European Monitoring Centre
for Drugs and Drug Addiction

EUROPOL

EU DRUG MARKETS REPORT | A STRATEGIC ANALYSIS

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Foreword

Drug trafficking—whilst illegal—is a highly profitable commercial activity. Understanding this market reality requires a holistic approach, following the economic chain from production to consumption via trafficking.

This report is the result of a cross-fertilisation between Europol and the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), two EU agencies under my responsibility. For the first time, it provides to the law enforcement community, policymakers, the academic sphere and public at large a comprehensive picture of all illegal drug markets at EU level. In doing so, it goes beyond a mere statistical analysis or threat assessment to provide a strategic analysis of one of the most complex and invasive criminal phenomena of our times. Furthermore, it includes analyses of selected markets, reviews of policy responses and last but not least presents recommendations for the future.

Some of the key points revealed by the report—connections between cocaine and cannabis resin trafficking networks and between cocaine and heroin trafficking groups; growth in the number, type and availability of new substances in Europe; as well as the sheer speed of change in European drug markets—clearly call for more action and cooperation at EU level.

These insights will feed the new EU policy cycle process on organised and serious international crime (new priorities and actions are to be adopted for the period 2013–2017).

No doubt there is a lot of work ahead of us. Illicit drug markets are a huge economic challenge. According to the United Nations Office on Drugs and Crime, 70 % of the criminal proceeds of drug trafficking are laundered through the financial system and then penetrate our licit economy. We need to be better able to identify this impact on European society and on the EU economy. This is the reason why future work should aim to quantify and analyse how illicit drug markets interact with the licit economy.

Cecilia Malmström
European Commissioner for Home Affairs

Introduction

This is the first time that Europol and the EMCDDA have joined forces to produce a comprehensive analysis of the European drug market in its entirety. Previous joint publications from our agencies have focused on individual market elements, but up to now we have never brought these together within a single analytical framework. The big picture needs to be seen—the increasingly joined-up nature of the modern European drug market demands an equally joined-up analysis.

Information and analysis are fundamental to the work of both Europol and the EMCDDA. But the organisations' perspectives and relationships to data are different. This report benefits from Europol's strategic perspective and operational understanding of trends and developments in organised crime that comes from working actively in the field to support European law enforcement efforts. This is complemented by the insight that comes from the EMCDDA's ongoing monitoring and analysis of data covering various aspects of the drug phenomenon in Europe and beyond. The joint vision that the two agencies bring to this topic is a broad and complementary one, and we believe the analysis it generates is in many ways unique. The drug market is a complex place; we cannot fully understand the supply of drugs in Europe if we do not comprehend the changing nature of demand. Patterns of drug use in the EU are changing: new drugs enter the marketplace on a regular basis and drug users rarely restrict their consumption to specific substances. Equally, the criminality that the drug market generates can only be properly understood in the wider context of organised crime groups' operations.

It is also, we believe, an appropriate time for such an initiative. The European drug problem appears to be moving into a new phase. The substances and patterns that have characterised the European drug market for the last 30 years now have to share the stage with a wide range of newer substances and behaviours. The drug market itself appears increasingly dynamic, innovative and quick to respond to challenges. In this report, we call for an equally dynamic, innovative and agile response. This is only possible if we can keep pace with developments and understand the factors that drive them. We must understand, for example, how the drug market is influenced by global issues and new technologies. These developments have an impact on all aspects of modern life, and they are now beginning to shape both a new kind of drug problem and a new kind of drug market. Our task here is to stimulate a debate so that responses can be configured and actions can be taken to ensure that Europe continues to tackle the drugs problem in a comprehensive and balanced way.

Being forward-looking, however, does not imply a disregard for the lessons we have learnt. A strong conclusion emerging from the analysis presented here is that we need to continue to invest in measures that have been shown to work, such as intelligence-led policing; the targeting of key organised crime figures, financial transactions and precursor chemicals; and coordinated actions and cooperation between national law enforcement bodies. Europe's strategy on drugs is to combine holistically a rigorous demand and supply reduction approach. But within this strategy, the individual tools chosen for our interventions need to be continually reviewed and tested. Not all approaches work and, crucially, not all approaches that worked in the past will be effective in the future. History has shown us that good intentions do not necessarily deliver results in the drugs area. Most importantly, the dynamic and responsive nature of the drug market means that we are faced with a moving target, where any success is likely to be transient. This is why monitoring, analysis and assessment are essential tools for ensuring that our strategies and responses remain fit for purpose.

The focus of this report is the drug market and how our enforcement actions can be made more effective. This, however, is only 'one side of the coin': achieving progress over time will depend on reducing both supply and demand. Europe's balanced approach to drug policy is central here, as it is configured around the need to ensure complementarity between these two aspects. This is illustrated by the current decline in the use of heroin in Europe. Here, vigorous policing along the heroin routes bordering the European Union, and the success of our Member States in engaging those with heroin problems in effective drug treatment programmes, are both likely to have

played a significant role. In the future, it will be no less important to maintain this balance and to engage positively with local communities that are affected by drug problems.

Acknowledging the uncertainty that exists is a critical requirement of any informed analysis. In this report, we aim to provide a comprehensive analysis of the drug market, but to achieve this we must also be sensitive to the limitations of the information available. This is why we have taken a multi-source approach, testing data sets against one another, and recognising that conclusions need to be cautiously framed. We have resisted the temptation to quantify and present estimates where there is a lack of robust information, for example in the case of drug flows and the size of the European market.

One of the themes running through this report is that the European drug market needs to be seen in the context of patterns of demand and supply in developing countries. Africa is a particular concern here, but it is not the only one. Currently, outside of North America, Australia and the European Union, the information available on the global drug market remains extremely weak. In Europe, we have invested in establishing monitoring capacity and mechanisms for the sharing of intelligence. We are better placed to identify important changes in the marketplace, but still we find that information resources in many areas are insufficient for our needs. The EMCDDA and Europol are working closely with the European Commission to help improve this situation. We conclude this report by focusing on critical information needs, and we note that this is an area in which modest investment is likely to reap significant benefits.

The purpose of this report is to inform policies and actions. Concrete action points are provided in those areas which we identify as having potential for improving the EU response to the drug market and its consequent harms. Many of these issues will have resonance at national or even local level, but the focus is how our actions at an EU level can make a difference. Here, coordination and cooperation are crucial. This only comes, in our view, from a common understanding of the problem, a clear vision on the priorities for action and the determination to promote and remove obstacles to cooperation. We hope you will agree with us that this report makes a positive contribution to this endeavour, and we would like to thank all those who have been involved in its production.

Wolfgang Götz
Director, EMCDDA

Rob Wainwright
Director, Europol

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Responsibility for the analysis presented in this report lies with the EMCDDA and Europol.

At a glance

Key issues

Summarised below are some of the interlinked factors which are important for understanding the development of the modern European drug market. These are drawn from the more extensive analysis that can be found in Chapter 10.

Interaction among the heroin, cocaine, cannabis and synthetic drug markets is increasing.

- **Diversification in trafficking:** Trafficking routes are diversifying, with drugs being moved through multiple transit points and complex channels, and the use of legitimate commercial transport is increasing.
- **The changing face of organised crime:** Organised crime groups take a multi-commodity perspective and take advantage of new methods to facilitate their activities within a drug market that is more global, dynamic and fluid.

Globalisation is a key driver for change, influencing drug flows, availability and demand, and resulting in a more dynamic and faster moving drug market.

- **The growing importance of the Internet:** The Internet is emerging as an online marketplace for drugs and contributes to the rapid global diffusion of new trends by facilitating communication and providing access to knowledge, expertise and logistics.
- **The impact of new markets:** Domestic demand for drugs in Africa, Asia and Latin America is growing and diversifying, and this is impacting on drug flows into and out of Europe.
- **The EU as a producing region:** The European Union (EU) is an important source of knowledge and expertise, is a producer of synthetic drugs and cannabis and remains a significant source of heroin precursors.
- **Innovation:** New technologies are having an important impact on the drug market, as seen in developments in production, the sourcing of non-controlled chemicals (including pre-precursors) and the manufacture and marketing of new psychoactive substances.

The significance of different drugs in the market is changing, and this has important implications for future demand and supply reduction policies and approaches.

- **The heroin problem is changing:** This drug remains important, but a combination of supply and demand reduction measures appears to be contributing to an overall long-term decline.
- **A less discriminating drug marketplace:** Stimulants, including cocaine and synthetic drugs, are of growing importance, for both demand- and supply-side reasons, and exist within a marketplace in which consumers will often substitute one drug for another or use multiple substances.
- **New drugs entering the market:** Both unregulated new substances and controlled drugs that were previously not widely used are becoming more important and may be attractive to new groups of potential users. Examples of note here include synthetic cannabinoid receptor agonists, cathinones, ketamine and methamphetamine.
- **Cannabis market—pervasive and resilient:** The cannabis market is characterised by high demand and a diversity of products, producers and sources. Domestic production is of growing importance and linked with violence and other criminal activities.

Strategic recommendations

Provided here are the strategic recommendations for the EU that can be drawn from the analyses developed throughout this report. These are elaborated further and operationalised as action points in Chapter 10.

- **Ensuring that responses remain on target:** Strategic analysis, with regular critical review, is necessary to ensure that responses remain fit for purpose and keep pace with a complex, faster moving and more globally interlinked drug market.
- **Proactive international engagement:** Information sharing and cooperation with countries where drugs are produced, or transit en route to the EU, is a high priority. Changes in the flow of drugs into Europe means that new countries are now becoming important, or will be important in the future.
- **Operational partnerships within the EU:** Intelligence sharing and coordinated law enforcement operations to disrupt the European drug market and the trafficking of drugs into the EU need to be scaled up to match the growing challenge of a more integrated drug market.
- **Focusing on high-value targets:** A high priority should be given to targeted and intelligence-led actions against major organised crime groups (OCGs).
- **Strategic partnerships with industry:** There is a need for greater investment in working with industries whose legitimate operations are exploited by the drug market. Of particular importance are the transportation, logistics, chemical (including drug precursors) and communication sectors. The Internet requires special attention, and engagement with service and payment providers is required to create strong effective barriers to the online sale of drugs.
- **Detecting, anticipating and responding to new threats:** Increased capacity to detect, and share information on, important trends in the drug market is of growing importance given the speed of developments in the area of new and synthetic drugs. Investment in innovative approaches and forensic data sources has the potential to address critical information deficits, facilitate a rapid response and allow operational activities to be more effectively targeted and evaluated.

CONTEXT

Chapter 1 | Context

Drug use and supply are topics that are directly and indirectly linked to European security and the public health agenda. They also impact on EU relations with third countries both directly, in terms of trafficking of drugs into or from the EU, and indirectly, through the nexus that exists between drug use and broader issues such as social stability and development, the fight against organised and serious international crime and terrorism, and measures to address corruption. The focus of this report is drug markets. This area is clearly central to the drugs problem, and thus a major focus of policies and actions. It also remains an area that is relatively poorly understood.

The analysis provided here is unique in that it combines information from the two major EU agencies working in the drugs area. For the first time, the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and Europol have joined forces to provide a comprehensive overview of all aspects of the contemporary European drug market. Information and analysis are key concerns of both organisations. Here a synthesis can be found that unites Europol's operational and strategic intelligence with data from the EMCDDA monitoring and analysis of the EU drug situation. This dual perspective is reflected in each chapter of this document. It can also be found in the conclusions and recommendations of this report, which are focused on how cooperation and coordinated actions can add value to European efforts to address the drug market. Other valuable input has been provided by key institutional partners, such as Eurojust and the European Commission (EC), although the responsibility for the analysis and recommendations provided here remains with the EMCDDA and Europol. The approach is deliberately pragmatic and applied. This is a difficult area to address with any certainty and, clearly, all data sources have their limitations. However, in combining information from multiple sources, and informed by the agencies' different perspectives, it is possible to produce a convincing overview of the current state of the European market and draw conclusions which are grounded in the best evidence that is available.

This is a complex problem, and the analysis provided here has had to span many topics. The emergence of high-value drug markets has many consequences and is inextricably linked to other forms of offending. Some of those who buy illicit drugs fund their use through crime, and those involved in the trafficking and selling of drugs are often also involved in other criminal activities. Drug use patterns in Europe are changing, and new substances are appearing. Moreover, there is a risk that, in an increasingly globalised and 'connected' world, illicit drug markets of different sorts may converge, and that illicit drug markets may become intertwined with other illicit markets, such as the trafficking of counterfeit goods and of human beings. Corruption also becomes an increasingly intractable problem with the involvement of OCGs. All these themes are addressed within the body of this report, which, alongside Europol's Serious and Organised Crime Threat Assessment (SOCTA), will contribute to the definition of future EU security priorities.

The structure of this report

The next six chapters describe the markets for the main illicit drugs in Europe: heroin, cocaine, cannabis, amphetamine, methamphetamine and ecstasy. The chapters largely follow the same format. Each starts with a summary of key statistics 'at a glance', covering prevalence and treatment, seizures, drug law offences, prices and purity. The next section provides a global overview, setting the background against which the European drug market operates. This is followed by sections on production and precursor issues; the size and structure of the consumer market; trends in trafficking; the involvement of organised crime; and EU policy responses. Policy responses for synthetic drugs (amphetamine, methamphetamine, ecstasy) are discussed in Chapter 5, Amphetamine.

Of course, this structure assumes, somewhat artificially, that each market operates independently of the others. In reality, there is considerable overlap in structure, and in response. Thus, Chapter 5, on amphetamine, considers the role of OCGs in the markets for all synthetic drugs, and EU responses to these markets. Chapter 8 considers a range of 'new drugs'—largely, but not exclusively, synthetic ones. The final two chapters draw together the threads of the report. Chapter 9 identifies some important issues raised by the previous seven chapters, and this is followed by a concluding chapter that provides a synthesis of the report's findings and draws out a list of specific action points.

Data and sources

Systematic and routine information on illicit drug markets and trafficking is still limited. Drug seizures are often considered as an indirect indicator of the supply, trafficking routes and availability of drugs; however, they also reflect law enforcement priorities, resources and strategies, the vulnerability of traffickers and reporting practices. Data on the purity or potency and price of illicit drugs, the availability, reliability and comparability of which are often limited, may facilitate an understanding of drug markets. Intelligence information from law enforcement agencies usefully completes the picture, along with overviews on organised crime based on Europol analysis work files (AWFs). The EMCDDA ([1]) collects national data on drug law offences, drug seizures, drug purity (and potency) and drug retail prices in Europe. Other data on drug supply come largely from the United Nations Office on Drugs and Crime (UNODC)'s information systems and analyses, complemented by additional information from Europol. Information on drug precursors originates from the International Narcotics Control Board (INCB), complemented by data from Europol, UNODC and the EC, all of which are involved in international initiatives to prevent the diversion of precursor chemicals used in the manufacture of illicit drugs. These information sources are not always concordant, and work is currently under way to improve the compatibility and quality of existing data in some of these areas. As many parts of the world lack sophisticated information systems related to drug supply, some of the estimates and other data reported, though representing the best approximations available, must be interpreted with caution.

([1]) Data analysed in this report cover the 30 EMCDDA reporting countries, which are designated by the term 'Europe' in the text and comprise the 27 European Union Member States, Croatia, Turkey and Norway.

The framework of European policy initiatives

The European Union has used a set of policy tools to develop a strategic response to the threats posed by the production and trafficking of drugs. Under the umbrella of the EU Drugs Strategy 2005–2012 ([1]) and action plans ([2]), the European (external) Security Strategy ([3]), the Stockholm Programme ([4]), the EU Internal Security Strategy ([5]), the two European pacts to combat international drug trafficking—disrupting cocaine and heroin routes ([6]) and against synthetic drugs ([7])—and the EU policy cycle for organised and serious international crime ([8]), the EU is currently developing a wide range of operational actions on all fronts of the fight against drugs. The aim is to tackle drugs within a policy framework balancing supply and demand approaches through measures within the EU, at external borders and with our international partners. Action in this field should intensify in future, on the basis of a renewed financial framework for 2014–2020 ([9]).

The Internal Security Strategy

Internally, the EU is stepping up prevention, detection and disruption of organised crime activities through more efficient measures, addressing information and intelligence exchange, training needs and the penetration of the licit economy. In this regard, the Commission has proposed more robust EU legislation on asset recovery and will shortly table legislative proposals pertaining to money laundering, terrorist financing and a new legal basis for Europol. A European Training Scheme is also foreseen. This would notably address cross-border investigations with a view to contributing to the development of a common law enforcement culture with similar levels of performance for law enforcement officials. An EU Anti-corruption report will be released in Spring 2013.

In the Stockholm Programme, the European Council called on the Council of the European Union (the Council) to develop a strategy on organised crime within the framework of the EU's Internal Security Strategy. Consequently, in 2010 the Council adopted *Council conclusions on the creation and implementation of an EU policy cycle for organised and serious international crime* (Council of the European Union, 2010b). This was based on the work of the Standing Committee on Operational Cooperation on Internal Security (COSI), established by a Council Decision in 2009 following Article 71 of the Treaty on the Functioning of the European

([1]) http://register.consilium.europa.eu/pdf/en/04/st15/st15074.en04.pdf
([2]) http://ec.europa.eu/justice/anti-drugs/law/index_en.htm
([3]) http://consilium.europa.eu/uedocs/cmsUpload/78367.pdf
([4]) http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:115:0001:0038:en:PDF
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([8]) http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/jha/122514.pdf
([9]) http://ec.europa.eu/budget/reform/

The EU policy cycle for organised and serious crime

The multiannual policy cycle is designed to address the most important criminal threats in a way that ensures effective cooperation among the law enforcement agencies of the Member States, EU agencies and relevant third parties (Council of the European Union, 2010b). The initial shorter policy cycle runs between 2011 and 2013, while the fully fledged policy cycle will run between 2013 and 2017.

It consists of four steps:

In **step 1**, the SOCTA developed by Europol is used to present a picture of the threats facing the EU and form a basis for policymaking.

In **step 2**, policy priorities are set and addressed through multiannual strategic action plans (MASPs), providing a multidisciplinary, integrated and integral approach to criminal threats.

The European Multidisciplinary Platform Against Criminal Threats (EMPACT) provides the cooperation framework for **step 3**, through which the crime priorities identified in step 2 are addressed through OAPs.

Evaluation forms a key part of the policy cycle, and in **step 4** COSI reviews and assesses the effectiveness and impact of the OAPs on the criminal threats.

The starting point of the EU policy cycle is Europol's SOCTA, which will deliver analytical findings that can be translated into political priorities, strategic goals and OAPs in order to implement the EU policy.

In implementing the policy cycle, the Council adopted eight crime priorities in 2011. Subsequently, COSI, which is attached to the Council, set out a series of strategic goals for these priorities and translated them into OAPs managed by project groups that report to COSI.

Key priorities relating to illicit drugs are:

Priority A: Weaken the capacity of OCGs active or based in West Africa to traffic cocaine and heroin to and within the EU.

Priority B: Mitigate the role of the Western Balkans as a key transit and storage zone for illicit commodities destined for the EU and logistical centre for OCGs, including Albanian-speaking OCGs.

Priority D: Reduce the production and distribution in the EU of synthetic drugs, including new psychoactive substances.

Priority E: Disrupt the trafficking to the EU, particularly in container form, of illicit commodities, including cocaine, heroin, cannabis, counterfeit goods and cigarettes.

Union (Lisbon Treaty). The remit of the committee is to 'facilitate, promote and strengthen coordination of operational actions of the Member States competent in the field of internal security' (Council of the European Union, 2009a).

A key instrument in the implementation of the EU's security and drug policies is the *European pact to combat international drug trafficking—disrupting cocaine and heroin routes*. It supports operational activities in law enforcement directed at trafficking in heroin and cocaine, and targets the proceeds of crime (Council of the European Union, 2010c). This involves information and intelligence exchange; keeping drug issues as a core part of EU external relations; targeting the illicit trade in precursors; and improving interception capabilities. The European pact on cocaine and heroin invited the Council, the EC and relevant EU agencies to focus their activities in 2011 on counteracting synthetic drugs, in particular in the field of information sharing, specialised trainings and combating smuggling of precursors in close cooperation with relevant third countries.

The *European pact against synthetic drugs* (Council of the European Union, 2011a) tackles the production and trafficking of synthetic drugs and precursors as well as new psychoactive substances. Furthermore, it provides for the training of law enforcement officers to detect, examine and dismantle clandestine laboratories. Responsibility for the coordination of the different activities being undertaken within the scope of the pacts rests with COSI.

The EU policy cycle for organised and serious international crime for the years 2011–2013 defined eight strategic priorities, four of them concerning drug trafficking. Operational action plans (OAPs) have been adopted and are being implemented (see box above).

The EU Drugs Strategy (2005–2012)

The EU Drugs Strategy (2005–2012) sets out the European approach to drug policy, which is built on a balanced approach that aims to reduce both the supply of and demand for drugs. It seeks to protect and improve the well-being of society and the individual, to protect public health and to offer a high level of security for the general public. The strategy complements and adds value to the activities of the EU Member States. Its aims are expressed across the demand and supply reduction pillars and the three cross-cutting themes of coordination, international

cooperation and information, and research and evaluation. Two consecutive four-year action plans, covering 2005–2008 and 2009–2012, support the implementation of the strategy, which provides the framework, objectives and priorities for the action plans. A new EU Drugs Strategy (2013–2020) has been adopted recently and will be implemented through corresponding action plans.

Actions aimed at improving collaboration form a key part of EU policy. The EU Drugs Strategy (2005–2012) underlines the importance of cooperation with third countries, including European Neighbourhood Policy (ENP) partner countries and countries that are a key source of drugs or transit countries for drugs. The ENP was designed to strengthen the prosperity and security of countries near the new borders of the EU following its enlargement in 2004. The EU Drugs Action Plan (2009–2012) supports this through, for example, Action 45, which aims to ensure that EU relations with third countries support the objectives of the EU Drugs Strategy. In addition, 15 Member States have concluded bilateral agreements with third countries addressing cooperation on drug issues (Council of the European Union, 2004, 2008; EC, 2010a). In this context, the EU has focused on the fulfilment by ENP countries of their obligations under the 1988 United Nations (UN) convention, as well as the provision of assistance in capacity building to national authorities engaged in demand and supply reduction activities.

One mechanism for achieving the EU Drugs Action Plan (2009–2012) objectives in the area of international cooperation is activities under the European Neighbourhood and Partnership Instrument (ENPI), which became active in 2007. The EU Drugs Action Plan (2009–2012) required two drug action plans to be put in place, one in the Central Asian republics and one in the Western Balkan states. This was achieved in the first half of 2009 (EC, 2010a). The two action plans cover the period from 2009 to 2013, providing a coherent framework for cooperation activities between the EU and both groups of countries (Council of the European Union, 2009b,c).

The EC and the EU Member States fund initiatives aimed at creating a set of 'filters' between opioid production sites in Afghanistan and heroin consumer markets in Western Europe. In Central Asia, these initiatives include the Border Management Programme in Central Asia (BOMCA) and the Central Asian Drug Action Programme (CADAP). Examples in the Western Balkans include the Instrument for Pre-Accession Assistance (IPA). The Central Asian and Western Balkan drug action plans help coordinate the different aspects of these EU programmes and regional initiatives (Council of the European Union, 2009c).

The fight against drug precursors in the EU

Drug precursors are essential chemicals used in the manufacture of illicit drugs. However, they have a wide variety of licit uses, and are produced and traded for legitimate purposes on national, regional and global markets. They are diverted by traffickers from licit distribution channels for the illicit production of drugs.

Thus, controlling drug precursors is a key component in the fight against illicit drugs. Taking into account the many legitimate uses of drug precursors, their trade cannot be prohibited. A specific regulatory framework, both at international and at EU level, has been put in place to monitor their legal trade and to identify suspicious transactions, thus preventing their diversion for illicit use. Effective cooperation between the competent authorities and the industry is key to the implementation of this regulatory framework.

The EU legislation on drug precursors, which is based on the 1988 United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, is composed of:

- Council Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors;
- Regulation No 273/2004 ([1]) of the European Parliament and the Council on drug precursors (intra-EU trade);
- Commission Regulation No 1277/2005 ([2]) implementing rules for the above-mentioned Regulations.

On 27 September 2012, the EC adopted two proposals to amend the EU legislation on drug precursors. COM (2012) 548 ([3]) and COM (2012) 521 ([4]) propose to strengthen controls over drug precursors used in heroin and methamphetamine production, namely acetic anhydride and ephedrine/pseudoephedrine contained in medicinal products. These proposals seek to reinforce certain provisions in the current EU legislation, thus contributing at an early stage to the prevention of illicit drug production, by reducing the supply of drug precursors, which is an important pillar of the EU Drugs Strategy.

([1]) As amended by Regulation (EC) No 219/2009 of 11.3.2009.
([2]) As amended by Commission Regulations Nos 297/2009 of 8.4.2009 and 225/2011 of 7.3.2011.
([3]) COM (2012) 548: http://ec.europa.eu/enterprise/sectors/chemicals/documents/specific-chemicals/precursors/index_en.htm
([4]) COM (2012) 521: http://ec.europa.eu/taxation_customs/customs/customs_controls/drugs_precursors/legislation/index_en.htm

At external borders

With the setting up of the European border surveillance system (EUROSUR) ([10]), the EU will be able to improve its border intelligence and offer added value to investigations into cross-border drug trafficking. EUROSUR will make use of new technologies, such as satellite imagery, to detect and track targets at the maritime border by, for example, tracing fast vessels transporting drugs to the EU.

The implementation of the Internal Security Strategy has enhanced the contribution of Frontex at external borders, with annual reports on specific cross-border crimes forming the basis of joint operations with Member States. Common risk management strategies for the movement of goods across external EU borders are being developed in order to improve EU capabilities in the areas of risk analysis and targeting. The coordination of border checks by national authorities will be addressed, and best practices for interagency cooperation will be developed.

International partners

At international level, the EU is engaged in partnerships with third countries, notably through follow-up of the G8 conference on transatlantic cocaine routes in May 2011, at which a political declaration ([11]) and an action plan ([12]) were adopted. The EU is currently implementing an EU strategy for security and development in the Sahel ([13]) to strengthen capacity in the areas of security, law enforcement and the rule of law in the fight against criminal threats.

The EU supports various international cooperation platforms along the main trafficking routes. For example, in the Maritime Analysis and Operation Centre—Narcotics (MAOC-N), EU Member States work together with the United States and several other third countries to fight drugs trafficking along the cocaine route. And in West Africa, through the information exchange platforms in Dakar and Accra, EU liaison officers participate in anti-drugs capacity-building projects.

The Seaport Cooperation Programme (SEACOP) was initiated by the EU under the Instrument for Stability Programme 2009–2011, and will run until 2014. SEACOP aims to strengthen cooperation in combating maritime trafficking. This involves establishing Joint Maritime Control Units in key ports and Joint Maritime Intelligence Units. While the first phase focuses on West African countries, the second will involve a selected number of countries in Latin America and the Caribbean (EC, 2011b).

Run by the UNODC, the World Customs Organization (WCO) and Interpol, the Airport Communication Project (AIRCOP) aims at establishing effective communication and exchange of intelligence to target drug trafficking routes involving seven countries in West Africa (Ivory Coast, Cape Verde, Ghana, Mali, Nigeria, Senegal and Togo) and Brazil while Guinea Conakry and Morocco are scheduled to join the project. The USD 3.2 million project financed by the European Union and Canada involves setting up Airport Anti-Traffics Cells (CAAT) to facilitate anti-drugs operations in the international airports of these countries. Driven by an intelligence-based approach, the project seeks to reinforce sub-regional, regional and international capacities and to promote operational cooperation ([14]).

International initiatives

Alongside these European actions there are several international initiatives in which EU Member States are involved. Two of those, which are directly related to the subject of this report, are briefly outlined here.

The Cargo Container Programme (CCP) is a joint initiative between the UNODC and the WCO. Operational since March 2006, the programme aims to minimise the use of maritime shipping containers to smuggle drugs and other illicit commodities. It does this by helping national authorities in key locations to enhance the effectiveness of their control structures and processes in sea ports. Central to this approach is the establishment of inter-agency port control units (PCUs) based in or near container terminals, which bring together law enforcement specialists to target high-risk containers. UNODC is responsible for the programme's administration, while responsibility for its training component rests with WCO. Since it was piloted at ports in Ecuador, Ghana, Pakistan and Senegal, the CCP has been extended to Afghanistan, Benin, Cape Verde, Costa Rica, Guatemala Togo, Panama and Turkmenistan. PCUs are planned for sites in Azerbaijan, Iran, Georgia, Jamaica and Morocco (UNODC and WCO, 2009, 2012).

([10]) http://europa.eu/legislation_summaries/justice_freedom_security/free_movement_of_persons_asylum_immigration/l14579_en.htm
([11]) http://www.g20-g8.com/g8-g20/g8/english/the-2011-summit/declarations-and-reports/appendices/political-declaration-of-the-ministers-responsible.1244.html
([12]) http://www.g20-g8.com/g8-g20/g8/english/the-2011-summit/declarations-and-reports/appendices/action-plan-aimed-at-strengthening-transatlantic.1245.html
([13]) http://www.eeas.europa.eu/africa/docs/sahel_strategy_en.pdf
([14]) Further information on AIRCOP can be consulted at: http://www.unodc.org/westandcentralafrica/en/wsaircop.html

Project Cohesion is an international initiative running since 2005, under the auspices of the INCB, aimed at preventing the diversion of precursor chemicals used in the illicit manufacture of heroin (acetic anhydride) and cocaine (potassium permanganate). In order to monitor the licit trade in chemicals, the INCB uses a system of central national authorities (CNAs) in participating countries to operate its Pre-Export Notification (PEN) system. This facilitates transaction visibility and monitoring of importers and exporters. The INCB also runs Project Prism (see Chapter 5), which targets precursors used to manufacture synthetic drugs (INCB, 2012a).

HEROIN

Chapter 2 | Heroin

Introduction

Throughout the 1990s, Europe experienced a heroin epidemic, with increased rates of injecting and growing concern about drug-related human immunodeficiency virus (HIV) and hepatitis C virus (HCV) infections, overdose deaths and associated criminality. Today, overall indicators suggest that heroin use may be in decline, and that heroin may have become less available in Europe. In some countries the drug is being replaced by other substances, including synthetic opioids ([15]) such as diverted medicines, illicitly produced fentanyl (a high-potency synthetic opiate associated with many overdose deaths) and even stimulants such as cathinones.

The heroin market practically collapsed almost a decade ago in some northern European countries, and has never fully recovered. More recently, short-term market shocks, probably resulting from successful interdiction efforts on the Balkan trafficking route, have also been reported. In 2010, a number of countries with large populations of heroin users experienced a significant heroin drought, from which the market only partially recovered. Europe may now be moving into a new era in which heroin, and opioids generally, could play a less central role than in the past. Nevertheless, for the time being, opiate problems still predominate in the European drug treatment system, and the cost of treating this population will remain a major burden on health budgets for many years to come. In addition, in spite of some law enforcement success in recent years, the trafficking of heroin remains a significant source of revenue for OCGs.

Heroin

Heroin is a crude preparation of diamorphine. It is a semisynthetic product obtained by acetylation of morphine, which occurs as a natural product in opium, the dried latex of certain poppy species, especially *Papaver somniferum*. Diamorphine is a narcotic analgesic used in the treatment of severe pain. Illicit heroin may be smoked or solubilised with a weak acid and injected.

Whereas opium has been smoked for centuries, diamorphine was first synthesised in the late nineteenth century. The latex from the seed capsules of the opium poppy is allowed to dry. This material (opium) is dispersed in an aqueous solution of calcium hydroxide (slaked lime). The alkalinity is adjusted by adding ammonium chloride, causing the morphine base to precipitate. The separated morphine is boiled with acetic anhydride. Sodium carbonate is added, causing the crude diamorphine base to separate. Depending on the region, this may be used directly, further purified or converted into the hydrochloride salt.

Global overview

Opium poppies are grown illicitly in three main regions: South-West Asia (Afghanistan, Pakistan and India), supplying Africa, South-West Asia, East Asia including China, the Middle East, Europe and Oceania; South-East Asia (Myanmar and Laos), supplying mainly South-East Asia, China and Oceania; and the Americas (especially Colombia, Mexico and Guatemala), supplying the Americas. At present, and in spite of a recent increase in estimated production in South-East Asia and the Americas, more than 80 % of the global detected illicit opium output of about 7 000 tonnes comes from Afghanistan (Figure 1).

Global illicit production of heroin was estimated at 467 tonnes in 2011, a significant increase from the 396 tonnes estimated in 2010, when a poppy blight affected the Afghan opium crop, but still a relatively low figure compared with levels reached in the mid-2000s including 629 tonnes in 2006 and a peak of 757 tonnes in 2007 (see 'Production and precursor issues', p. 26) (UNODC, 2011a, 2012a).

In 2010 ([16]), for the fourth consecutive year, quantities of heroin seized worldwide increased to peak at 81 tonnes

([15]) This chapter is largely concerned with opiates (i.e. opium-derived opioids), but some discussion is given over to synthetic opioids).
([16]) The last year for which global seizure data were available at the time of writing.

Table 1: Heroin in Europe at a glance

Problem opioid users (1)			Estimated number (million)
			1.4
			Number (% of all drug admissions)
Drug treatment (2) (2010)		All admissions	186 228 (44 %)
		First admissions	43 371 (28 %)
			Estimated number
Drug-related deaths (2010) **(all drugs)** (3)			7 000
			Number (% of all drug offences)
Drug law offences (2011)		All offences	75 049 (6 %)
		Offences for drug use/possession for use	46 527 (5 %)
		Offences for drug supply	22 654 (11 %)
Seizures (4) (2011)	Quantities (tonnes)	EU (including Croatia, Norway and Turkey)	5 (12)
	Number	EU (including Croatia, Norway and Turkey)	44 000 (49 000)
			Heroin base 'brown'
Mean retail price (2011) **(EUR per gram)**		Range (IQR) (5)	24–143 (30.1–57.5)
Mean purity (2011) **(%)**		Range (IQR) (5)	6–44 (8.4–15.0)

Notes
(1) Estimate of the extent of problem opioid (mainly heroin) use within the EU and Norway.
(2) Information is available on about 470 000 drug users entering specialist treatment in Europe (EU, Norway, Croatia, Turkey). Units coverage may vary across countries.
(3) Opioids, alone or in combination with other drugs, are present in over three-quarters of the reported drug-related deaths in Europe.
(4) The 2011 figures should be considered as estimates; where 2011 data were not available (United Kingdom), 2010 data were used in their place in European totals. Data include all types of heroin seized except liquid heroin.
(5) IQR, interquartile range, or range of the middle half of the reported data.
Source: EMCDDA/Reitox national focal points, EMCDDA (2012a).

(76 tonnes in 2009). By contrast, global quantities of opium seized declined from 653 tonnes in 2009 to 500 tonnes in 2010, 82 % of which was seized in Iran. This reduction in global quantities of opium seized may be a reflection of the drop in opium production in Afghanistan in 2010, although 2010 opium seizures continued to be high compared with levels in the early to mid-2000s (e.g. about 350 tonnes in 2005) (UNODC, 2012a).

As has been the case for more than 10 years, Iran seized the largest quantities of heroin in the world in 2010 (27 tonnes), accounting for 33 % of the global total seizures, followed by Turkey (13 tonnes, or 16 %) and Afghanistan (9 tonnes, or 11 %). In 2010, quantities seized in the EU, Norway and Croatia continued to decline and reached about 6 tonnes (7 % of the world total), above China's 5.4 tonnes, Pakistan's 4.2 tonnes and Russia's 2.6 tonnes (UNODC, 2012a; EMCDDA, 2012a). Broadly speaking, this means that in 2010 the countries on the historical 'Balkan route', along which opiates have traditionally been trafficked from Afghanistan to Western Europe via Iran and Turkey, continued to report by far the largest seizures of heroin in the world, in spite of a decrease in heroin seizures in Western Europe and Russia in recent years.

In 2010, there were an estimated 26–36 million users of opioids worldwide, about 50 % of whom were thought to be using opiates, especially heroin. Most opioids users are thought to live in North America, Oceania, Eastern Europe, including Russia, and South-East Europe. Whereas prescription opioids (e.g. oxycodone) are now used more than heroin in North America and Oceania, heroin continues to be the most frequently used opioid product in Europe, although other opioids, such as fentanyl, are used there too. UNODC suggests that the prevalence of opioids use could be increasing in Asia and in Africa, although this is based on expert opinions rather than data from established monitoring systems. Meanwhile, in Western Europe, use of opioids is reported to be stable or decreasing, although it remains a serious problem in many countries (UNODC, 2012a).

What happens to the Afghan opium that is not processed into heroin or morphine?

There are three main possible answers: seizure, consumption and stockpiling. The latest statistics indicate that 500 tonnes of opium was seized worldwide in 2010, some 95 % of which was confiscated in just three countries, Afghanistan, Iran and Pakistan. This represents only about 14 % of the UNODC's 2011 estimate of annual opium production in Afghanistan, which would amount to 3 400 tonnes of unprocessed opium.

UNODC estimated that there were 4 million opium users worldwide in 2008, 80 % of whom lived in Asia, consuming a total of 1.3 tonnes of raw opium. However, UNODC also estimated global consumption of raw opium at 1 300 tonnes in 2009. Reconciling these figures is clearly difficult suggesting the need for further analysis in this area.

As far as stockpiling is concerned, UNODC estimated that some 2 600 tonnes of opium or an equivalent amount of morphine and heroin was stockpiled in Afghanistan and along the trafficking routes in 2009. The UN agency estimated that existing opium stockpiles totalled 10 000–12 000 tonnes in 2011, which is equivalent to about two annual Afghan opium harvests at 2011 level (UNODC, 2011a,b, 2012a). Although it is known that limited quantities of opium are stockpiled as a form of savings by some Afghan producers, there seems to be little empirical evidence confirming the existence of large stockpiles of opium in Afghanistan and along the trafficking routes.

While western heroin consumer markets such as the EU and North America, which used to be viewed as the largest in the world, now appear to be shrinking, illicit opium production in key regions of Asia shows no sign of decline. If most of the opium harvested in South-West and South-East Asia does not end up as heroin on western markets, then where does it go? At present, answers to this question are only speculative (see box above).

Production and precursor issues

Afghanistan is by far the world's largest illicit producer of opium, the raw material for heroin, and Europe's main supplier, although some heroin from South-East Asia may also be found in Europe.

Afghanistan is estimated to have produced 5 800 tonnes of opium in 2011, about 83 % of the global total, up from an exceptionally low 3 600 tonnes in 2010. The poor harvest of 2010 was due to a blight that affected much of the country's poppies, but it would now seem that opium production in Afghanistan is on its way back to the high levels of 6 000 tonnes and above estimated since the mid-2000s. Indeed, farm gate prices for opium continued to rise sharply in Afghanistan even after production recovered in 2011, indicating that demand for opium is still high (UNODC, 2012a).

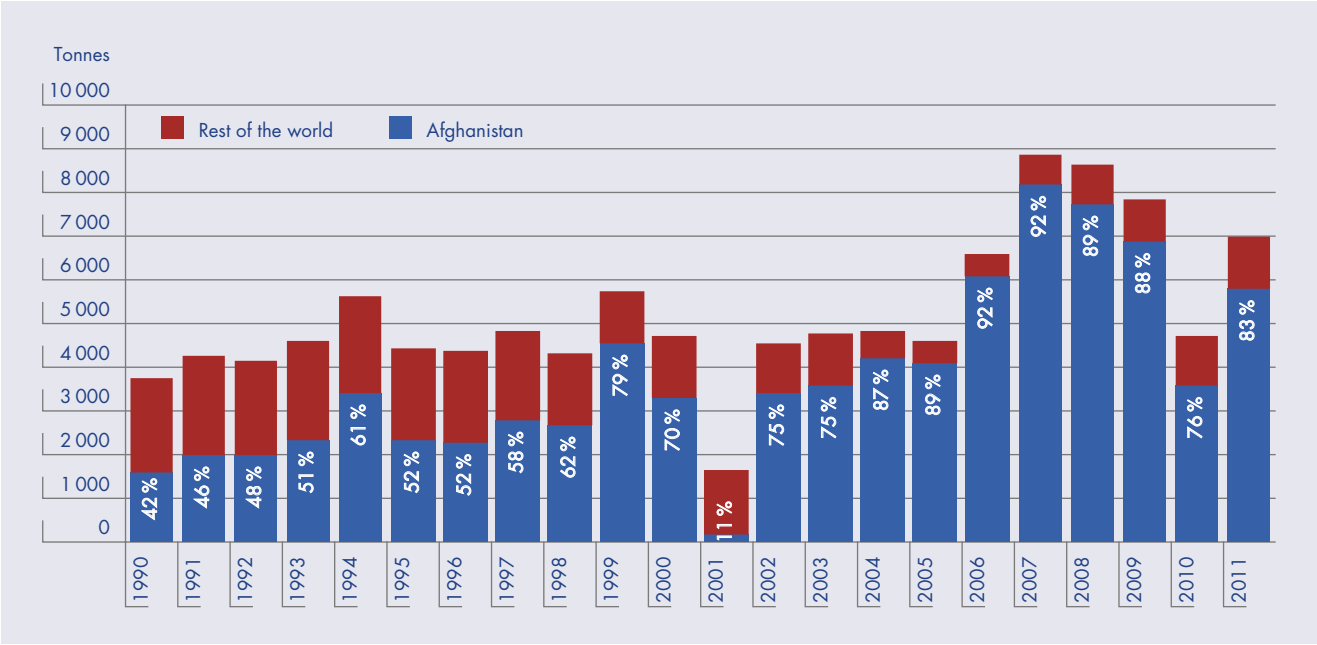
At 635 tonnes in 2011, estimated opium production is also rising in the second largest opiate producing region of the world, South-East Asia. Production increases in Laos (25 tonnes) and Myanmar (610 tonnes) resulted in the largest estimated regional harvest since 2003's 930 tonnes. Farm gate prices for opium are also reported to have increased in Myanmar since 2010 (UNODC, 2012a).

A change in UN methodology in 2010 resulted in a sharp downward revision of Afghan heroin production estimates for 2004 to 2011. UNODC used to estimate that the entire global opium crop was processed into heroin, and provided global heroin production estimates on that basis. Before 2010, a global conversion rate of about 10 kg of opium to 1 kg of heroin was used to estimate world heroin production ([17]). For instance, the estimated 4 620 tonnes of opium harvested worldwide in 2005 was thought to make it possible to manufacture 472 tonnes of heroin (UNODC, 2009a). However, UNODC now estimates that a large proportion of the Afghan opium harvest is *not* processed into heroin or morphine but remains 'available on the drug market as opium' (UNODC, 2010a). The opium illicitly produced in the rest of the world, including in South-East Asia and India, where consumer markets for opium exist, is still estimated to be entirely processed into heroin.

In 2011, an estimated 3 400 tonnes of Afghan opium was not transformed into heroin or morphine. Compared with previous years, this is an exceptionally high proportion of the total crop, representing nearly 60 % of the Afghan opium harvest and close to 50 % of the global harvest in 2011. UNODC explains that it used regional seizure data to

([17]) In 2009, UNODC reported that it applied a 10:1 opium to heroin conversion rate to estimated opium production outside Afghanistan. For Afghanistan, UNODC reported using an unspecified conversion rate obtained from the Afghan Opium Surveys, but in fact it seems that the conversion rate applied to Afghanistan was close to the 10:1 ratio used for the rest of the world (UNODC, 2009a, Table 1, p. 34). In 2010, UNODC reported that the opium to heroin conversion rate in Afghanistan was 7:1 (UNODC, 2010a).

Figure 1: Estimated global illicit opium production and share of Afghanistan, 1990–2011



Source: UNODC (2007, 2008a, 2012a).

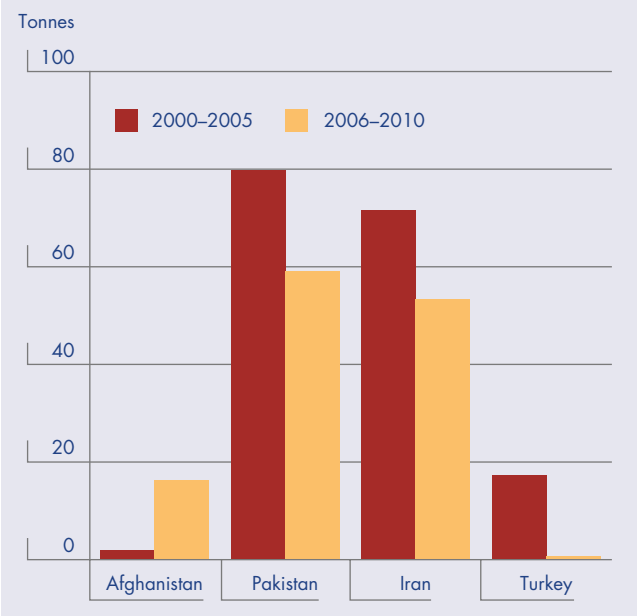
estimate the quantities of 'opium not processed' in 2011 but gives few additional details (UNODC, 2012a).

This development evidently has a major impact on the estimated quantity of heroin manufactured worldwide (467 tonnes in 2011). Indeed, if the entire 5 800 tonnes of opium estimated to be harvested in Afghanistan in 2011 were converted into heroin, the global heroin production estimate would be more than twice as large, at 948 tonnes (UNODC, 2012a).

Most of the heroin consumed in Europe is manufactured from Afghan opium, but relatively little information is available on where this manufacturing takes place, especially in recent years. The latest data available are from 2008, when Afghanistan reported dismantling 69 heroin laboratories (UNODC, 2011b). A review of eight *World drug reports* published between 2005 and 2012 indicates that Afghanistan is the only country of the Middle East and South-West Asia region to report seizures of opiate laboratories since 2002. This confirms that large quantities of opium are processed into heroin in Afghanistan.

However, evidence suggests that there are also opiate laboratories elsewhere. In addition to seizures of opiate-processing laboratories, seizures of illicit morphine may be viewed as an indicator of opiate-processing activities. Indeed, morphine is an intermediary product between opium and heroin but, unlike opium or heroin, there is no known consumer market for it, at least not of a size that could explain the multi-tonne seizures of morphine made every year in countries close to Afghanistan. It is therefore

Figure 2: Quantities of morphine seized in the four largest seizing countries, cumulative totals, 2000–2005 and 2006–2010



Source: UNODC (2007, 2012a).

probable that some or all of the morphine seized outside Afghanistan is destined to be transformed into heroin outside of that country. A review of morphine seizures since the year 2000 would suggest that, even if less morphine has been exported out of Afghanistan after 2005, it is likely that at present some heroin continues to be manufactured in Iran and Pakistan (see Figure 2).

Acetic anhydride

Acetic anhydride is used as an acetylation agent to process morphine into heroin, and is the principal chemical used in the manufacture of heroin. It is subject to international control. However, given the large size and growth of global legitimate manufacture and trade in acetic anhydride, and the fact that comparatively small amounts are required for drug manufacturing, preventing diversion to illicit ends is a difficult task (see Figure 3).

Acetic anhydride has many licit uses, particularly in the pharmaceutical industry (e.g. to manufacture aspirin). An estimated 216 000 tonnes is manufactured legitimately every year in 13 countries in the Americas, Asia and Europe ([18]). The United States and China appear to be the largest manufacturing countries (UNODC, 2011a). Between 2005 and 2010, nearly 1.3 million tonnes was transported in international shipments notified to the INCB (INCB, 2012a) ([19]). In 2010, global reported seizures of illicit acetic anhydride shipments increased to almost 65 tonnes (up from 21 tonnes in 2009), which was confiscated in a total of 14 countries. Six countries reported seizing more than 1.08 tonnes (1 000 litres) in 2010, including Bulgaria, which seized about 23 tonnes, accounting for practically all seizures in the EU that year. However, the largest acetic anhydride seizure in the EU in recent years was made in Slovenia, where some 98 tonnes destined for Turkey and falsely labelled as 'fabric softener' was confiscated in June 2008. Early reports indicate that about 7 tonnes of acetic anhydride was seized in Hungary in April 2011 (see below) (EC, 2011a; INCB, 2012a).

Between 2005 and 2010, 38 governments reported seizing a total of about 419 tonnes, with 10 countries, including Bulgaria, Hungary, Russia, Slovenia and Turkey, accounting for 94 % of the total. This would confirm that most of the acetic anhydride seized was destined to process Afghan opium into heroin. Nevertheless, fairly large amounts have also been seized in connection with illicit methamphetamine production in recent years (e.g. in Mexico); acetic anhydride is used in the manufacturing of methamphetamine when this starts from phenylacetic acid, a precursor of 1-phenyl-2-propanone (BMK, P2P) (INCB, 2012a).

The trafficking routes of acetic anhydride are notoriously difficult to document, but recent research is contributing to fill the information gap. According to UNODC (2011b), three main trafficking routes would be used to deliver acetic anhydride to heroin laboratories in Afghanistan and

A seizure of 6.5 tonnes of acetic anhydride

OCGs originating in the EU have emerged as important suppliers of acetic anhydride. In April 2011, about 6.5 tonnes of acetic anhydride was seized by the Hungarian police. The consignment was stored in a warehouse used by members of an OCG. This seizure was the result of extensive cooperation between Slovakia, Hungary and several other EU Member States, with the support of Europol and Eurojust. These investigations led to the dismantling of a major organised criminal network heavily involved in acetic anhydride trafficking. Several places were searched in the Czech Republic, Slovakia, Hungary and Slovenia, and the main suspects were arrested. The OCG was involved in the trafficking of at least 30 tonnes of this precursor. The seizure is highly significant in terms of the quantities involved and the amount of heroin that could have been produced.

Estimating acetic anhydride requirements for heroin manufacture in 2011

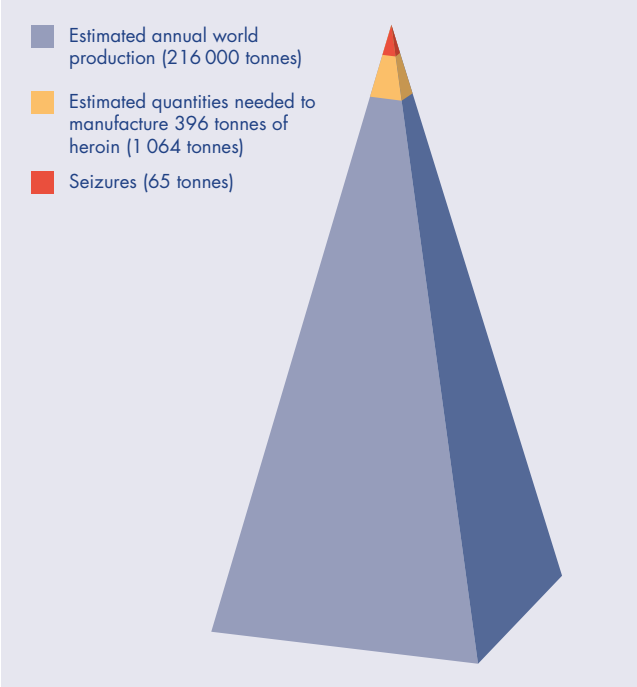
Between 1 and 4 litres of acetic anhydride is required to manufacture 1 kg of heroin (INCB, 2012a). Thus, in 2011, between 467 000 and 1.87 million litres (504–2 017 tonnes) of diverted acetic anhydride would have been required to manufacture the 467 tonnes of heroin estimated to have been produced worldwide (UNODC, 2012a).

In Afghanistan, where 7 kg of opium is needed to produce 1 kg of heroin (UNODC, 2010a), some 343 tonnes of heroin could have been manufactured from an estimated 2 400 tonnes of Afghan opium potentially transformed into heroin in 2011 (UNODC, 2012a), using between 343 000 and 1.37 million litres (370–1 482 tonnes) of acetic anhydride.

([18]) According to UNODC (2011a), the 13 countries legitimately manufacturing acetic anhydride are Argentina, China, France, Germany, India, Iran, Italy, Japan, Mexico, Russia, the United Kingdom, the United States and Uzbekistan.

([19]) One litre of acetic anhydride weighs 1.08 kg, and 1 kg of acetic anhydride occupies a volume of 0.926 litres (INCB, 2012a).

Figure 3: Acetic anhydride: estimated annual world production, estimated requirements for heroin manufacture and seizures in 2010



Note: Between 1.08 and 4.32 kg of acetic anhydride is required to manufacture 1 kg of heroin (INCB, 2012a). Therefore, in 2010, between 417 and 1 711 tonnes (a mid-range point of 1 064 tonnes) of diverted acetic anhydride would have been needed to manufacture the 396 tonnes of heroin estimated to have been produced worldwide (UNODC, 2011a).

Sources: UNODC (2011a), INCB (2012a).

neighbouring countries. These routes are reported to be broadly the same as those along which Afghan opiates are transported to their consumer markets in the EU, Russia and Asia, but operating in the opposite direction. The 'Balkan route' involves diversion in the EU, transport by land to Turkey and onward shipment by land or sea to Afghanistan, Iran or neighbouring countries including Iraq, Syria and Georgia. The 'southern route' involves shipment, mainly by sea, from Asia (typically China and Korea) to Iran or Pakistan and thence to Afghanistan. Finally, in the 'northern route' acetic anhydride, thought to be sourced mainly in Russia and to a lesser extent in China, goes overland to Afghanistan's northern borders via Central Asia. The UNODC suggests that most acetic anhydride is smuggled into Afghanistan via the southern route while the northern route accounts for least.

There is some evidence that a branch of the acetic anhydride Balkan route is developing in Iraq. The INCB (2012a) has documented a growth in orders placed by Iraqi firms with mainly European suppliers since 2008, and 14 shipments totalling 650 tonnes being prevented from reaching Iraq between 2008 and 2010. The intended final destinations were unclear, but Iraq could be a hub for acetic anhydride trafficking to heroin-manufacturing countries. Judging by recent seizures of heroin and opium (UNODC, 2012a), some heroin may also now be manufactured in Iraq (Cockburn, 2007, 2008). Whatever the case, the situation in Iraq warrants careful monitoring since the country has also been identified in recent years as a probable location for diversion of the methamphetamine precursors pseudoephedrine and BMK (INCB, 2011, 2012a).

Consumer markets for opioids in Europe

Opioid use, and in particular heroin use, has been central to the drug problem in Europe for more than 40 years. Despite signs of a stabilisation or decline in the use of opioids, the potential for addiction and overdose and the attendant dangers associated with injection justify continued concern.

Overall, the first decade of the twenty-first century witnessed a stabilisation or a decline in the extent of opioid use. Between 2005 and 2011, in almost all EU countries the proportion of heroin clients amongst those entering drug treatment for the first time remained stable or declined. Earlier data are more difficult to summarise, showing greater variation both within countries across time and between countries.

Obtaining an indication of the scale of the problem is difficult. As a relatively small, hidden population undertaking a stigmatised activity, opioid users are not well captured in the general population surveys used to estimate prevalence of use of other drugs. National estimates obtained by indirect methods of either problem opiate use or the broader measure of problem drug use are available for almost all countries in the EU. Although these vary by year and methodology, an estimate has been made of the extent of problem opiate use within the EU and Norway of 4.2 cases per 1 000 in the age group 15–64 years, or approximately 1.4 million individuals. This confirms its continued importance, placing it on par with 'last year' prevalence estimates of drugs such as amphetamines and ecstasy (6 per 1 000), but below that of cocaine (12 per 1 000) and far below that of cannabis (68 per 1 000).

Addiction to opioids continues to dominate treatment in Europe. Users seeking treatment for opioid use, as a proportion of all reported treatment entrants, remained stable in 2010/2011 at approximately half, amounting to just over 200 000 individuals. The picture for those entering treatment for the first time is slightly different, with opioids taking second place to cannabis, although, at about 30 % of first-time treatment entrants, opioid users

seeking treatment still amount to approximately 50 000 individuals.

Heroin is the reported primary drug for 88 % of drug users entering treatment for opioid use in the EU, although in specific countries other opioids now predominate. In Estonia, the more potent substance fentanyl is identified as the main opioid for which individuals are entering treatment, and buprenorphine is reported to have displaced heroin in the Finnish opioid market, a trend which started early this century (Finland: Reitox, 2011). Denmark also reports that fewer individuals enter treatment for heroin use than for other opioids. There is as yet no evidence of the widespread misuse of oxycodone that has characterised the drug situation in parts of America and Australia, and this may be avoided given existing prescription drug control in Europe.

Injecting opioids presents an increased risk of infection with blood-borne diseases such as HIV and hepatitis. In the EU, about 40 % of heroin users entering treatment report injecting their primary drug, although there is substantial variation amongst countries, with relatively low rates of injection amongst those countries that experienced an early growth in heroin use, such as the Netherlands and the United Kingdom. In broad geographic terms, contrasts are sometimes made between patterns of use in Western and Eastern Europe. It is suggested that the former, having longer experience of the drug, is now witnessing declining rates of injection and an ageing core of users, whereas the latter, being more recently exposed to heroin, has higher rates of injection and younger users. As it relies on treatment data on mean age and injecting behaviour, this distinction should be made with caution (Barrio et al., 2011).

In late 2011, qualitative information was gathered to try to understand fragmentary reports of a reduction in the supply of heroin in Europe. Evidence of this phenomenon was collected between November 2010 and March 2011 from Bulgaria, Ireland, Hungary, Slovakia, the United Kingdom, Switzerland and some regions in Russia, whereas heroin remained available, with possible increases in purity, in Belgium and France. There were some reports of a shift to alternative drugs (buprenorphine, fentanyl, stimulants, cathinones) and of injecting of these drugs, but again findings differed between countries (EMCDDA, 2011d).

Opioids, alone or in combination with other drugs, are present in over three-quarters of reported drug-related deaths in Europe. Trends in the total number of drug-related deaths in Europe provide some evidence to support a stable or declining opioid market, having fallen from a high of just over 8 200 deaths in 2000 to just under 7 400 in 2009, and estimated to be around 7 000 in 2010. However, the European figures mask individual country experiences and short-term changes. For example, Sweden has reported an increase in opioid-related deaths over the past decade.

Adulterants of powdered drugs

For reasons of profitability, adulteration is common practice with all powdered drugs. Paracetamol and caffeine are common adulterants used in the heroin trade, and pre-mixed bags of brown paracetamol/caffeine powder have been seized by law enforcement. When heroin is in short supply, the extent of adulteration increases further to satisfy market demand.

In Europe, cocaine is almost always adulterated with substances such as lidocaine, benzocaine and phenacetin, which can be sourced online cheaply and in large quantities from China. Some of these adulterants cause concern owing to their undesirable side-effects; for example, phenacetin is known to be carcinogenic.

Trends in heroin trafficking in Europe

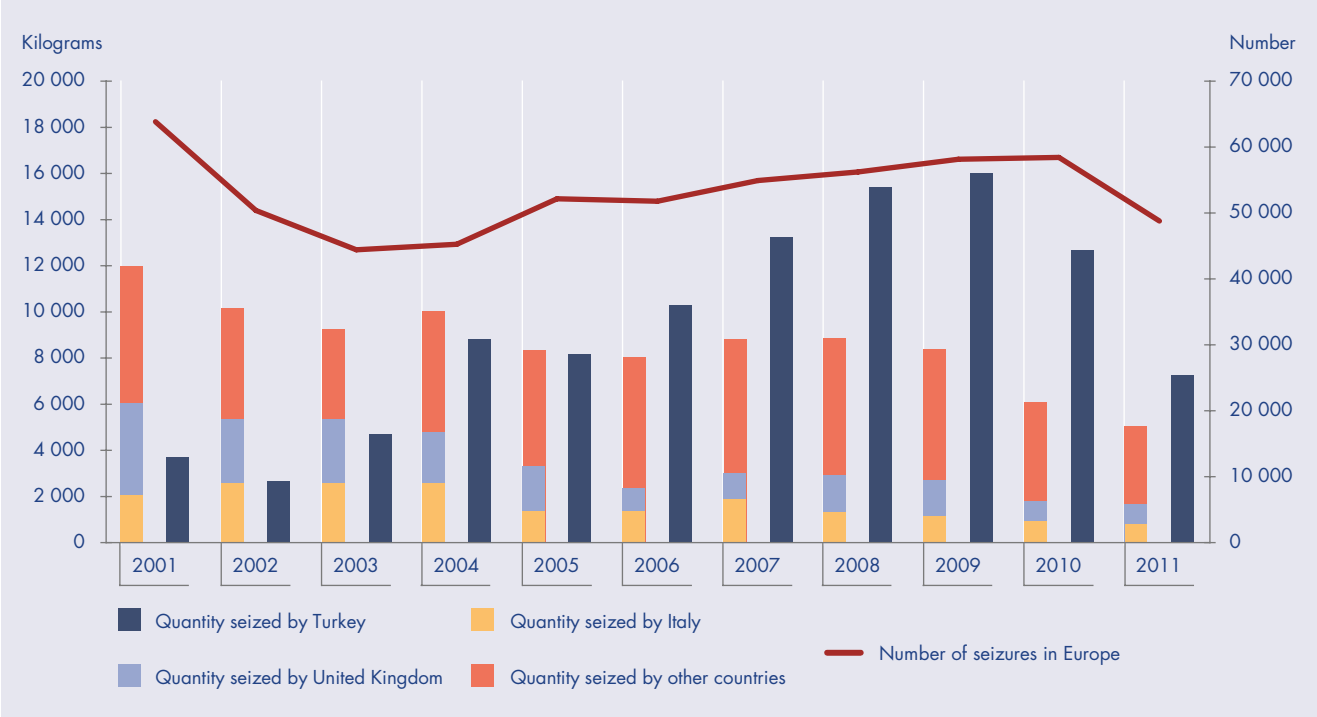
Seizures

The number of heroin seizures in Europe has been generally falling since the mid-1990s. Although these stabilised at around 50 000–55 000 cases a year between 2005 and 2010, they further declined to 45 000 cases in 2011 (Figure 4). Quantities of heroin intercepted in the EU increased from 5 tonnes in 1995 to an all-time peak of 12 tonnes in 2001 but have been declining since then. This trend contrasts with that in Turkey, where a three- to fourfold increase was reported in the decade 2001–2010, making it the largest seizing country in Europe. However, substantial declines in quantities intercepted were reported in both the EU and Turkey in 2010 and 2011. This reversal of the trend in Turkey may reflect changes in both trafficking flows and law enforcement activity.

From South-West Asia to Europe

The vast majority of the heroin found on European markets is manufactured in Afghanistan and, to a lesser extent, Iran and Pakistan—the three South-West Asian countries are sometimes referred to collectively as the 'Golden Crescent' (see 'Production and precursor issues', p. 26). Most of it reaches Europe via the large and expanding network of passenger and freight transport systems spanning Europe, Asia, the Middle East and Africa. Heroin source, transit and destination countries are now linked by a web of land, sea and air connections, which, coupled with traffickers' unending ability

Figure 4: Seizures of heroin in Europe, 2001–2011



Note: All 30 European countries are included, except the Netherlands and Poland where *Number of seizures* data are not available. In the absence of 2011 data for the United Kingdom, 2010 data were used in their place.
Sources: EMCDDA/Reitox national focal points, EMCDDA (2012a).

to invent new concealment techniques, has resulted in a major diversification of trafficking routes and methods.

That said, most of the heroin leaving the 'Golden Crescent' area for Europe still seems to be transported by land along two loosely defined trafficking routes. The main one is probably the 'Balkan route' (discussed more fully below), running west through Turkey, into Balkan countries such as Bulgaria, Romania or Albania and on to Central, Southern and Western Europe. It may branch out at various points into the Middle East, the Arabian Peninsula and/or Africa before reaching Europe, again by land, air or sea. The 'northern' or 'silk' route heads north to Russia via the former Soviet republics of Central Asia. Some shipments follow a third 'Black Sea route', but there is little evidence of intensive activity here in recent years.

The Balkan route

Turkey continues to play a central role in the Balkan route owing to its extensive trade and travel links with Asia, the Middle East and Europe. Since 2003, Turkey has become the largest seizing country reporting to the EMCDDA for heroin, with a peak at 16 tonnes in 2009. It now intercepts 1.5 times as much heroin as the entire EU (compared with 2001 when quantities seized in Turkey were only one-third of those in the EU). The average size of seizures is large, of the order of several kilograms. The same is true of Bulgaria, and seizure size is also significant, but not quite as large, in Hungary (1.1 kg, 2009–2011) and middling in the Czech Republic (400 g, 2009–2011), suggesting trafficking at wholesale level. Elsewhere in the region, trafficking, although in more limited quantities, is also suggested by the size of the seizures (100–200 g in 2009–2011) in Croatia, Greece, Malta and Austria ([20]).

At the end of the route, north-western countries such as the Netherlands (and recently Belgium) retain their role as important distribution centres for heroin in Europe, thanks to their well-developed commercial and transport infrastructure. Quantities of heroin intercepted there are, however, limited, around half a tonne in recent years in the Netherlands,

([20]) Heroin interceptions are usually of a smaller size than cocaine and cannabis interceptions, with data from 16 out of 28 reporting countries revealing average sizes of under 100 g over the period 2009–2011.

down from annual seizures of over a tonne earlier in the last decade. Despite sharp increases in 2009 and 2010, the annual amounts of heroin intercepted in Belgium are still comparatively small, about 300 kg a year in 2009–2010 and down to 140 kg in 2011, with individual seizures also relatively small at 90 g, on average, over the period 2009–2011.

The United Kingdom is clearly a final destination market for some of the heroin smuggled along the Balkan route, although direct importation by air from Pakistan is also frequently mentioned. Heroin interceptions in the United Kingdom peaked at nearly 4 tonnes in 2001, but have been declining since then, reaching 833 kg in 2010. Italy also remains a key location because of its extensive coastline, air and maritime transport infrastructure, large consumer market for heroin and concentration of organised criminal groups (Europol, 2011a). It is the only country after Turkey and the United Kingdom repeatedly reporting annual seizures greater than a tonne in the period 2001–2009, which makes it the second largest seizing country in the EU. France is, to a lesser extent, likely to act as both an importation area, with possible transit further south and north, and a destination market for the drug. From a few hundred kilograms at the turn of the new century, seizures in France have increased to stabilise around the tonne mark since 2006.

Whereas in the past heroin was predominantly smuggled in lorries, today passenger vehicles and cars are used much more often. Smaller amounts of heroin are also smuggled in buses, either in baggage or within clothing. A range of smuggling methods has been encountered in recent years, from crude concealment among household items through to particularly innovative caches, for example within the threads of carpets. Traffickers also take advantage of postal services or private package delivery enterprises.

Maritime transportation, especially containerised, appears to be used more frequently than in the past, often reaching Europe from Iranian and Pakistani ports via African ports. East and West Africa, two regions through which heroin has been shipped to Europe for several decades, may now have become a major hub for trafficking of South-West Asian heroin to Europe, primarily by air and container shipments. But heroin traffickers not only exploit the possibilities presented by large ports handling thousands of containers a day; they also use smaller vessels including sailing boats or speedboats, for instance to transport drugs from Albania to Italy and even from Turkey to Spain.

There is increased evidence of a shift towards routing heroin shipments directly into the EU by air (passenger and freight) from Pakistan directly or with stopovers in West and East

Figure 5: Heroin and cocaine packets seized from an Albanian-speaking criminal group, Mulhouse region, France, October 2012

Source: Europol.

Africa and possibly the Arabian Peninsula. The extent to which this will impact on the flow of the drug through the Balkans is difficult to evaluate but is deemed to be significant.

Trends in organised crime involvement with heroin in Europe

In recent years, organised crime has been characterised by increasing collaboration across national, ethnic and business boundaries. Heroin consignments to the EU are not controlled by a single criminal organisation, but rather facilitated by several, increasingly cooperating, OCGs. That said, some criminal networks continue to play a pivotal role in importation of heroin into the EU, notably Turkish and Albanian OCGs, while Pakistani OCGs, linked in the past mostly with importation of heroin into the United Kingdom, now seem more active across the EU.

Turkish OCGs continue to play an important role, reflecting the fact that the Balkan route retains its supremacy, despite challenges. They import heroin themselves or act as facilitators for other criminal organisations. Traditionally, Turkish OCGs are involved in various stages of the heroin trade from

South-West Asia to the wholesale markets in Europe. They have established strong connections with suppliers in source countries. Iranian groups are believed to act as brokers between Afghan producers and Turkish OCGs, which work closely with criminal counterparts based in Belgium, France, Germany, the Netherlands and the United Kingdom.

The OCGs from the Western Balkans are important partners of the Turkish OCGs in the heroin trade. Albanian-speaking OCGs based in Albania, the former Yugoslav Republic of Macedonia and the Kosovo area use the region for storage and repackaging of heroin shipments. These groups seem to control a significant part of the heroin trade in many European countries, with criminal activities identified in almost all EU Member States.

Albanian-speaking organised crime is characterised by poly-drug and poly-criminal activities (illegal migration, trafficking in human beings, thefts and robberies, distribution of counterfeit currencies, firearms trafficking, etc.). Within the region, Albanian-speaking OCGs are increasingly involved in the trafficking of cocaine, but also of synthetic drugs and cannabis. These groups interact with criminal organisations in source areas for illicit drugs, and proactively identify new criminal opportunities.

Heroin is also brought into the EU by groups based within the region, often relying on connections with organised crime outside the region, largely Turkish or Albanian. Italian organised crime works closely with Turkish and Albanian partners in supplying Italy, a large consumer market for heroin. Others, for example Romanian or Bulgarian OCGs, benefiting from years of facilitating the heroin trade for Turkish groups, are now in a position to supply their own domestic markets, but also other EU markets.

West African networks have been increasingly involved in importation and redistribution of heroin into the EU. West African OCGs, especially Nigerian but also from French-speaking countries, are amongst the most successful in poly-drug trafficking, organising the transport of cocaine, heroin, herbal cannabis and ecstasy to EU destination markets. West African groups are noted for their flexibility regarding routes and trafficking methods.

Afghan and Pakistani OCGs are increasingly active in Europe, facilitating heroin shipments and establishing businesses for that purpose. This development is likely to reflect the significant volume of drugs estimated to exit Afghanistan into Pakistan. Heroin is transported on various air routes to EU consumer markets such as the United Kingdom, Spain or Germany by air couriers. Intelligence suggests that the trade is very well organised, with significant quantities transported by air, but also via container shipments to Europe, sometimes transiting ports in Africa and the Arabian Peninsula (e.g. Dubai).

Intra-European secondary distribution is centred on North-Western Europe, where, alongside distribution networks run by Turkish and Albanian OCGs, a more important role of domestic groups can be noted, with different examples of EU OCGs supplying heroin to various parts of Europe.

Lithuanian OCGs have links with Albanian OCGs and play a role in the distribution of heroin in North-East Europe. Their connections with Russian-speaking OCGs grant them access to heroin trafficked via the Central Asian republics, although the latter are also involved in the distribution and supply of heroin in the Baltic and some of the Nordic countries.

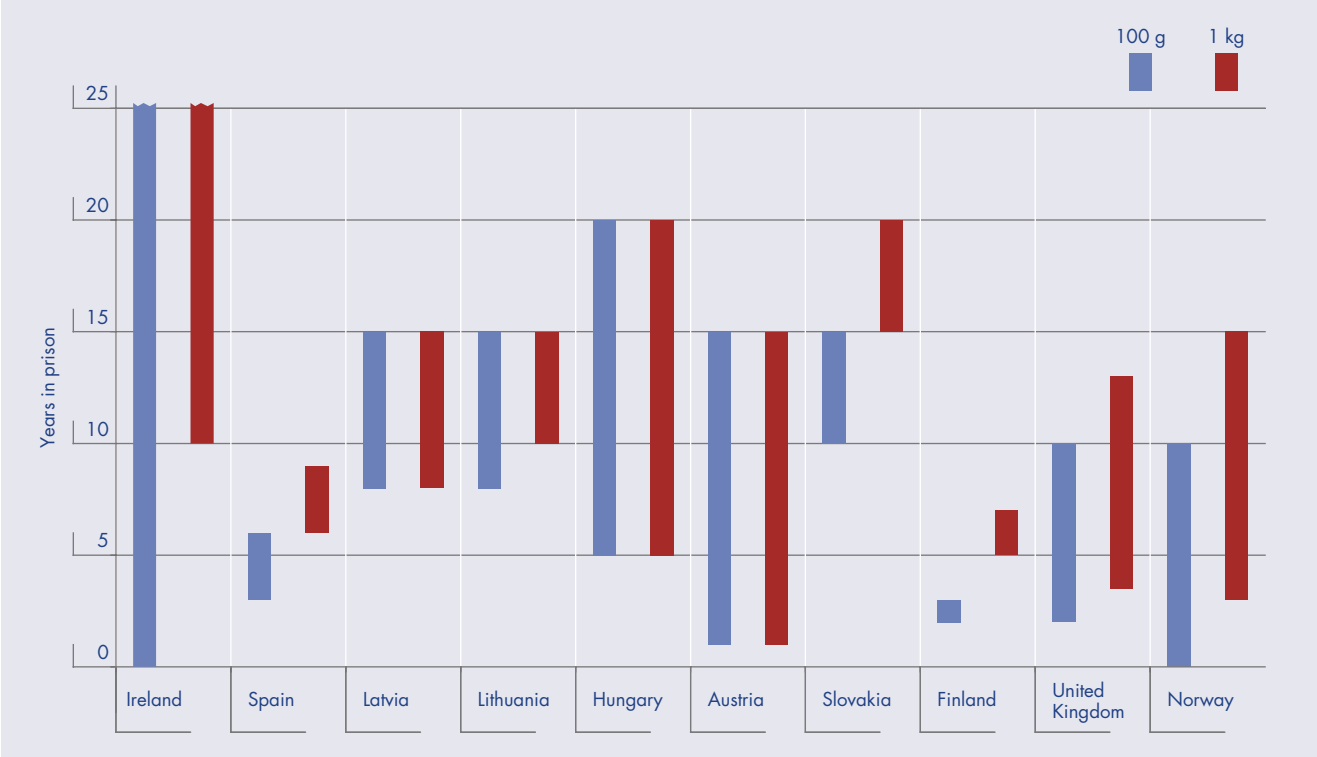
Several EU-based OCGs, cooperating with each other, have emerged as important suppliers of acetic anhydride. Recent investigations have revealed that many individuals within these OCGs have been actively engaged in illicitly smuggling acetic anhydride consignments over a number of years; they have developed various strategies for transportation and warehousing and have set up a number of other infrastructures to support their activities. Criminal brokers are strategically located in Europe, sometimes operating their own trading companies as 'cover' for their illicit activities, while several own transportation facilities.

Responses to heroin trafficking at European and international level

European policy initiatives

The 2009–2012 EU Drugs Action Plan has built on previous work to develop policies to address the production of opiates in Afghanistan and the associated drug trafficking in countries located on the Balkan and 'northern' routes. This has included programmes to help producer countries develop alternatives to poppy cultivation. The EC and several Member States have been doing this in Afghanistan for many years. Between 2002 and 2006, EUR 250 million was contributed by the EC towards sustainable alternatives to poppy cultivation for farmers in north and north-east Afghanistan. The emphasis was on integrated rural development, and not just crop substitution. Thus, rural roads were built to facilitate access to markets, alongside support for small business and community development initiatives. Another strand of work is to strengthen producer countries' law enforcement and justice systems. A consolidated framework for action in Afghanistan was set out by the Council of the European Union in 2006 in its Action

Figure 6: Prescribed penalty ranges for supplying heroin in some European countries



Note: This figure is based on estimates, with some penalty ranges calculated using an assumed purity or street price. In some cases, the quantities chosen span two different penalty ranges in a country. The penalty ranges do not take into account all aggravating or mitigating circumstances or judicial discretion, and they are nominal sentences. They are those to be awarded by the judge according to the legal framework; regardless of the actual sentences awarded and executed. In Ireland, the prescribed penalty range extends to life imprisonment.

Sources: EMCDDA/Legal Correspondents Network.

Orientated Paper addressing production and trafficking issues (Council of the European Union, 2006).

One of the three main commitments of the *European pact to combat international drug trafficking* (see Chapter 1) has been to disrupt routes for trafficking heroin, and it has encouraged the adoption of a common approach to heroin trafficking by Member States.

Efforts are being made to bring court penalties for drug trafficking into closer alignment (under EU legislation on trafficking, Framework Decision 2004/757/JHA ([21])). However, progress to date has been judged to be limited (see EC COM(2009) 669 and SEC(2009) 1661 ([22])). The Framework Decision requested longer maximum penalties when the offence involves 'large quantities' or 'those drugs which cause the most harm to health' (Article 4(2)), but left the definition of these criteria to Member States. Not all countries have established separate penalty ranges for more severe offences (whether by substance or quantity), and not all countries have definitions of 'large quantities'. Nevertheless, in the few countries that do, a chart interpreting the EMCDDA's overviews of drug trafficking penalties and threshold quantities ([23]) serves to illustrate the wide variety of penalty ranges established across the EU for supply of a certain amount of a certain substance (Figure 6). These may be due to Member States' differing interpretations of the Framework Decision's requirement that penalties should be 'effective, proportionate and dissuasive' (Article 4(1)). The effect of these differing penalties on the drug market is as yet unknown.

Operational initiatives

Europol plays a central role in the EU's response to heroin trafficking. It provides support for the three OAPs concerned with West Africa, the Western Balkans and

([21]) http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32004F0757:EN:HTML
([22]) http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0669:FIN:en:PDF
([23]) EMCDDA's European Legal Database on Drugs, Topic Overviews, at http://www.emcdda.europa.eu/html.cfm/index5036EN.html

container shipments that translate the EU crime priorities A, B and E of the EU policy cycle 2011–2013 into action (see Chapter 1). Through its Project Heroin and the dedicated focal point in the AWF on serious and organised crime, Europol gives operational support to Member States undertaking investigations into large-scale heroin trafficking. As a result of the exchange and analysis of criminal intelligence, the Europol team responsible for the project is able to identify links and associations between OCGs. These data are then provided to operational teams. Targeted action is coordinated by Europol through a dedicated sub-project addressing trafficking in acetic anhydride from EU sources. As a result of this activity, Europol has coordinated and provided operational support to EU law enforcement investigations, resulting in the seizure of more than 37 tonnes of acetic anhydride in the 2010–2011 period.

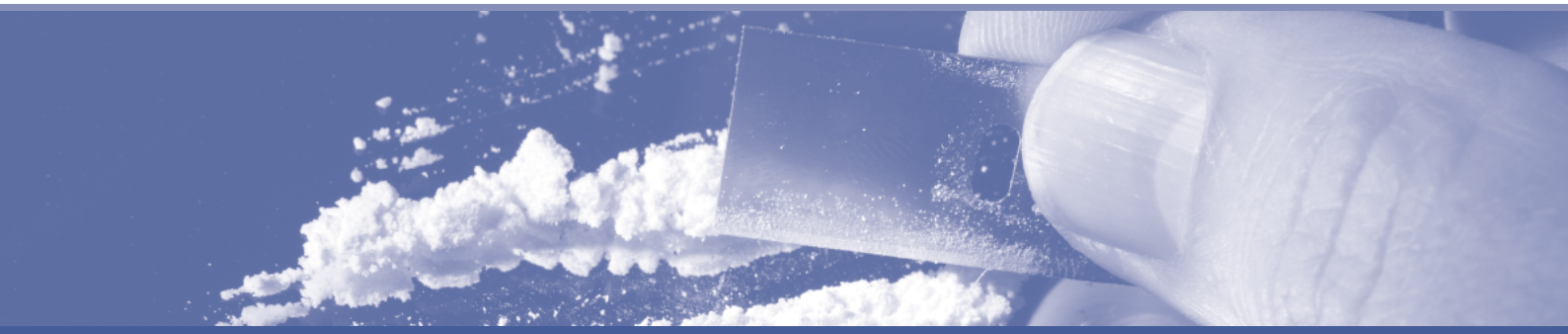
International initiatives

Launched in 2003, the Paris Pact Initiative involves over 70 countries and several international organisations in a partnership approach to address the trafficking and consumption of opiates from Afghanistan. This approach was adopted at the Ministerial Conference on Drug Routes from Central Asia to Europe, at which the Paris Pact was established. Shared responsibility for the problem was recognised and agreement made to increase national capabilities and regional partnerships against heroin trafficking. Two high-level meetings were subsequently held in Moscow and Vienna, producing declarations in 2006 and 2012 reaffirming political support for the pact. The UNODC performs a central coordination role in the initiative. The Consultative Mechanism and Automated Donor Assistance Mechanism (ADAM) was established under the first phase of the initiative. This was aimed at improving border controls in West and Central Asia, supporting the establishment of legal and institutional structures in key countries and improving regional cooperation between Europe and West and Central Asia. During phase 2, the network of National Strategic Analysts (NSAs) was established. The analysts work with UNODC's field office staff to construct a picture of opiate trafficking. The Rainbow Strategy was also launched during phase 2, providing a framework to implement actions agreed by the partners on a range of issues. Among these are the three phases of Operation TARCET (targeted anti-trafficking operation in the region that will enhance communication, expertise and training), which have focused on precursor control (UNODC, 2011c,d).

Finally, the INCB has operated Project Cohesion (see Chapter 1) since 2005. It aims to prevent the diversion of precursor chemicals used in the manufacture of heroin, such as acetic anhydride. Although acetic anhydride is a key precursor in the manufacture of heroin, it has a variety of licit uses and is widely traded, with global licit trade amounting to some 200 million litres a year (INCB, 2012a).

For conclusions and recommendations relating to the heroin market, please refer to pages 131–133 in Chapter 10.

COCAINE



Chapter 3 | Cocaine

Introduction

Cocaine is a natural product extracted from the leaves of *Erythroxylum coca* Lamarck and *Erythroxylum novogranatense* (coca leaves). These tropical shrubs are cultivated widely in the Andean–Amazonian region, and are the only known natural source of cocaine ([24]). There are two forms of cocaine in Europe: cocaine powder (a hydrochloride salt, HCl) and the less common crack cocaine ([25]). The drug is typically snorted (powder) or smoked (crack), while injection is less common. The crack cocaine available in Europe is typically manufactured from cocaine hydrochloride in locations close to where it is retailed and used and, therefore, cocaine in crack form generates very little cross-border or long-distance trafficking.

The picture of cocaine use and trafficking in Europe is complex. A significant proportion of the global cocaine output is now destined for Europe. Available estimates suggest an overall stable annual production of pure cocaine over the last decade, at between 800 and 1 000 tonnes, while interceptions in Europe, after a sharp increase at the beginning of the century, are now also relatively stable. New trafficking routes and entry points have emerged. Cocaine use and related health and social problems have increased markedly in Europe since the mid-1990s. Some countries (e.g. Spain, Denmark and the United Kingdom) have a long-established cocaine problem, while several others (e.g. France, Germany, Portugal) have seen a rapid increase in cocaine use in recent years. Other countries, mainly in Eastern and Northern Europe (e.g. Latvia, Lithuania and Finland), still report low figures for both cocaine use and seizures.

Global overview

Cocaine hydrochloride is manufactured from coca cultivated in the Andean–Amazonian region of South America. Total global production of coca (and cocaine hydrochloride) is almost exclusively concentrated in just three countries: Bolivia, Colombia and Peru. Coca is regarded as a sacred leaf by some of the indigenous American communities of the Andes and Amazon Basin. Bolivian and Peruvian laws allow the growing of some coca in order to supply licit domestic consumer markets for coca leaves and to supply decocainised flavouring agents to international manufacturers of soft drinks. Consequently, the legal status of coca is sometimes ambiguous in South America, complicating efforts to control cocaine production.

In 2010, the number of cocaine users in the world was estimated to have stabilised at between 13 and 20 million, or about 0.3–0.4 % of the adult population aged 15–64 years. Most users live in North America, South America and West and Central Europe, which are estimated to be the largest cocaine markets in the world. Cocaine use is estimated to have decreased in recent years in the United States, the largest national market in North America and possibly in the world, with prevalence levels among adults dropping from 3 % in 2006 to 2.2 % in 2010. In South America, cocaine use appears to be stable or increasing slightly, with a rise reported in Brazil, possibly the largest South American cocaine market, a decrease in Chile and stability in Argentina. Meanwhile, the situation in Europe is reported as generally stable. However, cocaine markets could be expanding in non-EU East European countries such as Russia, as well as in other emerging consumer markets in South-East Asia and Oceania (UNODC, 2012a).

A global phenomenon worth mentioning in the past decade is a strong expansion of the European market for cocaine and a corresponding shrinkage in the United States, as measured by estimated quantities consumed in the two markets. Quantities of cocaine estimated to be consumed in Europe doubled from 63 tonnes in 1998 to 124 tonnes in 2009, while corresponding estimates in the United States dropped from 267 tonnes in 1998 to 157 tonnes in 2009 (UNODC, 2011a). Although these estimates should be

([24]) It is possible to obtain synthetic cocaine through various methods, but this is rare and is less economic than the extraction of the natural product.
([25]) Crack is a form of smokable 'free base'—the base form of cocaine, as opposed to the salt form.

Table 2: Cocaine in Europe at a glance

			Age group (years)	Estimated number of users (million)	% of European population (range between countries)
Consumption [1]		Lifetime	15–64	15.5	4.6 (0.3–10.2)
			15–34	8	6.3 (0.7–13.6)
		Last year	15–64	4	1.2 (0.1–2.7)
			15–34	3	2.1 (0.2–4.4)
		Last month	15–64	1.5	0.5 (0.0–1.3)
			15–34	1	0.8 (0.0–2.0)
				Number (% of all drug admissions)	
Drug treatment [2] (2010)		All admissions		63 707 (15%)	
		First admissions		32 999 (21%)	
				Number (% of all drug offences)	
Drug law offences (2011)		All offences		112 489 (9 %)	
		Offences for drug use/possession for use		77 7011 (8 %)	
		Offences for drug supply		30 912 (15 %)	
Seizures [3] (2011)	Quantities (tonnes)	EU (including Croatia, Norway and Turkey)		61 (62)	
	Number	EU (including Croatia, Norway and Turkey)		87 000 (89 000)	
Mean retail price (2011) **(EUR per gram)**		Range (IQR)[4]		50–98 (55.9–77.0)	
Mean purity (2011) **(%)**		Range (IQR)[4]		22–60 (28.3–48.1)	

Notes

(1) European estimates are computed from national estimates weighted by the population of the relevant age group in each country. They are based on surveys conducted between 2004 and 2010/11 (mainly 2007–2010) and therefore do not refer to a single year.

(2) Information is available on about 470 000 drug users entering specialist treatment in Europe (EU, Norway, Croatia, Turkey). Units coverage may vary between countries.

(3) The 2011 figures should be considered as estimates; where 2011 data were not available (United Kingdom), 2010 data were used in their place in European totals. Data include only cocaine hydrochloride (powder). Cocaine base ('crack') is not included (in 2011, there were 7 400 seizures of cocaine base, amounting to 80 kg, in Europe, including Croatia and Turkey).

(4) IQR: interquartile range, or range of the middle half of the reported data.

Sources: EMCDDA/Reitox national focal points, EMCDDA (2012a).

interpreted with caution, it is likely that Europe is now a larger cocaine market than it was 15 years ago.

The overwhelming majority of cocaine interceptions take place in the Americas, with South America, North America and Central America combined reporting 620 tonnes, or just under 90 % of the world total of 694 tonnes in 2010 (732 tonnes in 2009). Three countries, Colombia (211 tonnes), the United States (163 tonnes) and Panama (53 tonnes), intercepted about 62 % of the global total, while West and Central Europe seized 9 % of the world total, or about 61 tonnes, in 2010 (UNODC, 2012a).

Production and precursor issues

In 2010, the global acreage of coca bush cultivation was estimated, depending on the source, to lie between 149 200 (UNODC, 2012a) and 187 500 hectares (US State Department, 2012) ([26]). Although both UN and US sources reported moderately decreasing trends in total coca cultivation in the 2006–2010 period, they diverged regarding the coca acreages of Colombia and Peru. Whereas the UN estimated the area under coca cultivation in Colombia to be between 57 000 and 62 000 hectares (UNODC, 2012a), the US estimate was almost twice as high

([26]) It should be noted that both the UNODC (2011a) and the US State Department (2012) warn that their estimates of coca acreages and cocaine production are 'approximations' owing to the difficulty inherent in obtaining reliable data on illicit activities carried out across vast pieces of often rugged terrain.

at 100 000 hectares. Conversely, in Peru the UN estimated that approximately 61 200 hectares was under coca cultivation in 2010 while the US estimated 53 000 hectares. The two sources agreed, however, in estimating that Bolivia had the third largest area under coca, estimated at 31 000 hectares by the UN and 34 500 hectares by the United States ([27]).

Andean aggregate potential production of pure cocaine ([28]) was estimated in 2010 at between 788 and 1 060 tonnes by the UNODC and at 850 tonnes by the United States. Both estimates fall within the 800–1 000 tonnes range reported over the last decade, reflecting a stable situation.

Cocaine precursors: potassium permanganate

Potassium permanganate is an essential chemical in the illicit manufacture of cocaine. It is mostly used to turn coca paste into cocaine base, a process which seems to be carried out mainly in Bolivia, Colombia and Peru but probably also in neighbouring countries on a more limited scale. Potassium permanganate is listed in Table I of the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988 ([29]). It is also a chemical used extensively by industry throughout the world, for instance in drinking water treatment, which complicates efforts to control illicit trafficking.

Thus, between 2005 and 2010, 38 countries exported a total of 118 564 tonnes of potassium permanganate to 160 importing countries. Together, the three Andean coca-producing countries accounted for less than 1 % of the global volume of licit trade in 2005–2010. In 2010, worldwide seizures of illicit potassium permanganate shipments amounted to 32 tonnes, representing merely 18 % of the peak in 2005, when almost 183 tonnes were seized. As in previous years, in 2010 Colombia accounted for over 80 % of the potassium permanganate seized worldwide (about 26.5 tonnes) (INCB, 2012a).

Overall, reported attempts at diversion and seizures of illicit potassium permanganate shipments have declined sharply since 2005, suggesting that traffickers are circumventing controls. They may be doing this in several ways:

- using an alternative chemical as a precursor (but there is little evidence of this happening on any scale);
- manufacturing potassium permanganate in the cocaine-producing countries, especially from manganese dioxide and potassium manganate ([30]) (there is evidence for this and there was a large (605 tonnes) seizure of potassium manganate in Colombia in 2010 (INCB, 2012a), but it seems to be less prevalent than a decade ago);
- diverting potassium permanganate from licit shipments in neighbouring South American countries—or manufacturing it in those countries—and smuggling it into Bolivia, Colombia or Peru;
- diverting or illicitly manufacturing potassium permanganate in countries not traditionally associated with cocaine production and whose authorities are less able (or less inclined) to control potassium permanganate shipments ([31]).

Cocaine laboratories: a complex issue

The latest data available suggest that most cocaine hydrochloride is manufactured in Bolivia, Colombia and Peru, as together these countries dismantled more than 90 % of cocaine HCl-manufacturing facilities reported in 2009 (UNODC, 2011e). However, there is evidence that some cocaine HCl is refined elsewhere in South America, further along the trafficking routes, and possibly also in Europe.

Coca leaves, and the two intermediary products, coca paste and cocaine base, may all be exported to neighbouring countries for processing into cocaine HCl. Cocaine laboratories were found in countries such as Argentina, Chile, Ecuador and Venezuela in 2008 or in 2009 (UNODC, 2011e). In addition, some cocaine HCl is likely to

([27]) The UN and US coca acreage estimates for Bolivia and Peru include areas dedicated to licit coca crops. In Bolivia, for instance, national legislation (Ley 1008) allows the cultivation of up to 12 000 hectares of coca to supply the licit national consumer market.

([28]) The figures for illicit cocaine production published by the UNODC and the US government are estimated amounts of 'pure cocaine' (UNODC, 2009b; US State Department, 2012) contained in the cocaine hydrochloride that could be potentially manufactured from the coca leaf output estimated for a given year. Thus, assuming that an estimated 1 054 tonnes of 'pure cocaine' was produced in Colombia in 2010 and that, on average, the Colombian cocaine hydrochloride contains 85 % 'pure cocaine' (UNODC, 2008b), it may be estimated that in 2010 some 1 240 tonnes of cocaine hydrochloride could potentially have been manufactured in Colombia.

([29]) The corresponding EU legislation is set out in Council Regulation (EEC) No 3677/90 (as later amended), which governs trade between the EU and third countries.

([30]) Colombian illicit facilities typically convert manganese dioxide into potassium manganate, which is then converted into potassium permanganate (INCB, 2012a).

([31]) The second largest national total of potassium permanganate seized in 2010 was reported by Kazakhstan (3.3 tonnes), while another Central Asian country, Uzbekistan, ranked third (630 kg). In 2009, multi-tonne shipments to Mozambique and Syria were stopped, and in 2007 attempted shipments to Côte d'Ivoire, Nigeria and Morocco were suspended (INCB, 2008, 2011, 2012a).

be refined in Brazil, Panama and Paraguay, and possibly also on some Caribbean islands and in Mexico.

Facilities refining cocaine HCl from base have also been dismantled outside South America in recent years. For instance, in March 2011, a large facility converting cocaine base into cocaine HCl was dismantled in Honduras (INCB, 2012a). Even if current international and European data-reporting practices do not always allow differentiation between base-to-HCl, HCl-to-crack and secondary extraction facilities (see below), or between seizures of HCl and base, similar facilities may also have been dismantled elsewhere. Since 2004, Australia, Hong Kong, Mexico, South Africa and the United States have reported the dismantling of at least one cocaine illicit laboratory to the UNODC (2007, 2008a, 2009a,c, 2010a). Some cocaine base may also be refined into hydrochloride in Africa, especially West Africa (UNODC, 2009b) ([32]).

Last but not least, a fairly large number of illicit cocaine facilities have been found in the EU in recent years, and some of them may be cocaine base-to-HCl facilities. Between 2008 and 2010, three countries reported cocaine laboratories to the UNODC and/or the EMCDDA: Greece (one in 2008 and one in 2009), the Netherlands (four in 2008) and Spain (25 in 2008, 13 in 2009 and 35 in 2010) (UNODC, 2011a; Spain: Reitox, 2011). The Spanish data differentiate between several types of cocaine laboratories. Although the vast majority of the cocaine facilities reported by Spain to the UNODC and the EMCDDA since 2008 are secondary extraction laboratories (see below), some of the others could be base-to-HCl facilities ([33]). For instance, in 2009, Spain reported one 'processing' laboratory to the EMCDDA, and in 2010 two 'cocaine processing' or 'crack cocaine processing' laboratories (Spain: Reitox, 2010, 2011). Finally, on 7 January 2011, a large cocaine facility, which the INCB (2012a) reported as a 'processing laboratory', was dismantled near Madrid, and the authorities seized 33 tonnes of essential chemicals including very large quantities of methyl ethyl ketone, acetone and toluene, which are often used to refine cocaine base into HCl. In 2012, Europol received information on the dismantling of three laboratories (two in the Netherlands and one in Poland), one of which was of a large scale.

That said, it is likely that the majority of the cocaine laboratories dismantled in the EU are 'secondary extraction' laboratories. These are used to remove the cocaine from other materials in which it has been incorporated—and therefore concealed—before exportation to Europe. Cocaine base, and more frequently HCl, may be incorporated into a range of materials including beeswax, fertiliser, various types of plastic, clothing, herbs, liquids, guano and upholstery. The incorporation process may be fairly simple, for instance by soaking pieces of clothing in a mixture of cocaine and water. But it can also be more complex, requiring a chemical process, for example to incorporate cocaine HCl within plastic. In this case, a reverse chemical process will be required to extract the cocaine from the plastic. After secondary extraction, the cocaine can then be adulterated with different cutting agents and pressed into the form of traditional cocaine bricks embossed with logos, probably to convince buyers that they are purchasing original high-purity cocaine. Recent reports from Member States have revealed that about 30 cocaine 'secondary extraction' laboratories of various sizes were dismantled in the European Union in 2008 (Europol, 2009).

In addition, there may be some laboratories in some EU neighbouring countries, such as Albania and Moldova. In 2008, the Moldovan authorities reported dismantling one cocaine laboratory.

Figure 7: Cocaine incorporated in palm oil seized in Albania in 2011

Source: Spanish *Guardia Civil* via Europol.

([32]) Very large quantities of acetone and methyl ethyl ketone, two solvents placed under international control and which are often used to manufacture cocaine (and heroin), were seized in Benin and Guinea in 2010 (INCB, 2011).

([33]) In 2009, the Spanish focal point reported to the EMCDDA that all 25 cocaine laboratories dismantled in Spain in 2008 were secondary extraction laboratories (Spain: Reitox, 2009). However, the data reported to the UNODC by Spain for 2008 mention 24 cocaine secondary extraction laboratories and one 'other' cocaine laboratory (UNODC, 2011c).

Consumer markets for cocaine in Europe

Labelled at one point as the 'champagne of drugs' because of its high price and associations with the rich and famous, cocaine snorted in powder form has found acceptance amongst drug users in recreational settings. However, the numbers of primary cocaine users in treatment belie the drug's benign image. The profile of a more problematic user, engaging in polydrug use, injecting the drug, or smoking it as crack, presents a contrasting and darker picture of cocaine use. On the basis of the most recent surveys, an estimated 5 % of Europeans aged 15–64, some 15.5 million individuals, report having used cocaine at least once in their life. This makes the drug the second most used illicit drug within Europe, after cannabis.

In terms of more recent use, the consumer market for cocaine amongst young adults is characterised by relatively high prevalence in a handful of countries: Spain, the United Kingdom, Italy, Ireland and Denmark. These five countries alone account for 1.7 million (or 62 %) of the estimated 2.7 million users 'in the last 12 months' in the 15–34 age group, with prevalence levels of between 2.6 % and 4.4 %. The European prevalence rate for 'last 12 months' use amongst young adults stands at 2.1 %.

At the other end of the spectrum, a set of East European countries, Lithuania, Poland and the Czech Republic, along with Hungary, Romania and Greece, report prevalence levels of 0.5 % or less, suggesting relatively small markets for cocaine. This could in part be explained by the historical predominance of alternative stimulants and the relatively recent arrival of the drug in these countries.

Of interest given the Netherlands' role in cocaine trafficking, recent cocaine use amongst the 15–64 age group is reported as in line with the 2005 European average of 1.3 % (The Netherlands: Reitox, 2010). Unfortunately, changes in methodology in the 2009 Dutch National Prevalence Survey prevent more recent comparisons.

Over time, the consumer market may be showing signs of levelling off or declining in the five high-prevalence countries, which would also reduce the overall European average. Amongst the five high-prevalence countries, there appears to have been a general increase amongst young adult recent users over the first seven or eight years of the century. However, the most recent surveys for each of these countries, four of them conducted in 2010, show a drop. This suggests that prevalence of cocaine use may have peaked in these countries, and that the attractiveness of cocaine is decreasing—something that future surveys will clarify.

By contrast, France reported a steady increase in prevalence among young adults, from 0.5 % in 2000 to 1.9 % in 2010, and in Germany prevalence is relatively stable, reported at 1.8 % in 2010. In both countries prevalence remains below the 2.1 % European average. Hence, cautious signs of a flattening or decline in European prevalence, largely influenced by movements in the high-prevalence countries, must be offset against the suggestion of continued growth or stable demand in individual countries, some with large populations.

Treatment data can provide a second perspective on the cocaine market ([34]). All the high-prevalence countries apart

Wastewater analysis to estimate cocaine consumption

Sewage epidemiology or wastewater analysis is a rapidly developing scientific discipline with the potential for monitoring real-time and objective population level trends in illicit drug use and for assessing the efficacy of drug control interventions.

By sampling a source of wastewater (e.g. a sewage influent to a wastewater treatment plant), scientists can estimate the total of drugs consumed by a community by measuring the levels of illicit drug metabolites excreted in urine.

In March 2011, this approach was simultaneously applied for the first time in 19 European cities making it possible to directly compare illicit drug loads in Europe over a one-week period. This European pilot study covered a combined population of approximately 15 million Europeans (Thomas et al., 2012).

Data showed distinct spatial and temporal patterns in cocaine use across Europe. The results varied widely between countries and cities, with the highest levels found in cities in Western and Central Europe (up to 1998 mg per day per 1 000 inhabitants). The lowest estimates were for cities in Northern and Eastern Europe (between 2 and 146 mg per day per 1 000 inhabitants). Within the same country, cocaine use is higher in more urbanised towns/cities. In general, cocaine loads were more elevated during the weekend compared with weekdays, reflecting the recreational use of the drug. By extrapolation, it was estimated that 365 kg of cocaine was used everyday in Europe during the study period.

([34]) However, the data inevitably reflect not only demand for treatment but also the supply of services, and recording practices are of variable quality.

from Denmark report high proportions of first-time clients citing cocaine as their primary drug. Spain, with its long experience of the drug, reported that half of new clients cited cocaine as their primary drug in 2009, and in Italy in 2010 the proportion was one-third. Furthermore, all countries except Italy showed an increase in this proportion in the first years of the decade up to around 2008, followed by a recent decline, consistent with a levelling off or decline in the market.

Amongst the other countries, the Netherlands reports a relatively high proportion of new clients (one-fifth) citing cocaine as their primary drug—but this represents a fall from around 40 % in the first few years of the century. In France, the proportion of new clients using cocaine as their primary drug is still low, at around 6 %, and remained stable between 2008 and 2010, despite growing prevalence amongst young adult recent users. In the smaller countries, the proportion of new clients reporting cocaine as their primary drug is more volatile; it is notable that in Portugal it reached 14 % in 2010.

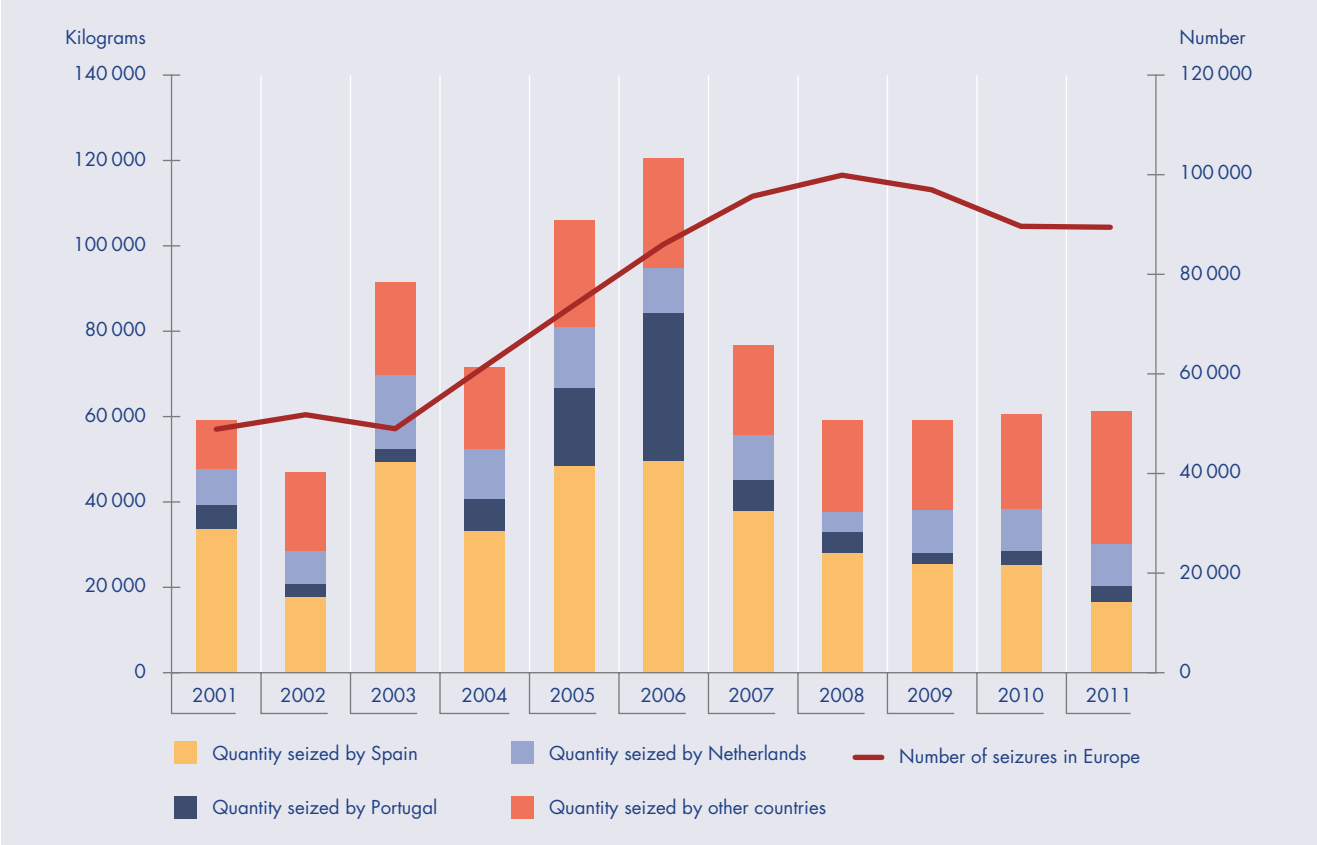
Trends in cocaine trafficking in Europe

Based on seizure data, cocaine would appear to be the third most intensively trafficked drug in Europe, after cannabis resin and cannabis herb, particularly in a few countries in the western part of the region.

The total number of interceptions of cocaine in Europe has been on the increase since the mid-1990s, with the upward trend becoming even steeper from 2004 to 2007. Numbers stabilised at just under 100 000 between 2007 and 2009, and have declined since then (Figure 8). The total quantity of cocaine recovered also increased from 1995, but after peaking in 2006 at 120 tonnes, reflecting exceptional seizures in both Spain and Portugal, decreased sharply, stabilising at around half this amount between 2008 and 2011.

The 2006 peak and the subsequent falls in cocaine amounts intercepted in Europe, and in particular in the Iberian Peninsula, should be interpreted with caution as they are influenced by a range of factors, including

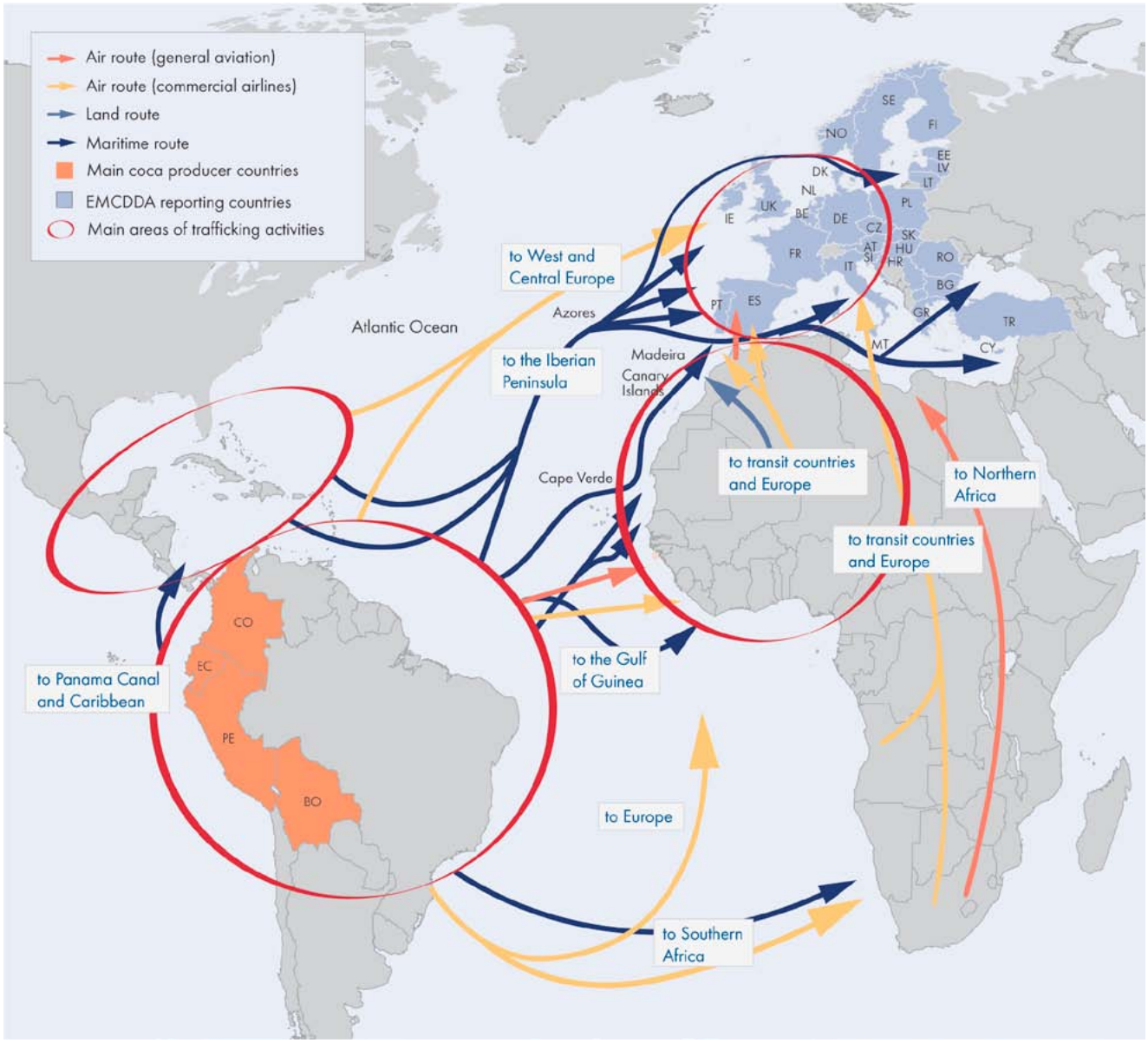
Figure 8: Seizures of cocaine in Europe, 2001–2011



Note: All 30 European countries are included, except the Netherlands and Poland where *Number of seizures* data are not available. Quantities intercepted in the Netherlands in 2008 and 2009 were estimated from UNODC data.
Sources: EMCDDA/Reitox national focal points, EMCDDA (2012a), UNODC (2012d).

changes in trafficking routes, traffickers' practices and national law enforcement strategies, resources and priorities. In addition, some of the cocaine seized in Europe may in fact be destined for non-EU markets such as Russia and China, whose importation routes may have changed. A number of recent major seizures in the eastern part of Europe may suggest that cocaine trafficking, although still limited in the region, may be expanding eastwards, intended to supply both western EU markets and eastern markets outside the EU. Together with the reported decline in global cocaine production mentioned above, the data may indicate that cocaine availability in Europe has decreased. Yet, the fact that cocaine consumption has remained relatively high, while retail price trends continued to decline, would seem to point in the opposite direction.

Figure 9: Main trafficking flows of cocaine to Europe



Note: Trafficking flows represented on the map are an attempt to synthesise the analysis of a variety of international and national organisations (EMCDDA, Europol, INCB, UNODC, WCO). Such analyses are based on information related to drug seizures along the trafficking routes, but also on other intelligence information from other sources, such as law enforcement agencies in transit and destination countries, and anecdotal reports. The main trafficking routes represented on the map should be considered as indicative rather than accurate descriptions of the main flows, based on the knowledge that there may often be deviations to other countries along the routes, and that there is a multitude of secondary subregional routes that are not represented on the map. Such 'stopovers' may change very rapidly depending on constraints (e.g. law enforcement control points) and facilitating factors (e.g. commercial routes, corruption).

The West African route

The West African route, mainly passing through countries along the Gulf of Guinea and the Sahel and Sahara areas, has been used for some time as a transhipment, repackaging and storage region for cocaine from South America, especially Venezuela, destined, mainly, for the EU. The region started attracting international attention between 2004 and 2008, when many large seizures of cocaine were made both in the region and off its coasts. The countries that appeared most affected then were Guinea, Guinea-Bissau, the Gambia and Senegal, as well as Ghana, Togo, Benin and Nigeria. However, since 2009 both the number of cocaine seizures and the quantities of cocaine seized in the region have fallen noticeably. This is more likely to reflect a change in trafficking methods and/or routes than an effective shrinking of cocaine flows towards the region (EMCDDA–Europol, 2010; UNODC, 2011f).

Cocaine is transported from South America to the EU across the Atlantic by air and maritime routes. Multi-tonne shipments travel by sea from Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru and Venezuela to Spain and Portugal, the large ports of the Netherlands and Belgium and to major container ports in Germany, France, Italy and the United Kingdom. Although maritime shipments pose the greatest problem because large quantities can be transported at any one time, and detection is difficult, individual couriers and air freight also play an important role.

There are three main sea routes to Europe: the northern route (passing through the Caribbean and the Azores to Portugal and Spain); the central route (from South America via Cape Verde or Madeira and the Canary Islands to Europe); and the African route (from South America to West Africa and from there mainly to Spain and Portugal), which has attracted international attention recently (see Figure 9).

Importation to Europe and distribution

Although it is clear that the vast majority of the cocaine trafficked into Europe initially lands in countries bordering the Atlantic, the situation in the Black Sea and the Balkans, and, to a lesser extent, in the Eastern Baltic Sea area, suggests a diversification of trafficking routes and landing points, reflecting an eastward expansion of cocaine trafficking in Europe. The proportion of the interceptions made in 10 countries located on the Eastern border of Europe ([35]), albeit still very limited, increased from 0.1 % in 2001 to 1.8 % in 2011. This development needs to be closely monitored as trafficking in the region may eventually contribute to the diffusion of cocaine use into countries that are comparatively unaffected at present.

The west coast: a traditional cocaine entry point into Europe

Cocaine importation and distribution in Europe is mainly concentrated in West European countries. The Iberian Peninsula is considered the main entry point for cocaine into Europe. Spain is the main seizing country in Europe, accounting for 40–50 % of the quantities of cocaine intercepted over 2001–2010 and 27 % in 2011, and close to 50 % of the number of seizures. Portugal has also at times intercepted large amounts of cocaine, in particular in 2005 and 2006, when it seized 18 and 34 tonnes respectively. Since 2008, however, this has fallen to 3–4 tonnes a year, totalling 10 tonnes over 2009–2011—compared with Spain's figure of 67 tonnes over the same period. However, the size of cocaine seizures in Portugal has always been very large, usually the largest in Europe, with annual averages of multi-kilogram seizures in the last decade (2.2 kg in the years 2009–2011).

In comparison, seizures in Spain are of moderate size, on average about 0.5 kg per case in 2009–2011. While in Portugal law enforcement would seem to focus mainly on importation (and exportation) of the drug, Spanish authorities would appear to report interceptions at all levels of the supply chain, probably reflecting the fact that Spain is not only a major importation and transit area for other European markets but also has a rather large domestic market. However, the sharp decrease (by 34 %) in the quantities of cocaine intercepted in Spain in 2011 together with increases in amounts recovered in other major seizing countries (Belgium, France, Italy) that year may indicate a recent change in trafficking patterns and/or in law enforcement, both in Spain and elsewhere.

The other significant cocaine importation and distribution area in the region is centred on the Netherlands and Belgium. The Netherlands has long been the second largest seizing country in Europe, except in 2005 and 2006, when Portugal reported record quantities. An estimated 30 tonnes was recovered in the Netherlands in the period 2009–2011 ([36]), while Belgium reported about 19 tonnes. The

([35]) Estonia, Latvia, Lithuania, Poland (only for quantities), Bulgaria, Hungary, Romania, Greece, Slovakia and Turkey.
([36]) Based on UNODC data for 2009.

traditionally large average size of seizures in Belgium (1.8 kg over 2009–2011) appears to confirm the role of the country as a major entry point for cocaine imported to Europe (similar data for the Netherlands are not available). Belgium and the Netherlands, where retail prices in 2011 were amongst the lowest in Europe and purity of the drug amongst the highest, could be the countries where availability of cocaine is at its highest level in the region.

France and Italy are also important countries for trafficking of cocaine and may serve as direct entry points into Europe, although cocaine found in France is often smuggled in via Spain. Both countries have large domestic markets to supply, but they are also used as transit for cocaine shipments intended for further distribution to other (mostly western) markets. France intercepts the third largest quantities of cocaine in Europe, just after the Netherlands, with 20 tonnes recovered over the period 2009–2011, while Italy comes fifth (after Belgium) with 14 tonnes.

The shipments intercepted in France are also comparatively very large, between 1 and 3 kg on average in the last decade, confirming the role of the country as a transit area for further distribution, beyond the direct supply of its domestic market. The United Kingdom is probably the largest European market for cocaine, ahead of Spain. In 2009, the UK's Serious Organised Crime Agency (SOCA) estimated that 25–30 tonnes of cocaine was imported into the country annually (HMG, 2010). Interceptions are, however, relatively limited, totalling 8 tonnes over the period 2008–2010. Most of them are likely to result from activity taking place in the lower parts of the supply chain; the average size of seizures has decreased in the last decade and remained at 110–130 g over the period 2008–2010.

Europol information indicates that cocaine is increasingly reaching Europe by maritime container shipments, although this modus operandi has been in use for some years (Zaitch, 2005). Since 2007, cocaine seizures in containers have increased, especially in Spain, Germany, the United Kingdom and Belgium. At the same time, the amount found on board vessels (not in containers) has decreased, following the general downwards trend in Europe related to cocaine seizures.

The Black Sea/Balkan area: a new cocaine entry point into Europe

While the majority of shipments of cocaine from South America continue to be directed to Western Europe (see Figure 9), substantial seizures of cocaine, often concealed in containers, have occurred in recent years in important Bulgarian, Greek, Romanian and Ukrainian ports on the Black Sea. For instance, in June and July 2010, Ukrainian authorities seized a total of approximately 775 kg of cocaine in two operations in the port of Odessa from ships arriving from Chile and Venezuela (RILO, 2010).

Quantities intercepted in Romania, Bulgaria, Turkey and Greece are relatively small, totalling 4 tonnes over the three-year period 2009–2011, but exceptionally large seizures have been made at times in all these countries. Although the four countries still account for only a small (2 %) proportion of the total number of seizures reported in Europe, this proportion has tripled since 2001. Greece has for long been the country recovering the largest quantities seized in the region, while interceptions in Turkey have increased from just a few kilograms a year in the early 2000s to 600 kg in 2011 (ahead of Greece at 500 kg). Compared with the other three countries, the size of the shipments intercepted in Bulgaria would seem to be much larger (multi-kilogram), pointing to the likely role of the country as a transit point for cocaine heading both west and east.

An increasing number of nationals of Balkan countries, including Bulgaria and Romania, have become involved in cocaine trafficking in recent years (e.g. as couriers). Additionally, Albania has been used as a storage country for cocaine, alongside its traditional role in the Balkan route for heroin trafficking and storage (Europol, 2007a). This may indicate that the trafficking infrastructure established in the region, especially for cigarettes, human beings and heroin, is now being used for the shipment of increasingly large amounts of cocaine. Trade liberalisation and the presence of pre-established transnational criminal networks are likely to be important explanations for the transit of cocaine through the Black Sea and the Balkans.

The Eastern Baltic Sea area: the next emerging cocaine entry point into Europe?

At present, indicators do not point to a strongly emerging cocaine problem in the former Communist countries around the Baltic Sea. However, recent trends indicate that the region may become of concern in the future. In April 2010, 200 kg of cocaine was seized in the port of Riga, Latvia, from a ship bound for Novgorod, Russia (RILO, 2010), and in December 2010 80 kg was seized at Riga seaport from a container bound for Uzbekistan (WCO, 2011). Some 48 kg of cocaine was seized at Tallinn airport, Estonia, in early October 2010. Meanwhile, a consignment of almost 400 kg of cocaine shipped from South Africa was seized at the port of Klaipeda, Lithuania, in 2010 (Lithuania: Reitox, 2011). These occasional seizures do not form a pattern, but they do show that the Baltic Sea is already used by some cocaine traffickers. The occurrence of these large seizures in recent

years has led to a substantial increase in the amounts intercepted in the three countries: over 800 kg in 2010, falling to 90 kg in 2011, compared with just a few kilograms in previous years (between 1 and 50 kg intercepted annually between 2001 and 2009).

Another development is what appears to be an increasing trend in the use of nationals from countries on the Eastern Baltic Sea as cocaine couriers, either locally or elsewhere in Europe and in Latin America. The Lithuanian Reitox national focal point reported in 2009 that 46 Lithuanian nationals had been arrested in separate cases in Central and South American countries and in European countries for possessing or attempting to smuggle amounts of cocaine ranging between 0.6 and 28 kg. In total, the cocaine seized from Lithuanian nationals abroad amounted to 99 kg in 2009 and to almost 665 kg in 2010 (Lithuania: Reitox, 2009, 2010). In 2010, both Polish and Estonian Reitox national focal points reported that their nationals were frequently used as couriers to smuggle amounts of cocaine of about 2–3 kg (Poland, Estonia: Reitox, 2010). Finally, Latvia has expressed concern about the increasing number of Latvian nationals arrested and sentenced on cocaine smuggling charges in Europe and the Americas.

In the Baltic Sea area, criminal networks presently involved in the trafficking of synthetic drugs such as amphetamines and synthetic opioids (e.g. fentanyl)—mostly to the consumer markets of Sweden, Norway and Finland—could find it both convenient and feasible to diversify into larger-scale cocaine trafficking in the future.

Trends in organised crime involvement with cocaine in Europe

The large-scale importation of cocaine to the EU has been largely organised by non-EU criminals. Nevertheless, developments in recent years have created new opportunities for EU-based OCGs. Some of the most complex organised crime networks are involved in cocaine trafficking.

Current information suggests an increased liberalisation of the cocaine market, with a greater number of OCGs being able to import cocaine in Europe. Colombian organised crime has become more fragmented, with a greater number of groups interested in new partnerships. Groups active in Bolivia and Peru have an interest in accessing a bigger share of the European market. Some have moved their operations to other Latin American countries, such as Argentina, Chile or Uruguay. Some Central American and Caribbean countries have also become refuge and redistribution points.

At the same time European OCGs, including Western Balkan and Italian groups, have increased their presence in South America and Africa. Africa, in particular West Africa, plays an increasing role in supplying European cocaine markets. Groups from Colombia, as well as Argentina, Bolivia, Brazil, Peru and Venezuela, have been involved in cocaine trafficking towards West Africa. These groups have established air and sea supply routes and storage facilities. Porous and poorly controlled borders between states, weak governmental control and high levels of corruption facilitate their activities. Intelligence suggests that cocaine is now increasingly imported via East and Southern Africa as well.

West African networks are prominent organisers of cocaine trafficking by air couriers. Moroccan groups are involved in trafficking cocaine to Europe, using the North African route for cannabis resin. Moroccan traffickers already have an important role in cannabis and cocaine redistribution in Europe, in key locations such as Spain and the Netherlands.

Despite the liberalisation of the cocaine market, Colombians continue to play a key role in the supply of cocaine for the European market. They have settled in EU Member States to organise and facilitate their operations, and cooperate with most European groups such as Italian and Spanish criminal organisations. Nevertheless, intelligence suggests that European OCGs also arrange cocaine deals with the Mexican cartels, which are taking a more significant role in the supply chain between producing countries and destination markets. The extent of their impact on the European organised crime situation is difficult to assess at the moment and needs a close follow-up of the situation. However, the greater profit margins may act as drivers for their increased presence as suppliers for the European markets.

A common method by which to import large quantities of cocaine is through associations between interested groups. Cocaine trafficking is characterised, perhaps more than other types of drug trafficking, by the sharing of loads, risks and costs. Recent cases have provided proof of cooperation between Colombian, Western Balkan, Bulgarian, Slovenian, Italian and Swedish organised criminals, built around individuals with a history of trafficking cocaine.

Recent investigations confirm that OCGs from the Western Balkans, particularly those composed of Serbians, Montenegrins or Croatians, have achieved a more important position in the cocaine trade. They have established their own contacts in source countries and manage their own trafficking networks. Intelligence suggests that some of these have invested in the legal economy in Western Balkan and EU countries. With the cover of legal commercial routes,

A case study in judicial and law enforcement cooperation

In March 2012, a highly organised drug trafficking network was brought to trial in Sweden. Eight members of the group are currently facing criminal charges for trafficking multi-tonne shipments of high-quality cocaine from South America to Europe. Further prosecutions for money laundering are expected in Spain.

This was the result of more than three years of close collaboration between law enforcement and judicial officials in Sweden, Spain and France, with support from Eurojust and Europol and the assistance of 12 other countries. A joint investigation team (JIT) was set up, partly funded by the JIT Funding Project. The JIT legal framework enabled a prompt exchange of information to take place without lengthy rogatory procedures.

The JIT had its first success in 2010. The French authorities seized 1.4 tonnes of cocaine on a 15-metre yacht in the Caribbean bound for Europe. They arrested the only person on board, a 56-year-old Swede. Further investigations identified accomplices who were linked to a network of companies created to facilitate money laundering and property acquisitions.

More than 30 people were arrested worldwide. The leader of the network, a 39-year-old Swede with a long and serious criminal record, was arrested near Bogota, Colombia, and deported to Sweden. Five other suspects were arrested in Sweden and Spain. The Spanish authorities froze several bank accounts as part of the investigations into money laundering, and around EUR 6 million was seized in five different countries.

Europol provided operational analysis and helped identify key players in Colombia, the United States, France, Spain and Sweden. Additionally, they provided expertise and investigative support in asset recovery. Eurojust facilitated the exchange of information and coordination of investigations, hosting 13 coordination/JIT meetings, and provided expertise in relation to the yacht interception.

they have become desirable partners for Latin American OCGs.

In addition, some Bulgarian OCGs appear to be involved in large-scale importation of cocaine, in association with Spanish, Italian and Colombian OCGs.

Outlaw motorcycle gangs (OMCGs) are poly-criminal and poly-drug trafficking groups, largely dealing with the import and distribution of drugs in the Nordic countries. They have the benefit of an extended transnational network with chapters in strategic locations for drug trafficking. They are active in the trafficking of cocaine from South-West Europe and the Balkans, and of synthetic drugs from North-West Europe. They also have links with Moroccan groups for the supply of cannabis resin.

Intelligence indicates that Russian-speaking residents in Latin America are facilitating and organising the trafficking of cocaine to the EU and Russia. EU citizens are recruited as couriers by Russian criminal groups. Georgian groups are also involved in importing cocaine from South America to Russia and the Caucasus.

North-Western Europe continues to be used as the main redistribution hub for large consignments of cocaine. Investigations show that in some cases cocaine entering South-West Europe is transported first to locations in North-West Europe. This could mean that groups active in the latter area have developed efficient redistribution networks, using the region's extensive transport infrastructure to their advantage.

Running or infiltrating legal businesses to facilitate drug trafficking and money laundering is a common denominator for most OCGs. Organised criminal groups own or have control over companies involved in transport, fishing and the import/export of fruits, vegetables and other commodities. For example, the trade in exotic fruits offers a very good cover to export cocaine from South America to Europe, due to the large volumes transported and the perishable nature of the goods.

Available information indicates that organised crime increasingly uses containers to transport not only cocaine but also heroin, cannabis and synthetic drug precursors. One of the preferred methods of shipping cocaine in containers, the so-called 'rip-on rip-off' method, involves corruption of port employees and influence at both departure and arrival ports and a high level of organisation and coordination. The container seal is illegally removed and replaced with a counterfeit at departure, after the drugs have been placed inside. A similar procedure is followed at the destination.

Responses to cocaine trafficking at European and international level

European policy initiatives

The EU has set out its strategies for responding to problems such as the trafficking of cocaine in:

- the Internal Security Strategy of the EU;
- the EU Drugs Strategy (2005–2012); and
- the EU Drugs Action Plan (2009–2012).

Action 46 of the EU Drugs Action Plan is about improving cooperation between the EU and its international partners. The mechanism for cooperation and coordination with Latin American and Caribbean countries (EU–LAC) is a central initiative in this respect. Launched in 1995 to address cocaine production and trafficking from Latin America and the Caribbean into Europe, EU–LAC is a forum for inter-regional cooperation on drug-related problems.

A significant development was a G8 ([36]) conference in 2011 on transatlantic cocaine routes, organised at the initiative of France, then assuming the presidency of the G8. This led to a political declaration and an action plan setting up measures to improve intelligence sharing; facilitate maritime interception; improve legal tools and law enforcement expertise and capacity; and raise additional finance for tackling trafficking (G20–G8 France, 2011a,b).

The Cooperation Programme on Drug Policies between Latin America and the European Union (COPOLAD) was launched by the EC in 2009. It complements the EU-LAC mechanism and implements Action 47 of the EU Drugs Action Plan 2009–2012, which aims to address drug-related concerns in source and transit countries. COPOLAD focuses on strengthening the coherence, balance and impact of drug policies in participant countries through information exchange and bi-regional cooperation (Council of the European Union, 2012). The EC provided EUR 6 million in funding in 2010 (EC, 2010a).

Along with the UNODC, the EC implements and co-finances the PRELAC ([37]) project. Started in 2009 with funding from the Instrument for Stability, the project targets the diversion of chemical precursors used to manufacture illicit drugs. The project involves developing a web-based information system to facilitate information exchange, standardising mechanisms for precursor control and improving inspection and investigation techniques. The EU contributed EUR 3 million to the project in 2012 (Council of the European Union, 2012).

The EU is a major donor to projects to prevent drug production and trafficking in Latin America. By the end of 2009, European funding for projects in the region totalled EUR 360 million, focusing on alternative development initiatives, in line with Action 53 of the EU Drugs Action Plan (2009–2012).

In addressing coca production in the Andean region and accepting its shared responsibility in the area, the EU developed the Andean Community High-Level Specialised Dialogue on Drugs (EU-CAN) (EC, 2007). This unique sub-regional cooperation forum was instituted in 1995, and senior officials meet annually. In addition, the EU has signed bilateral agreements on precursor chemicals with Bolivia, Colombia, Chile, Ecuador, Mexico, Venezuela and Peru (Council of the European Union, 2012).

In April 2007, the EC signed the regional strategy for cooperation with the Andean Community (CAN), allocating EUR 50 million for the period 2007–2013 (EC, 2007). One of the three priority areas for cooperation was to support CAN Member States in the fight against drugs. For example, PRADI-CAN (Progama Antidrogas Ilícitas en la Comunidad Andina) established a network of national observatories on drug trafficking and supports the control of chemical precursors in the CAN countries. The EU is contributing 80 % of the programme's total budget of about EUR 4 million.

Using the European Development Fund, the EC funds a number of bilateral projects in West Africa that address organised crime and drug trafficking. These include a regional three-year project, Law Enforcement and Intelligence Cooperation Against Cocaine Trafficking from Latin America to West Africa (CO-LA-CAO), and a EUR 16 million programme to support the Economic Community of West African States' (ECOWAS) action plan to combat drugs (EC, 2010a).

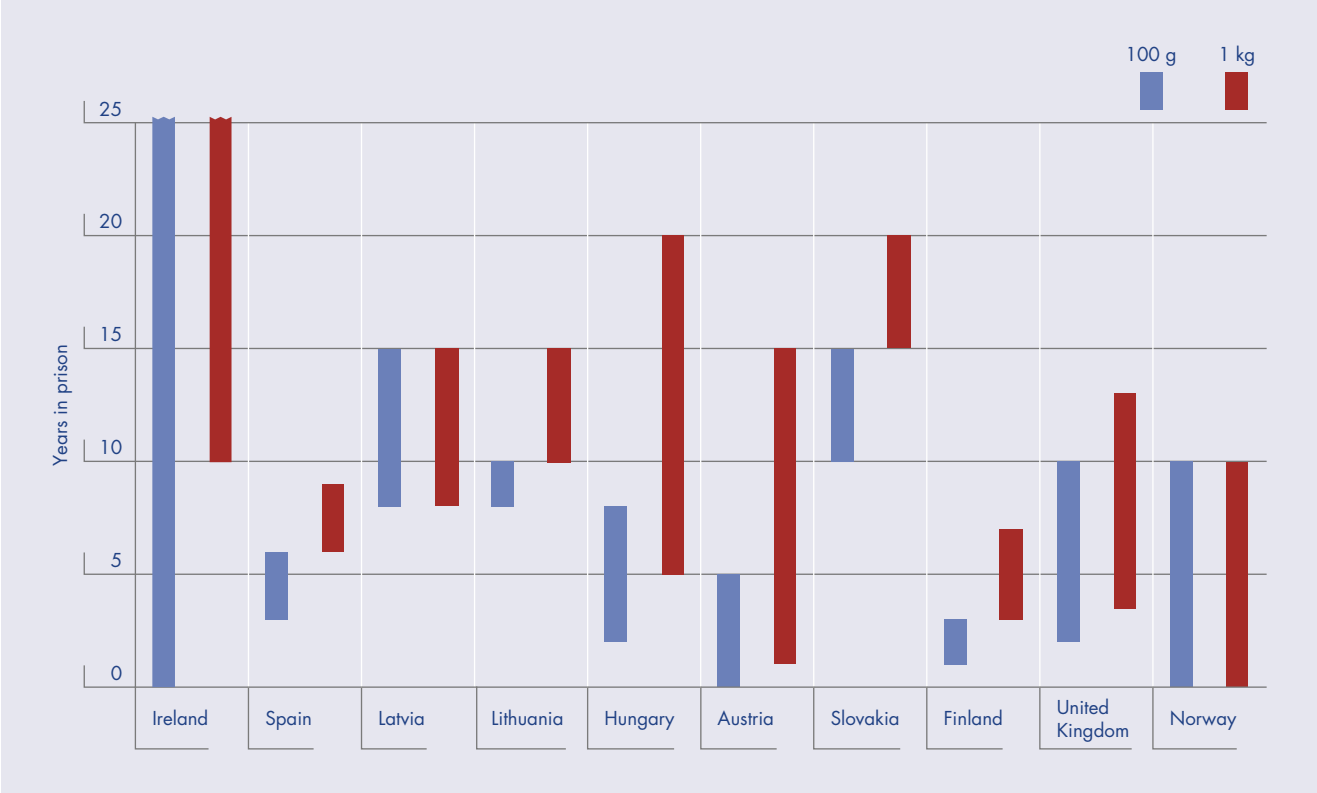
There is significant work under the auspices of COSI and the *European pact to combat international drug trafficking*, discussed in Chapter 1. This includes support for regional information exchange centres in West Africa, linking them in with other structures including MAOC-N and CeCLAD-M (see below).

Although a range of policies and measures are in place to coordinate action by the EU and its Member States against the production and trafficking of cocaine internationally, differences exist in national responses to the problem. This variation is visible in the threshold quantities and associated sentencing ranges applied in different Member States. An illustration of this situation is shown in a sample of countries in Figure 10 (see also Chapter 2).

([36]) The G8 or 'group of eight' is an annual forum, established in 1975 on the initiative of France, for eight of the world's largest economies: http://www.g20-g8.com/g8-g20/g8/english/photos-et-videos/photos/may/meeting-on-the-fight-against-transatlantic-cocaine.1118.html

([37]) PRELAC — Prevention of the diversion of drug precursors in the Latin American and Caribbean Region.

Figure 10: Prescribed penalty ranges for supplying cocaine in some European countries



Note: This graph is based on estimates, with some penalty ranges calculated using an assumed purity or street price. In some cases, the quantities chosen span two different penalty ranges in a country. The penalty ranges do not take into account all aggravating or mitigating circumstances or judicial discretion, and they are nominal sentences. They are those to be awarded by the judge according to the legal framework, regardless of the actual sentences awarded and executed. In Ireland, the prescribed penalty range extends to life imprisonment.

Sources: EMCDDA/Legal Correspondents Network.

Operational initiatives

Europol provides support in the implementation of the strategic goals related to the EU priorities for the fight against organised crime of the EU policy cycle 2011–2013 through the EU annual OAPs (see Chapter 1). The three key priorities related to cocaine trafficking are those concerned with West Africa, the Western Balkans and container shipments (A, B and E respectively).

Specific measures against cocaine trafficking in Europe undertaken by Europol also support the delivery of the EU Drugs Strategy (2005–2012), its action plans and the pact against cocaine trafficking. Project Cola and its dedicated focal point in the AWF on serious and organised crime play an important role in supporting Member States and putting Action 27 of the EU Drugs Action Plan (2009–2012) into place by developing intelligence and investigation capacity (EC, 2010a). It does this by collecting intelligence associated with the activities of organised crime networks involved in the production, processing or trafficking of cocaine, including intelligence relating to essential chemicals and cutting agents. As part of the project, Europol works closely with Member States' law enforcement agencies, providing on-the-spot support to investigations, assistance in the dismantling of cocaine laboratories and operational analysis.

Information systems focus on specific drugs and their production and transport form a central part of Europol's work. In respect to cocaine, a number of tools have been built as part of Project Cola. These include the Europol Cocaine Logo System (ECLS), the Europol Specific Means of Concealment System (ESMC) and its alert system. The ECLS facilitates the gathering of information on modus operandi, photographic and basic forensic information on cocaine seizures and information on logos or markings on drugs and their packaging. This enables identification of matches between seizures with a view to promoting international law enforcement cooperation against criminal groups. Within the framework of the ECLS, the ESMC focuses on the concealment methods or packaging of cocaine. Relevant information regarding the specific means of concealment that have been reported by the Member States and third

parties is collated and stored in a database. When new information concerning means of cocaine concealment is received, the information is immediately forwarded to all Member States and other partners via an alert message through the Europol Information Exchange.

An important measure against cocaine trafficking through West Africa was taken in September 2007 when seven EU Member States ([38]) signed a formal treaty to set up the MAOC-N. This regional initiative is supported by funding from the EC, and its objectives include coordinating air and sea interdiction efforts in the Atlantic region. During its first two years of existence, MAOC-N, on behalf of its partners, coordinated the seizure or led to the jettisoning of a total of about 45 tonnes of cocaine. In September 2008, France launched another anti-drug coordination centre targeting maritime drug trafficking in the Mediterranean to combat cannabis resin (hashish) and cocaine trafficking—the Centre de Coordination pour la Lutte Anti Drogue en Méditerranée (CeCLAD-M).

International initiatives

The UNODC, with support from Interpol, the WCO and the EC, undertakes targeted initiatives against the methods and routes used to traffic cocaine. One such joint initiative is AIRCOP (see Chapter 1), of which Operation COCAIR involved 25 international airports located in 22 countries, covering different parts of key cocaine routes in Western and Central Africa, Latin America, the Caribbean and South Africa. The EU contribution to the operation, which is set to run between 2010 and 2014, is EUR 4.8 million (EC, 2011b). The operation aims to put in place joint airport interdiction task forces (JAITFs), that are connected to Interpol's I-24/7 and the WCO's CENcomm information systems (UNODC, 2011f).

For conclusions and recommendations relating to the cocaine market, please refer to pages 134–136 in Chapter 10.

([38]) The co-founders of this project are Ireland, Spain, France, Italy, the Netherlands, Portugal and the United Kingdom, but it is open to other Member States.

CANNABIS

Chapter 4 | Cannabis

Introduction

Cannabis is a natural product, the main psychoactive constituent of which is tetrahydrocannabinol (Δ^9-THC). It can be cultivated outdoors in most parts of the world and anywhere indoors given access to water and electricity, making it the most widely produced illicit drug in the world. The illicit cultivation of cannabis usually produces two distinct cannabis products: herbal cannabis ('marijuana') and cannabis resin ('hashish'). Herbal cannabis is produced by drying the flowering tops of the plants, and resin is the product of processed plant secretions that are compressed into blocks. Globally, it appears that herbal cannabis tends be produced for sale on domestic markets and in neighbouring regions rather than for export outside the region. As a result of this, herbal cannabis is less likely to be intercepted by authorities in relation to trafficking. In contrast, it seems that cannabis resin is produced largely for export (UNODC, 2006a, 2011g, 2012a).

Improved cultivation methods, including indoor techniques and selective plant breeding, have resulted in cannabis plants that are more potent, faster growing and higher yielding than before. These factors are likely to have played a role in increased levels of domestic production in Europe, and may have contributed to a shift in the consumer market.

According to a recent analysis, in two-thirds of European countries cannabis consumption is now dominated by herbal products, which constitute 90 % or more of the overall cannabis markets of Bulgaria, Czech Republic, Greece, Lithuania, Luxembourg, Hungary, Poland, Slovenia, Slovakia and Croatia. User demand and preferences in some previously resin-consuming countries in Western Europe now appear to be centred on the herbal unfertilised female flower buds (sinsemilla), which are often higher in THC (EMCDDA, 2012b).

Global overview

Cannabis is not only the world's most consumed illicit drug, but is also produced on a global scale. Increasingly countries are producing cannabis for their own domestic market. For instance, the UNODC (2008a) has estimated that, between 2002 and 2006, herbal cannabis was produced in 122 countries and cannabis resin in 65 countries. Because illicit cannabis cultivation is widespread, and carried out in a range of indoor and outdoor settings, it is very difficult, if not impossible, to estimate how much cannabis is produced worldwide annually.

Europe continues to be one of the world's largest consumer markets for cannabis resin, the majority of which is sourced from Morocco. The Middle East, North Africa and South-West Asia also have large consumer markets for resin, and significant resin production occurs in these regions. Europe and North Africa are reported as having a mixed profile consumer market, using both herb and resin, with the rest of the world predominantly consuming herb (UNDOC, 2012a).

The regions identified as major producers of cannabis resin are North Africa, the Near/Middle East and South-West Asia, with the main producer countries reported to be Afghanistan, Morocco, Lebanon, Nepal and India. Afghanistan appears to be emerging as a leading force in cannabis cultivation, with the UNODC suggesting that it has now overtaken Morocco in terms of resin production, although caution is required here (see below).

In 2010, West and Central Europe were the world's largest cannabis resin-seizing regions (47 %). Despite interceptions dropping to under 400 tonnes, Spain continues to seize the largest amounts of resin in Europe and worldwide, accounting for 34 % of world seizures in 2010. The Near/Middle East and South-West Asian regions account for 35 % of world seizures. The largest quantities were intercepted in Pakistan (19 %) and Afghanistan (8 %). Since Afghanistan resin seizures dropped in 2008, seizures in neighbouring countries (in particular Pakistan) have increased. Pakistan has reported that the 212 tonnes of resin it seized in 2010 all originated from Afghanistan. North Africa accounted for 14 % of global resin seizures, mainly reflecting seizures in Morocco (10 %).

Table 3: Cannabis in Europe at a glance

			Age group (years)	Estimated number of users (million)	% of European population (range between countries)
Consumption (1)		Lifetime	15–64	80.5	23.7 (1.6–32.5)
			15–34	42.5	32.5 (3.0–49)
			15–24	18	29.7 (3.0–52.2)
		Last year	15–64	23	6.8 (0.3–14.3)
			15–34	16	12.4 (0.6–20.7)
			15–24	9.5	15.4 (0.9–23.9)
		Last month	15–64	12	3.6 (0.1–7.6)
			15–34	8.5	6.6 (0.2–14.1)
			15–24	5	7.8 (0.5–17.2)
				Number (% of all drug admissions)	
Drug treatment (2) (2010)		All admissions		107 697 (25 %)	
		First admissions		58 833 (38 %)	
				Number (% of all drug offences)	
Drug law offences (2011)		All offences		940 757 (73 %)	
		Offences for drug use/possession for use		790 276 (78 %)	
		Offences for drug supply		111 706 (56 %)	
				Cannabis resin	Herbal cannabis
Seizures (3) (2011)	Quantities (tonnes)	EU (including Croatia, Norway and Turkey)		490 (514)	90 (146)
	Number	EU (including Croatia, Norway and Turkey)		348 000 (370 000)	389 000 (439 000)
Mean retail price (2011) (EUR per gram)		Range (IQR) (4)		3–18 (7.0–12.8)	5–24 (7.8–11.5)
Mean potency (2011) (%)		Range (IQR) (4)		4–16 (5.3– 10.5)	1–16 (5.6–9.9)

Notes

(1) European estimates are computed from national estimates weighted by the population of the relevant age group in each country. They are based on surveys conducted between 2004 and 2010/11 (mainly 2007–2010) and therefore do not refer to a single year.

(2) Information is available on about 470 000 drug users entering specialist treatment in Europe (EU, Norway, Croatia, Turkey). Units coverage may vary between countries.

(3) The 2011 figures should be considered as estimates; where 2011 data were not available (United Kingdom), 2010 data were used in their place. An additional 4.6 million cannabis plants and 33 tonnes of cannabis plants were seized (37 000 seizures in total) in Europe, including Croatia and Turkey, in 2011.

(4) IQR: interquartile range, or range of the middle half of the reported data.

Sources: EMCDDA/Reitox national focal points, EMCDDA (2012a).

After reaching a peak of 6 295 tonnes in 2003, worldwide herbal cannabis seizures declined sharply in 2004 to 4 092 tonnes. This was followed by a steady increase to 6 251 tonnes in 2010. North America appears to be the dominant herbal cannabis-seizing region, accounting for 69 % of global herb seizures, with Mexico (37 %) and the United States (31 %) seizing the largest quantities. The next region is South America, at 8 %, where Colombia seizes the largest quantities (UNODC, 2012a).

Production issues

Outdoor cultivation

Successful outdoor cannabis cultivation depends upon natural daylight cycles, with the plant flowering only when the days begin to shorten. Outdoor cannabis crops may be planted as a single crop or hidden within other crops such as maize, with outdoor-growing crops usually producing one or two harvests per year. Factors such as cannabis strains

Grow shops

One potential indicator of the spread in domestic production in Europe, in particular indoor production, is the apparent rise in the number of 'grow shops' during the last decade. A grow shop is a horticulture shop selling products specifically—although not always explicitly, given legal considerations—for the cultivation of cannabis plants, and in 2009, 15 European countries reported the existence of such shops. Grow shops have increased in popularity since the 1990s both in North America and in Europe.

Some grow shops sell not only cultivation equipment but information, literature and smoking paraphernalia, suggesting that they can be regarded as 'centres of learning' about domestic cultivation (Jansen, 2002). In a few countries (Belgium, France, the Netherlands) it has also been suggested that some grow shop operators sell seeds, buy their customers' harvests and dispose of their waste products (EMCDDA, 2012b).

Sinsemilla and cannabidiol (CBD)

Cannabis content in cannabinoids, including THC, varies widely depending on factors such as genetic strain, growing environments, cultivation techniques, processing methods, packaging, transportation, storage and freshness. Over time, the search to produce plants with an increased psychoactive effect has resulted in a preference amongst some growers and consumers for sinsemilla (unfertilised female plants). Selective breeding, which mainly focuses on achieving a high THC content, has also resulted in the selection of strains containing less of another cannabinoid: cannabidiol (CBD).

Research in the United Kingdom found that both high-THC sinsemilla (13–16 %) and other herbal cannabis containing less THC (3–8 %) contained very low concentrations of CBD (under 0.1 %), whereas resin, with a moderate THC content (4–6 %), presented much higher levels of CBD (around 4 %). Analysis of cannabis preparations sold in the Netherlands in 2011 confirmed these results, although imported resin contained more THC (14 %) and also more CBD (7 %) (Hardwick and King, 2008; Potter et al., 2008; Rigter and Niesink, 2011).

CBD is known for its antipsychotic properties (Zuardi et al., 2006). Therefore, any variation in the relative proportions of THC and CBD in illicit cannabis has possible implications for the overall negative health consequences associated with consumption of the drug. Given current concerns on the possible association between some forms of mental illness and cannabis use, the potential spread of high-potency sinsemilla should be carefully monitored.

and cultivation methods used, plant density, water supply (irrigated or rain-fed crops), soil acidity or alkalinity and climate have all been noted to affect the yield of outdoor crops (Clarke, 1998; UNODC, 2006a).

A recent EMCDDA analysis revealed that in 8 out of 29 reporting countries (Bulgaria, Denmark, Estonia, Greece, Italy, Portugal, Croatia and Slovenia), cannabis was mainly cultivated outdoors (EMCDDA, 2012b).

Indoor cultivation

Indoor cultivation takes many forms, ranging from small-scale home growing to professional operations run by criminal networks in industrial warehouses. The control that can be exercised over growing conditions (e.g. light, heat, density of plants, pest control) allows for continuous cultivation throughout the year and can result in four to six full harvests per year. Recent research into indoor cultivation in Belgium has suggested that both plant density and light density are important factors when determining yield in indoor set-ups, but that the crucial factor is the strain of cannabis (Vanhove et al., 2012a).

The benefits of indoor cultivation include lower risks of detection, control over conditions that permits high yields, and the ability to manipulate strains to produce high potency. Indoor growing was identified as the preferred method of production in at least 16 of 29 countries reporting data to the EMCDDA (2012b). Hydroponic cultivation (growing plants in nutrient-rich water instead of soil) can reduce the smell of used soil, reducing the risk of detection. Despite a general perception to the contrary, this method does not appear to be commonly used, because of the high set-up costs and the high level of expertise required (UNODC, 2006a, 2010b; Bouchard, 2007; Leggett and Pietschmann, 2008).

Harvesting to create a marketable product

Cannabis is harvested by cutting the plant at the base and then drying it in low-humidity conditions either by hanging or placing it upon drying shelves, which in general takes approximately two weeks (UNODC, 2006a). To prepare herbal cannabis, once the plant is dry the flowers are 'manicured' (either manually or with a machine) to remove the leaves and stems, leaving the 'bud', which is the material usually sold on the market (see Figure 11).

Figure 11: A dry cannabis inflorescence (a) before and (b) after manicuring

Note: The separated sinsemilla floral material is the preferred material that is ready for use. The leaf and stem material may be discarded or processed further to make a resin with a very high THC content.
Source: Potter, EMCDDA (2012b, p. 37).

In producing cannabis resin, two main methods can be used: hand-rubbing and sieving. These are used to dislodge glandular trichomes, resulting in a fine powder that is high in THC. Sieving is reported to produce much more resin than hand-rubbing, although in both cases several 'grades' of resin may be produced ([39]). However, even resins produced by the same methods can appear to be substantially different products, as is the case for resins produced by sieving in Morocco and Afghanistan (Clarke, 1998; UNODC, 2006a, 2010b).

Producing for European markets

A recent EMCDDA analysis identified five world regions (and dominant countries) as the main sources of the imported cannabis products available on European markets. Three of those regions, North Africa (Morocco), South-West Asia (Afghanistan) and the Middle East (Lebanon), supply cannabis resin, while the remaining two, the Balkan region (Albania) and sub-Saharan Africa (South Africa), primarily supply herb (EMCDDA, 2012b).

Although Europe is one of the world's largest consumer markets for cannabis resin, it relies very largely upon production sources outside the region, predominantly Morocco, although Afghanistan may be re-emerging as a producer for European resin markets.

A quick glance at global cannabis resin production estimates would suggest that Afghanistan has now become a much larger producer than Morocco, but important caveats emerge upon closer examination. Moroccan cannabis resin production is estimated to have dropped by about 75 % since 2003 to reach 760 tonnes in 2010, while resin production in Afghanistan was estimated at between 1 200 and 3 700 tonnes that year. However, two issues affect comparisons of the production estimates for the two countries. First, the cannabis resins produced in Morocco and Afghanistan are reported to be 'different products' (UNODC, 2010b), with Afghan resin appearing to be less potent. Therefore, comparisons based purely on weight may be misleading. Second, and more importantly, analysis of seizures in countries located along Moroccan resin trafficking routes indicates that the size of Moroccan production is underestimated. Indeed, combined resin seizures in Algeria, Morocco and Spain totalled about 525 tonnes in 2010, which would mean that only about 235 tonnes of Moroccan resin actually reached European (and global) consumers. Meanwhile, the EMCDDA has estimated that some 1 300 tonnes of cannabis resin is consumed in Europe every year (see below), and 22 European countries indicate Morocco as a source of cannabis resin (UNODC, 2003a, 2012a; EMCDDA, 2012b).

Recent changes in external supply of herbal cannabis to Hungary

In Hungary, domestic production is supplemented by large quantities of cannabis smuggled into the country by Vietnamese groups from plantations operated by Vietnamese producers located in Slovakia, the Czech Republic and Poland. The drug is transported across borders mainly by car or public transport. It has also become common for Vietnamese sellers in Hungary to send their Hungarian customers directly to Vietnamese suppliers in the Czech Republic, thus avoiding the risk of transporting the drug themselves. As a result, the amount of cannabis imported into Hungary from the Czech Republic today has reached or even surpassed the amount imported from the Netherlands (Hungary: Reitox, 2011).

([39]) Some cannabis resin products are produced in Western countries by extraction methods based on chilled water or the use of electric tumbler/sieving machines.

Figure 12: Indoor cannabis production site dismantled in Alicante Province, Spain, November 2010

Source: Spanish *Guardia Civil* via Europol.

Globally, it appears that herbal cannabis tends be produced for sale on domestic markets and in neighbouring countries rather than for export outside the producing region. Europe is no exception to this trend. Historically, the Netherlands has been an important source of herbal cannabis supply within Europe. It remains the most frequently identified source of imported cannabis products in Europe, especially in Western Europe, with the majority of countries reporting importation of some kind of cannabis product including seeds, resin and herb (EMCDDA, 2012b).

Major herbal cannabis-producing countries in the Balkan region supply the markets of Central, Eastern and South-Eastern Europe: Albania, Serbia, Bulgaria and to some extent Kosovo. Europol (2011a) has noted that Albania has emerged as an important outdoor producer and exporter, usually via Greece, but it has also been noted that the product is distributed throughout Italy, Slovenia and Hungary (INCB, 2011). The Czech Republic has also been identified as a producer, with domestic product exported to Central and Western Europe. Some 80–90 % of the herbal cannabis produced in Latvia is exported, predominantly to Sweden and Estonia, and to a lesser extent to other Scandinavian countries and Lithuania (EMCDDA, 2012b).

Extent of production in Europe

Herbal cannabis production is widespread throughout Europe and appears to be increasing, with all 29 European countries that recently reported to the EMCDDA (2012b) recording some form of domestic cannabis cultivation, though the scale and nature of the phenomenon seem to vary considerably. Of the 29 countries, 25 reported outdoor cultivation, 26 reported indoor cultivation and 12 reported hydroponic cultivation. Indoor cultivation sites have been reported as emerging in Lithuania, Poland and Romania (UNODC, 2012a), while both the Czech Republic and Slovakia note an increase in industrial indoor cultivation (INCB, 2012b).

Seizures of whole cannabis plants are generally thought to be an indicator of domestic cannabis cultivation in the country where they occur. The number of seizures of cannabis plants in Europe has been increasing in the last 10 years, peaking at an estimated 39 000 in 2010, followed by a slight decline, to 36 000, the following year. Countries report the quantity seized either as an estimate of the number of plants seized or by weight. The total number of plants seized in Europe remained stable at about 2.5 million annually in 2005–2009, and then increased to 3.1 million in 2010 and to 4.6 million in 2011 ([40]). The Netherlands has been the main seizing country for years, intercepting nearly half of the 2011 total, followed by Italy with a record number of 1 million plants seized that year. Seizures reported by weight of plants trebled between 2005 and 2008, before slightly decreasing to 35 and 33 tonnes in 2010 and 2011 respectively. Spain continues to account for most of this amount with 26 tonnes intercepted in 2011, followed by Bulgaria with nearly 5 tonnes.

Overall, data on the number of cannabis plantations dismantled in Europe point to an increase in cannabis domestic production in most countries reporting data since 2004. The Netherlands and the United Kingdom would seem to be the countries in Europe dismantling the largest number of plantations—several thousands a year. However, data are to be interpreted with caution as definitions and reporting practice vary considerably between countries.

Concentrated production in the Amsterdam–Amstelland region

A study on the cannabis market in the Amsterdam–Amstelland region of the Netherlands revealed that in 2009, 310 cannabis plantations were dismantled in that region, with a total of nearly 100 000 plants seized. The mean size of the plantations was calculated to be over 300 plants, indicating that commercial production is widespread within this region (Netherlands: Reitox, 2011).

([40]) Data for the Netherlands for the years 2008 and 2009 were obtained from the UNODC (2012a). This analysis does not include seizures made in Turkey as these have not been reported since 2005; for information, 20 million cannabis plants were intercepted in 2004 in Turkey.

Grower motivations

Cannabis growers can be divided into two broad categories: commercial and non-commercial. Whereas the first group is mainly driven by the prospect of financial gain, the second group is driven by several other factors, ranging from ideological reasons through the need to cater for personal or social supply, to ensuring the quality and integrity of the product and avoiding exposure to the criminal element of the market. Cannabis production amongst this group generally tends to be small in scale.

Trends in domestic production of herbal cannabis

As cannabis cultivation techniques have advanced and indoor cultivation has spread, the intra-European import–export market for cannabis has changed and a phenomenon of 'import substitution'—whereby increases in domestic production have reduced demand for imported cannabis products—has been noted.

The following countries have experienced increases in domestic cultivation in the last five years: Austria, Belgium, the Czech Republic, Denmark, Finland, Germany, Hungary, Ireland, Poland, the Netherlands, Norway, Slovakia, Sweden and the United Kingdom (Potter, 2008; Reitox, 2009; ACPO, 2012; UNODC, 2012a). Furthermore, Italy, France and Spain have reported recent increases in cannabis production.

Denmark, Germany, Sweden, the United Kingdom and Norway have reported increases in the number of houses or commercial properties in which large-scale cannabis production has taken place. Some commercial cannabis growers, in particular operators of indoor cultivation sites in Belgium, the Netherlands and the United Kingdom, increasingly tend to run multiple small-scale plantations (e.g. plantations of 250 plants maximum) rather than a single large site. This strategy allows them to better avoid detection (small cultivation sites are easier to hide and consume less electricity) and, if they are caught, the penalties incurred for running small sites are lower than for large ones. In addition, this approach reduces the financial loss incurred as a result of theft, fire or detection (Decorte, 2008; Belgium, Netherlands: Reitox, 2009).

Consumer markets for cannabis in Europe

Cannabis use, in one form or another, is evident in every country of the EU. In almost all countries prevalence levels dwarf those of the other major drug groups. Almost a quarter (24 %) of 15- to 64-years olds in the EU are thought to have tried the drug at least once in their lifetime, some 80 million individuals, and use within the last 12 months amongst young adults (15–34 years) is at about one in eight (12 %) or about 16 million individuals.

Cross-European estimates mask country variations, though countries with low prevalence tend to be the exception. The nine countries where lifetime prevalence rates among all adults are 20 % or above—which include some of the most populous countries in Europe (Germany, Spain, France, Italy and the United Kingdom)—account for almost 70 % of the European population. At the other end of the spectrum, only six countries report levels of less than 10 % and together account for less than 20 % of the European population, with Poland and Romania the most populous amongst these.

The dichotomy is even more pronounced when considering recent use amongst young adults, the age group most likely to be taking drugs. Fifteen countries, accounting for 73 % of the European population of young adults, report last year prevalence of around 10 % or higher (up to a maximum of 21 %). Only five countries, making up approximately 16 % of the young adult population, report prevalence at around 5 % or less.

The spread of cannabis consumption is often thought to have begun in the 1960s and 1970s, although comparisons across time for most countries are made difficult by the lack of comparable survey data before the 1990s. In some western countries, such as the United Kingdom and the Netherlands, growth started from low levels in the late 1960s and early 1970s, and was followed by periods of stabilisation or decline, and then resurgence at the end of the century (Korf, 2002; Vicente et al., 2008). More recently, relatively high levels at the start of the century have given way to a further period of stabilisation or decline in many European countries. This pattern is not evident for all EU countries and in some, such as Bulgaria, Estonia and Italy, national studies show a steady increase in last year prevalence amongst young adults.

This picture of recent stabilisation or decline of use is further supported by data on young people, aged 15–16 years, available from the 2011 European School Survey Project on Alcohol and other Drugs (ESPAD). The survey has been carried out every four years since 1995. Findings reveal a discernible overall pattern of decline in the prevalence of cannabis use, or stabilisation, since 2003.

Although patterns of use fluctuate and the most recent data suggest hope for the future, the 'big picture' remains one of increases across Europe since the 1960s and 1970s. Other developments in cannabis consumption are also less

encouraging. Treatment data reflect not only need but availability, specifically of cannabis treatment. Nevertheless, amongst clients entering treatment for the first time, the proportion citing cannabis as their primary drug grew in most countries between 2005 and 2010. During this period, cannabis never accounted for less than half of reported new treatments in Germany, France and Hungary. By 2010, cannabis treatment also exceeded half of new treatments in Cyprus, Denmark and the Netherlands.

Information on the frequency of cannabis use is becoming increasingly available from national surveys, and with it an idea of how important the drug has become for some individuals. It is estimated that 1 % of those aged 15–64 years in the EU and Norway, or some 3.4 million individuals, smoke cannabis on a daily or near-daily basis (EMCDDA, 2012c). Attempts are being made to measure the potential for problems associated with cannabis use, particularly amongst the young, by introducing questions from the Cannabis Abuse Screening Test (CAST) into ESPAD and other surveys (Hibell et al., 2012).

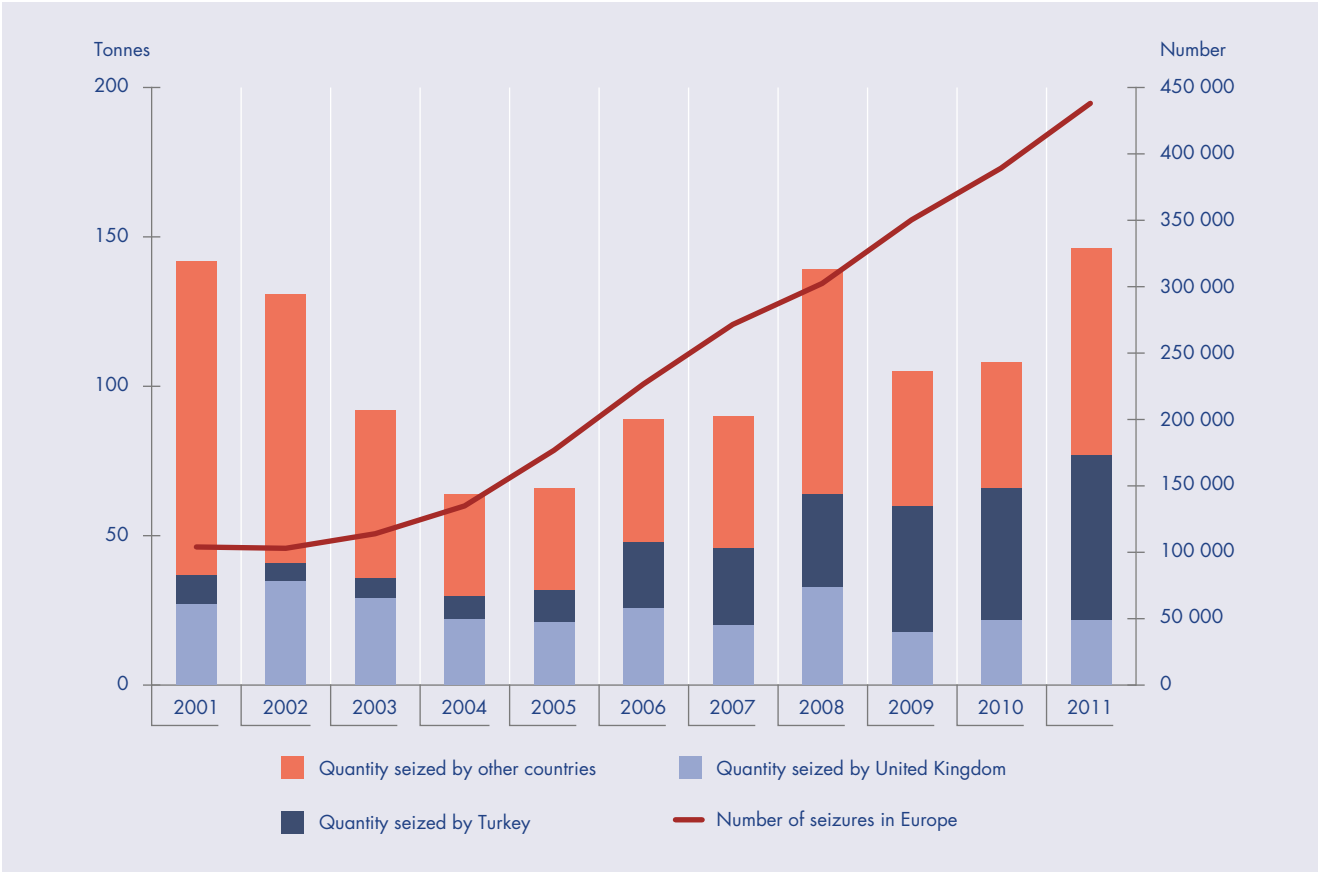
Overall, cannabis is by far the most used and widespread illicit drug in Europe. Some positive signs of a levelling off or decline in use are evident in both national surveys and school surveys, but the level of use remains high. In many countries, cannabis is increasing in importance as the primary drug for which treatment is sought, and there is growing evidence of the potential for problem cannabis use. The market is now more diverse, with evidence of some herbal cannabis that is of greater potency than cannabis resin. These changes suggest a less benign image of the drug and a far more organised, commercial supply than the popular characterisation of cannabis in the 1960s and 1970s.

Trends in cannabis trafficking in Europe

Seizures

Cannabis resin has long been the drug most seized in Europe, ahead of herb. After a steady increase in the

Figure 13: Seizures of herbal cannabis in Europe, 2001–2011



Note: All 30 European countries are included, except the Netherlands and Poland where *Number of seizures* data are not available. In the absence of 2011 data for the United Kingdom, 2010 data were used in their place.

Sources: EMCDDA/Reitox national focal points, EMCDDA (2012a).

number of seizures of both cannabis resin and herb over the last decade, resin seizures declined in 2010 and 2011 and, for the first time in 2010, were outnumbered by seizures of herbal cannabis. The amounts recovered have been fluctuating for both products, with an all-time peak of 1 080 tonnes in 2004 for resin and another peak at 930 tonnes in 2008; analysis of quantities of intercepted herb reveals two peaks at 140 tonnes, in 2001 and 2008, and a record high of 146 tonnes in 2011 (see Figure 13).

A discrepancy exists in respect to what cannabis products appear to be targeted by interdiction measures. Consumption of cannabis is dominated in two-thirds of Europe by herbal products and in the other one-third by resin (EMCDDA, 2012b). Moreover, tentative consumption estimates suggest that resin accounts for about half of the cannabis quantities consumed in the region (see box). However, resin seizures, despite declining in recent years, remain twice as high as those of herb (2011). This is explained in part by the difficulty of detecting domestic production, especially when occurring indoor. In addition, since the trafficking of domestically produced cannabis is usually intraregional, and on a relatively small scale, it requires little crossing of borders and is therefore at less risk of detection. This is evidenced in the tentative interception rates that may be derived from the total cannabis consumption estimates for the EU and Norway, at around 30 % for resin and below 10 % for herbal cannabis. It would seem that there is, in general, less pressure from law enforcement on the market for domestically grown herb than for resin. Yet prices of herbal preparations appear to be increasing while resin prices remain relatively stable. The development of new strains and cultivation techniques to increase the potency of the herbal material produced in Europe may have had an impact on the price paid at retail level, although data on potency are not conclusive at this stage.

The estimated market sizes of each cannabis product may be used to calculate interception rates at European level, as it may be safely assumed that all cannabis seized in Europe is destined for European markets. Similar analysis cannot be carried out at national level, however, as it cannot be assumed that cannabis seized in a country is destined for that country's market, given levels of intraregional trafficking of cannabis. For this reason, this section presents analyses of the relative size of national seizures (total quantities intercepted) compared with the estimated size of the national market (total consumption). Combined with the calculated average size of seizures by country, these indirect indicators ([41]) may point to varying trafficking patterns.

Annual consumption of herbal cannabis in the EU and Norway

Although imported cannabis resin has been partly replaced by domestically produced herbal material in some regions, it is estimated that resin is still being used by about half of the 22.5 million cannabis users in the EU and Norway. This means that around 1 300 tonnes of cannabis resin and 1 200 tonnes of herbal cannabis could be consumed annually ([1]). Cannabis resin consumption would seem to be concentrated in a few countries, with three-quarters of the estimated total quantity being consumed in only three countries—Italy (30 %), Spain (27 %) and France (20 %)—followed at a distance by Germany (6 %) and the United Kingdom (5 %). Use of herbal cannabis seems to be more evenly spread across Europe, with the United Kingdom as the largest market (accounting for one-fifth of total consumption), followed by Germany (16 %), Italy (14 %), France (12 %) and Spain (1 %). The Czech Republic, the Netherlands and Poland each account for about 4–5 %. These are tentative estimates, and should be treated with caution.

([1]) Estimates of market sizes (national consumption) are arrived at using a demand-side approach based on estimated market shares of each product, data on prevalence of use and individual annual consumption estimates. The last, derived from Kilmer and Pacula (2009)—150 g for last month users and 15 g for last year (but not last month) users—have a substantial impact on the end results. Further methodological details and a discussion of the caveats of the method can be found in EMCDDA (2012b).

Trafficking cannabis resin

Moroccan cannabis resin is typically smuggled into Europe through the Iberian Peninsula, with the Netherlands and Belgium having a role as secondary distribution and storage centres and more limited trafficking elsewhere.

South-West gateway

Spain has long been the principal country for cannabis resin seizures in Europe (and the world); in 2011 it accounted for about 70 % of seizures in the region by both number and total quantity, despite the latter reaching its lowest level (356 tonnes) since 1997. Spain and Portugal appear to be the

([41]) To eliminate the effect of exceptional annual variations, both the average size of seizures and the proportion of domestic consumption that is intercepted are based on three-year averages calculated from 2009–2011 seizure data. Seizures of cannabis plants are not included in the indicators referring to herbal cannabis.

main entry and dissemination points for Moroccan resin in Europe, with seized amounts estimated to be 15 % larger than the national market in Spain and nearly as large (80 %) as the national market in Portugal. On average, Spain intercepts around 2 kg per seizure and Portugal an even larger quantity, suggesting importation of large quantities of resin. Some of the resin entering the Iberian Peninsula is smuggled on to France, from where it is either distributed locally or transported further north and east to other markets.

Seizures in France, which are the second largest after those in Spain (56 tonnes in 2011), are estimated to represent about 20 % of domestic consumption, pointing to France's dual role as a destination market and a transit area. Indeed, the comparatively small average size of seizures (0.5–1 kg) ([42]) there suggests that France is not a major entry point for Moroccan resin but that trafficking at wholesale level is common.

Shipments seized in Italy are large, on average over 3 kg, suggesting that, like the Iberian Peninsula, the country could be used as an entry point for Moroccan resin. However, Italian seizures represent only 5 % of estimated local demand, indicating that transit may be limited and that most of what is imported could be destined for a domestic market estimated to be the largest in the EU (ahead of Spain).

Using light planes to smuggle drugs across borders

Although use of light aircraft to smuggle drugs across borders is not new, it may have increased between the African coast and the Iberian Peninsula in recent years. The drug trafficked is primarily cannabis resin, which is flown from Morocco in batches of between 100 kg and 1.5 tonnes per flight. Most flights occur at night or at dawn; planes fly low and without lights so as to avoid detection. Crashes of light aircraft may be used as an indirect indicator of the phenomenon. Moroccan, Spanish and Portuguese authorities indicate that a total of about 30 light planes have crashed in the three countries since 2007. Crashes occur mostly because pilots take ill-considered risks when attempting to land on improvised strips, often flying old and poorly maintained planes. Moroccan authorities indicate that light planes have been used to export drugs for about 10 years. Most drug flights would depart from the northern Atlantic coast of Morocco. However, drug smuggling by small aircraft also occurs elsewhere. On 12 May 2012, a man was arrested in northern France while attempting to smuggle 63 kg of amphetamine and 6 kg of cocaine across the Channel in a microlight aircraft.

North-West

Belgium and the Netherlands have been identified as leading sources of resin trafficked throughout Europe. The quantity of resin seized in Belgium is about the same as estimated domestic consumption, suggesting that the country is used as a transit area, whereas in the Netherlands, which reported a substantial fall in herbal seizures in 2011, resin seized would amount to only 9 % of estimated domestic demand. Despite variations over time, interceptions are generally large in Belgium (over 1 kg on average) (similar data for the Netherlands are not available). The resin imported in the region may have two main destinations. Some may be used to supply domestic resin markets, although these are small compared with the markets for herbal cannabis. Larger quantities are probably re-exported to Germany, France, Italy, the United Kingdom and the Nordic countries, underlining the region's key role as a secondary distribution and storage centre (Europol, 2011a).

Average seizure sizes greater than 1 kg suggest that Ireland is also an entry point for Moroccan resin into Europe. Resin seizures represent about 15 % of estimated national consumption; it is likely that some of the resin entering Ireland eventually ends up in the United Kingdom, where the market for resin, although smaller than the market for herb, is still rather large, estimated to be about seven times the size of the Irish market. Seizures in the United Kingdom are on average smaller than in Ireland (under 1 kg) and represent one-third of estimated national demand, which may indicate that the United Kingdom is targeting drugs at importation both from across the Atlantic and from continental Europe.

North/Nordic

Amounts of cannabis resin intercepted in Estonia are limited (under 100 kg seized a year), but the average size of the cases has been at times relatively large (over 1 kg), suggesting that the country may be a transit area for resin destined for Russia and the Nordic countries. Annual quantities intercepted in Denmark (around 2 tonnes) are larger than in other Nordic countries and individual seizures are also slightly larger on average (200–300 g) than in Finland, Sweden and Norway (100–200 g), pointing to the likely role of Denmark as a transit area to other Nordic countries.

([42]) The size of the seizures was larger in the period 2001–2006 in France, over 1 kg in average. This may suggest a change since 2007 in trafficking practices or in law enforcement targeting, or a combination of both.

South-East

Analysis of resin interceptions show that Turkey has become a major seizing country, with 29 tonnes recovered in 2010 and 21 tonnes in 2011 (compared with 300 kg in 2001); as a result, Turkey ranks third after Spain and France (56 tonnes, 2011) in annual quantities of resin intercepted. Turkey has a large population and is likely to provide a substantial market for both cannabis products, but there are no data from which to draw conclusions about the relative size of seizures compared with national demand. However, Turkey may play a role in servicing the resin consumption markets in Europe, including its own market. Averages of multi-kilogram seizures were previously common in Turkey, and although the average size of the cases may have declined somewhat since 2009, it remains above 1 kg, pointing to bulk trafficking of the drug. Cannabis resin seized in Turkey is likely to have been produced in South-West Asia, the Middle East or locally.

Trafficking herbal cannabis

The shift towards domestic production of herbal cannabis has meant that cross-border trafficking has decreased, with the majority of countries now appearing to be relatively self-sufficient. Interceptions have declined in size, and more steeply than resin seizures. Thus, the average weight of herbal cannabis seizures fell from 1.4 to 0.3 kg between 2001 and 2011; and of resin from 2.6 to 1.8 kg. This probably reflects the increase in domestic supply of herbal cannabis and in trafficking of smaller quantities at local or regional level. However, some cross-border trafficking does occur in the following regions.

South/South-East

In recent years, Turkey has emerged as a major seizing country, with a fivefold increase in the amount of herbal cannabis intercepted annually since 2005, reaching a record of 55 tonnes in 2011. In contrast, the trend has remained relatively stable in the EU over the same period. Turkey now reports the largest amounts of herbal cannabis seized in Europe (twice as much as the United Kingdom, the second largest seizing country). As with resin, averages of multi-kilogram herbal seizures were previously common in Turkey but the size of the cases has declined since 2009 and is now just over 1 kg (2011 average). This remains large compared with other countries and points to bulk trafficking, probably of herbal material of domestic origin.

Greece appears to be also a major transit country for herbal cannabis, with average seizures around 1 kg, and annual interceptions representing about 70 % of the estimated national consumption—an exceptionally high proportion. This points to intense cross-border trafficking with neighbouring countries, with some of the herb likely to be of Albanian origin (Europol, 2011a).

South-West

Since 2009, Italy has been the third largest seizing country in Europe (11 tonnes in 2011) after Turkey and the United Kingdom. As with resin, herbal cases are very large, on average around 2.5 kg, but the total amount seized is estimated to represent only 5 % of the local market. This may indicate importation of herbal material (for instance from the Balkan region) or domestic production.

Seizures in Portugal at the start of the new century suggest trafficking at middle and wholesale levels, and possibly importation, most likely from Africa, but there is less evidence of this in recent data. The average size of seizures has declined from around 2 kg between 2001 and 2003 to 100–200 g in recent years, and the annual quantity seized has also declined, except in 2009, when an exceptional amount of 5 tonnes of herb was seized (mainly due to two maritime seizures).

North-West

Data point to Belgium and the Netherlands being a trafficking hub for both cannabis products. The amounts of herbal cannabis intercepted would be equivalent to about 15 % of the estimated national market in the former and 9 % in the latter, which is not a negligible proportion compared with other countries; Belgian seizures are generally of medium size (250 g on average). A blurring of the boundaries between Belgium and the Netherlands has been suggested with respect to domestic cannabis production and the supply of herbal products for both domestic and export markets (EMCDDA, 2012b).

The United Kingdom and Germany are estimated to be the largest European markets for herbal cannabis in the EU. The relatively small average size of seizures (100–200 g) in both countries is likely to reflect the large proportion of seizures made at user level ([43]), but also may point to a combination of importation operations from other producing countries (e.g. the Netherlands) and a lower level trafficking of domestically produced material. The amounts of herb intercepted would be equivalent to 8 % of national demand in the United Kingdom and 2 % in Germany.

([43]) The large proportion of seizures made at user level in the United Kingdom may be, at least partially, attributed to the increasing use of police warnings for cannabis possession (Mulchandani et al., 2010).

Trends in organised crime involvement with cannabis in Europe

Cannabis production and trafficking has become increasingly attractive to organised crime in recent years, with various groups trying to capitalise on the largest drug market in Europe.

OCGs operate both large-scale plantations and, a more recent trend, a large range of small facilities in several countries, in an attempt to mitigate risk. Vulnerable people, such as the elderly, are often lured into becoming growers with the promise of high revenues, but end up being exploited.

OCGs need access to equipment and chemicals to set up profitable cannabis plantations. Several investigations have revealed that legal companies knowingly supply growing equipment to organised crime. The misuse of premises is also an important feature of cannabis cultivation: property rental agents and holiday parks often facilitate this activity, either knowingly or unknowingly, and false documents are used to fraudulently obtain mortgages to purchase premises. Criminals increasingly resort to publicly available communications technology to monitor crops.

Owing to their high levels of expertise, Dutch OCGs are important facilitators in the production of cannabis in the EU. They have extended their activities to neighbouring countries such as Belgium and Germany, possibly to benefit from lower running costs and because of increased pressure from Dutch law enforcement. They are also present in regions linked more with cannabis resin sourced in Morocco, particularly Spain, France, Italy and Portugal. Investigations show increased cooperation with OCGs from these countries for setting up plantations, often with Dutch nationals in management positions.

Some Dutch criminals have evolved from plantation administrator and small-scale trafficker to the more lucrative role of broker. They use existing trafficking networks to distribute cannabis from independent growers. They have also expanded their activities into cannabis resin trafficking, and production and distribution of synthetic drugs.

In recent years, Vietnamese OCGs have become prominent in the indoor cultivation of cannabis in many EU countries, particularly Belgium, the Czech Republic, Germany, Ireland, France, Hungary, the Netherlands, Poland, Slovakia and the United Kingdom. Closed and hierarchical in structure, these groups have expanded to incorporate specialist roles for electricians, plumbers and managers of cultivation facilities. Gardeners tending the plants are often illegal migrants working to pay off their passage. Investigations have shown that Vietnamese criminals in several countries may be connected, while similarities in equipment and growing and distribution methods suggest the existence of a criminal franchise system. Chinese nationals have also been reported to grow cannabis commercially in countries including Ireland and the United Kingdom.

OCGs in the Western Balkans, in particular Albanian-speaking groups, play a significant role in supplying cannabis to the EU market. Cannabis grown in Albania and the Kosovo region is trafficked for the most part overland to Greece or by sea to Italy, but also via Slovenia and Hungary.

Moroccan OCGs control an important part of the cannabis resin trade to the EU. Moroccan and EU criminals including Spanish, Dutch and British groups control the flows through the main entry points, Spain and Portugal, and thence overland to North-West Europe, Germany, Italy and the Nordic countries. Occasionally, EU-based groups have the leading role in the trade. Bulk quantities of cannabis are imported, usually by go-fast boats from Africa to Europe. OCGs use global positioning system (GPS) or radio-controlled devices to recover packages of resin from the water. Recent intelligence shows that, as with other drugs, container shipments are increasingly used.

There has been an increase in cases of importation of cannabis resin by air couriers to the Nordic countries. Spanish and Moroccan OCGs cooperating with Nordic criminals organise shipments from Morocco or Spain. The networks of couriers, including nationals of Morocco, Spain and Central and North European countries, are very well organised. They transport the resin as swallowed pellets—traditionally not a common modus operandi for trafficking of this drug.

Wide-ranging investigations have revealed that some Moroccan groups strategically place their members in, or forge alliances with, criminal groups in Belgium, Germany, Spain, France, Italy and the Netherlands. This affords them a position from which to import cannabis resin into the largest markets in Europe. They have invested in businesses to facilitate resin smuggling between Morocco and Europe. Like other drug networks, they have developed a multi-crime approach and may use violent means, including murder, to protect their interests.

Afghanistan has become an important producer of cannabis resin. Some Turkish- or Albanian-speaking OCGs may have an advantage in the trade of Afghan cannabis resin because of their long-standing involvement in trafficking heroin from Afghanistan. Turkish OCGs are already known to be involved in the wholesale secondary distribution of cannabis resin in the EU, and this may also be true of Albanian-speaking OCGs.

Twenty-five arrested in joint counterfeit euro and drug trafficking investigation

On 13 December 2011, Spanish authorities, working with Europol, dismantled a criminal group involved in drug trafficking and distributing counterfeit currency with a face value of more than EUR 2 million in 20 EU countries. A total of 25 people were arrested.

In June 2011, Spanish authorities dismantled the first part of the network when they seized 1 tonne of cannabis and arrested 11 suspects. However, investigations continued, focusing on euro counterfeiting.

The main counterfeiter was the owner of a canned food distribution company, which was used as a cover for the illicit print shop, where EUR 50 notes were printed.

The criminal group also imported counterfeit EUR 20, 50 and 100 notes from criminals in Italy, for further distribution around Europe. Fourteen suspects were arrested and counterfeit banknotes with a face value of EUR 1.5 million were seized together, with materials for producing more counterfeit notes. Machinery and tools to forge Spanish identification documents were also found.

In the secondary distribution of cannabis products, the criminal landscape becomes more diverse, with more involvement of European groups. For example, Polish OCGs supply the markets in some Nordic countries and have links with OMCGs. OMCGs are known to supply both cannabis resin and herb in Northern Europe and they have established their own facilities to grow cannabis.

Responses to cannabis trafficking at European and international level

European policy initiatives

The EU addresses drug issues as a key part of its international cooperation efforts with both neighbouring countries and those further afield. Through this approach, the EU and its Member States engage with countries where the cultivation and trafficking of cannabis occur in a way that reflects the shared responsibility the EU has in this area and a balanced approach to drug problems. Consequently, different policy instruments support and implement aspects of the EU Drugs Strategy (2005–2012) and its action plans.

Several actions in the EU Drugs Action Plan (2009–2012) focus on activities that have an impact on the cultivation and trafficking of cannabis internationally. Action 62 aims at encouraging the use of the ENPI to implement measures on drug issues in the ENP action plans (see Chapter 1). As part of bilateral talks with Morocco, a major source country for cannabis resin, work was initiated on planning a rural development programme to reduce cannabis cultivation (EC, 2010a).

A common approach to addressing the production of cannabis can be found among the Member States at EU level; however, there are still important national differences in how countries handle legal issues linked to cannabis. For example, the specific threshold quantities that have been set for possession of certain amounts of cannabis and the associated penalties vary among Member States (see also Chapter 2). The differences between selected countries, in this respect, are shown in Figure 14.

Moving to a new phase in the development of Dutch coffee shops

The Netherlands is the only country in Europe with a nationwide system for regulated supply of cannabis, which is distributed in 'coffee shops' licensed by municipal authorities. Technically, the sale of small amounts of cannabis in these shops is an offence, but it is tolerated provided the operator adheres to a set of criteria issued by the prosecutor general:

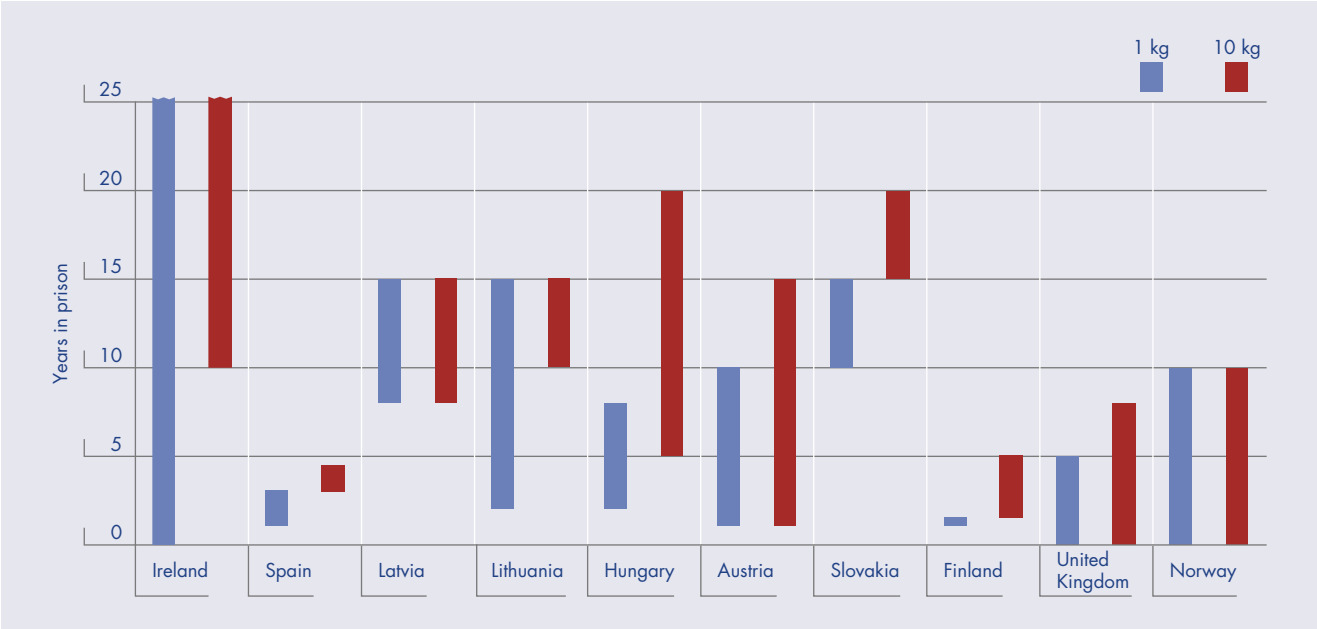
- No more than 5 g per person may be sold in any one transaction, and the coffee shop is not allowed to keep more than 500 g of cannabis in stock ([1]).
- No hard drugs may be sold.
- Drugs may not be advertised.
- The coffee shop must not cause any nuisance.
- Alcoholic beverages may not be sold.
- No drugs may be sold to minors (under the age of 18), nor may minors be admitted to the premises.

Two new criteria were introduced in the three southern Dutch provinces in May 2012, to be implemented across the Netherlands from January 2013. Coffee shops will become closed clubs and allowed no more than 2 000 registered members, who must be Dutch residents ([2]). And from January 2014 the minimum distance from schools will be 350 metres. The mayor may order a coffee shop to be closed if these criteria are disregarded (Article 13a of the Opium Act). The ultimate result may also be the prosecution of the offender, who may be the owner of the coffee shop, the client or both.

([1]) The supply of cannabis to coffee shops is illegal and subject to law enforcement; this issue is frequently referred to as the 'back-door' issue.

([2]) The policy was modified by the Coalition Agreement of the new Government in late 2012, with registration no longer required.

Figure 14: Prescribed penalty ranges for supplying cannabis in some European countries



Note: This graph is based on estimates, with some penalty ranges calculated using an assumed potency or street price. In some cases, the quantities chosen span two different penalty ranges in a country. The penalty ranges do not take into account all aggravating or mitigating circumstances or judicial discretion, and they are nominal sentences. They are those to be awarded by the judge according to the legal framework; regardless of the actual sentences awarded and executed. In Ireland, the prescribed penalty range extends to life imprisonment.

Source: EMCDDA/Legal Correspondents Network.

Operational initiatives

Europol plays an important role in countering cannabis production and trafficking internationally. It provides support for the OAPs concerned with the Western Balkans and container shipments that translate into action the EU crime priorities B and E of the EU policy cycle 2011–2013 (see Chapter 1).

A dedicated focal point on cannabis has been created within the AWF on serious and organised crime. This assists in revealing links between different cases, and may result in the identification of new criminal targets. The data collected are used to enhance information exchange between law enforcement agencies responding to cannabis production, covering the equipment used and wholesale trafficking of the drug.

Project Cannabis includes the Europol Cannabis Cultivation site Comparison System (ECCCS) and the Europol Logo System on Cannabis (ELSC). The ECCCS gathers detailed photographic and technical information on cannabis production sites, enabling the identification of matches between seized equipment and materials. The ELSC collates modus operandi, photographic and basic forensic information on significant seizures or seized equipment. This is used to initiate information exchange, further investigations and forensic profiling for the targeting of criminal networks.

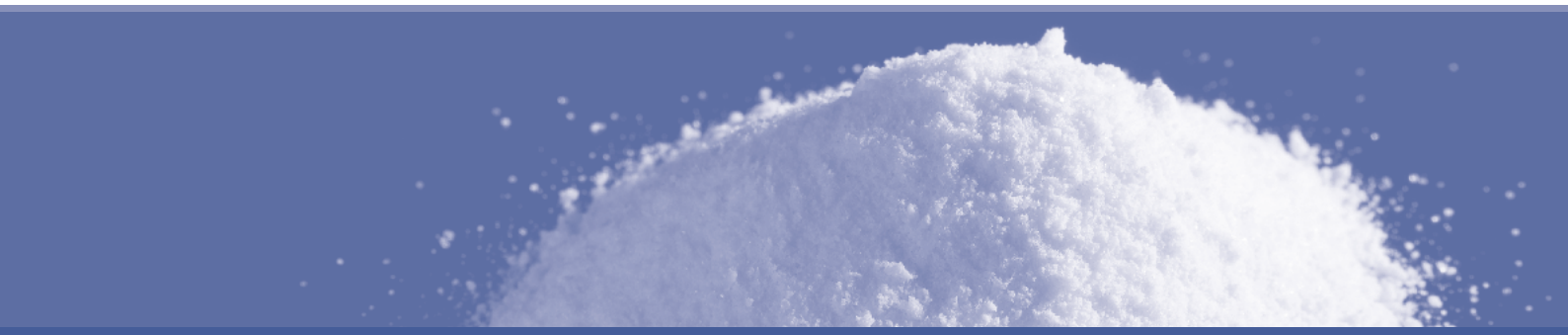
Following the establishment of Project Cannabis in March 2010, the European Expert Group on Cannabis (EEGC) was formed to provide additional input. The creation of the Expert Group supports Action 44 of the EU Drugs Action Plan (2009–2012). Europol works closely with this group, which is a multidisciplinary joint unit consisting of law enforcement experts from different EU countries.

International initiatives

The CCP, a joint initiative between the UNODC and WCO (see Chapter 1), has yielded promising results in intercepting cannabis shipments. In the year ending December 2011, three exceptional cases involving three containers resulted in the seizure of 13.4 tonnes of cannabis (UNODC and WCO, 2012).

For conclusions and recommendations relating to the cannabis market, please refer to pages 133–134 in Chapter 10.

AMPHETAMINE



Chapter 5 | Amphetamine

Introduction

Amphetamine was first synthesised in Germany in 1887 by a Romanian chemist (Edeleano, 1887). It is a synthetic stimulant of the central nervous system, closely related to methamphetamine. Although amphetamine has occasional therapeutic uses, most is manufactured in clandestine facilities in Europe. The most common amphetamine salt is the sulphate—a white or off-white powder soluble in water. Illicit products mostly consist of powders. Amphetamine may be ingested, snorted or, less commonly, injected. Unlike the hydrochloride salt of methamphetamine, amphetamine sulphate is insufficiently volatile to be smoked.

Although, worldwide, methamphetamine is probably the most widely used synthetic stimulant, in Europe it is amphetamine, mostly as sulphate salt, that has historically been the most heavily produced, trafficked and used synthetic stimulant. Amphetamine, therefore, may be viewed as a 'European drug'.

For a considerable time amphetamine was the most commonly available stimulant drug in Europe. This situation changed when 3,4-methylenedioxy-methamphetamine (MDMA) use became widespread in the 1990s, and significant volumes of cocaine entered the European market in the 2000s. Nevertheless, in most European countries amphetamine use remains an important element in patterns of stimulant use found today, including problem use. In contrast to the global picture, methamphetamine is far less commonly seen in Europe, although it may be important in some countries (see Chapter 6).

Overall, amphetamine has stabilised as the second most widely used stimulant drug in Europe today after cocaine. But in many countries, especially in the North and East of Europe, it is the most consumed stimulant, far ahead of cocaine, and the second most widely used drug after cannabis. Importantly, the European amphetamine market (2 million Europeans are estimated to have used the drug in the last year) represents highly profitable 'business opportunities' for criminal actors. Although some amphetamine is produced in 'kitchen-type' laboratories, it is likely that the vast majority is manufactured in middling to large facilities by OCGs, some of which are able to operate throughout Europe. In addition, amphetamine is also produced in South-East Europe for export to the Middle East, where it is sold under the name 'captagon'.

Global overview

Since the 1990s, an increasing number of countries around the world have reported amphetamine manufacture (UNODC, 2011h). Lack of data on production and consumption means that estimating the amounts available for consumption is a challenge. The number of past year users of amphetamines worldwide ([44]) was estimated at between 14 and 56 million in 2009 (UNODC, 2011a), and potential global manufacture at between 160 and 600 tonnes in 2008 (UNODC, 2010a). One-third of this potentially manufactured amount could be amphetamine.

Amphetamine still seems to be produced mainly in Europe. Large-scale production is found principally in the North-Western parts of the continent, whereas small- to middle-scale production predominates in Central and Eastern Europe (Europol, 2007b; EMCDDA–Europol, 2011) ([45]). In 2009, all of the amphetamine production facilities dismantled worldwide and reported to the UNODC (2011a) were in Western and Central Europe (UNODC, 2011a), although, more recently, laboratories have also been dismantled elsewhere in the world.

([44]) When this report refers to amphetamines in the plural, this includes amphetamine, methamphetamine and related substances such as fenethylline, methylphenidate, cathinone, etc., but not ecstasy or its relatives. The two groups together—amphetamines and the ecstasy family—are sometimes referred to as amphetamine-type stimulants (ATS).

([45]) Methamphetamine predominates in the Czech Republic and, to some extent, in neighbouring countries, although recent reports note its possible spread outside this traditional area of production and consumption and towards countries with shores on the Baltic Sea (see Chapter 6).

Table 4: Amphetamine in Europe at a glance

			Age group (years)	Estimated number of users (million)	% of European population (range between countries)
Consumption [1]		Lifetime	15–64	13	3.8 (0.1–11.6)
			15–34	7	5.5 (0.1–12.9)
		Last year	15–64	2	0.6 (0.0–1.1)
			15–34	1.5	1.2 (0.0–2.5)
				Number (% of all drug admissions)	
Drug treatment (2010) [2]		All admissions		23 163 (6 %)	
		First admissions		9 199 (6 %)	
				Number (% of all drug offences)	
Drug offences (2011)		All drug offences		74 026 (6 %)	
		Offences involving use or possession		54 144 (5 %)	
		Offences of drug supply		15 653 (8 %)	
Seizures [3] (2011)	Quantities (tonnes)	EU (including Croatia, Norway and Turkey)		5.7 (6.1)	
	Number	EU (including Croatia, Norway and Turkey)		34 000 (37 300)	
Mean retail price (2011) (EUR per gram)		Range (IQR) [4]		8–28 (8.6–20.7)	
Mean purity (2011) (%)		Range (IQR) [4]		5–30 (9.5–22.3)	

Notes

(1) European estimates are computed from national estimates weighted by the population of the relevant age group in each country. They are based on surveys conducted between 2004 and 2010/11 (mainly 2007–2010) and therefore do not refer to a single year.

(2) Information is available on about 470 000 drug users entering specialist treatment in Europe (EU, Norway, Croatia, Turkey). Data include methamphetamine treatment admissions. Units coverage may vary between countries.

(3) The 2011 figures should be considered as estimates; where 2011 data were not available (United Kingdom), 2010 data were used in their place. Amphetamine tablets are included, assuming a weight of 250 mg per tablet.

(4) IQR: interquartile range, or range of the middle half of the reported data.

Sources: EMCDDA/Reitox national focal points, EMCDDA (2012a).

During the last 30 years, consumption of amphetamine tablets with a 'captagon' logo ([46]), a counterfeit pharmaceutical product, has spread from South-East Europe to the Middle East, especially the Arabian Peninsula, where the drug has been popular since the beginning of the 1980s (UNODC, 2009a). Captagon was originally the registered trademark of a medicinal product. The limited forensic data available show that seized captagon tablets contain mainly amphetamine sulphate and caffeine (Interpol, 2009). Captagon seizures in the Middle East, which dominate global amphetamine seizures, amount to 24.7 tonnes (75 % of global seizures) in 2009 (UNODC, 2011h). However, comparatively little information is available on the organisation of illicit production of captagon and the precursor chemicals used.

Globally, amphetamine seizures increased 10-fold from 2000 (3.1 tonnes) to 2009 (33 tonnes), but fell sharply to 19 tonnes in 2010. The proportion of total amphetamine-type stimulants (ATS) seized accounted for by amphetamine also decreased in 2010, and for the first time since 2006 more methamphetamine than amphetamine was seized worldwide. These decreases are largely attributable to large drops in seizures reported by a few countries in the Near and Middle East and South-West Asia. This region accounted for almost three-quarters of total amphetamine seized worldwide in 2009, with the remainder, 27 %, seized in Europe, mostly Western Europe (UNODC, 2006b, 2012a).

The chemical 1-phenyl-2-propanone (P2P; also known as benzyl methyl ketone (BMK)) is a precursor predominantly

([46]) The composition of captagon tablets remains unclear; however, laboratory analyses indicate that it no longer contains fenethylline (as opposed to the legitimately marketed captagon tablets that initially shaped the ATS market in the region), but rather amphetamine in combination with caffeine and other substances (UNODC, 2008c).

used to manufacture amphetamine in Europe, but which may also be used to make methamphetamine. International trade in BMK is relatively small and restricted to a few countries. Thus, between 2005 and 2010, a total of 128 transactions between 10 exporting and 26 importing countries involving 98 000 litres of BMK were notified to the INCB (INCB, 2012a).

Global seizures of illicit BMK shipments increased from 4 900 litres in 2009 to 26 000 litres in 2010, the largest total since 2004. As a result of a large haul of 5 000 litres of BMK in Belgium, seizures of BMK in Europe doubled in 2010 compared with 2009 and 2008. However, it seems that in 2011 and the first half of 2012, no significant BMK seizures were reported in Europe. In 2010, three countries, Mexico, Canada and Belgium, confiscated 95 % of the BMK seized worldwide (INCB, 2012a).

Global seizures of phenylacetic acid, a precursor of BMK (see below), also reached record levels in 2010, with a total of about 183.5 tonnes confiscated, almost four times the previous record in 2005. The three countries seizing the most phenylacetic acid in 2010 were the United States, Mexico and China. Phenylacetic acid seizures in Europe in 2010 totalled 2 kg (INCB, 2012a).

Production and precursor issues

The production of amphetamine sulphate is a multistep chemical process involving a precursor chemical and a range of reagents and solvents. The main amphetamine precursor is BMK. In theory, 1 litre of BMK yields about 1.4 kg of amphetamine sulphate, but actual yields in clandestine facilities have tended to be well under 1 kg. Several methods can be used to manufacture amphetamine, but the most common in Europe is the so-called 'Leuckart' synthesis using BMK. Despite its low yield, this is arguably the easiest method (Europol, 2010).

The illicit facilities synthesising amphetamine dismantled in Europe vary in size from small 'kitchen' laboratories to extensive 'online' production facilities. A range of equipment is needed for production, and in the case of large-scale production, mostly occurring in the Netherlands and Belgium, it is increasingly common to find 'custom-made' and industrial equipment, such as stainless-steel reaction vessels, permitting much higher production levels. In Poland, the capacity of clandestine amphetamine manufacturing facilities is also reported to have increased in recent years (Krawczyk et al., 2009).

Threats and risks posed by illicit amphetamine laboratories

Clandestine amphetamine laboratories may pose significant risk of fire, explosion and toxic fumes to those operating them and those nearby, and to law enforcement personnel when they enter them. There are also environmental threats linked to the chemical waste products generated during the production process, which have been estimated to range between 18 and 24 kg of chemical waste per 1 kg of amphetamine manufactured (ACMD, 2005; NDLERF, 2005).

Dumping site for waste products resulting from illicit amphetamine production found in Geldermalsen, the Netherlands, May 2012

Source: Dutch National Police—LFO via Europol.

BMK trafficking issues

The illicit production of key amphetamine precursors was rare in Europe until 2010. But supply problems due to increasingly effective international control measures seem to have led to the illicit manufacture of precursors within Europe using so-called 'pre-precursors' such as phenylacetic acid ([47]), benzaldehyde or α-phenylacetoacetonitrile (APAAN, also known as 2-phenylacetoacetonitrile), most of which are not placed under international control. As a result, Europol suggests that at present the majority of the BMK used by criminal groups is self-produced in Europe. Fairly large quantities of APAAN, a non-controlled chemical, have been seized in Belgium, Poland and the Netherlands. These countries are also the first to report dismantling of BMK

([47]) The INCB (2012a) reports that a range of non-scheduled derivatives and esters of phenylacetic acid, such as ethyl phenylacetate, are also used as BMK 'pre-precurors' by criminal actors. However, the evidence available suggests that this is essentially the case for the manufacture of methamphetamine in Mexico and Central America.

laboratories (which convert APAAN into BMK). In all cases, the pre-precursors were shipped from China. Significant seizures of APAAN include 1 tonne seized in Belgium in 2010, 700 kg in Poland in April 2011 and 1.1 tonnes in the Netherlands in June 2012.

Despite production of BMK in Europe from 'pre-precursors', BMK continues to be smuggled into Europe, notably from China but also from non-EU European countries. This is illustrated by recent seizures of 5 000 litres of BMK in Belgium (sourced from China) in 2010 (INCB, 2012a), and 600 litres discovered in Lithuania in August 2011. Available intelligence indicates that the precursors in the last seizure were sourced from an Eastern European country outside the EU.

Although APAAN appears to be the pre-precursor most frequently used in Europe, law enforcement operations have shown that phenylacetic acid may also be used to produce BMK and then amphetamine or methamphetamine in Europe. For instance, in Poland, three clandestine facilities manufacturing BMK from phenylacetic acid for sale to amphetamine manufacturers have been dismantled since the early 2000s (Krawczyk et al., 2009). Recently, the INCB has reported the dismantling of clandestine amphetamine production sites using phenylacetic acid in Germany and Spain in 2010 (INCB, 2011). Owing to concerns over an increase in global seizures since 2006, phenylacetic acid was rescheduled in January 2011 from Table II to Table I of the 1988 United Nations Convention.

Consumer markets for amphetamine in Europe

Distinguishing between amphetamine and methamphetamine is difficult both for users and for observers of use. The drugs share the effects of enhancing alertness, suppressing hunger and providing feelings of well-being and euphoria. At present, it is not possible to distinguish between the two drugs in most of the quantitative data on consumption collected at the European level. Given that both drugs may be available but indistinguishable in some markets, this section largely discusses the broader family of amphetamines, including methamphetamine. However, for some countries the distinction is justified. The Czech Republic is historically a country where methamphetamine has dominated the market, and more recently a similar situation is being reported in Slovakia; discussion of these countries will be deferred to the next chapter. Methamphetamine also appears to be prevalent, along with amphetamine, in Finland, Sweden, Norway, Latvia, Estonia and Lithuania (EMCDDA–Europol, 2009, 2011).

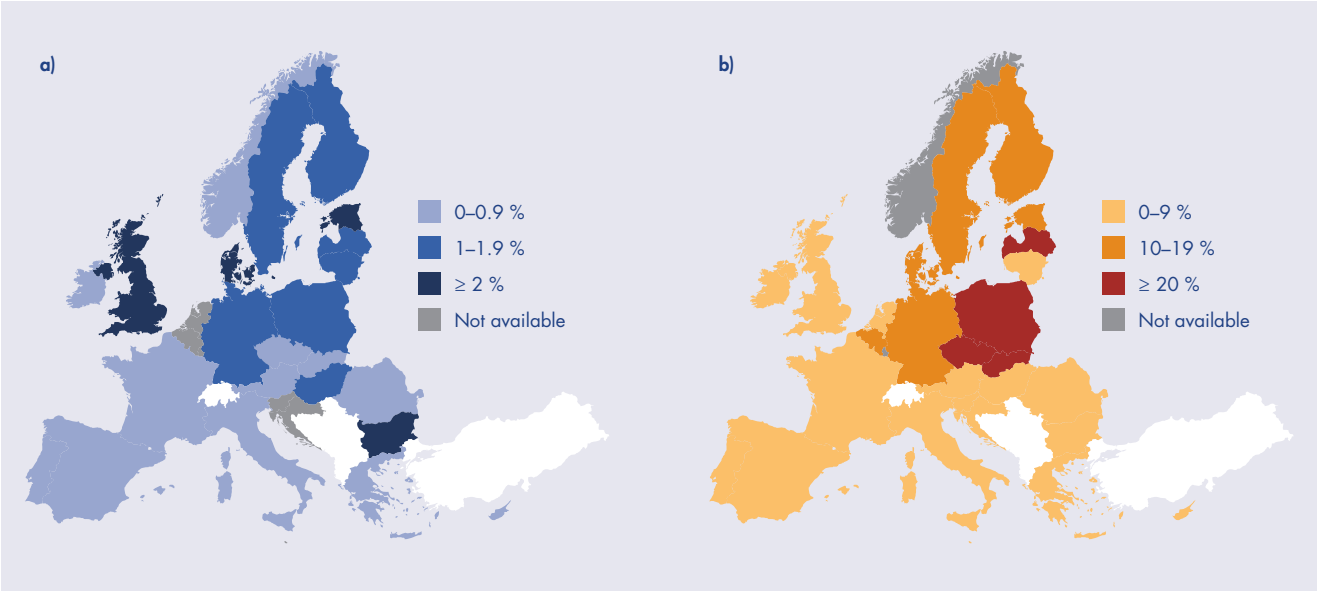
The available data appear to reflect two main types of user: those who may be considered problem users, possibly injecting the drug, and eventually seeking treatment; and casual users, who can be further subdivided into recreational users (e.g. to enhance a night out) and those who use to improve task efficiency.

According to estimates of drug prevalence, about 13 million Europeans aged 15 to 64 (3.8 %) have tried amphetamines in their lifetime. Focusing on the 15–34 years age group, the age group in which drug use is most common, an estimated 1.5 million Europeans (1 %) have used the drug at least once in the past 12 months. Between 2005 and 2010, last year amphetamines use remained relatively low and stable among the 15–34 years age group in most European countries, with prevalence levels of less than 3 % in all reporting countries (see Figure 15a).

Despite prevalence of amphetamines in the young adult population being at a maximum of 2.8 %, treatment data for amphetamines suggest the existence of substantial problem use within a subset of countries. Amongst the countries where prevalence is lowest, Greece, France, Italy and Portugal, there is little evidence of problem use, all reporting very few first-time entrants to treatment with amphetamines as their primary drug (0.2 %). However, in countries where prevalence is higher, there is more variation. Belgium, Denmark, Germany, Estonia, Latvia, Hungary, Poland, Finland and Sweden all report proportions of between 10 % and 25 %. In the Czech Republic and Slovakia, where methamphetamine predominates, figures are reported of almost 70 % and just over 40 % respectively. In addition, Estonia, Czech Republic, Lithuania, Finland, Latvia and Sweden report that between 50 % and 80 % of these clients were injecting the drug, thus increasing the risk of infection (see Figure 15b).

Trends over time in the proportion of new entrants to treatment for amphetamines provide an insight into problem use. Trends amongst the higher prevalence countries differ. Between 2005 and 2010, the proportion of first-time clients in Finland and Sweden citing amphetamines as their primary drug showed a marked decline (from 27.6 % to 12.3 % and from 32.7 % to 19.2 %, respectively), whereas there was a marked increase in Latvia (from 22.6 % to 29.6 %) and rates in Denmark and Germany remained relatively stable (at 10.2–11.5 % and 9.7–12.6 % respectively). Data for Estonia are available only for the period between 2007 and 2010, over which period the proportion more than doubled from 4.5 % to 10.8 %. Some caution should be exercised when interpreting these changes as reflecting changes in the market as they could also incorporate changes in reporting patterns or provision of treatment.

Figure 15: (a) Last year use of amphetamines (b) Clients entering treatment for primary amphetamine use



Note: Data in (a) refer to young adults (aged 15–34 years). Data in (b) refer to clients entering treatment for the first time. The figures show the most recent data available in each country. Owing to high levels of methamphetamine use in the Czech Republic, Latvia, Slovakia, Finland and Sweden, it is likely that percentages represent clients seeking treatment not for amphetamine but for methamphetamine use.

Source: EMCDDA/Reitox national focal points, EMCDDA (2012a).

Trends in amphetamine production and trafficking in Europe

Seizures

Amphetamine produced in the EU is trafficked extensively within Europe, and some is exported abroad, but in quantities that remain difficult to determine.

The number of amphetamine seizures in Europe has been fluctuating for the last decade around an annual average of 36 000. However, this analysis is limited by the fact that two major seizing and producing countries—the Netherlands and Poland—do not report the number of seizures made.

Of the total amounts of amphetamine products seized in Europe (Figure 16), most is in powder form, the remainder being tablets. Quantities of amphetamine powder recovered in Europe doubled between 2001 and 2007, when they stabilised around 8 tonnes per year, but then sharply decreased in 2010 to 5 tonnes, due to a major decline in amounts intercepted in the Netherlands, the United Kingdom and Turkey. The number of amphetamine tablets intercepted, mainly in Turkey, increased from 1.1 million seized in 2001 to an all-time record of over 20 million in 2006; it then declined to 1.4 million in 2010 and 1.3 in 2011—almost the level reported 10 years ago. While this last development could be linked to the displacement of amphetamine production out of Southern Europe, the general decline in seizures of amphetamine powder is more difficult to explain and may result from a combination of factors (e.g. changes in traffickers' modus operandi, in intelligence accessed by law enforcement, or in their targeting).

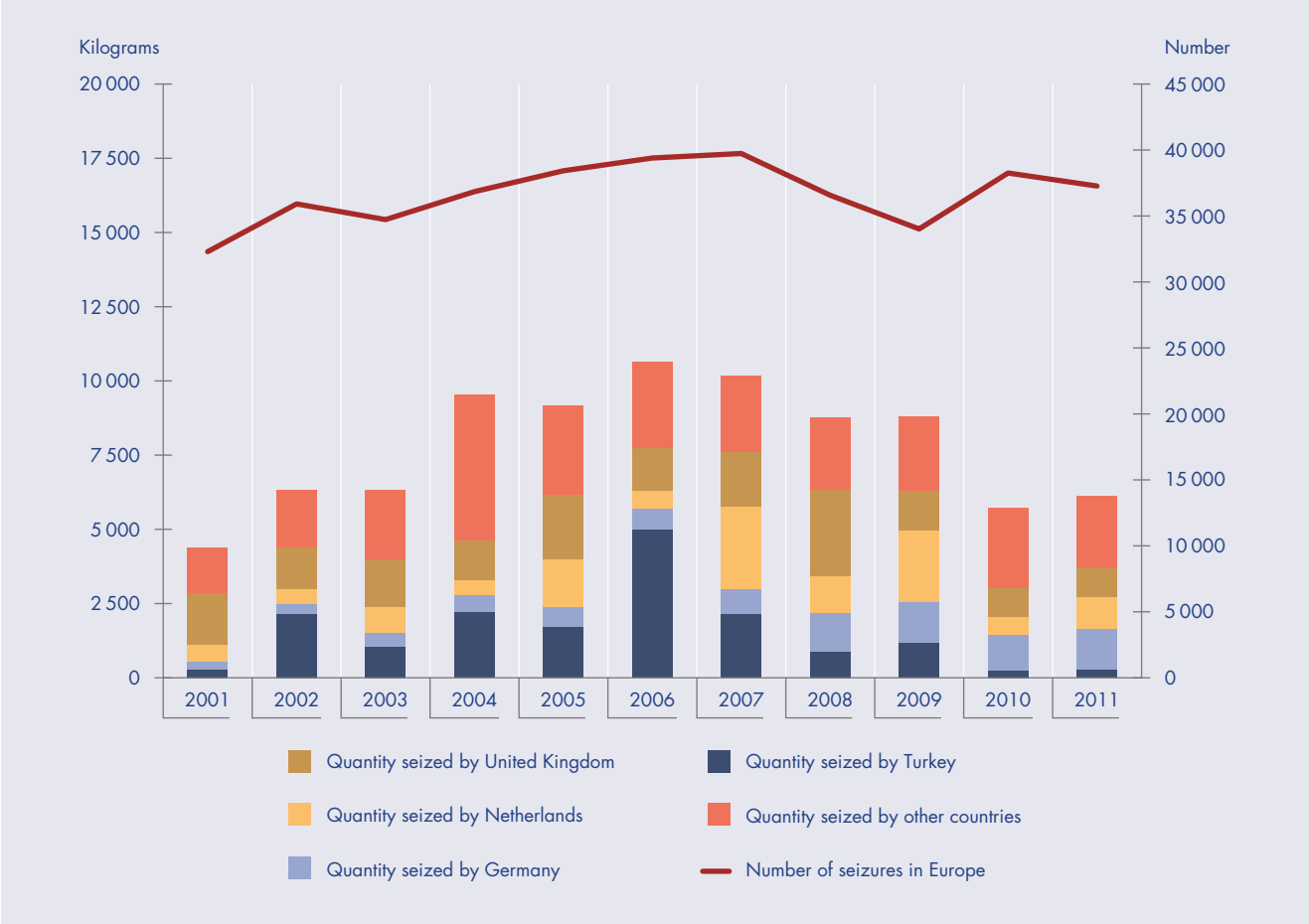
Trafficking areas

Amphetamine seizures and production sites dismantled over the last five years (Figure 17) suggest that amphetamine production and trafficking in Europe can be broadly thought of as concentrated in four geographical areas.

The 'North-West area'

European and international sources indicate that the North-West area is the main source of the amphetamine consumed in most West European countries, including Belgium, Germany, Spain, the Netherlands and the United

Figure 16: Seizures of amphetamine in Europe, 2001–2011



Note: All 30 European countries are included, except the Netherlands and Poland where *Number of seizures* data are not available. In the absence of 2011 data for the United Kingdom, 2010 data were used for 2011. The total amounts represent the sum of the quantities of amphetamine seized under different forms, including powder, tablet (one tablet is assumed to weigh 250 mg), liquid (1 litre is assumed to weigh 1 kg) and paste.
Sources: EMCDDA/Reitox national focal points, EMCDDA (2012a).

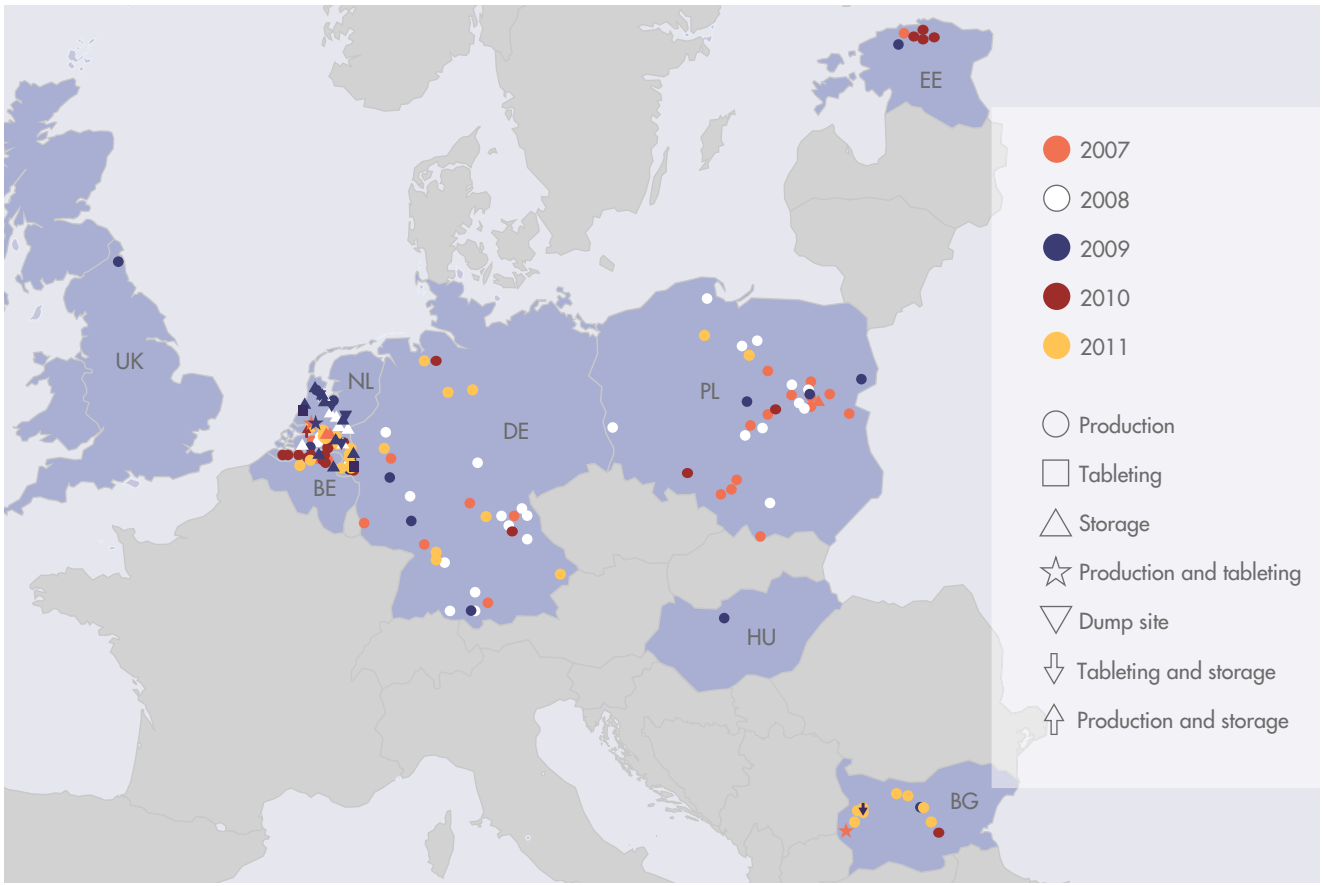
Kingdom ([48]), which have large to middling consumer amphetamine markets. Amphetamine from the North-West hub is also exported to Denmark, Sweden and Norway, and is reported to be found in Central and Southern European markets such as in Greece, Italy, Hungary, Austria and Croatia.

Amphetamine synthesis and tableting facilities in the North-West area would seem to be concentrated in the Netherlands and, to a lesser extent, Belgium. Most of the large amphetamine production sites seized in the region featured sophisticated equipment. The facilities and equipment used to manufacture amphetamine in Belgium and the Netherlands are also often used to produce MDMA (ecstasy). High production capacity appears to be a characteristic feature of the North-West hub as the facilities dismantled elsewhere in Europe have tended to be smaller.

The North-West area is also where the largest quantities of amphetamine are confiscated, and is among the largest for number of seizures. It is probably also the region of Europe where the largest quantities of amphetamine are consumed; at least, it includes what is probably Europe's largest national consumer market for the drug, the United Kingdom (UNODC, 2008c). The largest amounts of amphetamine powder in Europe are recovered in the

([48]) Several large seizures of amphetamine were made in France in recent years, but Europol information indicates that most of these large shipments were in fact intended for the United Kingdom market and, to a lesser extent, the Spanish market.

Figure 17: Dismantled amphetamine production, storage and tableting sites, as reported to Europol, 2007–2011



Source: Europol.

Netherlands, where a total of 4 tonnes was seized in the 2009–2011 period, followed closely by Germany with just under 4 tonnes.

With an average seizure size of around 0.5 kg (over 2006–2008), France, where amphetamine production has not been detected and where prevalence of use is low, appears to be a transit country for amphetamine destined for larger consumer markets such as Spain and the United Kingdom. France would seem to make the largest seizures, on average, of amphetamine in Western Europe ([49]). The lower average seizure size in the United Kingdom (200 g over 2008–2010) is likely to reflect a mixture of street-level deals and mid-level to wholesale trafficking. In Belgium, where amphetamine manufacture also occurs, but where total quantities intercepted over 2009–2011 are comparatively small (about 0.5 tonnes) ([50]), the average seizure size is low, under 100 g.

The consumer market for amphetamine in the Nordic countries is a significant one, since it accounts for most of the problem drug use in Europe. However, since population sizes are small, it is probably more limited than other markets. It is partly supplied by amphetamine produced in the North-West area and partly by that produced in the North-East area (discussed below). Trafficking in amphetamine is likely to be intense, with seizures in Sweden totalling 0.9 tonnes over 2009–2011 and in Norway 0.4 tonnes. The relatively low average size of cases in these two countries (60 g and 50 g respectively) would suggest that the quantities smuggled are relatively small compared with other consumer markets such as the United Kingdom, or, alternatively, that law enforcement targets the lower segments of the supply chain. In comparison, seizures in Denmark (totalling 0.6 tonnes over 2009–2011) are of slightly larger size (around 120 g in average), pointing to its possible role as a transit country

([49]) It is possible that the situation has changed since 2008 when France reported its latest available data on number of seizures.
([50]) This compares with nearly 1.5 tonnes of amphetamine seized in France over 2009–2011 and over 5 tonnes in the United Kingdom over 2008–2010.

for amphetamine originating elsewhere in mainland Europe.

The North-West area's links to Spain have traditionally involved the supply of tablets, large numbers of which are seized every year, with record numbers of over 300 000 in 2006 and 2010, close to 100 000 in 2009 and just under 200 000 in 2011. Although comparatively small, indicating interceptions close to the consumer market, the average size of seizures in Spain (usually under 100 g) has generally increased over the last 10 years (from 5 g on average in 2001 to 100 g in 2011).

The 'North-East area'

Significant production and trafficking of amphetamines occurs in the North-East area, especially in Poland and, apparently to a lesser extent, in Lithuania and Estonia, while recent intelligence indicates a possible renewal of amphetamine production in Latvia. Sporadic, limited production has also been detected in the past in Finland and Sweden (UNODC, 2008c). It would appear that the quantities produced in the North-East hub are smaller than in the North-West area, but larger than in Central Europe.

Poland seems to be the North-East area country where the largest quantities of amphetamine are manufactured. About 150 amphetamine production facilities were dismantled in Poland between 1995 and 2009. The general pattern for some years in the North-East area has been that amphetamine, and increasingly methamphetamine (see Chapter 6), is produced for local consumption, which is increasing, and for export to Finland, Sweden and Norway, and possibly Denmark, Germany and Hungary. Some trafficking networks seem to link specific producer countries to specific consumer countries. For instance, amphetamine produced in Poland seems to be exported mostly to Sweden, whereas the primary export market for the amphetamine manufactured in Estonia appears to be Finland.

It should be noted that in Estonia, and to a greater extent Lithuania, though not in Poland, the production of methamphetamine now seems higher than that of amphetamine (UNODC, 2008c; EMCDDA, 2009a; Krawczyk et al., 2009; Nilsson and Kegö, 2009; Pullat, 2009; Finland: Reitox, 2009).

Poland is also the country in the North-East area reporting the largest quantities of amphetamine powder intercepted, which totalled 1.4 tonnes over 2009–2011. At a much lower level, with around 150 kg seized over the three-year period, quantities recovered in Estonia have always been much larger than in the other two Baltic States, and the size of seizures there would seem also to be larger on average (170 g over 2009–2011), pointing to the important role of the country both as a producer of amphetamine and as a transit area for amphetamine destined for Finland.

Production and trafficking in Central Europe

Production and trafficking of synthetic stimulants also takes place in Central Europe, albeit on a smaller scale. Judging from data on seizures of clandestine facilities, production in Central Europe is centred on Germany, especially southern Germany, although facilities are occasionally found elsewhere, for instance in Hungary in 2009. Illicit amphetamine and methamphetamine production is a fairly long-standing phenomenon in Germany, dating back to the 1970s at least. A total of eight illicit amphetamine production facilities were seized in the country in 2009 and 2010 (BKA, 2009, 2010). Most of the amphetamine (and methamphetamine) facilities dismantled in Germany seem to be 'kitchen-type' laboratories. The main reason for this fairly limited amphetamine production is probably that the German consumer market is largely supplied with amphetamine manufactured elsewhere, first and foremost the Netherlands. Germany is also likely to be a transit territory for amphetamine produced in the North-West and the North-East areas and smuggled to Nordic countries (Nilsson and Kegö, 2009).

Germany is intercepting increasingly large amounts of amphetamine powder every year, ranking just after the Netherlands in the last three years. The comparatively high average size of amphetamine seizures (160 g over 2009–2011) probably reflects both the intensity of trafficking activities in the country (Germany is simultaneously an amphetamine producer, transit and importer country) and the extent of the domestic amphetamine consumer market, which is characterised by medium to high levels of use in young adults. However, since 2001, the average size of amphetamine seizures has been generally on the increase, pointing to a possible refocusing of drug law enforcement activities towards amphetamine and increased targeting of higher segments in the supply chain. This is likely to be supported by the increase in the quantities intercepted in Germany over the 10-year period, making it the largest seizing country in Europe in 2010 and 2011.

Although neither Hungary nor Austria ranks among Europe's 10 largest amphetamine-seizing countries, relatively high cumulative totals of amphetamine—168 kg and 81 400 tablets in Hungary and 99 kg in Austria—seized in the 2009–2011 period suggest that both countries are fairly significant players in Central Europe. Slovenia is also thought to produce principally amphetamine, although

Amphetamine purity

Amphetamine seems to be the illicit drug whose purity shows the highest variation. Analyses of samples across Europe—most of which are from seizures at different levels of the market—reveal extreme values between 0 % and 100 %, making purity very unpredictable. Samples of very high purity, over 95 %, were found in a number of countries in 2011, in particular those with higher levels of consumption—Sweden, the United Kingdom and Norway. Although mean purity varies across countries between 5 % and 30 %, the highest purity (20–30%) is found in countries where production is documented (Belgium, Latvia, Lithuania and the Netherlands) or where consumption is relatively high (Finland, Sweden and Norway).

amounts seized are much smaller (7 kg and 8 400 tablets in 2009–2011). Both Interpol (2009) and the INCB (2011) have reported dismantling of amphetamine production facilities in Slovenia in recent years.

Captagon in the 'South-East area'

Bulgaria and, to a lesser extent, Turkey are believed to be significant producers of 'captagon', although it is likely that captagon manufacture also occurs elsewhere but goes undetected. Between 2001 and 2007 Bulgaria seized 18, many large-scale, amphetamine production facilities associated with the manufacture of captagon tablets (UNODC, 2008c). In 2008, it was reported that some amphetamine production had been moved out of Bulgaria, although exports from Bulgaria to the Middle East continued. A further eight amphetamine manufacturing sites were dismantled in Bulgaria between 2009 and 2011 (Bulgaria: Reitox, 2008, 2010, 2011).

Following the dismantling of 12 captagon production facilities in 2006, Turkey may now be primarily a transit country for captagon manufactured in East European countries, Syria and Armenia, and bound mainly for the Arabian Peninsula (Turkey: Reitox, 2011). However, captagon facilities have been detected in Turkey since 2006. For instance, 473 kg of amphetamine was seized at a captagon manufacturing facility in September 2009 (KCM, 2009). Clandestine laboratories have also been seized in non-EU Balkan countries (INCB, 2011).

Trafficking in amphetamine has long been an important drug supply issue in South-East Europe, with Turkey and Bulgaria seizing considerable amounts of the drug. Of the 1.3 million amphetamine tablets intercepted in Europe in 2011, more than three-quarters were seized in Turkey (1.1 million captagon tablets). Turkey has long been the principal country seizing amphetamine tablets in Europe, with several million captagon tablets intercepted every year since 2002, and a record 20 million in 2006. It should be noted that captagon tablets are mostly not intended for consumption in the EU. The sharp reduction, compared with previous years, in the numbers recovered in Turkey since 2008 would support the thesis that the manufacture of captagon tablets has been relocated outside South-Eastern Europe. A similar reduction, although less steep and going back further in time, can also be seen in quantities intercepted in Bulgaria, which have decreased from an all-time peak of 1.4 tonnes in 2005 to around 0.2 tonnes recovered annually since 2008; there is, however, insufficient evidence to offer any valid explanation of this trend.

The seizures made in Turkey and Bulgaria have always stood out among EMCDDA reporting countries by virtue of their extremely large size, of the order of kilograms—averaging 17 kg and 5 kg, respectively, in the period 2009–2011. This suggests a strong predominance of wholesale trafficking of amphetamine in these two countries, and probably reflects the fact that South-East Europe has been used as an area of amphetamine production and transit, especially of captagon, with a number of shipments being intercepted during both export and import.

Trends in organised crime involvement with amphetamine and other synthetic drugs in Europe

This section discusses the involvement of organised crime in the production and trafficking not only of amphetamine but also of methamphetamine (discussed in Chapter 6) and ecstasy (Chapter 7). OCGs are involved in a significant proportion of illicit synthetic drugs production and trafficking in Europe. The production of synthetic drugs is lucrative: they can be produced almost anywhere at low cost. The international dimension of organised crime is linked primarily to sourcing precursors and exporting drugs from the EU to other markets, mostly MDMA and amphetamines. EU criminal groups cooperate with Chinese, Russian-speaking, Turkish or Latin American OCGs.

Past examples have proven that OCGs adapt to changes, and are able to respond to the market, producing and distributing several types of synthetic drugs—and finding new precursor solutions. Organised crime involvement in the synthetic drugs market is very collaborative. Dutch, Belgian, British, Lithuanian, Polish and Icelandic OCGs work together to meet market demand. Such alliances enable OCGs to

control the entire flow of illicit drugs, from sourcing the precursors to distribution of the final product. These groups have acquired significant financial power and influence over the illegal market. Violence is sometimes used to secure their position in the trade.

European synthetic drugs production is reliant on the cooperation of specialists in the field of organic synthesis and facilitators for equipment. There are indications that the services of some chemists and facilitators may be shared by multiple OCGs on a transnational basis, thus creating a specialist support service for organised crime. Within the EU, the exploitation of legitimate trade is used to obtain sophisticated glassware, industrial and custom-made equipment such as distillation machines, heating mantles, tableting machines and punches.

Illegal production of synthetic drugs is often characterised by a division of labour. Different members of OCGs may carry out different operations such as precursor and essential chemical acquisition, equipment and material supply, storage, waste dumping and wholesale distribution. Division of tasks combined with increased use of mobile laboratories, conveniently placed in border areas, makes it difficult for law enforcement agencies to identify the criminal hierarchy, thereby enhancing the criminal organisation's security.

Dutch and Belgian OCGs continue to play an important role in the large-scale production of synthetic drugs in the EU. Investigations have shown that prominent criminal groups are involved in the production of several drugs: typically MDMA, amphetamine and, to a lesser extent, methamphetamine. These groups have a historical advantage with regard to logistics, expertise, technology, advanced methodology and production capacity. Their prominent position is unlikely to be significantly challenged at EU level, at least in the short to medium term.

Until recently, there were limited indications of organised crime involvement in methamphetamine trafficking in the EU. Available information indicates that Lithuanian criminal groups play an important role in methamphetamine production in the Baltic countries and trafficking to the Scandinavian market. Although both Scandinavian and Lithuanian groups control methamphetamine trafficking to Nordic countries, it is generally Lithuanian nationals who carry out the actual smuggling, by car. Methamphetamine is usually concealed in custom-made hiding places or in vehicle cavities and trafficked by regular ferry lines from Lithuanian, Latvian or Estonian ports via the Baltic Sea.

In May 2009, the Lithuanian authorities seized a mid-scale methamphetamine production site, together with approximately 100 kg of high-purity methamphetamine. Lithuania-sourced methamphetamine is synthesised from BMK, of which Lithuanian crime groups have been important suppliers to the EU market.

Polish OCGs are also active in the small- to mid-scale production of amphetamine destined for the Scandinavian market. However, intelligence suggests that more sophisticated industrial and custom-made equipment is also used by Polish and Lithuanian OCGs. Investigations have also revealed attempts by Icelandic OCGs to establish large-scale production laboratories.

The role of Bulgarian criminal groups in large-scale amphetamine production and trafficking for the Middle East market has increased. Several large-scale production facilities managed by Bulgarians have been uncovered in recent years, and significant quantities of amphetamine, various equipment and chemicals were found. Production facilities have also been established in the Western Balkans, the Near East and the Caucasus, with EU nationals recruited as managers in some cases.

Synthetic drugs network broken up

An international organised crime network, responsible for the large-scale production and trafficking of synthetic drugs, was broken up in 2012 following an extensive investigation by European law enforcement authorities. The operation resulted in the arrest of the key members of the criminal network, the discovery of three illegal drug production facilities and seizure of drugs and arms.

The investigation began when Swedish authorities identified that large quantities of amphetamine were being trafficked in Sweden. When preliminary investigations confirmed that an international criminal network was involved, a joint initiative with Europol and other EU Member States was launched. As a result, in March 2011, Europol initiated Operation Fire, which involved cooperation with several European law enforcement agencies.

During the operational phase of the investigation, 30 kg of amphetamine was seized in Sweden and three suspects were arrested, as well as two in Germany and one in the Netherlands. In addition, cooperation with Bulgarian authorities led to the arrest of three members of the organised crime network and the dismantling of three illegal synthetic drugs production facilities. The Bulgarian authorities seized approximately 75 litres of amphetamine base (enough to produce around 120 kg of pure amphetamine), 15 kg of amphetamine and 1 400 litres of various chemicals. Equipment was also seized, including two tableting machines, together with five firearms, ammunition and 6.4 kg of trinitrotoluene (TNT, an explosive).

Major synthetic drugs production and trafficking in the EU requires the diversion of precursors and the trafficking of other chemicals and equipment. Involvement of organised crime in the precursors trade follows the legal flow, in terms of the existence of legal manufacturing, availability, regular trade routes and feasibility of initial diversion. Organised crime has an important interest in non-scheduled pre-precursors and other essential chemicals (e.g. BMK and piperonyl methyl ketone (PMK) derivatives or analogous substances). This enables them to avoid legislative constraints and better camouflage their activities. The long-term storage of chemicals in multiple locations is another common tactic, the aim being that, even if some storage facilities are detected, supply is uninterrupted.

Large-scale producers of synthetic drugs in North-West Europe source chemicals from legitimate industry within their own countries or, as a result of enforcement measures, from other countries. To facilitate production, front companies are established to 'legitimise' the acquisition of or trade in chemicals and equipment and thus conceal from the authorities their subsequent diversion for illicit use. For example, Dutch and Belgian OCGs or their partners establish companies for this purpose in other EU countries. Lithuanian and Polish OCGs supply them with precursors in exchange for a proportion of the product. Investigations have revealed that some groups initially investigated for trafficking precursor chemicals are involved in other forms of crime. Available intelligence suggests that initial importation of chemicals is centred on Central and South-Western European countries.

Dutch OCGs have been cooperating with Chinese OCGs in the supply of precursors. Both PMK and BMK, the precursors of MDMA and amphetamine, respectively, have traditionally been sourced predominantly from China. Until 2005, large quantities of BMK were imported into major European ports, but between 2005 and 2009 there were no major seizures of Chinese-sourced precursors in the EU. MDMA production has continued, most likely using PMK diverted via unidentified sources and/or new routes and new methods. Forensic analysis has confirmed that the PMK identified in MDMA in the EU (seized at production sites and in tablets) came from China. Intelligence suggests that Chinese OCGs continue to supply the EU with chemicals, precursors and pre-precursors, disguised as non-scheduled substances or transported by using complex routing, often via small companies they control.

The intra-European trafficking of synthetic drugs is closely connected with OCGs active in North-West Europe, working with groups from the distribution areas, such as Northern Europe. Dutch, British and Belgian OCGs seem to control large consignments of amphetamine or MDMA to the United Kingdom but also to other countries, such as Spain and Portugal. Intelligence suggests the growing prominence of Polish and Lithuanian OCGs in trafficking drugs obtained in the Netherlands to various Nordic and Baltic States, Ireland and the United Kingdom, as well as the United States and the Russian Federation (EMCDDA–Europol, 2011).

Lithuanian OCGs are brokers for numerous illicit commodities in Northern and Western Europe and East European non-EU countries. They have connections with Russian-speaking OCGs. Their influence extends to other Baltic countries, the Nordic countries, Spain (for the sourcing of cocaine) and the Russian Federation and Ukraine (for the sourcing of precursors for synthetic drugs production) (Europol, 2011a).

Chinese OCGs in the Netherlands facilitate the supply of synthetic drugs to other parts of the EU via Chinese communities in destination markets. Emerging trends include a greater prominence of suspects of Moroccan origin in production and distribution. Demand in the Middle East has resulted in the Balkan routes being used to traffic amphetamine and MDMA produced in Europe. Turkish OCGs are involved, and it is believed that synthetics are often exchanged for heroin.

MDMA shipments from the EU to South America have also been observed. Moreover, intelligence confirms that, on several occasions, European and Latin American OCGs exchanged ecstasy for cocaine. West African criminal networks use major EU airports to traffic methamphetamines produced in Africa to the Asian market, especially Japan. For this purpose they recruit couriers from the EU. Member States report increased methamphetamine seizures in airports, linked to flights from Africa to Japan, via Europe.

Operation De-Bads in Belgium and the Netherlands

In 2011, Belgian police started an investigation into a Belgian–Dutch criminal group very active in producing and trafficking synthetic drugs, but also cannabis and cocaine. After police seized 62 kg of amphetamine in Belgium, it became clear that those drugs were destined for a local organised crime motorcycle gang. As a result of the cooperation between Belgian and Dutch police, 12 arrests were made. House searches in Belgium resulted in the dismantling and seizure of two cannabis nurseries, 37 kg of amphetamine, 100 ecstasy tablets and 5 litres of amphetamine oil. Dutch police seized half a kilogram of cocaine, 30 kg of ecstasy tablets (150 000 tablets), 5 kg of ecstasy powder and 720 litres of chemicals for the production of ecstasy tablets.

Poly-drug trafficking has become more common, especially in the European redistribution phase. Many major seizures have been part of so-called cocktail loads, including substantial quantities of cannabis, cocaine and heroin.

Responses to synthetic drugs trafficking at European and international level

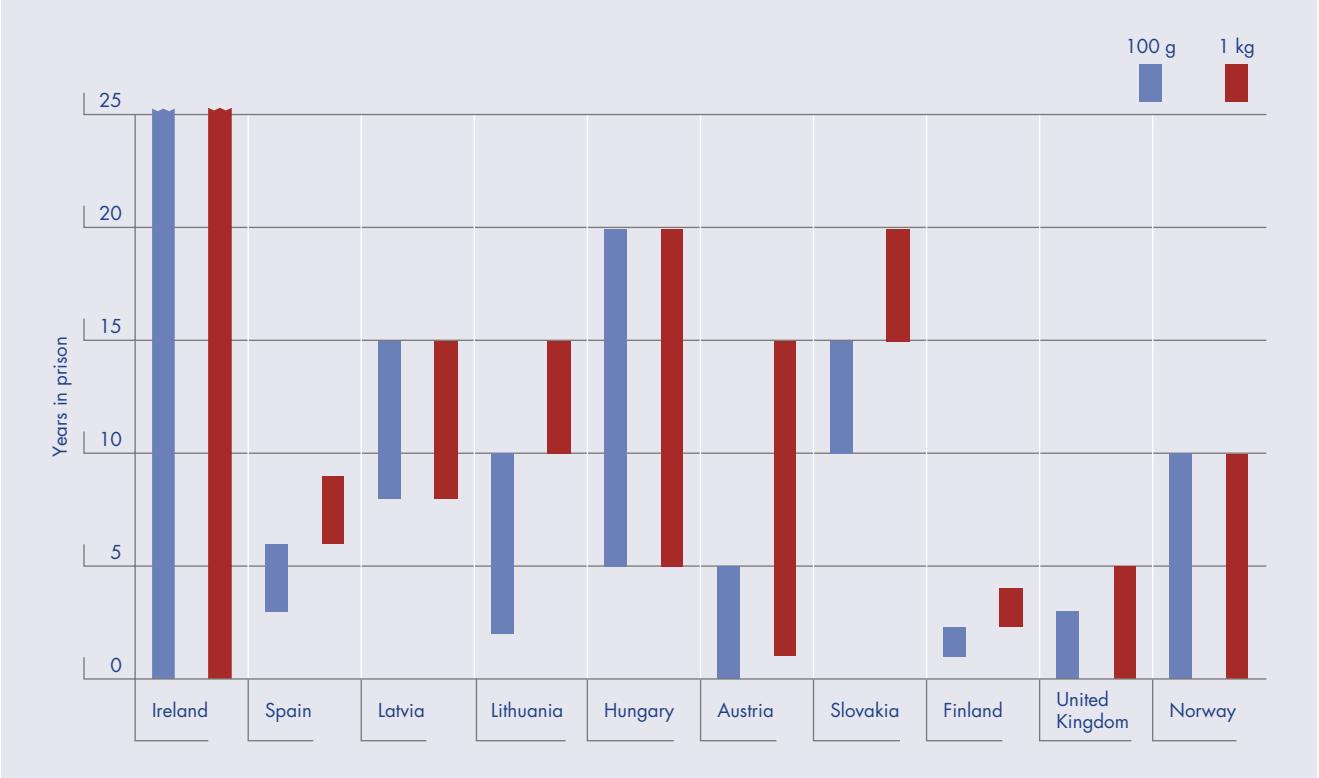
There are inevitably similarities and overlaps in the policy responses to related families of drugs, and this section, like the previous one, considers not only amphetamine, but also methamphetamine and ecstasy, covered in Chapters 6 and 7, respectively.

European policy initiatives

Synthetic drugs are the second most commonly consumed group of illicit substances in Europe, after cannabis, and Europol's OCTA for 2011 clearly identified the role of organised crime in the production and trafficking of synthetic drugs (Council of the European Union, 2011a). The challenges these issues represent have been addressed in key structural instruments, including the Treaty on the Functioning of the European Union (Lisbon Treaty) and the Stockholm Programme. At another level, the basis for shared and coordinated action between the EU and its Member States has been set out in strategic documents that lay the foundation for the implementation of policies against illicit drugs and the associated health and security challenges. Among these are the Internal Security Strategy for the European Union, adopted in 2010 by the Council of the European Union, and the EU Drugs Strategy (2005–2012) and its action plans (see Chapter 1).

The Polish Presidency of the Council of the European Union in the second half of 2011 made the reduction of synthetic drugs in Europe one of its priorities. An important initiative was the development and adoption of the *European pact against synthetic drugs* in October 2011 (Council of the European Union, 2011a), established under the EU Drugs Strategy (2005–2012) and the EU Drugs Action Plan (2009–2012). It also functions as a practical application of the Stockholm Programme and the Internal Security Strategy

Figure 18: Prescribed penalty ranges for supplying amphetamine in some European countries



Note: This graph is based on estimates, with some penalty ranges calculated using an assumed purity or street price. In some cases, the quantities chosen span two different penalty ranges in a country. The penalty ranges do not take into account all aggravating or mitigating circumstances or judicial discretion, and they are nominal sentences. They are those to be awarded by the judge according to the legal framework, regardless of the actual sentences awarded and executed. In Ireland, the prescribed penalty range extends to life imprisonment.

Source: EMCDDA/Legal Correspondents Network.

for the European Union (Council of the European Union, 2011a). Within the Council of the European Union, the Horizontal Working Party on Drugs (HDG) and the Standing Committee on Operational Coordination on Internal Security (COSI) address synthetic drug issues in a complementary manner. In developing the pact, the Polish Presidency was responding to the EU policy cycle for organised and serious international crime and the call for action on synthetic drugs raised in the pact on cocaine and heroin (see Chapter 1) (Council of the European Union, 2010b, 2011a).

As part of the policy cycle, eight priorities were adopted, the fourth of which (crime priority D) aimed to reduce the production and distribution of synthetic drugs in the EU, including new psychoactive substances (Council of the European Union, 2011c). An OAP was designed to implement the strategic goals for this crime priority. The OAP provides the different policy actors responsible for delivering it with a coordination overview of the actions to be achieved. Specifically, it focuses on activities designed to have a rapid impact on organised criminals, the criminal activities in which they are engaged and their commodities. While COSI has the overall responsibility for coordinating the implementation of the OAP, Poland is the main driver, tasked with the plan's management. Within the plan, each action has an assigned leader, responsible for the task's progress, while the driver (Poland) ensures continuous contact among the leaders. In order to deliver joint actions, the EMPACT (see Chapter 1) framework is utilised as the law enforcement cooperation platform for undertaking the work (Council of the European Union, 2011e).

The EU and its Member States undertake a range of coordinated actions against the production and trafficking of synthetic drugs and new psychoactive substances. However, differences exist between countries on key issues such as penalty levels. One area in which this can be seen is in the variation among countries on the threshold quantities and sentencing ranges related to these drugs. Figure 18 looks at this issue in a selection of countries.

Operational initiatives

Europol plays an important role in the implementation of the OAP addressing EU crime priority D, which targets the production and trafficking of synthetic drugs ([51]). One way in which Europol does this is through its Project Synergy and its dedicated focal point, which gathers and exploits relevant information available within and outside the Member States. This facilitates the discovery of links between different cases, the identification of new criminal targets and target groups in addition to initiating, supporting and coordinating the intelligence aspects of investigations. At the same time, it enhances information exchange, knowledge and experience in the area of synthetic drugs, related precursors and equipment. The focal point forms part of the AWF on serious and organised crime ([52]). The purpose of the AWF on serious and organised crime is to support the competent authorities of the Member States as well as third-party experts associated with the activities of the analysis groups in preventing and combating organised crime and other forms of serious crime.

Project Synergy also includes the Europol Illicit Laboratory Comparison System (EILCS) and the Europol Ecstasy Logo System (EELS), the latter incorporated within the general Europol Synthetic Drug System (ESDS). The EILCS collates detailed photographic and technical information on synthetic drugs production, storage and dump sites. This

Training on dismantling illicit synthetic drugs laboratories

The manufacture of synthetic drugs by organised crime groups within the EU presents a set of challenges for authorities. These include the environmental risks of unregulated chemical processing and dumping of waste products and the dangers faced by law enforcement personnel involved in detecting, targeting and dismantling illegal laboratories. Therefore, Europol and CEPOL (the European Police College), with the assistance of different experts from Member States, are organising training courses for law enforcement and forensic personnel. Those courses provide participants with access to the different types of equipment that can be used in clandestine laboratories generally, as well as in specific areas, such as Eastern Europe. This allows officers to gain experience of working with reconstructed facilities for the manufacture of synthetic drugs, those used to convert precursors, as well as indoor marijuana cultivation set-ups. Three training centres are available in Europe: the International Centre for Combating Clandestine Laboratories (Poland), Campus Vesta—Clan Lab Training Facility (Belgium) and the Fire Brigade Facility (the Netherlands).

([51]) Other EU-level operational law enforcement resources used in the response to the production and trafficking of synthetic drugs include JITs and joint customs operations (JCOs) (European Commission, 2011a).

([52]) In line with the new AWF concept endorsed by the Europol Management Board, the Europol Director opened a new AWF on serious and organised crime on 15 June 2012. All former AWFs were transformed into focal points.

enables the matching of seized equipment, materials and chemicals, leading to information exchange, backtracking investigations and forensic examination with the aim of identifying facilitators and criminal groups. The ESDS collates modus operandi, photographic and basic forensic information on significant seizures. This again enables matching of seizures or seized punches, promoting information exchange, further investigations and forensic profiling targeting criminal groups. In addition, Europol specialists provide 'on-the-spot' assistance in the dismantling of illicit synthetic drugs production sites.

Project Synergy supports and is supported by EU initiatives on the forensic profiling of synthetic drugs and related precursors for law enforcement purposes, particularly the European Drug Profiling System (EDPS) project, whereby significant seizures may be forensically matched, leading to or supporting ongoing intelligence analysis. The EDPS project began in February 2010 and is primarily focused on the continued profiling of amphetamine, profiling of MDMA and undertaking a feasibility study on the profiling of both heroin and cocaine. This activity will contribute to reducing the involvement of organised crime in producing and trafficking illicit drugs by making forensic profiling part of intelligence-led law enforcement operations. Coordinated by the Netherlands, eight national law enforcement agencies and Europol are involved in the project.

International initiatives

Synthetic drugs and chemical precursors are targeted by United Nations initiatives, as described in Chapter 1. In September 2008, the Global Synthetics Monitoring: Analyses, Reporting and Trends (SMART) programme was launched in Bangkok, Thailand, by the UNODC. The programme aims to assist United Nations Member States in generating, analysing and using information on the patterns of trafficking and use of synthetic drugs in order to design effective policies and interventions. It supports countries to better monitor trends, including detecting and reporting on new trends, while improving methods for exchanging comparable information (UNODC, 2008d). Several countries, including Australia, Canada, Japan, New Zealand, South Korea, Thailand and the United States, help fund the programme (UNODC, 2012c). The EMCDDA is a member of the programme's steering group and Europol closely cooperates with the programme.

The INCB has developed platforms to monitor the trade in licit precursor chemicals that can be used to produce illicit drugs. Project Prism focuses on precursors such as P2P (BMK) and phenylacetic acid, which can be used to manufacture both amphetamine and methamphetamine, as well as the methamphetamine precursors ephedrine and pseudoephedrine. Under the auspices of Project Prism, a series of operations have been undertaken, generating information about the changing activities of criminals engaged in the trafficking of precursor chemicals. The Project Prism Task Force launched Operation PAAD (Phenylacetic Acid and its Derivatives), which ran between 31 March 2011 and 31 August 2011, with 63 countries participating. Alongside offline notifications, Operation PAAD utilised the PEN system, which was launched in 2006, allowing governments to monitor precursor shipments. In total, the Task Force received 24 notifications in relation to chemical seizures in storage locations and production sites amounting to 610 tonnes (INCB, 2012a). The Operation revealed a decrease in seizures of ephedrine and pseudoephedrine reflecting a switch by traffickers to phenylacetic acid and other non-scheduled substances (INCB, 2012b).

For conclusions and recommendations relating to the synthetic drugs market, please refer to pages 136–138 in Chapter 10.

METHAMPHETAMINE

Chapter 6 | Methamphetamine

Introduction

Methamphetamine is a synthetic substance that acts as a stimulant of the central nervous system, and is closely related to amphetamine. The most common salt is the hydrochloride, which occurs as a white or off-white powder or as water-soluble crystals. Illicit products are mostly powders, but the pure crystalline hydrochloride, sometimes referred to as 'ice', may also be found. Since its initial synthesis from ephedrine in Japan in 1919, methamphetamine use has evolved over the years. Originally it was a legal, experimental substance used as a medicine. It was then used as a stimulant by fighters in the Second World War before becoming a widely prescribed medication. Since the 1970s it has been an illicitly used and produced drug, and its popularity has increased dramatically in some parts of the world since the 1990s (EMCDDA–Europol, 2009).

Methamphetamine is probably the most widely consumed and manufactured synthetic stimulant in the world (UNODC, 2011a, h). In many countries across the globe it is reported as the second most prevalent illicit drug after cannabis. Today, methamphetamine is associated with significant public health, social and security problems throughout the world. These are especially apparent in North America and Asia. Moreover, the use of the drug is also spreading to new areas, notably in the southern hemisphere, and to some developing and transitional countries. By contrast, in Europe, the production of methamphetamine is limited and concentrated in some Baltic countries, especially Lithuania, and in the Czech Republic and neighbouring countries such as Slovakia and Germany.

Although methamphetamine use remains limited in Europe as a whole, especially in comparison with the use of other stimulants such as cocaine and amphetamine, it is the cause of significant harm in some Member States. In the Czech Republic, it is the most used illicit drug after cannabis. Since the late 1990s, methamphetamine problems have also grown in Slovakia. There is also evidence of spread to other countries, especially in Eastern and Central Europe, including Germany. Moreover, large seizures in recent years in the Nordic and neighbouring countries suggest that methamphetamine is increasingly available in these countries and may to some extent be replacing amphetamine in the stimulant market. This, combined with the relative ease with which the drug can be produced, and some evidence of growing methamphetamine production outside the areas in which it has traditionally been found, raises concerns that future supply-driven diffusion cannot be ruled out.

Table 5: Methamphetamine in Europe at a glance

Seizures (2011)	**Quantities (kg)** (1)	EU (including Norway and Turkey)	528 (1 043)
	Number	EU (including Norway and Turkey)	5 100 (9 500)
Mean retail price (2011) **(EUR per gram)**		**Range**	8–79
Mean purity (2011) **(%)**		**Range (IQR)** (2)	16–82 (28.7–67.6)

Notes

(1) All reporting countries, except four where methamphetamine seizures are not recorded (Spain, Malta, the United Kingdom and Croatia), are included in European totals. Methamphetamine tablets are included, assuming a weight of 250 mg per tablet.

(2) IQR: interquartile range, or range of the middle half of the reported data.

Source: EMCDDA/Reitox national focal points.

Global overview

The UNODC estimates that there were between 14 million and 56 million users of amphetamines ([53]) worldwide in 2009, a significant proportion of whom live in Asia, where the synthetic stimulant most used is, overwhelmingly, methamphetamine (UNODC, 2011a).

Global seizures of methamphetamine increased markedly in 2010, totalling 45 tonnes compared with 31 tonnes in 2009 and 22 tonnes in 2008. This was mostly due to large increases in seizures in East and South-East Asia, where 20 tonnes, or almost 50 % of the global total, was seized in 2010, and in North America, especially Mexico, where seizures doubled to reach about 13 tonnes (UNODC, 2012a). In a European context, seizures totalled about 630 kg in 2010 (EMCDDA, 2012a). Asia, North America and Oceania have been the main world regions for production and consumption of methamphetamine for about 15 years. Illicit methamphetamine is predominantly produced near its main consumer markets in East and South-East Asia, North America and Oceania. Nevertheless, since the mid-2000s methamphetamine production and use have spread to new countries, including Iran, South Africa and Nigeria.

Importantly, in the same period a trend towards the transcontinental trafficking of the drug from Nigeria and Iran to Asia has emerged. Nigerian and Iranian couriers are frequently arrested in possession of significant amounts of methamphetamine at airports in countries such as Indonesia, Japan, Korea, Malaysia and the Philippines (UNODC, 2011h), as well as Turkey (KOM Department, 2012).

Production and precursor issues

There are five known methamphetamine production methods in Europe. The three most common are the *lithium/ammonia*, *hypophosphorous acid/iodine* and *hydriodic acid/red phosphorus* methods. All three are simple, one-step reactions of ephedrine or pseudoephedrine carried out using glass or stainless-steel equipment. In addition to the precursor (pseudo)ephedrine, the following chemicals are used:

- *Lithium/ammonia*: lithium or sodium metal, ammonia, solvents and hydrochloric acid are needed.
- *Hypophosphorous acid/iodine*: iodine, hypophosphorous acid, solvents and hydrochloric acid are added.
- *Hydriodic acid/red phosphorus*: red phosphorus, hydriodic acid, solvents and hydrochloric acid are added (Europol, 2007c–e).

The *hypophosphorous acid/iodine* and *hydriodic acid/red phosphorus* methods are most frequently used for the illicit manufacture of Pervitin in the Czech Republic. In the two remaining methods, the *Leuckart* method and the *reductive amination* method, methamphetamine is synthesised from 1-phenyl-2-propanone (BMK).

All of these methamphetamine production methods depend heavily on the availability of the precursors and the know-how of the producers. However, note that, while the production methods using ephedrine or pseudoephedrine are mainly found in Germany, the Czech Republic, the Netherlands and Slovakia, methamphetamine seized from Lithuanian OCGs is produced using BMK.

The production of methamphetamine in Europe appears to be limited compared with other regions of the world. However, information on production facilities in Europe is not standardised, and as a result it is difficult to form a clear picture of trends in production. For instance, whereas the EMCDDA and the UNODC receive reports on all production facilities dismantled at national level, Europol mostly collects data on larger-scale production facilities.

The basics of methamphetamine production

The production of methamphetamine (and of synthetic drugs generally) is not labour intensive, it is easily concealed and protection requirements are much lower than for plant-based drugs. The methamphetamine manufacturing process is flexible, as it is not very difficult to synthesise the drug from a range of precursors and other chemicals through a variety of basic, often one-step, chemical processes. If one chemical is unavailable, another can be used instead. The scale of production is also flexible, as the drug can be manufactured in facilities ranging from 'kitchen labs' using rudimentary know-how and technology and operated by the users themselves, to industrial premises equipped with the latest technology and run by organised criminal gangs. A final factor is that methamphetamine laboratories can be set up rapidly to supply a specific order and taken apart equally quickly to avoid detection. The equipment can be stored in a car, van or lorry and set up at another location.

([53]) When this report refers to amphetamines in the plural, this includes amphetamine, methamphetamine and related substances such as fenethylline, methylphenidate, cathinone, etc. but not ecstasy or its relatives. The two groups together—amphetamines and the ecstasy family—are sometimes referred to as amphetamine-type stimulants (ATS).

Table 6: Dismantled methamphetamine production facilities reported to the EMCDDA and UNODC, 2010

Country	UNODC	Reitox national reports
Austria	5	—
Bulgaria	2	2
Czech Republic	307	307
Germany	13	16 (1)
Hungary	1	1
Netherlands	—	2

Note
(1) The German Reitox report states: 'detected production sites were mainly small laboratories that produced methamphetamine'. In addition, most of the production facilities dismantled in the Czech Republic are likely to be small-scale 'kitchen-type' facilities where small amounts of drugs are produced.
Sources: UNODC (2012d), Reitox (2011).

In 2010, the EMCDDA received 328 reports of dismantled methamphetamine production sites from five Member States (see Table 6). Information on dismantled methamphetamine facilities in 2011 and 2012 is available only from Europol, and will refer mostly to large-scale production. Germany seized 10 methamphetamine facilities in 2011 while Bulgaria seized four, the Netherlands two and the United Kingdom one. One facility was seized in Ireland in 2012.

Intelligence available to Europol suggests that the largest quantities of methamphetamine are produced in mid-scale laboratories located in Baltic countries, such as Lithuania, in order to supply some Scandinavian markets and the United Kingdom. No methamphetamine production facilities were dismantled in Lithuania, Latvia or Estonia in 2010 or 2011, but in 2009 an illegal methamphetamine laboratory of medium capacity was dismantled in Lithuania (Lithuania: Reitox, 2010). Production in the Czech Republic and neighbouring countries such as Germany and Slovakia is usually on a smaller scale, occurring mainly in 'kitchen-size' laboratories, and is destined to be consumed in the region where it is produced. Europol information also indicates that methamphetamine is produced in the Netherlands, Poland and the United Kingdom. Whereas most of the methamphetamine produced in Poland and the United Kingdom is probably for domestic use, that made in the Netherlands seems to be destined for export to Scandinavian countries.

Pervitin in the Czech Republic

In the Czech Republic, the illegal production and use of methamphetamine has been an important element in the country's drug problem since the 1970s. At that time, a simple formula for producing methamphetamine, known locally as Pervitin, was rediscovered. Production was probably based initially in Prague but quickly spread to the Czech—but not the Slovak—parts of Czechoslovakia. Production was usually carried out by small groups of user-producers and was facilitated by the existence of the VUAB factory, which was an important manufacturer of ephedrine for the global licit market. Some of this output was diverted to the illicit market. Other pharmaceuticals that contain ephedrine or pseudoephedrine, such as Solutan (later Modafen and Paralen Plus), were widely available and were used in the production of methamphetamine using the 'reduction method', together with other freely available chemicals. Although the VUAB factory closed down production in 2003 (Griffiths et al., 2008), illicit (but usually small-scale) methamphetamine production is still common in the Czech Republic.

Figure 19: Methamphetamine production installation dismantled in Schiedam, the Netherlands, June 2011

Source: Dutch National Police — LFO via Europol.

Precursors

Globally, illicit methamphetamine is frequently synthesised from the precursors ephedrine and pseudoephedrine, which are currently produced by extraction from the ephedra plant, or by chemical synthesis. It may also be manufactured from 1-phenyl-2-propanone (P2P), also known as BMK, and phenylacetone, although in Europe BMK is more commonly used to manufacture amphetamine ([54]). Ephedrine, pseudoephedrine and BMK in bulk form are under international control and listed in Table I of the 1988 United Nations Convention. However, the control regime applied to pharmaceutical preparations containing ephedrine and pseudoephedrine (e.g. cold remedies in tablet form) is not as strict (UNODC, 2008c).

BMK, ephedrine and pseudoephedrine are produced and traded globally for legitimate purposes. However, the global legitimate trade of ephedrine and pseudoephedrine is much larger than that of BMK, since BMK has few legitimate applications. For instance, the INCB (2012a) has reported that global trade in BMK amounted to a total of 17 700 litres in 26 shipments in 2011. In contrast, there were 3 965 shipments of ephedrine and pseudoephedrine in bulk and pharmaceutical preparations in 2011, which amounted to 1 130 tonnes and 1.4 million tablets of pseudoephedrine and 137 tonnes of ephedrine. As a result, it is more difficult to prevent diversion of ephedrine and pseudoephedrine to illicit uses.

In 2011, a total of 26.8 tonnes of ephedrine and pseudoephedrine in bulk and pharmaceutical preparations was seized globally. Four countries, China, India, Mexico and the United States, accounted for nearly 85 % of this total, while large amounts were also seized in Australia and New Zealand. East and South-East Asia and North America are the regions where most quantities of ephedrine and pseudoephedrine have been seized since 2005 (INCB, 2012a). This is in line with the fact that these regions are also those where most methamphetamine is manufactured and consumed in the world. The INCB also notes that seized amounts of ephedrine and pseudoephedrine have dropped drastically at world level over the past 10 years. Although this may reflect increased efficiency of the international control system for precursor chemicals, it may also reflect challenges in controlling diversion of medical preparations and changes in precursor trafficking methods, methamphetamine manufacturing methods (increased reliance on BMK and less on ephedrine and pseudoephedrine) and trafficking routes, for instance via Africa, Central Asia and the Balkans. In addition, Vietnam and Taiwan have been identified as significant sources of ephedrine and pseudoephedrine shipments diverted in 2011.

Importantly, it is also likely that countries traditionally associated with the heroin trade, such as Afghanistan, Iran, Iraq, Jordan, Pakistan, Syria and Turkey, which report legitimate requirements for ephedrine or pseudoephedrine (or both) much higher than the international per country average, are sources and/or destinations for diverted ephedrine and pseudoephedrine (INCB, 2012a).

It is difficult to report accurately on seizures of ephedrine and pseudoephedrine in Europe in recent years as sources diverge considerably in the amounts reported seized (Table 7).

However, Europol indicates that some ephedrine is diverted within the EU or obtained from regions outside the EU, in Eastern Europe and the Western Balkans. In addition, pseudoephedrine is extracted from over-the-counter pharmaceutical preparations available in a number of EU Member States. In the absence of harmonised controls, illicit synthetic drug producers in Member States where sales of

Table 7: Seizures of ephedrine and pseudoephedrine in the EU, 2009–2011

	INCB			European Commission		
	2009	2010	2011	2009	2010	2011
Ephedrine (bulk)	245 kg	527 kg	563 kg	685 kg	1 206 kg	N/A
Ephedrine (preparations)	814 kg	33 kg	2 kg	10 kg	12 kg	N/A
Pseudoephedrine (bulk)	503 kg	67 kg	36 kg	186 kg	1 054 kg	N/A
Pseudoephedrine (preparations)	775 kg	439 kg + 326 941 units (CZ) + 462 units (DE) + 336 units (SK)	94 kg	517 kg	110 kg	N/A

Sources: INCB (2012a), European Commission (2011a).

([54]) Issues relating to BMK and phenylacetic acid are reviewed in greater detail in Chapter 5 of this report.

this medication are restricted travel to neighbouring countries in order to source supply (Europol, 2011a). Bulk shipments of ephedra extracts, ephedrine and pseudoephedrine may also pass through the EU on their way to other regions, for instance North America. Some cases of exchange of ephedrine or pseudoephedrine for cocaine by criminal groups have been detected in past years (Europol, 2008).

Consumer markets for methamphetamine in Europe

The user market for methamphetamine in Europe is largely restricted to a group of small, geographically close, countries. Within these countries, however, the drug has a significant impact; and there are some small signs that it is entering new markets elsewhere.

Central to understanding the methamphetamine user market is distinguishing this drug from its close relative, amphetamine. Unfortunately, in many cases, the available data do not allow this. Consequently, this section draws primarily on specific country reports that distinguish between the two drugs, supplemented by monitoring data on prevalence and treatment.

As with stimulants generally, there is evidence of recreational use within specific population groups and of more problematic use as reflected in treatment data. Of concern with methamphetamine is the potential for increased problems resulting from a move from the powder format traditionally found in Europe to the higher purity crystalline format evident in the United States and Australia, which is smokable ([55]). However, to date there is little evidence of smoking of methamphetamine in Europe, and any change would be noteworthy.

There are two countries where methamphetamine dominates the stimulant market: the Czech Republic, with a history of local production and use stretching back to the early 1970s, and more recently Slovakia, where the drug has increased in importance since the turn of the century. In these two countries use of amphetamines is taken to mean methamphetamine use. There is evidence of methamphetamine in the stimulant markets in Norway and the countries around the Baltic Sea, particularly those with a history of amphetamine use and injection. In these countries amphetamine is still the dominant stimulant. In addition, there is concern that the drug may be gaining in importance in new, potentially large, markets, such as Germany.

Within Europe methamphetamine has historically been associated with the Czech Republic. Explaining the popularity of the drug within the country, Zábranský (2007) points to stringent border controls during the communist period, meaning that any illicit drugs had to be produced locally. The ready availability of the precursors, a relatively simple production process and the development of cooperative groups (squads) with the skills to 'cook' the drug resulted in a local supply of methamphetamine from the early 1970s onward. Distribution of the drug is said to have remained largely within the squads until the fall of communism in 1989, following which the now established drug could reach a broader market.

Based on the most recent survey in 2010, some 1.4 % of the population of the Czech Republic aged 15–64, or just over 100 000 individuals, have tried methamphetamine in their lifetime. Amongst people aged 15–34 (the age group most associated with drug use), 0.8 %, or just over 24 000 individuals, are estimated to have used the drug in the last 12 months. Complementing the data on low levels of prevalence, treatment data provide some indication of the scale of problem use: in 2010, almost 68 % of clients entering treatment for the first time were reported as citing Pervitin (methamphetamine) as their primary drug.

In Slovakia, a 2006 survey estimated that 1.2 % of the population aged 15–64, or just over 47 000 individuals, had tried the drug at least once, and 0.7 % of 15- to 34-year-olds, or approximately 12 000, had used the drug within the last 12 months. Since 2000, the proportion of first-time entrants to treatment citing Pervitin as their primary drug has increased steadily, reaching 41 % of a total number of 1 018 clients in 2010. This was matched by a steady decline in opioid treatments, and for the first time methamphetamine now accounts for the largest number of clients entering treatment in Slovakia.

Information from Sweden and Norway specifically on methamphetamine is available from studies targeting specific groups. These suggest that methamphetamine has a presence in the user market in these countries, along with the more traditional amphetamine. For example, on the basis of analysis of samples taken from persons detained by the police for minor drug offences between 2005 and 2009, the Swedish national focal point suggests that 'methamphetamine is relatively common in the Swedish drug scene although mainly cut with amphetamine' (Sweden: Reitox, 2011).

([55]) Yielding a faster 'hit' than snorting and thus presenting greater risks of dependence.

In 2010, the Norwegian national focal point reported that in 2009, for the first time, methamphetamine was the second most prevalent substance after alcohol in samples taken from drivers (32 %; equivalent to 1 480 samples) (Norway: Reitox, 2010). Although reported as representing a fourfold increase since 2001, caution was advised in that, 'It is still reasonable to believe that amphetamine and methamphetamine are used interchangeably, depending on what is available on the market. There are no clear indications of a particular demand for methamphetamine.' In the following year methamphetamine was found in 30 % of samples, making it the fourth most common substance in drivers' blood samples, after alcohol, amphetamine (32 %) and cannabis (31 %), indicating a change in the ranking of drugs but the continued high prevalence of methamphetamine (Norway: Reitox, 2011). Interpreting findings from these surveys is complicated by the fact that with time methamphetamine may convert to amphetamine within the body. Nevertheless, in both Sweden and Norway targeted studies provide an indication of the drug's place in the market.

In Finland, Latvia, Lithuania and Estonia, the main evidence of methamphetamine presence on the market comes from seizures data, where amphetamine is also in evidence. In the absence of any clear indication to the contrary, it would seem that amphetamine continues to dominate the user markets.

Returning to treatment data for amphetamines (both methamphetamine and amphetamine), in the countries where methamphetamine use is reported, it is notable that a high proportion of clients entering treatment for the first time and citing amphetamines as their primary drug report injection of the drug. No data are available for Norway, but in the Czech Republic, Estonia, Latvia, Lithuania, Finland and Sweden this proportion ranges from 50 % to 79 %. Only in Slovakia is it substantially lower, at 28 %. There appears to be an association of high proportions of injecting amphetamines and the presence of methamphetamine in the market.

Evidence of methamphetamine use in other countries is sporadic, although in 2011 Germany reported an increase in methamphetamine users known to the police and in the number of methamphetamine laboratories dismantled, as well as an almost fourfold increase in the amount of 'crystal methamphetamine' seized in the country (Germany: Reitox, 2011). It is not certain that what is referred to as crystal methamphetamine is the same product known as 'ice' in other countries such as the United States and Australia. In late 2011, drug users in Athens were reporting the availability of limited amounts of methamphetamine in its crystalline format, known locally as 'sisa'. Further data are required to judge the extent or permanence of this phenomenon. All the indicators start from low baselines, and the drug is still of relatively low importance, although, clearly, the potential for a growth in popularity is cause for some concern.

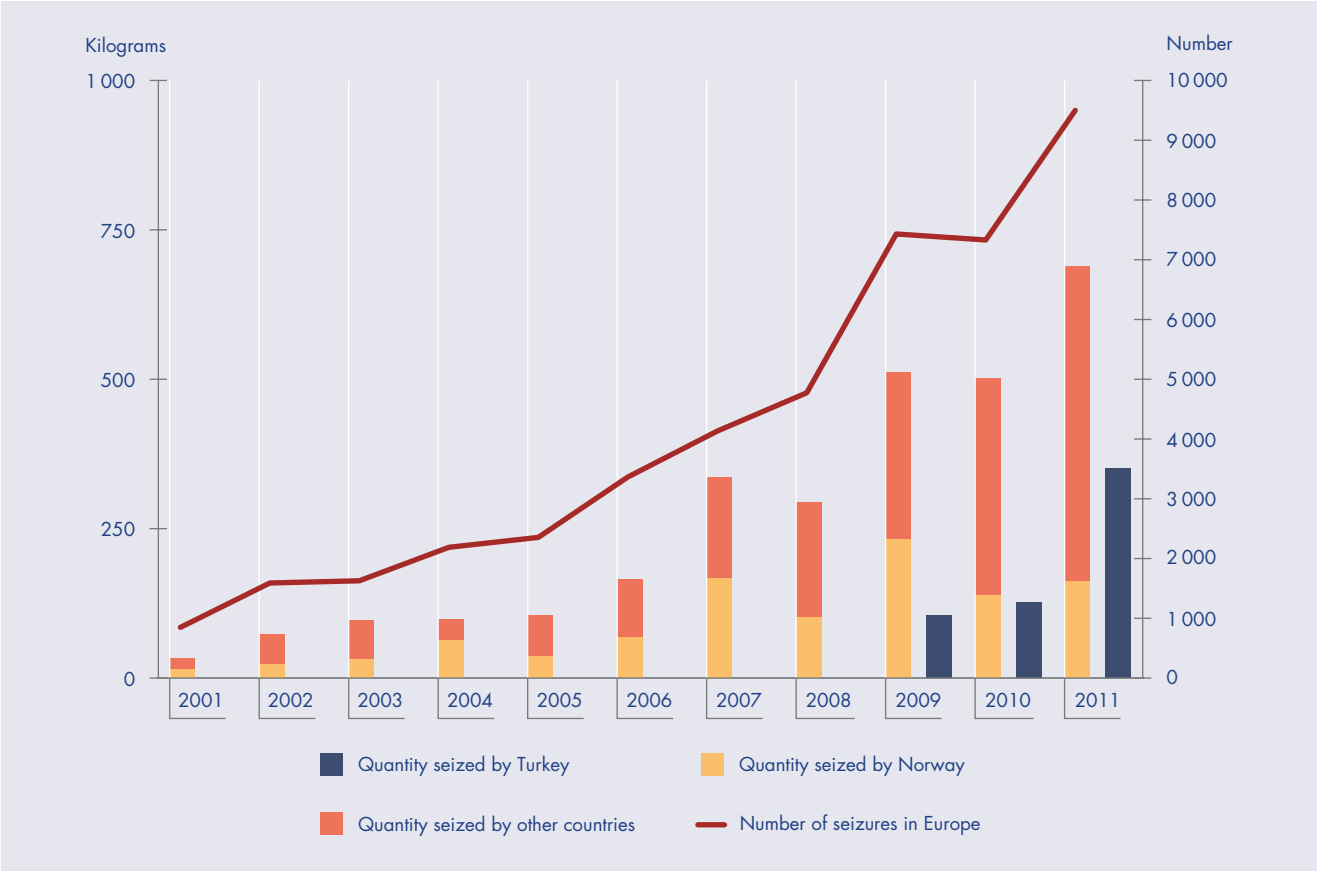
Overall, the group of countries where methamphetamine predominates or shares the stimulant market with amphetamine accounts for less than 10 % of the 15- to 64-year-old population in Europe. However, the drug dominates the user market for amphetamines in the Czech Republic and Slovakia, and is more apparent in Estonia, Latvia, Lithuania, Finland, Sweden and Norway than in the past. The user market is diverse, with some recreational use, but on the basis of the treatment data there is a suggestion of substantial injecting and problematic use in this group of countries.

Trends in methamphetamine production and trafficking in Europe

Seizures

Based on seizure data, trafficking in methamphetamine would appear to be limited in Europe. The maximum seized in one year was 1 tonne (involving 9 500 cases) in 2011. The overall increase in both number of cases and quantity of methamphetamine recovered in the last decade (Figure 20) may suggest a general expansion of trafficking in methamphetamine, but identification and reporting of the substance has also increased during the period, making interpretation of the trend difficult. The quantities intercepted have increased sixfold since 2006 (when data first became available for most countries) while the number of cases has nearly tripled over the same period. Rather than a general increase in the size of the shipments intercepted at European level, this reflects a few large operations across the region. Most of the increase in quantities intercepted in Europe in 2011 is due to exceptional seizures in Lithuania and Turkey.

Figure 20: Seizures of methamphetamine in Europe, 2001–2011 ([56])



Note: All 26 European countries reporting methamphetamine seizures are included, except the Netherlands and Poland where *Number of seizures* data are not available. The total amounts represent the sum of the quantities of methamphetamine seized under different forms; for calculation purposes, tablets were assumed to weigh 250 mg.

Source: EMCDDA/Reitox national focal points, EMCDDA (2012a).

Trafficking areas

Europol has identified two main intra-European methamphetamine trafficking routes.

Central Europe

On the first route, methamphetamine produced in the Czech Republic is exported by car to bordering countries, especially Germany (mainly Bavaria and Saxony) and Slovakia, where the drug is also produced in small-scale units, destined mainly for the domestic market.

These three countries have a similar profile, reporting a large number of very small seizures of methamphetamine, probably resulting from the dismantling of small production units and interceptions at retail level. Quantities intercepted in these countries never amounted to more than a few kilograms a year until 2010, when the total quantity recovered rose to 21 kg in the Czech Republic and 27 kg in Germany, followed in 2011 by seizures of 20 kg and 40 kg respectively. The average size of seizures in the Czech Republic and Germany, commonly between 15 and 50 g over the last decade, is larger than in Slovakia (between 1 and 6 g), which may confirm recent media reports about the existence of frequent methamphetamine trafficking activities between Germany and the Czech Republic.

Baltic and Nordic area

The other route reportedly carries larger quantities of the drug. It links the Baltic States predominantly to the Nordic area (see Chapter 5, section 'Trends in organised crime

([56]) Four countries—Spain, Malta, the United Kingdom and Croatia—do not report methamphetamine seizure data.

involvement in amphetamine and other synthetic drugs in Europe'). Currently, the majority is transported by car from the Baltic States and Poland via Germany to Denmark and then Sweden and Norway.

Seizure data appear to confirm that the traffic in methamphetamine across the Baltic Sea involves larger amounts than the cross-border trafficking of Czech-manufactured Pervitin. Of the three Baltic States, Lithuania is clearly intercepting the largest quantities of methamphetamine each year, commonly between 15 and 50 kg, compared with annual seizures in the range of 5–15 kg in Latvia and small amounts, commonly less than a kilogram, in Estonia. However, record quantities of methamphetamine have recently been intercepted in the three countries (52 kg and 134 kg in Latvia and Lithuania, respectively, in 2011 and 38 kg in Estonia in 2008), confirming that the area is the site of smuggling of relatively large consignments of the drug. The comparatively large size of cases in Lithuania since 2006 may suggest the major role of the country as an exporter of methamphetamine since then, with seizures averaging around 500 g in the period 2009–2011, 10 (or more) times larger than average seizures in the other two Baltic countries.

The Nordic countries have long been identified as major amphetamine markets with respect to problematic drug use; however, it would seem that methamphetamine could be gaining ground there. It is likely that methamphetamine has always been present, albeit less consumed than today, but the distinction between the two products has become more frequent in recent years, thus increasing the visibility of methamphetamine on the market. The methamphetamine used in these countries is reportedly manufactured mainly from BMK, as is amphetamine, suggesting a likely blurring, in some cases, of the boundaries between the two production and trafficking chains. Norway has for some time been the main seizing country in Europe for methamphetamine, with a total of 540 kg seized during the period 2009–2011. Sweden is the second largest seizing country with 370 kg intercepted over the same period, followed at a distance by Finland, with annual quantities of between 15 and 40 kg. However, data on the average size of interceptions show that the large quantities recovered every year in Norway result from thousands of very small seizures (50 g on average in 2009–2011), while in the other two countries seizure cases are usually larger (150–170 g on average in 2009–2011). These may suggest a higher targeting of the lower segments of the distribution chain in Norway, as compared with Sweden and Finland.

Outside these two main trafficking hotspots in Northern and Central Europe, recent developments suggest that some methamphetamine may also be produced in Western Europe. Substantial amounts of methamphetamine have recently been seized in the Netherlands (10 kg in 2007, 45 kg in 2010 and 35 kg in 2011) and in Belgium (39 kg in 2010). It is too early to talk about a new trend there since there were no reports of interceptions in these two countries in other years.

Europe: an emerging transhipment methamphetamine area?

A new trend in trafficking in methamphetamine produced in West Africa has recently been discerned. Major EU airports are used in transit to the Asian market, mainly Japan. Member States report an increased number of such seizures, with EU and African citizens commonly involved as couriers.

A similar situation has been observed in Turkey, where quantities seized tripled between 2009 and 2011, to 350 kg (see Figure 20). The drug, mostly originating in Iran, transits Turkey destined for Asian-Pacific countries such as Malaysia, Thailand, Japan, Indonesia and Australia. It is mainly smuggled via air couriers (80 % of whom are of Iranian origin) and cargo deliveries (KOM Department, 2012).

In addition, South-East Europe may also become a source of methamphetamine as seizures of methamphetamine manufacturing facilities have occurred in Bulgaria in recent years (see Table 6).

For conclusions and recommendations relating to the synthetic drugs market, please refer to pages 136–138 in Chapter 10.

ECSTASY

Chapter 7 | Ecstasy

Introduction

MDMA was first synthesised in 1912 by a German pharmaceutical company trying to develop haemostatic (anti-bleeding) medication (Freudenmann et al., 2006). MDMA remained relatively unused and out of the public eye until 1978, when the first reports of its psychopharmacological effects in humans were published in the United States (Benzenhöefer and Passie, 2010).

In the late 1970s, MDMA was used by some psychotherapists as an aid for enhancing communication and emotional expression, and increasing empathy and pro-social feelings. By the early 1980s, MDMA had reached recreational markets and, still being legal, it was sold and distributed in US nightclubs, initially in Texas (Shulgin, 1990).

MDMA emerged on the European market in the mid-1980s, originally smuggled from the United States. It soon gained popularity, becoming embedded, in particular, within the electronic dance and rave movements of Spain and the United Kingdom. The late 1980s and early 1990s saw the phenomenon of rave/dance parties exported back to the United States and spreading globally, taking with it the use of MDMA in a dance context. The use of MDMA across the globe began to increase although manufacture of the substance appeared to remain primarily with Europe. The popularity of ecstasy has ebbed and flowed over the last decade, and production is now global.

Ecstasy

Ecstasy refers to synthetic substances that are chemically related to amphetamines, but which differ to some extent in their effects. The best-known member of the ecstasy group of drugs is 3,4-methylenedioxy-methamphetamine (MDMA), but analogues are also sometimes found in ecstasy tablets (MDA, MDEA) ([1]). MDMA is mainly produced in tablet form and with a 'logo' imprint. Since 1999, when Europol started identifying tablets and their logos, some 560 primary logos have been recorded, with around 1 860 variations. Since 2005, tablets that are marketed as MDMA or have a logo associated with 'ecstasy' have increasingly been shown to include other illicit substances and synthetic new psychoactive substances.

([1]) In this chapter we use the term ecstasy in a broad sense, to refer to substances that contain MDMA or its analogue drugs or to substances that are presented as ecstasy. We use the term MDMA only for findings specific to MDMA.

Global overview

Somewhere between 10 and 28 million people worldwide may have used ecstasy in the past year (0.2–0.6 % of the general population aged 15–64). Consumption appears to be on the decline in Oceania, typically the highest use region; however, there is some evidence of a resurgence in both the US and European markets (UNODC, 2012a).

Although MDMA first became established as a recreational drug in the United States in the early 1980s, Europe soon took over as the world's leading source of the drug. In particular, Belgium and the Netherlands were noted as major global producers of MDMA with industrial-scale manufacturing capacity and high levels of organisation, sophistication and professionalism (UNODC, 2003b). Production of ecstasy is now global, with North America, Asia and Oceania all reporting large-scale production.

The reported global number of dismantled laboratories producing ecstasy declined from 52 in 2009 to 44 in 2010, but an increase in the size and production capacity of dismantled facilities was noted in some countries. Most of the seized laboratories were situated in Australia (17), Canada (13) and Indonesia (12). Compared with 2009, laboratory seizures fell in Indonesia but remained relatively stable in both Australia and Canada. In addition to the 12 laboratories dismantled in Indonesia in 2010, three tableting facilities were detected, leading to speculation that the country may be taking over from the Netherlands as the main source of ecstasy in Asia (UNODC, 2011a, 2012a).

Table 8: Ecstasy in Europe at a glance

			Age group (years)	Estimated number of users (million)	% of European population (range between countries)
Consumption [1]		Lifetime	15–64	11.5	3.4 (0.4–8.3)
			15–34	7.5	5.7 (0.6–12.4)
		Last year	15–64	2	0.6 (0.1–1.6)
			15–34	1.5	1.3 (0.2 – 3.1)
				Number (% of all drug admissions)	
Drug treatment [2] (2010)		All admissions		951 (0.2 %)	
		First admissions		485 (0.3 %)	
				Number (% of all drug offences)	
Drug law offences (2011)		All offences		13 489 (1.1)	
		Offences for drug use/possession for use		10 477 (1.0)	
		Offences for drug supply		3 017 (1.5)	
Seizures [3] (2011)	Quantities (tablets)	EU (including Croatia, Norway and Turkey)		4 million (5.4 million)	
	Number	EU (including Croatia, Norway and Turkey)		9 600 (12 500)	
Mean retail price (2011) (EUR per tablet)		Range (IQR) [4]		4–17 (5.0–9.0)	
Mean MDMA content (2011) (mg per tablet)		Range (IQR) [4]		43–133 (64.2–89.6)	

Notes

(1) European estimates are computed from national estimates weighted by the population of the relevant age group in each country. They are based on surveys conducted between 2004 and 2010/11 (mainly 2007–2010) and therefore do not refer to a single year.

(2) Information is available on about 470 000 drug users entering specialist treatment in Europe (EU, Norway, Croatia, Turkey). Units coverage may vary between countries.

(3) The 2011 figures should be considered as estimates; where 2011 data were not available (United Kingdom), 2010 data were used in their place. Ecstasy seizures in other forms (liquid, powder) are not included.

(4) IQR: interquartile range, or range of the middle half of the reported data.

Sources: EMCDDA/Reitox national focal points, EMCDDA (2012a).

Detected production of ecstasy appears to occur relatively close to the consumer markets in East and South-East Asia, North America and Oceania. Canada appears to be the primary source of ecstasy for the United States, with seizures of tablets at border entry points reaching a record high of 3.9 million in 2010, with the average size of seizures also increasing (UNODC, 2012a). Seizures of ecstasy tablets both within Canada and identified as coming from Canada rose from 405 kg in 2009 to 529 kg in 2010; the majority was destined for the United States, and some for Australia, Malaysia and Peru. The increase in Canadian ecstasy production appears to have occurred in parallel with a decrease in European production levels (INCB, 2011), suggesting that Canada is emerging as a global producer and exporter of ecstasy.

Mexico may also be emerging as an ecstasy producer, with 2 500 litres of safrole (an MDMA precursor) seized at an airport in 2011, and three shipments of safrole reported as suspicious since June 2010. In addition, between 2010 and mid-2011, Mexico recorded large seizures of methylamine (a non-scheduled substance used to manufacture MDMA) arriving from China and totalling 154 000 litres (INCB, 2011).

Overall, ecstasy supply appears to have experienced a significant decline since 2008, owing mainly to dramatic drops in Europe. This may have been a result both of successful enforcement activities targeting precursor chemicals and of a subsequent displacement of ecstasy from some markets by new psychoactive drugs. There are, however, indications that the global market for ecstasy is undergoing a resurgence, with large increases in seizures observed in East and South-East Asia, and increases in seizures in Oceania as well as increases in availability and use of ecstasy in the United States (UNODC, 2012a).

After a peak in world seizures in 2007, at 16.6 tonnes, global ecstasy seizures experienced a dramatic drop in

2008, to nearly 6 tonnes, and further declined to under 4 tonnes in 2010 (UNODC, 2012a). North America is currently the largest seizing region, accounting for 20 % of global seizures (13 % in the United States and 7 % in Canada), while West and Central Europe represent the second largest seizing region, with 13 % of global seizures.

Production and precursor issues

The Netherlands probably emerged as the main European ecstasy centre at the end of the 1980s by virtue of its pre-existing expertise in synthesising drugs and its well-established trafficking routes. Until then, MDMA had been imported in tablet form from Spain and in powder form from the United States, to be locally tableted. Ecstasy was also reported to be manufactured by a German pharmaceutical company until it was prohibited. Originally manufactured by people involved in the drug scene and in the rave culture, by the early 1990s organised crime had established its hold on the production of ecstasy in the Netherlands (Blickmann, 2004).

Precursors

The majority of the precursors and pre-precursors used to manufacture MDMA are sourced from Asia, with suggestions that OCGs are responsible for managing the development of large-scale production and marketing in Europe, including the importation of precursors.

The main precursor chemical associated with the manufacture of MDMA is 3,4-methylenedioxyphenyl-2-propanone (3,4-MDP-2-P), also known as PMK. In addition, sassafras oil, safrole, isosafrole and piperonal can be used to manufacture either PMK or MDMA. All of these substances are under international control, but also have legitimate uses for the cosmetic and mosquito repellent industries (INCB, 2011).

Although Europe has previously been viewed as a major global source of MDMA, its dominance of global ecstasy supply has declined steadily since 2004. In particular, no notable seizures of PMK have been reported since 2007. However, underlying this finding may be some retooling of operations, with OCGs making use of alternative chemicals and also developing and using pre-precursors to PMK. In 2009, the EU signed agreements with China relating to precursor control and in particular the importation of PMK, which is likely to have been a factor in the decline of PMK availability for illicit use in Europe.

Precursor seizures

In 2010, world seizures of PMK amounted to 2 litres, down from 40 litres in 2009, while seizures of safrole fell from 1 048 litres in 2009 to 168 litres in 2010. In the EU, no PMK was seized in 2010, suggesting that it is no longer used as the main precursor for the manufacture of ecstasy. It appears that safrole has taken over, despite only four seizures being made, totalling 85 litres, all of which occurred in the Netherlands. In 2008, Estonia reported a large seizure of 1 841 litres of safrole, and in 2009 Lithuania reported the seizure of 929 litres, potentially indicating domestic production (INCB, 2011). The size of the ecstasy market far outweighs the size of the precursor seizures, indicating that a large portion of the precursor illicit trade remains undetected.

Developments in precursors

One of the outcomes of strengthened controls and targeted seizures of the main MDMA precursor chemical PMK has been an increase in the use of non-scheduled chemicals, the so-called 'masked precursors' ([57]), in the manufacture of MDMA. One such example is methyl-3-[3'4'-(methylenedioxy)phenyl]-2-methyl glycidate (MMDMG), also known as PMK glycidate. MMDMG is a synthesised derivative of piperonal and, as yet, is not a controlled substance. It was first detected in Australia in 2004 (UNODC, 2012b). Evidence of its use emerged in Europe in 2010, when about half a kilogram of the substance was seized in an MDMA and methamphetamine production site in the Netherlands, along with possible instructions for how to convert it into PMK.

The use of this masked precursor in the manufacture of ecstasy appears to be increasing throughout Western and Central Europe, apparently replacing PMK. In the Netherlands, Europe's main producer of ecstasy, 1.2 tonnes of MMDMG was seized in 2010, 1 tonne of which was intercepted in a single case detected as a result of a mis-declared airfreight shipment arriving from China. Also in 2010, Slovakia reported to Europol a seizure of 700 litres of MMDMG. In March 2011, Denmark seized 800 kg of MMDMG via air cargo that was reportedly one in a series of shipments destined for the Netherlands and which had originated in China (INCB, 2011). MMDMG has also reportedly appeared in Belgium, Estonia and Poland (UNODC, 2012b).

([57]) Precursors temporarily converted into other non-controlled substances are called 'masked precursors'. They are converted back into essential precursors through the use of easily available chemicals.

Production

The scale of ecstasy production can vary widely, ranging from low-level production in small, kitchen-like laboratories to industrial-scale production in factories, as has typically been observed in Western Europe. The first step is synthesis from the precursor chemicals, following which the crude MDMA oil is separated from the other components by distillation. Next, a salting process is used to convert the liquid to a solid. Vacuum suction is then employed to further extract unwanted residue chemicals, followed by drying. Once the solid MDMA has been dried, it is granulated and mixed, and colour can also be added at this step. Finally, tableting—often with the addition of a logo imprint—and vacuum packaging (for consistency and dryness) finish off the whole process (Europol, 2010).

A variety of production methods can be used, and as a result the equipment used for production may vary. The most common production process which has been encountered in large-scale production sites is reductive amination. This involves converting PMK into an intermediate, which is subsequently converted into MDMA by introducing different catalysts (reductive substances) to cause the desired chemical reaction. Depending upon the reductive substance used, the production method may vary, but the *pressure reaction method* is the most commonly used in large-scale manufacture of MDMA. It uses pressure reaction vessels in combination with hydrogen gas and a catalyst (often platinum oxide) to synthesise PMK.

Large-scale illicit drug production site detected in Belgium

In May 2010, the Hasselt Federal Police, in close cooperation with Europol, dismantled a large sophisticated illicit drug laboratory, which had the potential to produce hundreds of kilograms of synthetic drugs, in this case amphetamines and MDMA. The set-up of this illicit drug laboratory was unique, with a yearly production capacity of an estimated European street value of several million euros. Six suspects were arrested in Belgium. The investigation lasted several months and also involved cooperation with the Netherlands and Germany.

Seizures of production facilities

There has been a decline in the numbers of ecstasy laboratories dismantled annually in Europe, from over 20 in 2002 to five or fewer from 2009 onwards (Figure 22). Ecstasy manufacture in Europe may have peaked in 2000,

Figure 21: Amphetamine and ecstasy production equipment, Belgium, 2010

Source: Europol.

Monitoring dismantled ecstasy production facilities

Examining trends in production can be challenging. Some information can be gleaned from data on the dismantling of production facilities, although inferences about levels and trends in production should be made with care: as with seizures of illicit drugs in general, the data can reflect law enforcement resources and priorities as much as drug production itself.

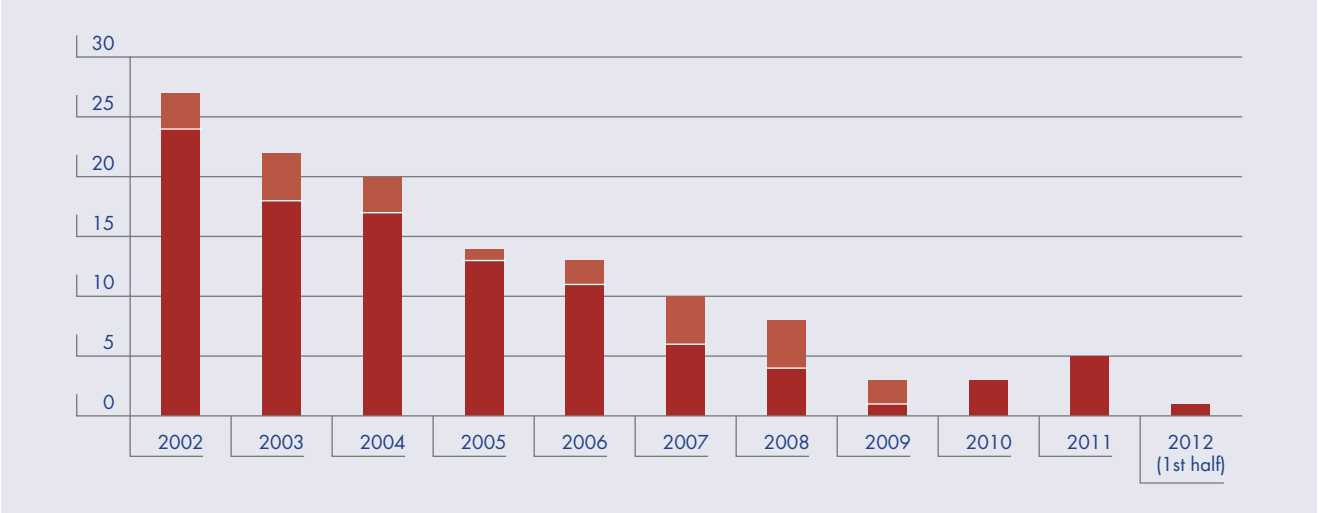
Leaving this problem aside, data on the number of dismantled ecstasy production laboratories in Europe are poor. The most obvious reason is the differences between the data reported by the sources available (Europol, EMCDDA/Reitox national focal points, UNODC). The lack of shared definitions of the terms 'production facility' and 'laboratory' is likely to account for some of the discrepancies between reporting systems. Ecstasy, for example, is often manufactured in the same facilities as amphetamine; but a facility may be reported as producing only one of the two drugs. In addition, the different stages of production and manufacture now tend to occur at different locations, with facilities used for synthesising the substance, others for tableting the drug, and others as storage space, the reporting of which may differ between countries. These issues also stand true for the reporting of other synthetic drugs production laboratories.

when 50 laboratories were reported to have been dismantled to the UNODC (2011h).

The Netherlands appears to be the main source of ecstasy in Europe, reporting much higher numbers of dismantled laboratories since 2002 than other countries. Between 2002 and 2004, for example, the number of laboratories seized annually in the Netherlands ranged between 10 and 18, whereas, to date, no other European country has reported double-digit figures in any year. In Belgium, laboratories were also dismantled every year in the last decade, except in 2007 and 2010, although the number is always smaller than in the Netherlands. Production in other countries does occur; this was more dispersed throughout Europe before 2003–2004, although most of the dismantled laboratories were located in Central and Northern Europe (Germany, Estonia, Spain, France, Lithuania, Austria, Poland, Portugal and the United Kingdom). Seizures of ecstasy laboratories in recent years suggest that production levels across Europe have dropped, and that manufacture now would be taking place largely in the Netherlands. In 2010, two laboratories were dismantled in the Netherlands and one in Bulgaria; in 2011 four were dismantled in the Netherlands and one in Belgium; and in the first half of 2012 only one was found in the Netherlands.

A recent development noted in the Netherlands has been the strategic change in ecstasy production since around 2008, when individual production stages (e.g. synthesis, tableting) were no longer performed at a single location, but were spread over several facilities (both static and mobile), to avoid detection (UNODC, 2011h).

Figure 22: Number of ecstasy laboratories dismantled in Europe, 2002–2012



Note: As the number of laboratories dismantled in Europe differs between sources, the horizontal line within each bar represents the lowest reported number and the top of the bar the highest one. 2010–2012 data were provided from one source only, Europol.

Sources: UNODC World drug reports (2002–2012), UNODC Global ATS assessment (2005–2009); Europol Intelligence (2002–2012).

Consumer markets for ecstasy in Europe

Historically linked with the dance music scene, ecstasy is one of the most used illicit stimulants in Europe, along with amphetamines. In recent years, there has been some decline in the use and availability of ecstasy, but recent data suggest that the market may be experiencing a revival.

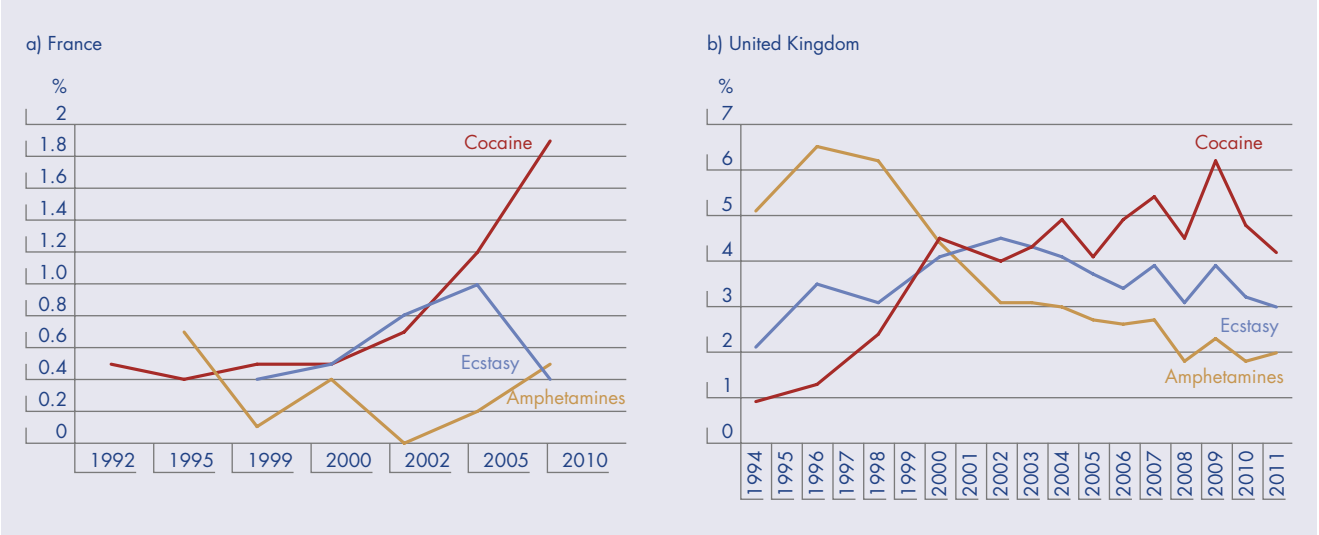
Ecstasy is usually taken orally (as a tablet) or, less often, snorted (in powder form). The number of ecstasy users is similar to the number of amphetamines users, but remains lower than the number of cocaine users. Use among the general population is low and has been stable over time. By contrast, prevalence levels amongst young people are far higher—especially amongst those going to clubs and dance events and heavy drinkers. There are frequent reports of the combined use of ecstasy with other substances, including alcohol (EMCDDA, 2009d).

Based on data from the most recent population surveys, it is estimated that about 11.5 million Europeans have tried ecstasy ([58]) (average of 3.4 % of the adult population), and about 2 million have used the drug during the last year (of whom 1.5 million are aged 15–34), with the highest estimates being reported by Latvia, Slovakia, the Netherlands and the United Kingdom (these four countries accounting for 40 % of the estimated 2 million users). Use of the drug in the last year is concentrated among young adults (aged 15–34) (with a European average of 1.3 %), with males generally reporting levels of use higher than females in all countries. For comparison, last year use of the drug among young adults in the United States is estimated at 3.1 %.

Targeted surveys provide an insight into levels of ecstasy use reported by young adults attending clubs and other nightlife venues in Europe. Recent studies of these groups in the Czech Republic and the Netherlands showed levels of last year use of ecstasy of 42 % and 33 % respectively (Czech Republic and Netherlands: Reitox, 2011). Ecstasy use was more common than amphetamines use in both samples. Data from this type of study design, however, must be interpreted with caution as samples may not be representative of the overall population of clubbers, and even less representative of the general population.

Overall, in the European countries with the highest estimates of last year use among young adults (Czech Republic, Estonia, Spain, Slovakia, United Kingdom), use peaked in the early 2000s. Subsequently, in some Member States (Denmark, France and the United Kingdom), the prevalence of cocaine overtook that of ecstasy and, in some cases, amphetamines (Figure 23). During the period 2005–2010, a stabilising or downwards trend was observed in these countries, mimicking the trends observed in the ecstasy supply indicators (seizures, price and purity).

Figure 23: Trends in use of amphetamines, ecstasy and cocaine among young adults in a) France and b) the United Kingdom



Note: The figures show the last 12 months prevalence of use among young adults aged 15–34.
Source: EMCDDA/Reitox national focal points, EMCDDA (2012a).

([58]) In this context, the section refers to drug tablets that users commonly refer to as 'ecstasy'. Available data do not distinguish, within the ecstasy group, between tablets containing MDMA and other drug tablets that contain other scheduled and non-scheduled psychoactive substances.

In other countries where repeated surveys have been carried out, ecstasy use is relatively low and, in most cases, stable.

During this period, there was a reported increase in many European countries in the number of detected new substances under the umbrella of the 'legal highs' phenomenon, some of which are designed to mimic the effects produced by ecstasy (e.g. mephedrone). In combination, the increased availability of 'legal highs' and decreased availability of ecstasy (EMCDDA, 2011b) may have had the effect of stabilising or reducing ecstasy use over this period. Although no direct link has yet been confirmed, recent data suggest that some form of substance replacement may have occurred in the consumer market. For example, the 2010/11 British Crime Survey found that the last year prevalence of mephedrone use was at a similar level to that of ecstasy among the general population (16–59 years) in England and Wales (Smith and Flatley, 2011)—although the 2011/12 survey showed a fall in mephedrone use.

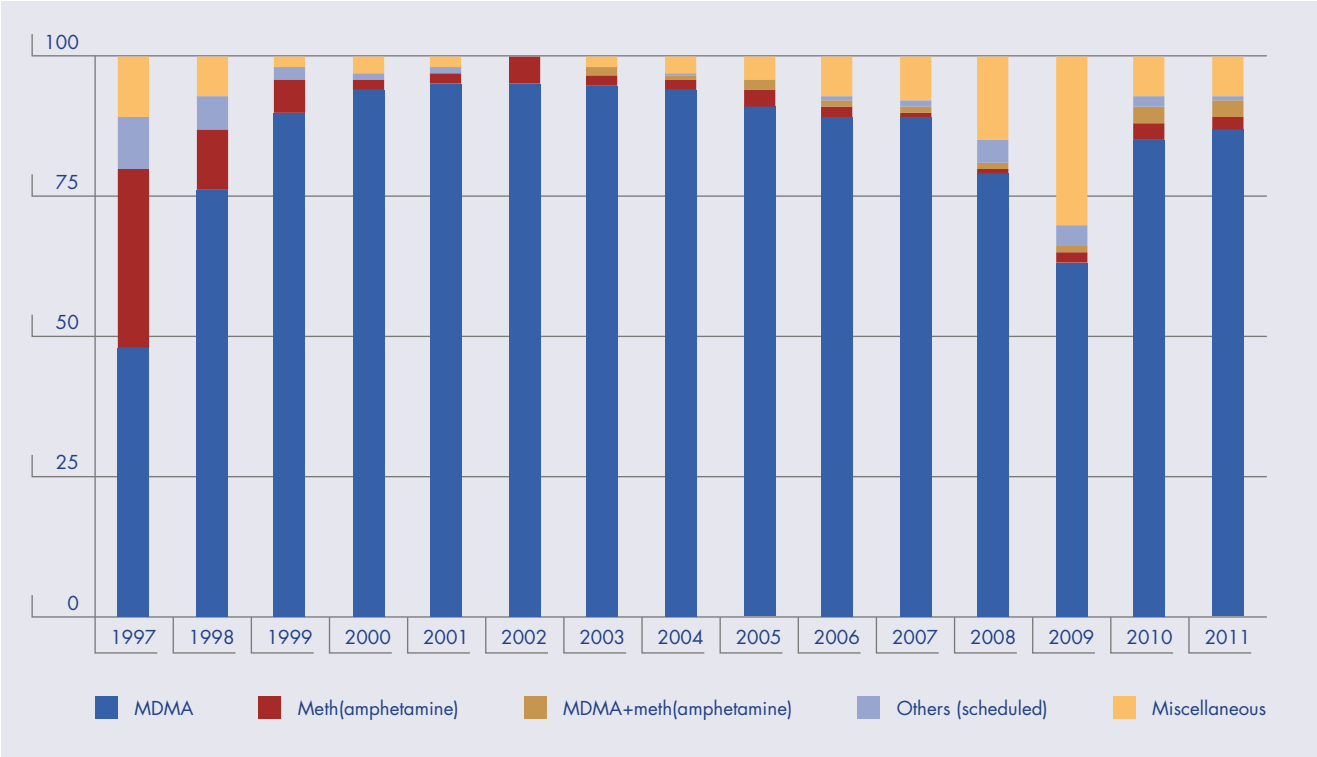
Treatment data suggest that very few drug users enter treatment for problems relating to ecstasy. In 2010, ecstasy was mentioned as the primary drug by 1 % or less of reported treatment entrants in all European countries (fewer than 1 000 clients in total); these individuals often reported concomitant use of other substances, including alcohol, cocaine and, to a lesser extent, cannabis and amphetamines.

Trends in ecstasy trafficking in Europe

MDMA content in ecstasy tablets

There has been a substantial change in the content of 'ecstasy' tablets available on European markets in the last decade. In the first half of the new millennium, most tablets contained MDMA or analogues such as MDEA or MDA as the only psychoactive substance; in 2005, MDMA-like substances accounted for 70 % or more of the tablets analysed in 17 out of 23 reporting countries. Since then, there has been a diversification of the market, with a number of other controlled and non-controlled psychoactive substances being found in ecstasy tablets and a decrease in their MDMA content. This shift was most pronounced in 2009, when only three countries reported that MDMA-like

Figure 24: Content of ecstasy tablets analysed in the Netherlands, 1997–2011



Note: *MDMA* includes MDMA and analogues. *Meth(amphetamine)* includes amphetamine and/or methamphetamine. *Others* includes all other scheduled psychoactive substances. *Miscellaneous* includes non-scheduled psychoactive substances and non-psychoactive substances.
Source: Reitox national focal point in the Netherlands.

Figure 25: Ecstasy capsule containing visible crystal MDMA, North-West England, 2011

Source: Simon D. Brandt, Liverpool John Moores University.

substances accounted for the largest proportion of the tablets analysed. In 2010, this number increased to eight and in 2011 to 10. However, in 2011, in 16 countries, most tablets analysed did not contain MDMA (or analogues). Amphetamines, sometimes in combination with MDMA-like substances, were relatively common in tablets analysed in Spain, Luxembourg and Turkey. Most of the reporting countries mentioned that piperazines, and in particular *m*CPP (1-(3-chlorophenyl)piperazine), were found, alone or in combination with other substances, in tablets analysed; these substances were found in around 20 % or more of tablets analysed in 2011 in Belgium, Denmark, the Czech Republic, Cyprus, Austria, Portugal, Finland, the United Kingdom and Croatia.

This decline in MDMA availability has occurred alongside a rise in popularity of new psychoactive substances often marketed as 'legal highs' (but also as 'ecstasy'), such as BZP (1-benzylpiperazine), MDPV (methylenedioxypyrovalerone) and, particularly, mephedrone (which belongs to the cathinone group). These substances are designed to mimic the effects of stimulants such as ecstasy and may have become a replacement for it. The finding of piperazines in place of MDMA in ecstasy tablets has increased since 2005, while cathinones started to appear from 2008 (EMCDDA, 2010). An increase in the MDMA contents in ecstasy tablets analysed in some European countries points to a resurgence of the ecstasy market after the drought of 2009, although the levels have not quite returned to those seen in the first half of the last decade.

This partial restoration of the market may possibly result from the emerging use of new pre-precursors in the manufacture of MDMA in Europe. In the Netherlands, although *m*CPP and mephedrone were found in high proportions of ecstasy tablets in 2008 and 2009, compensating for the lack of MDMA (Figure 24), they now seem to have nearly disappeared from the Dutch market, accounting, in the first half of 2011, for only 4 % and 0.3 %, respectively, of the ecstasy tablets analysed and suggesting a recovery of the Dutch ecstasy market (Brunt et al., 2011; Netherlands: Reitox, 2011).

Analysis of amnesty bins suggests that ecstasy re-emerged in the United Kingdom in 2011 in a number of forms, including powders, capsules of crystal MDMA and tablets containing crystal MDMA (Figure 25).

Seizures and trafficking

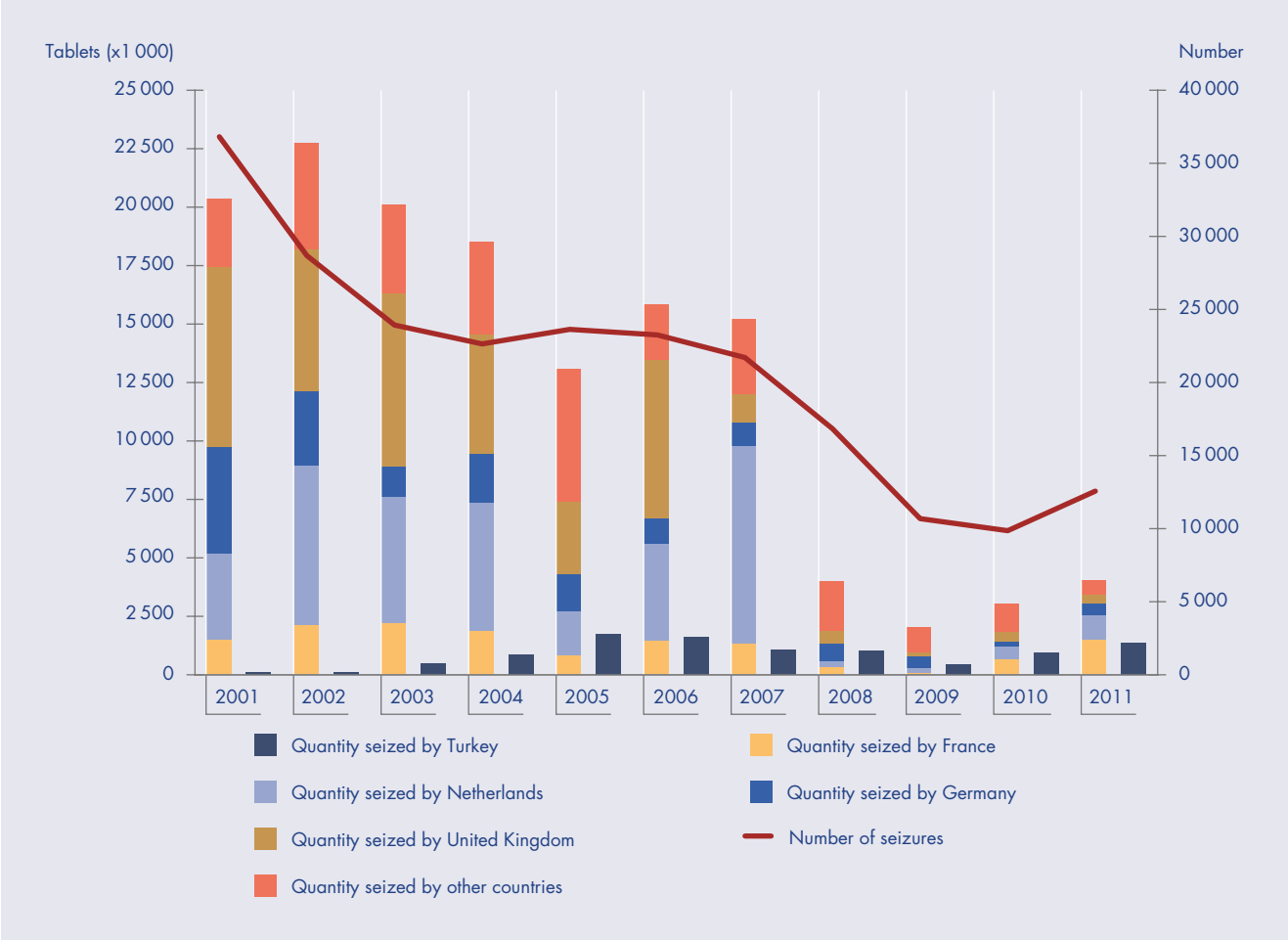
Overall, both the number of ecstasy seizures ([59]) and quantities intercepted in Europe peaked at the turn of the century, with a fourfold decrease in number of seizures and a fivefold decrease in quantity observed since then. In 2010, seizures were at levels similar to or lower than those recorded in 1995. While the initial decline in the first half of the new millennium may be linked to the decreasing predominance of Europe as a producer for non-European markets, the more recent decline since 2008 confirms the reduced availability of MDMA in Europe discussed above. The total number of ecstasy tablets seized in Europe in 2011 reached the level in 2008, confirming the partial recovery of the market suggested above (Figure 26).

Ecstasy is primarily sourced from within Europe. The Netherlands remains the country most identified as a source of ecstasy within Europe, with 10 European countries clearly reporting the Netherlands as a source in 2010. Intraregional trafficking appears to be common, with several countries reporting trafficking from neighbouring countries. Some countries note their role as transit areas to other markets; for example, ecstasy passes through Germany to reach Bulgaria, Romania, Ireland and Switzerland and through the Baltic States en route to the Nordic countries, Ukraine, Belarus and Russia (Reitox, 2011).

Historically, most of the ecstasy seized in Europe has been intercepted in the western part of the continent. The United Kingdom, followed by the Netherlands, have usually been the two countries seizing the largest quantities, several

([59]) Tablets seized and reported as 'ecstasy' may vary largely in terms of content. While some countries perform systematic analysis to determine whether they contain MDMA substances, others may record under this heading all tablets sold as 'ecstasy' regardless of the actual content, and other ones also list tablets containing non-controlled psychoactive substances.

Figure 26: Seizures of ecstasy tablets in Europe, 2001–2011



Note: All 30 European countries are included, except the Netherlands and Poland where *Number of seizures* data are not available. In the absence of 2011 data for the United Kingdom, 2010 data were used in their place.
Source: EMCDDA/Reitox national focal points, EMCDDA (2012a).

million ecstasy tablets every year, accounting for over half of the total amount recovered in Europe until 2007. In the early 2000s, production in Germany was noted, and exceptional seizures of several million tablets were reported there in 2001 and 2002. Since the mid-2000s, reported seizures in Germany have been on a par with those in France, the next largest seizing country at around 1–2 million tablets recovered annually since 2000, ahead of Spain, reporting seizures of 500 000 to 1 million tablets a year. This situation changed suddenly in 2008, with a sharp decrease in quantities seized in all five countries, to a record low in 2009 and a slight increase in 2010. During this period, seized quantities reported in these countries have fallen below 1 million tablets and, in some cases, below 500 000. In 2011, there were suggestions of a partial recovery of the ecstasy market, particularly in France and the Netherlands, where seizures increased to 1.5 and 1.1 million tablets respectively.

Turkey has recently emerged as a major ecstasy seizing country, with quantities intercepted slowly increasing over the last decade, reaching a peak of 1.7 million ecstasy tablets in 2005. Although, as in other countries, the subsequent decline led to a low in 2009, Turkey has become one of the largest seizing countries in Europe, reporting 1.4 million tablets in 2011. The size of ecstasy seizures in Turkey has remained comparatively large over the last decade, with more than 1 000 tablets on average in most years since 2001, and around 600 in the period 2009–2011, suggesting wholesale trafficking of the drug (reportedly sourced in Belgium and the Netherlands) destined apparently for the Turkish domestic market.

In contrast, the average seizure size in the United Kingdom has remained relatively small, around 100 tablets during 2008–2010, lending support to the theory that the United Kingdom is a destination market for the drug and suggesting

a large number of seizures in middle to lower segments of the supply chain.

Belgium, also identified as a producer of ecstasy, although to a lesser extent than the Netherlands, is not amongst the largest seizing countries in Europe, except in 2005, when a record number of 2.5 million tablets were intercepted. The average size of Belgian seizures is comparatively low, at 50 tablets in 2009–2011, suggesting a large number of interceptions at user level.

Interceptions in Poland have become comparatively large since 2005, placing the country in seventh position in terms of the total number of ecstasy tablets seized in the period 2009–2011. Poland, already a major production area for amphetamine, may also be manufacturing ecstasy; in 2008 a production facility was dismantled in Poland, and the country has been mentioned as a source of some of the ecstasy used in the Czech Republic, where consumption among young adults is amongst the highest in Europe.

For conclusions and recommendations relating to the synthetic drugs market, please refer to pages 136–138 in Chapter 10.

NEW PSYCHOACTIVE SUBSTANCES

Chapter 8 | New psychoactive substances

Introduction

New psychoactive substances (new drugs) comprise a broad range of substances that are not controlled under international drug laws. Often they are intended to mimic the effects of existing controlled drugs. This is reflected in the fact that many are chemically similar to controlled drugs, but, at the same time, sufficiently different that they fall outside of the scope of drug laws. In addition, a growing number of new substances from entirely different chemical families, including stimulants and substances that mimic the effects of cannabis or opioids, have also recently been detected.

The term 'new' refers to the fact that these substances are new to the drug market or newly misused. Many new drugs have previously been described in the scientific and patent literature as part of legitimate research and development. Some have been used in experiments designed to better understand the complex signalling pathways in our bodies, while others have been studied as potential medicines. However, a common feature is that there is usually limited information about the effects of these drugs in humans and the harms that they may cause. Nonetheless, it appears that those involved in supplying new substances are increasingly searching this literature for potential new drugs. Some of these are then sold directly on the illicit market, while others, the so-called 'legal highs', are sold more openly. A further development to this phenomenon is the detection of non-controlled psychoactive medicines on the market. The way in which some of these new drugs are marketed and distributed is also becoming more sophisticated. This includes their advertisement and sale on the open market, such as through the Internet (with delivery via courier and postal services), as well as sale in 'bricks and mortar' head shops ([60]).

New drugs in Europe at a glance

The EU early warning system (EWS) operated by the EMCDDA and Europol currently monitors more than 250 new psychoactive substances.

From 1 January to 31 December 2012, a total of 73 new psychoactive substances were officially notified for the first time in the EU through the EWS, up from 49 in 2011, 41 in 2010 and 24 in 2009.

Since 1997, 12 substances have been risk assessed under the EU system. Of these, eight (4-MTA, PMMA, 2C-I, 2C-T-2, 2-C-T-7, TMA-2, BZP and 4-MMC) are now controlled across the EU and one (GHB) is controlled at international level.

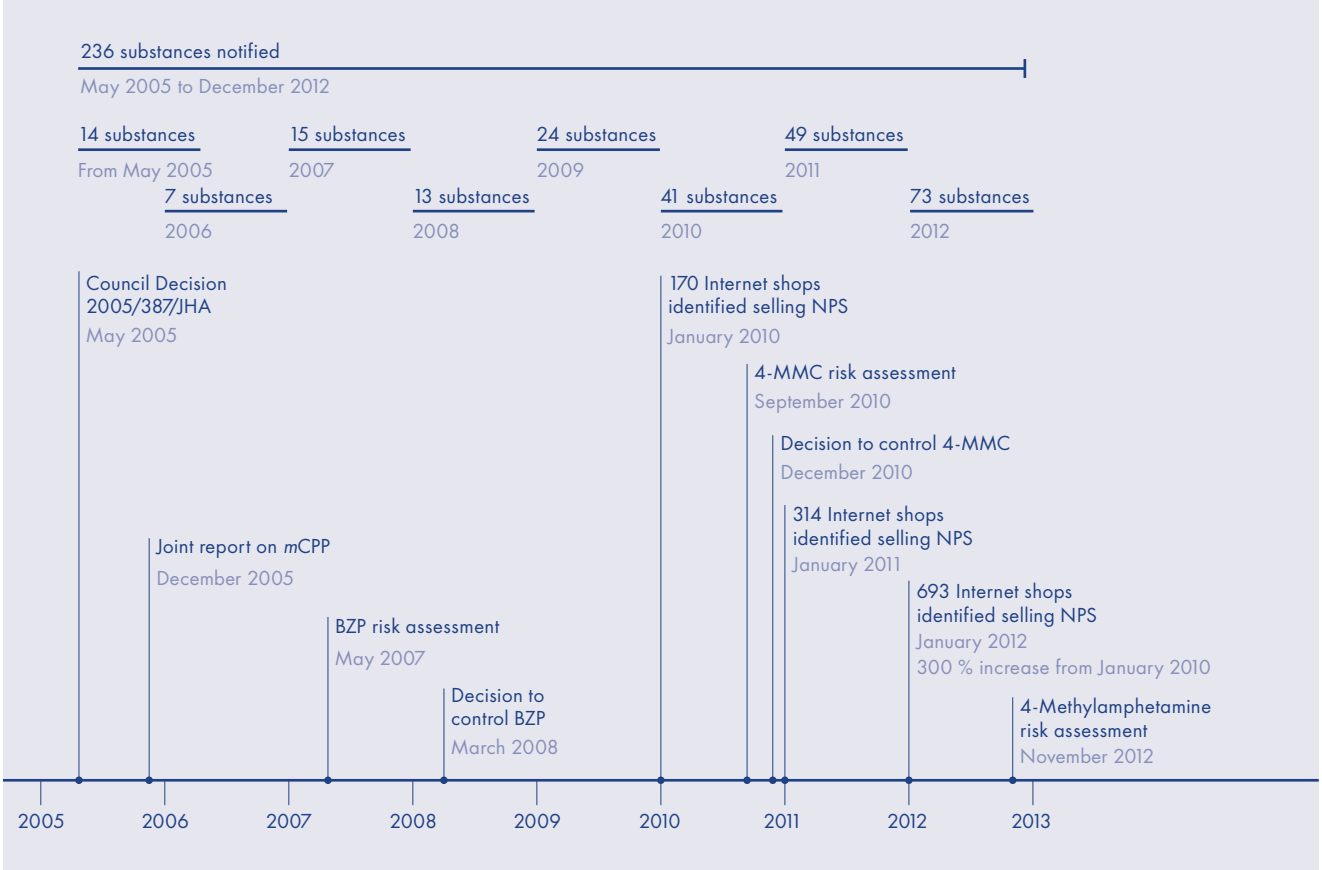
The main groups of substances monitored by the EWS are the phenethylamines (with stimulant, entactogenic or hallucinogenic effects, such as PMMA and 2C-I), tryptamines (which have predominantly hallucinogenic effects, such as AMT and 5MeO-DALT), piperazines (which exhibit predominantly stimulant effects, such as *m*CPP and BZP), cathinones (such as mephedrone, methylone and MDPV, which exhibit stimulant effects), synthetic cannabinoids (which can have hallucinogenic and depressant effects), as well as a broad group of plant-derived and synthetic substances that do not strictly belong to any of the previous groups.

Data from EMCDDA monitoring show that the number of online shops offering new psychoactive substances/'legal highs' for sale to consumers in the EU continues to grow, with 693 shops identified in January 2012, up from 314 in January 2011 and 170 in January 2010.

A recent Eurobarometer survey in those aged 15–24 across the EU found that while lifetime use of 'legal highs' in most Member States was 5 % or less, use in the United Kingdom, Latvia, Poland and Ireland was 8 %, 9 %, 9 % and 16 % respectively.

([60]) A shop that sells drug-related literature, paraphernalia and 'legal highs'. They may also be called 'smart shops'.

Figure 27: Timeline of major developments and number of new psychoactive substances notified since Council Decision 2005/387/JHA came into effect in May 2005



Note: BZP, 1-benzylpiperazine; NPS, new psychoactive substances; 4-MMC, 4-methylmethcathinone (mephedrone). Internet shops identified by EMCDDA monitoring offered NPS/'legal highs' for sale and delivery to at least one EU Member State.

Source: EMCDDA.

While the appearance of new drugs is not a new phenomenon (Baum, 1985), over the past few years there has been an unprecedented growth in their number, type and availability (EMCDDA, 2011a; EMCDDA–Europol, 2012a). That said, at least initially, many new drugs do not spread beyond small groups of users. In some cases they may be sold only as a short-term response to the reduced availability of controlled drugs (such as MDMA) that is often a result of enforcement measures. In addition, the effects of new drugs may not be acceptable to users, helping limit their spread. This may include serious acute toxicity that requires a particularly rapid response by practitioners, professionals, regulators and decision-makers. Those drugs that do gain a foothold can pose significant health and social harms. Recent examples include gamma-hydroxybutyrate (GHB, a central nervous system depressant) (EMCDDA, 2002) and mephedrone (a synthetic cathinone with stimulant effects) (EMCDDA, 2011b). The potential for harm may be magnified by the fact that some new drugs are found in increasingly complex mixtures with other new drugs, and, sometimes, controlled drugs. In addition, in some settings, established injecting drug users are also using new substances (such as mephedrone and MDPV as replacements for heroin).

A growing number of new drugs are now controlled in Member States. However, their availability, coupled to the fact that there are limited data on their effects and harms, continues to pose serious challenges to drug policy and practice in Europe and, increasingly, elsewhere. This is compounded by the speed at which they appear as well as differences in national drug laws. Since the mid-1990s the EU has been proactive in its response to the new drug phenomenon, with a mechanism for information exchange (known as the early warning system, EWS), risk assessment and, where necessary, control of new substances across the Member States (Council of the European Union, 2005) (Figure 27).

Production, marketing and supply of new drugs

The way in which new drugs are produced, marketed and supplied can differ significantly. Some are sold directly on the illicit drug market. Here they may be produced from chemical precursors in clandestine laboratories of varying size and sophistication. In the past these have typically been referred to as 'designer drugs' (Baum, 1985). Examples include PMMA (*para*-methoxyamphetamine) (EMCDDA, 2003) and 2C-I (2,5-dimethoxy-4-iodophenethylamine) (EMCDDA, 2004), which are now controlled across the EU because of the risk of harm they pose. More recently, 4-methylamphetamine, usually sold as amphetamine, has been detected in 15 Member States (see box) (EMCDDA–Europol, 2012b). New drugs sold on this market may also be tableted or otherwise packaged from bulk substances that are bought from legitimate sources; these include *m*CPP and BZP (Europol–EMCDDA, 2005; EMCDDA, 2009b). Both precursors and substances have been sourced from third countries and from within Europe. This market is dynamic, with source countries changing over time and place. While the source countries for precursors is often unclear, in some cases, the precursor, such as that required to manufacture 4-methylamphetamine, is offered for sale on the Internet by chemical suppliers that appear to be based in China (EMCDDA–Europol, 2012b).

Overall, these new drugs are believed to be largely used surreptitiously by producers as replacements for established controlled drugs which may be in short supply, such as MDMA (ecstasy). This supposition is supported by the finding that many of them are found as tablets that use the same logos as ecstasy tablets. In some cases, new drugs may also be found in combination with controlled drugs, possibly in an attempt to 'bulk up' the drug and thereby reduce the amount of controlled drug. An example of both uses is the identification in 2004 of the piperazine derivative *m*CPP in tablets sold as ecstasy. One possible reason for the emergence of *m*CPP was the decreased availability of the chemical precursors used in the synthesis of MDMA. This, coupled with the fact that *m*CPP appears to mimic some of the subjective effects of MDMA and that it could be legally sourced in Europe and elsewhere, may have made it an attractive substitute to producers (Europol–EMCDDA, 2005; Bossong et al., 2010). Similarly, although BZP came to prominence as 'party pills', and was commonly sold on the open market as such, some of the tablets that were seized on the illicit market were clearly intended to be sold as ecstasy, bearing typical ecstasy logos. It is also important to note that some of these new substances are also sold as drugs in their own right (e.g. 2C-B, also known as 'Nexus', which is now under international control) or as a 'special type' of ecstasy (such as *m*CPP).

4-Methylamphetamine: new drug by accident or design?

4-Methylamphetamine is a derivative of amphetamine that was first notified to the EMCDDA in December 2009. It is usually found in combination with amphetamine and caffeine. It is unclear why 4-methylamphetamine has appeared on the market. (Notably, the drug was previously detected in the United States during the 1970s and the United Kingdom in the 1980s.) Information provided to Europol and the EMCDDA suggests that there is no distinct difference between 4-methylamphetamine and amphetamine in terms of the involvement of OCGs, production and trading methods and users. Unlike the precursor used to manufacture amphetamine, the precursor known to be used for the manufacture of 4-methylamphetamine, 4-methyl-BMK, is not under international control and appears to be commercially available. It is possible that this led to the deliberate production of 4-MA, or 4-methyl-BMK could have been used accidentally instead of the precursor commonly used to manufacture amphetamine. Whatever the reason, a new drug appeared on the market for which limited information on their psychoactive and harmful effects is available. Since October 2011, 21 deaths linked to 4-methylamphetamine have been reported to the EMCDDA. Although there is no evidence to suggest a specific demand for 4-methylamphetamine, it is sold as amphetamine, and so a large population of drug users may be at risk of exposure to it (see Chapter 5) (EMCDDA–Europol, 2012b).

Another group of new psychoactive substances—the so-called 'legal highs'—are legally sourced and sold as replacements for controlled drugs on the open market by exploiting existing laws. This group includes a wide range of synthetic and plant-derived substances that are often sold as branded products. They are also sometimes sold in combination with other new substances. This may be an attempt to better mimic the effects of controlled drugs, or to achieve novel psychoactive effects, or as a result of accidental contamination or deliberate substitution. These so-called 'legal highs' are usually sold through the Internet and in 'bricks and mortar' head shops (in countries where there are few head shops, the Internet may play a key role in direct sales to consumers). They may also be sold by street-level drug dealers. Mostly they are advertised with aggressive and innovative marketing strategies. Often, in order to disguise the fact that they are psychoactive drugs, and circumvent 'grey areas' in consumer protection and marketing regulations, they are sold under various product labels, including 'research chemicals', 'bath salts' and 'plant food', and usually with an accompanying disclaimer that

they are not intended for human consumption. However, describing these substances as 'legal' may not be strictly correct, as some may be regulated by medicines, food safety or other consumer protection laws; some may even contain controlled drugs.

Information from border seizures and law enforcement investigations in the Member States indicate that substances sold as 'legal highs' are typically imported, sometimes in multi-kilogram quantities, from China and, to a lesser degree, India. Moreover, facilities for the processing and packaging of these substances have also been seized within the EU. One such example was the discovery in 2010 by Belgian police of both a processing and packaging facility and large quantities of mephedrone, synthetic cannabinoids and acetone that had been imported from China. At this facility the synthetic cannabinoids were mixed with acetone, sprayed on to plant material and then packaged as smoking mixtures. Later, in 2011, an investigation in the Netherlands led to the seizure of 150 kg of synthetic cannabinoids as well as 20 000 packages of finished products. It is believed that this production facility had taken over the activities from the facility dismantled by the Belgian police.

As part of the marketing strategy to offer a replacement for controlled drugs, distributors and retailers use names for 'legal high' products that allude to, or sound like, controlled drugs: 'Snow blow' for cocaine or 'Xtacy' and 'Doves Red' ([61]) for MDMA. Common street names of controlled drugs are also used (e.g. calling products 'Charlie', which is also a street name for cocaine). There have also been attempts to deceive consumers by marketing synthetic drugs as 'natural' herbal products, such as in the case of 'Spice' products that contained synthetic cannabinoids (EMCDDA, 2009c) (see box on p. 110). In the majority of such cases the substances are not listed on the product packaging.

It is also clear that retailers are exploiting the Internet as a vehicle for the marketing and sale of 'legal highs'. Data from the EMCDDA's Internet monitoring show that the number of online shops selling 'legal highs' continues to grow, with 693 shops identified in January 2012. This was twice the number identified in January 2011 and a more than threefold increase from January 2010. Sales practices in this area also appear to have become more sophisticated, with more evidence of measures taken to conceal the identity of buyers and sellers (EMCDDA 2011a). Importantly, some online shops sell not only retail products but also bulk quantities of substances, presumably for resale.

In order to raise the profile of their products, Internet retailers use a range of marketing techniques. Many focus around selling the idea that 'legal highs' are good replacements for controlled drugs. Social media are also used a marketing tool. This includes posting videos on YouTube of 'real people' using the drugs and reviewing their effects. Some of these are set at music festivals, where traditionally the use of

Product sold as a 'legal high'

Use of this product (Annihilation) has been linked to hospitalisations in Europe. Chemical analyses of samples of the product were found to contain various combinations of synthetic cannabinoids, some of which are controlled drugs. Note that the product packaging does not list synthetic cannabinoids as an ingredient and the product is labelled as an incense and potpourri.

Source: Simon D. Brandt, Liverpool John Moores University.

([61]) 'Doves' is a street name for ecstasy.

illicit drugs is common. In some cases, these videos are shot as 'before' and 'after' reviews to emphasise the effects of the drugs. Similarly, it appears that the results of search engines are manipulated (known as 'spamdexing'; Gyöngyi and Garcia-Molina 2005) so that substances, product names and retailers are artificially ranked in the top results of search engines. This form of manipulation is important for distributors and retailers as consumers tend to trust and select links that are highly ranked in search engines (Pan et al., 2007). At the same time official websites providing health information on new drugs may be ranked lower, meaning that users may be less likely to come into contact with unbiased information. Retailers also accept a range of payment methods, such as credit and debit cards, Internet payment accounts, electronic bank transfers and even cash payment into banks. Payment in cash, whether in 'bricks and mortar' head shops or for Internet purchases, is likely to extend the customer base for 'legal highs' to young or marginalised people who do not have access to payment cards.

A further dimension of the new drug phenomenon is the growing number of psychoactive medicines that are being misused. Some of these are authorised as medicinal products within the EU (such as pregabalin) and are either diverted from the regulated market or imported from third countries. They may also include substances and products that are not licensed within the EU, such as phenazepam and etizolam (benzodiazepines) (EMCDDA–Europol, 2012a).

The synthetic cannabinoids AKB48 and 2NE1: novel marketing?

Synthetic cannabinoids were first detected on the EU market in 2008 as potent drugs hidden in smokable herbal products sold as 'Spice' (EMCDDA, 2009c). Recently, two other synthetic cannabinoids, with the code names AKB48 and 2NE1, have been notified to the EMCDDA; these code names are not thought to be described in the literature. Interestingly, these are also the names of popular pop bands in Japan and South Korea. One possible reason for using these code names for marketing on the Internet may be an attempt to draw on the popularity of the bands through their high ranking in search engine results. It is also possible that the use of these names is an attempt to target the fan base of the bands concerned.

The drivers of new drugs

Essential to the recent developments in the new drug market are globalisation and innovation. This includes an increased capacity in chemical synthesis in emerging economies such as China and India that allows new drugs, their precursors and cutting agents ([62]) to be sourced cheaply. The Internet, too, plays a pivotal role, allowing entrepreneurs to search the scientific and patent literature for ideas for new drugs, to order them (or their precursors) from manufacturers, and in some cases to advertise and sell them to both consumers and dealers. At the same time, cheap air freight and courier services allow drugs to be delivered rapidly to wholesalers, retailers and consumers.

Many diverse factors drive the availability of new drugs. These form a complex web that makes it difficult to unravel the exact role they play and their importance. The simple fact that there are few, if any, restrictions on the manufacture, transport, importation, sale and possession of the drugs is clearly important as the risks to manufacturers and distributors are reduced. This can increase the availability throughout the supply chain, reducing costs. Several additional factors may also make new drugs more attractive and socially acceptable to consumers, driving demand. This includes the (mis)perception that 'legal highs' are of higher quality than controlled drugs and that they are less harmful, perceptions that may be reinforced by positive ratings by friends and other social contacts. In some cases new drugs may also emerge as a result of the poor technical knowledge of producers or from using the wrong chemical precursors ([63]). As noted, the marketing of many new drugs has also become increasingly innovative. This has allowed them to reach larger numbers of prospective consumers outside the traditional recreational user groups. These include consumers who typically do not use controlled drugs, as well as those who use new drugs for lifestyle reasons (such as to lose weight) or as a form of self-medication.

While online networks are playing a growing role in how consumers learn about new drugs, buy them and, subsequently, share their experiences, traditional 'offline' social networks are likely to continue to be of great importance. For example, studies have shown that many users source some 'legal highs' from friends or street-level drug dealers (Gallup Organisation 2011; Dargan et al., 2010). Although the interactions between these two types of networks are poorly studied, it is likely that there is a great deal of interplay.

([62]) These may be added to 'bulk out' and/or 'dilute' the drugs or as binding agents in the production of tablets or 'pellets'.
([63]) Which may be accidental or deliberate.

The interplay between the new drug market and illicit drug market

Much of the policy focus on new drugs has concerned their legal status; however, it is also important to see them in the context of the overall drug market. As an example, both law enforcement agencies and users report that some 'legal highs', such as mephedrone (before it was controlled), can be purchased not only openly on the Internet, but also through the same illicit networks that are used to supply drugs such as ecstasy and cocaine. Indeed, mephedrone may have even become a drug of choice among certain groups, which may help sustain its market now that it is controlled across the EU (Wood et al., 2012). Moreover, as noted, new drugs may be tableted and sold as ecstasy on the illicit market. In 2009, for example, Dutch police seized more than 130 kg of mephedrone (260 000 tablets) from a tableting site and four related storage locations. Most were imprinted with a logo commonly used on ecstasy tablets.

Controlled drugs have also been detected in 'legal high' products. For example, in 2011, PMMA, which in 2002 became a controlled substance in the EU because of the harms it poses, was detected in products sold as 'legal highs' along with the synthetic cathinone MDPBP (3',4'-methylenedioxy-α-pyrrolidinobutyrophenone). At the same time, the drug was also detected on the illicit market in tablets sold as ecstasy and powders sold as 'speed' (amphetamine), in some cases in combination with MDPBP. This may suggest the involvement of organised crime. Alternatively, as PMMA is not under international control, it could have originated from a country where it is not controlled and deliberately sold as another substance. More recently, seizures of herbal cannabis have been reported to contain synthetic cannabinoids. Although this requires further study, possible reasons for using synthetic cannabinoids include increased profit by reducing the time from nursery to harvest or to increase the potency of 'weak batches' of herbal cannabis.

Predicting the extent to which new drugs will become a major part of Europe's illicit drug market is difficult. However, OCGs recognise the potential profit to be made in new drugs, no doubt encouraged by the fact that there are few restrictions on their manufacture, distribution, sale and possession. That is not to say that well-conceived control measures will solve all the problems in this area, and there is a danger that they might even increase the momentum for an undesirable transition from a mostly online 'legal highs' market to one that increasingly involves organised crime. As noted above, synthetic cathinone derivatives such as the former 'legal high' mephedrone have also appeared on the illicit market. This suggests that OCGs have become involved in their distribution, as do stockpiles of the drugs in neighbouring countries. Indeed, when mephedrone first emerged on the market it was legally sourced from countries outside the EU; however, more recently, Polish police have dismantled a mephedrone production site, seizing 5 kg of the drug in the process. According to intelligence in this case, there were links to organised crime as well as trafficking of 50 kg of mephedrone within Poland and to other Member States. Intelligence also indicates that criminal groups are involved in the distribution of herbal smoking mixtures that contain synthetic cannabinoids. In light of the readiness of such groups to exploit gaps in drug control legislation, and the speed with which markets develop for non-controlled drugs, criminal interest in new drugs is likely to grow. This is likely to be especially the case as criminal organisations recognise the potential of drugs that can be bought legally and cheaply in large quantities, or can be synthesised relatively easily, and which are attractive alternatives to controlled drugs. Crucially, as the Internet plays a key role in procuring, marketing and selling new drugs, its transnational nature will limit law enforcement activities.

Consumer markets

The consumer market for new drugs is complex and, for the most part, poorly studied. Prevalence data are limited and often suffer from methodological limitations. In the case of new drugs that are sold directly on the illicit market, the user groups will reflect, to some degree, the existing markets for controlled drugs such as amphetamine or ecstasy. In the case of 'legal highs', most surveys have examined use in targeted groups (such as dance music fans and night club patrons), which tend to comprise larger numbers of 'early adopters' of new drugs. These findings are not representative outside the survey population. However, the use of new drugs in these populations can be very high and may provide both insights into the harms a drug may have as well as an indication of substances that may be attractive to other users and which could become more widespread.

More recently, representative surveys have been undertaken in some Member States. For example, a national survey in Spain that examined use of 'emerging drugs' in students aged 14–18 found overall lifetime use of 'legal highs' of 0.7 % (0.6 % in the last year and 0.5 % in the last month) ([64])

([64]) The prevalence of use of 'research chemicals' was 0.4 % for lifetime use, 0.3 % in the last year and 0.2 % in the last month, while the prevalence of use of 'Spice' products (which contain synthetic cannabinoids) was 1.1 % for lifetime use, 0.8 % in the last year and 0.4 % in the last month.

(Clinical Committee of the Government Delegation for the National Plan on Drugs, 2011). In addition, a recent Eurobarometer survey in those aged 15–24 found that while lifetime use of 'legal highs' in most Member States was 5 % or less, use in the United Kingdom, Latvia, Poland and Ireland was 8 %, 9 %, 9 % and 16 % respectively (Gallup Organisation, 2011).

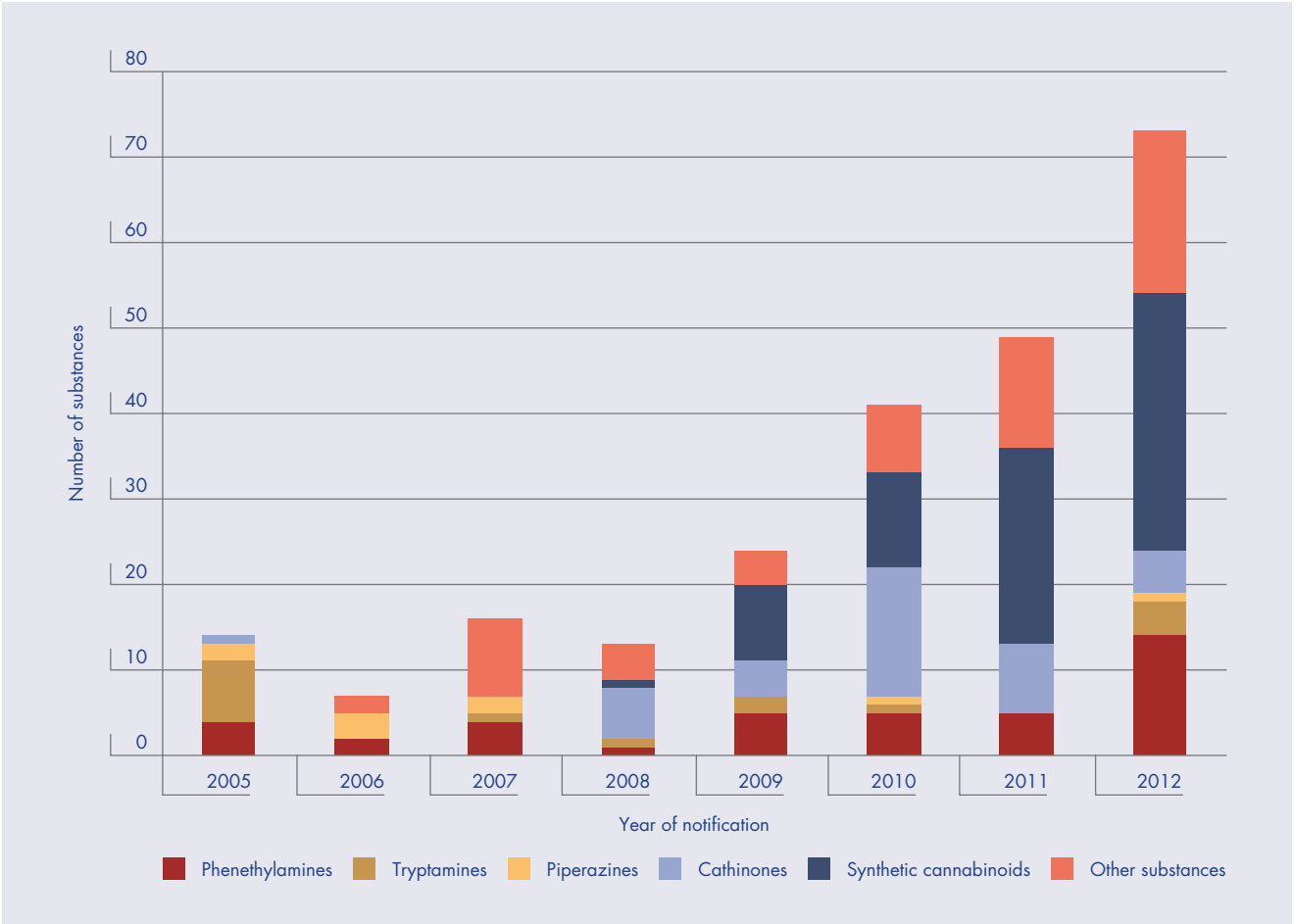
In the case of some drugs, there is potential for a rapid increase in use among the broader population over a relatively short period of time. For example, although mephedrone was first detected on the UK market in mid-2008, the 2010/11 British Crime Survey (covering England and Wales) found a prevalence of past year use of the drug among 16- to 24-year-olds of 4.4 %—similar to the rate for powdered cocaine and MDMA use (Smith and Flatley, 2011). New drugs, particularly those sold as 'legal highs', may also be attractive to groups that are subject to drug testing, such as military personnel, those in drug treatment programmes and, more generally, vehicle drivers as many standard drug tests do not currently detect all these substances.

Overall, in the case of most new psychoactive substances that have spread beyond relatively small groups of users, it is currently unclear if the new substances are displacing controlled substances, in either the short or long term, or are simply used in addition to the existing range of drugs.

Responding to new drugs in the EU

In the EU, the need for a rapid and effective response to new psychoactive substances and the harms they may cause has been recognised by decision-makers since the mid-1990s. Currently, it is the Council Decision 2005/387/JHA that provides a legal basis for information exchange (EWS), risk assessment and, where necessary, control of new substances across the Member States (Council of the European Union, 2005). The EWS, operated by the EMCDDA and Europol in partnership with

Figure 28: Number of new psychoactive substances notified to the European EWS, 2005–2012



Source: EMCDDA/EWS.

their networks (including national early warning systems), is a real-time mechanism for the exchange of information on new drugs that may cause health and social harms. Multidisciplinary information sources are combined in order to detect, identify, track and understand new patterns of use, emerging trends and potential threats related to new drugs. The system is used extensively by health and law enforcement professionals, the forensic science community, researchers and decision makers throughout Europe.

From 1 January until 31 December 2012, a total of 73 new psychoactive substances were notified for the first time in the EU through the EWS (Figure 28), up from 49 in 2011, 41 in 2010 and 24 in 2009 (EMCDDA–Europol 2012a). The marked increase in the number of notifications is taking place in the context of a continuous development of the 'legal highs' phenomenon and probably reflects both the number of drugs available in the EU as well as the improved reporting capacities of national early warning systems. The latter is also likely to reflect increased awareness about new drugs among various professionals and a high level of interest in the phenomenon by decision-makers at national level.

The Council Decision also provides for the assessment of the risks of new substances. This includes examining the physical, chemical, pharmaceutical and pharmacological characteristics of any new substance, as well as the health and social risks, the involvement of organised crime, whether it has been assessed under the UN drug control system, current control measures within the Member States, options for control and the possible consequences of these control measures (see box).

Mephedrone: an example of how the EU responds to new drugs

Mephedrone is a synthetic cathinone with properties similar to stimulant drugs such as MDMA and cocaine. It appeared for the first time in Europe in 2007 and quickly gained popularity among young people in some countries, leading to a specific demand for the substance. In 2010, it became the first cathinone derivative to be risk assessed at EU level. At this time, seizures of mephedrone were reported by 22 Member States. Some reported significant seizures, noting that production and export took place in Asia and in particular China. Mephedrone was readily available on the Internet, where it was sold usually as a powder in retail and bulk quantities as a legal alternative to cocaine or ecstasy. The substance was variously advertised as a 'research chemical', 'bath salts' or 'plant food'. Although data were limited, the risk assessment found that mephedrone could be an attractive drug for those seeking stimulant effects for recreational purposes and that it had the potential to spread to other populations and countries, which may constitute a health and social threat. It was also found to have some of the same toxic features as MDMA and cocaine, causing acute problems similar to those seen with the use of illicit stimulants. Moreover, the available data suggested that the drug could produce dependence in users. However, the chronic health effects were virtually unknown. Based on this information the Council of the European Union decided that mephedrone should be controlled in all Member States (EMCDDA, 2011b).

Responses by Member States

In response to the growing number of new drugs, some Member States have opted to schedule families of substances on the basis of their chemical make-up. This is known as 'generic legislation', and both Ireland and the United Kingdom have used this approach for some time. In other countries, in contrast, legislation covers a wider range of derivatives of controlled drugs with similar structures or effects (analogues) and can be applied to all substances controlled by drug laws (such as in Bulgaria and Norway), selected categories (Latvia, Malta) or just one small group (Luxembourg).

The rapid spread of new drugs is prompting some Member States to rethink their response to the problem. In some cases this includes defining proscribed drugs in functional terms rather than in terms of their chemistry. Examples can be found in Ireland and Poland. In 2010, both countries passed legislation to limit the open sale of new substances not controlled under drug laws. This required careful legal definitions of such substances. Briefly, the Irish law defines them as psychoactive substances not specifically controlled under existing legislation. The Polish law refers to 'substitute drugs', defined as a substance or plant used instead of, or for the same purposes as, a controlled drug, and whose manufacture or placing on the market is not regulated by separate provisions. It makes no specific reference to whether the drug is considered harmful.

The Irish law is enforced by the police. Senior police officers can serve a 'prohibition notice' on a seller; if the offender does not comply with this, the courts can issue a 'prohibition order'. Selling or advertising drugs and non-compliance with a 'prohibition order' are punishable by up to five years in prison. By contrast, in Poland the law is enforced by the state public health inspectorate. The penalty for manufacturing or distributing substitute drugs is a large fine, while the penalty for advertising them is up to one year in

prison. Public health inspectors may prohibit trade of a 'substitute drug' for up to 18 months in order to assess its safety, if there is a justified suspicion that it might pose a threat to health. If the drug is found to be harmful, the distributor is required to meet the costs of the assessment. The inspectors also have the right to close premises for up to three months. In both countries, no offence or punishment is set out for the users of these substances (EMCDDA, 2011c).

Several countries (Bulgaria, Latvia, Luxembourg, Romania and Slovakia) have introduced initiatives to improve and accelerate the legal response to threats posed by new drugs. They include introducing a temporary ban on any new drug that conforms to an agreed definition (Hungary, United Kingdom) and issuing a list of unregistered 'quarantine' substances, subject to specific control measures (Slovakia).

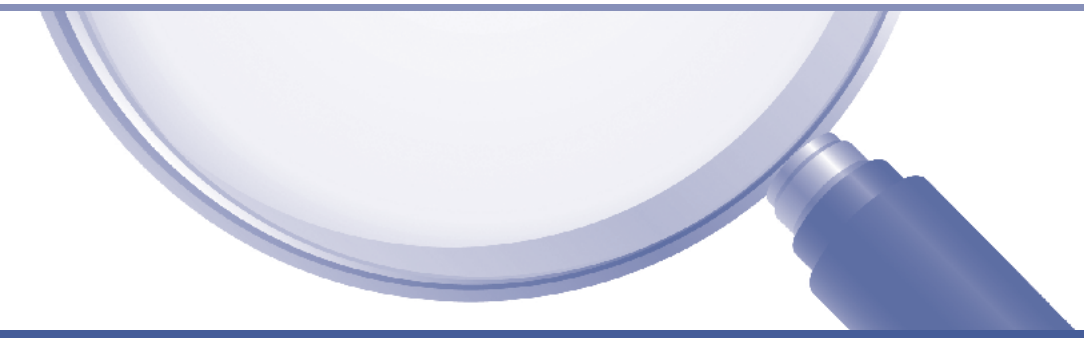
Penalties for selling substances that have psychoactive properties or present risks to health have also intensified (e.g. Germany, Hungary, Austria, Poland, Romania, Finland and Sweden). Swedish police and customs officers now have powers to seize unidentified substances, order a formal investigation of the health risks of a substance and destroy hazardous goods assumed to be used to achieve intoxication.

There are also national initiatives for assessing the risks posed by new drugs prior to introducing control measures. For example, Latvia has developed local risk assessment guidelines and an expert commission convenes twice a year to inform the control process. The use of these new guidelines was piloted for the synthetic cannabinoid JWH-210. Similarly, in Hungary, substances that are reported by a formal notification will be 'rapidly' assessed by an expert group, which will subsequently decide whether they should be scheduled, and, if so, if they should be controlled as individual substances or as a family. In Finland, the possession of drugs formally notified by the EU EWS will be criminalised. Austria, Poland and Sweden are also examining tools to assess the harms posed by new drugs. In Romania, a project to assess the risks related to 'legal highs' has adopted the EMCDDA risk assessment guidelines.

Despite these approaches, the globalised nature of the new drugs market makes it particularly difficult to control and reduce supply. Producers and retailers have employed sophisticated strategies that exploit gaps in existing control and regulatory measures and allowed them to rapidly adapt to new measures. This is fuelled by differences in drug laws between both Member States and third countries, particularly those emerging economies where the substances are manufactured. Alongside this, insufficient control of freight and postal packages makes it easier to import and distribute new drugs into the EU. At the same time, while organised crime has long been a defining feature of the designer drug market, its growing involvement in the 'legal highs' and medicines market—where large profits and lower risks act as incentives—adds to the difficulties faced in developing effective and efficient responses aimed at reducing the supply of new drugs.

For conclusions and recommendations relating to the new psychoactive substances market, please refer to pages 138–140 in Chapter 10.

ISSUES IN FOCUS



Chapter 9 | Issues in focus

Cross-border displacement of cannabis cultivation: a Belgian perspective

In the 1960s, the Netherlands developed what was generally seen as a liberal drug policy designed to achieve a separation of drug markets. The main aim was to curb the spread of 'hard' drugs, and heroin in particular, which was then cheap and widely available in Amsterdam. Cannabis was seen as presenting fewer risks to users, and the cannabis market was not expected to become highly commercialised, assumptions that seem—with the benefit of hindsight—overoptimistic. In the 1970s and mid-1980s coffee shops sold cannabis resin, imported from producing countries such as Morocco, Lebanon, Nepal and Turkey. Until the beginning of the 1990s, domestic cultivation of cannabis was generally small scale and amateur; herbal cannabis was imported from Jamaica, Thailand and the African continent ([65]).

In contrast, American know-how in the indoor cultivation of cannabis herb had developed rapidly as a response to strict US cannabis controls (Jansen, 2002; Decorte, 2010). Given the Dutch market preference for resin, this technology was at first slow to take hold in the Netherlands. However, things changed in the early 1990s, with media reports of domestic indoor cultivation of strains of herbal cannabis with very high THC content (Niesink et al., 2007). This boosted the indoor cultivation of herbal cannabis, leading to what Jansen (2008) described as 'The Green Avalanche'—an unprecedented growth of domestic cultivation.

Drug tourism and international pressure

From the early 1990s, municipalities near the Dutch border were visited by thousands of international coffee shop tourists every day, leading to diplomatic tensions between the Netherlands and neighbouring countries—and especially with the Chirac government in France, which held the Netherlands responsible for exacerbating France's drug problems. Facing the negative impact of international drug tourism and increasing international pressure, the Netherlands re-oriented its drug policy in 1995 with a Ministerial Statement: 'The Dutch drug policy. Continuity and change'. This introduced a more restrictive policy towards coffee shops and redefined guidelines for the detection and prosecution of illegal activities as defined in the Opium Act. In 1996, the Public Prosecution Service redefined the criteria for tolerated coffee shops (the so-called AHOJ-G criteria) ([66]). The tolerated transaction size per person was reduced from 30 g to 5 g and local authorities were given new powers to take action against coffee shops. Local mayors could close down coffee shops temporarily or permanently if they ignored the AHOJ-G criteria.

The new policy sharply reduced the number of coffee shops, from over 1 300 in the early 1990s to 846 in 1999 and 666 in 2009. Border municipalities strengthened their enforcement policies, by closing down coffee shops or moving them out of the city centre and towards the border. However, production capacity was not reduced, but was diverted to the non-tolerated Dutch market, and to the export market.

Coffee shops or organised crime money makers

Proponents of the 'market separation' policy originally claimed that coffee shops were supplied almost entirely by small-scale indoor growers (Spapens et al., 2007). However, it became clear that there were close connections between the coffee shops and criminal organisations. The cannabis market in the Netherlands had become a money-making business. Korf (2003) estimated an annual turnover for the Dutch cannabis market of EUR 210 million in 2003. Bieleman and Snippe (2006) put the average annual turnover of a typical Dutch coffee shop at between EUR 280 000 and EUR 380 000, while others estimated

([65]) For fuller discussion of the evolution of Dutch drug markets and drugs policy, see Jansen (1989, 2008), Boekhout van Solinge (1996, 2004), Korf et al. (2001, 2005), De Ruyver (2006, 2011), van de Bunt (2006), van Ooyen-Houben (2006), Surmont (2007), Fijnaut and De Ruyver (2008) and Pakes and Silverstone (2012).

([66]) Coffee shops were not allowed to advertise (A), or sell hard drugs (H) and had to make sure there was no nuisance (O), no people younger than 18 were allowed in the shops (J) and the maximum transaction size was restricted to 5 g per person (G).

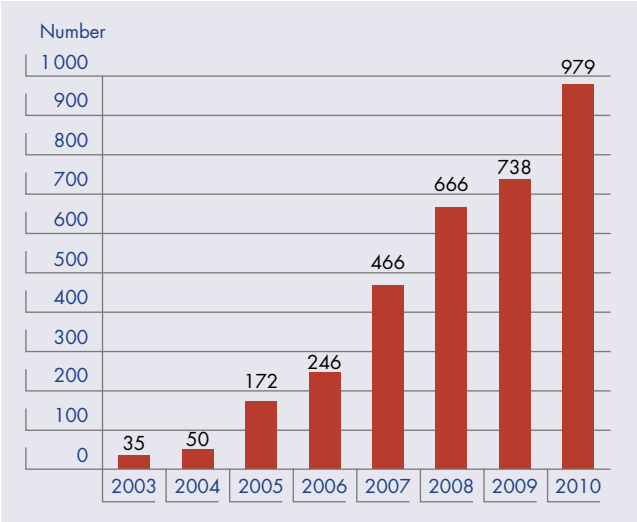
that the Checkpoint coffee shop in the Dutch border municipality of Terneuzen had a weekly consumption of 100 kg of cannabis, and an annual turnover of approximately EUR 40 million (Vanhove et al., 2012b).

Displacement into Belgium

The stricter enforcement of the laws against large-scale cannabis cultivation in the Netherlands resulted in a shift—or displacement—of cultivation to the Belgian border region, where the risk of detection was lower ([67]). Most of the plantations discovered by the Belgian police forces were run either by Dutch entrepreneurs or by individuals with strong connections with the Netherlands, taking advantage of Dutch know-how in growing cannabis; in addition, most of the cultivation equipment for the plantations originated from Dutch grow shops.

There was a steep rise in the number of plantations discovered in Belgium, as the experience and skills of Belgian police developed. In 2003, 35 plantations were discovered and in 2010 this number was close to 1 000 (Figure 29), these being concentrated along the border with the Netherlands.

Figure 29: Cannabis plantations discovered in Belgium, 2003–2010



Source: Belgian Federal Police, Desk Production DJP/Drugs.

Violence and grow shops

The organisation of cannabis distribution networks in the Netherlands and Belgium is known to be multilayered and complex, and different groups may be responsible for different levels in the distribution chain ([68]). Some networks are involved in both production and selling: buying, processing and selling cannabis on a large scale. Research has shown that the high-level players in these criminal networks are very well known in the world of serious and organised crime.

These networks are thought to use extreme violence against 'business associates' and competitors—also called 'horizontal violence' (Spapens et al., 2007)—linked to non-payment and 'ripping off' plantations. Especially in socially disadvantaged neighbourhoods, violence may also be used to coerce people into cannabis cultivation, or to ensure that they do not withdraw from doing so.

Grow shops now play a significant part in the organised production of cannabis. It appears that the majority of cannabis produced in the Netherlands (and presumably also in Belgium) is not destined for coffee shops, but is bought by grow shops (Spapens et al., 2007, 2011) for the non-tolerated market. To this extent, grow shops can be seen as outposts of the criminal networks involved in organised cannabis cultivation.

Although coffee shops are primarily seen as the retail level of the (tolerated) chain of cannabis distribution, they may also play an important role in high-level distribution, serving as storage points for drugs in transit.

Recent developments

Recently, the Netherlands has made further significant changes to its tolerance policy: since January 2012, coffee shops have been allowed to sell cannabis only to Dutch residents and must also register their customers (the so-called *Wietpas*). A recent study claims that this has led to more nuisance, since dealers and networks are now focusing more on street sales to clients who are not willing to register with coffee shops and drug tourists who are not able to do so (Maalsté and Hebben, 2012). This may generate additional opportunities for the criminal networks in expanding their selling business to non-tolerated premises and the streets, especially in Belgium, avoiding local enforcement around the coffee shops (Fijnaut, 2012). In fact, Belgium's main concern is not so much street sales, but the displacement of Dutch criminal networks to Belgium, to shorten the distance between supply and demand (especially from French drug tourists), which may result in a further increase in cannabis plantations in Belgium (Beckers, 2012).

([67]) For more details, see Fijnaut and De Ruyver (2008), Van Camp (2012) and Vanhove et al. (2012b).
([68]) For more details, see Bovenkerk and Hogewind (2003), Spapens (2011), Spapens et al. (2007) and Vanhove et al. (2012b).

The Internet as a facilitator for drug trafficking

Internet technology increasingly facilitates a wide range of serious and organised crime activities, acting as a communication, research, logistics, marketing, recruitment, distribution and payment tool. In addition to high-tech cybercrime, payment card fraud, the distribution of child abuse material and audiovisual piracy, the Internet facilitates illicit drug synthesis, extraction and distribution, the recruitment of victims of human trafficking, the supply of counterfeit goods and many other criminal activities. It is also widely used as a money laundering tool by criminal groups (Europol, 2011a). In the near future the vast majority of investigations into transnational organised crime will necessitate some form of Internet investigation. The online investigation of criminal networks should be a commonly used tool (Europol, 2011b).

Drug distribution environment

Internet technology has emerged as an important facilitator for drug markets, and is commonly used in the marketing and sale of new psychoactive substances (new drugs). Recently, it has become clear that practically any type of drug can be bought on the Internet. Consumers may feel more secure as they can avoid direct contact with drug dealers and benefit from anonymous communication. At the same time, drug dealers benefit from less exposure, reducing the chances of being detected.

Various reports note the existence of anonymous online markets selling conventional drugs and other illegal products such as weapons, forged documents or even child abuse material. These online markets provide a high level of secrecy, as they exist in the deep web, and in the so-called 'darknets', which frustrates law enforcement owing to difficulties in identifying the sellers and their customers. Various methods of payment are used, including PayPal, prepaid payment cards and virtual currencies (or crypto-currencies) such as bitcoin, which is commonly used and considered almost untraceable. An important factor in the success of such markets is the fact that buyers are able to rate sellers and review the products, enabling products and sellers to build a reputation.

Silk Road is one example of an anonymous online marketplace that has an international reach. Available information suggests that it is used in trafficking controlled drugs, including cannabis products, opiates and synthetic drugs. Like other anonymous markets, Silk Road offers a platform for transactions and its main focus is on reducing the possibility of identifying either the seller or the buyer. It is not an online shop in itself, and in this respect is comparable to sites such as eBay. A recent study (Christin, 2012) found that the vast majority of customer feedback is positive. This can be an important driver for recruiting new clients. Sellers have the possibility of working in a so-called 'stealth' mode, which allows them to operate within a trusted customer environment and by invitation only, keeping their business even further out of reach of the authorities. Drugs can be delivered from/to any place in the world.

In line with the increase in new psychoactive substances, the results of an EMCDDA study suggest that the number of online shops selling new drugs/'legal highs' has continued to grow over the last few years. The number of shops identified in January 2012 was more than three times greater than in January 2010. At the same time, sales practices in this area appear to have become more complex, aimed at better restricting access and protecting the identity of buyers and sellers (see also Chapter 8).

The Internet is becoming a more important tool for promoting new drugs, but its role as a marketing tool also for 'traditional' drugs should not be disregarded. The Internet provides a secure and low-cost way for sellers to advertise these substances and build consumers' interest. Sharing experiences, reviews and opinions in online communities raises the interest of potential clients. As with other drugs, the Internet has also made it easier for people to learn about 'legal highs', share their experiences of using them and provide advice and support to others.

Increased possibilities for recruitment

Investigations show that social networking sites such as Facebook can be an efficient tool for recruiting EU citizens as couriers. OCGs have been known to use the social networks of their trusted couriers to recruit more people

Darknets

Darknets, in this context, are anonymising computer networks which allow for the hosting of services within them. Unlike the deep web, these services do not exist on the conventional worldwide web and require a user to download software to access them. The primary advantage of using a darknet is that it is very difficult to identify where a service is hosted in the real world and the IP addresses of those visiting these services are anonymised from external observers. The Onion Router (TOR) is by far the most commonly known darknet in use today.

into their criminal endeavours. The trips couriers have to undertake, especially to exotic destinations in Asia or South America, are positively presented to the network of friends as profitable holidays. The significance of trafficking drugs for organised crime is downsized to a minor, secondary, role.

The Internet can play an important role in attracting consumers, especially first-time users. The feeling of security is promoted by the lack of face-to-face contact and lack of proximity to organised crime elements, and probably has a bigger effect on younger users.

The preferred communication tool for organised crime networks

In recent years the Internet has become the preferred communication tool for organised crime as it offers a high degree of confidentiality. In particular, the perceived anonymity afforded by communications technologies such as web mail, secure instant messaging and Internet telephony has led to these being used increasingly by OCGs as a countermeasure to law enforcement detection and surveillance. Even groups regarded as more closely knit than technologically aware, such as Albanian-speaking groups, have recognised the value of platforms such as Skype. OMCGs also use social networking sites to communicate (Europol, 2011a).

Access to resources

The online environment provides access to a wide range of information on how to produce drugs, from growing cannabis to setting up laboratories to produce synthetic drugs, as well as opportunities to procure raw materials and equipment. The Internet allows illegal entrepreneurs to search the scientific and patent literature for a range of substances that have psychoactive effects, in particular those that mimic the effects of controlled drugs that they can sell.

It also puts them in contact with chemical manufacturers and suppliers in emerging economies such as China and India, where large-scale synthesis is cheaper and less subject to scrutiny than in Europe. In turn, it also provides a low-cost way for manufacturers and wholesalers to sell these substances in bulk to customers. Investigations on new drugs have shown the important role of the Internet in providing access to the legal framework on controlled substances in EU Member States, allowing OCGs to relocate import and redistribution to countries with legislation gaps.

Internet applications also enable remote monitoring of production and storage sites. In addition, the availability of devices equipped with locating technology has resulted in a new modus operandi for drug collection in destination markets, specifically retrieval from caches using GPS and online maps (Europol, 2011a).

What makes the Internet a relevant facilitator for drug trafficking is the reach it can have. Available information suggests that drug trafficking organisations try to capitalise as much as possible on the advantages of the online environment. The EU comprises 7 % of the world's population, but 16 % of the Internet users (360 million Internet users). Penetration of the Internet in the EU is more than twice the world average. There are 170 million Facebook accounts in the EU ([69]). In theory, Internet technology gives organised crime the ability to reach large audiences in terms of marketing, trade or recruitment, without geographical limitations and without any physical contact that would jeopardise their position.

([69]) Internet World Stats—http://www.Internetworldstats.com (data to 31 December 2011, accessed 29 August 2012).

Drug trafficking and terrorism

This section examines some of the links between drug trafficking and terrorism. It is recognised that the concept of terrorism is a complex one. This chapter does not seek to explore definitional issues; rather, the focus here is on the links between the drug market, OCGs and terrorist groups. The need to fund terrorist activities, and the profits that can be obtained from drug trafficking, means that the line between terrorism and organised crime is becoming increasingly blurred. The areas in which terrorist groups operate also include drug-producing regions and/or countries attractive to drug traffickers because legal and political systems are fragile. Thus, it is clear that there are links between terrorism and organised crime, and there is evidence to suggest that at times ideologically motivated terrorist groups and profit-motivated crime groups have used each other's knowledge, expertise and capabilities for mutual benefit.

The illegal drug trade and finance for terrorism

Terrorist organisations cannot function without financial resources. In order to raise money they employ methods that are both legal, such as collecting donations from sympathisers or running their own legal businesses, and illicit, including traditional types of criminality as well as exploring new technologies and cyber criminality for the same purpose. Some terrorist organisations are known to have engaged in various types of criminality, including the abuse of social benefits, extortion, kidnapping, human trafficking, skimming schemes, credit card and cheque fraud, cigarette smuggling and insurance fraud (Europol, 2012).

There is a strong consensus among enforcement agencies that drug trafficking is used by terrorist organisations as a source of funding. Intelligence sources have often established the association between terrorism financing and drugs trafficking. Given the geographical location of many terrorist groups, and their need to obtain financing, the fact that they may be interested in the income obtained from the drug market is not surprising. The rationale for involvement clearly exists, even if obtaining strong judicially acceptable evidence of a direct link between the two is often difficult. These difficulties impact on prosecution for terrorism financing. As a result, few cases have been prosecuted in Europe.

Some illustrative examples do exist. In 2007, an investigation started in Italy into the activities of an OCG active in Afghanistan, Pakistan, Romania, Albania and Italy. The group had its headquarters in Rome and Milan, and was involved in facilitating illegal immigration and drug trafficking for the purpose of financing religiously motivated terrorism. In May 2010, all five alleged key organisers were arrested simultaneously; two in Italy, two in the United Kingdom and one in France. In a related operation a few days earlier, French authorities arrested another six members of the same organisation (Eurojust, 2010).

Is the EU drug market financing terrorism?

The best-evidenced case of this in the EU were the Madrid bomb attacks in 2004, which were funded by money obtained from drug trafficking. The attack killed 191 people, wounded nearly 2 000 and caused millions of euros' worth of damage to property. One of the terrorist cell members was a drug trafficker who was radicalised while serving time in prison in Morocco. He reportedly supported the Spanish terrorist cell financially by trafficking hashish and ecstasy. The drug-related activities were significant, considering that drugs worth over EUR 1 million were found by Spanish authorities. The explosives used in the attacks were obtained in exchange for large volumes of hashish.

There is information to suggest that EU-based separatist movements may be directly involved in drug trafficking, although some of them are also thought to control, or 'tax', local trafficking networks. Intelligence suggests connections between Somali OCGs trafficking khat (*miraa*) to the EU and the Al-Shabaab movement, which raises the possibility that the proceeds may fund terrorist activities (Europol, 2011a). It should be noted here, however, that the legitimate khat trade is large in East Africa and therefore likely to be of interest to both criminal and terrorist organisations, and that this substance, which is not controlled under the international drug control conventions, is also shipped legitimately to some parts of the EU, where it is not currently prohibited.

The Kurdistan Workers' Party (PKK), a Kurdish separatist movement, is involved in criminal activities in the EU, from which it is estimated to gather annual proceeds of around EUR 20 million. The PKK is often accused of being involved in drug trafficking. Although several known PKK members have been involved in drugs trafficking cases, establishing the financing of the organisation itself from this source is more challenging, owing to the difficulties of tracking the money outside EU borders. Nonetheless, the Turkish authorities strongly maintain that the PKK is involved in drug trafficking. Intelligence also suggests that the Tamil Tigers from Sri Lanka have also obtained some money from drug trafficking in Europe.

Considering that Europe is one of the world's biggest markets for both cocaine and heroin, organisations such as the FARC (Revolutionary Armed Forces of Colombia) and the Taliban are likely to be financed to some extent—whether

directly or indirectly—by the profits generated from drug trafficking in Europe. How much of this money ends up in the coffers of these organisations is difficult to assess. However, in very simple terms, even if a small proportion of the proceeds of drug trafficking supports the activities of terrorist organisations, the potential harm to society can be significant. In situations where groups engaged in terrorism have lost the support of states which previously financed their activities, drug trafficking may have become a more important way to raise money. The EU drug market is one of the most profitable in the world and big enough to accommodate new actors with such interests.

EU drug trafficking allows micro-financing of terrorist activities

Groups that engage in terrorist activities sometimes require substantial financial resources, but, for the most part, money is needed for purposes quite separate from the financing of attacks. Extensive funding can be required for propaganda, living expenses, training, logistics, websites, travel and other expenses. The costs of the actual terrorist attacks can be low enough to be financed by small-scale distribution of drugs (FATF, 2008). Expert opinion suggests that the costs of such attacks have decreased over time. This type of micro-financing is difficult to identify and to link to terrorist organisations. The Madrid case is proof that a high-impact attack can be carried out with relatively small-scale resources. The main challenge for law enforcement in such cases is to be proactive, because the proceeds of the drug trade are outside legal financial flows, making detection almost impossible. Furthermore, links with the main organisations are difficult to make.

Direct financing

Some organisations, such as the FARC and the Taliban, are involved in the different stages of cultivation, processing and smuggling of drugs. This is reportedly happening in the Afghan/Pakistan area, where the Taliban are suspected of having moved from taxing opium and heroin producers and traffickers to controlling the market. Various sources indicate that the Taliban and other anti-government forces in the region are largely financed by the heroin business. It has been estimated that the Taliban generated some USD 155 million from the opiate trade in 2009 (UNODC, 2011a). The FARC is involved in different stages of cocaine production and trafficking. Some observers have remarked that the FARC's interest in drug trafficking has increased with time. Several prominent members of the FARC have been arrested and extradited to the United States, where they have been sentenced for trafficking large quantities of drugs.

Indirect financing

An indirect way to benefit from drug money is by levying taxes on the traffickers. There are indications that groups affiliated to Al Qaeda in the Islamic Maghreb (AQIM) are making profit from taxes levied on traffickers crossing its zone of influence. The Sahel region plays an increasingly important role as a transit area for drugs, especially cocaine, but also cannabis and heroin. Sources indicate that AQIM provides protection for traffickers and their cargo in exchange for money. Intelligence suggests an evolution towards a more direct involvement of AQIM in the drug trade and establishment of links with Latin American OCGs.

High-level drug trafficking through the lens of Eurojust casework

Eurojust is the EU judicial cooperation body, created in 2002 to facilitate and coordinate cross-border serious crime cases. Accordingly, EU Member States refer cases to this body when requiring a high level of cross-border cooperation and coordination. Drug trafficking is one of the most common types of crime dealt with at Eurojust, and over the years a wealth of experience has been accumulated.

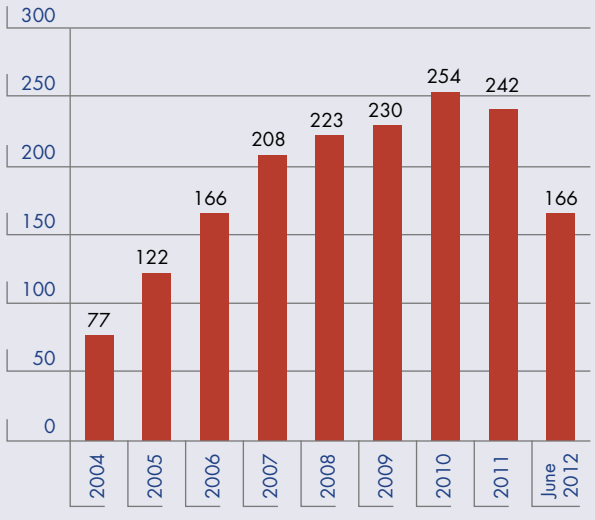
This section describes various aspects of Eurojust's casework on drug trafficking from a quantitative and qualitative perspective. First, a statistical overview of casework is presented. This is followed by two examples on the sort of judicial cooperation required to deal with these cases. The final paragraph summarises proposals for improving Eurojust's drug trafficking casework.

Statistical overview

Between September 2010 and August 2012, Eurojust registered 512 drug trafficking cases (compared with 450 in the previous two-year period) (Figure 30). The increase in complexity of the workload in this area can be seen from the type of assistance provided by Eurojust. Between 2010 and 2012, Eurojust organised 105 coordination meetings with prosecutors and investigators in charge of high-level drug trafficking cases, double the figure for the previous two years. The number of joint investigation teams (JITs) has also increased. Seven JITs on drug trafficking cases were initiated in 2011, compared with only three in 2010.

As to the geographic distribution of cases referred to Eurojust, the Member States most heavily involved in this type of crime (as measured by requesting and being asked for judicial cooperation) are Spain (164 cases) and the Netherlands (155), followed by France (110), Italy (107) and Germany (89) (Figure 31). An analysis of the crime type association confirms

Figure 30: Cases of drug trafficking handled by Eurojust, 2004–2012



Note: 2012 data refer to the first half of 2012 only.
Source: Eurojust/Case Management System.

Case study 1: Drug trafficking by an Albanian organised group

Tackling drug trafficking originating in the Western Balkans has been identified as one of the seven EU priorities to combat organised crime, as the region is both a key transit and storage zone for illicit commodities destined for the EU and also a logistical centre for OCGs, including Albanian-speaking OCGs.

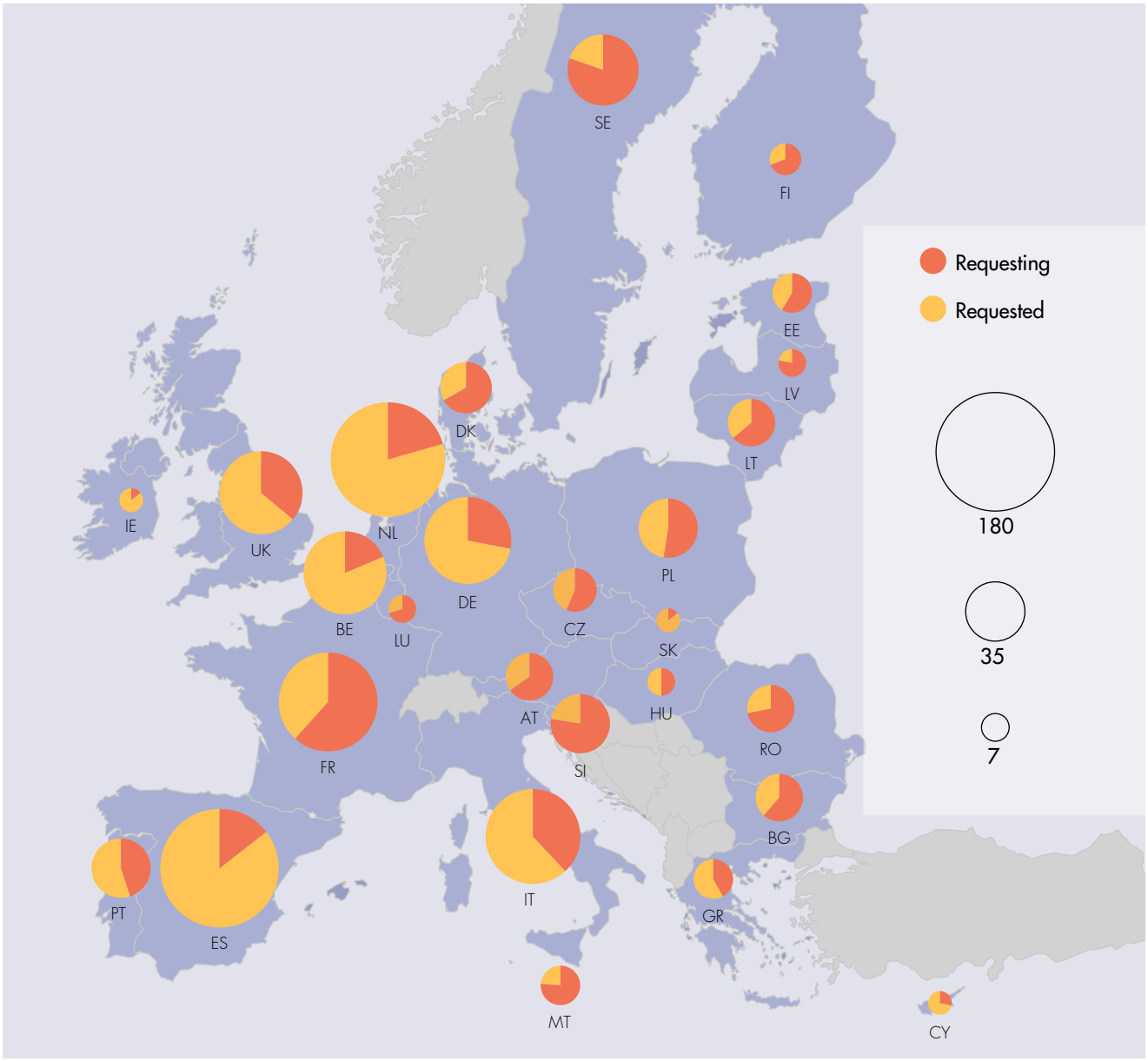
The French authorities initiated a case at Eurojust involving Belgium, Italy and the Netherlands and supported by Europol. The target was an Albanian OCG trafficking heroin and cocaine.

Following meetings held at Eurojust to agree information exchange and coordination, a concerted plan of action was agreed. This led the investigators to detect an imminent trafficking operation involving drug transport from the Netherlands to France. In March 2012, a coordination centre was set up at Eurojust with on-the-spot analysis support by Europol focal point Copper in order to ensure smooth information exchange when the trafficking operation was intercepted.

The individuals transporting the drugs were arrested and the drug seized, which triggered 17 subsequent arrests, several house searches in France and the Netherlands and seizure of almost 12 kg of heroin in total. The Italian authorities, which had been targeting the same criminal network for approximately one year, in close cooperation with the French and Dutch police forces, launched in May 2012 an operation in Italian territory resulting in the execution of 13 arrest warrants and the seizure of 15 kg of cocaine and 4 kg of heroin.

As mentioned above, coordinated action was agreed during meetings held at Eurojust. Because the criminal network was flexible and could adapt quickly to new developments, the investigative bodies in the countries involved had to exchange information intensively, including round-the-clock for a period of approximately two weeks leading up to the operation, all channelled through Eurojust.

Figure 31: Distribution of requests for assistance on drug trafficking cases, 2010–2012



Note: The map shows the geographical distribution of the national desks that requested assistance from Eurojust (*requesting*) and the desks that were *requested* by Eurojust to provide assistance on drug trafficking cases handled between 1 September 2010 and 31 August 2012.
Source: Eurojust/Case Management System.

that criminal organisation and money laundering are very often involved in the drug trafficking cases referred to Eurojust.

Case studies

The two case studies selected here illustrate the type of cooperation activities carried out when dealing with high-level drug trafficking cases at Eurojust. The first example refers to a 'coordination centre', a recently created tool that offers a central point for all parties on a specific day of joint action in several countries, with dedicated telephone contacts/e-mail addresses and people able to speak the languages needed to distribute and forward any information in real time. This tool is already popular with practitioners and will play an important role in the future.

The second example is of one of the JITs set up to disrupt international criminal networks. The financing of JITs by Eurojust is recognised by national authorities as a rapid and efficient way of establishing JITs at short notice. Aside from its role in funding JITs, Eurojust assists in other ways, such as

Case study 2: Tokyo case (drug trafficking and JIT)

This case, opened at Eurojust in April 2011, concerns international drug trafficking from Brazil and some Central African countries to Japan via London using couriers recruited in Belgium and France. Two coordination meetings, in which Japanese representatives participated, were held to facilitate the exchange of information and the execution of letters of request. In July 2011, a JIT agreement was signed between Belgium, France and the United Kingdom, with the participation of Eurojust and Europol. In October 2011, a joint operation took place, with several arrests in Belgium and the United Kingdom. The investigation procedure was speeded up as a result of the coordination meetings and the JIT. In December 2011, two people were tried in Japan and found guilty: one was sentenced to eight years' imprisonment and received a fine of EUR 3 780 and the other was sent to prison for six years and six months and received a fine of EUR 30 000. The financing through the Eurojust JIT funding project facilitated the successful execution of Belgian letters of request in Japan and Brazil.

providing extensive advice and guidance on drafting, amending and extending JIT agreements and operational action plans.

Challenges for judicial cooperation

The complex activities required to coordinate high-level drug trafficking cases are described in detail in a recent analysis of Eurojust's casework (Eurojust, 2012), which touches upon the various difficulties encountered in information exchange, JITs, controlled deliveries, execution of European arrest warrants, transfer of evidence or criminal proceedings, implementation of mutual legal assistance requests and international asset recovery.

On the basis of this analysis, Eurojust has formulated an action plan with recommendations to improve its casework (Eurojust, 2012). This is intended to improve coordination and communication between national authorities within the EU, and to promote participation of Europol and of third countries. It set out guidelines for dealing with jurisdictional conflicts, and encourages cross-border asset recovery.

CONCLUSIONS AND RECOMMENDATIONS

Chapter 10 | Conclusions and recommendations

Introduction

This report has drawn together, for the first time, an unparalleled amount of information about the structure and operation of European drug markets and placed this information within the broader context of an understanding of the drugs phenomenon. This area has become an increasingly dynamic one, with new realities emerging to challenge long-held certainties in a way which only a few years ago would have been hard to imagine. The analysis reported here suggests that Europe is now entering an important new phase in respect to developments in the availability and use of drugs. This perspective is, however, of little value if it does not serve to inform future policies and actions. To facilitate this, this chapter analyses the data discussed in the body of the report to provide an overview and identify key conclusions and learning points. The operational implications of these are then developed in accompanying action points. The analysis provided is intentionally pragmatic and practically orientated, making the best use of the information available while acknowledging its limitations. The focus is on the European level, but it is recognised that the conclusions will also have relevance for policy considerations in individual Member States.

A top-level strategic summary and recommendations were provided at the beginning of this report. The basis for this can be found in the analysis provided in this chapter, which is structured in three parts. First, a number of linked factors that can be seen as drivers of contemporary developments in the European drug market are explored. These are not necessarily substance specific and generate recommendations for actions that are generally applicable. Next, conclusions that specifically pertain to the trafficking and marketing of individual drugs are considered in isolation in the second section of this chapter.

Finally, the information available to guide policies and actions in this area is considered. This report provides a comprehensive overview of the current European drug market. Nonetheless, it is clear from this analysis that data sources are underdeveloped in many areas, and this inhibits both an understanding of the problem and, critically, the development and targeting of effective responses. Reflecting these key information needs are identified and discussed in the concluding section of this chapter.

Drivers of change for the modern European drug market

The changing faces of organised crime and drug trafficking

Historically, analysis of the drug market has tended to focus on specific drugs that are being trafficked along defined routes by OCGs which are, to some extent, specialised operators. This simplified geographical perspective is still valid and useful for targeting actions on high-priority areas. However, this picture now needs to be extended to take account of the more polymorphous, dynamic and fluid nature of the contemporary European drug market. OCGs are increasingly likely to take a multicommodity perspective and less likely to specialise in only one type of drug. At the same time, trafficking routes are also diversifying, in terms of both the types of drugs that are shipped along them and their geography, which is becoming increasingly heterogeneous and complex. Moreover, the growing exploitation of established commercial transport options means that, in many respects, thinking about discreet routes can be unhelpful simply because nowadays drugs may be moved through complex webs of interconnected channels.

Many examples of this diversity can be found in this report. For instance, heroin and cocaine may be trafficked through Africa and the Western Balkans and methamphetamine through Europe and possibly even South-West Asia. The implications of such developments for drug markets and existing supply reduction strategies can be profound, as is illustrated by the fact that significant cocaine seizures and imports are now reported in East European countries, or that methamphetamine now appears to be manufactured in Iran and Nigeria for export to East Asia via European airports.

There are a number of factors that are responsible for this growing market diversification. Globalisation is clearly important, with more countries now used as potential transit points, and the European drug market now having to be seen

within the larger context of the changing international demand for drugs. This has been accompanied by the impact of open borders within the EU and a trend in Europe for drug production to take place close to its intended marketplace, with the rationale of minimising the risks associated with transportation and increasing potential profits.

The modern European drug market is also increasingly innovative and dynamic, which reflects, and exploits, the broader changes that have occurred in modern forms of communication and commerce. Additionally, changes in patterns of drug use in Europe, and indeed globally, make OCGs more interested in the profit that can now be derived from synthetic and stimulant substances. Importantly, groups have to be adaptive if they are to continue to operate over the longer term. This requires the development of 'countermeasures' with new approaches introduced to respond to successful supply reduction responses, such as the targeting of precursor chemicals, or known high-value trafficking routes and methods. This gives the drug market its dynamic and constantly evolving nature.

The changing face of organised crime

Overview

- **Moving to a multi-commodity perspective:** The European drug market is more polymorphous, dynamic and fluid. OCGs are more likely to be linked and take a multi-commodity perspective and are less likely to restrict their activities to a single drug type.
- **Diversification in trafficking:** Trafficking routes are diversifying, in terms of both the types of drug that are shipped along them and of greater geographical heterogeneity and complexity.
- **Exploiting legitimate transportation opportunities:** The exploitation of established commercial logistics, such as containers, aircraft, couriers and postal services, means that drugs may be moved through multiple transit points and complex channels. This dynamic and fluid operational model is more challenging to tackle than the one used for more linear and fixed geographical trafficking routes.

Action points

- **Strategic analysis:** Strategic-level analysis with regular review is critically important to ensure that responses remain on target and meet the challenges posed by complex, faster moving and more interlinked drug markets.
- **Focus efforts on high-value targets:** Targeted, coordinated and intelligence-led law enforcement actions against major OCGs, such as that provided by JITs supported by centralised analysis, must be regarded as a high priority.
- **Work more effectively through coordinated actions:** EU Member States have the capacity for the rapid and secure sharing of information, and resources to support coordination are available. This should be exploited and EU agencies should be utilised to increase the effectiveness of cross-border and multilateral operations.
- **Keep track of moving targets:** It is important to share intelligence on the geographical relocation of individuals with the expertise and motivation to exploit established infrastructure. Greater police and judicial cooperation is needed to track, target and disrupt the activities of high-value criminals and groups.
- **Follow the money:** The investigation and prosecution of drug trafficking cases should be facilitated by multidisciplinary investigating teams that include specialist financial investigators and forensic accountants, with a focus on dismantling organised crime rings, developing prosecutable evidence, interrupting criminal money flows and money laundering and promoting international asset recovery, refining monitoring and detecting tools and drawing up typologies.
- **Address the legitimate commercial market:** The growing challenge of intercepting drugs trafficked at high speed through complex routes using commercial channels is a major threat and requires the development of specific action plans targeting each of the sectors concerned. Partnership with industry and European-level cooperation and coordination will be essential for success.

Taken together, the factors driving developments in the drug market represent a major challenge for existing European drug control strategies. The problem is now more complex, faster moving and interlinked, and this needs to be reflected in our responses. Supply reduction measures, if they are to be effective, need to be reactive to change and, ideally, anticipate future developments. A wide perspective is also clearly called for. At the global level drugs are an important illicit commodity and form a nexus with other important security concerns, such as the fight against terrorism and the need to support social development and fight corruption. At the other end of the scale, within the EU, local drug markets are inextricably linked with broader crime and policing issues, with drugs exacerbating many of the social and health problems found in Europe today.

The impact of global developments on the European drug market

A theme running through this report is that it is impossible to understand the contemporary European drug market without locating it within a global context. An often overlooked point is that the world is undergoing a period of rapid development that is resulting in profound demographic and social changes. Data on the extent of drug use at the global level are poor, which means that quantification is disproportionately focused on developed regions, such as the EU. Awareness of important changes occurring in drug use in other areas is therefore insufficient or simply lacking.

This is a growing problem as urbanisation in low- and middle-income countries with large and young populations means that patterns of global drug demand are likely to be changing significantly. For example, domestic demand for cocaine in South America and for heroin in Asia is now estimated to be greater than in the EU. These changes have a number of potential implications for the drug market: drug flows are becoming more fluid; production is diversifying; and the existence of domestic markets in transit countries complicates drug control efforts. Moreover, the extent to which other markets are now competing with demand from the EU, and the resulting changes in trafficking flows, remain poorly understood.

Of growing importance for the EU is the changing situation in Africa. Weak legal and regulatory systems have made the region an important transit and storage area. A number of information sources suggest that domestic demand for drugs is growing and diversifying, but the overall picture is difficult to discern. More recently, synthetic drug production has been noted in the region and drug flows through African countries have become more complicated and interrelated, with heroin, cocaine, cannabis and, now, synthetic drugs all playing a part.

The global dimension of the drug problem, together with the need to maintain a secure external border, makes it important for the EU to engage at all levels with non-EU countries and to take part in appropriate international and regional initiatives. There are many examples of the benefits that this kind of cooperation can bring. There are, however, some factors, such as a lack of respect for fundamental human rights and corrupt practices at senior levels that can inhibit fruitful or full collaboration between the EU and third countries. Furthermore, frustrations with domestic social and criminal problems associated with the drug market, together with broader political issues, can be noted in some Latin American countries. It remains unclear if this issue will have longer term implications for EU policy priorities to suppress production and trafficking from this region.

Any discussion of the more complex geographical nature of drug flows into and through Europe needs to bear in mind an important caveat, namely the importance of OCGs based in North-West European countries, which continue to play a key role in the intra-European distribution of almost all types of drugs. There are a number of reasons for this, including their proximity to major markets; the fact that this area is a hub for legitimate transportation; and the capacity that is provided by the existence of long-established drug redistribution networks.

It is also important to conclude any analysis of the global market by noting that the EU is also a drug-producing region for precursor chemicals of synthetic drugs and, increasingly, for cannabis. The importance of the EU in relative terms as an exporter of synthetic drugs seems to be declining as production in other parts of the world becomes more important. Nonetheless, continued efforts to disrupt the production of drugs intended for export, and measures to control the diversion of precursor chemicals, especially acetic anhydride, remains a priority. The EU is also a source of expertise and 'know-how' for the production of some synthetic drugs and intensive cannabis cultivation techniques. And increasingly it plays a leading role in the packaging, marketing and promotion of products containing new psychoactive substances, with some recent indications of export to non-EU countries.

Addressing a global marketplace

Overview

- **A changing global marketplace:** Socioeconomic developments mean that the EU is likely to become relatively less important in global terms as patterns of drug demand change in the developing and transitional world. This has the potential to influence drug flows and availability and make interdiction efforts more challenging.
- **The need for international cooperation:** Cooperation between the EU and non-EU countries, and appropriate regional and international initiatives, are of growing importance. Fruitful cooperation in this area needs to be informed by other EU measures to fight corrupt practices, support development and promote respect for human rights.
- **The growing importance of Africa:** Africa has become an important transit and storage area for drugs, and domestic demand is also likely to be growing. Drug flows have become more complicated, with heroin, cocaine, cannabis and now synthetic drugs all playing a part.
- **The EU as a drug producer:** The EU remains an important drug-producing region for some synthetic drugs and cannabis, although its relative importance for the export of synthetic drugs is declining. The EU is also an important global source of the heroin precursor chemical acetic anhydride.
- **North-West Europe remains important:** Within the EU crime gangs based in North-West Europe continue to play a pivotal role in the inter-European trafficking and distribution of virtually all types of drugs.

Action points

- **Improve analysis of global trends:** Analysis of developments in drug demand and drug supply in non-EU countries is necessary to provide an early warning of potential new threats and allow the better targeting of responses.
- **Engaging with producer and transit countries remains important:** Changes in drug production and the more fluid nature of drug flows into Europe mean that it is now important to engage and cooperate with a larger number of source and transit countries.
- **Reduce production in, and trafficking from, the EU:** Greater efforts are required to address the growing threat posed by drug production within the EU, and continued efforts are needed to suppress the trafficking of drugs and precursor chemicals from the EU.
- **Give special attention to Africa:** Developments in Africa require special attention, informed by the fact that social, developmental, governance and crime issues are interlinked there. There is a critical lack of information on issues such as interactions between drug trafficking routes, local demand, money laundering and developments in drug production.

Technology as a driver for innovation

Technological advancements have changed virtually all aspects of modern life, so it is unsurprising that they are also important drivers for changes occurring in the illicit drug market. The analysis offered in this report has repeatedly identified technology as a significant 'game-changer' in drug trafficking, production and distribution.

The advent of the widespread use of mobile phones provides a simple, but often overlooked, example of how technology can have a profound impact on the drug market. Mobile phones are a means of rapid and easy communication that preserves anonymity and reduces risks, as buyers and sellers no longer have to meet in a predefined geographical place. Today, the Internet, and the growth of all forms of social networking, is opening up new possibilities at a remarkable pace and at a low cost. Controlling unwanted activities in this medium is extremely challenging, and issues of jurisdiction are complex. We live in an increasingly joined-up world, with new communication options, and easy and unrestricted access to vast information resources that were

previously unavailable. The communication opportunities provided by the Internet are now beginning to impact on the drug market. This is happening quite quickly and must be regarded as representing a considerable potential threat. Although other forms of cyber crime have until now attracted more attention, the anonymity afforded by the possibilities of an online drugs market is clearly attractive to those who want to sell illicit drugs.

The advantages of the Internet as a relatively secure communication medium for those involved in clandestine activities are obvious. More than this, however, the Internet has allowed information on drug use and production to spread rapidly, facilitating the diffusion of trends and 'know-how'. A whole new market for 'new drugs', unregulated psychoactive substances, that is global in nature and highly innovative, has quickly become established. The Internet has enabled contact between chemical producers and entrepreneurs located in different parts of the world and the marketing and sale of attractively packaged products. It has also facilitated research and development of new products by giving access to the scientific literature, patent information, as well chemical and pharmaceutical archives.

A related issue here is the use of the Internet for the sale of controlled and counterfeit medicines. Knowledge about the Internet sale of pre-precursors, other essential chemicals and controlled drugs has grown. The scale of this problem in respect of controlled drugs is difficult to assess but probably remains small at present. Nonetheless, the development of secure payment technology and restricted web areas could mean that this situation could change quickly. Although the Internet represents a new and challenging area for law enforcement and drug control in general, a model of value here can be found in work carried out to crack down on the sale of falsified, counterfeit and unlicensed medicines and to fight other forms of cyber crime. The approach has been to target websites and to work in partnership with major credit card issuers and other online payment providers. Internationally coordinated and parallel activities have

Technology and innovation as drivers of change

Overview

- **The growing importance of the Internet:** The Internet is now beginning to impact on the drug market by providing communication opportunities, access to knowledge and logistics, and a platform for the faster diffusion of new trends.
- **The potential for an online drug marketplace:** The Internet has facilitated the development of a new market for unregulated psychoactive substances. Some precursors and drugs are also traded online. Information is limited on the scale of this problem but it has the potential to change quickly, especially with the introduction of new online payment technology.
- **Innovation in drug production:** The use of specialist technology and more sophisticated approaches can be seen in cannabis cultivation, cocaine concealment and chemical extraction from various materials, and in synthetic drugs production as well as packaging and marketing of new psychoactive substances.

Action points

- **Monitor the online market:** Improved and more proactive monitoring of the Internet is necessary to provide a better understanding of the nature and scale of the online market and of new developments at both consumer and supply level and to provide early identification of new trends and threats.
- **Create barriers to Internet sales:** Websites involved in illegal activities associated with the drug market need to be identified and action taken with service providers to restrict access. Partnerships with major credit card issuers and other online payment providers are required to inhibit payments. Effective actions in this area are likely to require EU coordinated activities. Complementary measures to raise awareness and increase vigilance among postal and courier services are also needed.
- **Innovate to anticipate and detect new threats:** There is a need to develop and share information from sources sensitive to important changes in the drug market. Forensic data and profiling, including data on precursors and adulterants, wastewater analysis, and the analysis of data from production facilities are all currently underutilised but potentially valuable approaches.

proven to be particularly fruitful. As purchases are likely to be sent to buyers via postal and courier services, this reinforces the recommendations made above to develop greater interdiction capacities in this area. The speed of developments in this area means that Internet-monitoring and intelligence-gathering activities are likely to be fundamental to understanding of both the nature of the problem and the design and targeting of interventions. A more general point is that the central role of the Internet in the lives of many young people makes this medium of growing importance for research as well as communicating prevention, education and harm reduction messages.

Innovation in the drug market is not restricted to communication and the Internet. Innovation in drug production has been considerable, and, as noted already, the EU is a source of know-how and expertise. The use of specialist and increasingly sophisticated technology can be seen in cannabis cultivation and synthetic drug production in Europe, with an important development in the latter being a 'chemical downstreaming' of the manufacturing processes. Responding to controls on precursor chemicals, producers have moved down the production chain and have innovated manufacturing processes using uncontrolled pre-precursors. At present, a 'cat and mouse' game appears to going on, with targeting by law enforcement of one group of chemicals leading drug producers to search for more easily available alternatives. Innovation in cocaine trafficking has seen not only the use of specialised vessels and concealment methods but also more sophisticated chemical approaches requiring secondary extraction within the EU.

An often overlooked additional negative consequence of synthetic drug production within the EU is the environmental damage and risk to community safety that comes from the dumping of chemical waste or from the poor storage of dangerous chemicals.

Innovation and adaptation to the threats posed by control can also be seen in the human organisation of trafficking and drug market activities. OCGs have always adopted organisational structures in which lower-value or expendable individuals are disproportionately put at risk. New approaches to this can be seen in cannabis cultivation and synthetic drug production. In both cases there is evidence of the increased use of a decentralised model for drug production and storage, thus decreasing the overall vulnerability of the organisation to law enforcement efforts.

Drugs in perspective

An important contextual starting point is that indicators of the use of the 'established' drugs—heroin, cocaine and cannabis—at the European level, and in most Member States, are stable or even showing a downwards trend. Despite this, levels of use remain high by historical standards and, although inter-country variations are considerable, drug use remains a major policy concern for all of Europe. Synthetic substances are also becoming more important, and this trend appears likely to continue. Moreover, drug markets appear to be increasingly fluid, dynamic and, importantly, responsive to countermeasures.

Heroin

Heroin remains at the heart of the EU drugs problem: even when prevalence of use is low, this drug is responsible for severe health and social problems. This is illustrated by the fact that the drug is associated with the majority of the 7 000 drug-related overdoses currently reported every year in Europe. If indirect mortality associated with heroin use is also included, then this figure can probably be at least doubled. Heroin use also remains the most common reason for seeking drug treatment in the EU, and those with heroin problems typically require treatment over a protracted period of time, with relapse a common problem. This, together with the risk of infection associated with the use of this drug by injection, means that heroin is still responsible for a disproportionate amount of the health and social costs arising from drug use in the EU.

The heroin problem we see today in Europe to a large extent has it roots in the 'drug epidemics' seen in the 1990s. Recent data suggest that heroin use in Europe is now in a slow long-term decline. At market level, this is reflected in the latest data on purity, retail prices, seizures and heroin offences, all of which show a decrease. In some countries the drug has been replaced by other substances, including synthetic opioids such as diverted medicines and illicitly produced fentanyls. The heroin market collapsed almost a decade ago in parts of northern Europe, and has never fully recovered. More recently, short-term market shocks, probably resulting from successful interdiction efforts, have also been reported, with some countries experiencing a significant drought in 2010, from which the market has subsequently recovered only partially. Demand factors are also contributing to a market contraction. New recruitment is at a low level, and a large increase in the availability of substitution treatment has removed a significant proportion of the demand from the marketplace. In the global context, heroin use in the EU is now characterised by a relatively small and ageing population with high levels of service contact. Overall, it seems reasonable to conclude that the European heroin market is becoming less important in global terms. Nonetheless, threats in this area remain. They include the possibility of new 'heroin epidemics', especially during a

time of economic austerity, and the production or increased marketing of synthetic alternatives. To date, a number of drugs have been reported (depending on country) as substitutes for heroin, including synthetic opioids, synthetic cathinones, benzodiazepines and methamphetamine. There is some evidence that heroin trafficking organisations are showing interest in other drugs, including methamphetamine and cocaine.

A possible bounce-back driven by changes in opium production in Afghanistan or even South-East Asia also cannot be ruled out. Production outside Afghanistan in South-West Asia could also become more significant than is currently assumed to be the case. Historically, heroin production and trafficking has been strongly associated with areas in conflict, and the present situation in several countries of South-West Asia and the Middle East could prove to be fertile ground for the further expansion of production or trafficking networks.

Turkey continues to have a central role in the Balkan route as a transit country, and Turkish OCGs continue to play a significant part in the importation of heroin to the EU. However, other countries and groups appear to be becoming

Heroin

Overview

- **The heroin problem:** Heroin use continues to be responsible for severe health and social problems although the market appears to be in long-term decline as a result of both supply and demand factors.
- **The global market:** Non-EU heroin markets are larger and easier to penetrate and are thus probably becoming more important globally, and this may have a knock-on effect on availability within the EU.
- **Interactions with other drugs:** OCGs appear to be increasingly active in the markets for other drugs, and interactions can be seen between the heroin market and the market for cocaine (through Africa and the Western Balkans). An important specific risk is the diversification of heroin networks into methamphetamine production and trafficking.
- **Diversification of routes:** Recent diversification of heroin trafficking routes has been noted as organised crime responds to interdiction successes.
- **Precursor control:** Europe remains an important source of precursors, but data are limited and control measures difficult to implement effectively.
- **Future threats:** The production situation remains fluid and this, and the possible existence of stockpiles, could result in future increases in availability.

Action points

- **Invest in proven approaches:** Strategically planned and intelligence-led operations, based on cooperation among countries along the classical heroin trafficking routes, have proven successful and should be continued and reinforced where possible.
- **Work beyond the EU:** Diversification to new routes and groups is a major challenge and will require the development of corresponding information sources and strategic partnerships. Currently, African countries appear to be particularly important here.
- **Respond to a more joined-up threat:** The particular threat posed by interaction between the heroin market and the market for synthetic drugs and cocaine implies the need for joined-up law enforcement strategies and more efforts in information sharing and analysis.
- **Remain vigilant:** Trends in heroin production and demand developments require careful monitoring both in established areas and in areas where diversification or diffusion is possible.
- **Restrict access to precursors:** An effective precursor monitoring and control framework, not just in the EU but globally, should remain a key objective. Increased synergy between monitoring activities and interdiction mechanisms is likely to increase the effectiveness of responses in this area.
- **Give equal priority to reducing demand:** The importance of a balanced approach, especially with respect to increased availability of effective drug treatment, is essential if the heroin problem is to continue to diminish in the EU.

more important, resulting in a diversification of trafficking routes and organisations. This is suggested by evidence of the increased importance of the Western Balkans and of heroin transit through African countries and the Middle East. Innovations that include the increased use of air transportation may also represent a threat to current interdiction strategies. A related and important issue is the role of European OCGs in sourcing and exporting the principal precursor chemical for heroin production, acetic anhydride. Despite a strong EU prevention mechanism and some notable interdiction successes, the principal trafficking routes for acetic anhydride remain difficult to identify and counter-measures have to be understood within the context of a chemical that has a large legitimate market and is therefore difficult to control.

Cannabis

The sheer magnitude of the cannabis market and the income it generates makes it a major policy challenge. The market has undergone important changes, the most important of these being an increase in production within the EU and developments in cannabis cultivation technologies, resulting in a potential increase in yield and potency. Domestic production of cannabis has implications for public health and certainly presents a greater challenge for drug enforcement efforts. Production sites range from small-scale cultivation of a few plants for personal use to major plantations. Sites are usually located close to consumers and difficult to detect. This is reflected in a relatively low volume of herbal seizures in comparison with seizures of cannabis resin (originating outside Europe). Cannabis production may now be seen as an attractive and easy to enter cash business for new and established crime groups, resulting in the increased involvement of organised crime. Some groups active in this area have a transnational presence, and the involvement of ethnically defined OCGs can be particularly challenging for enforcement efforts because of their closed nature.

The understanding of the negative impact these developments in these cannabis markets have had on local communities is growing, prompted by crimes of violence and other crimes linked to production and distribution. Despite this, the public is largely unaware of the extent of violent crime now associated with cannabis as much of this occurs between criminal groups. This does, however, put an increasing strain on often already stretched local police resources in the areas where production sites are located.

Domestic production is also now changing the drug flows between some EU Member States as it displaces imports from non-EU countries. Interdiction efforts targeting domestic production are becoming more sophisticated and are being scaled up in many countries. This appears to be resulting in increased use of a more decentralised production model in which vulnerable individuals are recruited or coerced into becoming small-scale cultivators. A closely related problem is human trafficking by South-East Asian transnational OCGs involved in cannabis production, with victims exploited as an expendable source of labour.

A relatively well-developed commercial grow shop industry supports illicit production and sometimes may be linked to distribution. The plurality of production sites and producers appears to be creating a new role for brokering activities in which OCGs are active. Policy initiatives in this area have to take account of the public perception of this drug, which is more equivocal than for other substances.

Differences in enforcement practices between countries can result in cross-border issues, sometimes resulting in displacement of the market. Despite the increasing importance of domestic production, it is also important not to 'take the eye off the ball' in respect of established and potential new external sources of production. The trafficking of cannabis into the EU remains a major criminal activity area. The Iberian Peninsula remains of paramount importance here, but the threat appears to be growing from production sites located in South-Eastern Europe and beyond, including Afghanistan.

Cannabis

Overview

- **A large and diverse market:** The sheer scale of demand for cannabis and accompanying diversity and sophistication of the market, in terms of potential sources, players and products, makes it relatively resilient to interdiction efforts.
- **Current consumption:** Annual cannabis consumption in the EU is currently estimated at around 2 500 tonnes. Extrapolating from the limited data on prices currently available, this would mean that the value of the EU cannabis market at street level is probably somewhere between EUR 18 and 30 billion.
- **A changing situation:** There is now an overall shift to production within the EU, and this has been accompanied by developments in cultivation technologies that may result in increased yield and potency.
- **Production in the EU:** Domestically produced cannabis can be more difficult to detect and increases local criminality, thereby posing a new challenge for law enforcement.
- **An ubiquitous problem:** The cannabis market is lucrative and relatively easy to enter, and therefore attractive to both new and established crime groups.
- **North Africa remains important:** Trafficking of cannabis resin, principally from Morocco, remains important and is sometimes linked to the importation of other illegal cargos.
- **The European dimension:** Some groups active in this area have a transnational presence and are relatively flexible in terms of relocating activities between countries. Crime networks based on specific ethnic groups can be more difficult to penetrate.
- **Diffusion and displacement:** Different legal frameworks, and judicial and policing practices, between European countries can impact on the location of cannabis production and sale.

Action points

- **Adopt a holistic approach:** Interdiction efforts against any single source of production may result in replacement from alternative sources, emphasising the importance of a holistic and comprehensive approach.
- **Share expertise:** Continued innovation and the sharing of know-how and technologies among Member States are important if Europe's capacity to combat domestic cannabis production is to be improved.
- **Monitor production and trafficking:** There is an urgent need to improve the monitoring of production and trafficking flows of cannabis into and between the EU countries and to better monitor domestic production yields and potency.
- **Act in key areas:** Interdiction efforts targeting cannabis entering through the Iberian Peninsula remain important as does the need to actively engage with Morocco. In addition, responses are required to the threat that appears to be growing from production sites located in South-Eastern Europe and from areas that have not previously been important from an EU perspective.
- **Work with the community:** Environmental drug prevention approaches, education and community awareness-raising and strategies to intervene with groups who may be vulnerable to involvement in the cannabis market are all necessary to support supply reduction measures.

Cocaine

All cocaine indicators (both supply and demand) peaked in 2008 and have declined since. The prevalence of cocaine use is high in a relatively small number of West European countries, although some ongoing spread is still evident. Demand in these countries remains high by historical standards. Survey data suggest some modest contraction in the market, but not on the same scale as the fall in seizure volumes since 2006. The bulk of EU seizures occur in the Iberian Peninsula, which remains the main point of entry into Europe of this drug, which is subsequently transported along broadly the same routes used for cannabis. There is concern about the security of countries on the supply routes for

cocaine into Europe, particularly in West Africa. As noted above, interaction between cocaine and heroin trafficking organisations may be an important development. Recently, major seizures in the Black Sea ports of the Balkans area and in ports in the Eastern Baltic Sea area have been noted. Although Latin American OCGs continue to dominate the supply of cocaine to the European market, intelligence now points to some diversification, with European-based OCGs becoming more prominent. It also appears that traditional heroin trafficking networks and infrastructures are now being used for cocaine trafficking purposes. An ongoing challenge is that legal businesses, particularly those involved in the importation of products in which cocaine could be concealed, are commonly infiltrated or set up to facilitate trade or launder profits.

Cocaine is produced in Latin America, and recently both UN and US sources have reported a moderate decrease in coca bush cultivation. The availability of cocaine in Europe is potentially influenced by levels of production, interdiction efforts in source and transit routes countries and competition from other markets. Historically, the main consumer market

Cocaine

Overview

- **A large but heterogeneous market:** Europe now accounts for only about 9 % of global seizures. The European cocaine market is heterogeneous at country level, but overall the drug remains the second most commonly used illicit substance in Europe—representing probably the third largest market in the world.
- **Trends in indicators of demand and supply:** Demand for the drug remains high, but indicators of cocaine use at the EU level peaked around 2008 and have fallen slightly since then. Since 2006 there has been a large fall in seizure volumes that is not easily explained by contractions in demand.
- **Developments in trafficking:** Spain and Portugal remain the main points of entry for cocaine into Europe, with trafficking through West Africa a particular concern. Evidence of new routes is also emerging. In all areas, cocaine concealed in container shipments is becoming more important, and recent major seizures have been made in the Black Sea and in the Eastern Baltic Sea areas.
- **Increasing links between organised crime groups:** Interaction between cocaine and cannabis resin trafficking networks is well established. A more recent concern is interaction between cocaine and heroin trafficking groups.
- **Innovation:** In addition to developing new routes and concealment methods to avoid detection, cocaine trafficking organisations have developed more sophisticated chemical techniques including incorporating the drug in legitimate products and the production of 'odourless' products.
- **Precursor availability:** The main cocaine precursor (potassium permanganate) now seems to be manufactured illicitly in the cocaine-producing countries of South America rather than being diverted from legitimate sources.

Action points

- **Monitor growth in use in the EU:** Although the use of cocaine appears to have peaked in high-prevalence countries, there is still considerable potential for further spread elsewhere. Monitoring of trends, especially along new trafficking routes, is therefore important.
- **Assess new threats:** There is a need for better intelligence on cocaine importation in Europe, especially in the Black Sea and Balkan areas and via Africa. A parallel need is to improve the understanding on the use of secondary extraction laboratories, especially outside the Iberian Peninsula.
- **Put container trafficking in the spotlight:** Of particular importance is developing awareness and multiagency working partnerships with customs, port authorities and commercial transport organisations as weaknesses in this area are increasingly being exploited.
- **Cooperate with Latin American countries:** Support for precursor control activities in producer countries remains important.

for cocaine was the United States, but parts of Latin America appear to be becoming increasingly important. The Brazilian market, for example, is now estimated to be considerable. Cocaine trafficking groups have shown considerable innovation, responding to interdiction challenges by developing new routes and new concealment methods. Reflecting this, the problem of cocaine entering Europe concealed in commercial containers is attracting more attention. Chemical innovation has also been seen, with cocaine being chemically incorporated in legitimate products for secondary extraction within the EU. New methods of procuring precursor chemicals are also becoming apparent. Indeed, it seems that more of the main cocaine precursor (potassium permanganate) is now manufactured illicitly in the cocaine-producing countries of South America than is diverted from legitimate foreign sources. This development is similar to the use of 'pre-precursors' to manufacture synthetic drugs (see below), and illustrates how successful interdiction measures may result in new challenges as drug manufacturers seek new ways to circumvent controls.

European responses in this area have taken a number of different forms—at both political and technical level; these range from bilateral projects to inter-regional cooperation initiatives and include intelligence sharing and joint operations. There has been some notable interdiction success, for example in the mid-Atlantic, resulting from cooperation. The European cocaine market is believed to be the third largest in the world, although Europe now seizes only about 9 % of the cocaine captured globally. Moreover, the large drop in quantities of cocaine seized noted after 2006 is difficult to explain in terms of the data available on levels of use. This suggests the need to consider other plausible explanations, one being a mixture of new trafficking routes and methods, combined with changes in the availability of law enforcement resources.

Synthetic drugs

The synthetic drug market is dominated by stimulant products, and in this context amphetamine, methamphetamine and ecstasy can all be seen as drugs competing in a similar consumer marketplace. They also share some aspects of synthesis, production and trafficking. Stimulants are often used for functional purposes and the other main 'market player' here is cocaine, the prototype stimulant drug. In any overall analysis it is important to consider the demand for stimulants as a group as well as independently since the substances are frequently interchangeable, and this can have an impact on the effectiveness of intervention measures.

Amphetamine, methamphetamine and ecstasy are in aggregate very widely used both in Europe and globally. The use of amphetamine and ecstasy, historically the most important synthetic drugs in Europe, appears to be largely stable or in slight decline. Overall, any decline in use is best understood as a reflection of diversification rather than any contraction in demand, with methamphetamine now becoming more important and other new substances also appearing.

In parts of Europe, the small-scale production of synthetic drugs for personal use is still found. The best example of this is methamphetamine production in the Czech Republic, where small user-producer cooperatives have a long history going back to the Communist period. More generally, however, the production of synthetic drugs involves OCGs reflecting economies of scale obtained by large production runs and the need to source equipment and precursor chemicals. Overall current trends in the organisation of synthetic drug production are clearly suggestive of a trajectory towards much greater organisation, scaling up in production runs, and greater integration.

In contrast to other parts of the world, in Europe amphetamine is far more commonly used than methamphetamine, although this situation may be beginning to change. Data on methamphetamine are difficult to interpret, but overall they suggest that the drug is becoming more commonly available. Production has been reported in more countries, which now include Bulgaria, Lithuania, the Netherlands, Poland and the United Kingdom. Recently, Germany has also expressed concern about increases in methamphetamine production and importation. Recent intelligence reports, for example, have identified methamphetamine produced in the Netherlands and Lithuania destined for export to Scandinavian consumer markets.

Some sources also suggest a possible growing interest in methamphetamine trafficking from OCGs that produce cannabis. And, as noted already, some data exist to suggest that opiate production and trading networks might be becoming more interested in methamphetamine production. In this context, Turkey is now reporting methamphetamine seizures and Iran appears to have become a producer country with production intended for Asian countries but potentially linking to countries along the Balkan heroin route.

The European ecstasy market has recently gone through a period in which the availability of tablets sold as ecstasy containing MDMA became quite rare. Tablets sold on the illicit market during this period often contained other drugs, including legally sourced piperazines, such as *m*CPP. The scarcity of MDMA in ecstasy tablets appears to have been

related to shortages of the precursor PMK, possibly reflecting the success of interdiction efforts targeting this chemical. However, more recent data suggest that MDMA availability is again increasing.

MDMA production methods now appear to be based on either safrole or, increasingly, imported non-controlled chemicals, such as PMK glycidate, that are structurally similar, although not identical, to the controlled precursors hitherto used. A parallel exists here with developments in the 'legal highs' area, where non-controlled products replace controlled ones. This illustrates the increasing sophistication of drug production capacity within the EU and the ability to innovate to circumvent control measures. Border control strategies are therefore rendered less effective by producers moving 'downstream' in the chemical production chain.

A related phenomenon has been observed in the amphetamine market, where precursors have been chemically 'masked' to avoid existing border and sales

Synthetic drugs

Overview

- **A rapidly developing area:** Recent developments in the synthetic drug market include a bounce-back in ecstasy quality; increased availability of methamphetamine; greater technical sophistication; evidence of scaling up of production processes; and increasing interaction with the market for new psychoactive substances.
- **Innovation to avoid control:** Producers have introduced new measures, in particular the sourcing of pre-precursor chemicals and decentralised production processes to adapt to previously successful supply reduction efforts.
- **Increased replacement:** There is increasing evidence of synthetic substances being used as replacements for both heroin and cocaine. Increasing interplay is also seen with the market for non-controlled new psychoactive substances.
- **Ecstasy on the rebound:** Ecstasy use over the medium term has stabilised or even declined, due in large part to successful enforcement, albeit that demand for this drug may have been satisfied by other stimulants. The improved quality of ecstasy tablets, and now powders, available in Europe may, however, see a resurgence in interest in this drug.
- **EU production:** Demand for synthetic drugs in Europe is met largely by laboratories located intraregionally, particularly in the Netherlands and, to a lesser extent, Belgium, Lithuania and Poland. However, trafficking in precursors—and pre-precursors—is on a global basis, and producers are proving versatile in finding new production methods. The EU remains an important exporter of amphetamine and ecstasy.
- **EU responses:** There have been important initiatives at European level to improve coordination in tackling ATS, including action against trafficking and the trafficking of precursors; coordinated chemical profiling of seized drugs; and the funding of JITs and EMPACT.

Action points

- **Act against major production sites:** Targeting inter-regional production of synthetic drugs, which can be mobile, relocate quickly and result in large volumes, needs to remain a priority for law enforcement efforts, with greater emphasis given to coordinated and parallel actions.
- **Restrict access to necessary chemicals:** Targeting the trade in precursor chemicals necessary for production requires both intra- and inter-regional activities. The identification of new methods and chemicals and measures to restrict their availability is becoming of critical importance.
- **Strengthen the international framework:** Restricting the availability of new (pre)precursors will require international agreement. This is likely to be challenging in the case of those chemicals which have extensive legitimate uses.
- **Identify and target key producers:** The growing diversity of synthetic drug use is accompanied by, and may trigger, an increasing integration of OCGs involved in production. This threat requires that priority be given to intelligence gathering to identify and target key organisations and individuals.

control mechanisms, or where precursors (especially BMK) are manufactured illegally within Europe from non-controlled chemicals—so-called 'pre-precursors' such as alpha-phenylacetoacetonitrile (APAAN). As producers become more technically sophisticated and seek out new ways to circumvent interdiction efforts and regulations, the possibility to modify and (re)convert substances represents another challenge to current drug control approaches.

Another precursor-related issue is the emergence of modified versions of controlled substances that may have additional harmful effects. In 2012, the EU early warning mechanism investigated 4-methylamphetamine after a number of deaths and emergencies were reported to be related to the use of this substance. The available information suggests that the precursor used for the manufacture of 4-methylamphetamine is 4-methyl-benzyl methyl ketone (4-methyl-BMK), which is not under international control. There are indications from intelligence reports that producers believe that they are attempting to produce amphetamine using the precursor BMK, when they are in fact using 4-methyl-BMK and consequently producing 4-methylamphetamine. Alternatively, it has also been suggested that a mixture of BMK and 4-methyl-BMK is being used by illicit laboratories that have imported the precursors from China or Russia for amphetamine synthesis.

An overall conclusion is that, more than other illicit drug types, the control of synthetic drugs is clearly a dynamic process of adaptation and reaction. Control measures are met with rapid countermeasures and technological innovation. Ensuring effective action will require Member States and EU bodies to monitor developments closely, to coordinate interdiction efforts and to foster coordination with non-EU authorities. It can be confidently predicted that producer and trafficker groups will remain quick to adapt to new controls. It is also likely in the coming decade that the logic of the illicit drug market will be towards an increasing importance of synthetic products, especially those that can be produced close to consumer markets.

New psychoactive substances

Over the past few years Europe has seen an unprecedented growth in the number, type and availability of new psychoactive substances (new drugs). In 2012, for the fourth consecutive year, a record number of 73 substances were detected for the first time in Europe, up from 49 substances in 2011, 41 in 2010 and 24 in 2009. Overall, the EU early warning system currently monitors more than 250 new psychoactive substances.

The ongoing process of globalisation, tightly coupled with technological innovations, has been essential to the development of this market. The factors underlying such globalisation include a growing capacity for complex, cheap chemical synthesis in emerging economies; the rise of the Internet as a means of communication, a forum for knowledge exchange and a marketplace; and air freight and postal systems that allow drugs or their precursors to be rapidly shipped to Europe. At the same time, the methods used to market and advertise many of these new drugs have also become increasingly innovative and sophisticated, with some countries seeing a rapid increase in retail outlets. As a result, new drugs can reach larger numbers of potential consumers, including some who would not typically use controlled substances.

The market has shown a considerable capacity to rapidly adapt to regulatory measures, with new product lines in development to anticipate controls. There is also a growing interplay between this new market and the established market for controlled drugs. Overall, these developments have posed serious challenges to existing approaches to drug control.

Although the source of the chemicals required to synthesise new drugs is unclear, there are indications that some are bought from manufacturers in Asia, with China and India often cited as countries of origin. Some new substances, such as *m*CPP, have also been legally sourced from within Europe, and some of the new substances are produced within Europe from precursors in illicit laboratories. These are usually intended to be sold directly on the illicit market as substitutes for controlled drugs. As a result, drug consumers may be unaware of the substances they are actually taking. The identification of substances in this area is a challenge not only for consumers. New psychoactive substances from numerous diverse and increasingly obscure chemical groups emerge rapidly and are incorporated in products whose component substances may change over time. This poses substantial problems for forensic and toxicological identification. It also means that consumers are exposed to substances of unknown toxicity. The initial identification of substances can be technologically demanding and costly, creating a strong argument for coordinated activities and the efficient sharing of data. Many of these substances will also go undetected if standard approaches are used. Thus, customs and border control forces can be poorly prepared to face the growing challenge of identifying a large number of different new substances.

As noted, there is an increasing interaction between the market in new drugs and those for controlled drugs. Some substances appear to have the potential to cross over to the illicit market once controls are put in place. Conversely, non-controlled psychoactive substances have been added

to, or sold in the place of, established illicit drugs such as ecstasy. Examples of the interchangeable nature of licit and illicit drugs markets are the presence of licit mephedrone in tablets sold as ecstasy tablets and, conversely, the inclusion of controlled drugs, such as PMMA, in 'legal high' products. Both these findings, along with seizure information, suggest a growing interest in this market by OCGs, although to date activity levels appear to have been relatively low. However, an equal threat appears to be that this area is attractive to new groups who see an opportunity

New psychoactive substances

Overview

- **The challenge of identification:** New substances, from diverse chemical groups, emerge rapidly and are sold in products that may contain mixtures of substances that change over time. This poses a substantial challenge for forensic and toxicological identification and means that consumers are exposed to substances whose toxicity is unknown.
- **Dramatic rise in introduction of new psychoactive substances:** There has been a growth in the number, type and availability of new substances in Europe. In 2012, a record 73 substances were detected for the first time. Overall, the EU early warning system currently monitors more than 250 substances.
- **A multifaceted problem:** The new drugs market can be seen as two broad and overlapping groups of non-controlled substances and products: those sold directly on the illicit market and the so-called 'legal highs'.
- **A potential for growth in use:** New drugs can diffuse rapidly and may also be attractive to consumers who do not typically use controlled drugs.
- **Crossover to drug market:** Non-controlled psychoactive substances have also been added to, or sold in the place of, established illicit drugs such as ecstasy (MDMA). Some 'legal highs' appear to have crossed over into the illicit drug market once controls have been put in place.
- **Globalisation and the Internet play a key role in the emergence of 'legal highs':** Synthesis usually takes place outside the EU, and similar products have appeared in many parts of the world. However, EU-based entrepreneurs play an important role in importing, packaging and marketing. The Internet is both a source of supply and a provider of information to consumers, traders and producers.
- **Competing with the illicit market:** Interaction between the illicit drug market and the market for 'legal highs' exists, but is currently limited. However, given the large profits, and low risk, of operating in this area a considerable potential exists for both established and new criminal organisations to become more active.

Action points

- **Respond to a growing problem:** The EU mechanism for identifying, monitoring and responding to new drugs needs to be strengthened to keep pace with the challenges posed by this rapidly developing phenomenon.
- **Rise to the forensic challenge:** The need to identify and assess increasingly diverse sets of chemicals, and the costs of doing so, requires forensic science capacity to be strengthened and the sharing of chemical data, reference samples and expertise. There is a parallel need to improve capacity to enable the detection of new substances at borders and within the postal and transport services.
- **Take a proactive approach:** Responses can be strengthened by a proactive approach to monitoring of the Internet, including test purchasing and by developing partnerships with industry to restrict illegal activities.
- **Respond to the illicit market:** There is a need to analyse and respond robustly to the growing interplay between the new drugs market and the established market in controlled drugs.
- **Take rapid action to protect public health:** Some new substances pose an immediate and pronounced threat to public health. This requires a fast-track EU-wide alert mechanism that will allow Member States to take immediate precautionary measures.

to move into an area characterised by low risks, high growth potential and easy profits.

Numerous factors drive the availability of new drugs. For many, the simple fact that there are few restrictions on the manufacture, transport, importation, sale and possession is crucial. Not only can this reduce costs, as well as risks to manufacturers and distributors, but it can also make new drugs more attractive and socially acceptable to consumers, especially when they are attractively packaged. The appeal of the strong visual images used in the packaging of these products is attested by the fact that similar packaging is now being adopted by some legitimate products targeting the youth market.

Online social networks are playing a growing role in how consumers learn about new drugs, buy them and, subsequently, share their experiences. This makes them a potent vehicle for further diffusion. Despite the importance of the Internet in this respect, it is not currently the principal route by which most consumers obtain these products. Studies have found that many users source 'legal highs' from friends, specialised shops or even illicit dealers rather than directly from the Internet. That said, it is clear from Internet monitoring that there is a growing number of online shops offering 'legal highs' and medicines for sale to consumers both in the EU and in other countries. Moreover, the Internet may be the initial source of supply for products that are subsequently sold on through commercial or social networks.

Understanding the consumer market for new drugs is difficult given the limited research currently available. Some insight is provided by a recent EU-wide study which estimated that, among those aged 15–24, the prevalence lifetime use of 'legal highs' was 5 %. There was large variation between countries, but rates of use were relatively high in some countries, with the United Kingdom, Latvia, Poland and Ireland reporting estimates of 8 %, 9 %, 9 % and 16 % respectively. This illustrates the potential of the products to spread rapidly, although the sampling approach used in this exercise, and the fact that the situation appears to be changing rapidly, means that further studies of drug prevalence in this area are urgently needed. To address the complexity of the new drugs phenomenon and to strengthen the EU response in this area, the European Commission is currently working on a new legislative proposal. This draws on a thorough analysis of the current situation and on an assessment of the existing legislative framework (Council Decision 2005/387/JHA).

Information needs

From an operational perspective, the investment of time and resources needed to develop robust data sets may seem sometimes like a distraction from more valuable activities. However, good intentions do not always deliver good results, and a sound analysis of the situation is necessary if activities are to be effectively targeted and their impact over time assessed. This is probably even more important now as a strong message coming from the analysis found in this report is the increasing speed and dynamic nature of the modern drug market.

The purpose of the analysis provided in this report is to provide a strategic overview of the situation with a focus on how value can be accrued from coordination and cooperation at the European level. The issues of the standardisation and comparability of those data available at EU level are of critical importance here. Currently, in contrast to demand-side indicators, the ability to compare even relatively simple quantitative measures between countries is quite poor. Similarly, both the timeliness of data availability and the coverage of data sets of the EU as a whole is frequently inadequate. This means that an EU-level analysis must be made with caution, and quantification of the scale of the market with any degree of rigour is often impossible in most areas. The weakness of statistical data is widely recognised, and the EMCDDA, Europol and the European Commission are currently working to improve the situation. The current focus of this work is to establish basic standardised key indicators for supply and supply reduction to provide the building blocks to permit a more robust time series analysis to be developed. Standardised statistical information sets, whilst important for strategic-level analysis, clearly do not serve all the information needs in this area. Research and intelligence sharing are plainly also important and can provide complementary data. This report has benefited considerably from the ongoing work to coordinate intelligence by Europol. This information is primarily intended for operational purposes, but when appropriately treated it can inform a more general analysis without compromising either sources or ongoing activities. It is therefore sufficient here to simply note the need for, and the value of, sharing operational data at the European level for both operational and analytical purposes.

The forensic science domain is one area where information sharing is clearly of both operational and analytical importance. The increasing presence of synthetic drugs, new drugs and mixtures thereof in the European drug market suggests that the importance of this area is growing. It has been noted in many parts of this report how understanding of this area is hampered by a lack of capacity. It is also an area in which added value can clearly be derived by sharing information and coordinated activities. Examples here are easy to find but can be summarised as improving forensic data quality as well as data on the availability on

the chemical make-up of seized substances including recording of purity and adulterants. Chemical and other forms of profiling can also allow a better understanding of market changes. Better information on the number and characteristics of dismantled drug production sites would also be helpful and allow a better understanding of issues such as the extent to which the processing and extraction of cocaine is occurring within the EU.

More standardised and detailed information on drug seizures must also be regarded as a priority. A good illustrative example of the issues here is cannabis. Current monitoring in this market does not allow products to be distinguished or the relative potency of available cannabis products to be determined. Data on herbal cannabis and cannabis plants, in particular, are currently poorly standardised and difficult to interpret.

There are a number of challenges that need to be overcome when attempting to scale up European data on supply issues. The speed at which changes are occurring and the parallel need to respond rapidly to new developments is a challenge to conventional statistical reporting models. The sustainability of any information collection system is often contingent on the data providers getting sufficient reward from their efforts. This would imply that rapid feedback and analysis relevant to local needs will be important. A good model here may be the current EU early warning system on new drugs. The benefits of rapidly sharing information using this system are reflected in the high degree of commitment

Information needs

Overview

- **The need for an integrated information model:** Understanding a complex phenomenon such as the drug market requires a critical analysis informed by both supply- and demand-side data.
- **Statistical data on supply remains a weak link:** Improving the measurement of drug markets and effectiveness of supply reduction responses requires that data are based on common definitions and standards.
- **Forensic science at EU level is underutilised:** Forensic information has both operational and strategic importance, yet capacity at EU level is currently insufficient. Sharing of information and improving the coordination of actions at EU level can also add value to national efforts.
- **Maximising the strategic value of intelligence:** Operational intelligence, used with appropriate safeguards, can enrich strategic analysis and complement information obtained from statistical and other sources.
- **Quantifying the drug market:** An estimate of the size of the market is essential for improved threat analysis, and to better target, and measure the impact of, supply and demand interventions.
- **The importance of research:** Dedicated research studies are necessary to complement statistical data, and, within a European context, key research priorities require identification.

Action points

- **Establish high-quality indicators of drug supply:** Standardised key indicators to provide the building blocks to permit a more robust time series analysis need to be established.
- **Develop and share forensic science information:** There is a need to scale up and develop expertise, networks and analytical forensic capacity at the EU level. Maximum value will be accrued by sharing of information through integrated databases using common standards.
- **Estimate size and value of markets:** Estimates of both the scale and value of drug markets are informed by demand and supply indicators. Functional longitudinal models that will allow the monitoring of changes on an ongoing basis need to be developed to allow better quantification of important aspects of the drug market.
- **Identify research priorities:** There is a need to identify emerging research needs in this area and encourage cross-national and multidisciplinary studies.

shown by data providers. It is likely that technology can also be helpful here, and, as noted already, online systems have the capacity to provide benefit by proving rapid and secure communication and allow information to be collected and accessed in more creative ways. Methodological technical developments may also prove helpful; for example, current developments in wastewater analysis offer the potential for a rapid reporting tool on trends in drug consumption at the population level.

Despite the challenges that exist, even moderate improvements in data quality could deliver some important returns. All data sources in this area are by their very nature partial, and the best insight comes from the multi-indicator analysis of time series data. To understand a complex phenomenon such as drug use and the drug market, both supply and demand data are essential. It is, for example, impossible to understand the current European heroin market without considering the impact that widespread substitution has had in removing a significant component of consumer demand. Looking at data availability overall, it can be concluded that a window of opportunity now exists that may allow, in the not too distant future, the ability to address with a greater degree of confidence important analytical questions such as the size of European drug markets and obtain better estimates of both scale and value of production and consumption.

In conclusion, it is clear that monitoring and evaluation are in some respects secondary tasks to the primary business of the operational work necessary to pursue supply and demand reduction objectives. Nonetheless, actions that are not based on an understanding of the nature of the problem risk being poorly conceived and poorly targeted. This can result in an overall approach that is likely to be at best ineffective and at worst counterproductive. Without impact evaluation, resources may be wasted as ineffective strategies continue to be pursued. And, similarly, without information systems that are proactive and sensitive to change, important new threats may be overlooked and opportunities for early intervention missed. This is recognised in the European strategic response to drugs, which can be characterised as placing a central emphasis on the need for actions to be evidence based. It is also the rationale for this report and it is why recommendations to improve the information base are important inclusions here.

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Abbreviations

2C-I	2,5-dimethoxy-4-iodophenethylamine
ADAM	Automated Donor Assistance Mechanism
AIRCOP	Airport Communication Project
APAAN	alpha-phenylacetoacetonitrile
AQIM	Al Qaeda in the Islamic Maghreb
ATS	amphetamine-type stimulants
AWF	analysis work file
BMK	benzyl methyl ketone
BOMCA	Border Management Programme in Central Asia
BZP	1-benzylpiperazine
CAAT	Airport Anti-Traffics Cells
CADAP	Central Asian Drug Action Programme
CAN	Andean Community
CARDS	Community Assistance for Reconstruction, Development and Stabilisation
CAST	Cannabis Abuse Screening Test
CBD	cannabidiol
CCP	Cargo Container Programme
CeCLAD-M	Centre de Coordination pour la Lutte Anti Drogue en Méditerranée
CNA	central national authority
CO-LA-CAO	Law Enforcement and Intelligence Cooperation Against Cocaine Trafficking from Latin America to West Africa
COPOLAD	Cooperation Programme on Drug Policies between Latin America and the European Union
COSI	Standing Committee on Operational Cooperation on Internal Security
EC	European Commission
ECCCS	Europol Cannabis Cultivation site Comparison System
ECLS	Europol Cocaine Logo System
ECOWAS	Economic Community of West African States
EDPS	European Drug Profiling System
EEGC	European Expert Group on Cannabis
EELS	Europol Ecstasy Logo System
EILCS	Europol Illicit Laboratory Comparison System
ELSC	Europol Logo System on Cannabis
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
EMPACT	European Multidisciplinary Platform against Criminal Threats
ESDS	Europol Synthetic Drug System
ESMC	Europol Specific Means of Concealment System
ENP	European Neighbourhood Policy
ENPI	European Neighbourhood and Partnership Instrument
ESPAD	European School Survey Project on Alcohol and other Drugs
EU	European Union
EUROSUR	European border surveillance system
EWS	Early Warning System
FARC	Revolutionary Armed Forces of Colombia
GHB	gamma-hydroxybutyrate
GPS	global position system
HCV	hepatitis C virus
HDG	Horizontal Working Party on Drugs
HIV	human immunodeficiency virus
INCB	International Narcotics Control Board
IPA	Instrument for Pre-Accession Assistance
JAITF	joint airport interdiction task force
JCO	joint customs operation
JIT	joint investigation team
LAC	Latin American countries
MAOC-N	Maritime Analysis and Operation Centre—Narcotics
MASP	multiannual strategic action plan
*m*CPP	*meta*-chlorophenylpiperazine
MDMA	3,4-methylenedioxy-methamphetamine
4-MMC	4-methylmethcathinone (mephedrone)
MMDMG	methyl-3-[3′4′-(methylenedioxy)phenyl]-2-methyl glycidate
MDPV	methylenedioxypyrovalerone
NPS	new psychoactive substances
NSA	National Strategic Analysts
OAP	operational action plan
OCG	organised crime group
OCTA	Organised Crime Threat Assessment
OMCG	outlaw motorcycle gang
P2P	1-phenyl-2-propanone
PCU	port control unit
PEN	Pre-export Notification
PKK	Kurdistan Workers' Party
PMK	piperonyl methyl ketone
PMMA	*para*-methoxyamphetamine

PRADI-CAN	Progama Antidrogas Ilícitas en la Comunidad Andina
SEACOP	Seaport Cooperation Programme
SMART	Global Synthetics Monitoring: Analyses, Reporting and Trends
SOCA	Serious Organised Crime Agency
SOCTA	Serious and Organised Crime Threat Assessment
THC	tetrahydrocannabinol
UN	United Nations
UNODC	United Nations Office on Drugs and Crime
WCO	World Customs Organization

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About this report

The EU drug markets report provides the first comprehensive overview of illicit drug markets in the European Union. The report combines Europol's strategic perspective and operational understanding of trends and developments in organised crime with the EMCDDA's ongoing monitoring and analysis of various aspects of the drug phenomenon in Europe and beyond.

The EU drug market is complex, and the analysis provided here spans numerous topics such as production, consumer markets, trafficking, organised crime and policy responses. Taking a multi-source approach, the report reviews the markets for heroin, cocaine, cannabis, amphetamine, methamphetamine, ecstasy and new psychoactive substances. It also provides concrete action points for the areas where the current EU response to the drug market and its consequent harms may be improved.

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.

About the EMCDDA

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) is the hub of drug-related information in Europe. Its mission is to provide the EU and its Member States with 'factual, objective, reliable and comparable information' on drugs, drug addiction and their consequences. Established in 1993, it opened its doors in Lisbon in 1995 and is one of the EU's decentralised agencies. With a strong multidisciplinary team, the agency offers policymakers the evidence base they need for drawing up drug laws and strategies. It also helps professionals and researchers pinpoint best practice and new areas for analysis. As well as gathering information on the demand and reduction of the demand for drugs, the agency in recent years has extended its monitoring and reporting on drug supply, supply reduction and illicit drug markets.

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About Europol

Europol is the European Union's law enforcement agency. Its aim is to improve the effectiveness of, and cooperation between, the competent authorities in the EU Member States in preventing and combating serious international organised crime and terrorism. Operational since 1999 and based in The Hague, the organisation employs some 600 staff to support national law-enforcement agencies in their everyday work, including efforts to tackle illicit drug trafficking, money laundering, cyber crime and terrorism. Europol comes into play when an organised criminal structure is involved and two or more EU Member States are affected. Among others, it facilitates cross-country information exchange and provides analysis of operations.

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