made and commercial industrial equipment are used. The most sophisticated illicit laboratories employ computer-controlled timers and complex electronic switching gear, demonstrating how elaborate and professional they have become (Europol, 2019b) and making investigating them more technical.

Figure 6.2
MDMA supply chain logistics



Dutch OCGs continue to dominate the production of synthetic drugs in the Netherlands and are heavily involved in the production of these drugs in Belgium. Some Dutch and Belgian OCGs involved in the production of synthetic drugs are closely integrated and orchestrate the large-scale production of synthetic drugs together. Groups operating in the Netherlands are increasingly specialised in carrying out specific steps in the production cycle such as the acquisition of precursor substances, the production and tableting phases and distribution or trafficking. These groups appear to be highly flexible and adaptable.

Conversely, small amounts of synthetic drugs can be produced relatively easily in what are known as 'kitchen labs' using drug precursors extracted from medicinal products and household chemicals. This is the predominant method for methamphetamine production, which in the EU mainly occurs in Czechia and to a lesser extent in Germany, Poland and Slovakia.

Figure 6.3
Location of sites related to amphetamine production in the EU, 2015-17

Production methods and sites

Amphetamine

Amphetamine is most often made from the internationally controlled drug precursor benzyl methyl ketone (BMK), also known as phenyl-2-propanone (P2P), although other methods are documented. Rather than being imported as a liquid from China as was previously the case, BMK is now primarily produced in the EU from alternative chemicals (EMCDDA, 2019f), which also typically come from China. The conversion process, which is dangerous but relatively straightforward, may be done at the same place as the synthetic drug is produced or at a dedicated site (conversion lab). According to Belgian authorities, all amphetamine production facilities dismantled in 2017 included conversion labs.

As well as the mid- to large-scale production operations found in the Netherlands and Belgium, sites linked to amphetamine production have been reported in other EU Member States, especially in central and eastern Europe (see Figure 6.3). Between 2015 and 2017, 366 sites related to amphetamine production, including laboratories, dump sites and storage locations, were reported in the EU, most notably in the Netherlands (225), Belgium (50), Poland (32), Germany (27) and Sweden (10), via the European Reporting Instrument for Sites related to Synthetic Production (ERISSP). Such sites are also found from time to time in other EU Member States (see Figure 6.3). It should be noted that some of the production sites perform only the crystallisation stage of production, making amphetamine sulfate from amphetamine base oil. In addition, during darknet market monitoring, offers of relatively small quantities of amphetamine oil were noted (50 ml for EUR 175, purporting to ship from the Netherlands). This implies that the crystallisation step of the production process will be conducted at the destination, which would be a novel development.

MDMA

MDMA is produced primarily from the internationally controlled precursor piperonyl methyl ketone (PMK), also known as methylenedioxyphenyl-2-propanone (MDP2P). Like BMK, this precursor has also been supplanted by alternative substances from China, which are then converted to PMK in Europe.

MDMA production mainly takes place in the Netherlands, and occasionally in Belgium with Dutch connections. Between 2015 and 2017, according to ERISSP, 158 sites related to MDMA production were dismantled in the EU, most notably in the Netherlands (135) and Belgium (21) (see Figure 6.4). These MDMA production facilities tend to be highly professional and with large outputs. The increasing sophistication of MDMA production facilities was reported in the last edition of this report. That situation continues, with more automation being a notable feature

Figure 6.4
Location of sites related to MDMA production in the EU, 2015-17

of the more advanced laboratories. There has been an increase in the number of sites related to MDMA production notified recently, with the Netherlands reporting 59 in 2017 compared with 41 in 2016, and Belgium reporting 10 in 2017 compared with 3 in 2016. Laboratories are rarely found in other EU Member States, although Poland reported a tableting site in 2015 and Italy reported a small manufacturing site in 2016.

The annual Sewage Analysis Core Group Europe (SCORE) wastewater-monitoring campaigns showed unusually high loads of MDMA and amphetamines in wastewater influents in the Dutch cities of Amsterdam, Eindhoven and Utrecht, which could not be ascribed to human consumption only (EMCDDA, 2018c). Further chemical analysis confirmed that the high levels of MDMA observed in Utrecht reflected direct disposal of non-consumed MDMA in the sewer system, suggesting drug production in that region. Studies show that direct disposal of substances in the sewer system is often related to police interventions in suspected drug production facilities (Emke et al., 2014).

The Wastewater analysis of traces of illicit drug-related chemicals for law enforcement and public health (WATCH) project included a 30-day synthetic drug production monitoring campaign in Eindhoven and Tilburg in the Netherlands and Turnhout in Belgium. High levels of MDMA were recorded during the entire monitoring period in one city in the Netherlands, suggesting continuous discharges of unconsumed MDMA from sources within the wastewater catchment area, thus pointing to significant drug production in this region (WATCH, 2018).

Methamphetamine

There are two main methamphetamine production phenomena observed in Europe: production of relatively small quantities in small to mid-scale illicit laboratories in Czechia, using precursors extracted from medicines; and the less frequently encountered large-scale production in the Netherlands and Belgium based on BMK. Small quantities of methamphetamine may also be produced in relatively amateur settings using recipes from the internet, based on precursors extracted from medicines and some readily available household chemicals. This is typically carried out by methamphetamine consumers to supply small circles of users, in various Member States.

Although the scale and production potential are not routinely reported, between 2015 and 2017 a significant number of laboratories manufacturing methamphetamine were dismantled in the EU. Data reported to the EMCDDA and Europol (2016-18) show that most illicit laboratories were dismantled in Czechia (1 252), Bulgaria (64), Germany (38), Slovakia (36) and Poland (21) (see Figure 6.5). Czechia clearly accounts for most of the methamphetamine production laboratories in Europe, and Czech authorities assess that 6.5 tonnes are consumed in Czechia annually. Although much of the small-scale production is not thought to be linked to organised crime groups, there is intelligence suggesting that Vietnamese organised crime groups are up-scaling methamphetamine production sites in Czechia and (to a lesser extent) Poland; for example, Czechia dismantled two large-scale methamphetamine production facilities in 2017. Vietnamese groups are also reported as having established methamphetamine production operations in the Netherlands, in some cases shifting their operations from Czechia, which may be related to the lower penalties for drug-related crime imposed there (EMCDDA, 2017c; Tops et al., 2018).

Occasionally, large-scale methamphetamine laboratories are discovered in the Netherlands, producing crystal methamphetamine using BMK, for export to Asia and Oceania. To make the more potent form of methamphetamine, a further processing step uses tartaric acid. This technique has been used by OCGs in Mexico since around 2012 to supply the large consumer markets in the United States (INCB, 2016). Recent information suggests that this know-how has now been transferred to Europe (see Case study 23). In February 2019, for example, Dutch law enforcement officers dismantled

Figure 6.5
Location of sites related to methamphetamine production in the EU, 2015-17

a laboratory producing methamphetamine and arrested nationals of the Dominican Republic, Mexico and the Netherlands. The laboratory was used for the crystallisation stage in the production process and around 400 kg of methamphetamine and various chemicals were recovered. In addition, in June 2019, Belgian police dismantled a large production site where crystal methamphetamine was synthesised. One Belgian, two Dutch and four Mexicans were arrested in connection with this case (data from Belgian Federal Police).

Although the production of methamphetamine in the Netherlands is primarily for export to lucrative markets outside the EU, Spain and to a lesser degree Poland both report that some of the methamphetamine on their drug markets comes from the Netherlands.

Synthetic drug production: a complex logistical exercise

Dutch and Belgian criminal groups are the most important producers of synthetic drugs in the EU, possessing the most advanced capabilities and investing a significant amount of resources. The large-scale production of synthetic drugs appears to be linked to a small number of interconnected OCGs, sharing and exchanging knowledge, resources and expertise. Investigations have shown that prominent criminal groups are involved in the production of MDMA and amphetamine and, less frequently, methamphetamine. Dutch OCGs also continue to export their expertise in establishing synthetic drug laboratories and designing production processes to other Member States, as well as in non-EU locations (see box 'Captagon', page 167). In addition, some OCGs engaged in synthetic drug production have also been involved in heroin production in the EU (see Chapter 4). OCGs have been active in the Belgian-Dutch border region since 2000, setting up illicit synthetic drug laboratories. Risks are minimised by maintaining separation of the various processes involved. In the Netherlands and Belgium, for example, a controller arranges chemicals, equipment, the synthesis or 'cooking' step, the dumping of waste and tableting by specialists working independently from each other, to minimise the risk of exposure.

Precursors and alternative chemicals used to make them

To circumvent the strict controls placed on the precursors BMK and PMK, traffickers have introduced alternative chemicals, adding an extra step in the production process. Although not a new phenomenon, this practice seems

CASE STUDY 23

Methamphetamine lab found on a boat in the Netherlands

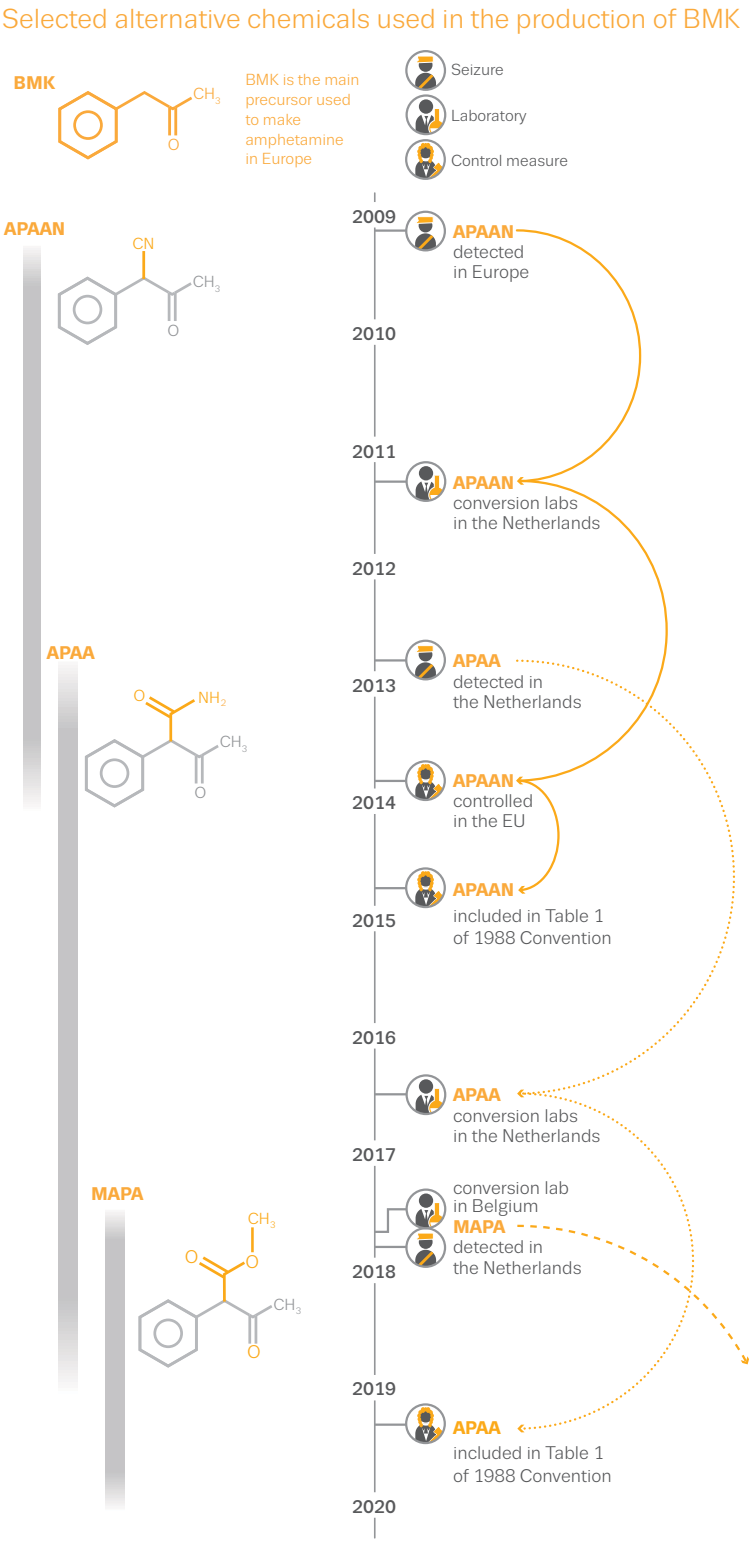
In May 2019, an illicit methamphetamine laboratory was located on an 85-metre German-registered cargo boat moored in the Dutch port of Moerdijk. More than 300 litres of methamphetamine oil was seized from the boat and the 65-year-old Dutch captain and three Mexican men aged 23, 26 and 37 were arrested. A car with German licence plates was also seized. The forensic investigation of the scene had to be abandoned when the boat started taking on water, in what could have been an attempt to destroy evidence by the remote activation of a pump.

Source: Boffey (2019b).

to have intensified in the last few years, as can be seen from the timeline (Figure 6.6). Perhaps because these alternatives are legal, they are available at a fraction of the cost of BMK and PMK, making production more profitable for the organisers.

Whereas conversion laboratories have been a feature of synthetic drug production in the Netherlands and Belgium for a number of years, Dutch and Belgian OCGs have recently begun to collaborate more closely with Polish criminals, and/or legitimate businesses based mainly

Figure 6.6
Timeline: alternative chemicals for the production of BMK



Note: APAA, alpha-phenylacetoacetamide; APAAN, alpha-phenylacetoacetonitrile; BMK, benzyl methyl ketone; MAPA, methyl-alpha-phenylacetoacetate.
The 1988 Convention: United Nation Convention against illicit traffic in narcotic drugs and psychotropic substances, 1988.

in Poland, that can supply chemicals. Law enforcement intelligence suggests that some Polish OCGs that were previously involved in the production of amphetamine in Poland are now instead increasingly involved in the supply of chemicals for the production of synthetic drugs in other countries. These OCGs may then receive payment in the form of an agreed quantity of the manufactured drugs.

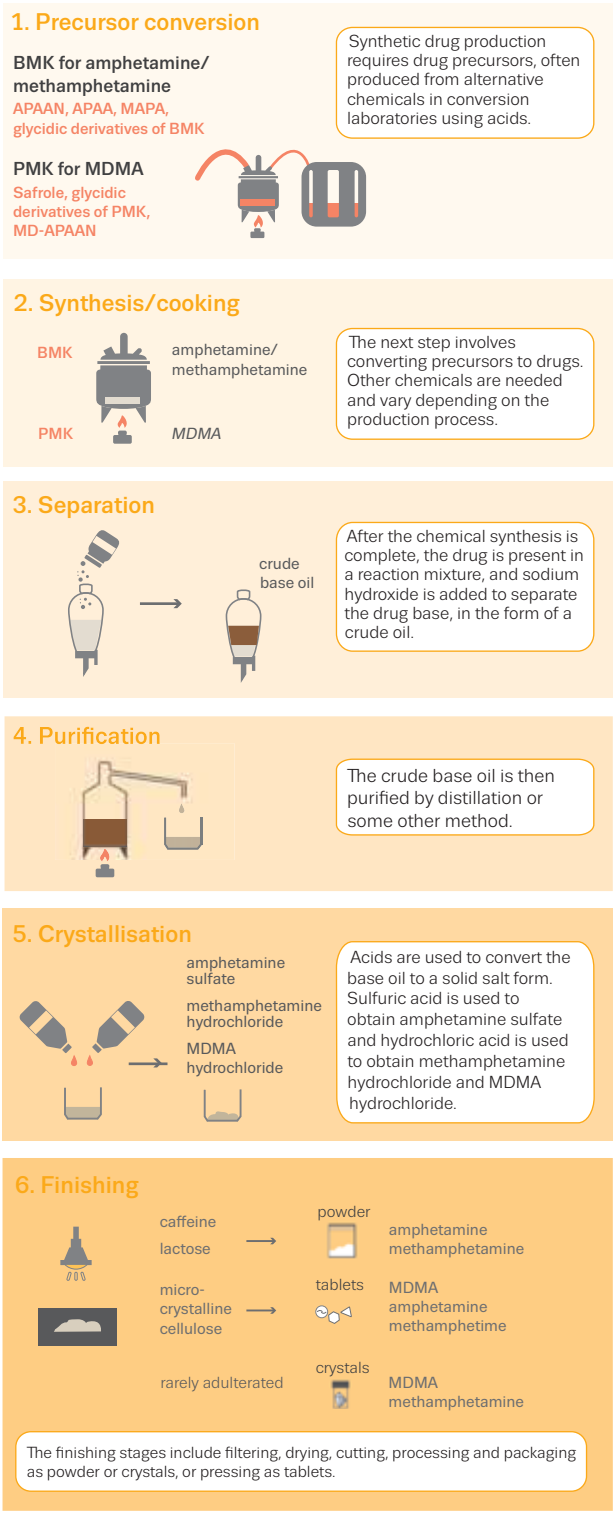
In the last report, APAAN (a pre-precursor) was highlighted as the chemical used in Europe to make BMK. However, its scheduling at international level in 2014 led to the development of alternatives: first, glycidic derivatives of BMK, then APAA and then MAPA. Although the market is dynamic and rapidly changing, the most frequently encountered non-scheduled precursor used in illicit drug production in Europe at present is APAA for making amphetamine. However, MAPA is increasingly detected. PMK glycidate appears to be the most favoured precursor for MDMA production. Producers do not seem to be concerned about the precise identity of the chemical used for producing BMK or PMK, as long as it works and they know how to do the conversion. Rather than being chemically accurate, they simply refer to these compounds as BMK-intermediate or PMK-intermediate.

The synthesis ('cooking') process

The synthesis step is the most important stage of synthetic drug production; it is often called 'cooking'. In general terms, this involves synthesis, separation and crystallisation (see Figure 6.7). In recent times, it has emerged that synthetic drug producers may make use of ad hoc contacts to oversee this part of the production process; for example, members of outlaw motorcycle gangs may be used. Less-experienced operators may be expected to perform the drug synthesis under the supervision of a 'chef' chemist. The dangerous nature of the process may expose them to significant harm, as was highlighted in January 2019 when three men were found dead in such a laboratory in Belgium after apparently breathing toxic fumes (Belgian Federal Police, personal communication). The inhalation of methanol vapour has been highlighted as a particular hazard for those working in illicit synthetic drug laboratories (Wijnands-Kleukers et al., 2019). Such health harms are not well documented, and additional monitoring of this phenomenon would be valuable to assess them.

In recent years, trafficking amphetamine base oil from the Netherlands for conversion to amphetamine sulfate in other EU countries has been observed. The practice appears to be continuing, and outlaw motorcycle gangs appear to play a prominent role in it.

Figure 6.7
Simplified general schema of synthetic drug production



Note: This illustration is intended to provide an indicative schematic overview of selected stages of a production process. It must be noted that alternative methods, chemicals and procedures may be used.

The equipment for the cooking stage of synthetic drug production is largely custom made. For this reason, the characteristic appearance of such equipment, when recovered from a dismantled laboratory, provides valuable clues about the criminal groups involved. In contrast, the equipment used for tableting is commercially produced and can be easily sourced online. In addition, the machines are relatively inexpensive, for example EUR 8 000 for a machine with capacity to produce 10 000-15 000 tablets per hour or EUR 23 000 for one that can produce 100 000 tablets per hour.

In Czechia, methamphetamine is produced mainly from ephedrine or pseudoephedrine, which is extracted from medicinal products originating mainly in European countries and trafficked by land. Up until fairly recently, Turkey was reported to be the source of such tablets, which were trafficked by land transiting countries including Bulgaria, Hungary, Poland, Romania and Slovakia. However, the INCB reports that Turkey is less commonly identified as a source, and controls implemented to tackle the issue are having the desired effect (INCB, 2019). The National Police in Czechia now report that Poland is a key transit country or source of such medicines (Police of the Czech Republic, 2018).

Tableting

Processing MDMA into ecstasy tablets is the last step in the production process for this important nightlife drug. This work demands some skill and is done by specialists, usually in an isolated or well-insulated location in order to avoid attracting attention, as tableting equipment makes a lot of noise. Although tableting and synthesis are sometimes co-located, tableting is often conducted at a dedicated site, for two main reasons. First, it reduces the risk of losing all important equipment and chemicals at the same time if the site is raided. Second, illicit drug laboratories tend to be humid environments, which can have a negative effect on the quality of the tablets. The 'tableteers' can produce tablets of any colour or shape requested by the client. The correct pressing materials are needed, typically microcrystalline cellulose products and colouring agents to add to the mix, as well as custom-made punches fabricated with the desired shapes and logos.

Environmental impact of waste materials

As can be seen from Figure 6.2, specialists are also involved in disposing of the waste produced during synthetic drug production processes. The environmental impact of synthetic drug production in the EU was highlighted in the last edition of this report. Since then we have studied this phenomenon and have a much greater understanding of this part of the European synthetic drug chain.

It is estimated that producing 1 kg of amphetamine creates between 20 and 30 kg of waste, and producing 1 kg of MDMA creates between 6 and 10 kg of waste (Europol,

Challenges in estimating synthetic drug production in the EU: the example of the Netherlands

Our estimate of the retail value of the market for amphetamine, methamphetamine and MDMA in the EU in 2017 was EUR 1.5 billion (range EUR 1.2 billion to EUR 1.9 billion) (EMCDDA, 2019a). However, a report commissioned by the Dutch police in 2018 concluded that the business model of Dutch OCGs engaged in synthetic drug production has been so successful that the estimated global revenue from amphetamine and MDMA produced in the Netherlands in 2017 was at least EUR 18.9 billion (Tops et al., 2018). This amount relates to the retail value on global markets of the total amount produced, including adulteration. This figure is based on retail prices in consumer countries; it does not appear to take into account costs and losses outside the EU, although it does account for precursor losses in the Netherlands. These amounts relate to sales and do not take account of costs incurred or the profits made by other groups along the supply chain. The authors estimated that the proportion of the global revenue realised by the Dutch production and distribution level is between EUR 3 billion and EUR 5 billion.

The EU market size estimate and the global retail revenue estimate figures are not directly comparable. However, we do know that the EU markets for these drugs are small compared with the markets elsewhere, in particular in Asia, and that the Netherlands is a key global producer of synthetic drugs, so the figure of EUR 18.9 billion for the value of that part of the global retail market supplied by production in the Netherlands seems possible. The topic of study is by its very nature a hidden phenomenon. Estimates such as these are difficult to produce and are, by necessity, based on a number of assumptions. Tops and colleagues have been transparent in their approach and careful to use figures that produce conservative estimates. The findings confirm what we already knew: that the Netherlands is an important global hub for synthetic drug production.

2019b). The production of BMK and PMK precursors from alternative chemicals also produces a significant amount of waste, even before the synthetic drug production process takes place.

Based on the estimated amount of synthetic drugs consumed in the EU, calculated as part of the market size estimates, between 1 293 and 1 948 tonnes of synthetic drug production waste is generated each year (Table 6.1). It must be stressed, however, that these estimates do not take account of the portion of production that is seized by law enforcement agencies, or the portion that is produced in the EU for export. Using the figures produced by Tops and colleagues in 2018, although they were somewhat controversial when published, the total amount of waste produced is between 7 000 and 11 000 tonnes. Neither of these estimates factors in the amount of waste generated at precursor conversion labs.

The waste may be disposed of by simply pouring it down the sink or toilet, although this is likely to be rare, as it brings with it the risk of detection should smells or leaks occur. If this does occur, it may affect the quality of drinking water, block the sewage system or disturb the workings of municipal wastewater treatment plants. More commonly, members of the public report containers of waste dumped in the countryside but there have been instances where it has been found buried underground. Waste can also be left in abandoned residences or loaded in stolen vans or lorry trailers, which may then be set on fire to conceal forensic evidence. More elaborate methods have been found, including the use of modified vans that pump waste onto the road surface while driving in rainy conditions (see Figure 6.8). These discharges have a higher environmental impact than waste found dumped in containers, and are less likely to be discovered. When discharges are identified, however, they are not always registered by law enforcement officers (Schoenmaekers et al., 2016).

Figure 6.8
Van modified for illegal dumping of synthetic drug production waste

Photo: Federal Police, Belgium

Waste contaminants dumped on land are broken down by the fauna and flora that live in the soil. The acidity/alkalinity of synthetic drug production waste is harmful to the organisms living there, e.g. earthworms or millipedes, which need a neutral environment (Boerman et al., 2017; Schoenmakers et al., 2016). Waste discharged into surface water may cause aquatic life to die, can create hazards, such as the potential contamination of cattle affecting the human food chain, and risks the further spread of chemicals into the soil and waterways (Boerman et al., 2017; Kates et al., 2014; Schoenmakers et al., 2016). Certain types of chemical waste cause water pH levels to rise, which can reduce oxygen levels, harming fish and plants (Schoenmakers et al., 2016; UNODCCP, 1999). These harms are likely to be more acute in the main production areas. Between 2015 and 2017, almost 660 dump sites were notified to authorities in the Netherlands (591) and in Belgium, especially the part neighbouring the Netherlands (68) (see Figure 6.9).

Table 6.1
Estimated amount of chemical waste generated in the production of the amphetamine, MDMA and methamphetamine consumed in the EU in 2017

Synthetic drug	Estimated production in the EU (tonnes)	Waste output per tonne produced (tonnes)	Total waste (tonnes)
Amphetamine and methamphetamine	62	20-30	1 240-1 860
MDMA	8.8	6-10	53-88
Total			1 293-1 948

Source: Europol (2019b).

Figure 6.9
Location of dump sites of waste from synthetic drug production in the Netherlands and Belgium, 2015-17

The cost of dismantling synthetic drug production sites

Apart from the damage to the environment, there is also the financial impact of cleaning up after the production of synthetic drugs and the waste that it generates. When synthetic drug laboratories or dump sites are discovered, they must be safely dismantled and/or cleaned up so that they do not cause harm. This is done by various specialists, which generates a number of direct costs to society. The EMCDDA commissioned a study to estimate the costs of dismantling and cleaning up synthetic drug production sites in Belgium and the Netherlands, because of the high incidence of synthetic drug production in those countries (Claessens et al., 2019).

The cost estimation was based on working hours, training hours and materials used by all the actors involved in the dismantling and cleaning up. The costs include the police, a separate specialised police synthetic drug lab dismantling team, the fire department, civil protection services and private companies involved. Environmental services were also involved in both countries, but no cost data were available for those. The estimated cost can be considered a minimum, as it became clear during the information-gathering process that there were no standardised recorded data and the costs that were retrieved were a minimum estimate by the bodies involved. The minimum estimate for these countries for one year is almost EUR 6 million (Table 6.2).

Trafficking and supply

The amphetamines and MDMA consumed within the EU are largely supplied from EU sources and therefore supplied by intra-EU trafficking. However, as discussed above, EU OCGs are also important producers for the global market, so trafficking from the EU to these external markets also needs to be considered.

Trafficking within the EU

Trafficking within the EU is complex and dynamic, with many criminal groups and individuals involved. Whereas synthetic drug production processes are well understood, thanks to extensive forensic investigation of dismantled illicit laboratories, trafficking is less so. The most useful information is derived from police investigations. Concerted efforts at EU level to improve data collections are starting to address this information gap around trafficking of synthetic drugs but they will take some time to be fully established.

The trafficking of synthetic drugs within the EU is primarily carried out using land transportation, as well as post and parcel services. Trafficking by post and parcel services is believed to be primarily linked to the online supply of relatively small quantities of synthetic drugs from both EU- and non-EU-based vendors.

The free movement of goods within the Schengen Area coupled with the EU-based production model for synthetic drugs means that the opportunities for controlling shipments at the external border of the EU are limited in comparison with cocaine and heroin, for example. When they do occur, large seizures made at borders tend to result from coordinated law enforcement operations. Furthermore, action against street dealers and users may result in a large number of smaller retail-level seizures. This variability complicates the interpretation of the data although, clearly, both the number of seizures and the amount seized give an indication of the importance of the market for these drugs in the EU.

Table 6.2
Minimum estimated cost of dismantling illicit laboratories and cleaning up waste dump sites in Belgium and the Netherlands, 2016

Country	Number of sites	Total cost (EUR)
Belgium	42	1 401 634
Netherlands	322	4 368 294
Total	364	5 769 928

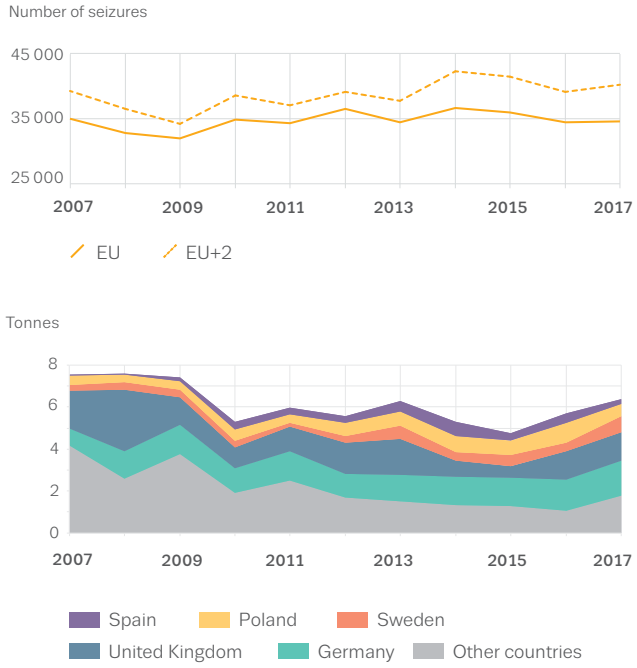
Seizures of amphetamine in the EU have remained relatively stable for a number of years (see Figure 6.10), in terms of both the number of seizures (approximately 35 000 per year) and the amount seized (around 5 tonnes per year). However, two significant countries — the Netherlands and Poland — do not report the number of seizures, which limits the analysis.

In 2017, EU Member States reported 35 000 seizures of amphetamine, amounting to 6.4 tonnes. The estimated quantity of amphetamine seized in the EU has generally fluctuated around 5 to 6 tonnes each year since 2010, although there have been increases in each of the past 2 years (Figure 6.10). Germany and the United Kingdom generally seize the largest amounts, often more than a tonne each.

There have been coordinated international law enforcement efforts to tackle synthetic drug production and trafficking, some of which are conducted under the banner of the European Multidisciplinary Platform Against Criminal Threats (EMPACT) (see section on the policy cycle, Chapter 8). Such operations tend to focus on drug precursors, on production labs or on trafficking in general, resulting in the dismantling of the criminal enterprise. Law enforcement operations of this type are complex and require a multidisciplinary response, but the results can be significant (see Case study 24).

The number of reported MDMA seizures in the EU has been on an upward trend since 2010 (Figure 6.11). This is linked to shortages of precursors in the preceding years and the subsequent switch to non-scheduled chemicals for making

Figure 6.10
Number of amphetamine seizures and quantities seized, 2007-17



PMK. The quantity of MDMA seized is more often reported by number of tablets than by weight. The estimated 6.6 million MDMA tablets reported seized in 2017 is the highest number reported seized in the EU in any year since 2007. The trend, however, has been variable. In addition, some countries report seizures of MDMA powder. Reported seizures of MDMA powder in the EU increased from 0.3 tonnes in 2016 to 1.7 tonnes in 2017. This increase is mainly in quantities reported by the Netherlands.

CASE STUDY 24

Intra-EU chemical trafficking for synthetic drug production

In April 2018, in a coordinated cross-border operation led by the Polish Police Central Bureau of Investigation and Dutch and German police, and supported by Europol, 300 officers were deployed to tackle a major supplier of chemicals used for synthetic drug production in the Netherlands. Polish law enforcement agencies had been gathering information on the traffickers since 2016 and, during the investigation, it was revealed that around 2 tonnes of chemicals were transported from Poland to addresses in the south of the Netherlands up to three times a week.

On the day of action, simultaneous raids were conducted in Poland, Germany and the Netherlands. In Poland, eight suspects were arrested and 17 tonnes of chemicals and 4 kg of amphetamine paste were seized. In Germany, a further 7 tonnes of chemicals was seized. Police in the Netherlands conducted 17 searches, arrested seven suspects and shut down three illicit synthetic drug production laboratories. Dutch law enforcement officers seized more than 100 kg of MDMA crystals and 12 litres of MDMA base oil, more than 1 000 litres of drug precursors and more than 60 000 litres of other chemical substances, as well as four illegal firearms and ammunition. Encrypted phones used by the gang members were also confiscated by law enforcement during the action day.

Source: Europol (2018a).

Methamphetamine seizures are far lower, with 9 000 seizures reported in the EU in 2017, amounting to 0.7 tonnes (Figure 6.12). France (122 kg), Germany (114 kg) and Czechia (93 kg) seized the largest amounts. The number of seizures of methamphetamine has shown an overall upward trend since 2002 but with signs of stabilisation in recent years; the quantity seized has been increasing, albeit with some fluctuation, since 2009.

It is important to note that synthetic drugs are frequently seized as part of multidrug shipments, which indicates that polydrug-trafficking activities remain a common feature of OCGs involved in the trafficking and distribution of synthetic drugs in the EU. Outlaw motorcycle gangs have traditionally been involved in the trafficking and distribution of synthetic drugs, particularly in Nordic and Baltic states. As noted above, these groups are also increasingly involved in orchestrating synthetic drug production.

Trafficking outside the EU

Outside the borders of the EU, two phenomena can be observed. First, there is the flow of drug precursors and the alternative chemicals that can be converted into them, which are predominantly imported to the EU from Asia. Second, there is the export of synthetic drugs, mainly MDMA and to a lesser degree methamphetamine, to important and often lucrative consumer markets in Asia and Australia.

The latest data from the INCB show that the low quantity of BMK seized globally (4 200 litres) in 2017, and reports of only 'negligible' aggregate seizures of PMK apart from one important seizure of approximately 5 000 litres in Europe, confirm that the diversion of these controlled precursors is becoming less significant. The alternative chemicals used to make BMK and PMK predominantly flow to the EU from Asia and are converted in laboratories in the EU. The INCB reports that, in relation to BMK, in 2017, the largest amounts of APAA were seized in the Netherlands (more than 10 tonnes), followed by France (more than 600 kg) and Belgium (250 kg). Between 2017 and January 2019, Europol was made aware of seizures of more than 10 tonnes of MAPA globally. In relation to PMK, more than 10 tonnes of glycidic derivatives have been seized each year since 2016 (INCB, 2019).

Synthetic drugs are trafficked from centres of production in the EU to consumer markets outside the EU, including important and lucrative markets in Asia and Australia. Methamphetamine produced in the Netherlands is thought to be mainly intended for export to these destinations, with small quantities often trafficked by couriers and large quantities by maritime transportation. As well as highlighting large shipments of EU-produced synthetic drugs detected in other regions of the world, open source information monitoring has also shown that other methods for smuggling smaller amounts, such as internal concealment, also occur. However, their frequency is difficult to assess. For example, in March 2019, authorities

Figure 6.11
Number of MDMA seizures (all forms) and quantities of tablets seized, 2007-17

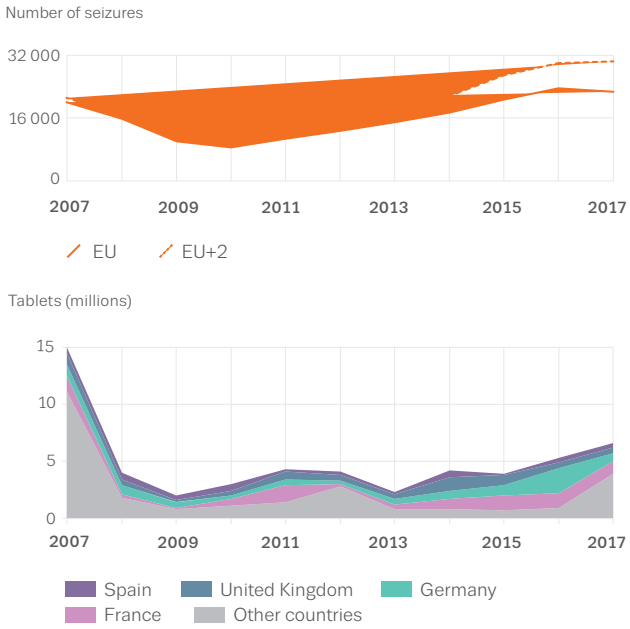
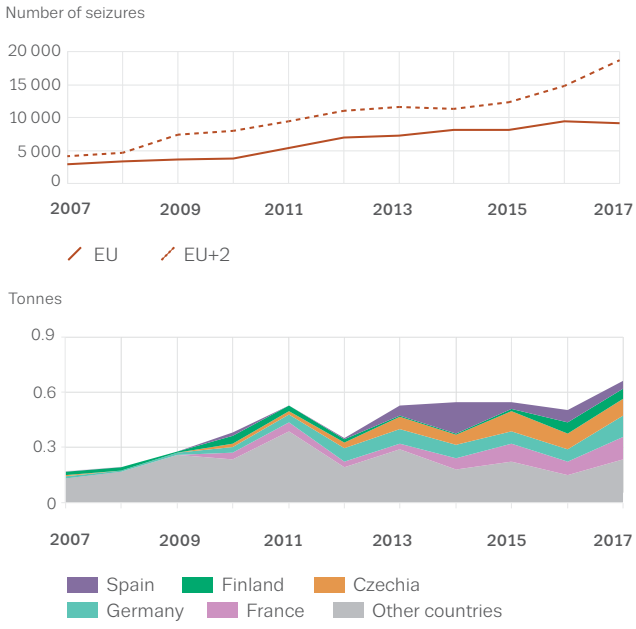


Figure 6.12
Number of methamphetamine seizures and quantities seized, 2007-17



at the international airport in Santiago de Chile arrested a Dutch citizen who had arrived from Amsterdam via Rome. On examination, 82 capsules containing ecstasy tablets or powder valued at almost EUR 60 000 were recovered from his stomach. This was the first case of this type recorded in Chile (Prensa Latina, 2019). It should also be noted that the smuggling of synthetic drugs to non-EU countries via postal parcels appears to be gaining momentum in Europe. For instance, 328 kg of MDMA was seized at European postal centres in 2018 and most of this was destined to markets in South and North America and in Asia. However, synthetic drugs may also be smuggled by mail within the EU. For instance, customs in Austria reported seizing numerous parcels and letters containing small amounts of methamphetamine sent from the Netherlands in 2018 (Groupe Pompidou and RILO WE, 2019).

The Balkan route is a significant trafficking route for synthetic drugs produced in the EU heading to non-EU destinations, such as Turkey or countries in the Middle East along this route, while drug precursors and associated substances flow into the EU in the opposite direction.

In 2017, Turkey seized more amphetamine (6.6 tonnes) than the EU Member States combined (6.4 tonnes). Almost all of the amphetamine seized in Turkey was in the form of tablets (26.3 million tablets — over 99.5 % of the total estimated amount seized), including large quantities of captagon tablets containing amphetamine (see box 'Captagon'). Large seizures of captagon amounting to millions of tablets also took place in Greece in the early part of 2019. Large quantities of MDMA tablets were also seized in Turkey in 2017, more than double the amount in the previous year, amounting to 8.6 million tablets and exceeding the total amount seized in the EU (Figure 6.11). Turkey also seized an exceptionally large quantity of methamphetamine in 2017 (658 kg), a similar amount to that reported for the entire EU (662 kg).

Captagon

Countries in the Middle East regularly report seizing millions of tablets of captagon, a common illicit stimulant drug used in the Arabian Peninsula, and, to a lesser extent, other Middle Eastern countries. Media reports have linked captagon to perpetrators of terrorist attacks in Europe and terrorist groups based in areas of conflict in the Middle East, leading to concerns about this drug, which prompted the EMCDDA to review the available evidence in a recent paper (EMCDDA, 2018d).

The drug now known as captagon takes its name from the medicinal product Captagon; however, nowadays amphetamine is the drug most frequently found in seized captagon tablets, although this could change in future.

Large quantities of captagon used to be manufactured illicitly in Balkan countries, chiefly Bulgaria, and in Turkey, and then exported to the consumer markets in the Arabian Peninsula. However, since the mid-2000s, captagon production has moved closer to the consumer markets. Clandestine facilities were dismantled in Lebanon and Jordan in 2011, 2015 and 2018, and large amounts of BMK have been seized in these countries. Although no amphetamine laboratories have been reported as dismantled in Syria, the INCB recently expressed the concern that Syrian companies may be used to import BMK or its precursors, and added that 'existing

Photo: Department of Identification and Forensic Science, Israel Police

manufacturing facilities' in Syria may be misused to produce amphetamine (INCB, 2018). There are indications that drugs, including captagon, may also be produced in Iraq, although a lack of hard data makes drawing any conclusions on this issue difficult.

There is evidence suggesting that European OCGs specialising in synthetic drug production, particularly amphetamine production specialists, are active in the Middle East. A Bulgarian and a Belgian were arrested in Lebanon in 2014 and 2015, respectively, in connection with drug production, and a large captagon laboratory dismantled in Lebanon in 2015 contained custom-made synthetic drug production equipment characteristic of the type found in the Netherlands and Belgium. The illicit manufacturing of captagon tablets has also been encountered in Europe over the last few years, particularly in the Netherlands.

Methamphetamine produced in Mexico, West Africa and Iran is trafficked to the EU, but on a much less significant scale than intra-EU production and trafficking. Belgium, for example has reported that methamphetamine shipments have arrived there from Burkina Faso and Nigeria, and Spain has reported shipments from Mexico and Côte d'Ivoire. It is likely that these cases reflect the EU's role as a transit hub for methamphetamine heading to East Asia and Australia.

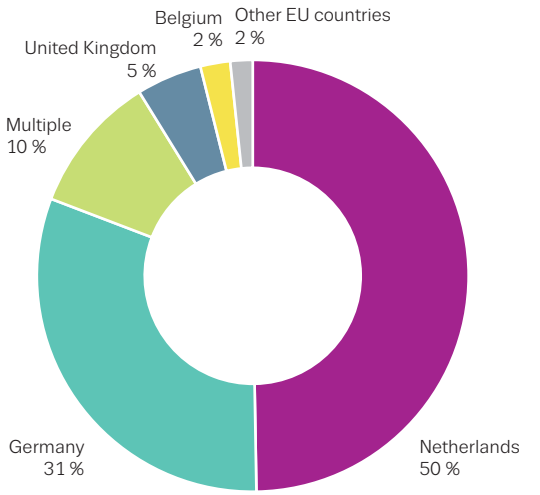
Drug precursors and the alternative chemicals used to produce them are normally trafficked from outside the EU. Some chemical companies have been established in the EU for the sole purpose of trading in chemical substances that can be used in illicit synthetic drug production. All EU airports and seaports are potential entry points or transit areas for illicit goods, which are typically offloaded from containers for further transportation by road. OCGs involved in the trafficking of precursors target the main seaports close to synthetic drug production hubs such as Antwerp and Rotterdam, but also, increasingly, smaller seaports across the EU with less strict control measures in place. Shipments also enter the EU at border-crossing points along the EU's external border among legal freight on trucks and trains.

Seizure reports from outside Europe, identified through the monitoring of open source information, and analysis of darknet market data illustrate the important role played by European producers in the global supply of MDMA. For example, darknet market monitoring data show that, as well as facilitating direct retail sales to consumers, these markets are used by dealers around the world to purchase larger quantities of MDMA produced in Europe. Analysis shows that transactions involving quantities of MDMA tablets indicative of the middle level of the market account for more than double the revenue of sales of retail-level quantities. In contrast, darknet cannabis and cocaine transactions are overwhelmingly at the retail level (EMCDDA and Europol, 2017).

Online distribution

Synthetic drugs are also distributed across the EU via darknet marketplaces (see Chapter 2). As well as the sale of small quantities of amphetamine, MDMA and methamphetamine, larger quantities of MDMA, often in multiples of 1 000 tablets for redistribution, are also sold. Such purchases tend to be delivered to the buyer using post and parcel services. Although the online trade in MDMA (and other drugs) remains marginal compared with the offline/traditional supply, it is important to understand its scope. Based on 2018 data from several major darknet markets ([14]), we detected a total of

Figure 6.13
Darknet market offers: MDMA listings shipping from Europe, 2018



Note: Multiple denotes where several EU countries are mentioned as country of origin.

15 874 MDMA listings (sale offers) that could be attributed to vendors that said that they would ship MDMA from an EU country. The equivalent figures for amphetamine and methamphetamine were much smaller by comparison (2 238 and 1 146 respectively), so these drugs will not be examined in further detail. The MDMA offers were distributed across nine marketplaces, with three markets accounting for 99 % of all offers: Dream Market (14 242), Olympus Market (1 334) and Berlusconi Market (182). The available data suggest that the majority of sale offers originating from the EU during 2018 were from the Netherlands (50 %) and Germany (31 %). Other reported EU Member States of origin included the United Kingdom (5 %) and Belgium (2 %). An additional 12 % of listings offered shipping from other EU countries (2 %) or multiple EU countries (10 %) (Figure 6.13).

Caution is needed in interpreting these data in respect of gauging the number of individual sellers offering synthetic drugs on these marketplaces or the number of transactions. Neither number can be extrapolated from the number of listings alone. Nonetheless, the number of listings has been used as a valid indicator of the scope of activity on darknet markets.

Retail supply and use

MDMA

Until recently, in many countries, MDMA prevalence had been on the decline from peak levels reached in the early

([14]) For more information on the data source and its limitations see the section on darknet monitoring in Chapter 8.

to mid-2000s. In recent years, however, monitoring sources suggest a mixed picture with no clear trends. Among the countries that have produced new surveys since 2016 and reported confidence intervals, four reported higher estimates than in the previous comparable survey, six reported stable estimates and two reported lower estimates.

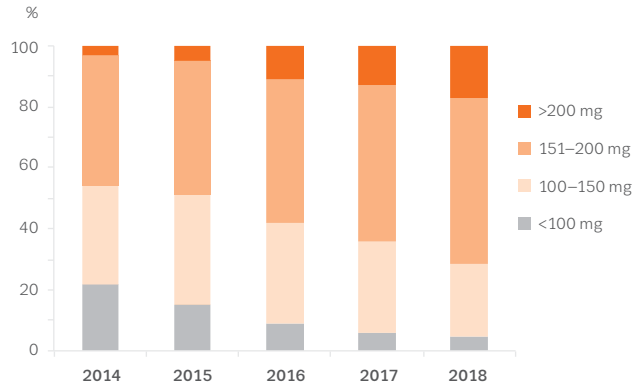
MDMA is often taken alongside other substances, including alcohol. Current indications suggest that, in higher-prevalence countries, MDMA is no longer a niche or subcultural drug limited to dance clubs and parties, but is used by a broad range of young people in mainstream nightlife settings, including bars and house parties. Marketing appears to play a role in retail sales, and new tablet designs in various colours, shapes and brand logos are constantly being introduced. The European Web Survey on Drugs found that, among people who had used MDMA in the previous year, the proportion reporting frequent use (more than 50 days in the past year) ranged from none at all in Cyprus to around 8 % in Croatia and Austria.

MDMA use is rarely cited as a reason for entering specialised drug treatment. In 2017, MDMA was reported by fewer than 1 % (around 1 600 cases) of treatment entrants in Europe, with Turkey (616), the United Kingdom (230), France (168) and Hungary (111) accounting for 70 % of these.

The average MDMA content of tablets, in those countries that routinely report data, has been increasing since 2010. In 2017, a 10-year high of 167 mg per tablet was reported by the Netherlands (Trimbos Institute, 2019; see Figure 6.14). A drug-testing service in the United Kingdom also reported increased amounts of MDMA in ecstasy tablets, from 129 mg in 2016 to 156 mg in 2017 (Harm Reduction Wales, 2018). In a study conducted for the EMCDDA in seven Member States between January and July 2018, of 35 ecstasy tablet samples submitted for testing to nine onsite and offsite drug-checking services and confirmed to contain MDMA, 11 were found to contain caffeine. In the case of MDMA in crystal form, of 44 positive samples, 19 contained an unknown adulterant and 11 contained caffeine.

Wastewater analysis can detect fluctuations in weekly patterns of illicit use. The 2018 multi-city analysis found the highest mass loads of MDMA in the wastewater in cities in Belgium, Germany and the Netherlands. Of the 37 cities that have data for 2017 and 2018, 21 reported an increase, nine a stable situation and seven a decrease. Looking at longer-term trends, in most cities with data for both 2011 and 2018 (10 cities), wastewater MDMA loads were higher in 2018 than in 2011 (EMCDDA, 2019b).

Figure 6.14
MDMA content of ecstasy tablets, 2014-18



Source: Trimbos Institute, the Netherlands.

Amphetamine and methamphetamine

Compared with 2007, both the price and purity of amphetamine in Europe were higher in 2017, despite a slight fall compared with the previous year. Typically, both the average reported purity and the price are higher for methamphetamine than for amphetamine samples. Amphetamine is typically adulterated with caffeine. The drug-checking study conducted for the EMCDDA in 2018 found that, of 488 samples containing amphetamine, 70 % contained caffeine. No samples of methamphetamine were identified in the study (EMCDDA, 2019b).

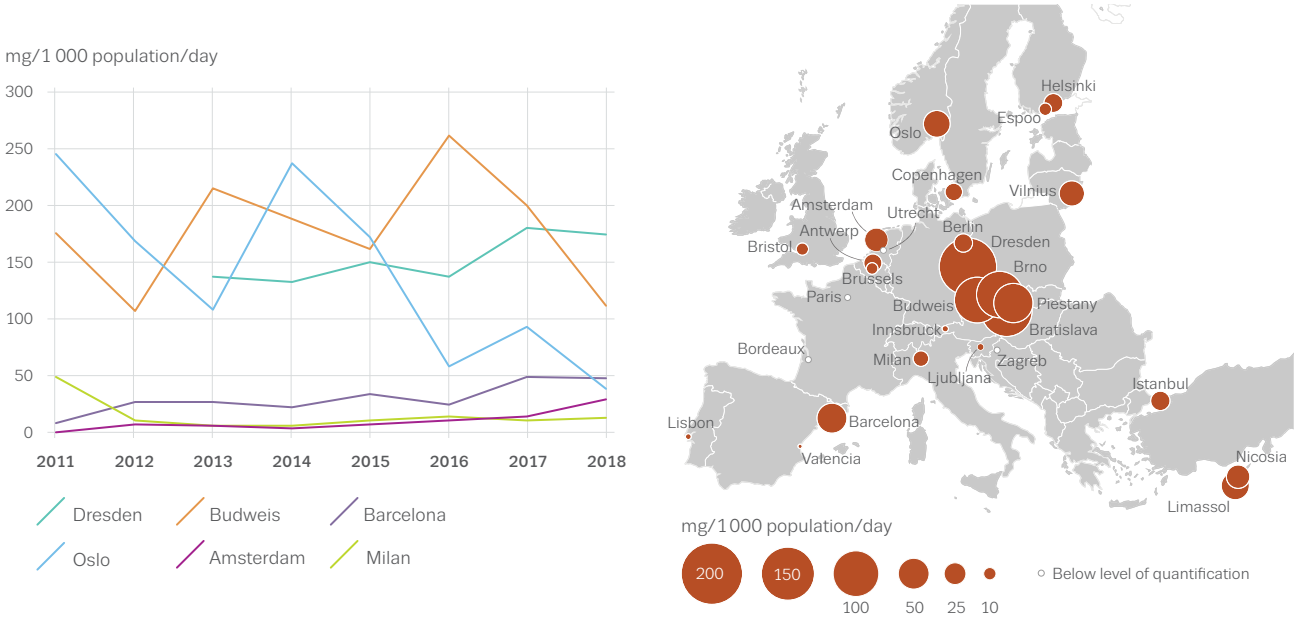
Analysis of municipal wastewater carried out in 2018 found that mass loads of amphetamine varied considerably across Europe, with the highest levels reported in cities in the north and east of Europe. Amphetamine was found at much lower levels in cities in the south of Europe. It must be noted that not all European Union Member States participate in this activity. Of the 38 cities reporting data for 2017 and 2018, 21 noted an increase, seven a stable situation and 10 a decrease. Overall, the data from cities with data from 2011 to 2018 showed a diverse picture, but with relatively stable trends in most cities for amphetamine (EMCDDA, 2019b).

Temporal fluctuations observed in wastewater data show that, whereas use of amphetamine used to be distributed more evenly over the whole week, increasing loads have been detected during the weekend more recently, probably related to increasing use in recreational settings.

Methamphetamine use, which is generally low, stable and historically concentrated in Czechia and Slovakia, now appears to be present also in other European countries, such as Cyprus, Germany, Spain and northern Europe (Figure 6.15). In 2017 and 2018, of the 40 cities that have data on

Figure 6.15

Methamphetamine residues in wastewater in selected European cities: trends and most recent data



Note: Mean daily amounts of methamphetamine in milligrams per 1 000 population. Sampling was carried out in selected European cities over a week in each year from 2011 to 2018.

Source: Sewage Analysis Core Group Europe (SCORE).

methamphetamine in wastewater, five reported an increase, 20 a stable situation and 15 a decrease.

Other important synthetic drugs on the EU drug market

This section considers ketamine and GHB/GBL, which seem to be growing in importance in the EU drug market, to the extent that some EU Member States are raising concerns about them. There are many other synthetic drugs available on the EU drug market, for example mephedrone, 2C-B and some niche substances with weak user demand, on which very little information is available. The data available for LSD show that, while the quantities seized fluctuate year to year, the number of seizures has doubled since 2007, to 2 200 seizures and 74 000 units seized in 2017.

Ketamine

Although apparently used on a much more limited scale than the other drugs discussed in this chapter, ketamine is another synthetic drug that is worthy of some attention, not least because of its harmful effects on those who use it on a regular basis. Although most ketamine would appear to be imported into the EU generally from China or India (ACMD, 2013; KLPD Dienst Nationale Recherche, 2012), a ketamine production site was found in the Netherlands. In addition, a storage site found in Belgium in 2017 was reported to be connected to ketamine production in the Netherlands (see Chapter 7). Sixteen EU Member States reported around 2 000 seizures of ketamine in 2017, amounting to an estimated 194 kg and 5 litres of the drug, most of which was accounted for by Belgium, France and the United Kingdom. Complementary data were reported to the EU Early Warning System on new psychoactive substances in 2017 amounting to 1 945 seizures from 19 countries: 947 kg of powder, with France and the Netherlands contributing most to the total; 13 litres of liquid, mainly reported by France; and 216 tablets. In addition, in the first half of 2018, the Netherlands reported seizures of approximately 1 tonne of ketamine, which may indicate increasing demand for the drug (see below). The United Kingdom reported the highest number of seizures (523) and quantities of ketamine seized (68 kg) in 2016/2017. In previous years, however, seizures were larger and more numerous: for example, in 2013/14 when 1 650 seizures occurred, totalling 357 kg of powder.

In its annual report on the drug situation, the Dutch Trimbos Institute highlighted that, while ketamine use among the general population is low (1.1 % lifetime prevalence and 0.5 % in the past year), it has now become a mainstream drug in the Netherlands among adolescents and young adults participating in the nightlife scene, with 17.3 % of this population ever having used it and 12.3 % in the past year (Trimbos Institute, 2019). There has also been an increase

in ketamine samples delivered to the Drug Information and Monitoring System (DIMS); they now account for 4 % of all drug samples. DIMS found that, in 2017, ketamine samples had an average purity of 63 %, with an average price of EUR 25 per gram (range from EUR 5 to EUR 60). The European Research Area Network on Illicit Drugs (ERANID) project survey reported slightly higher prices of between EUR 30 and EUR 40 per gram. A study of four of the largest darknet markets conducted between July 2017 and June 2018 found that, in 1 251 ketamine listings, the amount most commonly offered was 1 g (209 listings), with a median price of EUR 23 per gram (Christin and Thomas, 2019). Caffeine is the most common adulterant of ketamine. The drug-checking study conducted for the EMCDDA between January and July 2018 showed that, of 48 ketamine samples, 25 of them contained caffeine (EMCDDA, 2019b).

Another reason for increasing seizures in some countries in Europe could be the sale of ketamine on darknet markets. While some ketamine appears to be offered for sale from vendors based in Europe, in the absence of sales data it is difficult to assess the extent of this phenomenon. A previous study identified 469 sales of ketamine shipping from the EU (EMCDDA and Europol, 2017). It will be important to closely monitor the diffusion of ketamine and related substances in the EU in the coming years.

GHB and GBL

GHB (gamma-hydroxybutyric acid) is also known as 'liquid ecstasy', 'gamma' or simply 'G'. It is a synthetic drug that is usually consumed in recreational nightlife settings, where it is taken orally in liquid form for sought-after effects that are similar to those of alcohol. GHB has a steep dose-response curve: even a small increase in dose can cause serious toxic effects, including impaired consciousness and coma, so developments in this market are worthy of study.

GBL (gamma-butyrolactone) is the main precursor for GHB, and is increasingly being trafficked in the EU for the purpose of GHB production, or for direct consumption, as it is rapidly converted to GHB in the body. Whereas GHB was added to Schedule IV of the 1971 UN Convention on Psychotropic Substances in March 2001 and then moved to Schedule II in 2014, GBL is not scheduled at global or EU level as a drug or as a precursor. That enables criminal groups to divert it from licit supplies. In some countries, such as Poland, control is possible because GBL is an ester of GHB. GBL has legitimate use as an industrial solvent, but, despite this, some Member States have imposed controls on the substance in their national drug legislation. As well as being diverted from licit supplies within the EU, GBL is also smuggled to the EU from China.

In 2017, seizures of GHB or GBL were reported to the EU in three ways: to the EU Early Warning System, to the EMCDDA through the standard seizure data collection or, as GBL is a precursor of GHB, to the European Commission. Analysis of the data from these sources is hampered by inconsistencies in reporting, such as a country reporting different numbers to two or three of the data collections.

What is clear, though, is that 19 EU Member States, Norway and Turkey have reported data to at least one of them. It appears that Belgium, Spain, the Netherlands and Norway are the countries that report the largest numbers of seizures, respectively. Taking the EU Early Warning System data into account, 13 EU Member States, Norway and Turkey reported over 1 000 seizures amounting to approximately 250 kg and almost 460 litres of the drug. According to reporting through the standard table, Belgium alone seized two hauls of GBL amounting to 305 litres and 2.28 kg and 444 hauls of GHB amounting to 1.5 kg and 2 litres, whereas Norway reported 488 seizures (170 litres) of GHB and 75 seizures (190 litres) of GBL.

In 2016, Germany reported to the European Commission that it had stopped 29 suspicious orders of GBL, amounting to some 57 100 litres of the substance. However, in 2017 no EU Member States reported stopping any attempts to purchase GBL.

Synthetic drugs have been noted offered as a cocktail, for example 'Blue-69', purported to be a mixture of amphetamine, MDMA and GHB. Dutch vendors have placed such items for sale on darknet markets at a cost of EUR 27.50 for 5 ml of the liquid, although the exact contents are not known (Figure 6.16).

Figure 6.16
Advert for 'Blue-69', a cocktail of synthetic drugs

Source: 'Berlusconi' a darknet market.

7

Photo: Netherlands Forensic Institute

CHAPTER 7

New psychoactive substances

Key points

Developments in new psychoactive substances in the EU

▶ Policies on NPS appear to be having some impact. Measures taken in the EU, especially those that have reduced the open trade, and in source countries, such as China, appear to have resulted in a slow-down in the number of first detections of NPS in European countries. Currently, around 50 new substances are reported annually, within a total of over 730 reported to the EU Early Warning System.

▶ Despite a slow-down in first-time detections, NPS continue to pose serious cross-border threats to health. This is evident from the number of potent synthetic opioids, synthetic cannabinoids and benzodiazepines appearing on the market and the associated reports of health emergencies and deaths.

▶ Globalised markets, the internet and other technologies drive the availability of NPS in the EU. The internet, both the surface web and darknet markets, is an important source of supply, particularly since in many EU countries open sales in shops have been reduced. However, there appear to be increasing sales of NPS on the illicit market.

Developments in production and trafficking

▶ China remains the major source country for NPS, from where they are exported and openly sold by chemical and pharmaceutical companies. To a lesser extent, India is also an important source of some NPS, particularly those sold as medicines. A small number of illicit laboratories have also been detected in European countries such as the Netherlands and Poland, usually producing synthetic cathinones.

▶ Interaction with the market for traditional illicit drugs is now greater. The NPS market continues to evolve and is characterised by a range of substances that are cheap, easily replaceable and potent. Interactions with the market in established controlled drugs have become stronger and influence the demand for and use of NPS, with NPS increasingly sold alongside illicit substances or in mixtures with them.

▶ Problems attributable to synthetic cannabinoids appear to be growing. The relatively low cost, easy availability and high potency of synthetic cannabinoids appear to have resulted in increased use among marginalised groups such as the homeless and prison populations. This development is associated with an increase in reports of serious negative consequences.

▶ New opioids are a growing cause for concern. There has been a rapid increase in the number of fentanyl derivatives, substances particularly associated with health problems, including fatal poisoning. Developments in this area are likely to be influenced by the prominent role played by this group of drugs in the current opioid epidemic in North America.

▶ Overlaps exist with the market for fake medicines. New benzodiazepines, often sold at very low prices, have appeared on illicit drug markets in some countries and have been associated with harm, including an increased risk of overdose. They are also used to make fake versions of these medicines, which are sold on the illicit drug market. A small number of new benzodiazepines may be sourced from companies in India, typically as finished medicinal products.

▶ HIV outbreaks have been linked to the injection of synthetic cathinones. This is likely to be because the injecting of stimulants is associated with high injecting frequency and more chaotic behaviours. The use of cathinones among some groups of men who have sex with men has also been associated with increased sexual risk-taking behaviours.

Implications for action for preparedness and response activities

To respond to the current and potential future threats posed by the synthetic drug market in Europe, the following actions are needed.

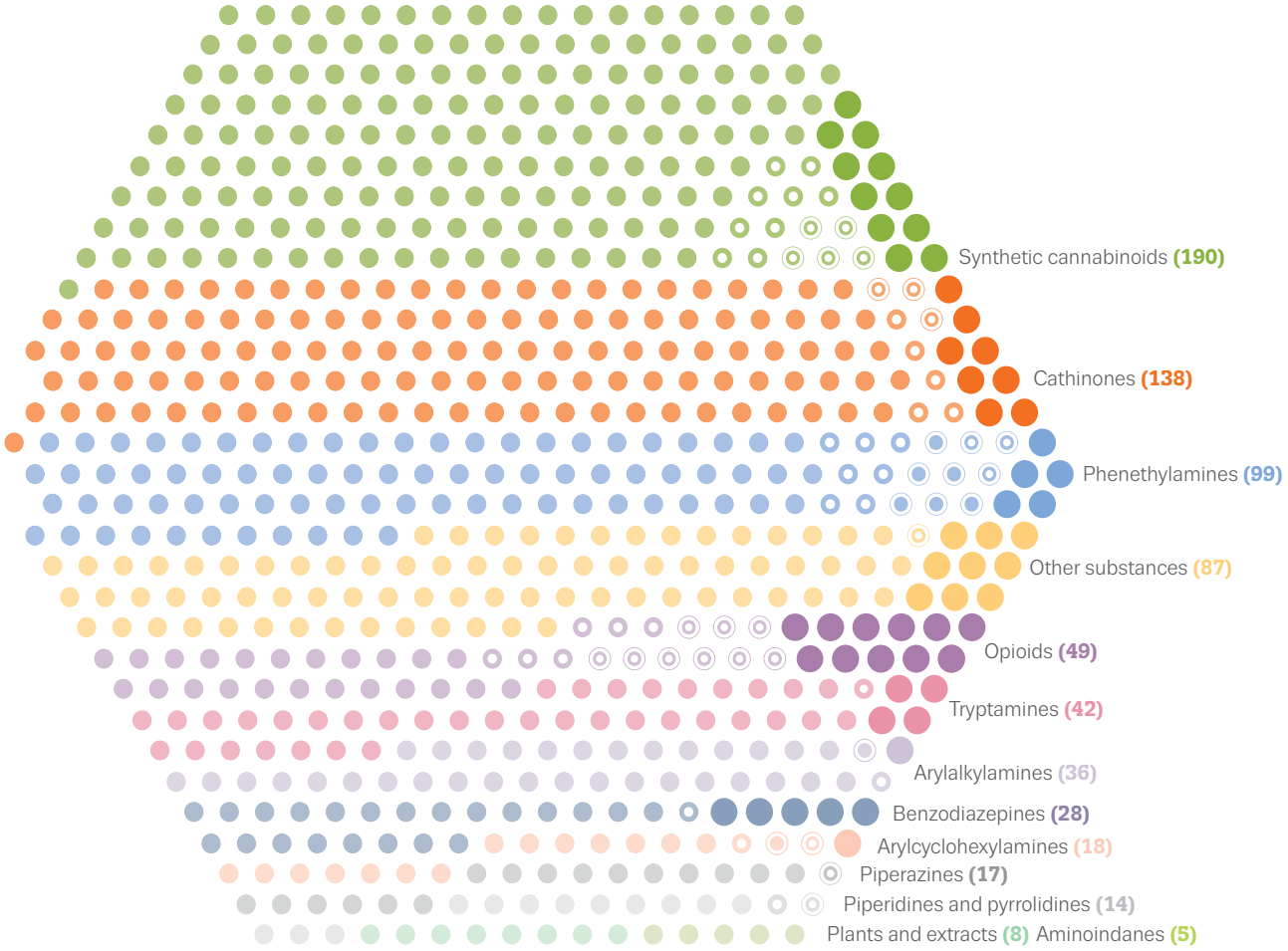
- Continue to support and develop the capacity of national and EU early warning systems to increase situational awareness and preparedness, and to support the development of responses.
- Develop effective models to rapidly identify and respond to outbreaks of mass poisoning linked to NPS use. These need to include, where relevant, the provision of opioid antagonists.
- Share intelligence, assess threats, monitor the situation and carry out research to improve the understanding of the production of NPS within Europe, the involvement of OCGs and interactions that may exist between the NPS market and the more established controlled drugs market.
- Raise awareness and develop appropriate guidance and training on the risks associated with occupational exposure to potent and highly toxic NPS and their adulterants and contaminants.
- Continue to support capacity-building activities, including training, sharing of best practices and provision of specialist equipment for law enforcement agencies, in particular customs, to increase the detection of shipments of NPS at European borders and within the postal and parcel services.
- Increase the ability of forensic science and toxicology laboratories to identify new substances as well as precursors and metabolites. This requires support for training, resources for testing, and a mechanism for production and sharing of analytical data, reference materials and expertise.
- Systematically monitor and disrupt online marketplaces, particularly those selling wholesale quantities, both on the surface web and on darknet markets, and to strengthen even further the partnerships with industry to restrict such sales.
- Support research into the pharmacology and toxicology of NPS identified by the EU Early Warning System.

New psychoactive substances overview

Substances reported to the EU Early Warning System since 1997

731 NPS

Monitored | EU risk assessment | International control | EU risk assessment and international control | Reported in 2018



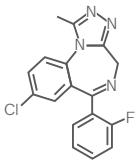
Benzodiazepines — flualprazolam

First detected: February 2018, Sweden

Structurally related to alprazolam (Xanax), but more potent and not under international control.

Has been used to make falsified (fake) Xanax tablets.

2018: >30 000 tablets seized

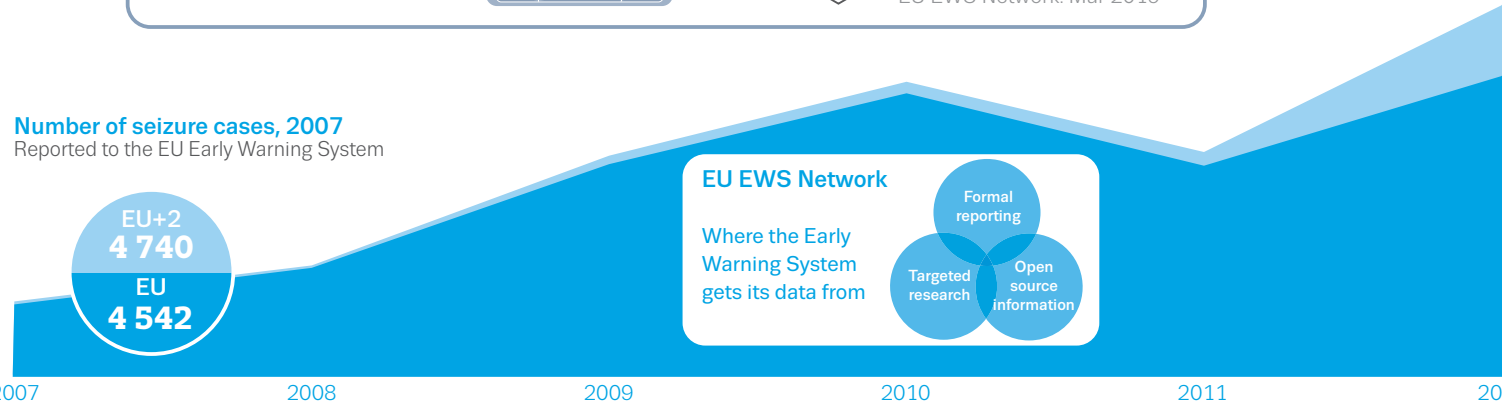


In 2018: **2 Member States reported** poisonings involving flualprazolam.

Risk communication to the EU EWS Network: Mar 2019

Number of seizure cases, 2007

Reported to the EU Early Warning System



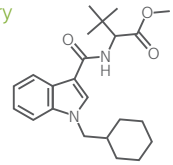
EU EWS Network

Where the Early Warning System gets its data from

Synthetic cannabinoids — MDMB-CHMICA

First detected: September 2014, Hungary

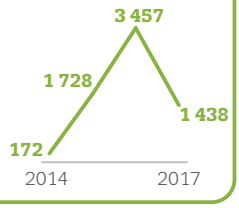
MDMB-CHMICA is typically sold as a 'legal' replacement for cannabis. Because of its high potency and the way that 'legal high' products are produced, users are at risk of serious poisoning.



29 deaths in 6 countries

Risk assessment: Jul 2016
European drug control: Feb 2017
International drug control: 2017

Number of detections

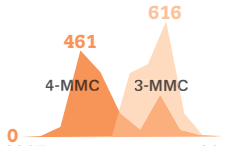


Cathinones — mephedrone (4-MMC)

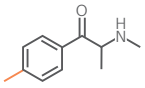
First detected: March 2008, Finland

Mephedrone was sold as a 'legal' replacement for amphetamine, cocaine and MDMA or mixed with or sold as these drugs. 3-MMC, a chemically similar cathinone, appeared in 2012.

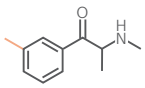
Quantity seized (kg)



4-MMC



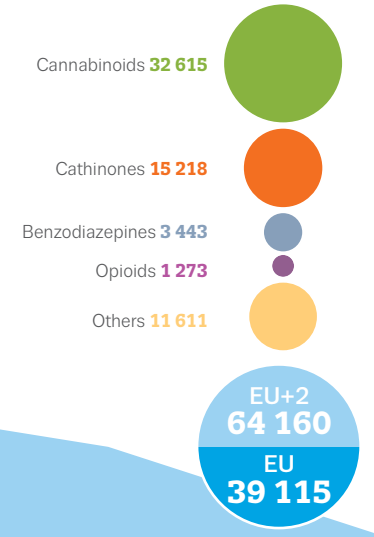
3-MMC



Risk assessment: Jul 2010
European drug control: Dec 2010
International drug control: 2015

Number of seizure cases, 2017 EU+2

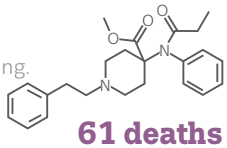
Reported to the EU Early Warning System



Synthetic opioids — carfentanil

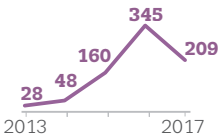
First detected: February 2013, Latvia

One of the most potent opioids known. In overdose it stops people from breathing. Used as a veterinary medicine for the immobilisation of large animals.



61 deaths in 8 countries

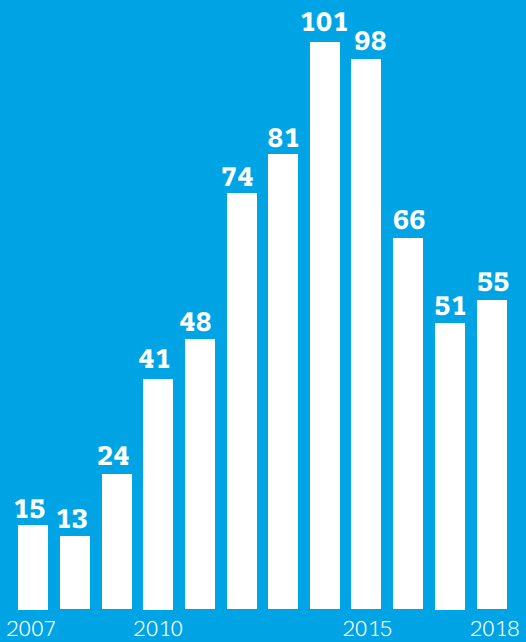
Number of detections



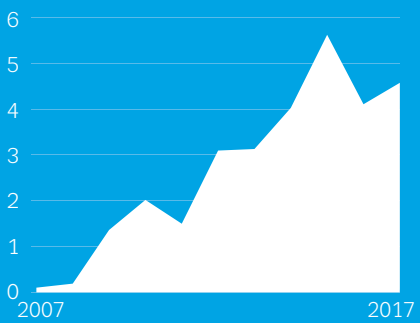
50 % of cases detected in mixtures with heroin/fentanyl derivatives.

Risk assessment: Nov 2017
International drug control: 2018

Number of NPS notified to the EU Early Warning System for the first time



Quantity seized (all forms, tonnes)



12 2013 2014 2015 2016 2017

Introduction

New psychoactive substances make up a broad range of drugs that are not controlled by international drug laws ([15]). They include stimulants, synthetic cannabinoids, benzodiazepines, opioids, hallucinogens and dissociatives. Many of these substances are intended to mimic the effects of controlled drugs and are traded as legal replacements for them. They may be sold in a range of products under the guise of 'legal highs', 'research chemicals' or 'dietary supplements'. They are also sold as drugs in their own right, and, unknown to users, as controlled drugs and fake medicines. An additional aspect of the market is the use of non-controlled psychoactive medicines that are either diverted from the regulated market in Europe or sourced from vendors in other countries.

In the EU, a legal framework exists to detect, assess and respond to the issues posed by these substances (see boxes 'Responding to new psychoactive substances in the EU' and 'The data in this chapter').

Responding to new psychoactive substances in the EU

A three-step legal framework of early warning, risk assessment and control measures allows the EU to rapidly detect, assess and respond to public health and social threats caused by NPS. The EMCDDA is responsible for the first two steps in this system, namely operating the EU Early Warning System with Europol and conducting risk assessments. The European Commission, the Council of the European Union and the European Parliament are responsible for control measures. The legislation comprises Regulation (EU) 2017/2101 of the European Parliament and of the Council of 15 November 2017 amending Regulation (EC) No 1920/2006 as regards information exchange on, and an early warning system and risk assessment procedure for, new psychoactive substances; and Directive (EU) 2017/2103 of the European Parliament and of the Council of 15 November 2017 amending Council Framework Decision 2004/757/JHA in order to include new psychoactive substances in the definition of 'drug' and repealing Council Decision 2005/387/JHA.

Global overview

Since around 2008, there has been a dramatic growth in the NPS market as globalisation and new technologies, such as the internet, have allowed them to be produced, sold and supplied on an industrial scale. Between 2009 and 2018, 119 countries and territories reported the emergence of 892 different NPS to UNODC, through the UNODC Early Warning Advisory on NPS (UNODC, 2019b). In Europe, more than 730 NPS have appeared on the drug market since monitoring began in 1997, with around 90 % of these being detected between 2008 and 2018 (EMCDDA, 2019b). The growth in the market has also been reflected in large increases in the number of seizures made by law enforcement agencies, and in reports of severe and fatal overdoses.

Many NPS are produced and sold openly by chemical and pharmaceutical companies in China. They are imported into Europe, processed into products and sold in shops, on the internet or through the illicit drug markets. To a lesser extent, India is also an important source of some NPS, particularly those sold as medicines (Evans-Brown and Sedefov, 2018). Illicit laboratories in China, India, and Europe also produce some types of NPS.

Much of the NPS market is highly dynamic and constantly changing. It is characterised by a high turnover of cheap, easily available and replaceable substances. One of the main reasons for this high turnover is that, as soon as national governments signal their intention to control a substance, producers can easily switch to a new, non-controlled, replacement. Despite this, some NPS have remained on the market for a number of years. A few of these, such as ketamine, GBL and 2C-B (4-bromo-2,5-dimethoxyphenethylamine), have become established drugs.

The broad range of substances and products, combined with the highly dynamic nature of the market and strong links with the market in established controlled drugs, gives rise to a complex picture across Europe. The situation differs widely over time and place. The ability to detect and report NPS also differs across Europe, meaning that there is both underdetection and under-reporting in some areas. Understanding the epidemiology of many NPS is also limited. Commonly used methods for studying drug use, including those for estimating prevalence, may not be suitable or appropriate for many NPS. This may especially be the case for those substances that have recently appeared on the market, have low levels of use or are passed off as other drugs. Together, these issues have left gaps in understanding the overall size, scale and impact of the market.

([15]) Increasingly, some NPS are controlled or otherwise regulated at national level, irrespective of whether or not they are controlled under the UN conventions.

Regarding the prevalence of use, data are limited, but what we do know is that, in most cases, the use of NPS in the general population tends to be lower than that of established controlled drugs. There are some important exceptions to this, such as ketamine, which has become an established drug in some places (see Chapter 6). In addition, the use of some types of NPS, such as stimulants, synthetic cannabinoids and opioids, may be relatively common in high-risk drug users and other marginalised groups in some areas. Despite what appear to be relatively low levels of use, some of these substances may cause high levels of harm. Adding to the complexity is that NPS are also used by dealers as replacements for established drugs, such as MDMA, amphetamine, cocaine, benzodiazepines and heroin, when they are in short supply. In these cases, people may be unaware that they are using an NPS. Standard data collection tools do not account for such instances.

In some cases, NPS pose a challenge as a group, such as the synthetic cannabinoids. Suppliers care less about a specific substance and more about mimicking, broadly speaking, the pharmacological effects of cannabis. In essence, each synthetic cannabinoid is disposable: as soon as a substance is controlled, or even before, manufacturers can have one or more replacement substances ready for sale, while suppliers and retailers can have legal replacement products on the shelves. In other cases, NPS may simply be used as a temporary replacement for an established drug, such as heroin or MDMA, that is in short supply. In still other cases, they are used to make fake medicines (Evans-Brown and Sedefov, 2018).

Since the last edition of this report there have been some encouraging developments in the NPS market in Europe. The number of new substances reported for the first time each year has dropped from a high of around 100 in 2014 and 2015 to around 50 since then. This is thought to partly reflect recent policy responses in Europe, including efforts to control NPS and their open sale. It may also reflect control measures and law enforcement activity in source countries, such as China (EMCDDA, 2019b). Nonetheless, at least one new substance is still detected every week, increasing the overall number that need to be monitored.

Major new challenges have also emerged. They include what appears to be a general upward trend of more potent NPS appearing on the market, especially substances such as the synthetic cannabinoids and fentanyl derivatives, which can be highly potent. These types of substances pose a greater risk of life-threatening poisoning to users because their high potency makes it easier to unintentionally overdose. This risk may be especially acute when a substance first appears on the market because of a lack of experience with the substance, but also because, unknown to users, such substances may be sold as the established drug they wanted. As a result, these types of substances can also cause outbreaks of mass poisonings that can overwhelm local healthcare systems. Although the picture differs greatly across Europe, outbreaks involving a range of different types of NPS have occurred in recent years. In some circumstances, personnel may also be at risk of occupational exposure to such substances (Europol and EMCDDA, 2017).

Potent substances are also easier to conceal and smuggle, making them an attractive option for traffickers. A few grams of a substance, easily hidden in an envelope, can be sufficient to make many thousands of doses for the drug market. It is also concerning that synthetic cannabinoids (known as 'spice') are now sought after by some vulnerable groups because they are cheap, easily available and powerful, capable of causing mind-numbing effects (EMCDDA, 2018e).

Globalised markets also increase the opportunity for NPS, and a whole range of toxic chemicals, to be sold either deliberately or accidentally as other drugs, which can have disastrous consequences. An example of this is carfentanil, which was sold as heroin in parts of Europe during 2017.

The data in this chapter

The seizure data reported in this chapter are from 2007 to 2017. Data on formal notifications are from 2007 to 2018. It is important to note that, when interpreting the seizures of NPS reported to the EU Early Warning System, they must be understood as minimum values. This is because data are drawn from case reports rather than monitoring systems. Reports are influenced by a range of factors such as increasing awareness of new substances, their changing legal status, law enforcement capacities and priorities, and the reporting practices of law enforcement agencies. The data are not directly comparable to the data on established controlled drugs. Quantitative data on the amount of NPS present in the seizures is not available, as this type of analysis is not routinely performed. The data also include a number of former NPS that have subsequently been controlled internationally under the UN conventions. These include 2C-B, GHB and some synthetic cathinones, synthetic cannabinoids and opioids. Although it has been used for a number of years now, ketamine is also classed as an NPS as it is not under international control.

Strong links also exist between the trade in NPS and markets in established controlled drugs. The increasing use of new benzodiazepines to make fake versions of common anti-anxiety medications, such as fake alprazolam and diazepam, provides some indication of this. The use of NPS by high-risk drug users and other marginalised and vulnerable populations also appears to have increased in some places.

Production

Most NPS are produced in China, and to a lesser degree India and Europe. The growth in the market observed in recent years is due to the involvement of chemical and pharmaceutical companies operating predominantly in China, which are capable of making a large number of substances on an industrial scale. This has been driven by increasing expertise and capacity in the Chinese science and technology economy, low labour costs, the internet, and cheap and efficient shipping (Levinson, 2016; Morris, 2012; Smil, 2010; Stearns, 2011). The companies use the internet, including online marketplaces, to advertise and sell a diverse range of substances. Typically, they are supplied in powder form, in quantities that range from a few milligrams to tens or even hundreds of kilograms. Some of the companies also offer a custom synthesis service for customers looking to obtain a specific NPS that is not currently available on the market. Some NPS, including ketamine, are also produced in illicit laboratories.

The substances are shipped to wholesalers, retailers and dealers in Europe by express mail and courier services; larger quantities ship by air and sea cargo. Consignments may be mislabelled and declared as common goods of low value, including foodstuffs, cosmetics and chemical products, in order to conceal their true nature and avoid interception by customs and border forces. More rarely, they are concealed using similar methods to those used for trafficking controlled drugs. Suppliers and importers may also deliberately route NPS to specific air and sea ports in Europe where the substances are not controlled, in order to reduce the chance of interception.

Companies based in India are also important producers of some NPS, particularly those that are also used as medicines. These include modafinil, tramadol and etizolam. Unlike many of the NPS from China, the substances from India are typically supplied as finished products ready for use. These may be medicines that are licensed in India and appear to be diverted from the legitimate supply chain; these are classed as unlicensed and falsified medicines in the EU. In other cases, they appear to be unlicensed products. At least historically, India was also an important source of ketamine for Europe. In the last few years, illicit laboratories producing synthetic cathinones have also been seized in India, and the country has been named as a source for several large consignments of them that were seized at ports in Europe.

The processing stage of NPS production is fairly common in the EU. For example 2017, a site where the synthetic cannabinoids were sprayed on herbal mix and packaged for distribution was dismantled in Belgium. As well as synthetic cannabinoid products, other types of substances can also be found, (see box 'Production of fake diazepam tablets from etizolam, Scotland, UK, 2017', page 188). The chemical synthesis stage also takes place in Europe, although to a limited extent. Stimulants, such as the phenethylamines and synthetic cathinones, have been produced in illicit laboratories in bulk quantities. Some of these laboratories were operated by criminal groups that were also involved in the production of MDMA and amphetamine. Two attempts to produce ketamine, apparently on a large scale, were also reported in 2016 and 2017.

Details of the NPS production sites reported as dismantled in the EU and their locations are shown in Table 7.1. The data have been reported systematically at EU level

Table 7.1
Sites related to NPS production in the EU, 2007-17

Year	Country	Number of sites	NPS produced
2009	Netherlands	1	4-MAR
2010	Netherlands	4	4-MA
2011	Netherlands	1	4-MA
2013	Netherlands	2	PMMA
	Poland	2	4-BMC/alpha-PVP, FU-F/4F-BF
	Romania	1	PMA
	Slovakia	1	3-MMC
2014	Estonia	1	4-MMC
	Poland	1	4-BMC/alpha-PVP/NEB
2015	Italy	1	4-MMC
	Netherlands	2	4-MEC, 4-MMC
	Poland	2	4-MMC
2016	Netherlands	1	Ketamine
	Poland	2	4-MMC, 4-CMC
	Slovakia	1	3-CMC
2017	Belgium	1	Ketamine
	Netherlands	2	4-CMC, 3-MMC
	Poland	2	4-CMC

since the EMCDDA and Europol introduced ERISSP in 2015. Previous to 2015, the data were largely actively sought from Member States by the EMCDDA.

Between 2007 and 2017, 28 sites in the EU related to the manufacturing of NPS were notified to the EMCDDA or Europol. Of the 28 sites, most were found in the Netherlands (13) or Poland (nine), with Slovakia reporting two and Belgium, Estonia, Italy and Romania each reporting one. Before 2014, most sites were located in the Netherlands and producing phenethylamine stimulants (e.g. 4-methylamphetamine, paramethoxyamphetamine/paramethoxymethamphetamine). The use of substitute precursor chemicals led to the production of these amphetamine-related substances; for example, in 2010, the 4-methylamphetamine produced in the Netherlands was due to the use of the precursor 4-methyl-BMK instead of BMK. Synthetic cathinones have predominantly been produced in recent years, mainly in the Netherlands or in Poland. There was an isolated case of production of fentanyl derivatives in Poland in 2013, when butyrfentanyl and 4-fluoro-butyrfentanyl were produced (EMCDDA, 2017b). Ketamine production has been reported by the Netherlands in 2016 and Belgium in 2017.

Laboratories producing synthetic cathinones first emerged in 2013, with labs found in Poland and Slovakia. In Poland, a production site was dismantled where alpha-PVP and 4-bromomethcathinone were produced; approximately 50 kg of alpha-PVP was seized. In the Slovakian case, 15 kg of 3-methylmethcathinone crystals was seized.

In 2014, two cathinone-producing laboratories were dismantled, one in Estonia and one in Poland. The Estonian site produced 4-methylmethcathinone — 274 g of which was recovered from the site — with 2-bromo-4-methylpropiophenone used as a precursor. In the Polish case, alpha-PVP, 4-bromomethcathinone and *N*-ethylbuphedrone were produced; the total amount of material seized there was 4.5 kg.

In 2015, five cathinone production sites were detected, one in Italy, two in the Netherlands and two in Poland. The Italian case was small-scale and two Polish suspects were arrested at the site. In the Dutch cases, which were linked, 26 kg of 4-methylmethcathinone crystals was seized at one site and, although no final product was found at the second site, similar equipment was seized and the production of 4-methylethcathinone was confirmed. Importantly, the production of MDMA on a large scale was also ongoing at the second site and 160 kg of MDMA crystals was seized. Finally, the two labs in Poland were producing 4-methymethcathinone from the precursor 2-bromo-4-methylpropiophenone.

In 2016, four NPS production sites were reported, one in the Netherlands, two in Poland and one in Slovakia. The Dutch case involved production of ketamine from the precursor 1-[(2-chlorophenyl)-*N*-(methylimino) methyl]cyclopentanol hydrochloride. In the first Polish case, a sophisticated laboratory producing 4-methylmethcathinone was dismantled and 14 kg of the drug was seized. In the second, four people were detained for the production of 4-chloromethcathinone at a site where 8 kg of the substance was seized. In Slovakia, a large laboratory with links to Polish organised crime was dismantled; 3-chloromethcathinone and *N*-ethylnorpentedrone were being produced.

In 2017, five sites related to NPS production were reported: one in Belgium, two in the Netherlands and two in Poland. As already mentioned, the site in Belgium was related to ketamine. Specifically, a chemical storage site was located and 880 litres of bromocyclopentane, a precursor

CASE STUDY 25

Production of clephedrone, a synthetic cathinone, in Poland, 2017

In 2017, police in Poland dismantled an NPS production laboratory where 135 kg of 4-CMC, also known as clephedrone, with a value of over PLN 7 million, was seized. The location was found after officers had stopped a car and detained a man who was transporting more than 14 kg of the substance. From the total quantity seized, 900 000 finished units of NPS products could have been manufactured.

According to the police, the concentration of chemicals in the laboratory and its surroundings was so strong that it was safe to enter only after 2 days. The dismantling operation and the transporting of dangerous chemicals took several more days. Furthermore, the location of the lab meant that the water supply for the inhabitants of two towns had to be cut off, in case of contamination.

Source: Policja (2017).

for ketamine production, was recovered. In one Dutch case, 3-methylmethcathinone was being produced, and 4-chloromethcathinone (4-CMC) in the other. At each of the Polish sites, 4-chloromethcathinone was being produced, at one of them on a relatively large scale, with 135 kg of material seized from the site (see Case study 25).

As is the case with other synthetic drugs produced in the EU, the drug precursors needed may be sourced from China. In order to avoid interception, they may be shipped in mislabelled consignments or concealed using similar methods to those used for trafficking controlled drugs. Production may be carried out in Europe for a number of reasons: existing knowledge of, equipment for and experience in synthetic drug production; sufficient demand for a substance, making it economically attractive; control measures and law enforcement operations targeting laboratories in China and India that reduce availability at source; the potential to make greater profits; diversifying risk and building greater resilience into the supply chains; and reducing the risks of detection by law enforcement agencies.

Depending on the type of substance and market, some NPS are processed into branded products. These are sold openly or under the counter in shops as well as online. At least initially, it was these products that characterised the growth in the market from around 2008 onwards. The three main product categories were 'legal highs', 'research chemicals' and 'dietary supplements'. The products were designed to be attractive to consumers, avoid the attention of regulators and get round consumer protection laws. 'Legal highs' were marketed in colourful packaging, with names often suggestive of controlled drugs or psychoactive effects, while 'research chemicals' were labelled as if they were chemical reagents for laboratory use. Some of the 'dietary supplements' were advertised as natural products in order to avoid regulatory scrutiny and promote them as safe and healthy options — a technique also widely used to sell unlicensed and fake medicines, particularly performance- and image-enhancing supplements. More recently, with vaping on the rise, e-liquids containing synthetic cannabinoids and fentanyl derivatives have appeared on the market; ready-to-use nasal sprays containing fentanyl derivatives have also been marketed in some areas.

NPS can also be packaged to look like drugs sold on the illicit drug market (sometimes called 'designer drugs'). They can be sold under their own names or as an established controlled drug such as heroin, cocaine, amphetamine or ecstasy. In the latter case, new benzodiazepines and, less commonly, new synthetic opioids have been used to make fake versions of commonly prescribed benzodiazepine and opioid analgesic medicines, which are also sold on the illicit market. Sales are via existing street-level drug markets as well as online markets, including darknet markets (see Case study 26).

CASE STUDY 26

Operation Dryer: NPS darknet market sales network dismantled

In 2018, Spanish and Austrian police, supported by Europol, dismantled a criminal network producing and distributing NPS worldwide via darknet markets. The operation resulted in the seizure of more than EUR 4 500 000 in cryptocurrencies.

The OCG had been operating in Spain since 2012 and imported the raw material to make the NPS products mainly from China. The group also established a laboratory in the Netherlands, where it produced substances that were then shipped to Spain for packaging and distribution to the final consumers. At two locations in the provinces of Granada and Valencia, over 100 different NPS were seized, including synthetic cannabinoids, benzodiazepines, dissociatives, cathinone stimulants, hallucinogens and synthetic opioids, whose market value exceeded EUR 12 000 000. Nearly 800 000 doses of an NPS similar to LSD were confiscated, making it the biggest ever haul of this type of substance in the EU.

The OCG offered the synthetic drugs exclusively through darknet markets, where access was restricted to previously invited users redirected from forums.

During the investigation, it was discovered that postal packages had been sent to more than 100 countries, sometimes mislabelled as legal products, such as additives for cement. As well as the seizures of NPS and cryptocurrencies, eight people were arrested (Spanish, Austrian and French nationals), accused of drug trafficking, money laundering and membership of a criminal organisation. Three properties were seized, with a value close to EUR 1 million, and 10 luxury vehicles were confiscated.

Source: Europol (2018e); Guardia Civil (2018).

Other ingredients are needed to make consumer doses of NPS products, such as herbal material for making smoking mixtures, and microcrystalline cellulose for making tablets. Equipment such as tableting and packaging machines is also needed, as well as the packaging materials. All of these additional materials can be readily sourced from companies based in the EU, China and elsewhere.

Distribution and supply in Europe

By the end of 2018, the EMCDDA was monitoring more than 730 new psychoactive substances that have appeared on Europe's drug market since 1997. More than 90 % (652) of these were notified between 2008 and 2018, including 55 substances that were notified for the first time in 2018 (Figure 7.1).

During 2017, approximately 64 160 seizures of NPS were reported to the EU Early Warning System by law enforcement agencies from across Europe. Like in recent previous years, the seizures were dominated by synthetic cannabinoids and synthetic cathinones, which, together, accounted for around 75 % of the total number of seizures reported during the year in the EU, Norway and Turkey (Figure 7.2). Large increases have been reported in other categories such as synthetic opioids and benzodiazepines (discussed later in this section).

In 2017, NPS were most commonly reported as powders, which amounted to 2.8 tonnes, across all categories. This is broadly comparable to the figures from previous years. In addition, just under 240 kg of herbal material was reported, two thirds of which was in the form of smoking mixtures containing synthetic cannabinoids. NPS were also found in tablets (6 770 cases, 2.8 million units), blotters (980 cases, 23 000 units) and liquids (1 430 cases, 490 litres). Some of these liquids were sold as ready-to-use nasal sprays or as e-liquids for vaping in e-cigarettes.

Although a broad range of NPS are monitored by the EU Early Warning System, the rest of this section is limited to a discussion of synthetic cannabinoids, synthetic cathinones, opioids and benzodiazepines. It must be noted, however, that dissociative substances, largely mimicking the effects of ketamine, and hallucinogens, mimicking the effects of LSD, are also important NPS categories.

Figure 7.1
Number of new psychoactive substances notified for the first time in the EU, Norway and Turkey, 2007-18

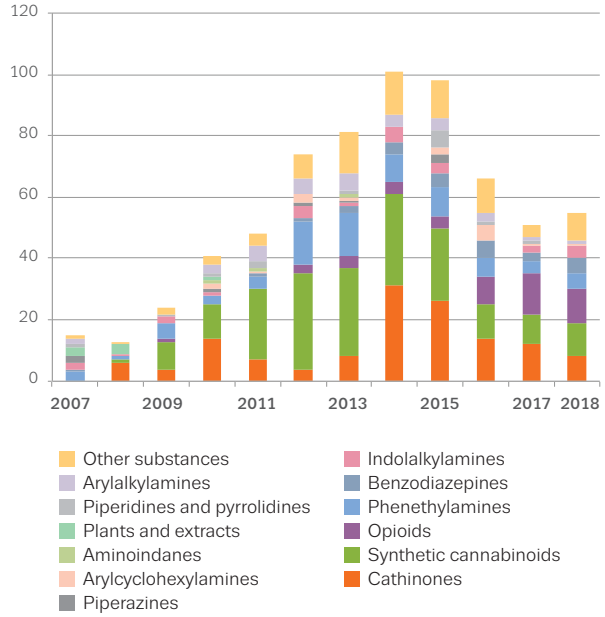
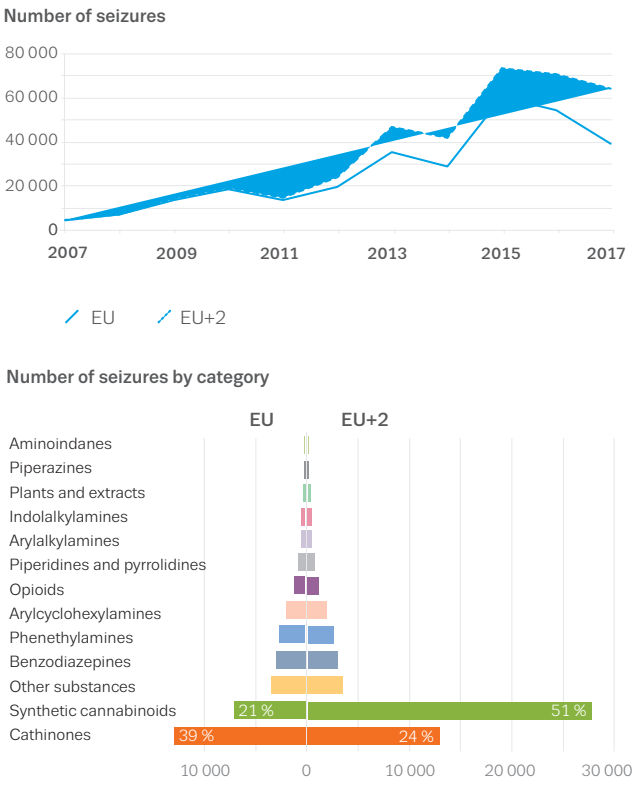


Figure 7.2
Seizures reported to the EU Early Warning System: trends in total number of seizures and number of seizures by category, 2017



Synthetic cannabinoids

When synthetic cannabinoids first appeared on the market in Europe around 2006, they were sold as legal replacements for cannabis. That is still the case, but they have also gained a reputation for having powerful intoxicating effects, and, as a result, some users specifically use these substances for their effects. Typically, the cannabinoids are sprayed on to or mixed with herbal plant material and smoked as a joint. Although synthetic cannabinoids are used recreationally, in some places they are also used by prisoners, homeless people and other vulnerable groups because of the profound intoxication they can cause. Because of their high potency, synthetic cannabinoids can pose a high risk of severe poisoning, which in some cases can be fatal (EMCDDA, 2018e).

The EMCDDA currently monitors 190 synthetic cannabinoids. This includes 11 reported for the first time in 2018. Whereas an average of 27 cannabinoids appeared each year in Europe between 2011 and 2015, since 2016 the number has dropped to around 10 (Figure 7.3). The most frequently seized synthetic cannabinoid in 2017 was 5F-MDMB-PINACA/5F-ADB (Table 7.2).

In 2017, just over 32 610 seizures of cannabinoids were reported to the EU Early Warning System, which represents just over 50 % of the total number of seizures reported during the year (Figure 7.4).

Most of these detections were in the form of herbal plant material (4 870 cases, 159 kg), and in powders (950 cases, 84 kg). Since 2013, there has been a drop in the number and quantity of seizures of powders containing synthetic cannabinoids. Since 2015, there has been a drop in the quantity of seizures of herbal material containing synthetic cannabinoids.

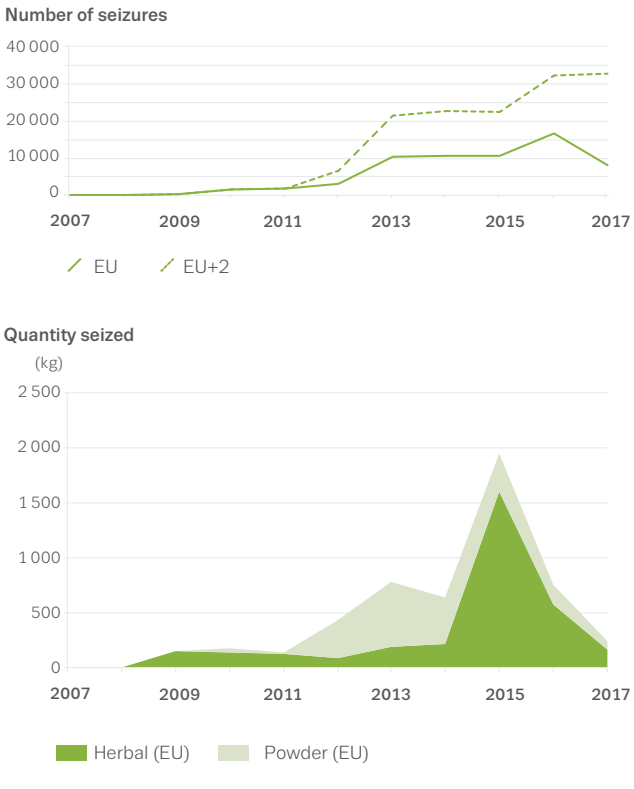
Since 2016, the EMCDDA has conducted five joint investigations with Europol on synthetic cannabinoids that have caused serious concern at the European level. These are MDMB-CHMICA in 2016, and AB-CHMINACA, ADB-CHMINACA, 5F-MDMB-PINACA and CUMYL-4CN-BINACA during 2017. Together, these substances have been involved in more than 100 deaths, many of which were attributed directly to these substances. All five of these substances were formally risk assessed by the EMCDDA during 2016-17.

Figure 7.3
Number of synthetic cannabinoids notified for the first time in the EU, Norway and Turkey, 2007-18

Table 7.2
The most seized cannabinoids in the EU, Norway and Turkey, numbers and quantities, 2017

Substance	Number of seizures	Powder (kg)	Herbal (kg)
5F-MDMB-PINACA/5F-ADB	2 295	41.7	33
MDMB-CHMICA	1 438	0.6	10
AMB-FUBINACA	1 400	13.6	42
AB-CHMINACA	691	0.1	7
ADB-FUBINACA	542	0.4	3
CUMYL-PeGACLONE	303	5.0	7
CUMYL-4CN-BINACA	31	5.0	1
JWH-018	21	< 0.1	36

Figure 7.4
Seizures of synthetic cannabinoids reported to the EU Early Warning System: trends in number of seizures and quantity of powders and herbal mixtures, 2007-17



Synthetic cathinones

Synthetic cathinones first appeared in 2004 and, since then, have typically been sold as legal replacements for controlled stimulants such as amphetamine, cocaine and MDMA. Unknown to users, they are also sold as controlled stimulants. The cathinones are used recreationally, but in some places they are also used by high-risk drug users, including people who inject stimulants and/or heroin and other opioids.

The EMCDDA currently monitors 138 synthetic cathinones. These include eight reported for the first time in 2018. Like the synthetic cannabinoids, in the past few years there has been a drop in the number of new cathinones appearing each year (Figure 7.5). The most frequently seized synthetic cathinone in 2017 was *N*-ethylhexedrone (Table 7.3). This substance was one of the three most frequently seized cathinones, along with 3-CMC and 4-CMC, in postal centres in 19 EU Member States in 2018 (Groupe Pompidou and RILO WE, 2019).

In 2017, approximately 15 200 seizures of cathinones were reported in the EU, Norway and Turkey (Figure 7.6), which represents just over 20 % of the total number of NPS seizures reported during the year. In addition to powders (14 400 seizures, 1.27 tonnes), cathinones were also detected in tablets (300 seizures, 48 170 units), herbal material (140 seizures, 1.2 kg) and liquids (40 seizures, 2.8 litres). Other forms were also reported. In 2017, the large majority (95 %) of seizures of cathinones were in powder form (14 400 seizures). This represents 69 % of all NPS seizures in powder form (14 400 out of 20 900). This figure is comparable to the value in 2015 (14 000 seizures), and a decrease of around 35 % compared with the previous year (22 020 seizures).

Figure 7.5
Number of synthetic cathinones notified for the first time in the EU, Norway and Turkey, 2007-18

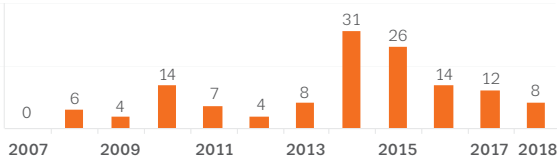
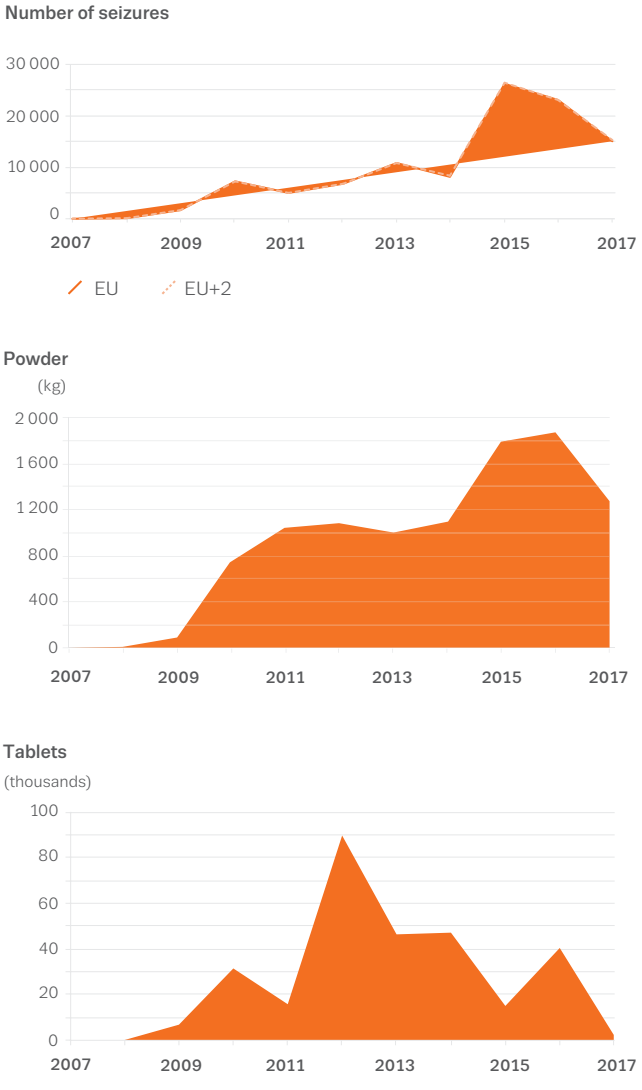


Table 7.3
The most seized cathinones in the EU, Norway and Turkey, numbers and quantities, 2017

Substance	Seizures	Powder (kg)	Tablets
N-ethylhexedrone	2 653	224	13
4-CMC/clephedrone	1 769	443	4
4-CEC	1 638	137	92
3-CMC	1 085	29	0
3-CEC	926	1	3
Ephylone	445	39	38 991
Dibutylone/bk-MMBDB	262	7	6 723

Figure 7.6
Seizures of synthetic cathinones reported to the EU Early Warning System: trends in number of seizures, quantity of powders and number of tablets, 2007-17



Note: Quantity data are for EU only.

Synthetic opioids

Since 2015, there has been a large increase in the number of new synthetic opioids detected in Europe. These substances are sold as legal replacements for controlled opioids, such as heroin. Unknown to users, they are also mixed with or sold as controlled opioids, particularly heroin. They are also sometimes used to make fake benzodiazepine and analgesic medicines. Some people use new opioids recreationally, but they are also used by high-risk drug users, including those who inject heroin and other opioids. Although they play a small role in Europe's drug market, many of the opioids (particularly fentanyl derivatives) are highly potent substances that pose a severe risk of life-threatening poisoning, as they can cause severe respiratory depression. This can be reversed by the timely administration of naloxone (Kim and Nelson, 2015). Some countries have been disproportionately affected, such as Sweden (see box 'Responding to the situation of new synthetic opioids in Sweden', page 217). As well as presenting a risk of harm, these substances are easier to conceal and smuggle, with a few grams sufficient to make many thousands of doses for the drug market. This makes them easier to import undetected into Europe and, from there, move them across the rest of Europe, as small letters and packages can easily be disguised.

The EMCDDA currently monitors 49 new synthetic opioids (Figure 7.7). These include 11 reported for the first time in 2018. Overall, more than 80 % (41) of the opioids have been detected for the first time during the last five years. Almost 70 % (34) of the opioids are fentanyl derivatives. The most frequently seized new synthetic opioid in 2017 was carfentanil (Table 7.4).

In 2017, approximately 1 300 seizures of opioids were reported to the EU Early Warning System, which represents around 2 % of the total number of seizures reported during the year (Figure 7.8). Most of these cases (70 %) were fentanyl derivatives. A number of other types of opioids were also reported, including U-47700. The total quantity of opioids reported as powders and tablets has seen a continued increase since 2012 (Figure 7.8). Overall, the quantities seized in 2017 amounted to approximately 17 kg of powders, 1.8 litres of liquids and over 29 200 tablets.

Less commonly, new opioids have also been found in blotters and in herbal smoking mixtures; in these cases, there may be no indication that they contain potent opioids, which could pose a high risk of poisoning to people who use them, particularly if they have never used opioids or have not used them recently. In addition, opioids may be found in fake medicines. For example, between mid-November 2017 and mid-January 2018,

Figure 7.7
Number of new opioids notified for the first time in the EU, Norway and Turkey, 2007-18

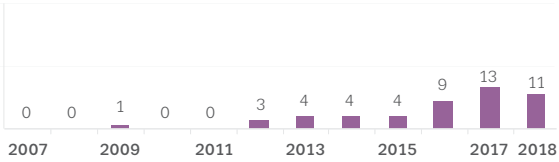


Figure 7.8
Seizures of new opioids reported to the EU Early Warning System (excluding tramadol): trends in number of seizures, quantity of powders and number of tablets, 2007-17

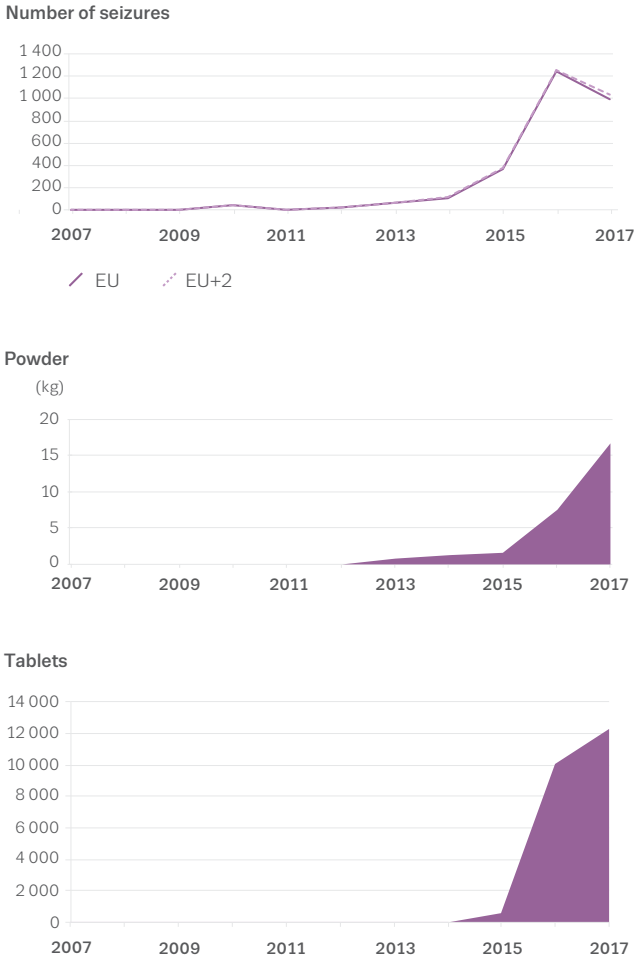


Table 7.4
The most seized new synthetic opioids in the EU, Norway and Turkey, numbers and quantities, 2017 (excludes tramadol)

Opioid	Seizures	Powder (kg)	Tablets
Carfentanil	318	4.1	0
Furanylfentanyl	183	0.8	3 225
Cyclopropylfentanyl	131	2.8	329
U-47700	110	5.0	238
Ocfentanil (A-3217)	55	0.7	0

Swedish police made at least 10 seizures of fake Xanax (alprazolam) tablets ('2 mg Xanax bars') that contained cyclopropylfentanyl or cyclopentylfentanyl. In addition, a seizure of 48 fake OxyContin ('OP 80') tablets that contained cyclopropylfentanyl instead of oxycodone (an opioid) was also made during December 2017. The tablets are visually indistinguishable from the legitimate medicines. The prevalence of fake tablets containing fentanyl derivatives in Europe is unknown but, given the international supply chains for such fake medicines, availability elsewhere is likely. Similar tablets to those reported by Sweden have caused severe and fatal poisoning, including mass poisonings, in the United States and Canada in the past few years (Arens et al., 2016; Sutter et al., 2017). The risk of poisoning may be especially high when tablets are sold as benzodiazepines (such as Xanax), as they may be used by non-opioid users who have no tolerance to opioids.

Since late 2015, the EMCDDA has conducted eight joint investigations with Europol on fentanyl derivatives that have caused serious concern at the European level. The two agencies investigated acetylfentanyl in 2015, acryloylfentanyl and furanylfentanyl in 2016, and 4-fluoroisobutyrylfentanyl (4F-iBF), tetrahydrofuranylfentanyl (THF-F), carfentanil (see box 'Carfentanil in Europe'), methoxyacetylfentanyl and cyclopropylfentanyl during 2017. Together, these substances have been involved in more than 250 deaths, many of which were attributed directly to these substances. Subsequently, seven of these substances were formally risk assessed by the EMCDDA.

Carfentanil in Europe

Carfentanil is one of the most potent known opioids. It was first detected in Europe in 2012, and its availability sharply increased during 2016 and 2017. This appeared to have been driven by its bulk manufacture in China (where it was not controlled at the time) and its sale on darknet markets. In 2017 alone, over 300 seizures of carfentanil were reported. These seizures amounted to just over 4 kg of powder and 250 ml of liquid. Unknown to users, the drug was being mixed with heroin, which led to a spike in deaths. By mid-2017, 61 deaths involving carfentanil had been reported. The substance was formally risk assessed by the EMCDDA during 2017. Carfentanil was controlled internationally in 2018.

Benzodiazepines

Like that of the synthetic opioids, there has also been a significant increase in the availability of new benzodiazepines over the last few years in Europe. Most are sourced from China as bulk powders. In Europe they are processed into tablets and other products and sold as legal replacements for commonly prescribed benzodiazepine medicines, such as alprazolam and diazepam. They are also used to make fake versions of these medicines, which are then sold on the illicit drug market (see box 'Production of fake diazepam tablets from etizolam, Scotland, UK, 2017'). A small number of new benzodiazepines may be sourced from companies in India, typically as finished medicinal products.

The EMCDDA currently monitors 28 new benzodiazepines. These include five reported for the first time in 2018. Overall, more than 80 % (23) were detected for the first time between 2014 and 2018 (Figure 7.9). The most frequently seized NPS benzodiazepine in 2017 was etizolam (Table 7.5).

In 2017, close to 3 500 seizures of new benzodiazepines were reported to the EU Early Warning System, representing around 5 % of the total number of seizures reported during the year. Most of these were of tablets, amounting to more than 2.4 million units, which represents an increase from around 0.5 million tablets reported in 2016. This increase is due to a single large seizure of 1.67 million tablets in Scotland, United Kingdom (see box 'Production of fake diazepam tablets from

Figure 7.9
Number of new benzodiazepines notified for the first time in the EU, Norway and Turkey, 2007-18

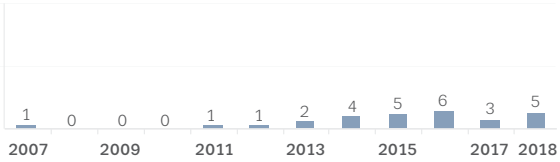


Table 7.5
The most seized new benzodiazepines reported in the EU, Norway and Turkey, numbers and quantities, 2017

Benzodiazepines	Seizures	Powder (kg)	Tablets
Etizolam	1 634	25.06	2 218 797
Clonazolam/clonitrazolam	741	0.03	48 037
Norfludiazepam	365	0.25	28 234
Diclazepam	274	1.09	17 960
Phenazepam	102	0.05	13 757

etizolam, Scotland, UK, 2017'). In addition, around 27 kg of powders, 1.4 litres of liquids and 2 400 blotters containing new benzodiazepines were also seized in 2017.

Use of new psychoactive substances

The use of NPS in the general population tends to be at a lower level than that of established controlled drugs. There are some important exceptions to this, such as ketamine, which has become an established drug in some places. In addition, the use of some types of NPS, such as stimulants, synthetic cannabinoids and opioids, may be relatively common in high-risk drug users and other marginalised groups in some areas. Despite what appear to be relatively low levels of use, some of these substances may cause high levels of harm. Adding to the complexity is that NPS are also used by dealers as replacements for established drugs such as MDMA, amphetamine, cocaine, benzodiazepines and heroin, when they are in short supply. In these cases, people may be unaware that they are using an NPS.

Since 2011, more than half of the countries reporting to the EMCDDA have national estimates of the use of NPS (not including ketamine and GHB) in their general population surveys, although differences in methods and survey questions limit comparability between countries.

Among young adults (aged 15-34), in the most recent findings, last year prevalence of use of these substances ranged from 0.1 % in Norway to 3.2 % in the Netherlands, with 4-fluoroamphetamine (4-FA) being the most commonly used. Survey data on the use of mephedrone (now an internationally controlled drug) are available for the United Kingdom (England and Wales). In the most recent survey (2017), last year use of this drug among 16- to 34-year-olds was estimated at 0.2 %, down from 1.1 % in 2014/15. In their most recent surveys, last year estimates of the use of synthetic cannabinoids among 15- to 34-year-olds ranged from 0.1 % in the Netherlands to 1.5 % in Latvia. While consumption levels of NPS are low overall in Europe, in a 2016 EMCDDA study, over two thirds of countries reported that their use by high-risk drug users resulted in health concerns. In particular, the use of synthetic cathinones by opioid and stimulant injectors has been linked to health and social problems. In addition, the smoking of synthetic cannabinoids in marginalised populations, including homeless people and prisoners, has been identified as a problem in a number of European countries. Overall, few people currently enter treatment in Europe for problems associated with use of NPS. For some countries, however, these substances are significant. In the most recent data, the use of synthetic cannabinoids was reported as the main reason for entering specialised drug treatment for 19 % of clients in Turkey and for 5.5 % in Hungary. Problems related to the primary use of synthetic cathinones were cited by 0.2 % of treatment entrants in the United Kingdom. All three countries, however, have reported a recent decrease in treatment entries related to NPS in the most recent data.

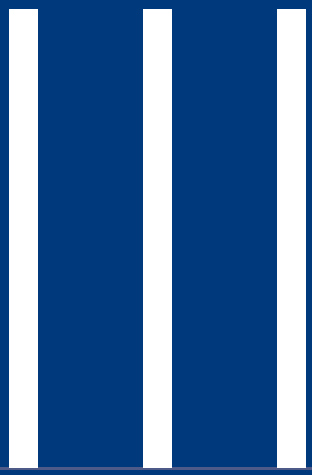
Production of fake diazepam tablets from etizolam, Scotland, UK, 2017

In Scotland, criminal groups are known to be involved in the large-scale illicit manufacture and distribution of fake benzodiazepine medicines. Typically made to look like 10 mg diazepam tablets, and known as 'street valium', these fakes often contain new or uncontrolled benzodiazepines. During 2016 and 2017, one such benzodiazepine, etizolam, was reported to have become the predominant substance within the illicit market for benzodiazepines; 65 % of tablets found contained it.

During 2017, police seized 1.67 million tablets containing etizolam at one such production site. Their estimated street value was EUR 1.9 million. The etizolam was sourced as a bulk powder from China, diluted, mixed with blue dye and then pressed into tablets using an industrial tablet press. The dose of etizolam in each tablet was around 0.8 mg,

Photo: Police Scotland

meaning that the amount of active ingredient needed to produce the number of tablets seized at the time of the police raid was less than 1.5 kg.



PART III

Responding to drug markets

In Part III we look at the policy, structural, strategic and operational responses to all these different aspects of drug markets, mainly at the European level, but also at the national level. Rather than attempt to present a comprehensive library of responses, this part provides a selection of examples that illustrate the variety of measures employed to directly target the illicit drug supply chain as well as those that tackle drug market ramifications and drivers. An important feature of the EU drugs strategy is the link between supply and demand interventions. The latter are reviewed in other EMCDDA reports such as the European Drug Report and 'Health and social responses to drug problems: a European guide'.

8

Photo: istockphoto

CHAPTER 8
Policy instruments and structures

EU drug supply reduction policy

Drug supply reduction is part of several policy areas at the EU level and a core component of the drug strategies and responses of Member States. This chapter looks at the main EU policies and strategies addressing drug supply reduction, the supporting institutional arrangements and some key policy tools.

EU drug policy context

The production, trafficking, distribution and use of illicit drugs create a range of security and public health challenges, spanning many levels and areas of public policy. The illicit drug trade has a global impact and the harms it gives rise to know no boundaries. Responding to the trade in illicit drugs requires an equally extensive approach, and the EU's drug policy reflects this reality. It has been designed to be coherent with drug policy at various levels. These include the international level, through the United Nations and regional organisations such as the Inter-American Drug Abuse Control Commission, as well as complementing the policies of the EU Member States at the national level (Figure 8.1). At the same time, EU drug policy is situated within and connects to other areas of EU policy where drug market-related issues arise. In this way, the EU has developed an integrated, balanced and evidence-based approach to drug policy.

The EU drugs strategy (2013-20) and action plan on drugs (2017-20) ([16]) are key components of the framework for responding to illicit drugs. Drug supply reduction is one of the core elements in them. These strategic documents elaborate a set of measures developed with the Member States to target the health and security issues raised by the illicit drug trade. One of the strategy's objectives is to reduce the availability of illicit drugs by disrupting trafficking, dismantling the OCGs involved, utilising the criminal justice system and intelligence-led policing, and targeting large-scale cross-border organised drug-related crime (Council of the European Union, 2012, 2017).

Figure 8.1
Drug supply reduction strategies linked to the EU policy context

To ensure a high level of internal security and protection against organised crime, terrorism and cybercrime, the EU has put in place a range of legal, practical and support tools, notably the European Agenda on Security (European Commission, 2015). The European Agenda on Security is a shared agenda, between Member States and EU institutions, and serves as the basis for cooperation and joint action by the EU. It highlights a number of actions and instruments, including but not limited to the Schengen Information System, the European Criminal Records Information System and the EU Passenger Name Record (PNR) system for airline passengers. Some of them are elaborated on in this part of the report.

([16]) The EU drugs strategy (2013-20) and action plan on drugs (2017-20) are going to be evaluated by the European Commission in 2019/20.

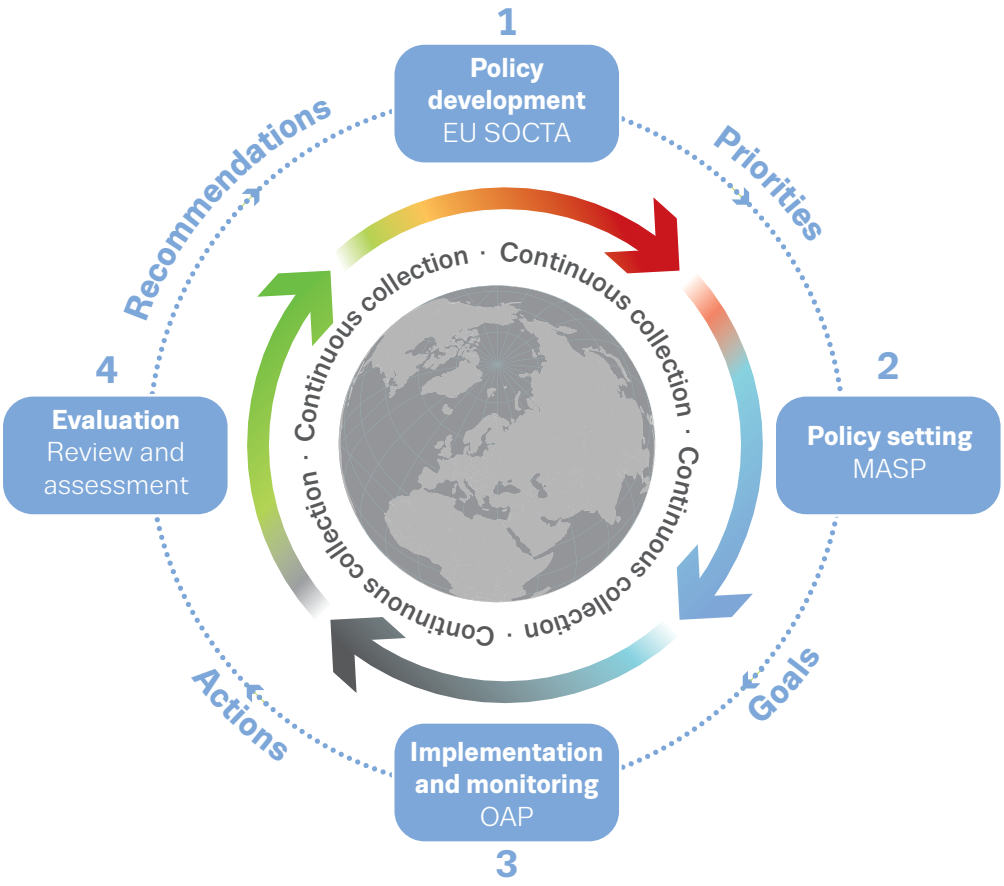
The policy cycle

The EU policy cycle for organised and serious international crime (the policy cycle) is an important strategic approach that ensures effective cooperation between national law enforcement agencies, EU institutions, EU agencies and other relevant partners in the fight against serious and organised crime. It calls for robust action to target the most pressing criminal threats facing the EU. There are four phases in the policy cycle that facilitate the implementation of policy objectives in law enforcement responses: (1) policy development, (2) priority setting, (3) implementation and monitoring, and (4) evaluation of the current policy cycle and definition of the next one (Figure 8.2).

The starting point of this EU policy cycle is the SOCTA, by which Europol delivers a set of recommendations based on an in-depth analysis of the major crime threats facing the EU (Europol, 2017b). The SOCTA is the most comprehensive criminal intelligence picture in the EU. Informed by its analysis of the prevailing threat, the SOCTA identifies a number of key priorities, which, in Europol's view, require the greatest concerted action by Member States and other actors to ensure the most effective impact. The SOCTA 2017 is the outcome of the work of many contributors from law enforcement authorities in the Member States and in countries with strategic and operational agreements with Europol, institutional partners in the EU and Europol. The EU Council of Justice and Home Affairs Ministers uses these recommendations to define its priorities for the next four years. For each of the priorities, an ad hoc expert group drafts a four-year multiannual strategic plan (MASP) under the coordination of the Commission, setting out the strategy to achieve a multidisciplinary, integrated approach to address the prioritised threats of crime, and defining key performance indicators. The MASP contains a list of objectives ('strategic goals') that should be achieved during the cycle. These MASPs are approved by the Standing Committee on Operational Cooperation on Internal Security (COSI).

Representatives of the Member States, and of the EU institutions and agencies, convert each MASP into an annual operational action plan (OAP) for each priority and

Figure 8.2
The policy cycle on organised and serious international crime



Note: MASP, multiannual strategic plan; OAP, operational action plan; SOCTA, Serious and Organised Crime Threat Assessment.

Figure 8.3
Ten EU crime priorities, 2018-21

Source: Council of the European Union (2018a).

year. These OAPs detail the actions for each strategic goal. The OAPs are approved by COSI. Relevant Member States, EU institutions and agencies, and third partners, using the EMPACT framework, then develop their joint activities as outlined in the OAPs.

Ten crime priorities were set for the period 2018-21 (Figure 8.3), one of which addresses drug trafficking with a focus on (1) disrupting the activities of OCGs involved in the wholesale trafficking of cannabis, cocaine and heroin to the EU, (2) tackling the criminal networks involved in the trafficking and distribution of multiple types of drugs on EU markets and (3) reducing the production of synthetic drugs and NPS in the EU and dismantling OCGs involved in their production, trafficking and distribution.

In addition, many of the other 2018-21 crime priorities have connections to the illicit drugs area. Europol's 2017 SOCTA showed that, while illicit drugs represent the most valuable market for criminals, with more than one third of the 5 000 OCGs reported in the SOCTA involved in it, many OCGs engage in polycriminality. Of those engaged in illicit drug trafficking, 75 % traffic more than one type of drug, and 65 % of those engaged in the drug trade are also involved in other criminal activities, such as the trade in counterfeit goods, migrant smuggling and trafficking in human beings. As discussed in Part I of this report, these different crimes utilise common techniques, technologies and trafficking routes. Action 48 of the EU action plan on drugs (2017-20) seeks to enhance analysis and information sharing on drug trafficking and terrorist financing, migrant smuggling — including exploitation of vulnerable migrants — and trafficking in human beings. This builds synergies between drug policy and other areas to develop work across crime priorities.

EU structures developing and supporting drug policy

Drug markets are complex and have a multifaceted impact on society. Several EU institutions, bodies, other structures and the Member States play various roles in designing and implementing different aspects of the EU's drug policy (Figure 8.4).

EU institutions

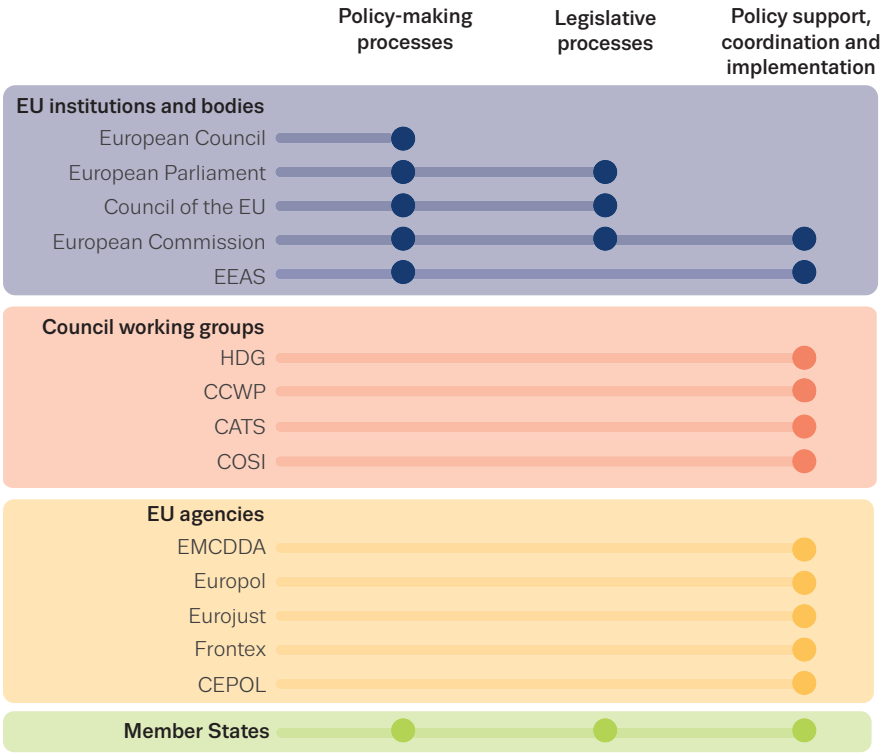
Alongside the Member States, several EU institutions ([17]) are tasked with designing and implementing different aspects of the EU's drug policy through the different priorities and actions set out in strategic planning documents.

The EU institutions have different roles with respect to policy-making and implementation, and establishing any necessary legislation to implement policies. The European Parliament's functions include passing laws, approving the EU budget and discussing EU policies. Drug issues arise in different areas of the Parliament's work when, for example, it considers internal security matters or relations with non-EU countries (third countries).

The Council of the EU (the Council) adopts legislation in conjunction with the European Parliament, plays a policy coordination role for the Member States, devises the EU Common Foreign and Security Policy, signs off on agreements between the EU and third countries, and adopts the EU's annual budget (Council of the European Union, 2019b). The Council also has a number of committees and working groups that are involved in drug policy implementation, in particular COSI and the Horizontal Working Party on Drugs (HDG). COSI plays a leading role in defining, implementing, monitoring and evaluating EU activities in the policy cycle (Council of the European Union, 2010). The HDG plays a central role in the development of EU drug strategies and action plans, and its

([17]) These include the European Parliament, the European Council, the Council of the European Union, the European Commission and the Court of Justice of the European Union.

Figure 8.4
Main EU structures addressing drug supply issues



Note: CATS, Coordinating Committee in the area of police and judicial cooperation in criminal matters; CCWP, Customs Cooperation Working Party; COSI, Standing Committee on Operational Cooperation on Internal Security; CEPOL, European Union Agency for Law Enforcement Training; Frontex, European Border and Coast Guard Agency (established in 2016, built on the existing structures of Frontex); EEAS, European External Action Service; HDG, Horizontal Working Party on Drugs.

remit covers all areas of drug demand reduction and drug supply reduction (Council of the European Union, 1999). Other Council working groups also play an important role in drug policy, for example the Customs Cooperation Working Party (CCWP), the Working Party on Customs Union and the Coordinating Committee in the area of police and judicial cooperation in criminal matters (CATS).

The European Commission proposes new legislation, conducts evaluations and is responsible for ensuring that Member States correctly implement EU laws (European Commission, 2019a). Alongside drafting the EU's annual budget and overseeing how funds are used, it undertakes international negotiations on behalf of the EU. Because of their cross-cutting nature, drug supply reduction issues arise in a number of different areas of its work, including DG Migration and Home Affairs, DG Justice and Consumers, DG Health and Food Safety, DG Taxation and Customs Union, DG Internal Market, Industry, Entrepreneurship and SMEs and the European Anti-Fraud Office. The Commission addresses all aspects of drug control policy, including the reduction of drug use and the prevention of drug-related crime and drug trafficking. It proposes measures for the control of NPS and ensures the implementation of EU laws designed to prevent the diversion of chemical precursors for illicit drug production. It also promotes European cooperation in addressing drug problems through the provision of financial assistance and cooperation programmes.

The EU is actively engaged in ongoing political dialogues with third countries in its immediate geographical neighbourhood and other parts of the world through EU delegations and the European External Action Service (EEAS). This process involves working with other regions and countries to achieve common goals, such as strengthening democracy and the rule of law, supporting trade, and promoting sustainable and alternative development. Drug issues often feature in these dialogues and various EU-level policy documents, including drug-specific and broader strategies, cooperation programmes worldwide, and political declarations and agreements. The approach taken in these documents reflects the principles and objectives of EU drug policy set out in the EU drugs strategy (2013-20) and other key documents addressing drug problems. Action 38 of the action plan on drugs (2017-20) seeks to reinforce and conduct dialogue with partners globally (Figure 8.5).

Figure 8.5
EU engagements on drugs with key partners

The EU's approach on cooperation with third countries on drugs focuses on specific drug-trafficking routes, involving producer, transit and consumer markets. The EU conducts regular experts' Dialogues on Drugs with Latin America and the Caribbean (CELAC), Central Asia, Eastern Partnership countries, Russia, the US and the Western Balkans.

The EU has also agreed on action plans which addressed drugs with a number of countries/regions and funds and provides assistance for a wide range of major drugs-related cooperation programmes in third countries, through EU bilateral, sub-regional or regional cooperation programmes: for example in Latin America, the Caribbean and West Africa along the cocaine-trafficking route, and in Afghanistan and Central Asia along the heroin route.

The EU closely cooperates with other international organisations working in the field, among others the UN: for example UNODC, the Commission on Narcotic Drugs (CND), INCB, UNAIDS and the WHO.

EU agencies

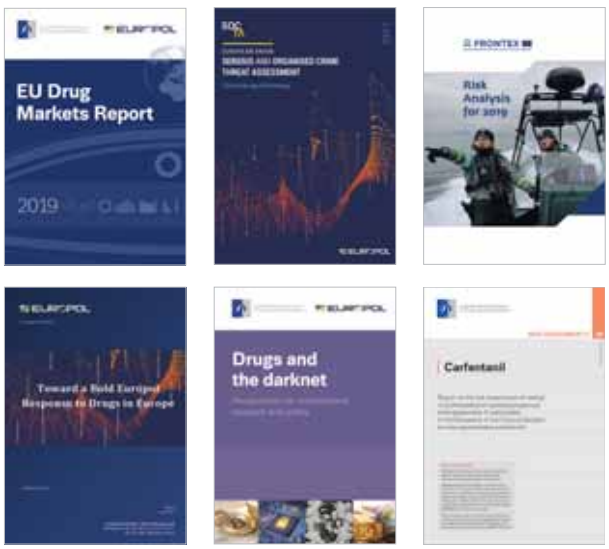
Several EU agencies assist the European Commission and the Member States in implementing EU drug policy (Figure 8.4). These agencies provide support to the drug policy process through aspects of their work encompassing:

- development of policy-relevant information systems, networks and centres
- cooperation and coordination
- threat and risk assessment and analysis
- specialised technical services
- training
- operational actions

Understanding vulnerabilities in the economic, administrative and logistical infrastructure of the EU and the dangers presented by OCGs exploiting them is a key drug policy issue. Several agencies address this policy concern through their work. This includes the analytical, threat and risk assessments undertaken by the EMCDDA, Europol and Frontex. These assessments consider issues ranging from the challenges arising from NPS, cybercrime and terrorism to illegal border crossings and migratory flows (Figure 8.6).

Responding to the cross-border multijurisdiction reality of organised crimes such as drug production and trafficking requires the involvement of several EU Member States. Therefore, all of the EU agencies are involved in coordinating networks and facilitating tasks that support actions against drug production and trafficking. In addition, several agencies are actively involved in operational measures and judicial response. Europol and Frontex take part in various operations with the Member States. This includes initiatives such as joint action days implemented to target the 10 crime priorities of the policy cycle. In addition, Eurojust facilitates judicial cooperation by organising coordination meetings and coordination centres for joint actions and assists the Member States in the use of mutual legal assistance and mutual recognition tools such as the European Arrest Warrant and the European Investigation Order. Both Eurojust and Europol assist

Figure 8.6
EU agencies' analytical, threat and risk assessments

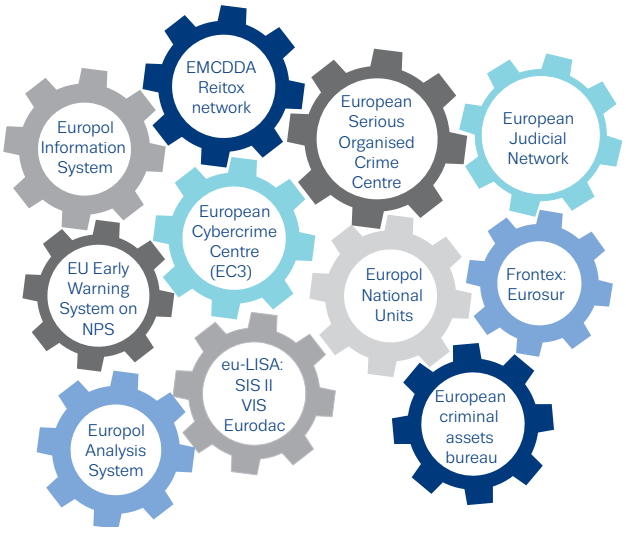


the Member States in the establishment and funding of joint investigation teams (JITs). Member States can also receive assistance from Eurojust and Europol for planning operational work such as the controlled delivery of shipments of illicit drugs and money-laundering cases. Eurojust can also ask Member States to investigate or prosecute a crime, to coordinate their work and to establish a JIT. Eurojust works closely with the European Judicial Network and Europol (Eurojust, 2019; Europol, 2019c; Frontex, 2019).

When facilities for the production of illicit drugs are detected, a range of specialised supports can be needed to process evidence and make the locations hazard-free. Europol assists Member States by providing services in this area. These include technical and forensic expertise, on-the-spot support including dismantling of laboratories or cultivation sites, and technical and comparison reports on chemicals and equipment seized in illicit synthetic drug production/storage locations and waste dump sites (Europol, 2019b).

The timely provision of strategic information and analysis is a critical component of the policy and operational processes in the drugs area. In order to operate a system that yields information effectively, EU agencies run various information systems, networks and centres (Figure 8.7). The EMCDDA works with its network of Reitox national focal points to monitor and provide factual, objective, reliable and comparable information and analysis on the drugs phenomenon in Europe. This includes information about drug law offences, drug seizures, drug purity and potency, and retail prices for drugs.

Figure 8.7
Examples of information systems, networks and centres operated by EU agencies



Europol supports and strengthens Member States' actions and their cooperation in preventing and combating serious crime. Europol works with EU Member States through Europol national units and provides a range of services, including the collection, storage, processing, analysis and exchange of information, including criminal intelligence, forensic and technical support, networking and cooperation with Member States, third countries and international organisations, and provides a source of law enforcement expertise and training. This allows Europol to provide operational support throughout the EU and beyond. It operates the Europol Analysis System, which contains analysis projects on key crime areas, and runs the Europol Criminal Assets Bureau and the Europol Cybercrime Centre. Europol provides secretariat services for the Camden Asset Recovery Inter-Agency Network. It facilitates action under the EU policy cycle through its specialised information services, and supports EMPACT, through which coordinated operational actions are implemented (Europol, 2019c).

Frontex develops and operates information systems enabling the exchange of information, including the European Border Surveillance System (Eurosur) and provision of Eurosur Fusion services. Joint operations coordinated by Frontex have a multipurpose character, and in addition to tackling irregular migration they aim to prevent and counteract cross-border crime, including drug trafficking. eu-LISA is the European Union Agency for the Operational Management of Large-Scale IT Systems in the Area of Freedom, Security and Justice. This includes security and border information systems such as the Schengen Information System (SIS II), the Visa Information System (VIS) operational in Schengen countries, and the Eurodac asylum fingerprint database. These systems can be consulted by national police, customs and border guard agencies to assist their operational work (eu-LISA, 2019; Frontex, 2019).

Allowing the information and knowledge accumulated from operational actions to flow into the work of training Member States' police and other personnel is critical for keeping responses up to date. A number of EU agencies facilitate this by developing training materials and providing various courses. The European Union Agency for Law Enforcement Training (CEPOL), also known as the European Police College, helps build police cooperation across the EU. CEPOL brings together law enforcement professionals to offer them opportunities to grow professionally through training, learn to solve issues related to EU security and establish networks of training institutes and professionals. It provides a wide range of training courses relevant to different aspects of drug supply reduction and security activities. In cooperation with Europol and the EMCDDA,

it provides training to national law enforcement officers on a range of topics, influenced by the findings of the previous EU drug markets reports. The joint CEPOL-EMCDDA training course 'Drug crime and markets – strategic analysis' has been organised annually since 2017 and it brings together law enforcement managers and prosecutors. The course aims to improve the use of strategic analysis of drug markets for decision-making with the view to enhancing the impact of law enforcement responses on organised crime and consequently the security of EU citizens. The activity is certified by ISO 29993:2017 'Learning services outside formal education'.

Frontex develops training standards that facilitate the development of common ground among EU Member States that have different land, sea and air border agencies and needs. It seeks to build capacity in the areas of educational standards, European border guard team training, thematic training support, and training infrastructures and networks. eu-LISA supports Member States by providing technical training for personnel who operate the security and border information systems SIS II, VIS and Eurodac (CEPOL, 2019; eu-LISA, 2019; Europol, 2019c; Frontex, 2019).

Key legislation

A comprehensive set of legal instruments has been by developed by the EU to address drug supply reduction issues and respond to the rapidly developing illicit drug production and distribution systems highlighted earlier in the report. To effectively counter the threats this represents, the EU develops laws in a variety of areas that are related to drug trafficking (Figure 8.8 and Annex).

Figure 8.8
Principal areas of EU legislation linked to drug supply reduction

Revised legislation to address the health and security challenges presented by NPS was adopted in 2017. It provides for early warning, risk assessment and control measures and a streamlined reporting and assessment process. The chemicals required to produce illicit drugs have legitimate uses in many industries. Two EU regulations facilitate the control and monitoring of the trade between EU Member States and between the EU and third countries, and seek to prevent diversion of these chemicals to criminals (see box 'Drug precursor control in the EU').

Drug precursor control in the EU

Drug precursors, chemicals needed to manufacture illicit drugs, primarily have wide and varied legitimate uses such as in the production of plastics, medicinal products, cosmetics, detergents and scents. Because many uses are legitimate, trade in drug precursors cannot be prohibited. Instead, licit trade in them needs to be monitored to ensure they are not diverted to illicit uses. Preventing the diversion of drug precursors can be an effective and efficient way of limiting the supply of illicit drugs and is therefore an important part of the EU drugs strategy.

The EU legislation on drug precursors implements Article 12 of the 1988 United Nations Convention against the Illicit Traffic in Narcotic Drugs and Psychotropic Substances by means of two basic regulations:

- Regulation (EC) No 111/2005 on trade in drug precursors between EU and third countries, amended by Regulation (EU) No 1259/2013;
- Regulation (EC) No 273/2004, on trade in drug precursors within the EU, amended by Regulation (EU) No 1258/2013.

The amendments to both regulations in 2013 significantly strengthened powers to control the export of medicinal products containing ephedrine or pseudoephedrine (precursors for methamphetamine), and the use of acetic anhydride (precursor for heroin) in the EU and of so-called non-scheduled substances in illegal drug manufacture. It is also now possible to react more quickly to new diversion trends and add new chemicals to the lists of scheduled substances through a fast-track procedure.

At the time of drafting the European Commission is carrying out an in-depth evaluation of the EU drug precursor regulations. This evaluation is expected to be finalised by the end of 2019.

Effective coordination and cooperation lie at the core of responding to cross-border organised crimes such as drug trafficking. A number of legal instruments facilitate collaboration between EU Member States on multijurisdiction cases. These include mutual legal assistance and mutual legal recognition tools such as JITs (see, for example, Case studies 12 and 13), the European Evidence Warrant and the European Arrest Warrant. Legal provision is also made for facilitating the processes that underpin forensic and criminal investigations, such as those into the movement of controlled drugs. The critical information flows that support operational measures against drug trafficking are also provided for in EU laws. These includes Council decisions ensuring that EU information exchange standards are no more constraining than national ones, and provision for automated exchange of information such as DNA, fingerprints and vehicle registrations.

Since OCGs may be involved in multiple forms of crime that utilise similar tools and techniques, legislation, such as on firearms control, money laundering and document fraud, often addresses several criminal activities at the same time, including drug smuggling. For example, in response to the threats posed by globalisation and the increased movement of people around the globe, which facilitates both terrorism and other serious crime such as drugs trafficking, as discussed in Chapter 2, the European Parliament and the Council (2016) adopted a directive on the use of PNR data (the PNR Directive). The PNR Directive obliges air carriers to send to Member States the PNR data they have collected in the normal course of their business. These data include each passenger's travel requirements held in carriers' reservation and departure control systems. The collection and processing of PNR data are an important law enforcement tool. At the same time, the use of PNR data for law enforcement purposes involves the processing of personal data, which raises important issues with respect to the fundamental rights to the protection of private life and to the protection of personal data.

Each Member State is required to establish/designate a special entity (Passenger Information Unit) to collect, store and process the PNR data received from air carriers. At the time of writing, a first cluster of nine Member States are at an advanced stage of the implementation process (Council of the European Union, 2018b; European Commission, 2018b). For example, in Finland, the PNR Directive has led to the development of the Passenger Data System, a technical tool for the collection of passenger information. It is used by the police, customs and border guard in the management of their statutory duties and provides a one-stop shop for all information collected under the PNR Directive. The system primarily supports the prevention of terrorist offences and serious crime, by making the data available in a timely fashion and allowing the authorities to apply preset selection criteria to flag up high-risk passengers. It also serves a role in the coordination of law enforcement activities by allowing overlapping requests to be observed. It is worth noting that private general aviation is not subject to the directive.

Another example of legislative approaches to tackle the tools that facilitate the activities of OCGs relates to document fraud. This activity is related to various smuggling activities including drug trafficking, money laundering and trafficking in human beings. An EU regulation that simplifies the authentication of identification documents addresses this by facilitating cooperation between the Member States through the Internal Market Information system. Firearms can be traded as a commodity by OCGs and can be used in violent crimes related to drug trafficking and other crime areas. The European Firearms Directive was recently revised to make it more difficult to acquire and possess firearms, as well as addressing their trafficking (European Parliament and the Council, 2017).

Tackling criminal finances is seen as a key way of undermining the operations of OCGs, and a range of legislative tools have been put in place at both the EU and national levels. These include EU legislation to facilitate coordinated action between Member States involved in cross-border money-laundering cases. Several pieces of legislation allow national authorities to cooperate in targeting the proceeds of crime at all stages of their movement (identification, tracking, freezing, seizing and confiscation) and to protect their financial systems.

The EU Anti-Money Laundering (AML) Directive was adopted in 1990 in order to prevent the misuse of the financial system for the purpose of money laundering. It has been continuously updated, most recently with the Fifth AML Directive, adopted in April 2018, partly as a response to the Panama Papers leaks. This includes, among other measures, close regulation of cryptocurrencies, such as bitcoin, to prevent them from being used for money laundering and financing of terrorism (European Parliament and the Council, 2018).

EU-wide initiatives are backed up by a variety of policy tools at the national level. One example of these is the Unexplained Wealth Order (UWO). This was introduced by the United Kingdom in the Criminal Finances Act 2017, and came into force at the end of January 2018. It is a civil investigative power aimed at strengthening the United

Kingdom's AML and asset recovery regime (Sproat, 2018). A UWO can be applied for if three criteria are met:

1. there are reasonable grounds to suspect that a person has been involved in serious crime;
2. there is reasonable cause to believe that the person owns property with a value greater than GBP 50 000;
3. there are reasonable grounds for suspecting that the known sources of the respondent's lawfully obtained income would have been insufficient for the purposes of enabling the respondent to obtain the property.

If granted, the UWO requires the recipient to disclose their interest in the identified property and to explain its funding. If the recipient fails to respond by the deadline or the answer to the UWO is unsatisfactory, the money is presumed to have been acquired illegally and the information can be used to apply for a civil recovery order.

It is hoped that UWOs will bolster AML efforts, as it represents a shifting of the burden of proof away from the authorities, who previously had to prove that the money used to purchase a property was acquired illegally before asset recovery procedures could be initiated. A UWO places the responsibility on the recipient to demonstrate that the money used to fund the purchase of the property was obtained legally (see Case study 27).

The legislation used to combat cybercrime is also relevant to targeting the proceeds of crime. Proposed legislation in this area includes the European Production and Preservation Order for electronic evidence.

Suspicious transaction reports, also called suspicious activity reports, are reports that financial institutions must submit to alert law enforcement agencies of any unusual financial transactions that might be consistent with money laundering or other criminal activity (Europol, 2017a). Suspicious transaction reports must be submitted to the country's financial intelligence unit (FIU), the state authority tasked with the 'receipt, analysis and transmitting of reports of suspicions identified and filed by the private sector' (Council of Europe, n.d.). FIUs form the backbone of the AML framework set out in the AML Directive.

Since money laundering can be a cross-border enterprise, international cooperation among FIUs is vital (European Commission, n.d.). The sharing of suspicious transaction reports and other intelligence is facilitated through an online network hosted at Europol, FIU.net (Europol, n.d.). FIU.net became operational in 2012 as a decentralised intelligence-sharing network for FIUs. In 2016 it was incorporated into Europol, enabling the intelligence shared to be combined with other Europol products and services.

In 2016, Ireland made amendments to asset recovery legislation, including lowering the threshold value of an asset that can be seized from EUR 13 000 to EUR 5 000. This change allows the Criminal Assets Bureau, in certain circumstances, to seize an asset worth EUR 5 000 or more without court order, for an initial period of 24 hours. The period can be extended to 21 days. In the first two years after the change, the power was invoked 10 times — typically related to the seizure of vehicles, although cryptocurrency has also been seized (English, 2018).

CASE STUDY 27

First UK Unexplained Wealth Order issued

A politician from central Asia with a multimillion-pound property portfolio became the first person in the United Kingdom to be subject to a UWO as authorities attempted to stop the flow of dirty money through London. In early 2018, the National Crime Agency was granted the power to enforce a UWO worth GBP 22 million (EUR 25 million) and freeze the assets of the owner. The order related to two properties, one in London and one in the south-east of England.

The new measures were introduced in response to the mounting evidence that British properties are being used as vehicles to launder illicit foreign money.

Source: Busby (2018).

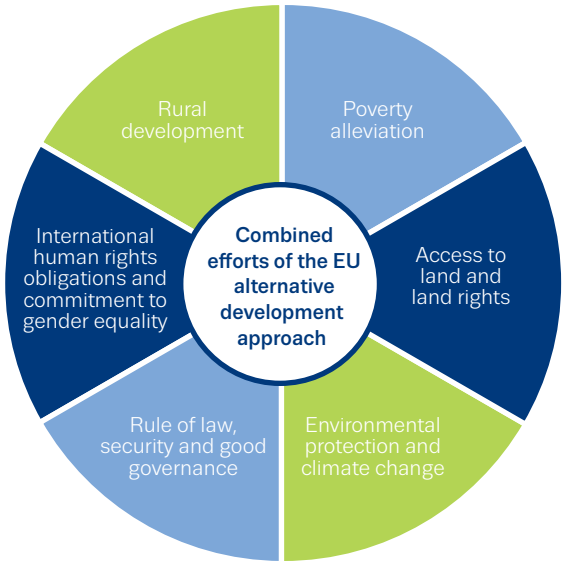
Financial instruments

As part of its comprehensive drug supply reduction approach, the EU finances a wide range of activities within and outside the EU. Financial instruments with a broad focus are used to implement the drug supply reduction, international cooperation and other objectives of the EU drugs strategy (2013-20) and action plan on drugs (2017-20) (Table 8.1). These instruments fall into four categories: framework programmes (e.g. the Internal Security Fund), programmes for EU candidate and potential candidate countries (e.g. Instrument for Pre-accession Assistance II), geographical or regional programmes (e.g. European Neighbourhood Policy), and thematic programmes that complement geographical ones (e.g. Instrument contributing to Stability and Peace). The tools are funded through the EU budget and in cooperation with consortiums of Member States and international partners.

Both the EU drugs strategy (2013-20) and action plan on drugs (2017-20) emphasise the importance of alternative development (see Chapter 1, section on impact on development and governance) for countries affected by the production and trafficking of drugs. In supporting the implementation of this approach, the Council Conclusions on alternative development (Council of the European Union, 2019a) propose a range of measures in combination to address the underlying conditions that facilitate illicit drug economies (see Figure 8.9). The Council has called on the EU Member States and the EU institutions to continue to engage with affected countries and international partners to address the cultivation of illicit crops and other related challenges. In this way, the Council seeks to support the EU's contribution to implementing the outcome document of the United Nations General Assembly Special Session on the world drug problem, and the United Nations Sustainable Development Goals (Council of the European Union, 2019a).

Various financing tools and programmes are used by the EU to translate these policy objectives into concrete actions (see Table 8.1). For example, the European Commission and the EEAS operate funding instruments that finance projects in different countries. This includes the EU's involvement in helping Afghanistan recover from conflict through the provision of financial support through the Development Cooperation Instrument (DCI). Similarly, the EU supports alternative development in Bolivia, Colombia and Peru, where most cocaine is produced, and in Latin America generally, through the

Figure 8.9
Measures supported by the Council Conclusions on alternative development



European Union and Community of Latin American and Caribbean States Action Plan and supporting declarations. The EU also contributes to action against the production and trafficking of drugs through its financial support for the UNODC, provided by the European Commission. The EU funds major drug-related projects and programmes in third countries, through EU bilateral, sub-regional or regional cooperation programmes and closely cooperates with other international organisations working in the field, including the UNODC.

Table 8.1
EU financial instruments supporting drug supply reduction

EU internal action	EU external action
Internal Security Fund (ISF)	Instrument contributing to Stability and Peace (IcSP)
ISF Borders and Visa	Instrument for Pre-accession Assistance (IPA) II
ISF Police	European Neighbourhood Policy (ENP) European Neighbourhood Instrument (ENI) TAIEX (Technical Assistance and Information Exchange)
The Justice Programme	Development and Cooperation Instrument (DCI)
The EU Health Programme	European Development Fund (EDF)
Horizon 2020	European Instrument for Democracy and Human Rights (EIDHR)

Partners, platforms and programmes

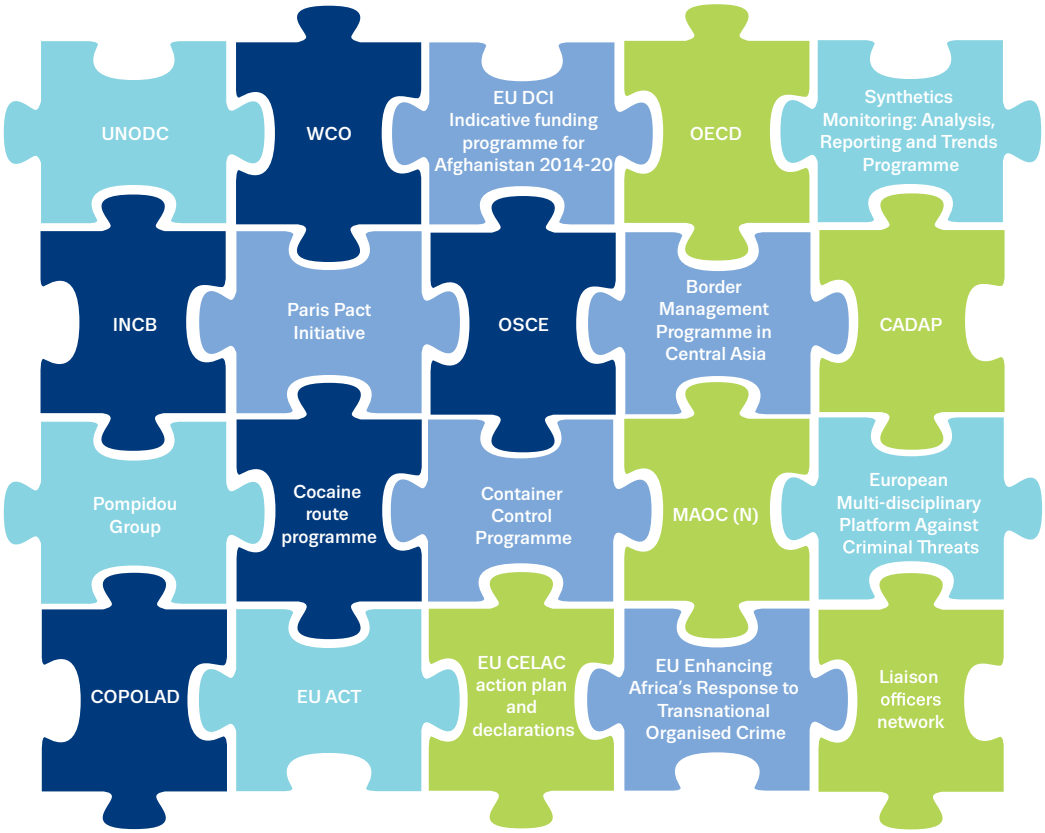
Countering the chain of negative effects arising from drug production and trafficking around the world requires targeted responses where different aspects of these problems are present. To achieve the external aspects of its drug and security polices, the EU cooperates with a range of partner organisations working at the international, regional and national levels. Several operational coordination platforms support interdiction activities, and other programmes facilitate cooperation with partners (Figure 8.10).

EMPACT and the Maritime Analysis and Operations Centre — Narcotics (MAOC (N)) are both key platforms for coordinating interdiction operations between EU Member States and international partners. Through these mechanisms, shipments of illicit drugs and the complex multijurisdiction crimes that enable the operation of drug trafficking and drug markets can be targeted.

MAOC (N) is an operational platform established by and consisting of seven Member States of the EU (France, Ireland, Italy, Portugal, Spain, the Netherlands) with financial support from the Internal Security Fund of the EU, to provide the basis for engagement in multilateral cooperation to suppress illicit drug trafficking by sea and by air. Along with its own staff, the headquarters in Lisbon are operated by country liaison officers (CLOs) representing the police, customs, military and maritime authorities of the participating Member States, as well as by permanent observers from the United States through the US Drug Enforcement Administration's Lisbon Country Office and the Joint Interagency Task Force — South.

The European Commission, several EU agencies (including the EMCDDA, Europol and Frontex) and UNODC are all observers of MAOC (N). From its inception in 2007 to May 2019, MAOC (N) supported the coordination and seizure of over 173 tonnes of cocaine and over 445 tonnes of cannabis (MAOC-N, 2019). In addition, a range of programmes have been established to counter the efforts of OCGs seeking to exploit vulnerabilities in the logistics, border and customs infrastructure of various countries, and areas where conflicts and other challenges enable

Figure 8.10
Cooperation programmes



Note: EU-ACT, EU Action against Drugs and Organised Crime; CADAP, Central Asian Drug Action Programme COPOLAD, Cooperation Programme between Latin America, the Caribbean and the European Union on Drugs Policies; EU DCI, Development Cooperation Instrument; OECD, Organisation for Economic Co-operation and Development; OSCE, Organization for Security and Co-operation in Europe; WCO, World Customs Organization.

drug production and trafficking. Much of this work involves capacity building and better coordination of actions. Both the cocaine route programme and EU ACT (EU Action against Drugs and Organised Crime; formerly the heroin route programme) seek to disrupt key shipment channels by strengthening various aspects of the airports, seaports, land border-crossing points and routes that OCGs can target. The Border Management Programme in Central Asia continues this cascade approach to capacity building and focus on enhancing the national-level barriers to trafficking illicit drugs along the Balkan route. In the Paris Pact Initiative, the EU works with over 70 international partners on a capacity-building programme to stop the international heroin trade. Enhancing the capacity of national authorities that address drug supply reduction is a key objective of the Cooperation Programme between Latin America, the Caribbean and the European Union on Drugs Policies.

The EU is also involved in building monitoring capacity through work coordinated by the UNODC to address the international problems of synthetic drugs through the Global SMART (Synthetics Monitoring: Analyses, Reporting and Trends) Programme. The EMCDDA, which operates the EU Early Warning System on new psychoactive substances (see Chapter 9), is the single largest contributor to the UNODC Early Warning Advisory system on new psychoactive substances. Under the EU's Pan-African Programme, the project Enhancing Africa's Response to Transnational Organised Crime (ENACT) aims to strengthen the assessment of and responses to crimes such as drug trafficking. The project supports the development of threat assessments that are based on indexes of the presence of organised crime, the risk it presents and a country's ability to respond. This project complements the approach of the EU policy. ENACT also reflects the aims of action 37 of the EU action plan on drugs (2017-20), which seeks to support third countries to address drug-related organised crime.

In line with the action plan to enhance drug crime investigations, Europol's Serious and Organised Crime Centre supports the operational activities on selected high-value targets within the framework of the established operational task forces targeting OCGs involved in drug trafficking affecting two or more EU Member States and specified Western Balkan countries.

The Western Balkan region is a key transit region for drugs and precursors flowing from and to the EU. This is reflected in Europol's overall policy and operational framework with regard to the Western Balkans, more specifically Albania, Serbia, and Bosnia and Herzegovina, and is designed to enhance operational cooperation with the countries in the specified region in investigating serious and organised crime affecting two or more EU Member States.

Monitoring drug markets

To target responses, it is important to collect monitoring data to improve our understanding of the illicit drug markets and how they and the criminals involved in them operate. It is also necessary for monitoring the impact of these responses. For that purpose, the European Commission has established an expert group on policy needs for data on crime (in DG Home) and a working group on statistics on crime and criminal justice (in Eurostat).

The EMCDDA operates a number of key indicators of drug markets and law enforcement activities, which have been used throughout this report: drug seizures, drug prices and purity, and drug law offences. In recent years these have been revised and improved, and new ones have been added, to create a more comprehensive suite of monitoring tools and data sources — to inform three linked thematic areas: drug markets, drivers and facilitators; drug-related crime, harms and other consequences; and drug supply reduction and responses. Additions to the core monitoring data include information on production and estimates of market size (EMCDDA, 2017d) (Figure 8.11). New analytical tools are being developed, such as the drug affordability measure for comparative cross-border market analysis (Groshkova et al., 2018).

In addition, a range of new information sources are being explored and tested. Examples of these include wastewater data, the use of open source information to collect information on drug seizures and the monitoring of drug sales on darknet markets, which are described below.

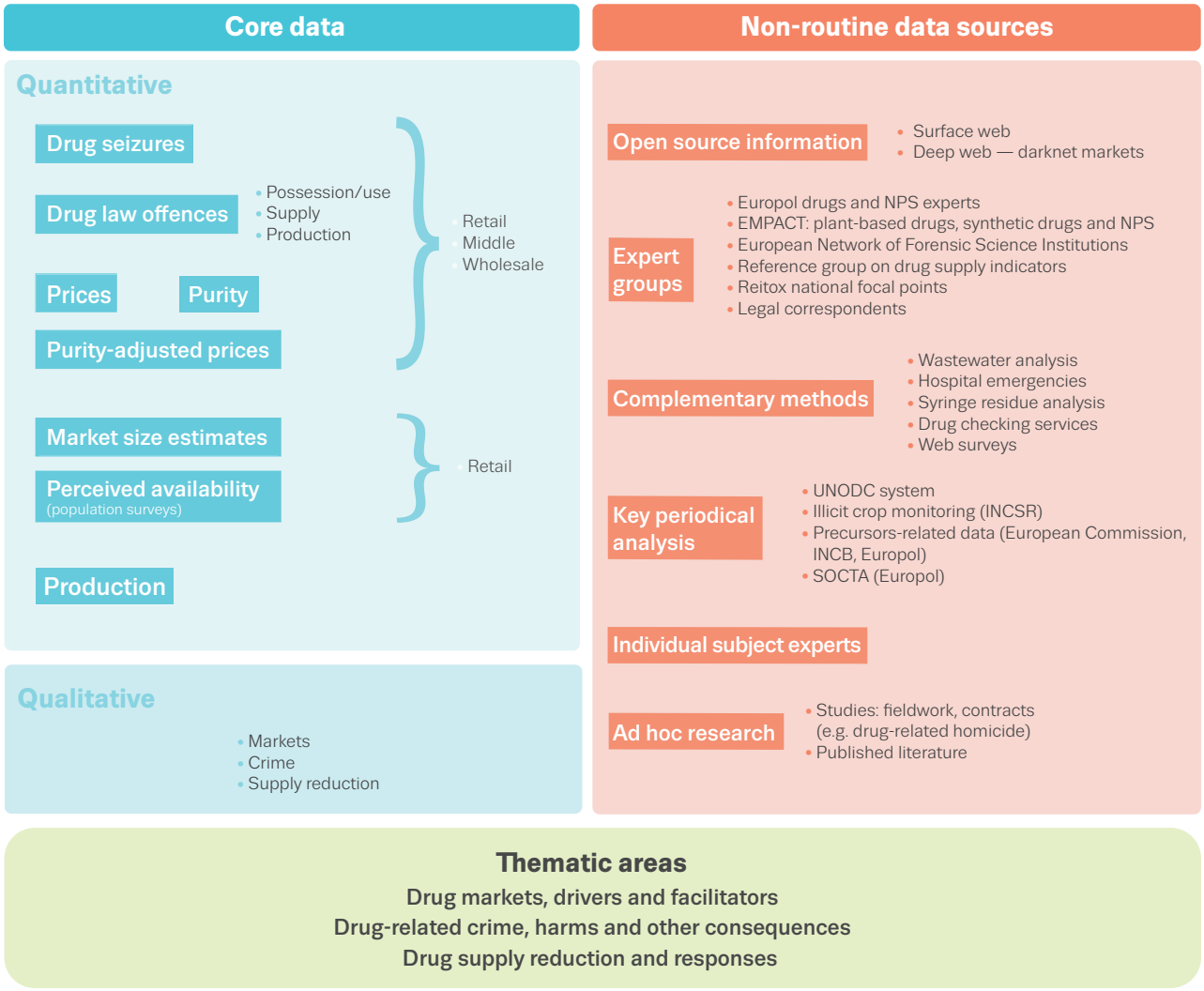
Wastewater data

Wastewater-based drug epidemiology involves sampling a source of wastewater, such as a sewage influent to a wastewater treatment plant, and allows scientists to estimate the quantity of drugs consumed by a community (Zuccato et al., 2008). Although these data are primarily used to infer drug consumption patterns in a given geographical location (EMCDDA, 2016b), they are increasingly being used to indicate drug supply changes in a given region (EMCDDA, 2018c).

In recent years, new approaches in analytical chemistry, such as enantiomeric profiling ([18]), have been developed to distinguish between drug loads in wastewater that result

([18]) Enantiomeric profiling is based on the fact that chiral molecules (if only one chiral centre is present) exist as two enantiomers (opposite forms), which are non-superimposable mirror images of each other. As the enantiomeric ratio will change after the substance passes through the human metabolism, the enantiomeric fraction can be used to determine if the studied drugs in wastewater originate from consumption.

Figure 8.11
The EMCDDA drug supply monitoring system



from consumption and those that result from the direct disposal of unused drugs (Emke et al., 2014). They provide new opportunities to acquire information on drug markets, particularly concerning drug production. Wastewater data are also being used in some places to improve estimates of the market for some particular drug types, for example cocaine in the canton of Lausanne in Switzerland (Zobel et al., 2018) and in Australia (ACIC, 2019). However, there is insufficient geographical coverage for it to be used to provide European estimates at present, and the use of some drugs cannot yet be estimated using wastewater analysis.

Open source information

The concept of open source information is related to the intelligence discipline of open source intelligence (OSINT). OSINT has been defined as 'publicly available information that is collected, exploited, and disseminated in a timely manner to an appropriate audience for the purpose of addressing a specific intelligence and information requirement' (Williams and Blum, 2018). Many law enforcement and security agencies use OSINT for the additional breadth and depth of information it yields, providing a more complete picture of activities, entities and individuals, which can reinforce and help validate contextual knowledge (Hobbs, 2014; Ramwell et al., 2016; Tabatabaei and Wells, 2016). Openly available online information can complement routinely collected data on drug seizures in Europe by addressing some of their shortcomings, notably in timeliness, and by providing additional context that enriches our understanding of drug supply, for example by providing information on emerging routes and concealment methods.

The EMCDDA, in collaboration with the European Commission Joint Research Centre, applies the European Media Monitoring tool (EMM, an automated multilingual internet-monitoring system), for the purposes of identifying large seizures of heroin and cocaine. In addition to the standard information sources, the system is also configured to retrieve data from national and regional law enforcement authorities across Europe. To target the monitoring, sets of keywords are applied, defining two categories: large heroin seizures and large cocaine seizures. Records containing the appropriate keywords are automatically identified by the EMM categorisation system and placed into the appropriate category. The records are manually screened for relevance, established on the basis of two criteria: (1) explicit connection to Europe (i.e. seizure performed within or allegedly destined for Europe) and (2) seizure size (100 kg) (EMCDDA, 2019g).

Darknet monitoring

There are concerns that the distribution of illicit drugs and other commodities via darknet markets is increasing. This poses a number of challenges to responding to online-facilitated drug distribution (EMCDDA and Europol, 2017). Systematic monitoring of and research into drug-related activity on these markets provides an opportunity to understand the scope and nature of the phenomenon. That can inform future policy and operational responses and support interventions addressing the security and health-related threats stemming from the online supply of drugs and other illicit commodities.

Studies to date have illuminated darknet market activity with varying degree of success. A number of different tools to collect and analyse data captured from these platforms have been developed along the way. Similarly, a wide range of units of analysis has been applied, including listings (sales offers), sales or vendors.

Darknet markets analysis and findings in this report are informed by two principal data sources, both relying on 'web crawlers' that systematically gather and process information from darknet markets, although there are some differences.

1. The analysis in Chapter 2 is based on the following data collected by crawlers from major darknet markets: vendors, drug listing description (including shipping origin), quantity, price, feedback left by buyers (and its associated timestamp). These data are analysed to derive more complex metrics, such as the revenue generated and the associated sales volumes (see Chapter 2). More extensive technical details are available from Christin and Thomas (2019) and Soska and Christin (2015).
2. The analysis in Part II (Chapters 3-6) is informed by a data source, originally developed for operational purposes, which is currently being piloted by the EMCDDA to support strategic analysis. Data are collected from major darknet markets and currently include drug listing description (including shipping origin), quantity and price. Although the number of listings (sales offers) has been used as a valid indicator of activity on darknet markets, it is not without limitations. For example, whereas only unique sale offers in the category 'drugs and chemicals' were extracted, it is not uncommon for an individual sale offer to include two or more items (differing only in the quantities advertised for sale). Each of these items was counted as a separate entity, therefore creating a possibility that the number of listings reported was overestimated. In addition, caution is needed in interpreting these data to gauge the number of individual sellers offering different drugs on these markets or the number of transactions. Neither of these can be extrapolated from the number of listings alone.

9

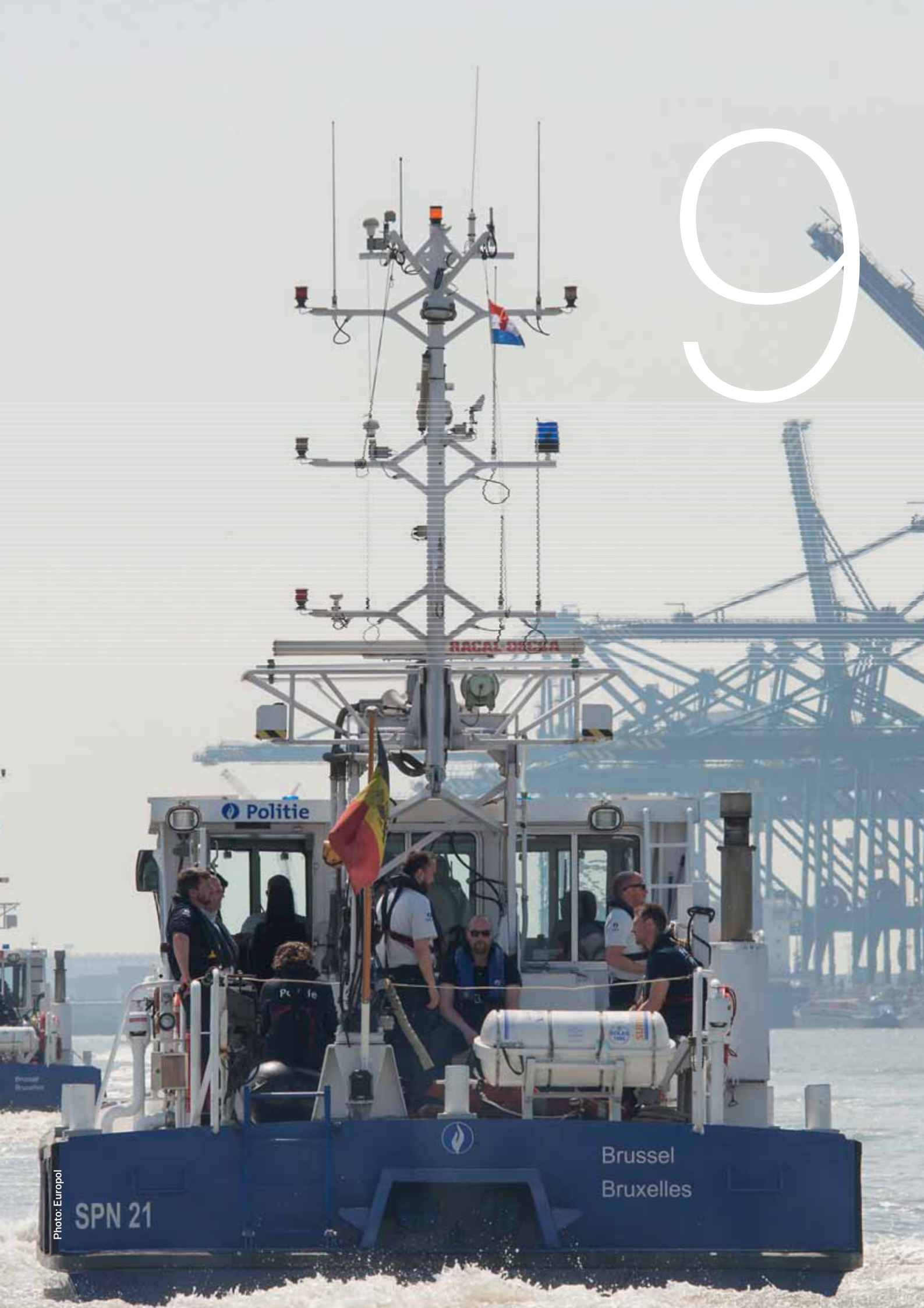


Photo: Europol

CHAPTER 9

Targeting operational responses to drug markets and associated criminality

As the production, trafficking, distribution and use of illicit drugs continue to evolve, so too does the EU's response to it. This chapter provides some examples of how key problems associated with drug markets that have been highlighted earlier in the report are being addressed at an operational level.

Europol's role in drug-related operational activity

Countering the production, trafficking and distribution of drugs is a key priority for the EU and Member States in the fight against serious and organised crime. As the EU's Agency for Law Enforcement Cooperation, Europol supports the Member States with a wide range of services and acts as the information hub for the exchange of intelligence on serious and organised crime, cybercrime and terrorism in the EU.

Europol supports drug investigations across the EU working with a multitude of agencies in the Member States and non-EU partners such as law enforcement agencies in Australia, Canada, Colombia, the United States and elsewhere. A dedicated team of analysts and specialists support investigators in their investigations into cannabis, cocaine, heroin, new psychoactive substances, synthetic drugs and other illicit drugs. Europol is the key intelligence-sharing platform for criminal intelligence at the European level and its sophisticated databases regularly deliver vital leads to support drug investigations in the Member States.

In addition to the regular support delivered to the Member States by Europol in drug investigations, a number of operational activities and innovations highlight how joint international responses to drug-related criminality are aimed at disrupting drug markets and those OCGs and other criminals that sustain these markets.

Europol's bold response and Programme Board

In December 2016, the European Commission published a mid-term assessment of the EU drugs strategy 2013-20 and a final evaluation of the drug action plan 2013-16. A general conclusion was that law enforcement cooperation appears to be improving but with no strong impact on the problem. There are no signs of reduction in the supply of drugs, seizures are not increasing and the number of drug-related offences is growing.

As a result, the Executive Director of Europol tasked its Serious and Organised Crime Centre with drawing up ideas for how to significantly improve the strategic and operational approach of the Member State community, Europol and the EU policy cycle in this area. A team of experts from various Europol directorates conducted an assessment and produced the report 'Toward a bold Europol response to drugs in Europe', which contained a number of recommendations. The report was endorsed by the Executive Director, who asked for a plan to be drawn up for implementing the recommendations. A key role for the implementation process is expected to be played by a Drugs Programme Board, in order to achieve the objectives of the whole exercise.

Europol is increasingly called upon by Member States to provide operational support in complex high-profile and polycriminal investigations, which are resource-intensive and require specialised skills in a number of domains. This includes tactical, technical and financial support provided both from headquarters and on the spot.

Operational task force and high-value target mechanism

In 2018, as a response to the increasing demand for such operational services, Europol in cooperation with Member States developed a standardised high-value target (HVT) and operational task force concept, which is now applied to assist complex investigations against individuals and organisations that constitute the highest serious and organised crime risks to more than one Member State. The concept is also designed to intensify asset tracing and increase the rate of confiscation of criminal proceeds. For example, the 2019 OAP on cannabis, cocaine and heroin includes a strategic goal with focus on financial investigations, aimed at identifying synergies with the 2019 OAP on criminal finances, money laundering and asset recovery. The goal is to promote cross-cutting opportunities and joint investigations for the identification and seizure of criminal assets.

Since 2018 the EU Member States have applied this standardised concept and jointly with Europol selected a high number of HVTs and established operational task forces. Most of these demanding investigations are ongoing. Initial results led to the arrest of more than 400 suspects, including HVTs and the seizure of a variety of assets worth more than EUR 60 million. The successfully targeted investigations proved to have a broad security impact well beyond specific crime areas.

Addressing drug market-associated criminality

A number of measures and initiatives have been introduced, addressing drug markets and their relationship with other types of criminality.

Counter-terrorism measures

It is often stated that drug trafficking may in one way or another provide financing for terrorist activities. To a limited extent, this has been borne out by a few cases in which the small amounts of money needed to finance a lone actor plot have been raised through small-scale drug dealing (Basra, 2019). In addition to international sanctions and asset freezing to target high-level terrorist finances and their networks, some have suggested that greater emphasis should be placed on complementary strategies that use financial intelligence to understand how terrorist networks operate (Keatinge et al., 2018).

To that end, a number of measures have been developed. In 2004, the EU leaders adopted a declaration on combating terrorism. As part of the measures set out in the declaration, the EU Counter-Terrorism Coordinator was established (European Council and Council of the European Union, 2019). The Coordinator's responsibilities include:

- coordinating the work of the Council of the EU on combating terrorism;
- presenting policy recommendations and proposing priority areas for action to the Council;
- monitoring the implementation of the EU counter-terrorism strategy;
- maintaining an overview of all EU instruments, reporting to the Council and following up Council decisions;
- coordinating with the relevant preparatory bodies of the Council, the Commission and the EEAS;
- ensuring the EU plays an active role in the fight against terrorism;
- improving communication between the EU and third countries.

There are a number of examples of responses in this area. Sometimes, these have taken a holistic approach to tackling terrorism as well as addressing the context in which it tends to occur, i.e. state instability, weak governance and corruption. It should be noted that these contextual factors and vulnerabilities equally apply to the illicit drug trade (see box 'Counter-terrorism responses in the EU').

Countering trafficking in human beings

The legal framework for tackling the trafficking in human beings in the EU is provided by Directive 2011/36/EU of the European Parliament and of the Council of 5 April 2011 on preventing and combating trafficking in human beings and protecting its victims ([19]). On 4 December 2017 the European Commission adopted a new Communication addressing trafficking in human beings and committed itself to a new set of priorities in three broad areas: increased action against organised criminal networks by disrupting the business model and untangling the trafficking chain; providing victims of trafficking with better access to their rights and realising those rights; intensifying a coordinated and consolidated response, both within

([19]) OJ L 101, 15.4.2011, p. 1–11, http://data.europa.eu/eli/dir/2011/36/oj

Counter-terrorism responses in the EU

In 2005, the Council adopted the EU counter-terrorism strategy. The strategy focuses on four pillars:

- *prevent: to stop people becoming terrorists or supporting terrorism*, which can be referred to as the 'countering violent extremism' or 'preventing violent extremism' component of counter-terrorism;
- *protect: to strengthen our protection against a terrorist attack*, which includes both physical and online components;
- *pursue: to stop terrorist attacks*, which primarily involves law enforcement, intelligence and justice authorities;
- *respond: to mitigate the impact of a terrorist attack*, whereby first responders and critical infrastructure providers take on an important role, with regard to both physical injuries and psychological trauma.

Across these pillars, the strategy recognises the importance of cooperation with third countries and international institutions.

Source: European Council and Council of the European Union (2018).

and outside the EU. One of the priority actions highlighted in this Communication is to make use of a range of EU funding programmes, such as the Asylum, Migration and Integration Fund, the Internal Security Fund, Horizon 2020, the Instrument for Pre-accession Assistance, the European Development Fund and the EU Emergency Trust Fund for Africa, to support anti-trafficking objectives and priorities (European Commission, 2017d).

As traffickers' modi operandi are constantly evolving, the EU needs to tackle the linkages between multiple crimes. According to the European Commission (2018d), many Member States note that trafficking in human beings is linked to other crimes, including drug trafficking. When evaluating the EU action plan on trafficking in human beings 2012-16, Eurojust also stressed that drug trafficking was one of multiple crimes linked to trafficking in human beings. Multiple links between drugs and human trafficking have been identified (see Chapter 1), such as victims being forced to work in cannabis cultivation sites or to carry drugs across borders. Some Member States (e.g. Austria, Bulgaria, France, Hungary, Italy, Latvia, Lithuania, the Netherlands, Poland and Slovakia) have reported that traffickers increasingly target vulnerable people with physical or mental disabilities, and people with substance use disorders. In addition, victims of human trafficking may be forced to use drugs as a means of coercion in order to ensure their obedience.

In response to this issue, the EU action plan on drugs 2017-20 calls for the gathering of evidence on the potential connection between drug trafficking and trafficking in human beings. In addition, there is the EU Anti-Trafficking Coordinator, who is responsible for improving coordination and coherence among EU institutions, EU agencies, Member States and international organisations, and for developing existing and new EU policies to address the trafficking in human beings. In June 2018, the heads of 10 EU agencies, including the EMCDDA and Europol, signed a joint statement of commitment to working together to address trafficking in human beings (European Commission, 2018a,c) ([20]).

In April 2019 the Council of the EU approved the reinforcement of Frontex, enabling it to respond better to the common challenges Europe is facing in managing migration and borders. The reinforcement will consist of a standing corps of up to 10 000 border guards ready to support EU Member States at any time. The agency will also have a stronger mandate on returns and will cooperate more closely with non-EU countries, including those beyond the EU's immediate neighbourhood (European Commission, 2019b).

Tackling drug market violence and intimidation

There appears to be a growing recognition of the value of applying harm reduction measures and principles to drug markets (Bacon, 2016; Spicer, 2018). Fundamental to such an approach is the recognition that the level of harm in a drug market is more important than its overall size, and therefore law enforcement should prioritise crimes that represent the most significant harms to society (UKDPC, 2009).

In the United Kingdom, the application of harm reduction principles to drug market violence includes an emphasis on a comprehensive approach with a focus on the role of partnerships across a range of sectors, such as education, health, social services, housing, youth and victim services, working alongside law enforcement. Such multiagency approaches ensure the safeguarding of those who

([20]) The other signatories were the European Asylum Support Office, eu-LISA, Eurojust, the European Institute for Gender Equality, Frontex, the EU Agency for Fundamental Rights, CEPOL and the European Foundation for the Improvement of Living and Working Conditions (Eurofound).

are exploited as well as tackling organised crime. The authorities have invested in prevention and early response, including education and risk assessment (e.g. Home Office, 2018); disruption and intervention (e.g. Drug Dealing Telecommunications Restriction Orders Regulation, 2017) ([21]). Furthermore, there is a recognition of the trafficking and slavery context (Anti-Trafficking Monitoring Group, 2018), in particular with a focus on the use and exploitation of children (e.g. Home Office, 2018). Finally, targeted law enforcement is essential to disrupt criminal activity and take away its proceeds (NCA, 2019).

In Ireland, drug distribution networks have a three-tier hierarchical structure. Based on that, a number of responses to tackle intimidation can be designed and applied that differ in (1) their approach, whether based on a criminal justice or social inclusion perspective, (2) their target, whether they aim to prevent recruitment into gangs, prevent escalation of gang involvement, intervene to promote leaving gangs, or deter or suppress gang activity, and (3) the time horizon of their impact, whether short or long term (Murphy et al., 2017).

Addressing money laundering

As highlighted in the section on legislative responses in Chapter 8, targeting the profits from the illicit drug trade and the financial resources of OCGs is a complex task on a global scale. The EU action plan on drugs (2017-20) and the European agenda on security prioritise responses in this area in order to restrict the ability of criminals to infiltrate the legitimate economy and exploit vulnerabilities in financial systems. Enacting legislation at the EU level that keeps pace with financial and technological developments is a key part of this response. This approach is supported by various EU structures that address the operational aspects of financial crimes linked to the trade in illicit drugs. Given the interconnectedness of today's global financial system, the EU also works with a range of organisations in different regions of the world that are involved in addressing money laundering (see Chapter 1 and Table 9.1).

A crucial question for research and policy is how effective and efficient an existing AML regime is. National risk assessments for money laundering, required from all members of the Financial Action Task Force (FATF), are designed to determine if AML resources are sufficient and can reduce overall money laundering in the country. Ferwerda and Reuter (2018), based on analysis of Italy and Switzerland, provide a general judgement and recommendations to strengthen forthcoming national risk assessments across all FATF countries. The recommendations include, among others, using risk assessment standards from other fields and integrating a measure of uncertainty into the risk assessment process and analysis.

Tackling corruption at ports

In Chapter 1 we highlighted the problem of major European ports being targeted by organised crime groups to exploit vulnerabilities in port security in order to facilitate drug-smuggling activities. These groups often target port workers, by threatening the worker or their family or simply offering money as an incentive. In many cases, the money may be to finance a drug habit or other addiction.

Table 9.1
Entities addressing money laundering

International	European	Regional
Financial Action Task Force (FATF)	EU Expert Group on Money Laundering and Terrorist Financing	Caribbean Financial Action Task Force
Egmont Group	EU Committee on the Prevention of Money Laundering and Terrorist Financing	Financial Action Task Force against Money Laundering in South America
International Money Laundering Information Network (IMoLIN)	EU informal network of Financial Intelligence Units (the EU FIUs Platform)	Inter-Governmental Action Group against Money Laundering in West Africa (GIABA)
Camden Asset Recovery Interagency Network (CARIN)	Council of Europe's Committee of Experts on the Evaluation of Anti-Money Laundering Measures and the Financing of Terrorism (MONEYVAL)	Middle East and North Africa Financial Action Task Force
		Eastern and Southern Africa Anti-Money Laundering Group
		Eurasian Group on Combating Money Laundering and Financing of Terrorism
		Asia/Pacific Group on Money Laundering

([21]) UK Statutory Instruments 2017, https://www.legislation.gov.uk/uksi/2017/1240/contents/made

The Stroomplan Initiative has a specific component focused on anti-corruption and integrity (see the box on the Stroomplan Initiative, page 219). Other major points of entry for drugs have also introduced measures to counter corruption. The port of Rotterdam has introduced a mechanism to rotate staff among roles to help prevent cases of corruption occurring.

Responding to drug distribution via online markets and social networks

In Chapter 2 we discussed the fact that one of the issues driving the accessibility of drugs is the range of comparatively new options to source them.

Europol's Dark Web Team and Cyber Patrol

Criminality on the darknet has been identified as a cross-cutting crime threat with significant impacts across the spectrum of serious and organised crime. It is no longer merely a modus operandi, but an established, highly dynamic and substantial criminal underground economy, which has been expanding steadily over recent years and is expected to grow further. The thriving online trade in a wide range of illicit goods and services on darknet markets has become one of the main engines of organised crime in the EU. The competitive nature of the service-based model underpinning criminality on the darknet has expanded the opportunities to commit crimes facilitated, enabled or amplified by technology. In addition, darknet markets pose significant investigative and prosecution challenges for law enforcement. The main obstacles to effective action by the competent authorities are technological and legislative, further exacerbated by limited resources. The Member States and other law enforcement partners have made increasing requests to Europol for operational support. Its response has been the establishment of a dedicated team to tackle criminality on the darknet. This team delivers a range of services in support of operational activities, including the following.

- Providing an enhanced intelligence picture and continuous monitoring of the threats, trends and developments related to criminality on the darknet: successful operations on the darknet require in-depth knowledge, expertise and understanding, as well as a mix of new and traditional investigative techniques.
- Delivering operational support and expertise in different crime areas: the cross-crime nature of criminality on the darknet can be addressed only in a multidisciplinary manner, by engaging with the cybercrime experts alongside those responsible for child sexual exploitation, illicit trade in drugs and firearms, trafficking in human beings, currency and document counterfeiting, etc. The complexity of the threats emanating from the darknet calls for coordinated operational action that draws upon the expertise held by the various competent authorities in different crime areas.
- Developing tools, tactics and techniques to conduct darknet investigations: the wide range of offences facilitated by the darknet, combined with rapidly changing modi operandi, has proven that there cannot be one specific investigative method. Each investigation and approach depends on the specific circumstances, and the investigative tools, tactics and techniques must be tailored to the particular case and adapted to broader trends and changes in modi operandi.
- Prioritising top threats and/or targets: an improved intelligence picture should form the basis for the selection and prioritisation of those investigations that will have the biggest impact.
- Deconflicting among the different entities involved: with multiple actors involved in such complex operations, there is a clear need for central coordination of, and deconfliction in, investigations related to the darknet. At present, many of these investigations are carried out on the basis of bilateral collaboration and case by case, which can jeopardise the actions planned by other law enforcement agencies and the overall success of the operation.
- Supporting joint technical and investigative actions: experience to date indicates that the law enforcement actions with the greatest impact on the darknet have been those executed jointly (see Case study 28).
- Engaging in training and capacity building: as criminality on the darknet is a cross-cutting problem that requires support from specialists in multiple types of crime, it is not feasible or practical for cybercrime units to deal with all such crime when the predicate crime is related to drugs, firearms or some other illicit commodity. It is essential, therefore, that appropriate training and capacity building be extended to those working in these areas to provide them with the required knowledge and expertise.
- Carrying out prevention and awareness raising: in the light of the growth in cyber juvenile delinquency and the proliferation of threat actors (individuals or groups responsible for events or incidents that impact, or have the potential to impact, the safety or security of others) active on the darknet, prevention and awareness activities could play a crucial role in deterring individuals from pursuing a pathway into cybercrime or cyber-facilitated crime. Such endeavours can have a strong deterrent effect.

CASE STUDY 28

Global actions coordinated by Europol to tackle online criminality

Law enforcement agencies from the EU, Canada and the United States joined forces in early 2019 to target vendors and buyers of illicit goods on darknet markets. During the course of this operation, international law enforcement agencies made 61 arrests and shut down 50 darknet accounts used for illicit activity. They executed 65 search warrants, seizing 299.5 kg illicit drugs, 51 firearms and over EUR 6.2 million (almost EUR 4 million in cryptocurrency, EUR 2.2 million in cash and EUR 35 000 in gold). They also conducted 122 interviews.

These global actions followed on from the second annual Cyber Patrol Action Week, held at Europol's headquarters in The Hague in July 2018. The Cyber Patrol Action Week brought together 60 online investigators and subject matter experts from 19 countries, Eurojust and Europol. The experts detected 247 high-value targets, and developed intelligence packages that were disseminated to the concerned countries to inform subsequent investigations.

This international coordination approach demonstrates law enforcement agencies' determination to tackle the criminal use of darknet markets.

Source: Europol (2019d).

Cooperation with the private sector

Social media platforms, instant messaging apps and e-commerce sites are increasingly being exploited to advertise and distribute drugs or precursors. An initiative that may be useful to respond to this is the EU Internet Forum. The forum, established under the European Agenda on Security and launched in December 2015 by the European Commission, brings together EU home affairs ministers, the internet industry and other stakeholders to work together in a voluntary partnership to address the misuse of the internet by terrorist groups. The forum has two key objectives: to reduce the availability and accessibility of terrorist content online; and to empower civil society partners to increase the volume of effective alternative narratives online. This model may be equally applicable to reducing the availability and accessibility of drug-related content on the internet, in particular the advertising and sale of drugs and precursors.

Targeting drug supply chains

EMPACT operational action plans

EMPACT is the coordination platform for the EU Member States and institutions to develop and manage actions supporting the policy cycle (see section on the policy cycle in Chapter 8). Of the 10 crime priorities defined in the 2018-21 policy cycle, one concerns drugs. It is addressed through two distinct OAPs: one on cannabis, cocaine and heroin, and the other on synthetic drugs and new psychoactive substances.

Each OAP is structured around seven strategic goals, with specific operational actions listed under each goal. The strategic goals of the two OAPs on drugs in the 2018-21 policy cycle are as follows:

- intelligence picture
- operational activities
- prevention and capacity building
- cooperation with non-EU partners (third countries, international organisations and partners)
- document fraud
- financial investigations
- online trade in illicit goods and services

Each OAP is supported by a dedicated Europol team and OAP meetings often take place at Europol's headquarters in The Hague. Participation in the OAPs is optional and open to all EU Member States and third countries, alongside the European Commission, the European Council, several EU agencies including the EMCDDA, platforms such as MAOC (N) and projects such as the EU Action Against Drugs and Organised Crime (EU-ACT). Similarly, participation in individual operational actions is open to all those participating in an OAP but is optional.

Cannabis

An example of the activities carried out under EMPACT are activities targeting the OCGs and facilitators involved in wholesale trafficking of cannabis resin across the Mediterranean Sea, particularly departures from Morocco, Libya and Lebanon, with direct or indirect impacts on the EU. It encourages participants to appropriately pursue other serious forms of criminality perpetrated by those OCGs.

As discussed in Chapter 3, the main source of cannabis resin for the European drug market is Morocco, and huge quantities are trafficked to Europe each year (see box 'Rose of the Winds'). Many methods have been documented for smuggling resin from Morocco to southern Spain. However, of particular concern to Spanish authorities are boats that can carry loads of 2.5 tonnes at high speed, allowing them to evade detection. As well as drugs, such vessels have also been used to smuggle migrants from the shores of North Africa into Europe.

The Spanish Ministry of the Interior supported a law to restrict certain types of vessels. It was then introduced in October 2018 ([22]). The law applies to all rigid inflatable boats and high-speed boats that are more than 8 m in length, or those of equal or lower length that have a maximum power of more than 150 kilowatts. Also included are any other such vessels, regardless of size and power, if there are signs (specified in the regulation itself) that they can be used to commit or facilitate the smuggling of contraband. The law allows police to seize such vessels on land, even if they contain no illicit cargo. To support the implementation of the law, the Spanish Tax Agency created a special register for rigid inflatable boats and high-speed boats, accessible by public agencies. Anyone who owns a rigid inflatable boat or high-speed boat must register it, declaring its length, the power of its engines, the activity for which it is intended and the geographical area where it will be used.

Rose of the Winds

In response to the threat posed by large-scale trafficking of cannabis resin in the Mediterranean Sea, a joint operations team called Rose of the Winds (RoW) was established. This multilateral and multidisciplinary European law enforcement initiative involves several permanent partners, including France's Office central pour la repression du traffic illicite des stupéfiants, Greece's Hellenic Coast Guard, Italy's Guardia di Finanza and Direzione Centrale per i Servizi Antidroga, Spain's Guardia Civil and Europol. The stable engagement of these competent authorities of Member States with Mediterranean coastline serves as a task force safeguarding the interests of the EU and the international community. Various other authorities from EU Member States and third countries also have been engaged as needed. The joint operations team pools and synergises resources and expertise from law enforcement and other organisations in the participating Member States and Europol. Thus RoW shares new developments in real time and, when required, convenes at short notice and on the crime scene. In addition, RoW conducts strategic analysis based on the operations carried out by its Member States and other information. RoW has been a key source of intelligence and awareness raising in Europe concerning the new role played by Libya as a major drug storage and distribution platform in the Mediterranean region, especially for cannabis resin.

Operations carried out by the RoW partners, or supported with intelligence provided by them, since 2015 have resulted in the seizure in the EU, in international waters and in third countries of hundreds of tonnes of cannabis resin produced in Lebanon and Morocco, multitonne amounts of cocaine from South America and millions of captagon tablets from the Middle East. It has also led to the arrest of a major cannabis resin trafficker in Morocco. Above all, the work model in place continues to collect valuable insight into evolving trends and modi operandi regarding cannabis resin trafficking and polycriminality in the Mediterranean basin, thereby revealing the dynamics of transnational organised crime affecting the region (Europol, 2016).

Heroin and other opioids: EU-ACT

EU-ACT aims to build capacities to increase regional and transregional law enforcement cooperation and coordination in the fight against organised crime and trafficking activities along the heroin route. It also supports the development of drug policy and drug demand reduction activities. The project has been effective in facilitating international meetings on heroin investigations. In particular, it has funded several operational and coordination meetings for field investigators and judicial authorities. The project provides intelligence on various activities concerning heroin interceptions along several

([22]) Real Decreto-ley 16/2018, de 26 de octubre, por el que se adoptan determinadas medidas de lucha contra el tráfico ilícito de personas y mercancías en relación con las embarcaciones utilizadas. *Boletín Oficial Del Estado* 260 (https://www.boe.es/diario_boe/txt.php?id=BOE-A-2018-14747).

heroin-trafficking routes, especially within the Indian Ocean, East Africa, Central Asia and the Black Sea corridor.

Various actions are taking place at Member State level. An example from Sweden is presented in the box 'Responding to the situation of new synthetic opioids in Sweden'.

Cocaine

The Cocaine Route Programme represents a concerted effort by the EU and its partners to focus on transnational organised crime and the flow of illicit drugs to Europe. It does this mainly by facilitating communication and cooperation between law enforcement officials and the judiciary. Since 2009, under the Instrument contributing

Responding to the situation of new synthetic opioids in Sweden

The presence of fentanyl and its derivatives on the Swedish drug market since 2014 is considered to be among the most serious developments that have affected Sweden's drug-using population. Since 2015, these synthetic opioids have surpassed heroin in the number of drug-related deaths they cause.

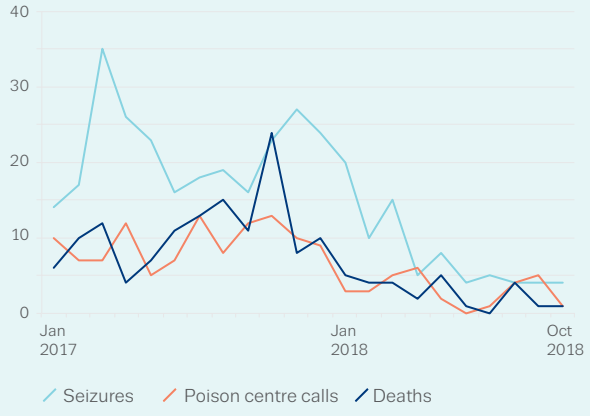
In order to tackle this issue, the Swedish authorities introduced a raft of measures using a multiagency approach. The initiatives included prioritising investigation of fentanyl derivatives by the Public Health Agency of Sweden and proposals for fentanyl derivatives to be considered as goods dangerous to health or as narcotics. As a result, control measures were adopted on two occasions in 2017 and again in 2018. The National Forensic Centre developed procedures for safe handling of the substances and a multidisciplinary team was established to reduce drug-related mortality by making naloxone available. Other measures included a new provision enabling the Public Health Agency of Sweden and the Medical Product Agency to purchase samples of substances under consideration for regulation in order to analyse and chemically identify those substances.

In terms of the law enforcement response, the strategy included knowledge support, international and interagency cooperation, crime prevention measures, informing regulatory responses and initiating investigations. Such investigations mainly targeted the sale and distribution of fentanyl and derivatives online. In Sweden, the sale of fentanyl derivatives takes place almost exclusively on the internet. Based on police information gathered since 2014, an estimated 300 of the 370 deaths related to fentanyl or its derivatives in Sweden can be traced back to internet purchases. The limited number of Swedish vendors implies that a small number of vendors appear to be behind the availability of fentanyl and its derivatives. Such vendors became the focus of investigations. In a judgment in such a case in May 2018, two vendors who had sold fentanyl derivatives were convicted of eight counts of involuntary manslaughter; the judgment was referred to the Court of Appeal and in April 2019 the vendors were convicted of involuntary manslaughter and each received a prison sentence of four and six years respectively.

The trade may move to darknet markets as a result of intensive repressive measures against open sale online. However, the Swedish police consider that such a move would limit public exposure by reducing accessibility to these substances (Polisen, 2018).

The combination of these measures seems to have been effective, as can be seen in the falling numbers of calls to the poison information centre and of the occurrence of fentanyl or its derivatives in post-mortem toxicology cases over the course of 2018 (see figure below).

Data related to fentanyl and its derivatives in Sweden: seizures, calls to the poison information centre and mentions in post-mortem toxicology cases (per month), January 2017 to October 2018



to Stability and Peace, the EU has committed more than EUR 50 million in 40 countries along the recognised trafficking routes for cocaine in Latin America, the Caribbean and Africa. Current components of the Cocaine Route Programme are AIRCOP, SEACOP, CRIMJUST and COLIBRI.

The AIRCOP component increases the resilience of interdiction efforts by building Joint Airport Interdiction Task Forces at selected airports in Africa, Latin America and the Caribbean. These are connected to secure international databases and systems for transmission of operational information. International operations supported through the project have led to significant seizures of drugs, cash and other illicit goods.

The SEACOP element builds capacity by establishing Maritime Intelligence Units and Joint Maritime Control Units, first to detect and then to search suspect vessels and shipments in selected countries in West Africa, Latin America and the Caribbean. This project also strengthens national and regional maritime information systems, increasing the effectiveness of interdiction efforts.

CRIMJUST focuses on criminal justice cooperation and investigations and is designed to complement the other projects of the Cocaine Route Programme. This component aims to achieve a stronger focus on criminal investigation and criminal justice cooperation between countries in Latin America, the Caribbean and West Africa to enhance their capacity to counter organised crime along the cocaine routes.

The COLIBRI component is being implemented as part of the WCO Strategic Plan: 'Protect society, public health and safety, and contribute to combating crime and terrorism', and in line with the role of customs in achieving the Sustainable Development Goals adopted by the United Nations in 2015, in particular SDG 16: Peace, Justice and Strong Institutions.

The use of containers for the trafficking of illicit drugs has led to the development of specific responses such as the UNODC-WCO Container Control Programme (UNODC, n.d.) for capacity building and responses such as the Stroomplan Initiative (see box 'Stroomplan Initiative: targeting cocaine trafficking through Antwerp').

In Chapter 5 we presented recent findings from the forensic profiling of samples of cocaine seized in Europe. This initiative is being carried out under EMPACT and is an important aspect of the EU's coordinated response to the threat posed by cocaine.

Synthetic drugs: EU training on dismantling illicit labs

In the EU, Member States work in a coordinated manner to provide training to law enforcement agencies on the topic of dismantling illicit synthetic drug laboratories. There is a now well-established yearly training programme, which has three components: online basic training, a 2-week residential advanced training course and then a further 1-week follow-up course.

The basic course is an online module that teaches the student some theoretical knowledge about illicit synthetic drug production and precursors, back-tracking investigations, forensic aspects and safety regimes. The basic course is a prerequisite for proceeding to the advanced course.

The advanced joint CEPOL-Europol illicit synthetic drugs laboratory dismantling course is run once a year at the international training facility of the Central Bureau of Investigation in Warsaw, Poland. The follow-up training is held in Belgium at the facility in Emblem — offered to graduates of the advanced course, two years after graduation, provided that they are still working in the same function. Experts from Belgium, the Netherlands and Poland support these courses, and technicians from the suppliers of portable electronic detection equipment also provide assistance. The EMCDDA provides expertise during the theoretical parts of the course.

These courses are available to law enforcement officers in EU Member States, and occasionally officers from non-EU countries will be accepted by special request. For example, officers from Colombia and Serbia have participated in the advanced course.

New psychoactive substances: EU Early Warning System

Operated and financed by the EMCDDA, in close cooperation with Europol, the EU Early Warning System on new psychoactive substances (EWS) is the first step in a three-step legal framework designed to allow the EU to rapidly detect, assess and respond to health and social threats caused by NPS. The work of the EWS aims to build, maintain and strengthen situational awareness, preparedness and responses to NPS at national and EU levels.

The EWS was first set up in 1997 under Joint Action 97/396/JHA ([23]). It was strengthened in 2005 by Council

([23]) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31997F0396

Stroomplan Initiative: targeting cocaine trafficking through Antwerp

In Chapter 5 we described how Antwerp has emerged as one of the key ports of entry for cocaine into Europe. In 2017 almost 40 tonnes of the drug was intercepted, and in 2018 the amount seized was just under 50 tonnes. Furthermore, over 50 tonnes of cocaine was intercepted outside the EU, allegedly en route to Antwerp. In addition, this increased trade has brought associated problems of violence and intimidation, as discussed in Chapter 1. Recognising this, the Belgian authorities developed a comprehensive plan to respond to this phenomenon, called the Stroomplan Initiative (Stream plan).

The plan focuses on four main priorities.

(1) Intensified controls in the port of Antwerp: large-scale scanning of containers, use of cameras placed directly at the terminals so that verifications can be done immediately, use of automatic number plate recognition on connecting roads to the port terminals, smart seals on containers to monitor deviations before scanning and an anonymous whistleblowing system for reporting suspicious activity by co-workers.

(2) The creation of a multidisciplinary taskforce, known as the 'Kali-team', perhaps a reference to both the goddess Kali and the Cali cartel: this joint taskforce focuses on tackling drug-related crime linked to the cocaine trade. The multidisciplinary team comprises officers from a number of agencies, such as the federal and local police, maritime police, customs and the public prosecutor's office.

(3) Increased action against money laundering and the link between the legitimate and the illegal economy: cooperation with the prosecutor's office has intensified (port prosecutors, dedicated to port-related cases only, have been appointed) and international cooperation is more thorough, as many of the crime flows are across borders.

(4) An enhanced integrity and anti-corruption policy: the pressure that organised crime groups exert on public servants has intensified over the years. Not only bribes but also threats of violence are now more common. Even criminal infiltration in government institutions can no longer be ruled out.

Currently about 1 % of the containers arriving at the port are inspected. Checks are intensifying considerably under the 'Stroomplan'. Meanwhile cases of serious violence, including abduction and shootings, have been reported around Antwerp. As part of the plan, government institutions and the private sector are also joining efforts to tackle the unprecedented rise of cocaine trafficking at Antwerp port.

Sources: EMCDDA open source information database; Schneider (2018).

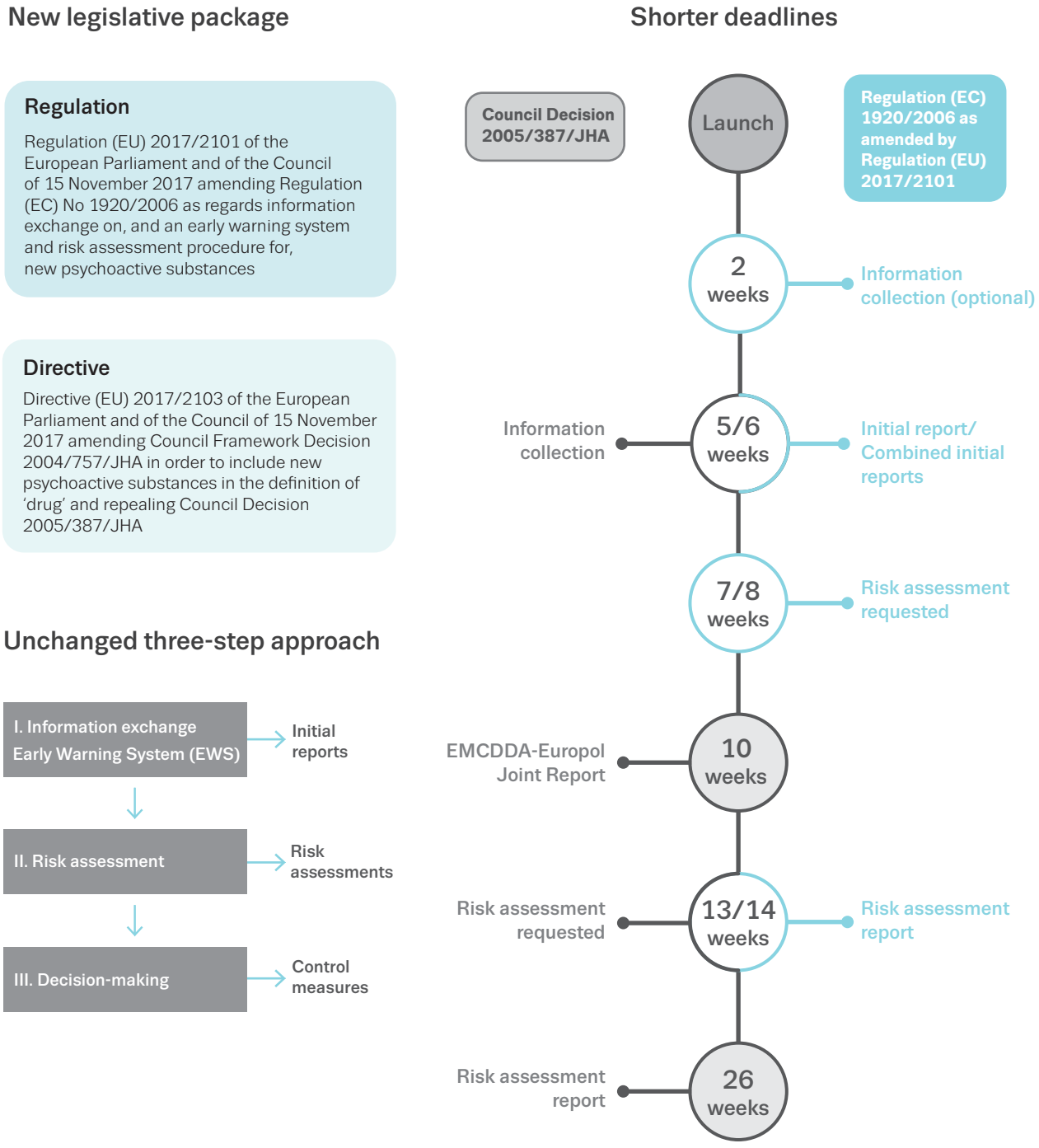
Decision 2005/387/JHA ([24]). As of 23 November 2018, it operates under Regulation (EC) 1920/2006 (as amended by Regulation (EU) 2017/2101) ([25]) (Figure 9.1).

The EWS is composed of a multiagency and multidisciplinary network, which includes the EMCDDA, 30 national early warning systems (the 28 EU Member States, Norway and Turkey), Europol and its law enforcement networks, the European Medicines Agency, the European Commission and other partners. The EMCDDA, in cooperation with Europol, is responsible for collecting, collating, analysing, assessing and communicating the information reported by the network in order to provide them with any information required for the purposes of early warning and to allow the EMCDDA to draw up an initial report on a new psychoactive substance that may pose health or social risks at EU level or a combined initial report on several similar NPS.

Underpinning each of the national early warning systems, and in turn the EWS, is the exchange of information on the chemical identification of NPS from forensic and toxicology laboratories. Principally, these laboratories handle casework related to seizures of NPS by law enforcement agencies (such as police, customs and border forces), poisonings (such as those from hospital emergency departments and medico-legal death investigations) and samples collected from people who use NPS and from test purchases (e.g. from online marketplaces). This approach allows the collection and rapid reporting of event-based information on the appearance of, and harms caused by, NPS at

([24]) https://eur-lex.europa.eu/eli/dec/2005/387/oj
([25]) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32017R2101

Figure 9.1
New accelerated EU procedure to identify and respond to new psychoactive substances appearing in the EU



national level to the EMCDDA. The Joint Research Centre is providing support to the European network of customs laboratories and the EWS through the provision of advanced analytical testing capability and expertise. These data are complemented by reports twice a year, which include aggregated data on seizures by law enforcement agencies and from poisonings. The organisation and functioning of the national early warning systems is a national responsibility. Although these systems have developed to meet national needs, they draw on a common format, guidelines and tools to report information to the EMCDDA.

Perhaps the highest-level response applied by any Member State to any issue is to introduce legislation. The significant threats posed by NPS have prompted many EU Member States to adopt new laws to combat this problem.

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Abbreviations

2C-B	4-Bromo-2,5-dimethoxyphenethylamine
AML	anti-money laundering
APAA	alpha-phenylacetoacetamide
APAAN	alpha-phenylacetoacetonitrile
CBD	cannabidiol
DG	Directorate-General
EEAS	European External Action Service
EMPACT	European Multidisciplinary Platform Against Criminal Threats
EU-ACT	EU Action against Drugs and Organised Crime
EWS	early warning system
FARC	Revolutionary Armed Forces of Colombia
FATF	Financial Action Task Force
FIU	financial intelligence unit
Frontex	European Border and Coast Guard Agency
GBL	gamma-butyrolactone
GDPR	General Data Protection Regulation
GHB	gamma-hydroxybutyrate
HVT	high-value target
INCB	International Narcotics Control Board
JIT	joint investigation team
MAOC (N)	Maritime Analysis and Operations Centre - Narcotics
MAPA	methyl alpha-acetylphenylacetate
MASP	multi-annual strategic plan
MDMA	3,4-methylenedioxy-N-methylamphetamine
NPS	new psychoactive substances
OAP	operational action plan
OCG	organised crime group
PNR	Passenger Name Record
RoW	Rose of the Winds
SAR	suspicious activity report
SIS II	Schengen Information System
SOCTA	Serious and Organised Crime Threat Assessment
THC	tetrahydrocannabinol
UNODC	United Nations Office on Drugs and Crime
UWO	Unexplained Wealth Order
VIS	Visa Information System
WCO	World Customs Organization
WHO	World Health Organization

Annex: Principal areas of EU legislation linked to drug supply reduction

Drug precursors
Regulation (EC) No 111/2005 on trade in drug precursors between EU and third countries, amended by Regulation (EU) No 1259/2013.
Regulation (EC) No 273/2004, on trade in drug precursors within the EU, amended by Regulation (EU) No 1258/2013.
EU agencies addressing drug supply issues
Regulation (EC) No 1920/2006 of the European Parliament and of the Council of 12 December 2006 on the European Monitoring Centre for Drugs and Drug Addiction (recast) as amended.
Regulation (EU) 2016/794 of the European Parliament and of the Council of 11 May 2016 on the European Union Agency for Law Enforcement Cooperation (Europol) and replacing and repealing Council Decisions 2009/371/JHA, 2009/934/JHA, 2009/935/JHA, 2009/936/JHA and 2009/968/JHA.
Regulation (EU) 2018/1727 of the European Parliament and of the Council of 14 November 2018 on the European Union Agency for Criminal Justice Cooperation (Eurojust), and replacing and repealing Council Decision 2002/187/JHA.
Regulation (EU) 2015/2219 of the European Parliament and of the Council of 25 November 2015 on the European Union Agency for Law Enforcement Training (CEPOL) and replacing and repealing Council Decision 2005/681/JHA.
Regulation (EU) 2016/1624 of the European Parliament and of the Council of 14 September 2016 on the European Border and Coast Guard and amending Regulation (EU) 2016/399 of the European Parliament and of the Council and repealing Regulation (EC) No 863/2007 of the European Parliament and of the Council, Council Regulation (EC) No 2007/2004 and Council Decision 2005/267/EC.
Risk assessment and control of new psychoactive substances
Regulation (EU) 2017/2101 of the European Parliament and of the Council of 15 November 2017 amending Regulation (EC) No 1920/2006 as regards information exchange on, and an early warning system and risk assessment procedure for, new psychoactive substances.
Directive (EU) 2017/2103 of the European Parliament and of the Council of 15 November 2017 amending Council Framework Decision 2004/757/JHA in order to include new psychoactive substances in the definition of 'drug' and repealing Council Decision 2005/387/JHA.
Counterfeiting of medical products
Council of Europe Convention on the counterfeiting of medical products and similar crimes involving threats to public health (Council of Europe Treaty Series – No. 211).
Judicial and police cooperation in criminal matters
Council Act of 29 May 2000 establishing in accordance with Article 34 of the Treaty on European Union the Convention on Mutual Assistance in Criminal Matters between the Member States of the European Union (2000/C 197/01).
Council Framework Decision of 13 June 2002 on joint investigation teams (2002/465/JHA).
Council Framework Decision of 13 June 2002 on the European arrest warrant and the surrender procedures between Member States (2002/584/JHA).
Council Framework Decision 2004/757/JHA of 25 October 2004 laying down minimum provisions on the constituent elements of criminal acts and penalties in the field of illicit drug trafficking.
Council Framework Decision 2008/841/JHA of 24 October 2008 on the fight against organised crime.
Council Framework Decision 2008/978/JHA of 18 December 2008 on the European evidence warrant for the purpose of obtaining objects, documents and data for use in proceedings in criminal matters.
Cybercrime
Directive 2013/40/EU of the European Parliament and of the Council of 12 August 2013 on attacks against information systems and replacing Council Framework Decision 2005/222/JHA.
Council Framework Decision of 28 May 2001 combating fraud and counterfeiting of non-cash means of payment (2001/413/JHA).
Forensic analysis and criminal investigation
Council Decision of 28 May 2001 on the transmission of samples of controlled substances (2001/419/JHA).
Council Recommendation of 30 March 2004 regarding guidelines for taking samples of seized drugs (2004/C 86/04).
Information exchange
Council Framework Decision 2006/960/JHA of 18 December 2006 on simplifying the exchange of information and intelligence between law enforcement authorities of the Member States of the European Union.
Council Decision 2008/615/JHA of 23 June 2008 on the stepping up of cross-border cooperation, particularly in combating terrorism and cross-border crime.

Firearms
Directive of the European Parliament and of the Council amending Council Directive 91/477/EEC on control of the acquisition and possession of weapons.
Proceeds of crime
Council Decision of 17 October 2000 concerning arrangements for cooperation between financial intelligence units of the Member States in respect of exchanging information.
Council Framework Decision of 26 June 2001 on money laundering, the identification, tracing, freezing, seizing and confiscation of instrumentalities and the proceeds of crime (2001/500/JHA).
Council Framework Decision 2005/212/JHA of 24 February 2005 on confiscation of crime-related proceeds, instrumentalities and property.
Council Decision 2007/845/JHA of 6 December 2007 concerning cooperation between asset recovery offices of the Member States in the field of tracing and identification of proceeds from, or other property related to, crime.
Regulation (EU) 2015/847 of the European Parliament and of the Council of 20 May 2015 on information accompanying transfers of funds and repealing Regulation (EC) No 1781/2006.
Directive (EU) 2015/849 of the European Parliament and of the Council of 20 May 2015 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing.
Proposal for a regulation of the European Parliament and of the Council on European Production and Preservation Orders for electronic evidence in criminal matters — COM/2018/225 final — 2018/0108 (COD).
Document fraud
Regulation (EU) 2016/1191 of the European Parliament and of the Council of 6 July 2016 on promoting the free movement of citizens by simplifying the requirements for presenting certain public documents in the European Union and amending Regulation (EU) No 1024/2012 (OJ L 200, 26.7.2016, p. 1-136).
Trafficking in human beings
Directive 2011/36/EU of the European Parliament and of the Council of 5 April 2011 on preventing and combating trafficking in human beings and protecting its victims, and replacing Council Framework Decision 2002/629/JHA.

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The EU Drug Markets Report 2019 is the third comprehensive overview of illicit drug markets in the European Union by the EMCDDA and Europol. The analysis presented in this report spans numerous topics such as the links between drugs and other crimes, the licit economy and society more generally as well as the processes and players involved in the trade from production and trafficking to distribution. Taking an evidence-based approach, the report reviews the markets for heroin, cocaine, cannabis, amphetamine, methamphetamine, MDMA and new psychoactive substances. It also provides action points to inform policy development at EU and national level. This publication is an essential reference for law enforcement professionals, policymakers, the academic community and indeed for anyone seeking up-to-date information and analysis on drug markets in Europe.

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