Ceasefire: Advanced versatile artificial intelligence technologies and interconnected cross-sectoral fully-operational national focal points for combating illicit firearms trafficking

D2.1 Analysis of modus operandi and risk profiles. Initial

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15 Nov 2023	0.5	Integration of survey and interviews results
6 Dec 2023	0.6	Integration of the results obtained in WP2 workshop organised during the 4th plenary meeting of CEASEFIRE
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Executive Summary

Deliverable 2.1 has been produced in the context of **T2.2** "Analysis of modus operandi, risk profile creation and connections with other forms of organized crime" of CEASEFIRE Project. It provides an initial comprehensive overview of the **illicit (online and offline) firearms trafficking in the European Union**. It considers multiple aspects, including the *modi operandi* and new trends characterizing the phenomenon, focusing on supply and production, transportation, and sales. The analysis extends to the definition of preliminary risk profiles related to the involved actors, predominant routes, facilitators of the trafficking of illicit firearms, and the nexus with other forms of organized crime. Such knowledge has been collected by merging the analysis of the available grey and academic literature with the expertise of representatives of law enforcement agencies involved in CEASEFIRE Project as partners. The findings highlight that:

- The majority of firearms enter the illegal market via **diversion** from the legal market, often stemming from theft, fraud, or post-armed conflict scenarios, such as the collapse of the Soviet Union and the conflict in Yugoslavia. A common technique involves the **conversion** of firearms, notably deactivated firearms, blank-firing firearms, Flobert calibres and replica.
- Illicit production of firearms is rare, but it involves a variety of actors, often creating ghost weapons through **3D printing** and unregistered, illegally manufactured parts, making them challenging to regulate and track by law enforcement.
- Illicit firearms move with transportation strategies influenced by factors like quantity, risk of detection, border security, and distance. The trafficking is predominantly **land-based**, using vehicles like vans and lorries with concealed compartments. Ant trafficking involves small-scale transportation by individuals, contributing to significant illicit firearm flows within the European Union.
- The sale of illicit firearms occurs both **offline** and **online**. Offline sales typically require criminal connections and involve face-to-face transactions, often facilitated by intermediaries. Online selling occurs on both the surface and dark web. Surface web platforms, such as **forums** and **communities**, mainly deal with deactivated firearms, parts, components, and 3D-printing instructions. The **dark web** accounts for a small fraction of overall illicit online sales, but it generates substantial revenue.
- A spectrum of criminal actors is involved in illicit firearms trafficking, ranging from **organized crime groups**, like Italian Mafias and Eastern European criminal groups, gangs to terrorist groups, including **jihadists**, and various extremist entities, such as **separatist groups** like the IRA and ETA, and **far-right groups**. Additionally, **individuals** also participate in the purchase or selling of firearms, including private citizens, handymen, arms dealers, and corrupt officials.
- The trafficking pattern involves inter-regional flows, with firearms moving from South-East to North and North-West Europe. The **Western Balkans**, with a surplus of weapons from past conflicts, play a crucial role in the illicit firearms trade. From the countries of origin, firearms transit then through **Slovenia**, **Croatia**, **Romania**, **Greece**, and other European countries, arriving at multiple destinations, including **France**, **Germany**, **Greece**, **Ireland**, **Italy**, the **Netherlands**, **Scandinavian countries**, **Spain**, and the **United Kingdom**.
- The **conflict in Ukraine** poses new challenges, potentially affecting the Balkan route, and contributing to the proliferation of weapons in the region and the European Union.
- Factors facilitating illicit firearm trafficking include the **lack of harmonization** in national regulatory frameworks, leading to varying penalties and incomplete implementation of the European Firearms Directive. The **lack of systematic, comprehensive and standardised data collection procedures** on firearms, as well as the **limited data sharing** among different authorities at national and international

level are other relevant risk factors related to firearms trafficking. Low detection risk is linked to **weak border controls**, small-scale trade, and the border-free movement following the Schengen Agreement. The **availability** of firearms, along with high **crime and corruption levels**, further contribute to the illicit trade.

- The illicit firearms trade in Europe is closely linked to various forms of organized crime, particularly **drug trafficking, migrant smuggling, human trafficking, and illicit trafficking of cultural goods**. Criminal groups mainly engage in trafficking weapons as a **secondary activity** to drugs or using firearms as **exchangeable goods**. The Balkan route is a crucial conduit for drug and firearm trafficking, as well as migrant smuggling and human trafficking, highlighting the interconnected nature of these criminal activities.
- Addressing the existing gaps in the harmonisation and implementation of the European legal framework is crucial. The European Union should also reinforce **control over its external borders** to enhance the detection of illicit firearms and promote a **more robust cooperation** among competent authorities.

Deliverable 2.1 is an initial version of the criminological analysis of the illicit firearms trafficking. The final updated version (i.e. Deliverable 2.2) will be released in M30. It will include more specific contributions provided by CEASEFIRE LEAs and also contributions and inputs from external experts. It will also provide a more structured analysis of the *modi operandi*, risk profiles and connections with other forms of organised crime, and dedicated summary sections.

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Acronym	Explanation
D	Deliverable
DIY	Do It Yourself
EFTA	European Free Trade Association
EMPACT	European Multidisciplinary Platform Against Criminal Threats
ETA	Euskadi Ta Askatasuna
EU	European Union
F3DP	Fully 3D-printed firearms
FLNC	Front De Libération Nationale Corse
IED	Improvised Explosive Devices
IID	Improvised Incendiary Devices
IRA	Irish Republican Army
ITF	Illicit Trafficking of Firearms
LEA	Law Enforcement Agency
OCG	Organized Crime Group
OMG	Outlaw Motorcycle Gang
PKC	Firearms with 3D-printed receivers
SALW	Small Arms and Light Weapons
UN	United Nations
UNODC	United Nations Office on Drugs and Crime

1. Introduction

Scope and objective

Illicit firearms pose a serious threat to the safety and well-being of the European Union (EU), given their use in criminal activities and terrorist attacks [1,2]. Due to the increasing use of firearms and explosives in recent years, Europol [3] has categorized illicit firearms as a **key crime threat facing the EU** and, as part of its multiannual policy cycle EMPACT 2022-2025, has identified the **fight against firearms trafficking as one of the EU's key priorities.**

Within the framework of EMPACT 2022-2025, one key priority under EMPACT-Firearms involves the development of a detailed intelligence picture of the phenomenon. D2.1 aims to deliver an initial yet comprehensive **analysis, shedding light on the *modus operandi*, risk profiles, and connections with other forms of organized crime associated with illicit firearms trafficking**.

The findings of this Deliverable will be used in different ways:

- they will be disseminated in relevant events and conferences and in scientific publications in compliance with the restrictions established for sensitive deliverables;[1]
- they will be the starting point for the final version of the criminological analysis on illicit firearms trafficking due in M30;
- they will be integrated with the contribution of external experts;
- as for the Grant Agreement, a public version of this Deliverable will be produced after the official review for the dissemination to the general public.

Methodological approach

To reach the goal of the Deliverable, this report has relied on a wide range of sources adopting two approaches: desktop research and empirical research.

Desktop research included the review and analysis of: a) grey literature, thus reports, policy papers, government documents, as well as materials developed in previous EU-funded projects on the topic of illicit firearms trafficking; and b) academic literature, i.e., articles published in academic and peer-reviewed scientific journals.

Empirical research concerned the involvement of representatives of the nine law enforcement agencies (LEAs) that are partners of the CEASEFIRE Project (Table 1).

The aim of the empirical research was to integrate the results emerging from the desktop research with new and updated insights. The focus was mainly on the connections of illicit firearms trafficking with other forms of organized crime, and new trends in the *modi operandi*, including 3D-printing, courier shipment, online selling, and the influence of the war in Ukraine on the illicit firearms trafficking.

To gather the knowledge of CEASEFIRE LEAs, a **survey** was first developed and submitted using the *EU survey* portal. To maximise the responses obtained from the survey (often incomplete), a **workshop** with the nine CEASEFIRE end-users was organised during the 4th CEASEFIRE physical meeting in Toulouse (30th November-1st December 2023). One interview was carried out in November 2023 with an expert of the French

1 Some preliminary results of this Deliverable have been presented at the Annual Conference of the European Society of Criminology in Florence in September 2023.

Ministry of the Interior that was not able to attend the meeting in Toulouse. Some inputs were received by email after the workshop. The full list of questions used in the survey, the interview and the discussion in the workshop is available in the Annex. The questions have to be intended as guidelines for the discussion. They were intentionally designed to be broad to collect a first round of feedback from CEASEFIRE LEAs. Both the workshop and the interview have been conducted as semi-structured discussions giving the respondents the flexibility to present their inputs without the need to follow a mandatory schema and without pushing them to reply. Participants exhibited varying levels of expertise across different topics. The approach employed involved asking for feedback on subjects aligned with their individual areas of expertise and experience.

The interview and the workshop were not recorded. No personal data of the people involved have been included in the Deliverable. Due to the unstructured nature of the inputs received from CEASEFIRE LEAs, their inclusion in the Deliverable has taken a narrative form, presenting general insights on the aforementioned topics. The final version of the Deliverable (i.e. D2.2) will include more specific contributions from CEASEFIRE LEAs and other external experts, who will be involved in the next months.

Table 1: CEASEFIRE LEAs involved in the empirical research

CEASEFIRE Law Enforcement Agency	Country
Ministere de L'interieur	France
Ministry of Interior of the Republic of North Macedonia	North Macedonia
Inspectoratul General Al Politiei	Moldova
Ministarstvo Unutrasnjih Poslova Republike Srbije	Republic of Serbia
Ministerio da Administracao Interna	Portugal
Ministrstvo za Notranje Zadeve	Slovenia
Izba Administracji Skarbowej w Gdansku	Poland
Provincial Police Headquarters in Gdansk	Poland
Ministerio del Interior	Spain

The report is organized in four main sections as follows. **Section 2** provides a broad overview of the illicit firearms market in the EU, focusing on definitions and legislative references. **Section 3** describes the *modi operandi* adopted to traffic firearms within the EU, examining aspects such as supply and production, transportation, sale, and demand for firearms. **Section 4** provides a preliminary picture of the main risk profiles associated with actors involved in the illicit firearms trafficking, prevalent routes, and the factors contributing to this phenomenon. **Section 5** concludes the Deliverable by exploring the connections between illicit firearms trafficking and other forms of organized crime.

1.1. Deliverable context

Keywords	Modi operandi; new trends; risk profiles
Objectives	D2.1 contributes to **Strategic Pillar 3** of CEASEFIRE Project "Criminological analysis of the phenomenon and compliance with European legal, ethical, societal and privacy values/legislation", and in particular to **Objective RES3.1** "In depth understanding of the firearms trafficking phenomenon (including both offline and online aspects)".

	The Deliverable contributes to this specific Objective by providing a first in-depth overview of (online and offline) firearms trafficking with a focus on: • the different *modi operandi* and new trends; • the risk profiles related to crime commitment; • the connections with other forms of organised crime. The Deliverable contains the results of the literature review and the inputs received from CEASEFIRE end-users partners in the Project (i.e. LEAs from France, North Macedonia, Moldova, Portugal, Serbia, Slovenia, Spain and Poland).
Work plan	D2.1 is developed in the framework of **WP2** "Criminological analysis, user requirements and policy recommendations". In particular, it includes preliminary results of **T2.2** "Analysis of modus operandi, risk profile creation and connections with other forms of organized crime". D2.1 is the initial version of the Deliverable, which will be updated in the next months. The final version (i.e. D2.2) will be submitted in M30 and it will be built upon D2.1. D2.1 is useful for WP2 tasks, *in primis* T2.1, T2.4 and T2.5.
Milestones	N/A
Deliverables	D2.1 is an initial version of the Deliverable. It will be the starting point for the final version, i.e. D2.2 "Analysis of modus operandi and risk profiles. Final". D2.1 will be updated in the next months and the final version will be submitted in M30.

1.2. Version-specific notes

D2.1 "Analysis of modus operandi and risk profiles. Initial" includes research findings obtained from the literature review conducted in 2023 and the CEASEFIRE end-users partners in the Project.

The final version of the Deliverable (D2.2) will incorporate updated and enriched research findings on new trends, risk profiles and connections with other forms of organized crime, in particular:

- the most recent grey and academic literature eventually published from M15 to M30;
- more specific inputs received from CEASEFIRE LEAs;
- inputs and contributions from external experts in firearms trafficking (e.g. representatives of international institutions, other EU LEAs, EMPACT Firearms, etc.);
- more structured analysis of the *modi operandi*, risk profiles and connections with other forms of organised crime, and dedicated summary sections.

2. Legal and policy context

The fight against illicit trafficking of firearms (ITF) has been on the international and European agenda for many years, although within Europe it has been treated for a long time as a marginal issue compared to other forms of crime [1,4,5]. Firearms are dangerous goods that can be employed in violent crime and ongoing national and international conflicts by facilitating the transition from political disputes to actual violence. In Europe, the threat of violent incidents due to the frequent use of firearms or explosives in public spaces is on the rise, and for this reason, illicit firearms have been recently identified as a "**key crime threat facing the EU**" [1–3]. Around 6,300 individuals die each year as a result of gunshots, while between 2009-2018, 341 people were shot to death in 23 mass shootings in Europe [6].

Given the threat posed by firearms to the safety of individuals and communities, European and international efforts have been undertaken to prevent and counteract ITF, first defining it. At the international level, Article 3, paragraph 3 of the Protocol against Illicit Manufacturing of and Trafficking in Firearms, their Parts and Components and Ammunitions supplementing the United Nations Convention against Transnational Organized Crime (**UN Firearms Protocol**) defines ITF as the unauthorized "import, export, acquisition, sale, delivery, movement or transfer of firearms, their parts and components and ammunition" [7; Article 3, paragraph e]. Within the European Union (EU), the **Firearms Directive (EU) 2021/555** defines standard basic regulations on the purchase, possession, and transfer of weapons in the EU Member States. In Article 1, paragraph, ITF is defined as "the acquisition, sale, delivery, movement, or transfer of firearms, their essential components, or ammunition from or through the territory of one Member State to that of another Member State if any one of the Member States concerned does not authorize it in accordance with this Directive or if the firearms, essential components or ammunition are not marked […]" [8].

As outlined in these two definitions, the ITF includes the trafficking of a variety of goods: firearms, essential components, and ammunitions [9]. **Firearms** are defined in Article 1, paragraph 1 of the EU Firearms Directive as "'any portable barrelled weapon that expels, is designed to expel or may be converted to expel a shot, bullet or projectile by the action of a combustible propellant" [8]. The Directive further classifies them in three main categories, depending on the limit to the circulation and possession (Annex I, Part II):

- Category A – Prohibited firearms, except for certain types of individuals
- Category B – Firearms subject to authorization
- Category C – Firearms and weapons subject to declaration.

The definition of firearms depicted in the EU Firearms Directive relates to the definition provided at the international level by the United Nations (UN). The UN categorized firearms into two broad categories: light weapons and small arms (SALW). **Light weapons** are those designed to be used by several individuals and transported by two or more people, for example, hand-held, automatic grenade launchers, under-barrel, anti-aircraft missile systems, heavy machine guns. On the other hand, **small arms** are weapons employed for individual use, such as revolvers and self-loading pistols, rifles and carbines, assault rifles, sub-machine guns, and light machine guns [1,10]. Along with firearms, also essential components and ammunitions are involved in ITF, and for this reason, they are defined – and consequently regulated – in Article 1, paragraph 1 of the EU Firearms Directive 2021/555 as "the barrel, the frame, the receiver, whether an upper or lower receiver, where applicable, the slide, the cylinder, the bolt or the breech block, which, being separate objects, are included in the category of the firearms on which they are or are intended to be mounted". The control regimes on parts and components are fundamental in the fight against ITF, as they influence the EU ITF related to the conversion and reactivation of firearms and transportation through postal and courier services; for this reason, EU regulatory bodies and law enforcement agencies have started paying greater attention to these features [9,11].

As opposed to other illicit markets, the firearms market is **dual**, showing both a licit and illicit side [12]. The separating line between licit and illicit trade is not always easily identifiable, depending on national and international legal frameworks. In a "legality spectrum" [13], three types of market can be identified:

- **Legal or regulated market**, which is made of firearms legally manufactured by authorized producers and legally sold to different buyers, including civilians, law enforcement agencies, and military forces [14,15].
- **Illicit market – grey market**, involving transfers in which one or more parties are not authorized. Grey transactions occur, for example, when a firearm is legally bought in a country and later illicitly trafficked corrupting officials or falsifying documents, frequently involving unregistered firearms [14,15].
- **Illicit market – black market**, which is mainly made by firearms that are legally produced but diverted into the illicit market violating national and/or international laws. In this case, all features of the transaction and the position of customers and vendors are illegal. Transfers in the black market are usually managed by criminal organizations [1,14,16,17].

The distinctive nature of the firearms market lies in the characteristics of the traded goods. Unlike consumable items such as drugs, firearms are **durable**, granting them a longer lifespan within the illicit market. This durability facilitates their repeated resale among end-users, presenting unique challenges in addressing the illicit trafficking of firearms when compared to other illicit commodities [1,5,18]. This also explains why the firearms illicit market is not characterized by a constant inflow of new goods, but by episodic transactions involving firearms that remain within, or re-enter, the illicit market over time [5,19]. This feature also partially explains the attractiveness of the illicit firearms market.

Another relevant factor pertains to the demand side boosting ITF. Buyers encompass a variety of actors who are not lawfully eligible for accessing firearms, each with distinct objectives. Unlike countries engaged in armed conflicts, ITF within the EU is mainly related to local criminal groups. However, the demand is also shaped by individuals without immediate criminal intent, seeking firearms for purposes such as collection, personal protection, or symbolic value [5,9,20].

Being firearms a key enabler of the increasing violence by criminal, extremist, and terrorist groups [2], ITF has received greater attention at the EU level in recent years, prompting various institutions to take measures to limit the availability of firearms within EU borders.

Europol, as part of its multiannual policy cycle EMPACT 2022-2025, has identified the **fight against firearms trafficking as one of the EU's key priorities.** This initiative aims at targeting criminal groups and individuals involved in the illicit trafficking, distribution, and use of firearms. One key priority within EMPACT-Firearms is the development of a precise intelligence picture, along with the establishment and strengthening of cooperation with different law enforcement authorities, the private sector, and researchers, to ensure an alignment with other projects and to enhance the tackling of illicit firearms trafficking.

As part of the Security Union Strategy, the European Commission adopted the **Action Plan on firearms trafficking (2020-2025)**, which identifies four priorities: safeguarding the licit market and limiting the diversion of firearms; building a better intelligence picture implementing a more efficient and harmonized collection and sharing process of firearms data across countries; increasing pressure on criminal markets through the establishment of fully staffed and trained Firearms Focal Points in each country; stepping up international cooperation with non-EU countries relevant for the trafficking of illicit firearms within EU (North Africa and Middle East) [21].

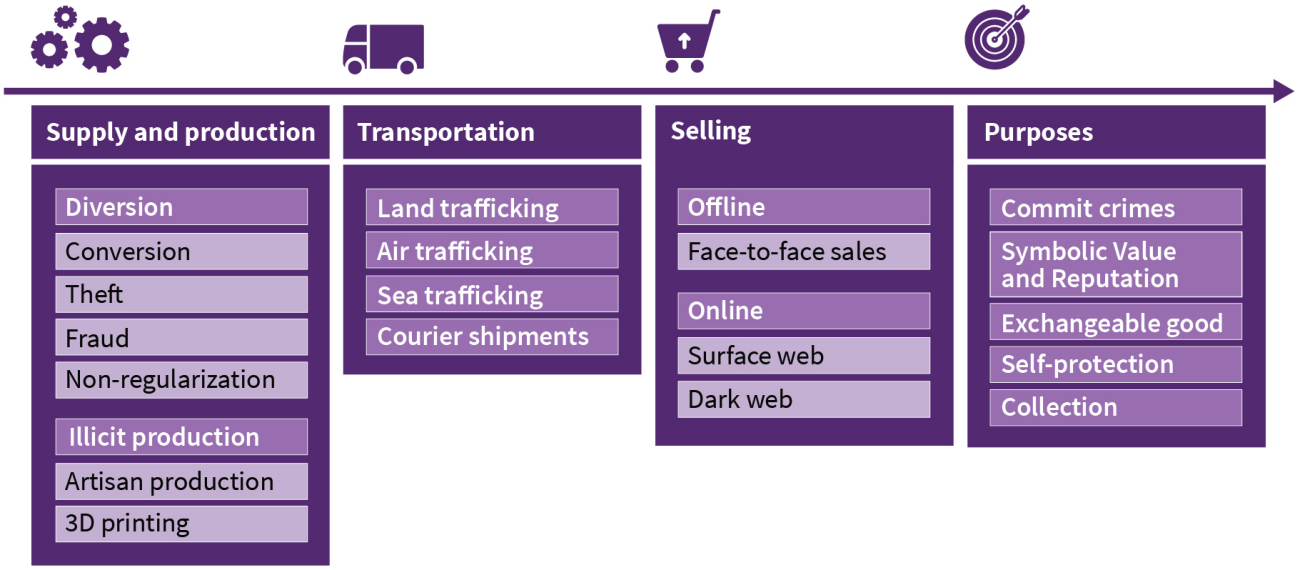
As a follow-up to the 2020-2025 Action Plan, in October 2022 the Commission proposed a recast of the Firearms Regulation (EU) no. 258/2012, including new rules to improve the traceability of firearms and the exchange of information between authorities by harmonizing the legal framework across EU countries [22].

Despite these efforts, some challenges persist. First, the lack of harmonization in the legal frameworks among EU Member States creates regulatory asymmetries, enabling criminals to exploit legislative gaps and traffic firearms from countries with less stringent regulations to those with stricter rules [5,9,14]. Second, the lack of communication and coordination among different national and international authorities has led to a dearth of shared intelligence on weapon seizures in the EU stemming from disparities in data collection and sharing methods [5]. Eventually, new trends have emerged in recent years, notably the employment of 3D-printing technologies, online sales on both the surface and the dark web, and the adoption of cryptocurrencies for the illicit procurement of weapons. The next Sections will provide more details on this.

3. *Modus Operandi* and New Trends

This Section presents an overview of the *modi operandi* employed in the illicit trafficking of firearms, focusing on the four primary aspects of the business model: the sources of illicit firearms, their transportation, sales, and the purposes driving their circulation (Figure 1). In presenting these aspects, the new trends have been taken into consideration as well.

Figure 1: The Business Model of the ITF



Source: Authors' elaboration

3.1. Supply and Production

Criminals have various pathways for acquiring firearms through ITF, which can be broadly divided into two categories based on the legality of their manufacturing: diversion and conversion, and illicit production [9,23]. Unlike other illicit markets, the majority of firearms enter the market through diversion from the legal market [5]. In addition, firearms are durable goods, remaining, or re-entering, the market over time. These two peculiar features of the illicit firearms market impact the ITF supply chain, mainly making illicit production less relevant than in other illicit markets.

3.1.1. Diversion

Most of the firearms trafficked within Europe originate from legal production, and the illicit trafficking begins at the so-called "point of diversion", i.e., when firearms are moved or transferred violating regulations and national and international laws [24]. The diversion can take place in several ways and at different stages of a firearm's life cycle.

Conversion

Among the multiple *modi operandi* to divert firearms, the **conversion** of existing firearms is the most common within the EU [5]. Conversion can be defined as the process through which an existing firearm is altered to

produce an illicit firearm resulting in modifying the weapon's lawful status [5,25,26]. More specifically, this *modus operandi* may involve different typologies of firearms:

- **Conversion of deactivated firearms**. Deactivated firearms are defined by the Firearms Directive (EU) 2021/555 as weapons "that have been rendered permanently unfit for use by deactivation, ensuring that all essential components of the firearm in question have been rendered permanently inoperable and incapable of removal, replacement or modification in a manner that would permit the firearm to be reactivated in any way" (Article 1, paragraph 1). Any type of firearm can be deactivated, and this feature may make the weapon legal, reducing the restrictions on purchasers [27]. The lack of harmonization related to deactivation requirements may create criminal opportunities, allowing to buy deactivated weapons in countries without strict requirements, and reactivating them with low effort [5].
- **Conversion of blank-firing firearms.** Also known as acoustic expansion weapons, the blank-firing firearms are modified to be unable to expel projectiles. To convert this type of firearms it is necessary to remove the barriers that impede normal firearms functionality. Blank-firing firearms differ from deactivated weapons in their ability to fire blank ammunitions, and this makes acoustic expansion firearms much easier to convert than properly deactivated firearms, since the firing mechanism is not deactivated [27].
- **Firearms modified to Flobert calibres**. Floberts are small cartridges designed for target shooting. This type of firearm is an imitation of a real weapon, manufactured by weak metals that are not intended to survive the fire pressure of a real firearm. In the last years, there have been growing concerns about the conversion of Flobert calibres within EU, in light of the increase in criminal cases related to the conversion of Flobert guns into lethal live-firing ones [1].
- **Conversion of replicas.** Replica firearms, that can be owned without licence in some EU Member States, can be converted into working firearms [5].

Thefts

Firearms are often diverted through **burglaries and thefts** from legitimate owners, such as individuals who privately own firearms, commercial actors, and national law enforcement. In the EU, private owners with firearms stored in residential settings are the most commonly victimized, although cases of firearms stolen in a single theft or burglary from commercial entities or manufacturing facilities typically involve a higher number of firearms compared to those held by private individuals [28]. Beyond the private sector, also armed forces, LEAs and others public sector actors are victims of thefts of firearms and ammunitions [28].

In conflict and post-conflict countries, weak regulations and political instability may weaken the ability of the government to protect **military stockpiles**, i.e., surpluses of reserve firearms. This situation may potentially allow criminal groups and non-state armed groups to take control over these firearms stealing or corrupting government actors and agents involved in the control to give access to them [24]. As regards ITF within Europe, two are the main relevant events: the collapse of the Soviet Union and the conflict in Yugoslavia during the 1990s. At the time of the dismantling of the Soviet Union, most of the firearms were piled up in Belarus, Russia, and Ukraine, generating a large surplus of firearms in these countries. The loss of control over these stockpiles allowed the diversion of these weapons into the hands of several actors over time, including non-state actors and criminal groups, creating an in-flow of firearms within EU borders [5,29–31]. A similar scenario occurred in the Balkans in the early 21st century. Despite the destruction of numerous stockpilers, it was estimated that approximately 8 million firearms were still in circulation in former Yugoslav countries [19].

To date, the Western Balkans is one of the main sources of firearms smuggled into the EU, prompting various actions by multiple EU and international institutions to tackle firearms trafficking in the region [32,33]. Since

February 2022, several concerns have risen in connection to the war resulting from the invasion of Ukraine by Russia and the massive military support it is receiving from Western countries. According to Frontex [11] and to CEASEFIRE LEAs, this war will radically alter the patterns of ITF in Europe, mainly due to the large number of military weapons already uncontrolled in the conflict zone, which may imply an increase in transnational both organized and non-organised crime [34]. Concerns are not only related to a likely increase in trafficking of the firearms, but also to the demand for firearms coming from Ukraine [35].

Fraud

Another relevant scenario of diversion involves the unlawful acquisition or possession of firearms through intentional concealing or omission of the truth, the so-called **fraud diversion**. In this case, firearms or ammunitions are owned or transferred legally on paper, but they are diverted from their legal sphere to an illicit status [36]. Five main ways in which firearms can be diverted by fraud can be identified [36]:

- the provision of false information or forged documents when required for authorisation to acquire or possess a firearm
- the supply of untrue information or documents to trade firearms
- the communication of false information in arms repositories
- the reporting of false declarations of theft to law enforcement
- the falsification of deactivation certificates yet keeping or selling the firearm in its original form.

Non-regularisation

The diversion methods described so far can be all defined as “active acts”, which are driven, at least partially, by criminal intent. However, diversion can be also passive, and this is the case of the non-regularisation of firearms [37]. The **non-regularisation diversion** occurs when a possessor of a firearm does not regularise the legal status of the weapon after a change in the legislation or other relevant events, such as armed conflicts [37]. It usually emerges in three different scenarios. First, after **armed conflicts and political transitions**, periods in which the state restores the monopoly over violence and the instruments to exercise it, such as firearms. In these timespans, firearms given to combatants need to be registered, deactivated, or destroyed. If this does not occur, non-regularisation diversion may take place. Second, after **changes in regulations**. If weapons owners do not comply with new regulations, their firearms become illicit. Third, in the case of an **inheritance**. When an individual inherits a firearm from a relative or acquaintance two situations can take place. On the one hand, the previous owner of the firearm legally owned it, but the individual inheriting it does not. On the other hand, the firearm was already illegally owned and it passes to next owner illicitly. [37,38].

3.1.2. Illicit production

Illicit manufacturing of firearms is rare compared to the diversion of existing firearms [5,9,23]. Nonetheless, there is an **artisan production** of illicit firearms produced in private workshops and houses by employees of firearms factories, amateurs and non-state actors, or in production sites managed by organised crime groups (OCGs) helped by workers, ex-workers or retired people of legal firearms companies [14,24,39].

Illicit production of firearms can be conducted *ex novo* or by assembling different parts and components acquired separately to avoid regulatory restrictions [14,24]. In both cases it is possible to define them as **ghost weapons,** i.e., firearms produced using unregistered, illegally manufactured firearms parts, 3D-printed parts, and components that can be legally obtained on external markets [11]. The peculiarity of these firearms is their untraceability, which makes them challenging to be regulated and tracked by law enforcement. This is

particularly true for 3D-printing firearms, which can be difficult to detect using traditional security systems [20].

3.1.2.1. Additive manufacturing: 3D printing

Beyond traditional methods, the production of firearms is also a matter of new technologies, among them, additive manufacturing. Also known as **3D printing**, this technology allows the construction of three-dimensional objects via the layering of different materials, using 3D scanners or Computer Aided Design (CAD) models [40,41]. Although it has existed since the 1980s, 3D printing gained popularity at the beginning of the 2000s, when private owners of 3D printing machines started creating simple and various objects, mainly thanks to an initial decrease in printers' price.

In terms of criminal use of 3D printing to produce DIY firearms, it was not until 2013 that the first fully working 3D printed firearm – the one-shot Liberador – was made available by Cody Wilson. In the last 10 years, the application of 3D printing to the production of small firearms, in particular components, has increased. While the first firearms were almost totally produced from polymers, recent developments have involved the combination of plastic parts with metal components, allowing a better performance, in some cases comparable to the one of industrially produced weapons [42,43].

3D-printed firearms can by classified in three broad categories based on the types of materials used to manufacture them (Table 2): Fully 3D-printed firearms (F3DP), Hybrid 3D-printed firearms (HYBRID) and Firearms with 3D printed receivers (PKC).

Table 2: Characteristics of 3D-printed firearms categories

	F3DP	HYBRID	PKC
Durability	Low-Moderate	Moderate-High	Moderate-High
Capability	Low	Moderate-High	High
Ease of production	Moderate-High	Moderate	Moderate
Accessibility of components	High	Moderate	Low-Moderate
Cost of production	Low	Low-Moderate	Low-High

Source: [43]

F3DP are firearms characterized by the absence of metal components, except for minor parts such as strikers or elastic bands. Due to their composition, these firearms have low durability and capability, and for this reason are mainly designed as one-shot firearms, like the first Liberador gun. However, being totally composed by printed parts, F3DP firearms can be produced using easily accessible component with a low cost of production [43].

One strategy often applied to this type of firearms is the installation of sections of steel tubing into the barrels and chambers to increase longevity along with capability and resistance, creating in this way so-called **hybrid 3D-printed firearms**. This category of weapons relies primarily on 3D-printed parts and components, then strengthened using non-restricted metal parts. Due to the legality of these additional metal components, law enforcement agencies usually pay little attention to them when transported or acquired by someone. To date, hybrid 3D-printed firearms prevail in countries with severe legal controls on firearms, such as European countries [43].

As regards **PKC**, it includes firearms that have been manufactured using a 3D-printed frame yet characterized by factory-made parts and components. Since single components are easier to smuggle across borders than

firearms, individuals may first buy components online, to then assemble them using frames – i.e., parts that integrate all other components – produced by 3D printing machines. Among the three categories, PKC firearms are the most reliable, often as capable as industry-made ones [43]. Thanks to this technology and the possibility of combining plastic and metal parts, almost all components of a firearm can be manufactured at home by anyone, posing a great threat to the tracing and control of firearms [9].

3D-printed firearms negatively impact the registration and licensing that is usually applied to firearms, as well as ballistic databases employed by law enforcement. In addition, although the printing of firearms without a license or authorization is illegal, the transfer and download of digital files are not adequately regulated within the European Union; this is a matter of concern pointed out by CEASEFIRE LEAs. Furthermore, 3D printing may allow to disguise them using tricky designs. Such weapons indeed might look like toy guns, hairbrushes, cans, and so on, hindering law enforcement activity [42,44].

The growing number of seizures of 3D-printed firearms, followed by an increasing effort to international cooperation of law enforcement, stress that production of firearms using additive manufacturing is no longer a niche topic. In 2022, Europol organized its first conference on 3D printing and firearms, aiming at discussing the state of play and building a strong network of specialists on this topic [45]. Indeed, the technological advancement and the availability of cheaper printers will make the production of 3D illicit firearms simpler, more accessible, and more difficult to regulate [46]. The efforts should be focused not on the technology per se, but on the availability of blueprints and files explaining how to build 3D firearms, thus focusing on the spread of this information online.

3.2. Transportation

After being diverted, converted, or illegally produced, a firearm involved in ITF moves across borders, or within the country of production, from one place to another. Multiple factors can affect the choice of the strategy of transportation, such as the **amount of firearms**, the **likelihood of detection**, the **security measures at borders**, and the **distance to be covered** [24].

Despite their limitation, data on seized firearms can provide valuable insights into how firearms are illegally transported. According to UNODC and the World Customs Organisation, **firearms trafficking occurs mainly by land,** involving vans, lorries, and passenger cars. In these vehicles, firearms are usually concealed in compartments such as false bottoms, tires, and trunks [24,47]. This method of transportation is preferred over others because allows to traffic **small quantities of firearms** using many different vehicles and assuring a low risk of detection [9,14,24] (Box 1). The ITF by road frequently overlaps with the trafficking of other goods, and in particular drugs, along already established routes [9,38].

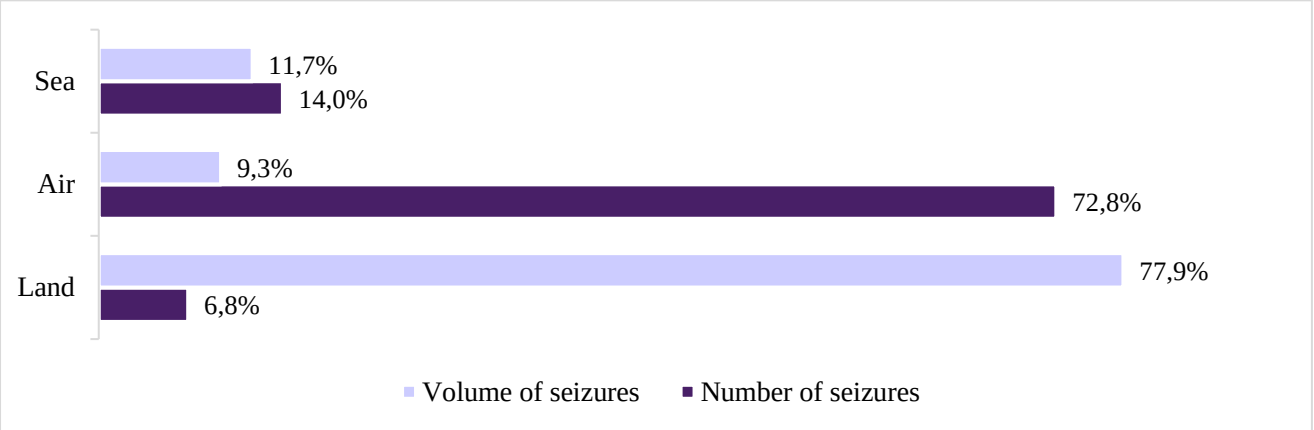
Box 1: Ant Trafficking

The term *ant trafficking* refers to the practice of transporting across borders small quantities of firearms involving a large number of individuals, usually by land [5,24]. Although this type of transportation involves single individuals, it can result in relevant illicit flows and accumulation of illicit firearms when systematically organized at a larger scale. This particularly happens using “mules”, including migrants and refugees [24]. Illicit firearms trafficked in this way usually are smuggled by both organized crime groups and opportunistic individuals [48].

Air trafficking of illicit firearms is rare mainly due to the strict security screenings at the airports, characterized by metal detectors, detection of explosives, and X-rays [9,11]. Focusing on the EU external borders, this is also reflected by data provided by Frontex (Figure 2). In 2021, the number of seizures by air was equal to 72.8% of

all cases of illegal firearms detection, however accounting for 9% of all firearms detected. During the pandemic period (especially in 2020), the number of seizures on flights additionally decreased due to travel restrictions [11]. When air trafficking occurs, often employees of the airport or police officers are involved, abusing their roles and allowing traffickers to avoid security controls [49].

Figure 2: Cases and volumes of seizures at the EU external borders as reported by 16 EU Member States and EFTA countries (2021)



Source: [11]

ITF occurs to a small extent also **by sea**, although transportation using vessels is the one that usually involves a larger number of firearms and is perceived as less risky than transportation by air [11,24]. The concealment of illicit firearms by sea may occur in several ways: inside vehicles on board ships, throwing firearms overboard from vessels to pick them up using small boats, within imported or exported metal items – especially in the case of components of dismantled firearms [24]. Recent research has highlighted that smuggling using large cargos has been replaced at large extent by small boats, especially in Italy due to increased screenings of cargos in Italian ports [38].

Traffickers also employ alternative methods to the traditional ones, such as the use of **courier shipment**. Due to a lack of harmonization in the legal framework of EU Member States, firearms are usually shipped from countries in which the sale of firearms is legal to countries where the detention of such firearms is illegal [48]. The increasing seizures related to small courier shipments highlight that the trend towards shipping components and essential parts of firearms has reached the EU market as well [11,50]. One explanation could be the restrictions related to the Covid-19 pandemic, that made transportation through parcel and postal services more appealing [48]. Another factor may be the increase in the use of online platforms and dark web marketplaces to trade illicit firearms [50]. In this specific case, however, vendors and buyers have started avoiding traditional courier shipments, relying on the so-called "**dead drop**" **method**. It involves paid intermediaries who first conceal the shipment of pre-packaged illicit goods of a dark web vendor in discreet locations and then share with the vendor the coordinates with a short video for each "dropped" deal. The vendor then sends the geo-coordinates to the client, who can eventually pick up the goods [51].

Due to the large number of parcels that everyday cross the EU borders, finding shipments containing firearms can be very challenging for law enforcement agencies. For this reason, the study of new *modi operandi* in ITF is a key feature for the detection of risky shipments – focusing especially on the consignor, the courier company, and the arrival [50].

3.3. Selling

The third step of ITF involves the selling of illegal firearms to the ultimate buyer, which can occur both offline and online.

3.3.1. Offline selling

Due to the nature and dynamics of the market, the purchase of an illicit firearm usually requires connections with the criminal environment. In criminal contexts, and especially in offline sales, trust plays the crucial role of regulating who can acquire what, and from whom [28,38]. For this reason, most transactions occur face-to-face with trusted criminal individuals. When the customer and the seller do not know each other, the sale takes place always through an intermediary, who guarantees for the buyer. The involvement of brokers is frequent in the cases of illicit firearms deriving from thefts, in which the intermediary buys firearms directly from the thief, and then sells them to interested customers [14]. These individuals usually exploit legitimate businesses as a front activity to cover their fencing trade [52].

The offline selling does not occur exclusively on the black market. Besides the traditional selling within criminal environments, another way to obtain illicit firearms is by acquiring reactivated firearms previously sold as deactivated on the European legal firearms market [38]. Another way to sell illicit firearms within the legal market is the one involving collectors and gun enthusiasts who organize informal garage sales of unregistered firearms and sell them to other individuals without criminal intent. Although this activity is not usually driven by unlawful purposes, it is an illegal business that may also attract people who aim at acquiring unregistered firearms for criminal or terrorist purposes [38].

The price of firearms in the offline market varies depending on the source, whether it is lawfully available within the country, its features and its conditions [53]. In most cases, prices in the black market tend to exceed those found in the legal market, following the dynamics observed in other regulated markets [24].

3.3.2. Online selling

In examining the illicit firearms trade within Europe, it is essential to acknowledge the global nature of the threat. The proliferation of online platforms has not only expanded exchanges among firearms collectors and users, but it has also created opportunities for the illicit trade of weapons and their components on a global scale.

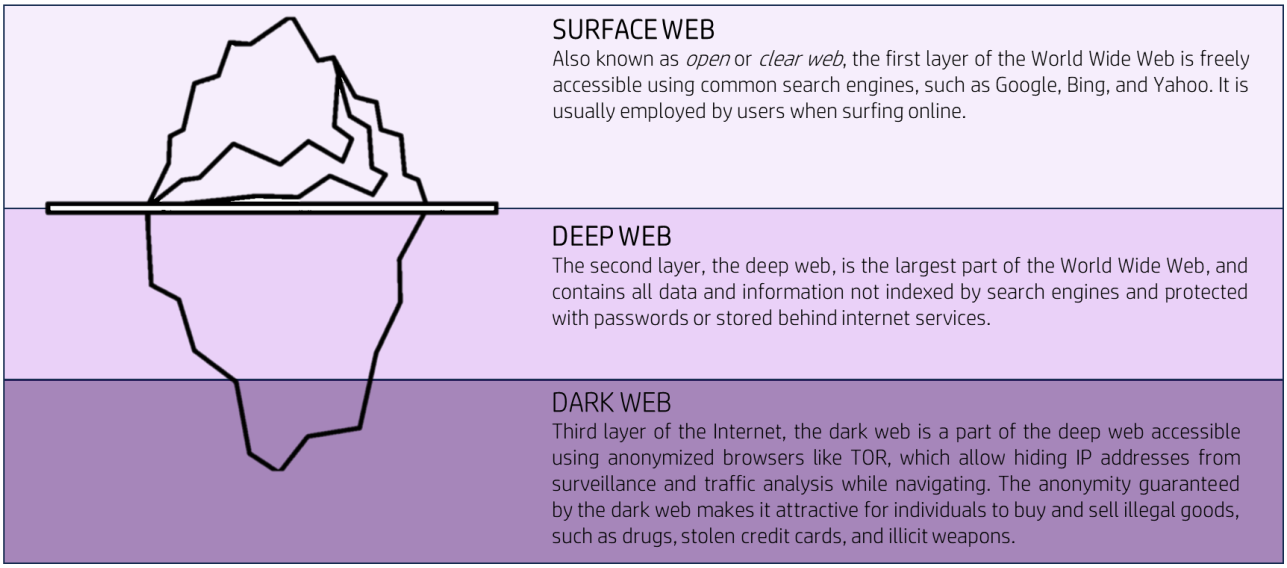
The online trade of illicit firearms is strongly connected to the lack of harmonization in the regulatory frameworks of EU Member States, which enables the trafficking of firearms from countries where they can be acquired legally to others where the selling and possession of firearms is illegal [48]. This partially explains why the online selling of illicit firearms is mostly cross-border rather than domestic [20,54,55].

Although the scale of online selling of weapons is limited – in volume and value – as compared to the offline one [3], the growing presence of illicit firearms in online markets is concerning for several reasons. First, the online availability of illicit firearms allows an easier matching of demand and supply in the case of inexperienced individuals and people with no direct or indirect criminal connections, which is instead a fundamental feature of offline sales [11,15]. Second, as emphasised in Paragraph 3.1.2.1, the concern of law enforcement agencies and CEASEFIRE LEAs is not only related to the selling of illicit firearms, but also to the transfer of technology, specifically the widespread availability of blueprints and files detailing the construction of DIY and 3D firearms. These materials are disseminated not only in the dark web, but also in open web communities, forums, and social media (Paragraph 3.3.2.1).

Eventually, in the future, despite its current smaller scale compared to offline supply, the open and dark web could evolve into a more significant marketplace. The use of online channels has seen a considerable increase, driven, for instance, by the constraints imposed by the Covid-19 pandemic, leading to a reorientation of logistical chains. Nevertheless, limited information exists on whether the pandemic has left a lasting impact on the current dynamics of illicit firearms trafficking. [48].

Illegal firearms and their components can be traded both on the open and dark web (Figure 3).

Figure 3: The World Wide Web and Its Layers



Source: Authors' elaboration

3.3.2.1. The Surface Web: Online Forum and Communities

According to Europol [3], in the last years the sale of firearms is shifting from the marketplaces in the dark web to forums and other platforms in the surface web after several marketplaces prohibited the selling of firearms. Within EU, the online selling in the surface web concerns mainly deactivated firearms, parts and components, and instruction to manufacture firearms, especially with the use of 3D printers (Box 2) [14].

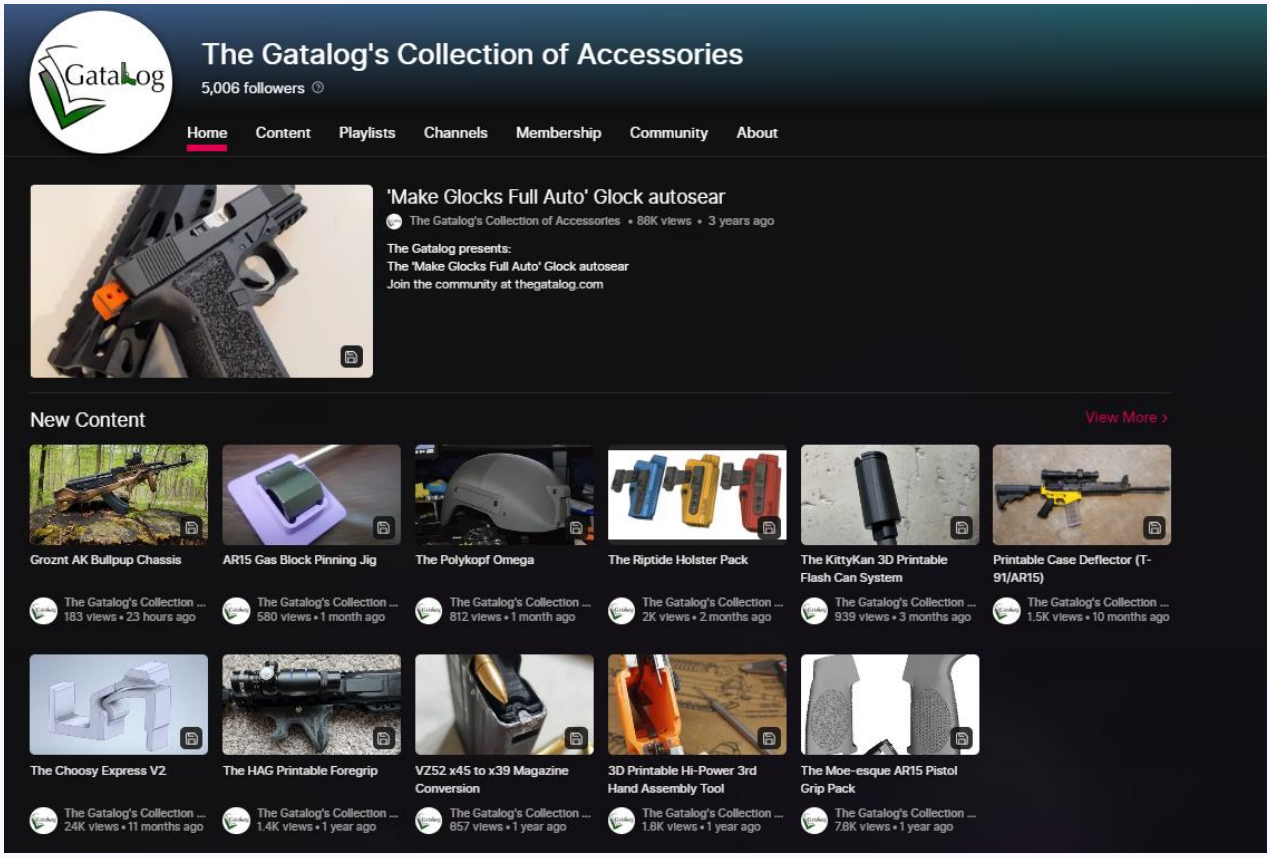
Box 2: Online Communities and 3D-printed firearms

The Internet plays a central role in the dissemination and exchange of blueprints for 3D-printed weapons [56]. An increasing number of online communities dedicated to 3D printing has emerged in the last years across multiple platforms, such as YouTube, websites, mainstream social media, and blogs and communities [57]. In this environment, a relevant niche is one of specialised online communities that resell instructions and designs for firearm components. In the United States, one of the most popular platforms is the **DefCad,** which is the world's largest repository for small arms technical data [58]. Despite its relevance in the American market, DefCad does not allow to buy items in Europe, even using VPNs.

In the European context, **Deterrence Dispensed –** now renamed as **Gatalog** – is the most relevant online community and movement for the distribution of 3D-printed gun files and related content. Founded by the European man known as JStark, the lead idea of the movement is to make it challenging for law enforcement to prevent firearm ownership globally (from their website homepage: *All individuals are entitled to the utility to defend their humanity. Gun control has failed. You can't stop the signal* [59]). Along with an official website, Gatalog makes extensive use of mainstream and less-known social media to spread its knowledge. Among them, the most used is **Odysee**, which is a video platform well known for its emphasis on free speech

policies. Odysee is identified also in other forums and social media as the best way to access 3D gun files (called frequently *odd sea* in these forums) (Figure 4). In the platform, other channels involved in the dissemination of 3D printing files or instructions are, for example, the "Hoffman Tactical" channel, which offers a range of videos demonstrating how to assemble various types of firearms, and the "Chairmanwon" channel, which provides downloadable files, with the request for financial support through Bitcoin payments.

Figure 4: Screenshot of the Home Page of Gatalog on Odysee (October 2023)



Source: Authors' screenshot of the Home Page of Gatalog on Odysee

3.3.2.2. The Dark Web

Firearms constitute a minor fraction of the illegal goods sold on the dark web, representing less than 1% of the total online dark market economy [51]. Despite its relatively modest size, recent research emphasizes that this niche market generates substantial revenue for the vendors, up to 80,000$ per month [51]. These vendors primarily operate within two key marketplaces on the dark web: cryptomarkets and vendor shops [51,60].

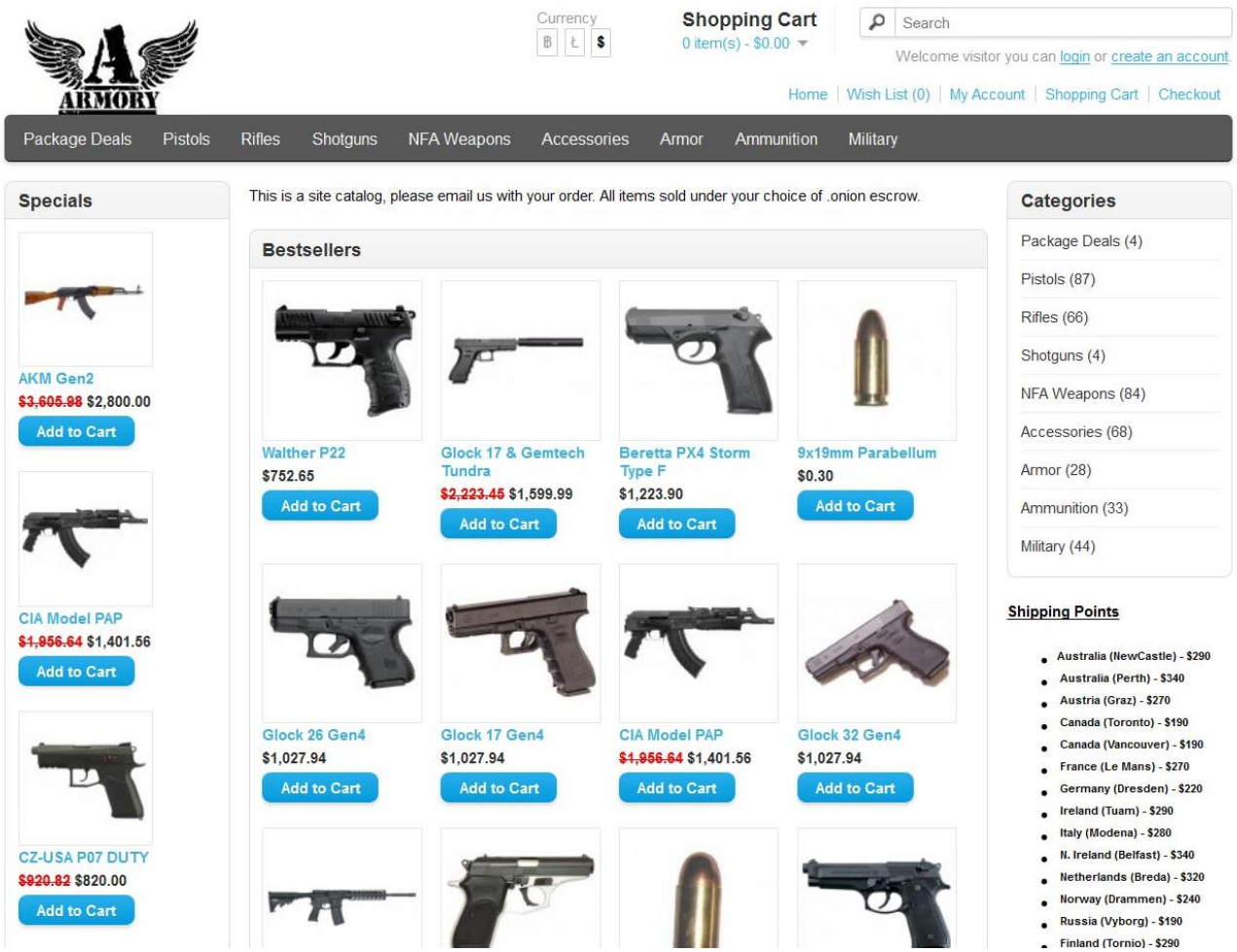
Also known as "single-vendor markets", **vendor shops** are online stores managed by a single seller, who handles transactions directly with customers, without third-party services [61]. The direct interaction between seller and buyer decreases commission costs and mitigates risks associated with intermediaries [51,62]. According to Europol [63], there has been a significant increase in the presence of single-vendor shops in the dark web in recent years. These shops often leverage encrypted communication platforms, such as Wickr and Telegram, to manage sales. These aspects emphasize a shift in criminal activities towards more decentralized and secure communication channels that may increase trust among all parties involved [64].

On the other hand, resembling legal e-commerce platforms on the surface web, **cryptomarkets** allow for multiple vendors to sell goods by posting images and descriptions of the items, while for buyers to search for specific goods, comparing multiple alternatives [64]. Cryptomarkets offer greater visibility compared to single-

vendor shops, allowing sellers to reach a wider client base and provide third-party services, like escrow, to enhance transaction security for buyers [51,60]. This type of market also allows the vendor to preserve anonymity and reduce the likelihood of the illicit transaction being traced back to them [51,65,66]. The quality and reliability of the delivery are eventually reviewed by the buyers, enabling them to influence the reputation of vendors [67].

The product sold within these dark web marketplaces varies, ranging from firearms to parts and components, accessories, and digital items, such as 3D-printing files and guidelines [14]. These items are classified into various categories, such as shotguns, rifles, pistols, accessories etc. (Figure 5), and customers can buy different quantities according to the current stock availability of the vendor [5].

Figure 5: Screenshot of the Armony dark web marketplace



Source: [68]

The existing research, carried out on a sample of marketplaces, points to the United States being the primary country of origin, likely due to the legal status of firearms and their widespread availability within the country. Along with the United States, Europe emerges as a significant region of origin, with countries like Germany, Austria, and the Netherlands playing a pivotal role. Europe is also identified as the most active market for firearms reception [5,51].

3.4. Purposes and Demand

The demand for illicit firearms comes from a variety of actors with diversified goals – among them, the commission of illegal activities, the collection of firearms, and self-protection.

Research in Europe highlights that the trafficking of illicit firearms is not very lucrative for criminal groups, and, for this reason, ITF is considered as a secondary activity in connection with other illegal activities [38]. For example, OCGs operating in Italy are known to purchase illicit firearms to **commit crimes**, but also to use them as an **exchangeable good** for drugs and other illicit goods [69]. Similarly, Albanian OCGs operating in the Italian drug market have been documented leaving firearms in Italian territories in exchange for permission to use Italian OCGs' territories of influence for drug trafficking purposes [16,20].

In most cases, the demand for illicit firearms is driven by the instrumental purpose of crime commission by individual criminals, gangs or organized crime groups, and terrorists. Firearms are employed by criminals to facilitate their illegal activities in several ways: as a **threatening tool**, to obtain valuable goods during robberies and to intimidate with violence in case of extortion or rivalries with other criminals; as a **defensive tool**, especially in territories characterized by a multitude of active OCGs. Members of criminal groups also acquire illegal firearms for their **symbolic value**, strengthening their reputation and status by just letting people know they possess firearms [5,38,70]. In Italy, there is evidence attesting the use of social networks by Camorra members while showing firearms, to reinforce their credibility and criminal reputation [71].

Terrorist groups also need firearms to carry out their illegal activities and to conduct terrorist attacks. In the last few years, several attacks involving firearms have taken place in the EU, including Paris (January, November 2015), Brussels (March 2016), Strasbourg (December 2018), Vienna (November 2020), and Copenhagen (July 2022). In most of these cases, terrorists acquired their firearms from the illicit market (for additional details see section 4.1.2.1). However, in recent years, there has also been an increase in reported cases of self-production [38,72,73].

The growing use of firearms by criminal and terrorist groups registered in the EU has also influenced the demand for illicit firearms by non-criminal actors for **self-protection** purposes [5]. In addition, the post-Covid 19 pandemic period has reinforced the perceived uncertainty and desire for self-defence by civilians and small businesses, potentially causing an increase in the demand for illicit firearms from the black market [11].

The illicit possession by private citizens may also be driven by **collection** purposes. Gun enthusiasts and amateurs may prefer not to legally register and acquire a firearm for several reasons: the strict national regulations; the ineligibility to access a legal weapon due to previous criminal records, age, lack of premises; the unavailability of a specific firearm on the legal market [5,24]. These people usually do not consider firearms as goods to be resold to earn money or to commit criminal actions [5,70].

4. Development of Risk Profiles Related to Crime Commitment

4.1. Actors

4.1.1. Organized Crime Groups

Multiple types of OCGs, stable and hierarchical criminal groups (e.g., Mafia-type organizations), gangs, and looser organizations, take part in the ITF both in the supply and demand side [5,9].

Italian Mafias play a significant role on the demand side of the ITF in Europe. These OCGs need firearms to conduct criminal and violent acts or to enhance their reputation, thus they participate in the ITF as an instrumental activity for the control of the territory [9,74]. Each of the major organizations, namely 'Ndrangheta, Cosa Nostra, Camorra, and Sacra Corona Unita, has their firearm arsenals where they store different types of firearms, usually guns, AK-47, and converted firearms [5,69,75]. These weapons are usually hidden in rural areas and supervised by monthly paid custodians with no criminal records. In addition, specific individuals oversee the retrieving, storing, and distribution of firearms among members according to their needs and tasks [9,74].

Italian Mafias engage in the trafficking of firearms from the supply side as well, albeit in support of other criminal markets rather than being their primary source of revenue [69,74]. Among Italian mafia organizations, 'Ndrangheta is the most active in the trafficking of firearms in Europe, Asia, and South America [76]. Several judicial investigations have highlighted the involvement of Italian Mafias in the ITF together with organized crime groups from Bulgaria, Albania, and Russia [69,74]. For example, some judicial cases have underlined the collaboration between 'Ndrangheta groups and Eastern European OCGs in human, drug, and illicit firearms trafficking. Specifically, Eastern European criminals supplied 'Ndrangheta with firearms and drugs in exchange for the possibility of sexually exploiting women within 'Ndrangheta territories [14]. Frequently, Mafia groups provide infrastructural services to these groups to move firearms within the country [77].

Previous studies suggest that **Eastern European OCGs** are heavily involved in the trafficking of illicit firearms, mainly through the same routes used to move other illicit goods. OCGs from Albania, the Balkans, and Russia are known to supply the illicit firearms market in their country of origin and in Italy, Greece, Spain, and the United Kingdom [14]. In Albania, OCGs involved in the trafficking of firearms consist of around 4-6 members, all having a specific task [78]. One or two individuals play as mediators with other criminal groups, especially from Montenegro and Kosovo. When the source of firearms is domestic, another person has the role of collecting them around the country, exploiting links with corrupt officers, security guards, and other people involved in the legal market of firearms. Eventually, the export of the illicit firearms is usually managed by the organizer, while another member is in charge of contacting potential buyers. Within the group, members often consist of friends or family, with many having prior military or police backgrounds, indicating a comprehensive understanding of firearms types and prices [78]. The data presented by UNODC [24] underscores a correlation between the proportion of confiscated firearms and various criminal activities, particularly involving drug trafficking and human smuggling, in Albania and North Macedonia.

In addition to well-structured OCGs, **loose criminal gangs** are also involved in the ITF, predominantly on the demand side. They typically acquire illicit firearms to engage in criminal activities, notably drug trafficking, and violent actions against rival gangs to gain control over territories and assure security to their community [20,79,80]. Similar to other criminal groups, gangs perceive firearms as symbols of status, with a strong

emphasis on reputation, motivating their demand for illicit firearms. Gangs usually obtain firearms through thefts, cross-border purchases, private sales, straw purchases, conversion of non-lethal firearms into lethal ones or through online purchases. In terms of the supply chain, gangs typically do not engage in it as a primary activity; however, they may occasionally participate in small-scale trafficking. More commonly, firearms are trafficked within gangs for internal use [79].

In the comprehensive understanding of gangs, a dedicated discussion is needed for **Outlaw Motorcycle Gangs** (OMGs), which also participate in the ITF in Europe. These highly criminal groups are deemed a national policing priority in 17 EU Member States due to their involvement in a variety of criminal activities [81]. Similar to Italian Mafias, OMGs employ firearms to intimidate and commit acts of violence in their territorial rivalries, as well as for reputation purposes in the control of the criminal market in which they operate. OMGs' members often carry weapons, whose possession contributes to the sense of membership to the group [82]. Prospective new members are known to carry out weapons for full-patch members during the first year in the group. Among the multiple types of weapons used, OMG members often employ improvised and modified firearms to conceal them, such as handguns in gloves [83]. As regards the supply side, some judicial cases in Belgium in 2015 have documented the involvement of OMGs in the ITF, using the same routes they use for other illicit goods, mainly drugs [84]. In Denmark, OMGs have been identified as participants in the illicit trafficking of firearms, often collaborating with street gangs, with the primary purpose of acquiring firearms for their criminal activities [85]. Additionally, in the Netherlands, members of OMGs have been playing a significant role in the trafficking and sale of large quantities of illicit firearms [86]. According to Blokland and colleagues [87], about 30% of OMG members included in the analysis have previous convictions for violating the Dutch Weapons Act.

4.1.2. Terrorist and Extremist Groups

4.1.2.1. Jihadist groups

In the past fifteen years, terrorists have perpetrated multiple attacks with firearms in the EU, highlighting their ability to illegally obtain firearms within EU borders [20]. Previous research based on seizure and qualitative analysis indicates that the number of seized firearms linked to terrorist activities is lower compared to those associated with other types of criminal offenses in the EU, while confirming the existence of a demand for firearms within the terrorist milieu [9].

Terrorists usually acquire pistols and revolvers, and military-grade firearms, which are not individually owned but circulate among members within the group [38]. These weapons are often obtained from low-level criminals; for terrorists without criminal connections, accessing high-quality firearms may pose a significant challenge [14,72]. In Denmark, law enforcement authorities reported several terrorist groups acquiring illicit firearms thanks to Danish citizens with previous criminal records or part of criminal gangs [85]. These firearms are frequently obtained from thefts [28]. For instance, in the 2015 attack at the Krudttønden Cultural Centre in Copenhagen, the firearms used were stolen from the Danish Home Guard [85]. In France, in the jihadi attacks in Toulouse-Montauban in 2012, the firearm used was stolen the year before from a professional sports shooter. Before the attack, the terrorist was affiliated with a drug trafficking organization, likely serving as a source for the weapon [28,88]. A criminal background is quite common among the perpetrators of recent terrorist attacks in the EU, often involving armed robberies or drug dealing [9]. The International Centre for the Study of Radicalization and Political Violence (ICSR) has highlighted that previous criminal activities, including easy access to illicit firearms, facilitate the execution of such attacks [89].

Terrorist groups are also known as producers of illicit DIY firearms. Europol [72] highlighted that individuals connected to jihadism have occasionally been found using 3D printers to manufacture weapons, indicating their involvement in firearms trafficking not just as buyers but also as producers. In Belgium, previous research found

that terrorists exploit loopholes in the legal market by reactivating firearms sold as deactivated in the legal market, or legally acquiring parts and components to assemble their weapons [84].

4.1.2.2. Separatist groups

Along with terrorists associated with jihadism, various other types of terrorist and extremist groups engage in ITF. In Europe, there is a historical presence of political terrorist groups that are highly active in demanding firearms to pose threats to local communities and carry out attacks [9]. Among them, the Irish Republican Army (IRA), the Real Irish Republican Army (Real IRA), the Basque Euskadi Ta Askatasuna (ETA), and the Front De Libération Nationale Corse (FLNC), have been heavily involved in ITF in Europe [9,14,20].

The legacy weapons of "the Troubles", years of the ethno-nationalist conflict in Northern Ireland, still circulate in the country and the Republic of Ireland. These firearms flowed within the two countries mainly in support of IRA from Libya and the United States from the late 1960s [9,90], while in the late 1990s, the Real IRA trafficked and acquired firearms mostly from Balkan countries [91]. Nowadays, several separatist groups and other criminal networks are believed to possess firearms dating back to the Troubles. However, there is evidence that part of the firearms recently employed by separatist groups have been trafficked into Northern Ireland more recently through routes used for moving drugs, frequently as exchangeable goods [90]. In this respect, the Real IRA – whose name is New IRA – is to date the most dominant group in Northern Ireland, being responsible for multiple attacks. According to Europol [72], the organization continues engaging in violence and attacks with firearms, while committing other serious crimes, including drug trafficking.

The ETA, a separatist group active in the Basque area from 1959 to 2018, used to be involved in the trafficking of firearms mainly from the Balkans, adopting a *modus operandi* similar to one of Italian Mafia groups, and from local sources in Spain and France [88,91]. In these countries, ETA relied heavily on firearms stolen from security force stockpiles and local firearms retailers. In 2006, the group was responsible for one of the biggest thefts from an authorized French arms dealer. Despite most of the illicit firearms employed being the source of a diversion, in the 1980s and 1990s, the group engaged also in the illicit manufacturing of firearms [88]. In 2018, ETA announced its dissolution and disarmament; however, in 2021, law enforcement found one warehouse with ammunition and explosives in Spain [72].

The FLNC, a separatist group active in Corsica from 1976 to 2016, illicitly acquired firearms both domestically and internationally to conduct militant actions. Limited information is available about the criminal networks facilitating the influx of illicit firearms from external sources. However, the types of firearms shown in their propaganda, including automatic weapons, Uzi sub-machine guns, and Steyr AUG, suggest acquisitions from other countries. On the domestic front, thefts from law enforcement services were the primary source of local supply [88].

4.1.2.3. Far-right extremist groups

In recent years, Europe has experienced a reawakening of militant far-right extremist groups [92]. In 2021, the number of arrests on suspicion of involvement in right-wing terrorist activities increased for the third year in a row, with a significant increase in France and Italy [72]. The far-right environment is very heterogeneous across EU countries, and part of these groups are involved in the ITF on the demand side [9,72]. In the past years, several right-wing attacks involving firearms have occurred in multiple EU countries. For example, in 2020, a right-wing extremist shot and killed nine people at two shisha bars moved by racist motives in Hanau, Germany. The man had a legal gun license [93].

Far-right extremists retrieve their firearms from different sources, depending on the country. In countries like Belgium, Italy, France, and Denmark, extremist groups have limited connections with high-level criminal networks involved in the trafficking of illicit firearms [14]. The main reason is that criminal groups do not want

to draw the attention of law enforcement as suppliers of terrorist groups [24,38,88]. Several people involved in previous violent actions had hunting licenses, thus legally owned firearms, while the theft from shooting clubs was also a frequent source of firearms employed in violent right-wing attacks [94]. Moreover, a concerning link exists in several EU countries between right-wing extremists and military forces, where right-wing extremist violence is either perpetrated or facilitated by individuals with military backgrounds, speeding the process of acquiring firearms [95]. For example, in 2023, in Germany at least 319 individuals have been identified as far-right extremists in the armed forces, while the year before 327 extremists were identified among soldiers, police, and intelligence officers [96].

An emerging *modus operandi* within the far-right environment is the self-made production of firearms using 3D printing technologies (Box 3).

Box 3: "All you need is a weekend's worth of time and $50 for the material" – Far-right extremism and 3D-printed firearms

In October 2019, two people were killed in Halle (Germany) by a Neo-Nazi man during an attack on a synagogue livestreamed on Twitch, a gaming platform. In his manifesto, the man aimed, beyond "*kill as many anti-whites as possible*", to prove the capability of homemade firearms, which in his case were 3D-printed firearms developed using a blueprint retrieved online. This attack has been seen as a turning point by several experts, being the first case involving 3D-printed elements in far-right extremism cases. Since 2019, law enforcement agencies arrested and convicted several individuals downloading and manufacturing 3D-printed firearms, most of them showing links with far-right extremism [97–99].

In April 2021, the Spanish National Police dismantled an illegal workshop base in Canary Island used to produce 3D-printed weapons. Two printers, gun parts, and manuals were seized, along with white supremacists' literature [45].

At the end of 2021, a 25-year-old white extremist was arrested over gross public destruction and other weapon crimes in Sweden. Law enforcement found several far-right paraphernalia, documents, and firearms. The individual bought a 3D printer at the beginning of 2021, trying to make three semi-automatic 3D-printed firearms. The firearms were produced using files from 3D-printed gun communities of RocketChat, where the man was an active poster using three accounts and frequently asking questions about making 3D-printed firearms [97].

In 2022, in Slovakia a 22-year-old man was arrested over the commission of several terrorist and extremist crimes, being a promoter of far-right white nationalist movements. During the investigation, law enforcement agencies found a 3D printer and several hybrid 3D-printed components. The man published instructions and diagrams to domestically produce automatic firearms using 3D-printed components and steel parts [100].

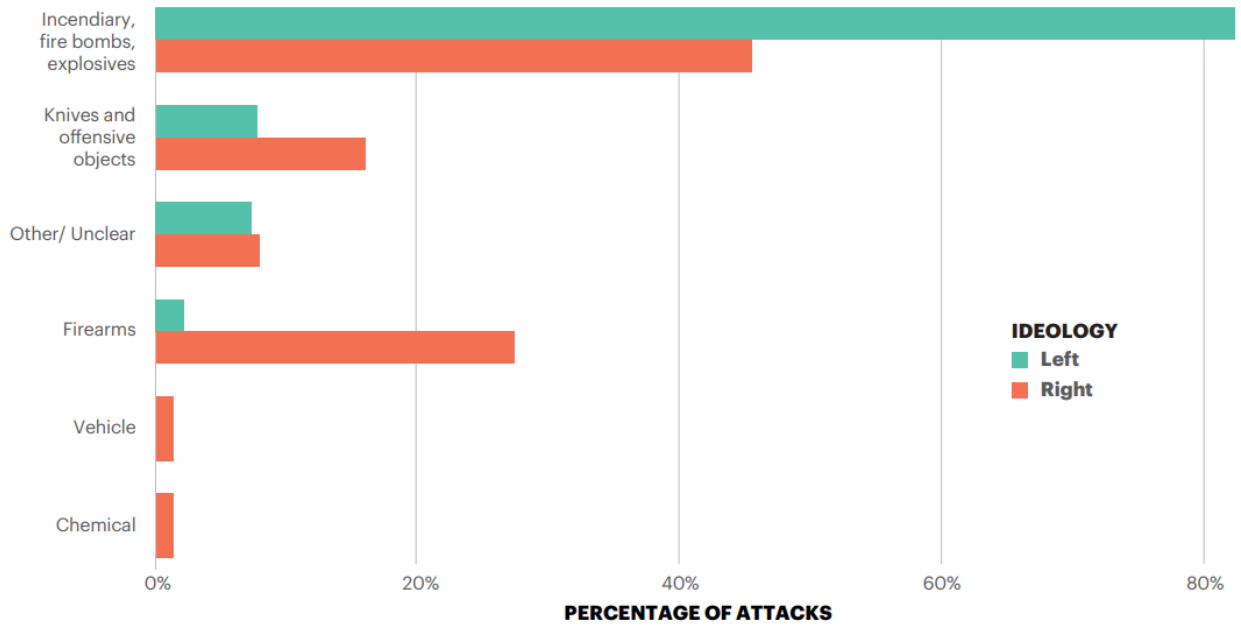
In Italy, a 23-year-old man, part of the American supremacist's organization "The Base", was arrested over terror chargers in 2022. He was believed to be ready to make an attack in sacrifice for the white race. From the investigations, the man turned out to be able to produce ghost firearms using a 3D printer [101].

Beyond single case studies, scant information and research are available on the relationship between the extreme right and the use of 3D-printed firearms. One analysis was conducted by Robbie Fordyce [102] on the neo-Nazi forum Stormfront, in which he found a great fervour among users for 3D-printed weapons. Further research is needed to better frame the relation and the actual size of the 3D-printed firearms market within far-right extremists in the EU.

4.1.2.4. Far-left extremist groups

In the last report on Terrorism Situation and Trend, Europol [72] emphasised a growing concern about an increased propensity for violence among left-wing and anarchist extremist groups. In 2022, 13 attacks were carried out by anarchists and other left-wing extremists, with 8 of them occurring in Italy [103]. Despite the involvement in violent attacks, these groups usually do not possess firearms; indeed, although largely employed in the past, to date the use of firearms by far-left extremist groups is very rare in Western countries [20]. As shown in Figure 6, in more than 80% of far-left attacks occurred between 2007 and 2021 in these countries, extremists used incendiary, fire bombs or explosives. This suggests that they prefer incendiary attacks involving Improvised Explosive Devices (IEDs) and Improvised Incendiary Devices (IIDs) [103,104].

Figure 6: Weapons used in political terrorist attacks in the West, 2007-2021



Source: Institute for the Economics & Peace [104]

4.1.3. Individuals

Despite not being directly affiliated to any terrorist or OCG, some individuals take part to the ITF having criminal intentions. On the one hand, some private citizens possess illicit firearms to carry out a crime. Usually, they purchase firearms online, retrieve them through personal contact with firearm owners, or manufacture them using 3D printers and manuals available on the internet [5,97]. Along with these people, some **handymen** facilitate the use and spread of illicit firearms by reactivating or self-assembling firearms. These people mainly rely on the legitimate market to retrieve parts and components, to then produce and sell them to the illegal ones. The buyers may be of two types: collectors with no criminal connections, or individuals belonging to the criminal underworld [84,105].

Not all actors active in the ITF come from the criminal milieu and have criminal intentions. In several EU countries many **collectors, gun enthusiasts, and amateurs**, mainly private citizens without criminal connections, take part in the trafficking of illicit firearms. In most cases, these people own firearms for self-protection, inheritance, and collecting purposes, though without legal permits. Collectors and people inheriting weapons usually become illicit firearms owners due to non-regularization diversion. On the one hand, collectors

may possess firearms whose regularization changes over time, making certain models prohibited or reclassified. On the other hand, people inheriting firearms may not want to declare them, especially when the previous owner did not too. Gun enthusiasts sometimes organize informal private sales of unregistered firearms to other private contact networks [20,37,38] (Paragraph 3.4).

4.1.4. Actors with a legitimate role in the firearms market

Some actors from the legitimate market can also play a role in the trafficking of illicit firearms, mainly on the supply side. Most of them are employees of manufacturing companies or firearms shops, or representatives of public authorities.

Arms dealers and employees at legal manufacturing companies may play a role in the ITF, especially in the diversion of firearms for handymen and criminal groups. Within the EU, this source of supply is more frequent in those countries characterized by a historical presence of legal firearms production, such as Italy and Belgium, where there is also a higher knowledge of the product [20]. The ways in which the legal firearms sector may be involved in the ITF are several. Manufacturing factories can simulate fake thefts to divert firearms into the illegal market. People involved in these schemes usually are corrupted or directly linked to criminal groups requiring firearms for their illicit activities. Similarly, actors in the legal market can falsify deactivation certificates while selling live-firing weapons to individuals without a firearms license. In 2014, Italian law enforcement uncovered a group of people involved in the supply, maintenance, and conversion of firearms for multiple Camorra clans. The group was composed of security guards, arms dealers, and employees of the National shooting range [74]. Italy is known as a good country to gain illegal firearms with fake deactivation documents due to strong local expertise related to the historical legal firearms industry [20].

The false documentation may be employed at a larger scale as well. Legal firearm companies may legally deliver firearms to foreign purchasers, who falsify the certificates guaranteeing the transaction is legal [16]. To facilitate the diversion involving cross-country transactions, manufacturing companies may also choose to export firearms to countries that do not allow to check whether firearms arrived, to divert them to other countries. A Croatian company, for example, formally sold almost 4,000 pistols to companies in Nigeria, the United States, and the British Virgin Islands. These firearms never arrived in the formal country of destination and eventually were confiscated in the Netherlands, Belgium, Germany, France, Denmark, Spain, and the Czech Republic [106].

Representatives of public authorities may also be involved in ITF. Corrupted officials may leak or steal from state stockpiles, by sabotaging the control system, or directly diverting the firearms.

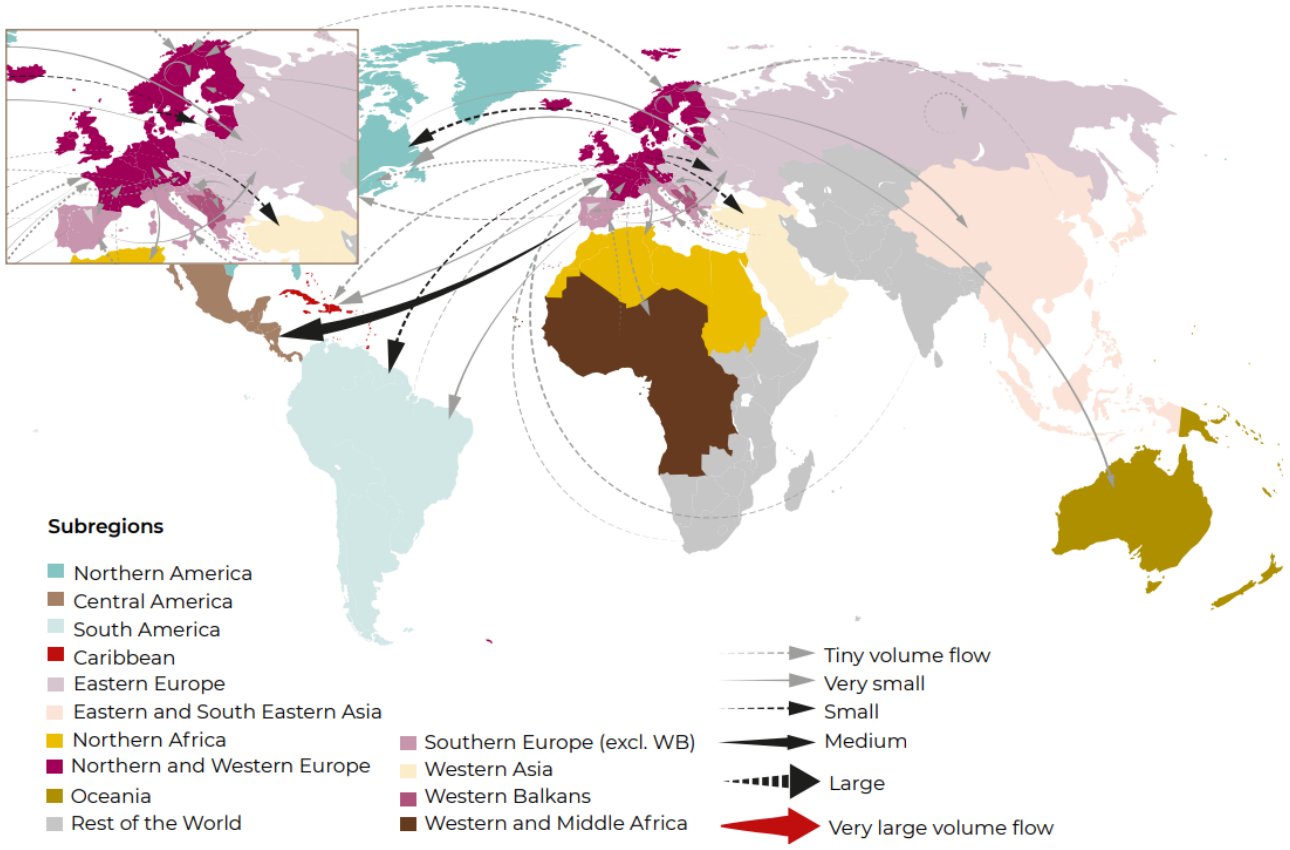
Another way is the falsification of users' certificates [28]. For example, when the end user's certificate is not authenticated by the exporting country, corrupted officials may forget to provide a legal export license [107]. Eventually, public authorities may be corrupted also at the borders by criminals and organized crime groups to avoid controls on cargo and other vehicles crossing borders [108,109].

4.2. Routes

In recent years, the knowledge of the routes used to traffic illicit firearms has sharply increased thanks to the improvement of law enforcement's ability to detect and seize weapons. However, the current available knowledge on ITF routes is mainly based on seizure data, which inevitably provides an incomplete picture of the phenomenon. Only 10% of seizures indeed occur at the borders, while almost none of them occur in the country of manufacturing [24].

Most of the illicit firearms are trafficked following an inter-regional flow, although flows connecting Europe to the United States and Africa are still relevant [9,14]. Countries can be involved in different ways in the ITF. As **supply countries**, i.e., countries in which firearms are manufactured or diverted; as **transit countries**, i.e., states where firearms flow through before reaching the final destination; and as **destination countries**, i.e., countries in which firearms arrive to be sold [9,16]. Figure 7 shows the main transnational firearms trafficking flows affecting Europe in 2016 and 2017.

Figure 7: Main transnational firearms trafficking flows affecting Europe (as defined by routes of seized firearms), 2016-2017



Source: UNODC [24]

In Europe, firearm smuggling tends to move from South-East to North and North-West Europe. Many countries participate in the trafficking of firearms. They can be divided into supply, transit, or destination countries, but many of them fall into several categories, serving multiple roles in the ITF [14].

The close geographical proximity of EU Member States, coupled with the potential lack of border controls, may be catalysts fostering illicit firearms trafficking within the Union. The examination of various trafficking methods employed in Europe indicates that firearms are predominantly trafficked into destination countries from their neighboring counterparts [9]. **South and East Europe** are the regions from which most of the firearms fuelling EU originate: the Balkans, Former Soviet States, and Middle East countries are relevant areas within the EU market [5,9,14,20].

The EU 2020-2025 Action Plan on firearms has highlighted once again the key role of the **Western Balkans** as one of the main supplying regions of trafficking to the EU [110]. The Balkans have been key countries in the trafficking of firearms primarily due to the large amount of weapons left after the armed conflicts occurred in the 1990s, which were not stored in supervised stockpiles in the region [5,9,37]. After the armed conflicts in Yugoslavia, a significant number of stockpiles and unregistered firearms emerged in countries such as Croatia,

Serbia, and Bosnia and Herzegovina [37]. The availability of firearms created an unprecedented opportunity for traffickers who took advantage of the region's proximity to EU countries and regulatory asymmetries, allowing them to engage in firearms trafficking within EU borders [110].

Multiple investigations have confirmed the persistent threat originating from the region, such as the recent investigation conducted by EMPACT that led to the arrests of 38 people involved in the trafficking of firearms from countries in the Balkan region to EU countries – mainly to Belgium, France, Germany, Spain, and the Netherlands [111]. Some cases showing the link between OCGs and ITF from Western Balkans are available in Box 4.

Besides Europe, firearms stockpiled in the Balkans are trafficked to conflict areas in African and Middle East countries [5].

Box 4: Italian Organized Crime Groups and Firearms from the Western Balkans

The origin of a significant part of the arsenal of the 'Ndrangheta in Italy can be traced back to the former Yugoslav countries, as confirmed by multiple investigations conducted by the Anti-Mafia District Directorate (DDA) in Milan and the collaboration from members of the Serraino-Di Giovine clan, highly active in Lombardy [74].

The Balkan origin of these weapons has also been established in investigations related to the Camorra. Notably, some criminal organizations autonomously handled the arms' importation, subsequently transferring them to Camorra groups. In 2006, during an investigation involving the Casalesi clan, a substantial seizure of weapons occurred, including rocket launchers, hand grenades, explosives, submachine guns, and rifles. Many of these weapons originated from Bosnia and Herzegovina and were brought to Campania with the involvement of two law enforcement agents, one on leave and the other in service. The latter, exploiting his mission in Bosnia and Herzegovina, managed the purchase and organized the transport of the weapons to Italy [74].

The Western Balkan region, known for its prominence in the supply of firearms, is also increasingly seen as a transit zone for converted firearms from Turkey, usually intended for criminal markets throughout Europe [11]. In the South of Europe, **Turkey** plays a relevant role as one of the main manufacturers of blank-firing weapons, recently found in the Balkan region and other EU countries [11]. Arms from Turkey are not only smuggled into European countries such as Belgium, Bulgaria, Croatia, Denmark, Finland, France, Germany, Greece, Italy, and the Netherlands, but also reach Canada and regions in North and West Africa [9,27].

From Central-Eastern Europe, **Slovakia** is another source country of deactivated firearms and Flobert [9,14,25]. In 2020, the Slovak National Crime Agency, with the support of Europol, identified a criminal group specialized in the conversion of Flobert guns into lethal live-firing ones. The group is believed to be involved in the trafficking of over 1,500 firearms into the European criminal market [112].

Within EU borders, in the Netherlands, authorities identified various European countries as the primary points of origin for trafficked firearms seizures, including **Austria, Belgium, Germany, Spain,** and **Switzerland** [14,16], which are relevant supply countries for Italy as well [74]. Cases of intraregional trafficking routes were highlighted also by Estonia, which reported that 60% of seized firearms had their source in Germany [16].

As regards transit countries, **Slovenia**, **Croatia,** and **Romania** are the ones through which most firearms are moved from the Balkans and Eastern European countries into Western Europe [9]. In Slovenia, the trafficking routes typically involve firearms being transported from the Balkans to Austria, and then to Germany, or alternatively from the Balkans to Italy and then to other EU countries [5]. These countries could become also transit countries for firearms coming from Ukraine as a side effect of the ongoing war in the country (Box 5).

Moldova is identified by CEASEFIRE LEAs as transit country, especially for firearms directed to Belarus. **Greece**, destination country for arms from Albania, Bulgaria, North Macedonia, Serbia, Montenegro, and Kosovo [9], is one of the transit points for firearms moving from Eastern Europe to Africa or Italy, and then further to the other European countries [5,24]. **Italy**, on the other hand, serves as a transit hub for firearms moving from the Balkans to various European countries, via Austria, Belgium, and Switzerland, or to North Africa and Somalia [5,9,69,74]. **Belgium** and **Portugal** are also identified as transit countries for firearms destined for Africa [5]. Eventually, the **Netherlands** is classified as a transit country for weapons from the United States, while **Germany** as transit country for the United Kingdom and Ireland [86].

Box 5: The War in Ukraine and its consequences on the trafficking of firearms

As seen in Paragraph 3.1.1, armed conflicts create circumstances that facilitate the accumulation of weapons, often beyond the direct control of the State. Following the Russian invasion of Ukraine in February 2022, military support has substantially increased, with several countries providing Ukraine with lethal weapons.

The United States has been the primary contributor of military aid to Ukraine, with $43.9 billion committed post-Russia's invasion in February 2022. The United Kingdom follows as the second-largest donor, offering £4.6 billion in military assistance. NATO expresses political support and helps coordinate aid requests for Ukraine, with a new assistance package adopted at the Vilnius Summit in July 2023. While NATO will not deploy troops on the ground in Ukraine, the EU is providing lethal arms through the European Peace Facility (EPF), committing over €5.6 billion [113].

Various institutions have expressed concerns regarding the proliferation of weapons in the region and the potential challenges in State control over them [114–116]. According to the research conducted by the Global Initiative Against Transnational Organized Crime [35], the existing Balkan route could become a conduit for weapons flowing out of the war zone, particularly through Black Sea ports, such as Varna (Bulgaria) and Constanta (Romania) and various European countries like Poland, Slovakia, Moldova, Hungary, Croatia, and Slovenia. Along with the large availability of firearms, the high level of corruption, and the presence of active and well-established criminal groups, pose a high risk for smuggling firearms from Ukraine [35].

CEASEFIRE LEAs also claim that tackling the Ukraine situation is notably challenging, considering that criminals adapt their methods in response to the conflict’s dynamics. The presence of residual firearms, combined with shifts in demand and supply, adds complexity to the scenario. The potential for a significant surge in smuggling into Europe, potentially backed by Russia as a form of retaliation, raises concerns. Moreover, there is a risk of weapons trafficking to Ukraine from Western countries, perceived as a more convenient alternative to official channels.

CEASEFIRE LEAs also pointed out that the strategic delivery of weapons to European countries may create a potential narrative for Russia to blame Ukraine, emphasizing the importance of vigilance to prevent the exploitation of such situations to sow division between Ukraine and European nations.

For what concerns destination countries, available data suggest that firearms originating from the Balkans find their way to **France**, **Germany**, **Greece**, **Ireland**, **Italy**, the **Netherlands**, **Scandinavian countries**, **Spain**, and the **United Kingdom** [5,37]. In the case of illicit firearms sourced from former Soviet States and other Eastern European countries, destinations include France, Greece, Ireland, the Netherlands, the United Kingdom, and other East European nations [5,20]. CEASEFIRE LEAs identified **Poland** as a destination country for firearms from Ukraine. Scant information is available on the reasons why some countries are major recipients of firearms than others within the EU, except for specific countries with a strong presence of organized crime, such as Italy and the Netherlands.

4.3. Facilitator factors

In EU countries, data on seizures are consistently increasing, and the quality of this information is on the rise. However, several loopholes exist in the data collection and sharing of these countries, along with problems in the detection of illicit firearms within EU borders. All these factors facilitate the trafficking of illicit firearms in the Union, suggesting that seizure data are not reliable enough to have a complete and clear understanding of the ITF [24]. In this section, an overview of the factors and conditions enabling ITF are described.

4.3.1. Lack of Harmonization

One of the most significant factors that enables the trafficking of illicit firearms is the lack of harmonization across European countries' regulatory frameworks. According to the European Commission [21], differences in national laws and their enforcement regarding firearms possession, trafficking, and punishment of criminal and administrative offenses pose a significant obstacle to effectively controlling the illicit trade of firearms in the EU.

The **criminalization** of firearms trafficking and its related crimes, such as the possession of firearms, varies a lot across EU countries, as displayed in Figure 8. For example, in France, the maximum penalty for illicit possession of firearms is 3 years in prison and a fine, in Germany 10 years in prison, in Croatia up to 60 days in prison and a fine [117]. These discrepancies are exploited by traffickers of firearms who try to minimize the risk of being detected and convicted [14].

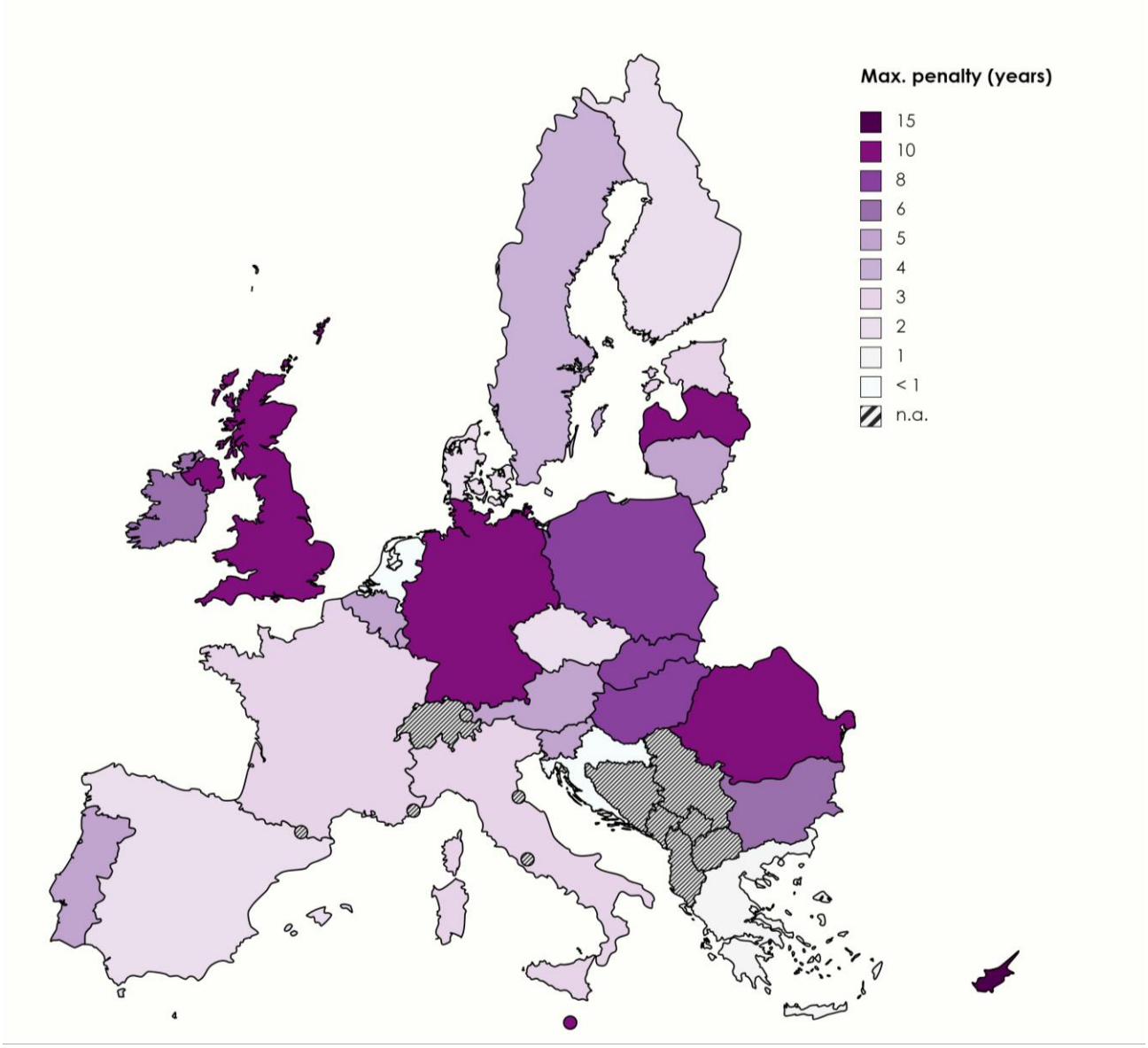
Incomplete implementation of the EU Firearms Directive, which was revised in 2021, is another source of differences in national laws. Before the update, several countries had not fully implemented the previous version (Directive 2017/853), resulting in significant asymmetries in national regulations [14]. This situation creates for example opportunities for criminals to buy firearms or parts and components legally in one country and transport them to another where they are illegal. Also, for many years there has been no harmonization of the deactivation guidelines and techniques in the Member States. This created criminal opportunities related to the illicit trafficking and conversion of firearms of this kind. For instance, the Republic of Slovakia implemented laxer deactivation standards until July 2015: criminals bought deactivated firearms, smuggled them into other EU countries with more stringent provisions, and then reactivated them [5,14,118].

Among EU Member States compliant with the Directive, some inconsistencies may also persist. One of the reasons for this disparity is the type of legal instrument employed by the EU. Directives, unlike regulations, are not directly applicable to Member States. Instead, they require countries to adopt Directive provisions within their national legislations allowing the achievement of the goals identified by the EU using the most suitable means.

One of the consequences of such disharmonized framework is **the lack of systematic and comprehensive data collection procedures.** A previous study of Università Cattolica del Sacro Cuore – Transcrime [4] highlighted several differences in how EU countries collect firearms data. The focus is primarily on seizures and ballistic testing data, with fewer countries collecting data on forensic testing and tracing data [4]. These data are usually stored in national databases characterized by different designs, and, in some cases, officers store data on their personal computers. A limited number of countries store data following international procedures, using international databases such as SIS, iARMS, and SIENA [4]. Divergences do not concern only procedures to collect data, but also the authorities in charge of the data collection. Typically, the Police has a prominent role, while Customs authorities predominantly handle seizure data. However, in selected countries, responsibilities for the collection of illicit firearms data also extend to Military Police, Judiciary Police, Scientific Police, and National Firearms Focal Points [4,119].

The fragmented nature of data on firearms, along with differences in the types of data collected across countries, also affects the ability of LEAs to cooperate and share relevant data to enhance the intelligence picture on firearms trafficking.

Figure 8: Maximum penalties for illicit possession of firearms (2022)



Source: Author's elaboration of GunPolicy.org data

4.3.2. Low risk of detection: absent or weak border controls

The probability of detection and subsequent punishment while trafficking firearms within the EU is notably low. Factors contributing to this include the prevalence of small-scale trade – the so-called *ant transportation* – , the free circulation of goods and citizens across EU territory, and the abolition of controls at borders following the **Schengen Agreement** [5,120].

In the case of cross-border trafficking involving non-EU countries, traffickers frequently rely on forged documents and pay bribes to border officials to avoid control [5,119,121]. This situation is further exacerbated

by the lack of a comprehensive intelligence overview of the phenomenon. Such an overview would provide valuable insights into the specific locations and methods where the absence of borders is most exploited [14].

4.3.3. Availability

The demand for firearms is also influenced by their availability in a specific area. Within the European context, the accessibility of military weapons resulting from the conflicts in the Balkans in the 1990s has led to an increased acquisition of such firearms among criminals [14,28]. In general terms, an increase in the availability of firearms occurs in territories that experienced **armed conflicts**, that register high levels of firearms in-flow during the conflict [5,29–31]. As seen in Paragraph 3.1.1 and Box 5, after the end of conflicts frequently firearms are abandoned in weakly supervised stockpiles, which may easily become a target for organized crime groups and other criminal networks.

The expansion of the **online market** has the potential to increase the availability and accessibility of illicit firearms in the future. Individuals can access and buy firearms without specific efforts, a matter particularly relevant for those without apparent prior criminal affiliations [11,15]. Although online platforms can facilitate firearm possession, currently there is no empirical evidence confirming an increase in the circulation of illegal firearms following the proliferation of online vendors.

4.3.4. High levels of crime and corruption

The enduring presence of organized crime groups in specific areas is another facilitator factor for the illicit trafficking of firearms [5,38,122]. OCGs contribute to the increased demand for firearms due to the need for firearms to conduct criminal and violent acts or to enhance their reputation [9,74]. In Western and Eastern Europe, the demand by EU-based OCGs was among the main drivers for the establishment and opening of routes across the Balkans [14,38].

Along with organized crime, high levels of corruption may also facilitate the illicit trade of firearms [14]. Bribed law enforcement agencies and border officers can enable the movement of firearms across borders hiding misconduct by producing false documentation or providing protection to criminal groups [5,119,121]. Corruption may also facilitate the trafficking of firearms through the diversion of legally owned firearms, for example in the case of corrupted people involved in fraudulent licenses or misappropriation of confiscated firearms [28].

5. Identification of Connections with Other Forms of Organized Crime

The illicit trade of firearms plays a crucial role in facilitating other criminal activities, thereby exacerbating the risks posed to the internal security of the EU [3,11]. The trafficking of firearms frequently occurs to meet the demands of criminals engaged in some forms of organised crime and violent crimes, including homicide [24].

Drug trafficking

Globally, illicit drugs represent the most frequently confiscated non-firearms-related items, followed by counterfeit goods, cultural property, and natural resources [24]. In Europe, several countries deal with the connection between the drug trade, especially in cocaine, and firearms [53]. According to a recent study by UNODC [9], on average 28% of the seizures within the EU occur in the context of drug trafficking, with specific Member States displaying much higher percentages. CEASEFIRE LEAs agree to identify **drug trafficking** as the most common form of organized crime activity linked to ITF in Europe.

CEASEFIRE LEAs also highlight that the interrelation between firearms and drugs may take several forms. Firearms are typically trafficked in smaller quantities as a **complementary activity** to drug trafficking, or other criminal activities by poly-criminal groups. As firearms tend to yield lower profits in comparison to drugs, criminal groups engage in trafficking weapons as an additional revenue stream [9]. From an enforcement perspective, designating this as a secondary activity may have an adverse effect on the prosecution of these crimes due to the disparity in penalties between drug offenses and firearms offenses. This imbalance leads to the latter being somewhat overlooked in investigations, despite their inherent connection. The failure to cumulatively consider penalties often results in the prioritization of more substantial drug-related charges, potentially diminishing the significance of firearms offenses in legal proceedings.

In ITF cases firearms are then frequently involved as **goods possessed by OCGs involved in drug trafficking for threatening/defensive purposes**. The growing demand for weapons by drug-related criminal groups has expanded the opportunities for extensive trafficking of firearms, leading to an increased availability of firearms for criminals involved in drug markets [123].

Moreover, as a recent Resolution of the United Nations Commission on Narcotic Drugs [124] emphasizes, firearms are sometimes employed as **exchangeable goods** for drugs, increasing criminal access to firearms and posing a significant threat to EU security. Despite the identification of some cases in recent years (Box 6), and its higher occurrence documented in Denmark [24] and Italy [69], this practice is generally uncommon within the EU [123].

Box 6: Firearms as exchangeable good: the Croatian case

In June 2018, Croatian law enforcement arrested 17 individuals associated with an organized criminal group engaged in exchanging Croatian firearms for drugs originating from Germany. The operation resulted in the confiscation of 38 firearms, including 17 pistols, 2 revolvers, 12 long rifles, 2 semi-automatic rifles, and 5 automatic Kalashnikov-type rifles. Additionally, a rocket launcher (M79 OSA), 130 firearms components, and 5,295 pieces of ammunition were seized [123,125].

In a precedent study on firearms trafficking in Croatia, Dragović and colleagues [126] highlighted two similar cases in 2003 and 2010. In these cases, members of Croatian organized crime groups acquired pistols from neighbouring countries and clandestinely transported them to Scandinavian countries and the Netherlands.

There, the firearms were exchanged for cocaine, ecstasy, and amphetamines, which were subsequently smuggled back to Croatia.

The connection between firearm and drug trafficking also relates to the routes through which these goods are transported. In the European context, a pivotal role is played by the **Balkan route** (Box 7), a transit area for both drugs and firearms directed to the EU [123]. According to Europol [111], this route witnesses the smuggling of weapons and drugs, often concealed in vehicles or part of multi-commodity transfers. Heroin and cannabis are the predominant drugs trafficked through this route, especially through Albania, which is nested along the Balkan route [127,128]. Firearms trafficked from the Western Balkans, primarily sourced from the stockpiles left in the aftermath of the 1990s conflict in Yugoslavia, are a significant source for the EU. Despite efforts to counteract firearms trafficking, the Western Balkans remain a main source region [21], with these weapons often trafficked alongside drugs by organized crime groups [123].

Box 7: Drug trafficking and illicit trafficking of firearms through the Balkan Route

In October 2022, a collaborative operation led by Europol and the Spanish Police resulted in 382 arrests, most linked to drug trafficking, illegal immigration facilitation, and firearms trafficking. The operation saw the confiscation of 106 firearms, significant amounts of drugs, and various ammunition [111].

The Balkan route, notorious for criminal activities like migrant smuggling, firearms, and drug trafficking, served as a focal point. The nexus between drug trafficking and illegal weapons trade was present, particularly in connection to cocaine trafficking networks. Criminal groups were found to exchange weapons for drugs and use them to control drug markets. The illegal weapons market included a range of firearms, from old military-grade weapons to blank-firing weapons later converted into real ones [111].

Other forms of organised crime

Beyond drug trafficking, CEASEFIRE LEAs agree in identifying overlap between the trafficking of firearms and other criminal activities, mainly **human trafficking, migrant smuggling**, and the **illicit trade of cultural goods** (Box 8) [3,129,130]. The use of migrants and refugees as "mules" to transport illicit firearms is a documented phenomenon [131]; criminal organizations engaged in human or migrant smuggling take advantage of vulnerable individuals to transport firearms across borders, capitalizing on the overlap of routes [16]. In the European context, since the 2015 crisis, the Balkan route has progressively become a hub for migrants attempting to reach Western Europe [132]. As noted by a CEASEFIRE LEA, poly-criminal groups active in the region have opportunistically taken advantage of this situation to facilitate the transportation firearms and other illegal goods, making it a significant new trend in firearms trafficking since 2015. The coercion of migrants or trafficked people to participate in firearms trafficking exposes them to increased risks, including potential legal consequences, violence, and retaliation. These individuals often become unintentionally involved in criminal activities, facing significant and severe consequences.

In this context, firearms are not only a commodity to be moved across borders, but also a tool for criminals engaging in the smuggling of migrants or human beings [133]. Migrants often claim the presence of armed smugglers, particularly along the Western Mediterranean and Western Balkan routes. There has been a relevant rise in violence among irregular migrants, with documented cases of migrants and smugglers employing weapons against law enforcement officers and border guards, a threat that is believed to gain greater significance in the future [133].

Box 8: Trafficking of firearms in exchange for cultural goods

The Italian 'Ndrangheta and ISIS groups have been implicated in the trafficking and illicit acquisition of firearms, along with the trade in cultural artefacts. Allegedly, 'Ndrangheta members engaged in selling rifles and other weapons to ISIS leaders in Libya, receiving looted archaeological treasures and artefacts in return [134]. Italian newspaper La Stampa [135] reported that the suspects, after obtaining these items from Libya, sold the cultural goods to collectors in Russia and Asia.

Conclusions

D2.1 provides an initial **overview of illicit firearms trafficking within the EU**, integrating the knowledge stemming from the available grey and academic literature with the expertise of the nine CEASEFIRE LEAs involved as partners in the Project.

The study reveals that most firearms are introduced in the black market through **diversion** from the legal market —resulting from theft, fraud, changes in regulations, or post-conflict scenarios. In this context, historical events such as the collapse of the Soviet Union and the Yugoslav conflict significantly impacted the flow of firearms into the EU. Among the multiple *modi operandi* to divert firearms, the **conversion** of existing firearms is the most common within the EU, mainly involving deactivated firearms, blank-firing firearms, Flobert calibres and replica.

Compared to diversion, illicit firearm production is rare, and it involves various actors, including private workshops, amateurs, or OCGs. These actors create new firearms from scratch or assemble parts and components separately acquired. In this context, the use of **3D printing** for manufacturing parts and components, or entire firearms, plays a pivotal role, showing an increase in recent years.

After the diversion or manufacturing phase, firearms are transported in several ways, depending on factors such as quantity, risk of detection, border security, and distance. **Land transportation**, including concealed compartments in vans and lorries, is the most common method, with small-scale "**ant trafficking**" by individuals contributing significantly to the illicit flow within the EU.

As regards the selling phase, illicit firearm sales occur through both offline and online channels. Pre-existing criminal connections facilitate face-to-face transactions offline, while **brokers** are frequently involved when buyers and sellers do not know each other. In the online environment, the sale of firearms is moving from marketplaces in the dark web to forums and other platforms on the surface web. In the EU, online transactions on the surface web primarily involve the sale of deactivated firearms, parts, components, and **instructions for manufacturing firearms, in particular using 3D printers**. Several CEASEFIRE LEAs agree that the presence of such materials on the surface web represents one of the emerging and most relevant trends in illicit firearms trafficking.

The analysis has also focused on the risk profiles associated with the actors involved in ITF, prevalent routes, and the factors contributing to this phenomenon, thus outlining the relevant information for the future development of risk profiles related to ITF. A multitude of criminal actors engage in illicit firearms trafficking, ranging from **organized crime groups**, **terrorist entities**, **and far-right extremist groups**. Beyond criminal actors, **individuals** also participate in the illicit firearms market, both as sellers and buyers, including private citizens, handymen, arms dealers, and corrupt officials.

The trafficking pattern involves inter-regional flows, with firearms moving **from South-East to North and North-West Europe**. The **Western Balkans**, having a large number of firearms from past conflicts, emerges as a key route, supplying firearms to the EU and beyond, with transit countries including Slovenia, Croatia, Romania, Greece, and other EU nations. In this context, the **conflict in Ukraine** is identified by CEASEFIRE LEAs as a new challenge, potentially influencing the Balkan route and contributing to a surge in firearms within the region and the broader EU.

The Balkan route emerges as a critical pathway in connection to various criminal activities, where firearms are frequently trafficked along with drugs, migrants, refugees, or victims of human trafficking. Traffickers mainly move firearms as secondary activities to gain additional profits or use them as exchangeable goods for drugs, tobacco, cultural goods, or other illicit commodities.

The study underlines persisting loopholes within the EU that facilitate ITF. The **lack of harmonization** in national regulatory frameworks results in varying penalties and incomplete implementation of EU legislation, different firearm definitions and categorisations. Besides this, the **lack of systematic, comprehensive and standardised data collection procedures** on firearms, as well as the **limited data sharing** among different authorities at national and international level, jeopardise the fight against ITF. The fragmented nature of data on firearms, along with differences in the types of data collected across countries, also affects the ability of LEAs to cooperate. This is a serious challenge preventing the enhancement of the intelligence picture on firearms trafficking, which in turn impacts the possibility to develop effective policies and contrast strategies.

Addressing those gaps and coordinating the application of EU law is crucial. Future legislation should strive for extensive harmonization, covering both criminal and administrative offences, and facilitating the traceability of firearms, the standardisation of the data collection and the exchange of information between competent authorities; in this framework, the Commission proposal to recast the Firearms Regulation (EU) no. 258/2012 seems aligned with this direction.

The **low probability of detection** is another facilitator of ITF, associated with **weak border controls**, small-scale trade, and border-free movement in the Schengen Area. The EU should reinforce control over its external borders to enhance the detection of illicit firearms while implementing alternative activities, such as more robust cooperation among competent authorities based on established methods for information collection and exchange.

The present analysis of the *modus operandi*, risk profiles of illicit firearms trafficking and connections with other forms of organised crime represents a partial and initial examination of a multifaceted and dynamic phenomenon. The final version of the Deliverable (i.e. D2.2) will build on the results of this Deliverable and will provide an updated criminological analysis of ITF, that will allow outlining a detailed and updated intelligence picture, which is essential to formulate effective countermeasures. In particular, the **main priorities** for the next version will be the following:

- including more **specific contributions by CEASEFIRE LEAs** starting from what has been collected in the first round of questions;
- **engaging external experts** in order to integrate in the report their unique knowledge and inputs in the analysis. These experts will include representatives of EMPACT Firearms, international institutions and other relevant stakeholders in the firearms trafficking prevention and contrast domain (e.g. EMPACT Firearms Operational Drivers). Their contribution will focus on the identification of the most recent trends in *modi operandi*, updated risk profiles concerning different issues of ITF, and on the collection of actual cases of co-occurrence of ITF and other crimes associated to organised crime;
- enriching some sections of the report by providing **more structured analysis** of the *modi operandi*, risk profiles and connections with other forms of organised crime. The combination of different risk profiles will be evaluated, as well as the inclusion of additional risk profiles if pointed out by the experts;
- developing **dedicated summary sections** on the new trends in the *modi operandi* and other sections if needed.

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Annex

List of questions used in the survey, the interview and the discussion in the workshop with CEASEFIRE end-users

1. What are the most common forms of Organised Crime (OC) activities linked to illicit firearms trafficking (IFT) cases?

Cyber attack
Trafficking in human beings
Child sexual exploitation
Migrant smuggling
Drug trafficking
Illicit trafficking in tobacco products
Environmental crime
Corruption
Money laundering
Fraud and other financial crimes
Organised property crimes
Terrorism-related crimes
Others:

2. In ITF cases with links to other illicit trafficking (e.g., drug trafficking, human or migrant smuggling), firearms are mainly trafficked in conjunction with:

☐ Drugs

☐ Cigarettes and other tobacco products

☐ Migrants

☐ Others:

3. In ITF cases with links to other forms of OC, firearms are involved as:

☐ the primary source of profit of the OCG (primary activity)

☐ exchangeable good (secondary activity)

☐ goods possessed by OCGs for threatening/defensive purposes.

☐ Other:

4. What are the most common routes through which illicit firearms are moved in case of overlap with:

drug trafficking:

human trafficking:

migrant smuggling:

other illicit activities:

5. Have you seen a change in the routes exploited for trafficking firearms in the last years?

If yes, please specify

6. In the last 5 years, the percentage of 3D printed firearms seized on the total number of seizures has:

☐ Increased

☐ Stayed stable

☐ Decreased

7. On the total number of seized firearms, how frequently are firearms moved using courier shipments?

Please answer below

8. What are the difficulties in tracing illicit firearms moved using courier shipments?

Please answer below

9. How relevant is the online selling of firearms, components, and manuals/instructions with respect to the offline one, in terms of numbers and value?

Please answer below

10. Are there differences between online and offline selling?

Please answer below

11. What are the *new trends* in the modus operandi employed for the trafficking of firearms?

Please answer below

12. Have you seen cases of "fake branding" concerning firearms seized?

Please answer below

13. How do you think that the war in Ukraine/Israel-Palestine could affect the illicit firearms trafficking? Have you already seen some consequences?

Please answer below

14. What do you think are the new threats and challenges related to the illicit firearms trafficking?

Please answer below

15. What do you think would be the best practices to investigate and prevent firearms trafficking?

Please answer below