2019 STATUS REPORT ON IPR INFRINGEMENT

Why IP rights are important, IPR infringement and the fight against counterfeiting and piracy

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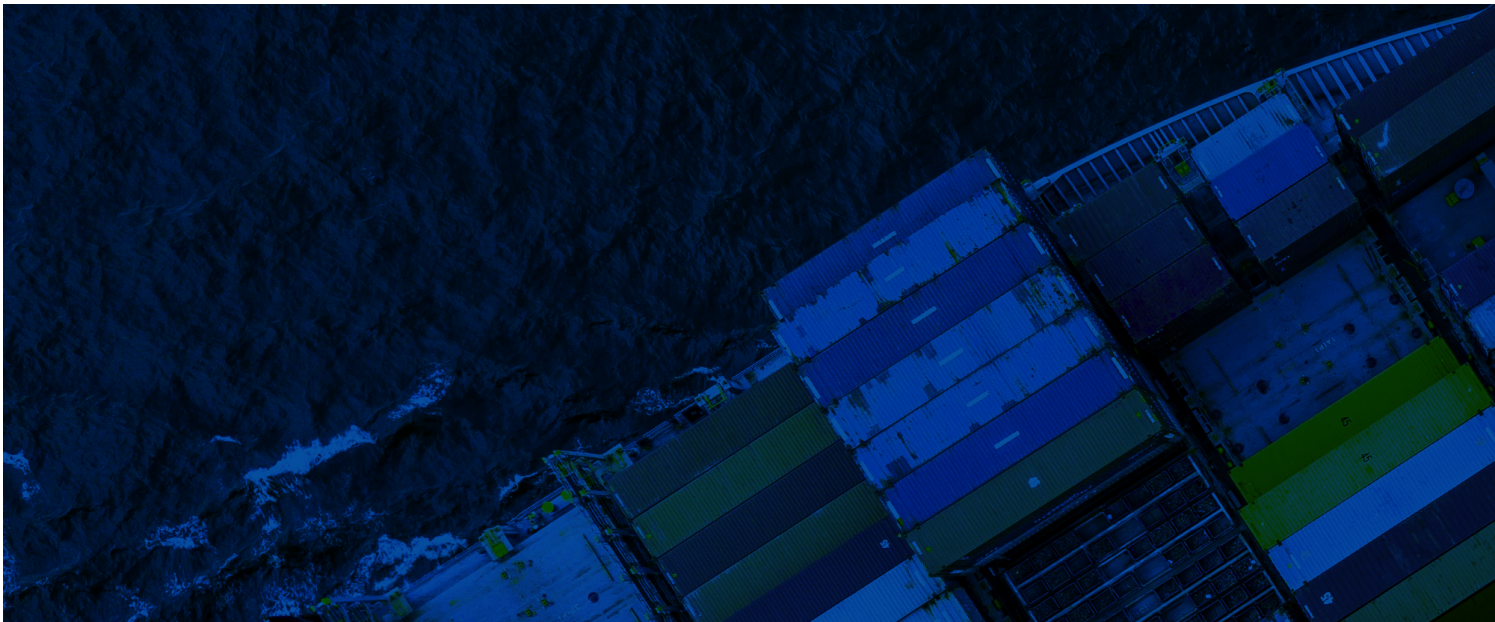


Contents

EXECUTIVE SUMMARY

2019 Status Report on IPR infringement

This report brings together the findings of the research carried out in recent years by the European Union Intellectual Property Office (EUIPO), through the European Observatory on the Infringement of Intellectual Property Rights (Observatory), on the extent, scope and economic consequences of Intellectual Property Right (IPR) infringement in the EU. Evidence on the economic value of IPRs in the EU economy, the extent to which this value is exploited, the infringement mechanisms used to capture that value and the actions being taken in response to these challenges are outlined and discussed.

In a study carried out in partnership with the European Patent Office (EPO), the EUIPO found that the total contribution of IPR-intensive industries to the EU economy accounts for approximately 42% of GDP (€5.7 trillion) and 28% of employment (plus another 10% in indirect employment effects in non-IPR intensive sectors). Those sectors also generate a trade surplus of approximately €96 billion with the rest of the world and pay their workers 46% higher salaries than other sectors.

Because of the high value associated with IPR, infringement of those rights is a lucrative criminal activity, which generates significant costs to the rights owners and to the economy in general.

According to a study carried out by EUIPO and the OECD in 2019, estimates of IPR infringement in international trade in 2016 could reach as much as 3.3% of world trade. Up to 6.8% of EU imports, or €121 billion per year, consist of fake goods. Both sets of figures are significantly higher than those found in study by the two organisations published in 2016, indicating that the problem has grown even more serious in recent years.

In a series of sectorial studies, the EUIPO has estimated lost sales in 11 sectors in the EU (directly in the industries being analysed and across their associated supply chain), as a result of counterfeiting. These losses totalled more than €92 billion per year during the period 2012-2016.

Abundant value, lenient sentences and high returns on investment together make it attractive for criminal gangs to engage in counterfeiting activities. The modus operandi of such gangs is becoming increasingly complex as technology and distribution channels evolve, hand in hand with the breadth of products being counterfeited.

The business models adopted by counterfeiters make significant use of the internet to distribute their products and to promote the distribution and consumption of illegal digital content. Internet sites selling counterfeit goods benefit from additional advertising revenues from both "high risk" ads (adult, gaming, and malware) and, paradoxically, also from legitimate brands, which then suffer in two ways from advertising on such sites (damage to their own brand and provision of credibility to the hosting website).

In addition to analysing the supply of counterfeit goods and pirated content, the EUIPO has also studied the demand side, that is, the attitudes of EU citizens towards IPR and their willingness to consume IPR-infringing goods and services. The incentives for consumers to purchase counterfeit goods and to access copyright-protected content illegally include lower prices, easy accessibility and a low degree of social stigma associated with such activities.

In response to these developments the EUIPO, together with public and private partners, is undertaking and supporting a number of actions to meet these challenges. These actions range from providing rights owners with information on the changing infringement landscape, working with Europol on wider responses to IP crime, not least by participating in the funding of a specialised IP crime unit within Europol, supporting the European Commission's efforts to address the supply of counterfeit goods in third countries and to help Small and Medium-Sized Enterprises (SMEs) protect their IPRs, and providing citizens with information on the availability of legally accessible digital content and on the economic and social impact of purchasing counterfeit goods or accessing digital content illegally.

INTRODUCTION

This Status Report on IPR Infringement brings together the findings of the research carried out since 2013 by the European Union Intellectual Property Office (EUIPO), through the European Observatory on the Infringement of Intellectual Property Rights (Observatory). It is intended to tie together the various studies on the value of IP, on the public's perception of it, on the mechanisms used to infringe IP rights and the economic consequences of infringement in order to provide a coherent picture of the state of IPR and IPR infringement in the EU. It also includes a section on the actions being taken to combat infringement. This report is published on an annual basis.

Building on the initial Synthesis Report published last year, this 2019 edition updates it with the results of new studies. In particular, the cornerstone 2016 OECD-EUIPO study quantifying the overall volume of trade in counterfeit goods was updated in 2019; in addition, two other joint OECD-EUIPO studies have been published since the previous edition of the report, on the factors that make some countries more prone to be sources of counterfeit goods, and on the role of small parcels in the trade in counterfeits. The sectorial studies estimating the impact of the presence of counterfeits in the EU marketplace have all been updated to reflect the most recent data available. The results of those studies are included as well.

In addition to research findings, the report has been updated with new actions undertaken by the EUIPO and others to help combat IPR infringement. Some of the activities outlined in last year's report have been continued (for example, the annual grant to Europol to help finance its IP crime unit), but there are also new workstreams in areas such as Small and Medium-Sized Enterprises, intermediaries, and the role of technology as regards IP infringement. Those activities are described more fully in the final section of the report.

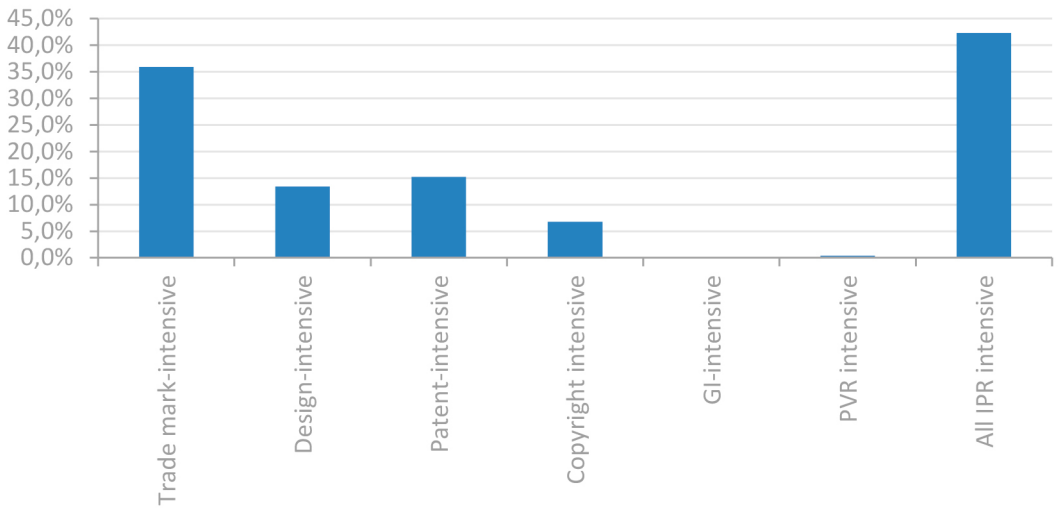
This synthesis of the evidence begins with an assessment of the importance of Intellectual Property Rights to the EU economy.

ECONOMIC CONTRIBUTION AND THE VALUE OF IPR

The economic value of European IPR-intensive industries has grown during the financial crisis[1]. In 2016, EUIPO, in conjunction with the EPO, estimated that such industries, through 2011-2013, accounted for 42% of the EU´s economic output (€5.7 trillion) and 28% of employment[2].

Figure 1 illustrates the importance of IPRs by defining the proportion of EU GDP generated in IPR intensive industries for each of the six IPRs included in the study. Trade marks represent the highest share of total EU GDP, as most businesses that sell products and services need to identify their offerings and distinguish them from those of the competitors. Trade marks are thus an essential feature of a market economy. In terms of contribution to GDP, trade marks are followed by patents and designs. The other IPRs included in the study are copyright, Geographical Indications (GI) and Plant Variety Rights (PVR).

Figure 1 – Contribution of IPR Intensive industries to EU GDP, 2011-2013 average



Source – EUIPO/EPO 2016 - Intellectual property rights intensive industries and economic performance in the European Union

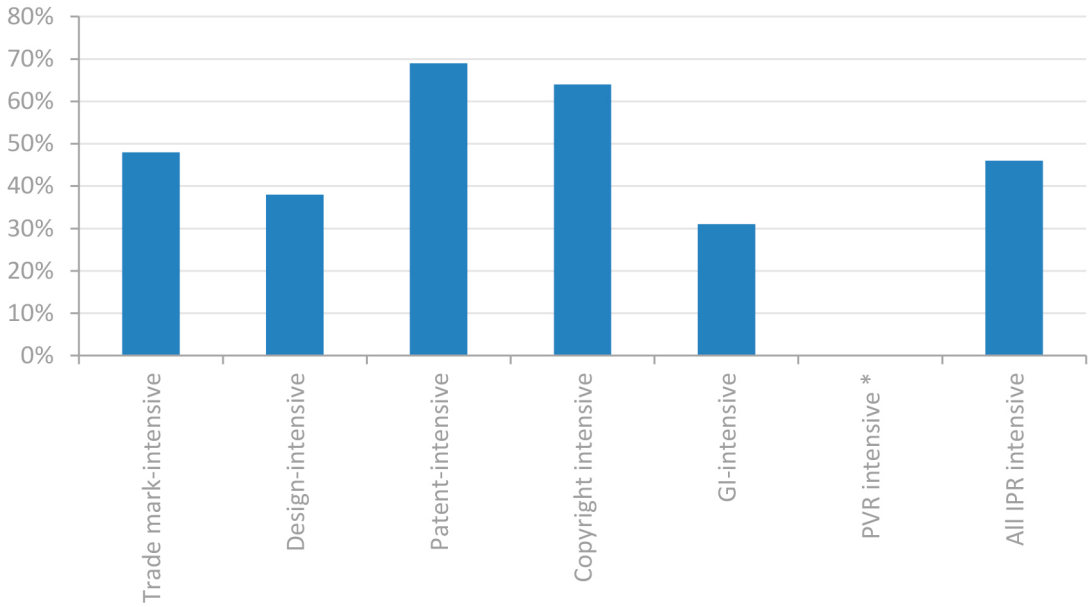
Sectors which make above-average use of IPR exhibit a collective trade surplus with countries outside of the EU. This surplus of €96 billion contributed to a lowering of the overall trade deficit for the EU of 0.3% of GDP.

With 42% of EU GDP (value added) and 28% of employment being generated by IPR intensive industries, the implication is that value added per employee in IPR intensive industries must be higher than in the rest of the economy. This, in turn, enables companies in those sectors to offer their workers higher remuneration than the non-IPR intensive sectors, as shown in Figure 2. Overall, remuneration in IPR-intensive industries was 46% higher than in other sectors. This positive differential holds across all five IPRs for which the calculation was made.

1 IPR-intensive industries are defined as sectors that make above-average use of registered IP rights, measured on a per-employee basis.

2 European Patent Office and the European Union Intellectual Property Office, Intellectual property rights intensive industries and economic performance in the European Union, 2016, p. 6. Available at: https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/IPContributionStudy/performance_in_the_European_Union/performance_in_the_European_Union_full.pdf

Figure 2 – Average personnel costs in IPR intensive industries compared to non-IP intensive industries, 2013



*Data for wages in agriculture are not available in sufficient detail to calculate the wage premium for PVR-intensive industries.

Source – EUIPO/EPO 2016 - Intellectual property rights intensive industries and economic performance in the European Union.

To gain a greater understanding of the microeconomic dynamics underpinning these aggregates, EUIPO examined the relationship between IPR ownership and company performance, and published in June 2015[3] the resulting report, "Intellectual property rights and firm performance in Europe." By combining financial performance data with data from EUIPO's and EPO's registers, a comparison was made between companies owning IPRs and those without.[4]

The first notable characteristic of IPR-owning companies is their greater size (547 vs 94 employees on average). It thus appears that there is an apparent relationship between business growth and the acquisition of IPRs[5].

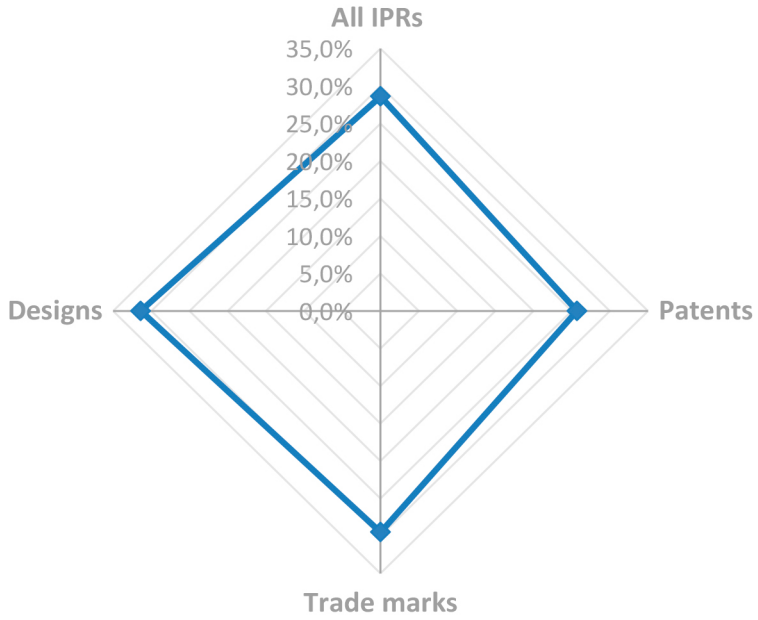
The headline result from this study indicates that firms with IPRs generate on average 29% higher revenue per employee than firms without IPRs, as shown in Figure 3. Patents exhibit a premium over non-IPR firms of 26%, trade marks 29% and designs 31%.

3 Intellectual property rights and firm performance in Europe – June 2015 available at: https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/IPContributionStudy/phase2/OHIM_study_report_en.pdf

4 Company financial performance can be measured via a number of different indicators. To normalise the analysis, however, the principal indicator selected was "revenue per employee". Using this measure, comparative analysis was conducted on issues relating to business performance, including the influence of increasing IPR stocks on indicators such as turnover, profitability and employment.

5 The IPRs included in the study included patents, trade-marks and designs and combinations of these three rights (Copyright, Plant Variety Rights and Geographical Indications, due to their structure and associated measurement issues, were excluded).

Figure 3 – Average revenue per employee – IPR owners and non-owners



Source: EUIPO, Intellectual property rights and firm performance in Europe – 2015

Furthermore, on average, IPR-owning companies pay 20% greater remuneration to their employees than those without IPRs. For patent-owning companies this premium is especially high, at approximately 41%.

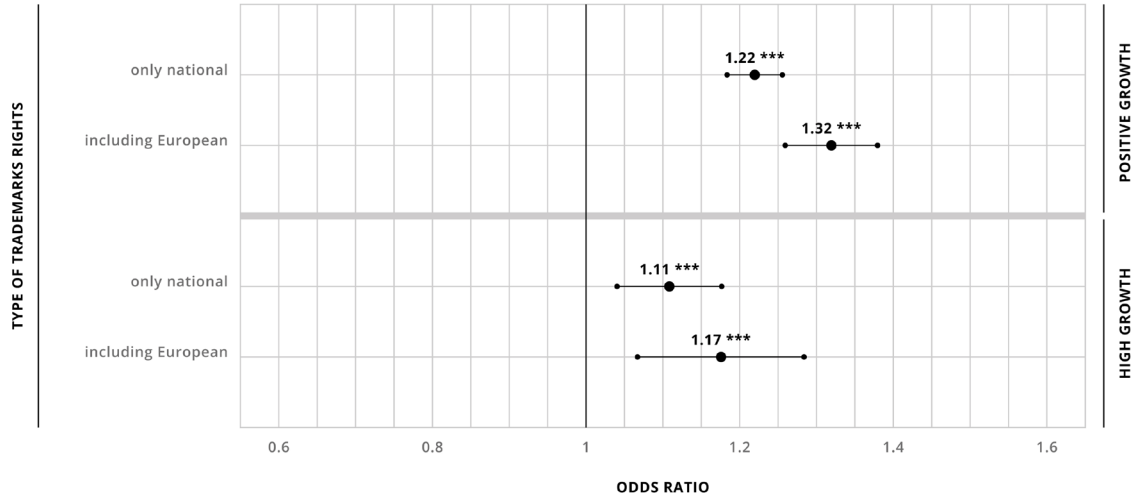
The analysis of company size, business performance and IPRs revealed that this relationship was particularly pronounced for small and medium-sized enterprises (SMEs). These companies exhibited almost 32% higher revenue per employee than SMEs that do not own IPRs. This finding is of note, since IPR ownership amongst European SMEs is low (40% of large EU firms have registered rights, compared with 9% of SMEs), yet those that do own them exhibit a performance premium even higher than that shown by large companies with IPRs.

The studies described above are static in nature: they investigate the relationship between IP rights and economic performance (whether on industry or individual company level) at a given point in time. To address this, a new study carried out in 2019 by the EUIPO and the EPO (forthcoming) looked at the relationship between IPR activity by SMEs and their growth in subsequent years.

This study showed that SMEs that apply for patents, trade marks or designs have a higher probability than other SMEs of achieving high-growth status during the subsequent three years[6]. Furthermore, this effect was strongest for SMEs that had applied for European rather than only national IP rights, indicating the importance of international activities for high growth of the company. As an example, Figure 4 shows that SMEs that apply for national trade marks have a 22% greater likelihood of subsequent growth and 11% greater likelihood of high growth than SMEs that are not trade mark active. However, if EUTMs are also used, then the likelihood of growth is 32% higher and the likelihood of high growth 17% higher, compared to non-users of trade marks.

6 A high-growth firm has been defined in accordance with OECD and Eurostat definitions as a firm with an average annualised growth rate of turnover in excess of 20% per annum, over a three-year period.

Figure 4 – Prior use of trade marks and the probability of subsequent growth



Note: The odds ratio is defined as the estimated ratio of the probability of (high) growth with prior IP use and the probability of (high) growth without prior IP use. The figure indicates the estimated value of the odds ratio and the 95% confidence interval around that estimate.

The finding that IPR-owning SMEs perform well and yet only a small minority of SMEs register IPRs led EUIPO to examine in more detail the use of IPRs by European SMEs: why do they register those rights (or refrain from doing so), what kind of problems do they face when trying to protect their rights, and what kind of impact did IPRs have on their business. The results were released through EUIPO's 2016 IPR SME Scoreboard[7].

The main findings indicated that SMEs with registered IPRs believed they had a positive (47%) or very positive impact (13%) on their business. The main motivations for registering IPRs were to prevent copying, to gain better legal certainty, to increase the value of their business and to improve the image of the company.

Despite this positive impact on commercial performance, many SMEs still believe that they lack sufficient knowledge about IPRs and their impact and that registration and enforcement is too lengthy and costly a process.

Summary of section 1 – Value and economic Importance of IPR

1. IPR-intensive industries contribute 42% of EU's GDP, 28% of employment, and 93% of EU exports to the rest of the world. These sectors also pay salaries that are on average 46% higher than those in the rest of the economy.
2. On the level of individual firms, IPR owners perform better than non-owners (29% higher revenue per employee than firms without IPRs); increases in European and national IPR stocks are associated with improved performance. The effect is particularly strong for SMEs, where the revenue per employee is 32% higher for IPR owners compared to non-owners.
3. On average, IPR-owning companies pay 20% higher remuneration to their employees than companies without IPRs (in the same sector and country).
4. The SME scoreboard shows that accumulation of IPR assets has a positive impact on business indicators such as turnover, employment, profitability and access to finance.
5. Only 9% of European SMEs own registered IP rights, but there are strong indications that companies that rely on IPR are more profitable and grow faster than other companies.

7 EUIPO (2016), Intellectual Property (IP) SME Scoreboard, available at https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/sme_scoreboard_study_2016/sme_scoreboard_study_2016_en.pdf

WHY AND HOW ARE IP RIGHTS INFRINGED?

The initial section of this report has shown the importance of IPRs to the EU economy and their value to the individual businesses themselves. However, sometimes this value is exploited by other economic actors, who are in effect free-riding on the efforts of the original innovators. These perpetrators seek to illegally benefit from this IPR value through a number of different channels, including the production and distribution of counterfeit and pirated products (including digital content) in both domestic and export markets.

This section examines the supply and demand side of the market for infringing goods. On the supply side, the methods used to bring the counterfeit goods to the consumer are discussed, drawing on a variety of sources and reports, such as the Europol Threat Assessment on Counterfeiting and Piracy, to be published in June 2019. In separate sub-sections, the business models used by the infringers online are examined.

The final sub-section looks at the demand side: what motivates consumers to infringe IPR, drawing on the 2017 IP Perception study and the 2016 Youth Scoreboard.

Counterfeiting is a global phenomenon that has evolved significantly with the advent of better technology. Online marketplaces are increasingly becoming an important source of income for criminal groups engaged in the sale of both counterfeit products and pirated digital content (such as films, TV, music, e-books and games).

Counterfeiting has diversified from traditional activities centred on luxury and branded goods, towards pharmaceutical products, electronic goods, household and cosmetic products, automotive spare parts, pesticides, toys, food and beverages and technical products, such as bearings and electronic components. Customs seizures at EU borders indicate that the seized counterfeits are increasingly in the form of small shipments and include greater proportions of spare parts, including replacement car parts and components for mobile phones, such as screens or batteries.

Detentions happen not only at the EU borders, but also within the Internal Market. Recently, the Observatory has analysed both types of detentions during 2013-2017, using data reported by customs and police in the ACIST database[8]. The findings are contained in the *Report on the EU enforcement of intellectual property rights: results at the EU borders and in MS internal markets 2013-2017* (forthcoming).

The objective of the report is to inform EU enforcers and policymakers of trends, comparisons and estimations for counterfeit and pirated goods detained, and provide an evidence base for developing future policies and priorities.

Some of the key findings of the analysis include:

- The volume of fake items detained in the EU amounts to approximately 439 million items. About 30-40 % of these were detained at EU borders, and 60-70 % in the internal market.
- The estimated value of fake items detained in the EU amounts to some EUR 12 billion. About 15-30 % of the total value of detained items reported is accounted for by detentions at EU borders, and 70-85 % by detentions in the internal market.

8 The report is based on data on customs seizures reported by the EU Commission's DG TAXUD, and data on detentions in the Internal Market, reported by enforcement authorities from 24 Member States.

- The four most common subcategories of products were clothing accessories; toys; recorded music, film, software and game software; and cigarettes. These four subcategories account for more than 33 % of the products recorded.
- In terms of estimated value of the items reported, the top four subcategories of products identified were clothing accessories; watches; recorded music, film, software and game software; and bags including wallets, etc. carried in the pocket/bag. These four subcategories represent almost 50 % of the estimated value of detentions during the period 2013-2017.
- The distribution of IP rights allegedly infringed at the moment of detention shows that trade marks predominate. Such products account for almost 70 % by volume and 54 % by estimated value of detentions at EU borders and in the internal markets.

To gain an understanding of the scale of the counterfeit problem, the data on the value of fake products detained at EU borders was compared with figures from Eurostat, the EU's statistical office, on imports into the EU. This comparison shows that during the period 2013-2017 only 0.08 % of equivalent products[9] imported into the EU were detained.

The report also compares the estimated value of the detentions of fake products at EU borders with the estimated maximum value of imports into the EU of counterfeit and pirated equivalent products in the EU, as estimated in the joint OECD-EUIPO studies. This part of the analysis shows that the detentions of fake goods at EU borders represented not less than 0.8 % of the estimated value of imports of fake equivalent goods in 2013 across the borders, compared with not less than 0.5 % in 2016.

The economic incentives driving counterfeiting are significant. In 2015 and 2017 EUIPO and Europol published a "Situation Report on Counterfeiting in the European Union"[10] which addressed the incentives, routes and entry points of counterfeit goods. The reports detail the scale and scope of product counterfeiting within the EU and suggests practices and opportunities to detect, prevent and reduce the impact of counterfeiting.

Through a survey of public bodies and case studies improved intelligence on the production and trafficking of counterfeit goods was uncovered.

Notwithstanding the significance of counterfeit imports, the importance of domestic production has grown, driven by lower costs of production and distribution, and lower risk of detection. For instance, counterfeiters employ a range of practices to evade capture of goods, including the use of a high volume of small packages in opposition to bulk transportation, and the movement of non-labelled products over borders, with fake measures of authenticity attached at a later stage, prior to distribution.

These are but a few examples of a large number of practices engaged in by counterfeiters to avoid detection of their products. An additional noteworthy current practice is to change the mode of transportation. Traditionally counterfeit goods have been transported by sea, as this approach is cost- effective when moving large quantities. New transport links, such as the growing rail network between the EU and China, may provide counterfeiters with an opportunity to diversify their approach to transporting products. Nevertheless, it is important to note that, despite this change in focus, bulk shipments of counterfeit goods continue to remain the most significant delivery mode for counterfeiters from third countries; to reach 6.8% of EU imports using postal small shipments would be impossible.

9 This figure represents the average for the entire 5-year period 2013-2017.

10 EUROPOL/EUIPO: 2017 Situation report on Counterfeiting and Piracy in the European Union. Available at https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/reports/Situation%20Report%20EUIPO-Europol_en.pdf

With cheaper production methods and improved technology, counterfeiters have moved into the production of everyday goods, including for example medicines, shampoo, toothpaste, cosmetics and batteries for laptops and mobile phones. In essence, every product with a brand that has value can be and is counterfeited, even mundane, low-cost items such as laundry detergents. This illicit production carries both negative economic consequences, as shown in the previous section, and also consequences for the health and safety of consumers, who, as a result of buying these products can suffer a range of injuries, such as chemical damage to scalps, the ingestion of toxic substances through the application of counterfeit cosmetic products, and burns from self-igniting counterfeit batteries.

The production and distribution of counterfeit products are alleged to be associated with criminal gangs and wider criminal acts, including fraud, tax evasion and human trafficking. Many of these gangs are set up across borders (intra and extra EU) and seek to take advantage of weaknesses in supply chains, corruption of brokers and falsification of documents, re-labelling of items and factory over-runs for example, to cover their tracks and to lower the probability of detection. Another method that is gaining increased prominence is the smuggling of labels and other packaging separate from the actual goods, with final assembly and other production activities taking place inside the EU.

There are a number of distinct incentives for criminal gangs to engage in counterfeiting activity. First and foremost is the potential return on investment, which, as has been suggested, can be greater than those returns gained on any other illegal activity, including the sale of illicit drugs.

Furthermore, once these attractive returns are risk adjusted for the counterfeiter (significantly lower prison sentences and fines for IPR infringement compared to illicit drugs trafficking, police and prosecutors more likely to focus on higher profile crimes, such as terrorism, the arms trade and human trafficking than IPR crime for example), the risk/reward relationship is heavily weighted in favour of counterfeiting.

Counterfeiters are further enabled by the growth in Free Trade Zones (FTZs), which provide exemptions from duty and taxes, simpler administrative procedures and duty free import of raw materials, machinery, parts and equipment.

Counterfeiters can take advantage of free duty on imports to assemble counterfeit products, thereby disguising the country of origin of the raw materials, trying to deceive customs officials who use "country of origin" as a key risk indicator in detecting counterfeit goods. There are currently 3,500 FTZs in 135 countries, including 82 in the EU[11]. They employ some 66 million workers and generate more than USD 500 billion in direct trade.

In a study published in 2018, OECD and EUIPO quantified the importance of FTZs on trade in counterfeit goods. This study confirms the links between FTZs and trade in counterfeit products[12]. The existence, number and size of FTZs in a country correlate with increases in the value of counterfeit and pirated products exported by that country's economy. An additional FTZ within an economy is associated with a 5.9% increase in the value of these problematic exports on average. The study also led to clear findings with respect to the connections between the value of fake goods exported from an economy on the one hand, and the number of firms operating in FTZs, the number of workers employed in FTZs, and the total value of exports from these zones on the other hand.

While FTZs provide useful services to the legitimate economy, they are being misused by industrial-scale IPR infringers to produce and distribute counterfeit and pirated goods. The challenge for society is to ensure that the positive contributions to the economy from such institutions are realised while limiting the potential for abuse. In this sense, there is a certain analogy with the internet –online commerce has been a boon to companies marketing

11 ILO (2014), Trade Union Manual on Export Processing Zones, International Labour Organization, Geneva.

12 OECD/EUIPO (2018), Trade in Counterfeit Goods and Free Trade Zones. Available at: https://euipo.europa.eu/ohimportal/en/web/observatory/trade-in-counterfeit-goods-and-free-trade-zones

their products and services world-wide, and to the consumers purchasing those products and services, but it has also provided the IPR infringers with new possibilities for illicit gain, as is the case for internet advertising, discussed in the next sub-section.

Internet as a facilitator – digital advertising on suspected infringing websites

Counterfeiters have benefited from the growing importance of the Internet and e-commerce for the distribution and sale of counterfeit products and illegal digital content (films, TV shows, music, books and computer games). These platforms finance themselves in a variety of ways, one of which is advertising.

To investigate the extent to which owners of illicit web sites have been benefiting from this business model, EUIPO commissioned a report examining the extent and structure of digital advertising on suspected infringing websites[13]. More than 1,400 web pages and 180,000 adverts from 280 suspected infringing websites (selling counterfeits), were analysed.

Often adverts for goods associated with legitimate brands can be found on these websites, possibly as a result of the complex structure of the online advertisement market and the performance incentives of its brokers and agents wishing to maximise the use of adverts across the online advertisement ecosystem.

The study concluded that there is a diversity of advertising on suspected infringing websites, and that 46% of advertising found on the suspected infringing websites was mainstream in nature.

Amongst the mainstream adverts identified on suspected infringing websites, many were associated with major brands. More than 1,500 such unique brands were identified in the analysis. Forty-six from the top 100 global companies were found to have at least one brand advertised on an infringing website[14].

Misplacement of these adverts can lead to problems for legitimate brands. First, the brand can be mistakenly viewed as financing and supporting the activities of the infringing website, creating the potential for brand damage, and secondly, the brand's presence can provide credibility for the website, generating significant benefits for the infringers.

A range of measures have been introduced in various countries to address this issue, including the exclusive use of approved suppliers of online advertising space to place adverts only on sites which are deemed not to be infringing IP, such as the initiative introduced by the Interactive Advertising Bureau Europe, which restricts the membership of intermediaries in this market to applicants which adhere to guidelines supporting responsible ad placement. In June 2018, a Memorandum of Understanding, promoted by the European Commission, was signed between a number of parties from the internet advertising ecosystem. The signatories commit themselves to take a number of actions designed to reduce the flow of advertising revenue to infringing websites. More detail on this initiative, part of the broader "Follow-the-Money" initiative of the Commission, is provided below, in the section on actions to combat infringement.

Business models used to infringe IPR

The supply and consumption of counterfeit goods represents only part of today's IP infringement picture. The supply and consumption of copyright-infringing digital content, across media such as television, films, music, games and books via the internet represents a lucrative market for infringers and consumers alike.

13 EUIPO (2016), Digital Advertising on Suspected Infringing Websites. Available at: https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/publications/Digital+Advertising+on+Suspected+Infringing+Websites.pdf

14 In early 2019, the European Commission (DG GROW) commissioned a study which showed a similar pattern.

In order to map the evolving business models used by suppliers of illicit digital content, the EUIPO carried out a study, resulting in a report on "Online Business Models Infringing Intellectual Property Rights" published in July 2016[15].

The report examined techniques used to facilitate online IPR infringements and the associated business models used to achieve this aim. In addition to identifying the techniques and the models employed, the analysis examined how the structures and approaches functioned, how they were financed, the revenue streams generated, the content being distributed and the associated customer bases.

The analysis found that there were at least twenty-five online business models, which either directly infringed IPR in the sale of counterfeit goods, or used the same websites, either on the internet or the Darknet to engage in illegal activity, such as phishing, dissemination of malware and the sharing of pirated digital content. In many of these models infringement of trademarks and copyright was most common, although there were instances of multiple infringements, including cases where IPR was misused in the domain name.

This report represented the first examination of the use of online business models by counterfeiters. The next phase of the research analysed the advanced misuses of the domain name system and the clear links between infringing websites. Specifically, by analysing re-registration of previously used domain names, it was possible to determine that e-shops suspected of marketing trademark infringing goods were being set up using domain names that had previously been used to various online purposes (such as domains names previously used by politicians, embassies or commercial business). When the domain names were available for re-registration, the entities operating the e-shops would systematically reregister the domain names and shortly afterwards set up e-shops marketing goods that were suspected of infringing upon the trademarks of others. The study, building on previous research carried out in Denmark, covered Germany, Spain, Sweden and the United Kingdom, and was published in October 2017[16].

The research detected 27,870 e-shops suspected of marketing trademark infringing goods in the four countries. It was found that 21,001 of these e-shops (75.4 %) were using domain names that had previously been used to direct internet traffic to websites that have no relation to their prior use. Based on these results, it is considered likely that the same also occurs in other European countries with well-developed e-commerce sectors.

Collectively, these research outputs can be used to further inform innovative enforcement policy and actions, such as the development of the "follow the money" approach, both to curtail these additional revenue opportunities (e.g. advertising), and to place pressure on the core business of the infringers, for example by restricting their ability to receive payments.

Demand for IPR-infringing goods and services

The preceding sub-sections have looked at the economic incentives that motivate infringers, and the modus operandi used by those infringers. However, whenever goods or services are sold, whether counterfeit or genuine, there is both a supply side and a demand side. The demand for counterfeit goods and for illicit digital content is the subject of this sub-section.

The main incentives for consumers include lower prices, easy accessibility to counterfeit products and a high degree of social acceptability in some countries. On the flip side, however, there are also risks for the consumers, including health and safety consequences, inferior quality or performance, the potential for being subjected to

15 EUIPO (2016), Research on Online Business Models. Available at: https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/resources/Research_on_Online_Business_Models_IBM/Research_on_Online_Business_Models_IBM_en.pdf

16 EUIPO (2017), Research on Online Business Models Infringing Intellectual Property Rights – Phase 2. Available at: https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/reports/Research_on_Online_Business_Models_Infringing_IP_Rights.pdf

legal action by the owner of the IP rights infringed or by the authorities, and the realisation that one is supporting organised crime. In order to understand why consumers engage in IPR infringement by purchasing counterfeits or accessing illegal content online, the EUIPO has carried out two IP Perception studies, in 2015 and 2017, respectively, surveying a large, representative sample of citizens in all 28 EU Member States.

EU citizens continue to purchase counterfeit goods, despite their recognition of the value of Intellectual Property (as shown in the 2017 IP Perception study[17]) and the reported awareness of the damage buying counterfeit goods has on businesses and jobs.

The study revealed that while 97% of Europeans surveyed believe that it is important that inventors, creators and performing artists can protect their rights and be paid for their work, 10% had purchased counterfeit goods, and a similar proportion admit to having intentionally downloaded or streamed content from illegal online sources during the last 12 months.

Survey results identified a number of drivers behind this illicit activity. Both the price and the availability of these goods play a part. 27% of those surveyed and 41% of 15 to 24 year olds agreed that "it is acceptable to purchase counterfeit products when the price for the original and authentic product is too high". This view is not only driven by income issues, but also forms part of a protest vote and presents an opportunity for consumers to be "resourceful". This perspective was most prevalent amongst young people and manual workers.

Whilst 10% of those surveyed indicated that they had intentionally accessed, downloaded or streamed content from illegal sources during the last twelve months, a slight increase from the 2015 survey, 24% of those questioned indicated that they had wondered whether or not the source was legal.

The 2017 survey also revealed that 52% of those using illegal sources also reported using lawful services to access content, highlighting that one of the most significant issues for those involved in downloading illicit content, is availability and not just price. This view was particularly common amongst 15 to 24 year olds, 43% of whom agreed that it was acceptable to obtain content illegally from the internet when there is no immediately available legal alternative. These issues were also identified in the analysis of the 2015 survey results.

Econometric analysis of the 2015 survey data suggested that there is a negative relationship between the age of a respondent and the likelihood of purchasing a counterfeit product or downloading illegal content. In short, as respondents aged, so the probability of such activity appears to diminish. There are many potential reasons for this, not least that as people age, their incomes tend to increase, providing the capacity to purchase genuine goods over counterfeit counterparts. However, this does not appear to be the case for internet activity, since as the age of respondents increased, the likelihood of downloading both legal and illegal content diminished, implying that accessing digital content, whether illicit or legal, is especially prevalent amongst younger respondents, as confirmed in EUIPO's 2016 Youth Scoreboard survey[18].

17 EUIPO 2017 – European Citizens and Intellectual Property, Perception, Awareness and Behaviour. Available at: https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/IPContributionStudy/2017/european_public_opinion_study_web.pdf

18 EUIPO (2016), Intellectual Property and Youth – Scoreboard 2016. Available at: https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/IP_youth_scoreboard_study/IP_youth_scoreboard_study_en.pdf

Summary of section 2: Why and how are IP rights infringed?

1. The profile of counterfeit products and distribution channels continues to evolve.
2. The nature of transportation is changing and diversifying (rail, FTZs, use of small packages as a reflection of increased e-commerce).
3. Health & safety concerns are increasing, as counterfeiting of everyday consumables such as cosmetics or medicines becomes more prevalent.
4. The incentives to counterfeit are favourable (high profits, relatively light punishment).
5. Incentives for individuals to purchase counterfeits are lower prices and limited social stigma associated with buying fakes.
6. There is clear evidence that young Europeans are comfortable purchasing counterfeit goods and downloading illegal content, if the price is right and there is a lack of available legal content.
7. Distribution of counterfeits and the consumption of illegal digital content has led to additional financial benefits (advertising income) to counterfeiters, which has in turn led to more sophisticated infringement of IPR (trade marks and copyright in particular).
8. Counterfeiters use a range of different business models both to sell counterfeit goods and to share illegal digital content, and they generate additional revenues (for example, through advertising) linked to these activities.

CONSEQUENCES OF IPR INFRINGEMENT

The analysis in the previous section examined the incentives on both the supply and demand side of the infringement "market." This section turns to the economic impact of infringement on both the private and public sectors of the economy. It draws on the joint EUIPO-OECD studies of counterfeit trade, including the new studies published since the 2018 Synthesis Report (the role of free trade zones, the determinants of a country's propensity to export fakes, and the updated 2019 study of the volume of world-wide and EU-bound trade in counterfeits).

The sectorial studies published since 2015 provide estimates of the economic costs arising from the presence of counterfeit goods in the EU. The impact on both the private sector sales and employment, and the derived impact on public finances are included. These sectorial studies have been updated for this report using the latest figures from Eurostat, in most cases covering the years 2012-2016.

Taken together, these two sets of studies provide a comprehensive picture of the global trade in counterfeit goods, the sectors most affected, the provenance of the counterfeits, and the resulting impact on the European economy.

Businesses incur considerable expenses in their efforts to detect and deal with infringement of their IPR. The extent of these costs has also been a subject of a study by the Observatory and is discussed in the final sub-section of this section.

Finally, in addition to the economic consequences of infringement, new studies that look at non-economic aspects will also be summarised, such as the studies on health and safety risks and the presence of malware in illicit online content.

Joint EUIPO-OECD studies of counterfeit trade

In April 2016, working jointly with the OECD, the EUIPO published a report entitled "Trade in Counterfeit and Pirated Goods: Mapping the Economic Impact". The report contained estimates of the total value of trade in counterfeit goods based on seizure data from the World Customs Organisation, DG TAXUD (Directorate-General for Taxation and Customs Union) and the US Customs and Border Patrol. The analysis revealed the extent of counterfeit goods in global trade, which is estimated to have reached as much as $461 billion in 2013 (€338 billion).

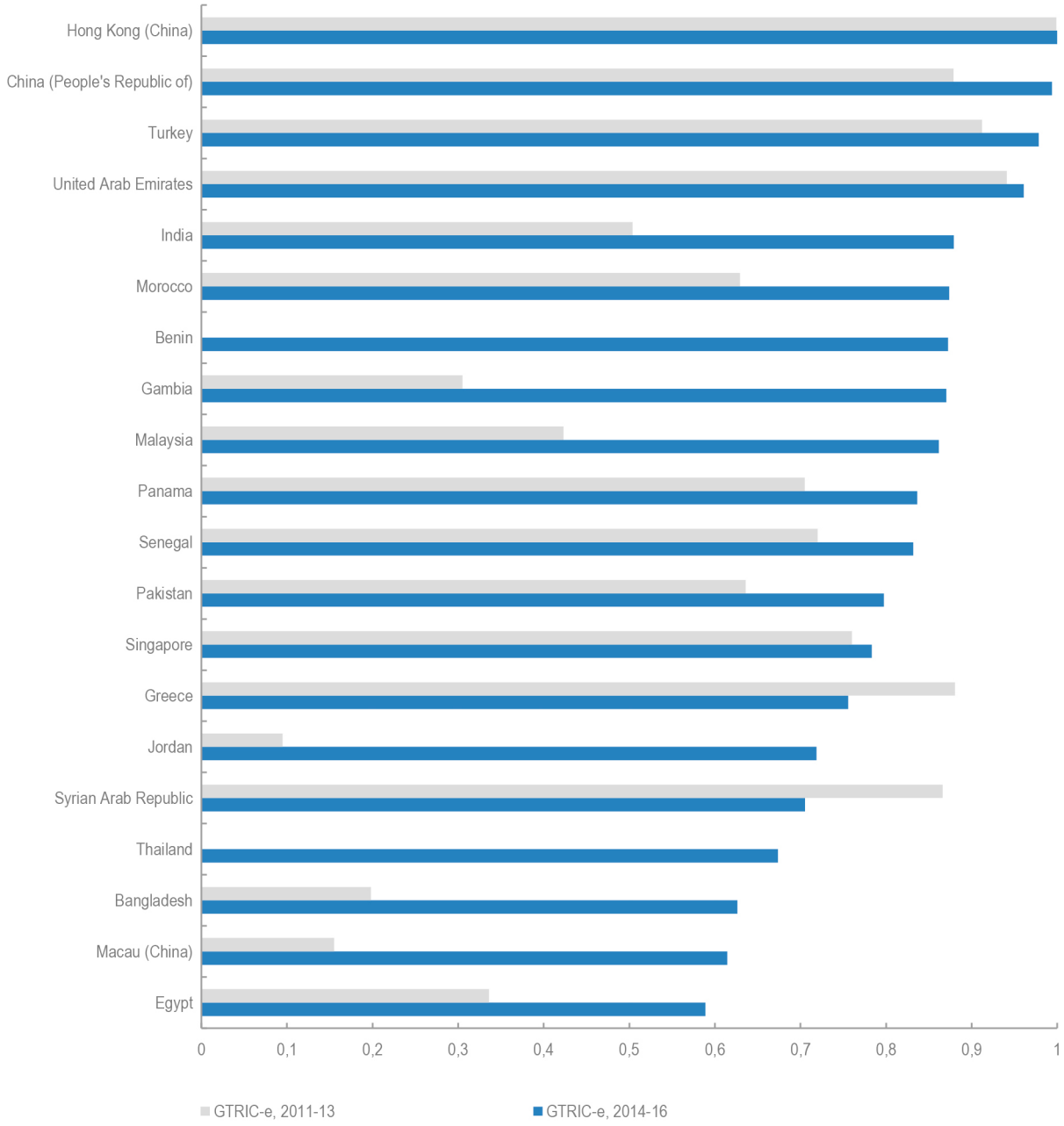
The ground-breaking 2016 study was updated in early 2019, with the resulting report published in March 2019[19]. The new study is based on more recent data, from 2016, and it shows that the problem of counterfeit trade has become more serious. The world-wide volume of trade in counterfeit goods is estimated at USD 509 billion, amounting to 3.3% of world trade (up from 2.5% of world trade in 2013). Imports of counterfeits into the EU from the rest of the world are now estimated at EUR 121 billion, or 6.8% of total EU imports. Both figures are significantly higher than three years earlier (EUR 85 billion, amounting to 5% of total EU imports).

Through the use of economy-specific trade and product indices, which account for customs seizure percentages and trade flows, the most prevalent provenance economies of counterfeit goods entering the EU were identified. The top of the list includes countries and territories such as Hong Kong and China, Turkey, the UAE, India, Morocco, Benin, Gambia, Malaysia and Panama.

19 OECD-EUIPO (2019), Trends in Trade in Counterfeit and Pirated Goods. Available at: https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/reports/trends_in_trade_in_counterfeit_and_pirated_goods/trends_in_trade_in_counterfeit_and_pirated_goods_en.pdf

The top 20 provenance economies of counterfeit imports into the EU are shown in Figure 5 below. The darker bars show the importance of each country or territory in the most recent study (based on 2014-2016 data) while the lighter bars refer to the earlier study which was based on data for 2011-2013. As can be seen, China and Hong Kong remain the top sources of counterfeit goods imported into the EU, but many of the other countries have increased their relative importance, for example India, Morocco and Malaysia.

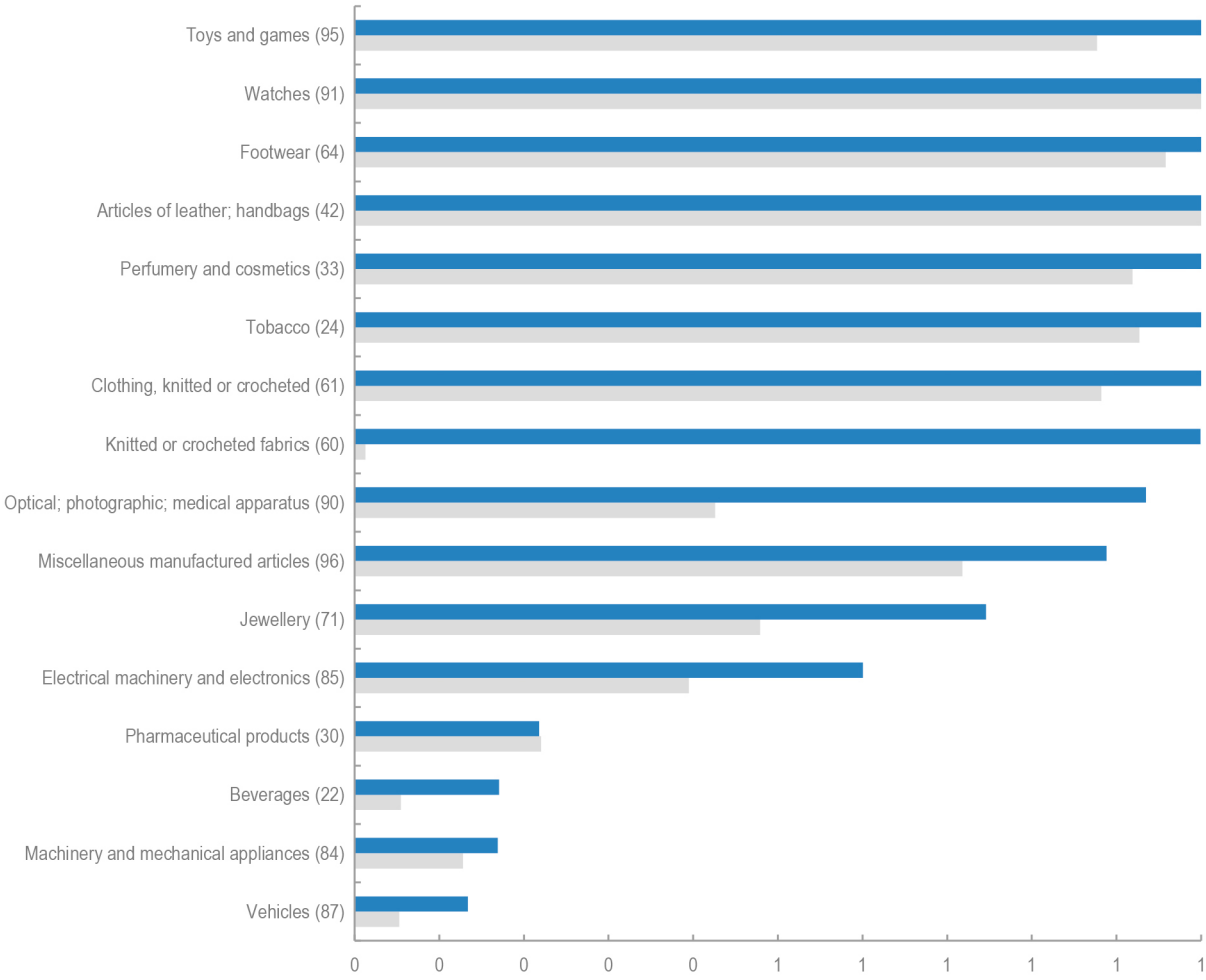
Figure 5: Provenance economies of counterfeit imports into the EU



In terms of composition of the inbound counterfeit trade, imports of fake goods to the European Union appears to be most intensive for luxury and fashion products such as article of leather and handbags , watches, perfumes and cosmetics, footwear, jewellery, and sunglasses. However, common consumer products imported into the EU also tend to be targeted by counterfeiters. This includes toys and games, footwear and apparel. In addition, counterfeit or pirated intermediary products, such as electronics goods and ICT devices or spare parts, are also frequently imported into the EU.

The EU industries affected by counterfeit imports are shown in Figure 6. As in Figure 5, the dark bars denote the most recent period, 2014-2016, while the lighter bars show the earlier period 2011-2013.

Figure 6: Industries affected by counterfeit imports into the EU



The companies suffering from counterfeiting and piracy of their brands continue to be primarily registered in OECD countries such as the United States, France, Switzerland, Italy, Germany, Japan, Korea and the United Kingdom. Overall, more than half of the companies whose IP is infringed in this way are based in the EU.

An earlier study by the OECD and EUIPO examined the trade routes used for counterfeit goods, seeking to distinguish between provenance economies that are producers of counterfeits and those that act as transit points. Countries such as China, India, Thailand, Turkey, Malaysia and Pakistan were identified as major producers of counterfeits, while Hong Kong, Singapore, United Arab Emirates, Morocco, Albania and the Ukraine were important transit points[20].

Two more aspects of the trade in counterfeits were examined during 2018 by the OECD and EUIPO. In a study entitled "Why do countries export fakes?", published in July 2018[21], the factors that make some economies more likely

20 For more detail, see: OECD-EUIPO (2017), Mapping the Real Routes of Trade in Fake Goods. Available at: https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/reports/Mapping_the_Real_Routes_of_Trade_in_Fake_Goods_en.pdf

21 Available at: https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/reports/Why_do_countries_export_fakes/2018_Why_do_countries_export_fakes_OECD-EUIPO_report_EN.pdf

than others to be sources of counterfeit goods were identified. This study found five main drivers that determine an economy's propensity to become an active actor in the trade in fake goods:

- Governance: high levels of corruption and poor intellectual property protection are factors that greatly influence the degree of exports of fake goods from an economy.
- The presence of Free trade zones (FTZs) that offer a relatively safe environment for counterfeiters, with good infrastructure and limited oversight.
- Production facilities: low labour costs and poor labour market regulations are important drivers of trade in counterfeit and pirated goods. Improving working conditions, by raising the minimum wage or increasing paid leave, would decrease the share of counterfeit and pirated products exported, especially by economies with weak governance.
- Logistics capacities and facilities: the ability to track and trace consignments is the key factor for reducing the share of counterfeit and pirated products in exports. However, other factors increase this trade, including low shipping charges; fast, simple and predictable customs formalities; and good quality trade and transport-related infrastructure (e.g. ports, railroads, roads and information technology). These factors tend to be also much more important drivers in economies that are highly corrupt.
- Trade facilitation policies that refer to the fact that enhancing transparency is likely to reduce the likelihood that an economy will export fakes: this includes the availability of detailed information on trade flows; the degree of involvement of an economy in the trade community; transparent and regular review of fees and charges imposed on imports and exports; and sound internal co-operation between border agency and other government units.

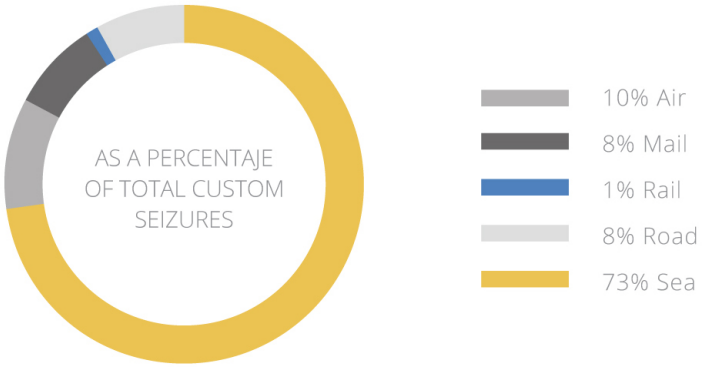
Of these five drivers, gaps in governance, especially high levels of corruption and gaps in intellectual property rights enforcement, are the crucial factor for trade in counterfeit goods, multiplying the effects of FTZs, logistic facilities or trade facilitation policies. None of these factors alone can explain the intensity of exports of fakes from a given economy – it is the combination of numerous factors that allows important nodes in counterfeit trade to emerge.

Finally, the role of small parcels was the subject of a report published in December 2018[22]. The detailed analysis of the 2011-2013 customs seizures and trade data shows that, although fakes shipped in containers clearly dominate in terms of value of seized goods and the number of items, small parcels are important in terms of number of seizures; nearly 63% of customs seizures of counterfeit and pirated goods involve small parcels. The size of these mail or express courier shipments tends to be very small. Packages with 10 items or less account for the majority of all seizures. Figure 7 shows the distribution of the number seizures (panel a) and the value of seizures (panel b).

22 OECD-EUIPO (2018), Misuse of Small Parcels for Trade in Counterfeit Goods. Available at: https://euipo.europa.eu/ohimportal/en/web/observatory/trade-in-fakes-in-small-parcels

Figure 7: Seized shipments of IPR-infringing products, by mode of transport, 2011-2013.

a) As a percentage of total customs seizures:



b) As a percentage of total seized value:

In terms of industry-specific patterns, virtually all industry sectors prone to counterfeiting are concerned, albeit to different degrees. For example, 84% of seized shipments of counterfeit footwear, 77% of fake optical, photographic and medical equipment (mostly sunglasses), and 66% of customs seizures of information and communications technology (ICT) devices involved postal parcels or express shipments. This is also the case for more than 63% of customs seizures of counterfeit watches, leather articles and handbags, and jewellery.

Sectorial studies: Estimates of economic costs arising from the presence of counterfeit goods in the EU

Even though it cannot always be assumed that a purchase of a counterfeit good displaces a sale of the corresponding genuine product, the figures from the OECD-EUIPO studies nevertheless give an indication of the magnitude of business being lost in the EU by rights owners as a result of counterfeit trade. In addition, it should be borne in mind that these figures only include internationally traded goods and so most likely understate the true extent of the problem. Therefore, a number of sectorial studies seek to complete the picture by focusing directly on the damage to the legitimate industries resulting from the presence of counterfeit goods in the EU marketplace, regardless of the provenance of those goods.

The analysis in the sectorial studies focuses on the extent to which lost sales in the selected sectors[23] were due to economic factors and factors related to counterfeiting. Economic factors include income measures such as Gross Disposable Income of households and GDP per capita, whilst purchasing power issues were captured via the exchange rate between the Euro and other currencies.

Counterfeiting effects are gauged through a number of different variables such as: population at risk of poverty or social exclusion as a share of total population, the Corruption Perception Index, governance indicators from the World Bank and selected information from the IP Perception studies related to the purchase of counterfeit products and the consumption of illegal digital content. For each Member State, where data is available, comparable infringement rates are estimated, from which the direct economic costs are calculated[24].

The reports issued to date focus on the following IPR-intensive sectors: Smartphones (in cooperation with the International Telecommunications Union); Pesticides and Agrochemicals; Pharmaceutical products; Spirits & Wine; Recorded Music; Jewellery & Watches; Handbags & Luggage; Toys & Games; Sports Goods; Clothing, Footwear and Accessories; and Cosmetics & Personal Care.

Having established the direct losses, including sales and employment lost as a result of infringement, the sector studies examine indirect costs, focusing, on wider supply chain employment issues and government revenue. This report includes updated figures for the period 2012-2016.

As shown in Table 1, sales of the legitimate sectors are lowered by an average of 7.4% across the EU due to the presence of counterfeits. This average reflects a range of 3.6% for recorded music to 10.5% for cosmetics and personal care products. These direct lost sales amount to €56 billion per year, corresponding to an employment loss of almost 468,000 jobs. Adding in knock-on effects on other sectors, total sales losses amount to €92 billion. Finally, governments across the EU lose more than €16 billion in taxes and social security contributions.

23 The sectors analysed in the sectorial studies show a high degree of overlap with the sectors shown to suffer most from counterfeit trade in the joint studies with OECD.

24 The methodology is described in details in every sectorial report. See, for example, the report on fake pesticides, available at: https://euipo.europa.eu/ohimportal/en/web/observatory/ipr-infringement-pesticides-sector

Table 1 – Estimated direct and indirect infringement economic costs – selected IPR intensive industries in the EU (average annual figures, 2012-2016)[25]

Sector	Direct Lost Sales (€ billion)	% of Sales	Total Lost sales (€ billion)	Direct Employment Loss	Total Employment Loss	Government Revenue Loss
Smartphones *	4.2	8.3%	Not calculated	Not calculated	Not calculated	Not calculated
Pesticides & Agrochemicals	1.0	9.8%	2.1	1,749	7,993	0.3
Pharmaceuticals	9.6	3.9%	16.5	33,133	80,459	1.7
Spirits & Wine	2.4	5.9%	6.1	6,049	38,885	2.1
Recorded Music	0.1	3.6%	0.2	580	1.343	0.1
Jewellery & Watches	0.9	6.2%	1.7	5,683	11,882	0.3
Handbags & Luggage	1.0	7.4%	2.1	8,169	16,550	0.4
Toys & Games	1.0	7.4%	1.6	3,679	8,158	0.3
Sports Goods	0.3	4.1%	0.6	1,756	3,625	0.1
Clothing, Footwear and Accessories	28.4	9.7%	45.9	335,053	473,031	8.6
Cosmetics & Personal care	7.1	10.5%	11.2	71,984	118,654	2.6
Total all sectors	*56.0*	*7.4% (avg.)*	*92.3*	*467,835*	*760,579*	*16.3*

Note: figures rounded to one decimal place and to the nearest one hundred jobs; aggregates based on the rounded figures. Cosmetics & Personal Care, Clothing, Footwear & Accessories, and Smartphones are shown at consumer prices. Pharmaceuticals are shown at wholesale prices. Other sectors are shown at producer prices.

**Figures for this sector refer to 2015 only.*

The estimates in Table 1 supplement the joint EUIPO-OECD studies in describing the magnitude and economic impact of IPR infringement in the EU. Aside from the direct economic consequences estimated in these reports, IPR infringement could also have dynamic, long-term effects. If infringement reduces companies' returns on innovative assets, then investment in innovation may be lower than socially optimal. For all these reasons, counterfeiting is a serious problem that merits attention from policy makers and enforcement authorities.

There is another intellectual property right which can be infringed, leading to losses for both EU citizens and producers. In the EU, Geographical Indications (GIs) for wine, spirits, agricultural products and foodstuffs are protected intellectual property rights that act as certification that certain products possess particular qualities, characteristics or reputation attributable to their geographical origin and method of production. Consumers are often willing to

25 The figures in the table do not correspond to those shown in the reports previously published on the Observatory website, as those reports were based on data for earlier time periods. The figures shown here have been updated to use the same time period ending in 2016, and to use the latest sources of explanatory variables.

pay a higher price for such products, compared with non-GI corresponding products. Therefore, if the product in question does not comply with the GI specifications, the consumer is deceived.

In a 2016 study[26], EUIPO estimated that the consumer loss (excess price paid for infringing GI products) arising from GI infringement totalled approximately €2.3 billion in 2014, representing approximately 4.8% of total GI product purchases in the same year.

Non-economic consequences of IPR infringement

In addition to the economic damage they cause, counterfeit goods often include products which threaten the health and safety of citizens, such as counterfeit cosmetics, pharmaceuticals, spare parts, tools and machinery, chemicals and household products. The health and safety consequences for both end consumers, and for those using these products in production (e.g. farmers using fake pesticides), are wide ranging and in some circumstances can be life threatening. Looking ahead, the studies of infringement carried out by EUIPO will attempt to include such non-economic consequences in addition to the economic impacts.

One such study was published in November 2018, in cooperation with Europol's European Cybercrime Unit, and dealt with malware on copyright-infringing websites[27]. Suspected copyright-infringing content represents a significant infringement of intellectual property rights. There are websites that share such content publicly, sometimes even free of charge, without any registration. Along with this content, such websites commonly distribute various kinds of malware and potentially unwanted programs (PUPs), luring users into downloading and launching these files. The study provides an overview of the most up-to-date examples of malware and PUPs found on suspected copyright-infringing websites. These programs use deceptive techniques and social engineering — such as empty game installations and ostensibly "useful" software — to trick end-users into disclosing their sensitive information. During the study, a variety of PUPs were discovered such as either "useful" software, fake game installers and clients for video-streaming platforms. This software does not necessarily pose direct dangers to the user's software or hardware. However, through social engineering tricks, a user might be convinced to disclose sensitive personal information or payment card details. In addition, information about the computer itself might be leaked to other parties without explicit user consent. Approximately 6,000 web sites were analysed, and 8% of them were found to contain malware.

Costs of combating IPR infringement

IPR infringement affects the private sectors in two main ways: the loss of sales discussed above, and the need to invest resources in detecting infringement and dealing with it. A study published by the EUIPO in 2017 seeks to supplement the analysis of the impact of counterfeiting and piracy by quantifying the costs borne by companies in dealing with infringement of their IP rights.

26 EUIPO (2016), Infringement of Protected Geographical Indications for Wine, Spirits, Agricultural Products and foodstuffs in the European Union. Available at https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/Geographical_indications_report/geographical_indications_report_en.pdf

27 EUIPO (2018), Identification and analysis of malware on selected suspected copyright-infringing websites. Available at: https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/reports/2018_Malware_Study/2018_Malware_Study_en.pdf

The study is based on a survey of 1,291 companies in 14 EU Member States, which provided a detailed picture of the resources used to detect and combat infringement by both small and large companies. The costs included in the survey were:

- cost of employee time dedicated to IPR enforcement;
- cost of external legal assistance;
- court fees in connection with infringement-related litigation;
- storage and destruction costs;
- other infringement-related costs.

Overall, the average company in the sample spent EUR 115,317 per year on enforcement- related activities. However, there was a wide variation, depending on company size. In the case of small companies (i.e. those with fewer than 50 employees), the average outlay was EUR 83,653 per year. For medium-sized companies (those with 50-250 employees), the figure was EUR 103,166. Finally, for large companies, those with more than 250 employees, the enforcement costs amounted to EUR 159,132 per year.

In terms of cost categories, the annual employee cost was the largest component overall, accounting for 32 % of total costs. This was followed by storage and destruction costs, which accounted for 21 % of the total, and external legal assistance costs, which accounted for 17 %. This ranking of cost categories was consistent across the three size classes of companies. However, there was some variation in the figures. For example, the cost of internal employees accounted for 41 % of total enforcement costs for large companies, but was only 22 % for small firms. Conversely, storage and destruction costs were 24 % of the total for small firms, but only 17 % for large companies.

It is apparent from these figures that the costs of dealing with IPR infringement are particularly burdensome for small firms, those with 50 or fewer employees.

These estimates further corroborate the findings in the Intellectual Property SME Scoreboard 2016, which indicated that the cost of protection and enforcement of IP rights was a significant barrier to SMEs' use of those rights.

Given that IPR ownership is essential for SMEs to grow (as shown in the firm-level IP Contribution study, discussed above), this is particularly worrying. IPR infringement is a major threat to the development of innovative SMEs.

Summary of section 3: Economic consequences of IPR infringement

1. The volume of counterfeits in trade could be as much as 6.8% of total EU imports, or €121 billion.
2. The main producer of counterfeit goods is China, followed by India and Turkey.
3. A number of important transit countries have been identified, including Hong Kong, the UAE, Singapore and Panama.
4. The direct economic costs to legitimate industries in the EU arising from the presence of counterfeits in the EU marketplace amount to €56 billion per year in lost sales, corresponding to 468,000 jobs. Adding in the knock-on effects on other sectores yields a total sales loss of €92 billion.
5. The burden on dealing with IPR infringement is particularly onerous for smaller companies.

ACTIONS TO COMBAT IPR INFRINGEMENT

A number of issues relating to the production, distribution and consumption of counterfeit goods and illicit digital content have been discussed through this report. In this final section, a review of the actions being taken by various actors in response to these issues is presented, with particular emphasis on the activities of the EUIPO. While the Office has no operational role, Article 2 of Regulation (EU) 386/2012 sets out a number of tasks related to support for enforcement through a variety of activities. Accordingly, the Observatory supports enforcement by developing tools and databases, by providing funding to enforcement and awareness-raising initiatives, by providing knowledge-sharing for enforcers and by working with the Member States to raise awareness among citizens of the importance of IP and the need to respect it.

Tools and support for enforcement

With the new launch of the IP Enforcement Portal EUIPO will concentrate its enforcement tools under one portal with one sole access. The Portal will encompass the current functionalities of the former Enforcement Database (EDB), as well as the ACIST and ACRIS databases.

EDB allows rights owners to establish a secure line of communication with customs officials and police to protect products against counterfeits. The service allows right owners to upload data on their IPRs along with contact information and product details, making it easier for authorities to identify counterfeits and to take action. The tool offers an on-line solution that helps the rights owner filling in the customs applications for action (AFAs).

Complementary support is offered through the ACRIS database, which provides European companies with information on the IPR landscape in third countries. The statistical tool ACIST provides data on the detentions, at EU borders and in the internal market, of articles that are suspected of infringing IP rights, permitting the creation of analysis and trend reports. This information and data can assist companies with risk management of their IPRs, identifying geographical areas and products of high risk for their protected IPR.

Furthermore, the Office, together with other EU bodies has begun assessing the possibilities to foster the exchange of data between EU databases, within the limits of data protection.

Both the 2017 EUIPO-Europol situation report and EUIPO's research with the OECD on counterfeits lead to calls for a co-ordinated response to the work of criminal gangs, and to reduce the ease with which these goods are produced and distributed across the EU.

In response to these threats, EUIPO supports Europol's Intellectual Property Crime Coordination Coalition (IPC3), which provides a robust and multi-pronged response to the issue of IP crime. The unit aims to stem the tide of IP crime within and outside the EU by:

- Facilitating and co-ordinating cross-border investigations;
- Monitoring and reporting online crime trends and emerging modi operandi;
- Raising public awareness of IP crime;
- Providing training to law enforcement on combating IP crime.

The Virtual Training Centre, a joint project with CEPOL (European Union Agency for Law Enforcement Training) is dedicated to building a training centre as the main source of reference for IP educational modules and training courses for EU law enforcement authorities.

The OECD has set up a Task Force on Combating Illicit Trade (TF-CIT), gathering public and private stakeholders from OECD member countries, including the EU and several EU Member States. The Observatory plays an active role in this task force. The joint EUIPO-OECD studies on counterfeit trade referenced above are carried out in the framework of this task force and financed by the EUIPO. Furthermore, TF-CIT facilitates research in other kinds of illicit trade (such as narcotics smuggling, human trafficking and trade in endangered species), occasionally initiates policy recommendations and promotes best practices to combat trade in counterfeit goods and other types of illicit trade.

Awareness-raising and outreach

EUIPO is seeking to address the demand for counterfeits and the related issues highlighted in the two IP Perception studies. In particular, EUIPO is focussing its attention on the attitudes and perceptions of younger people, who have indicated a significant propensity to intentionally purchase counterfeit products or access digital content through unauthorised services. However, studies have also shown that there is a significant percentage of citizens, in particular young people, who are uncertain as to whether a source from which they access digital content is authorised or not. In response to this challenge, EUIPO has launched a European online content portal, agorateka, which offers individuals a way to identify legal online content in participating EU Member States. The EUIPO, through the Observatory, also raises awareness of the value of Intellectual Property through the series of economic reports discussed in the body of this synthesis. Other activities include holding periodic workshops to bring together young European influencers and multipliers to actively discuss ways to generate interest and engagement on creativity, innovation and entrepreneurship and to further probe the issues raised in EUIPO´s IP Perception studies. Finally, through its grant scheme, EUIPO supports awareness-raising efforts in the Member States.

Approximately every two years, the EUIPO, in cooperation with the European Commission and the host country, holds a major international conference on IPR enforcement, bringing together high-level figures from the public and private sectors to discuss effective policies to combat infringement. Following successful events in London (2014) and Berlin (2017), the International Forum on IP Enforcement 2019 is organised by the EUIPO, the Commission and the OECD and hosted at OECD's headquarters in Paris.

IP in Education

One finding of the IP Perception study was that between 35% and 50% of young Europeans displayed tolerant attitudes towards counterfeiting or illegal downloading. At the same time, education has been identified as an appropriate channel to raise awareness about the importance of respecting IP. Therefore, raising pupils' awareness in schools, showing how they could reap the benefits of IP knowledge in their private and future professional lives has become a priority. In May 2018, the education ministers of the European Union adopted the conclusions on moving towards a vision of a European education area as well as recommendations on lifelong learning. Together with the Council Recommendations on Key Competences for Lifelong Learning[28], in which explicit mentions of intellectual property and ownership are included, the ministers recognised the efforts made by the EUIPO's stakeholders. This constituted a major achievement for the IP in education initiative, since the conclusions open the door for a wider deployment of the project with the possibility of developing IP awareness days in schools in all Member States.

28 Available at: http://data.consilium.europa.eu/doc/document/ST-8299-2018-INIT/en/pdf

Meanwhile, a number of awareness initiatives in schools have been supported in 2018 targeting students in Member States including Denmark, Germany, Italy, the Netherlands and Slovenia.

Support for SMEs

The EUIPO is working with the European Commission on assisting European innovative SMEs with the management and protection of their IPRs. In particular, EUIPO is assisting the Commission with training providers of IP-related services to SMEs, and with monitoring of the impact of the SME support initiatives to be undertaken.

One of the findings of the 2016 SME Scoreboard was that SMEs believed that they could better manage infringement issues if they had better access to IPR databases. Currently, companies are able to access information on trade marks and designs for most of the world's important economies through EUIPO's TMView and DesignView facilities. Those are tools which allow the user to perform searches on trade marks and registered designs, respectively, in all EU and also many non-EU IP offices. This, in turn, helps a prospective trade mark or design filer avoid potential conflicts with existing registered IP rights or, conversely, detect infringement of its own rights.

European and International operations

A series of coordinated, global-scale operations are carried out periodically by law enforcement authorities around the EU and across the world, coordinated by Europol and Interpol. Recent examples include:

- **Operation Silver Axe III**. Some 360 tonnes of illegal or counterfeit pesticides were seized in Europe as the result of Operation SILVER AXE III, an annual operation coordinated by Europol with the support of the European Anti-Fraud Office (OLAF). Run over the course of 20 days, Operation SILVER AXE III saw checks being carried out at major seaports, airports and land borders, as well as production and repacking facilities in the following 27 participating countries: Australia, Belgium, Bulgaria, Croatia, Cyprus, France, Finland, Germany, Greece, Hungary, Ireland, Lithuania, Luxembourg, Malta, Moldova, Poland, Portugal, Romania, Serbia, Slovak Republic, Slovenia, Spain, Switzerland, the United Kingdom, Ukraine, the Netherlands (the action leader) and Italy (co-leader).
- **Operation In Our Sites IX**, finalised in November 2018, which led to the seizure of over 33,600 domain names illegally selling counterfeit merchandise online to consumers. The operation was carried out in 26 countries, and was jointly coordinated and supported by Europol, US Immigration and Customs Enforcement - Department of Homeland Security Investigations (ICE – HSI) and Interpol. In addition to the seized domain names, officials also arrested 12 suspects, blocked hardware devices, identified and froze more than EUR 1 million in several bank accounts, online payment platforms and a virtual currency farm used by the organised criminal groups.
- **Operation Aphrodite**, run with the cooperation of EUIPO and of Belgium, Bulgaria, Cyprus, Greece, Ireland, Italy, Portugal, Spain and the United Kingdom, led the preliminary investigation of more than 250 people selling counterfeit goods and pirated content, prosecuting more than 100 suspects. Joint investigations by Europol's Intellectual Property Crime Coordinated Coalition (IPC3), the Italian Guardia di Finanza and law enforcement authorities from nine EU Member States, seized more than 20,000 packages and closed over 1,000 accounts. On offer were sports articles, medicines, mobile phones, bags, jewellery, sunglasses, clothing, watches, perfumes and cosmetics, illegal IPTV set-top-boxes and online piracy over different social media platforms.

Other actions

In response to the wide use of different business models, the European Commission has adopted the "follow the money approach" to combating counterfeiting. This Commission brokered initiative seeks to establish voluntary agreements between rights owners and other actors. These agreements all aim at disrupting the revenue streams to the counterfeiters and hamper their ability to deliver the fakes to the end consumer.

Until now, two such agreements have come into effect, a Memorandum of Understanding signed in 2016 between rights owners and internet sales platforms, and a second MoU on internet advertising, signed in 2018 and designed to reduce advertising by legitimate brands on IPR-infringing websites.

In addition, numerous actions are carried out by Member States[29] and by private stakeholders[30], on both national, European and global level. One notable project is Authenticity, pioneered by rights owner organisations in France, Italy and Spain, a series of activities designed to "increase anti-counterfeiting culture and increase awareness of illegal market's implications." Authenticity is now being expanded to other EU Member States with EUIPO support.

29 See, for example, https://www.jegvaelgeraegte.dk/ a Danish campaign against purchasing counterfeit goods and accessing illicit content, a joint effort by 12 ministries and agencies, ranging from the Ministry of Culture to the national police.

30 An example is the International Chamber of Commerce, https://iccwbo.org/global-issues-trends/bascap-counterfeiting-piracy/ or Legalna Kultura, https://www.legalnakultura.pl/pl a Polish database of legally available films, music, books, journals, photographs, games and other types of digital content, created by a public-private partnership.

CONCLUSION

In light of the volume of evidence demonstrating the scale and impact of IP crime on the EU economy and society, and notwithstanding the actions already being taken to tackle this threat, the fight against IPR infringement needs to be strengthened. Those at the forefront of fighting IPR crime face a number of constraints and challenges, such as the need to coordinate cross-border investigations and tackle new technologies that criminals are using to hide their locations and activities. Closer coordination among EU institutions and bodies involved in the fight against IPR infringement, and closer collaboration at the enforcement level and a simplified data exchange within the possibilities of data protection are essential elements in the effort to curtail this problem.

EUIPO acknowledges that the support it offers European companies must be reviewed and adapted to the complex and changing IPR infringement landscape. For instance, technological developments continue to offer new opportunities for criminals to infringe IPRs and to distribute their goods more widely, using new routes and shipping methods.

This illicit production carries both negative economic consequences, as shown in the various studies, and also consequences for the health and safety of consumers, and even the environment. This aspect of IPR infringement is becoming increasingly important in policy formulation and enforcement actions.

The Observatory will continue to improve the efficiency of its databases and tools and improve interactions with its stakeholders to keep pace with this evolving landscape, to ensure that in the future both EU companies and citizens continue to benefit from the economic value, employment and innovation associated with intellectual property. As part of this effort, the Observatory has recently embarked on a structured programme to monitor technology developments as they relate to IP, with a special focus on technologies that can aid in enforcement of IP rights.

Another important new workstream concerns the role of the intermediaries. The rapid growth in e-commerce and the improvements in the speed and availability of high-bandwidth connections mean that intermediaries such as online retail platforms and video sharing sites are increasingly misused by infringers to market and distribute both counterfeit goods and copyright-infringing digital content. Those and other intermediaries, including providers of payment and logistics services, need to play a constructive role in the efforts to curb infringement of IP rights.

The Observatory follows a policy of updating its flagship studies (IP Contribution Study, IP Perception Study, Youth Scoreboard and SME Scoreboard) every 3 years. The monitoring of the main developments will therefore go on in the coming years and will be reported upon. This will offer decision makers a continued and dynamic view of the importance of IPRs for the EU economy and the consequences of their violations.

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