ANALYTICAL REPORT 01

FCT R&I: AN ANALYSIS OF EU PRIORITIES 2014- 2024

A report produced by the ENACT Consortium

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ENACT.
European Network Against Crime and Terrorism

ABOUT ENACT

ENACT is a knowledge network focused on the fight against crime and terrorism (FCT). The network is funded under the Horizon Europe Framework Programme in Cluster 3 – Civil Security for Society. The project addresses the call topic HORIZON-CL3-2022-SSRI-01-02 'Knowledge Networks for Security Research & Innovation', aiming to collect, aggregate, process, disseminate and make the most of the existing knowledge in the FCT area.

The project aims to satisfy two major ambitions,

- Provide evidence-based support to the decision-makers in the EU research and innovation (R&I) ecosystem in the FCT domain, targeted explicitly at enabling more effective and efficient programming of EU-funded R&I for the fight against crime and terrorism.

- Act as a catalyst for the uptake of innovation by enhancing the visibility and reliability of innovative FCT security solutions.

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EXECUTIVE SUMMARY

This document presents an analytical exercise carried out on the Research and Innovation (R&I) priorities set by the European Commission for the Fight against Crime and Terrorism (FCT) between 2014 and 2024. These priorities have been identified by classifying the focus of 76 FCT research topics and subtopics according to the EU Security Taxonomy developed by the Commission under the EU Security Market Study released in 2021.

The way in which the different taxonomy items appear reflected in the FCT research topics along the 10 years of study show an uneven distribution of priorities along the different areas of interest, both in the policy and in the functions dimensions. In the policy dimension, the analysis shows the emphasis put by the Commission services in the research against Economic crime, corruption and fraud, against the ***Trafficking of humans and goods*** and, notably against ***Illegal markets in the dark web***. Regarding the Functions dimension, those which appear among the most frequent research needs are ***Investigation & Forensics***, and ***Data, information & intelligence gathering management, and exploitation***. Finally, in what regards technology, and despite EU-funded security research being mostly non-prescriptive in terms of the typology of technolgies to be employed to address the posed challenges, ***Internet-based investigation technologies*** and ***Data analytics technologies*** are the most frequently referenced ones.

This analysis constitutes a starting reference base for the work to be carried out by the ENACT network during the coming months and opens the door to answering other research questions that are relevant to support EU policy-makers in the drafting of future FCT R&I priorities.

ACRONYMS

CBRN(E)	Chemical Biological Radiological and Nuclear (Explosives)
CL3	Cluster Three
EU	European Union
FCT	Fight against Crime and Terrorism
FP	Framework Programme
H2020	Horizon 2020
L1	Level 1
L2	Level 2
L3	Level 3
PNR	Passenger Name Record
PPE	Personal Protection Equipment
R&I	Research and Innovation
WP	Work Programme

05 INTRODUCTION

This flash report presents an analysis carried out by ENACT security research experts on the Fight against Crime and Terrorism (FCT) topics of the EU-funded security R&I under the Horizon 2020 and Horizon Europe programmes, between the years 2014 and 2024.

The scope of the analysis is to identify the main knowledge areas addressed by the topics and map them to the categories of the EU Security Market Taxonomy [1] in the policy dimension, functions dimension and technology dimension. By "addressed" we mean that the issue has been given attention or that it has been dealt with in some part of the topic under analysis. It does not express what relevance it has been given with respect to other issues or if it has been finally tackled (and how) by the projects funded after the topic. The way in which these issues appear referenced in the topics are taken as a proxy measure of the research priorities set by the Commission along the past 10 years of FCT research.

The objective is to provide structured historic data to policymakers in order to support them in the decision-making process for setting the FCT R&I priorities for the remaining Horizon Europe work programmes and the strategic priorities of the next EU-funded R&I Framework Programme (FP 10). In addition, this analysis aims to:

- Showcase the value of the taxonomy developed with the support of Commission and EU Agencies experts under the EU security Market Study 2021 [2] ;
- To provide a starting point for the work of ENACT and its Knowledge Observatories;
- Provided a basis for future analyses including, among other matters:
    - Quantification of R&I priorities in the FCT domain;
    - Evolution of FCT priorities over time; o Identification of key areas, blind spots, etc.;
    - Narrow down the search for projects of interest for certain policy/function/technology domains.

[1] https://home-affairs.ec.europa.eu/networks/ceris-community-european-research-and-innovation-security/eu-security-market-study/eu-civil-security-taxonomy-and-taxonomy-explorer_ent
[2] https://home-affairs.ec.europa.eu/networks/ceris-community-european-research-and-innovation-security/eu-security-market-study_en

07 METHODOLOGY

The analysis consists in the review of all the topics published by the Commission in the FCT domain of the EU-funded security R&I WP during H2020 and Horizon Europe CL3 WP 2021-2022 and 2023-2024. The total number of topics reviewed is 76, including subtopics in H2020 WP 2018-2020 and the topics that expanded along different years, as in H2020 WP 2016-2017. The complete list of topics, except the reference to the specific subtopics within H2020 WP 2018-2020 topics is included in Appendix A.

Based on the Security R&I taxonomy released under the EU Security Market Study commissioned by DG HOME, all the FCT topics have been reviewed in order to map the main issues addressed in each of them to the three dimensions of the taxonomy, namely policy, functions and technology products/services. The EU Civil Security Taxonomy aims to create a common language or harmonised terminology, as well as a comprehensive categorisation, for security products and services.

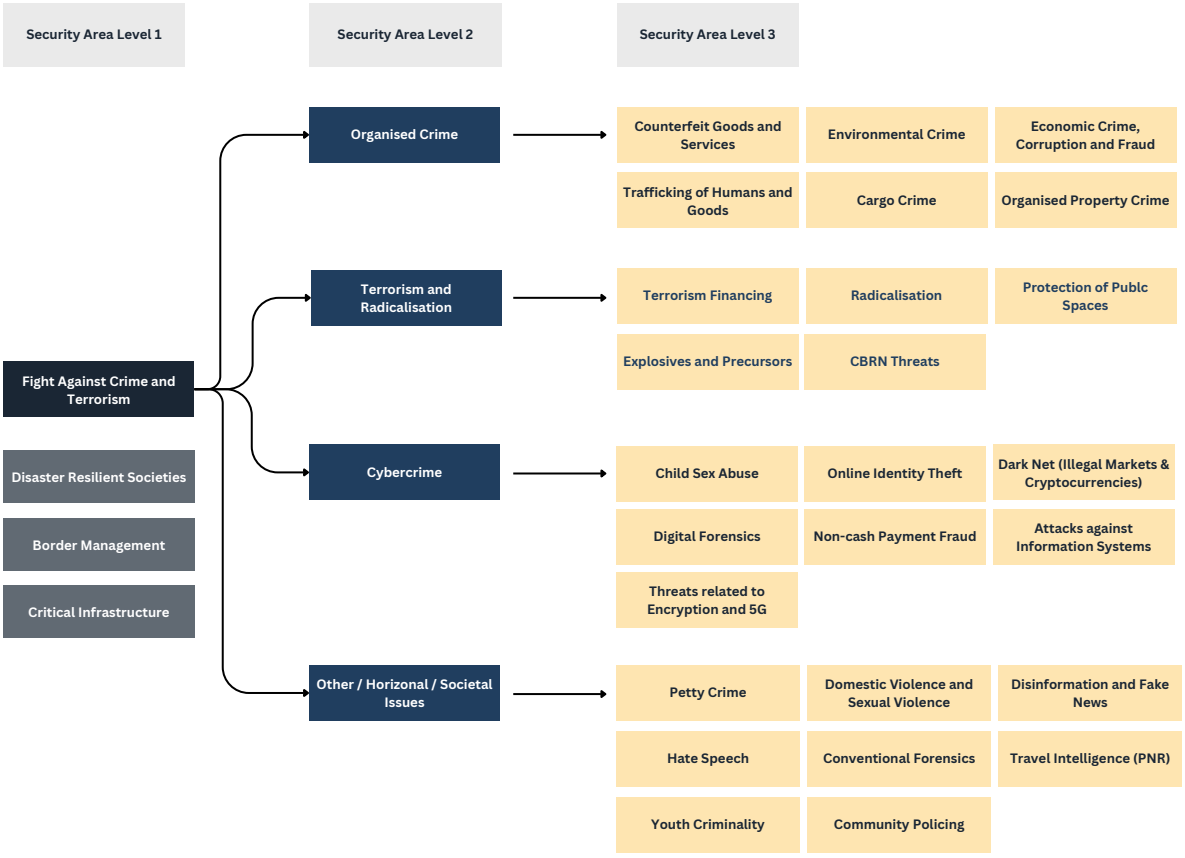

Figure 1 – FCT policy dimension of the EU Civil Security market taxonomy

The taxonomy provides a comprehensive and detailed reference built around three dimensions: the four **security areas** (Level 1) with their respective sub-areas (Level 2 and Level 3), the **security functions** that a given product or service enables or supports (i.e., functional areas) and the list of over 500 **products and services** grouped in technology areas in three levels aggregation. The following figures show the FCT policy dimension, the functions dimension and the high-level areas of the technology dimension.

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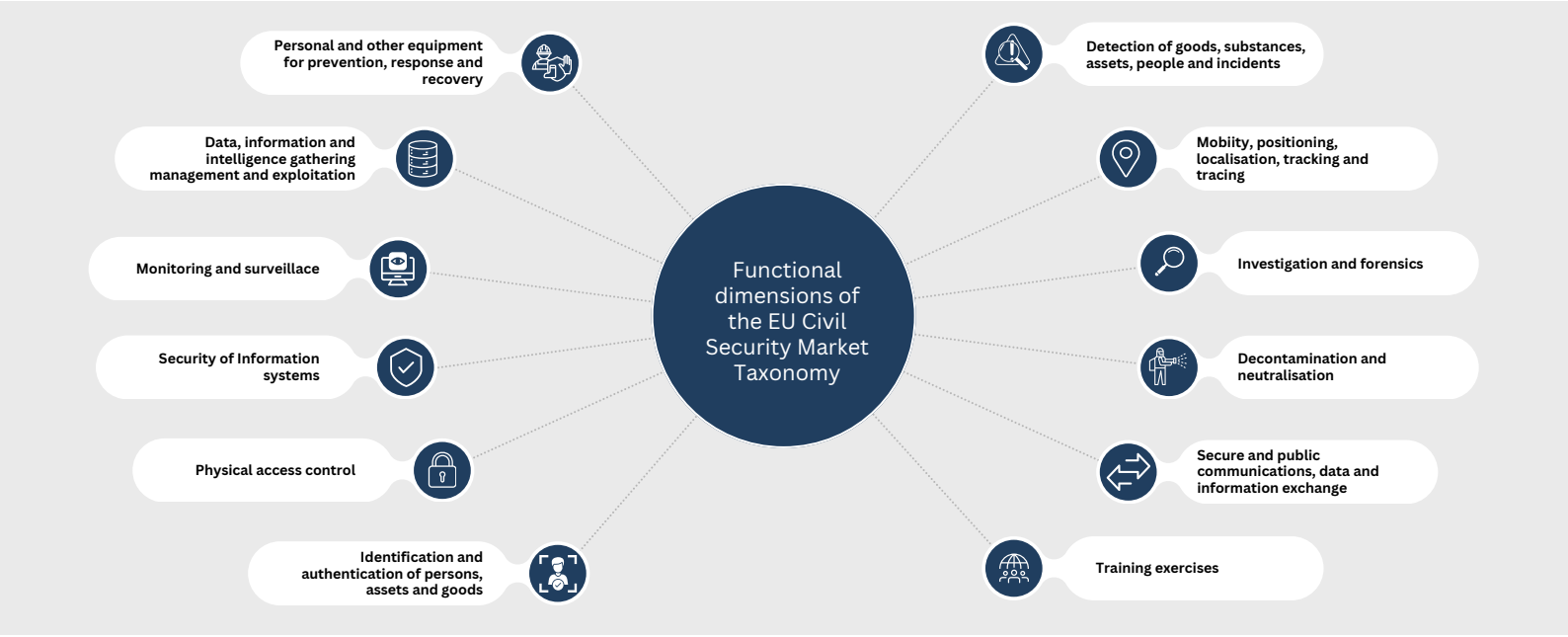

Figure 2 – Functions dimension of the EU Civil Security market taxonomy

Technology areas	
Access control/authorisation (building access, system access, etc.)	Labroratory equipment for gathering and forensic analysis of samples
Alarm/warning systems	Healthcare/medical equipment
Data analytics	Monitoring tools and services
CBRNE detection and neutralisation products	PPE/safety equipment
Data storage and exchange	Screening and detection
Digital forensics	Search devices and tools
Digital security products and services	Specialised management and control systems
Faciliation systems and secure databases	Surveillance systems
General equipment	Tracking, navigation and guiding systems, equiment and tools
Guarding and physical protection (non-human)	Training and simulation
Internet-based investigation	Conflict management / use of force
	Critical communication, interoperable communications

Figure 3 – Technology dimension of the EU Civil Security market taxonomy

Note that for the purpose of this analysis, only the highest level of aggregation of the technology dimension of the taxonomy has been used.

The mapping of topics to the security taxonomy items has been based on a manual keyword search and the expert (yet subjective) interpretation of the analysts involved. The mapping has been recorded in an Excel file that flags which taxonomy items are present in the scope of each of the 76 topics under analysis.

The following figures show an example of the rationale behind the mapping where, upon appearance of certain keywords and expressions in the text of the topics, the corresponding element of the taxonomy for the topic under analysis is flagged.

The results show the number of times that one particular taxonomy element has been addressed along the 10 years of R&I reviewed. Note that, in the case of the policy dimension, some topics do not make granular reference to one or various L2 or L3 taxonomy elements and propose research on matters related with Fighting Crime and Terrorism from a top level (L1) perspective.

FCT topics analysis — example (1/3)

Policy sub-area 1	Policy sub-area 2	FCT-09-2015
Organised crime	Counterfeit goods and documents	
Organised crime	Environmental crime	
Organised crime	Economic crime, corruption and fraud	1
Organised crime	Trafficking of humans and goods	1
Organised crime	Cargo crime	
Organised crime	Organised property crime	
Organised crime	Other forms of organised crime	
Terrorism and radicalisation	Terrorism financing	
Terrorism and radicalisation	Protection of public spaces	
Terrorism and radicalisation	Radicalisation	
Terrorism and radicalisation	Explosives and explosive precursors	
Terrorism and radicalisation	CBRN Threats	
Terrorism and radicalisation	Other forms of terrorism and radicalisation	
Cybercrime	Child sex abuse	
Cybercrime	Online identity theft	1
Cybercrime	Dark net (illegal markets/cryptocurrencies)	
Cybercrime	Digital forensics	
Cybercrime	Non-cash payment fraud	
Cybercrime	Attacks against information systems	
Cybercrime	Threats related to encryption and 5G	
Cybercrime	Other forms of cybercrime	1
Other / horizontal societal issues	Petty crime	
Other / horizontal societal issues	Domestic violence and sexual violence	
Other / horizontal societal issues	Disinformation and fake news	
Other / horizontal societal issues	Hate speech	
Other / horizontal societal issues	Conventional forensics	
Other / horizontal societal issues	Travel intelligence (PNR)	
Other / horizontal societal issues	Youth criminality	
Other / horizontal societal issues	Community policing	
Other / horizontal societal issues	Others	1

FCT-9-2015: Law Enforcement capabilities topic 5: Identity Management

Specific Challenge: New means and technologies of communication the growing interactive usage of the internet, the rise of social media and the internet of things lead to a change in handling identity related data for law enforcement agencies and border management. These

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Identity Management starts with proper breeder documents, other identity documents including their lifecycle and goes to identification and verification for physical and virtual access as well as virtual identities in secure applications and social networks. In all these areas of identification, security is severely endangered, if identity fraud has taken place. It is

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very well known, that cases of identity fraud and wrong identity are heavily involved in people trafficking and organized crime. Additionally, identity fraud in virtual places leads to theft, misuse of information and cyber-mobbing. Therefore, new processes, technologies and security features needs to be developed to increase or hold the high level of quality of security documents and corresponding processes..

• • •

drivers for economic and societal development a framework for a reliable e-identity ecosystem needs to be set up. Such an e-ID ecosystem would safeguard the fundamental parameters of identity management: security – efficiency – user friendliness – trust – privacy and data protection. Enhanced public security and better (digital) privacy protection will become part of the same consistent European identity strategy.

Identity Management will play a pivotal role in this system.

FCT topics analysis — example (2/3)

High Level Security Functions	FCT-09-2015
Personal & Other equipment for prevention, response and recovery	
Data, information & intelligence gathering management, and exploitation	
Monitoring and Surveillance of environments and activities	
Security of information systems, networks and hardware	
Physical access control (of locations, goods, etc.)	1
Identification and authentication of persons, assets and goods (Other than for tracking and tracing)	1
Detection of goods, substances, assets and people and incidents	
Positioning and localisation, tracking and tracing	
Mobility and deployability	
Investigation and forensics	
Decontamination and neutralisation	
Secure and public communication, data / information exchange	
Training and exercises	

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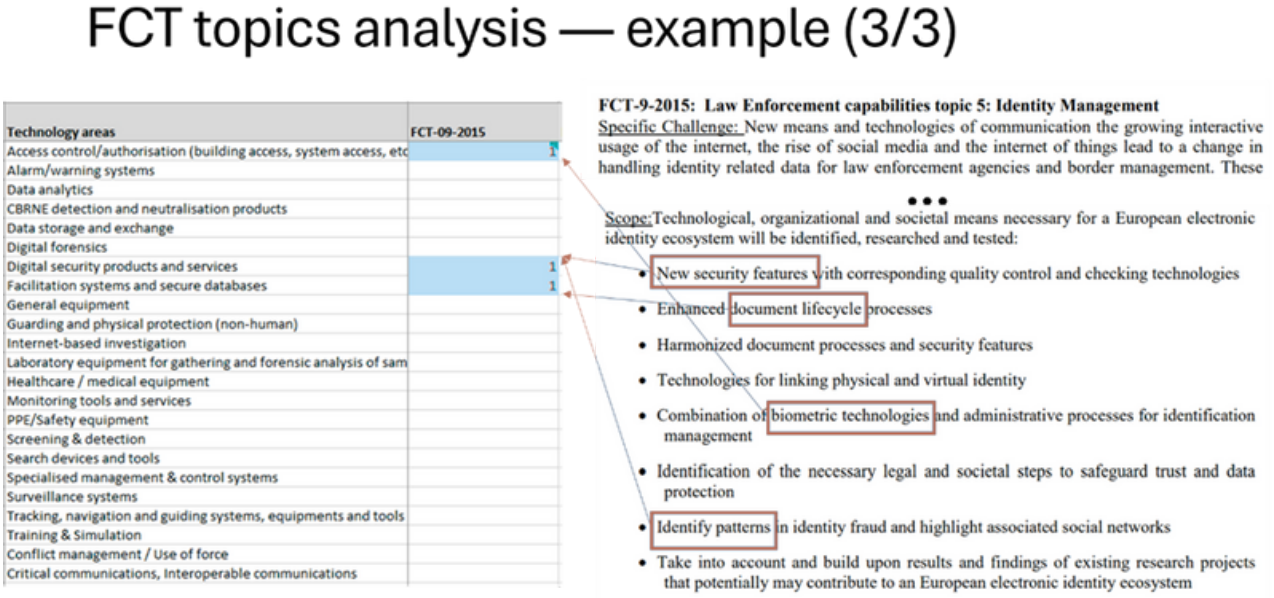
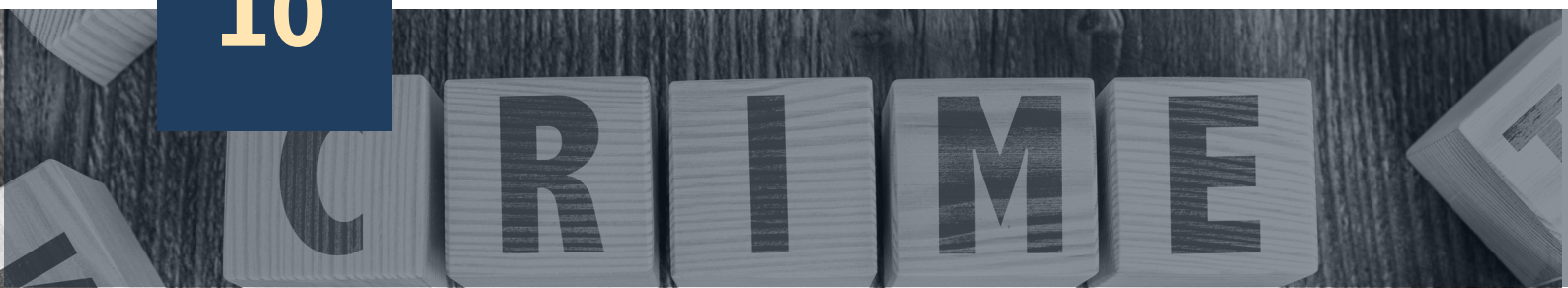


Figure 4 – Examples of mapping of topics vs. taxonomy elements

The analysis has been conducted from a Work Programme perspective. It therefore reflects the priorities and ambitions of the Commission when the Work Programmes were adopted, and not the matters addressed and the results achieved by the projects that were eventually funded after each topic.

Nevertheless, in addition to the mapping of the topics, financial information has also been extracted from the Horizon Dashboard. This information includes the number of grants signed and the corresponding EU contribution and project costs associated to each topic. Note that the financial data available in the Horizon Dashboard at the date of this analysis includes only projects funded until the call 2021.

The data showing the number of grants signed under topics addressing a concrete taxonomy area does not represent the number of projects that actually addressed such taxonomy area. This also applies to the EU contribution assigned to topics addressing a concrete taxonomy area. The reason is that there are topics that were active in different calls/years with different scopes (e.g. SEC-FCT-7-2016-2017) and also topics that included subtopics with different scopes in different years (e.g. SU-FCT01-2018-2019-2020). In both cases, there are various projects that address different taxonomy elements funded after one same topic that contains them all. Further clarification is provided below.



RESULTS

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The following sections present the results of the analysis for the different taxonomy dimensions. In this report, 76 different topics/sub-topics are covered, spanning over ten years of FCT research. The figure below shows the total number of topics released throughout the years.

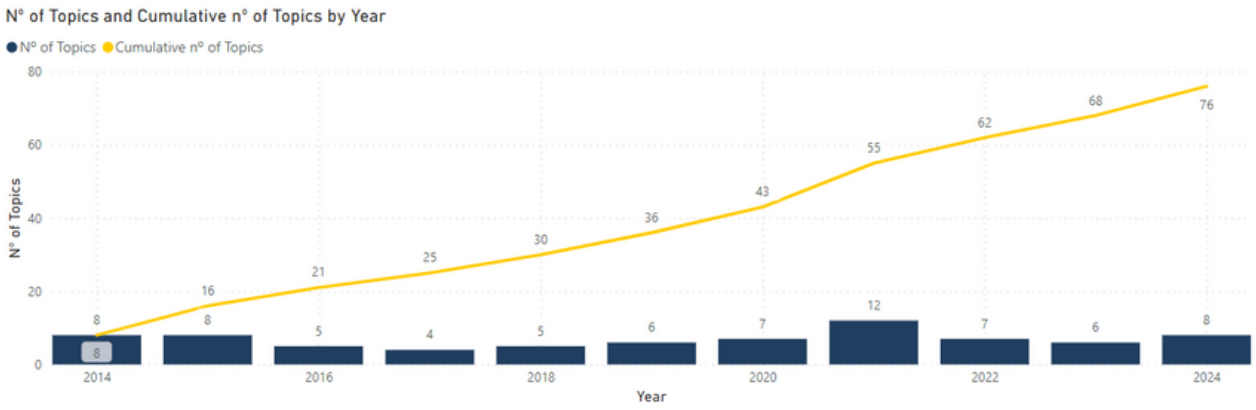

Figure 5 - No. of Topics and Cumulative No. of Topics by Year

POLICY DIMENSION

The policy dimension includes four Level 2 sub-areas, namely Organised Crime, Terrorism and Radicalisation, Cybercrime and Other/Horizontal Societal Issues, organised in corresponding sub-areas. The results are presented separately for each L2 area and include the figures corresponding to the mapping of topics to the respective L3 elements.

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ORGANISED CRIME SUB-TAXONOMY

The figure below shows the number of topics that have addressed the elements of the **Organised Crime sub-area.**

Figure 6 – Number of topics addressing Organised Crime L3 elements

The results show that **Economic crime, corruption and fraud**, and **Trafficking of humans and goods** have been largely the most addressed elements, with a total of 14 topics each. The category of **Other forms of Organised Crime** appears in eight of the analysed topics, but this one contains a variety of issues, such as Crime as a Service.

The focus done each year over the Organised Crime L3 elements is shown in the figure below, along with how it trended over time. It is possible to notice a recent surge in topics relating with the **Trafficking of Humans and Goods.**

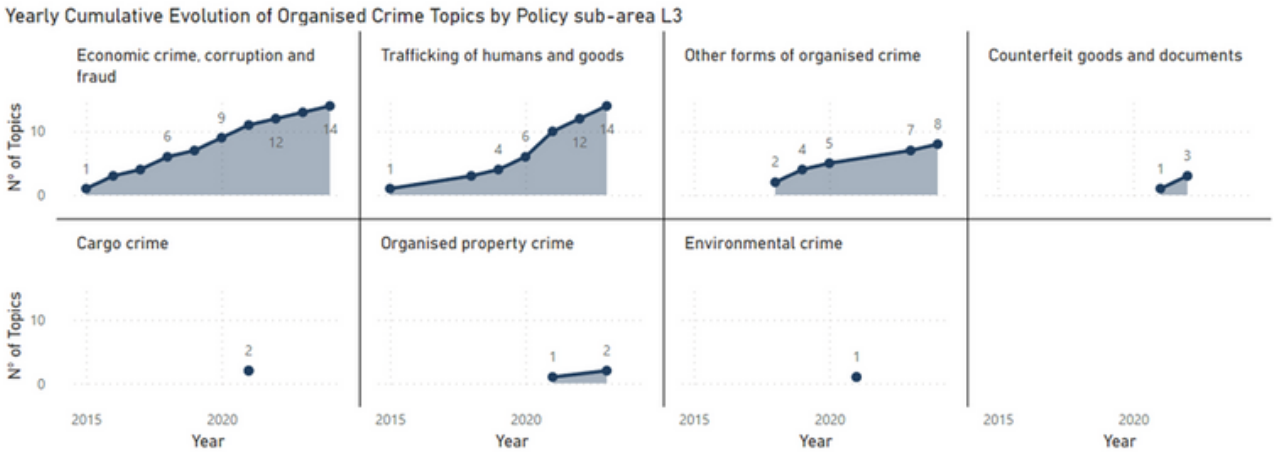

Figure 7 – Distribution of focus over Organised Crime L3 elements per year

Economic data of grants funded under the topics that have addressed Organised Crime L3 elements show the following:

Table 1 – Economic data of topics addressing Organised Crime L3 elements

Policy sub-area 2	Signed Grants	Net EU Contribution	Total Cost
Economic crime, corruption and fraud	44	€ 224,416,881.99	€ 230,358,831.04
Trafficking of humans and goods	27	€ 158,620,519.49	€ 164,770,609.21
Other forms of organised crime	7	€ 35,275,638.24	€ 35,971,430.74
Cargo crime	3	€ 14,301,820.00	€ 16,365,982.50
Environmental crime	2	€ 9,304,847.50	€ 11,309,010.00
Organised property crime	1	€ 4,996,972.50	€ 5,056,972.50
Counterfeit goods and documents	1	€ 2,752,617.50	€ 3,342,123.75

As explained in the Methodology section, not all the grants funded under topics addressing Organised Crime elements have actually addressed such elements. This is the case in topics that expanded, with different focus, over more than one year. For example, topic SEC-07-FCT-2016-2017 addressed five elements of the policy dimension over two years, including Economic crime, corruption and fraud, Protection of public spaces, Non-cash payment fraud, Other forms of cybercrime, Petty crime and Domestic violence and sexual violence. Five grants were signed as a result of this topic, and each of them addressed only one or two elements present in the topic. Only one of those grants addressed Economic crime, corruption and fraud (project PROTAX, Grant ID: 787098), however, all the grants correspond to a topic that addresses Economic crime, corruption and fraud. Therefore, topic SEC-07-FCT-2016-2017 adds five to the count of grants in the Economic crime element, not one.

TERRORISM & RADICALISATION SUB-TAXONOMY

The figure below shows the number of topics that have addressed elements of the **Terrorism & Radicalisation sub-area**.

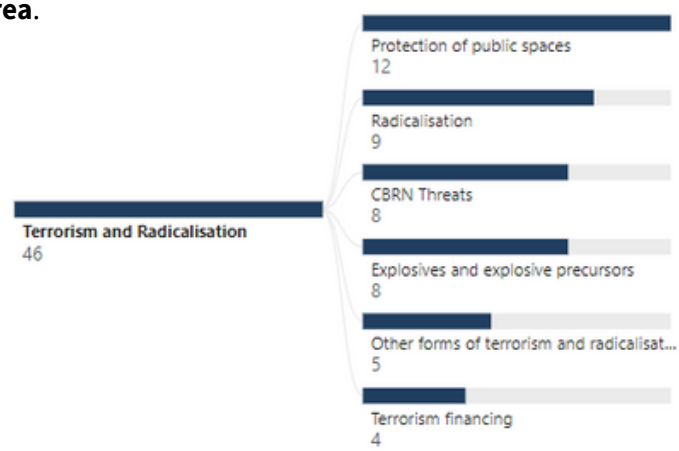

Figure 8 – Number of topics addressing Terrorism and Radicalisation L3 elements

Despite the quite even distribution under this category, the results show that **Protection of public spaces** has been the most addressed element, with a total of 12 topics. The element **Radicalisation** appears in second position with nine topics, followed by **CBRN Threats and Explosive precursors** with eight.

The focus done each year over the Terrorism and Radicalisation L3 elements is shown in the figure below, along with how it trended over time. It can be noted that topics related to **Terrorism financing** are quite novel, appearing only from 2020 onwards, while **Other forms of terrorism and radicalisation** were no longer mentioned in topics since that same year.

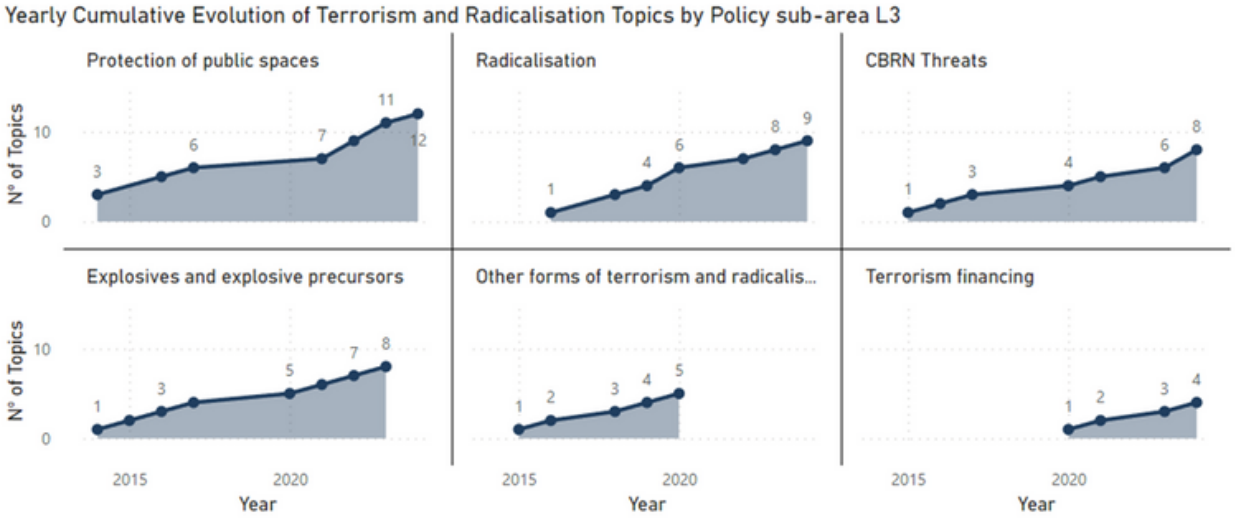

Figure 9 – Distribution of focus over Terrorism & Radicalisation L3 elements per year

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Economic data of grants funded under the topics that have addressed Terrorism & Radicalisation L3 elements show the following:

Table 2 – Economic data of topics addressing Terrorism and Radicalisation L3 elements of the taxonomy

Policy sub-area 2	Signed Grants	Net EU Contribution	Total Cost
Other forms of terrorism and radicalisation	20	€ 119,431,189.13	€ 122,950,041.32
Terrorism financing	15	€ 102,354,086.25	€ 103,815,752.22
Protection of public spaces	21	€ 81,922,736.00	€ 84,159,601.58
Radicalisation	11	€ 47,373,985.24	€ 48,115,590.24
Explosives and explosive precursors	4	€ 20,438,098.95	€ 22,277,559.10
CBRN Threats	4	€ 20,438,098.95	€ 22,277,559.10

CYBERCRIME SUB-TAXONOMY

The figure below shows the number of topics that have addressed elements of the **Cybercrime sub-area.**

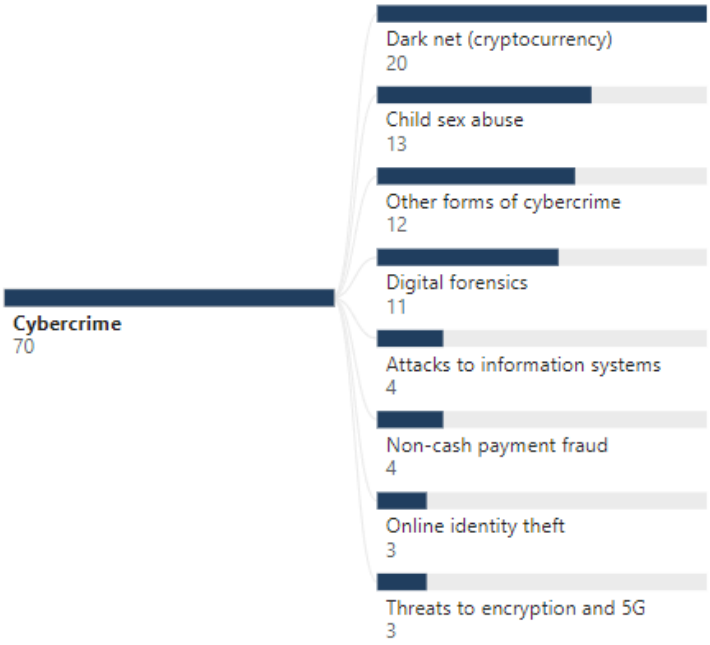


Figure 10 – Number of topics addressing Cybercrime L3 elements

The results show that the **Dark web and Illegal markets** has been the most addressed element, with a total of 20 topics. The element **Child sex abuse** appears in second position with 13 topics, followed by **Other forms of cybercrime** (notably Terrorist Propaganda and Content online) with 12.

The focus done each year over the Cybercrime L3 elements is shown in the figure below, along with how it trended over time. It can be noticed that, after a period of big interest over the **Dark Web**, the number of topics available is now stalling. It also visible that some attention is being now given to **encryption and threats to 5G**, with the emergence of new technologies (e.g., connected devices, facilities, Cloud and Edge Computing) that can be exploited by criminal groups using ransomware techniques.

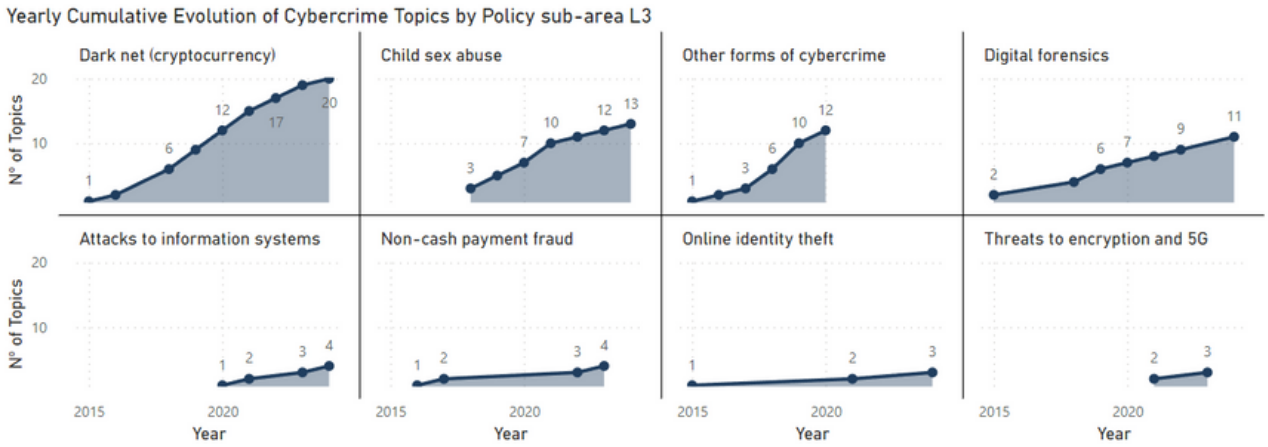


Figure 11 – Distribution of focus over Cybercrime L3 elements per year

Economic data of grants funded under topics that have addressed Cybercrime L3 elements show the following:

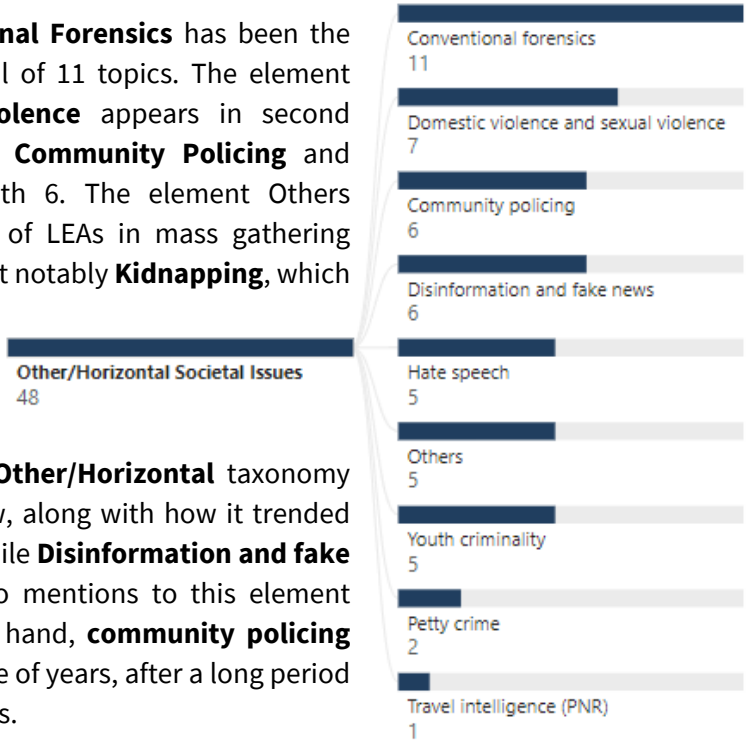
Table 3 – Economic data of topics addressing Cybercrime L3 elements

Policy sub-area 2	Signed Grants	Net EU Contribution	Total Cost
Dark net (cryptocurrency)	38	€ 218,630,828.87	€ 228,443,900.90
Other forms of cybercrime	30	€ 173,504,723.24	€ 179,726.955.96
Child sex abuse	24	€ 142,478,894.99	€ 145,675,404.21
Digital forensics	16	€ 112,881,667.00	€ 114,776,916.28
Attacks to information systems	15	€ 101,559,901.25	€ 103,141,817.22
Non-cash payment fraud	5	€ 14,934,415.00	€ 14,994,415.00
Threats to encryption and 5G	3	€ 11,579,207.00	€ 12,756,632.50
Online identity theft	2	€ 5,243,143.75	€ 5,376,112.50

OTHER/HORIZONTAL SOCIETAL ISSUES SUB-TAXONOMY

The figure below shows the number of topics that have addressed elements of the **Other/Horizontal sub-area.**

The results show that the **Conventional Forensics** has been the most addressed element, with a total of 11 topics. The element **Domestic Violence and Sexual Violence** appears in second position with 7 topics, followed by **Community Policing** and **Disinformation and Fake news** with 6. The element Others includes issues such as intervention of LEAs in mass gathering events, identity management, but most notably **Kidnapping**, which appears at least in 3 topics.



The focus done each year over the **Other/Horizontal** taxonomy elements is shown in the figure below, along with how it trended over time. It is worth to notice that, while **Disinformation and fake news** were getting some traction, no mentions to this element were found after 2021. On the other hand, **community policing** looks to be on the rise these last couple of years, after a long period with no mentions on Work Programmes.

Figure 12 – Number of topics addressing Other/Horizontal taxonomy L3 elements

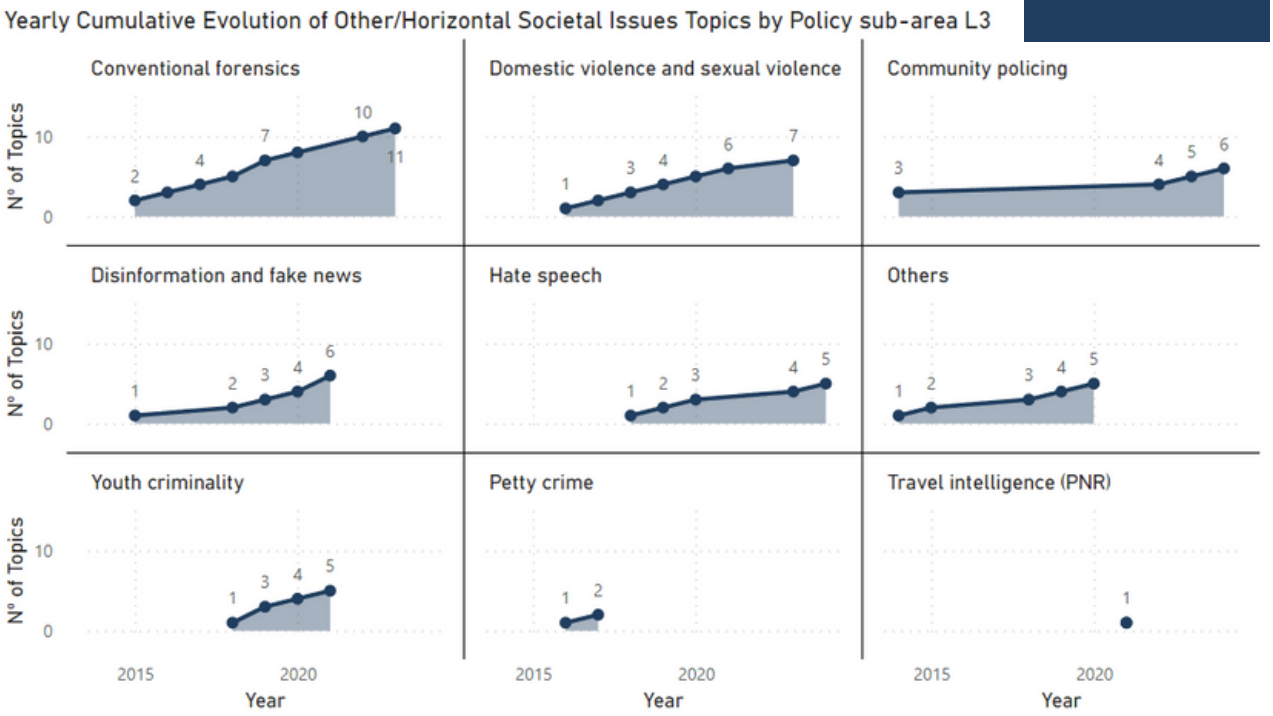


Figure 13 – Distribution of focus over Other/Horizontal L3 elements per year

Economic data of grants funded under topics that have addressed L3 elements of the **Other/Horizontal sub-area** show the following:

Table 4 – Economic data of topics addressing Other/Horizontal L3 elements

High Level Security Functions	Signed Grants	Net EU Contribution	Total Cost
Investigation and forensics	73	€ 378,925,317	€ 400,394,406
Data, information & intelligence gathering management, and exploitation	67	€ 361,238,677	€ 385,309,443
Monitoring and Surveillance of environments and activities	32	€ 178,032,764	€ 185,647,768
Detection of goods, substances, assets and people and incidents	32	€ 174,058,141	€ 183,619,623
Training and exercises	39	€ 159,986,975	€ 167,191,673
Secure and public communication, data / information exchange	22	€ 112,941,982	€ 121,560,162
Personal & Other equipment for prevention, response and recovery	5	€ 15,844,687	€ 16,331,999
Security of information systems, networks and hardware	9	€ 33,604,643	€ 37,287,055
Decontamination and neutralisation	6	€ 28,943,488	€ 31,768,941

FUNCTIONS DIMENSION

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Unlike the Policy Dimension, the Functions dimension of the taxonomy is common to all the policy areas covered by the Security R&I work programme, and only has one level of aggregation.

The figure below shows the number of sub-topics that have addressed elements of the **Functions dimension.**

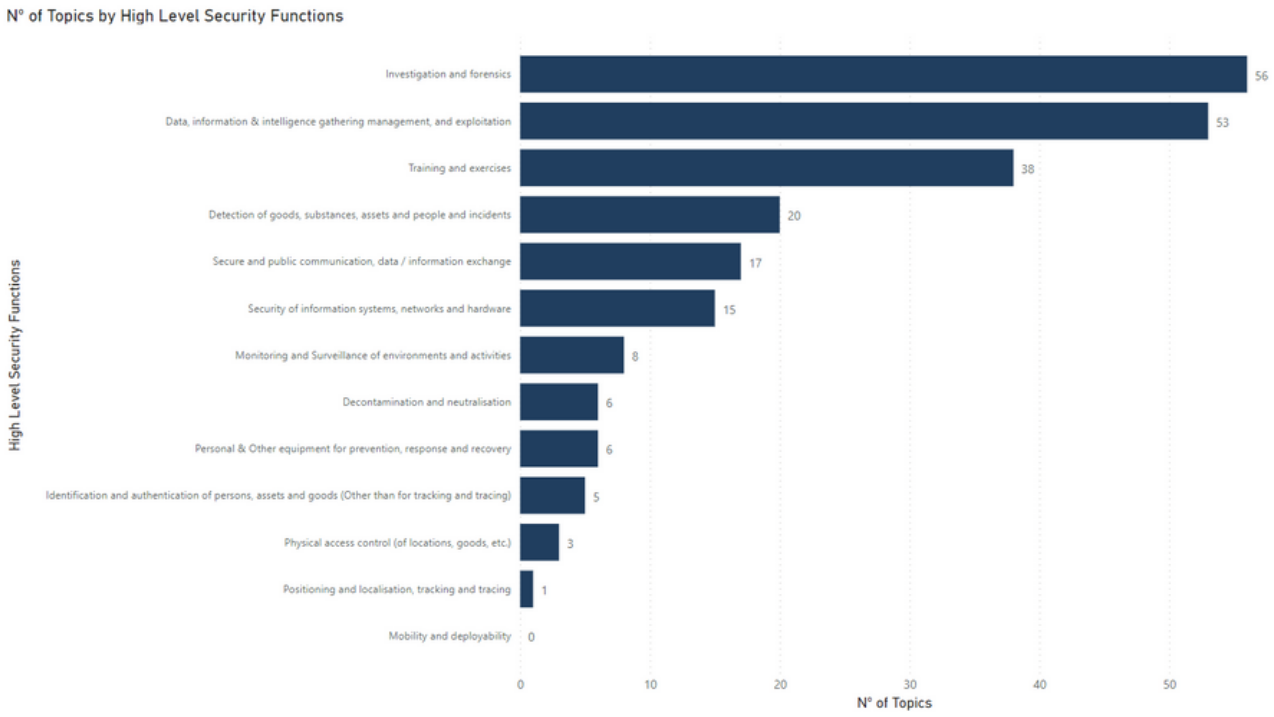

Figure 14 – Number of topics addressing Functions taxonomy elements

The results show that **Investigation and Forensics**, with 56 topics, and **Data, information & Intelligence gathering, management and exploitation**, with 53, are the two functions dimension elements that have been addressed the most in the FCT research programme, thus showing a clear and focused R&I priority in this domain. However, it is interesting to see how functions such as **Mobility and deployability**, **Positioning and localisation, tracking and tracing, Physical access control, Identification and authentication of persons, assets and goods,** and **Personal & Other equipment** for prevention, response and recovery have barely been addressed in FCT topics between 2014 and 2024.

The focus done each year over the Functions dimension elements is shown in the figure below, along with how it trended over time. **Data, information & Intelligence gathering, management and exploitation**, and **Training and Exercises** are two functions that have been on the rise since 2021. This is very much in line with the data-driven solutions uprising that we have seen in the past few years, as well as with recent efforts of providing LEAs and other security practitioners with the necessary expertise to operate these complex tools.

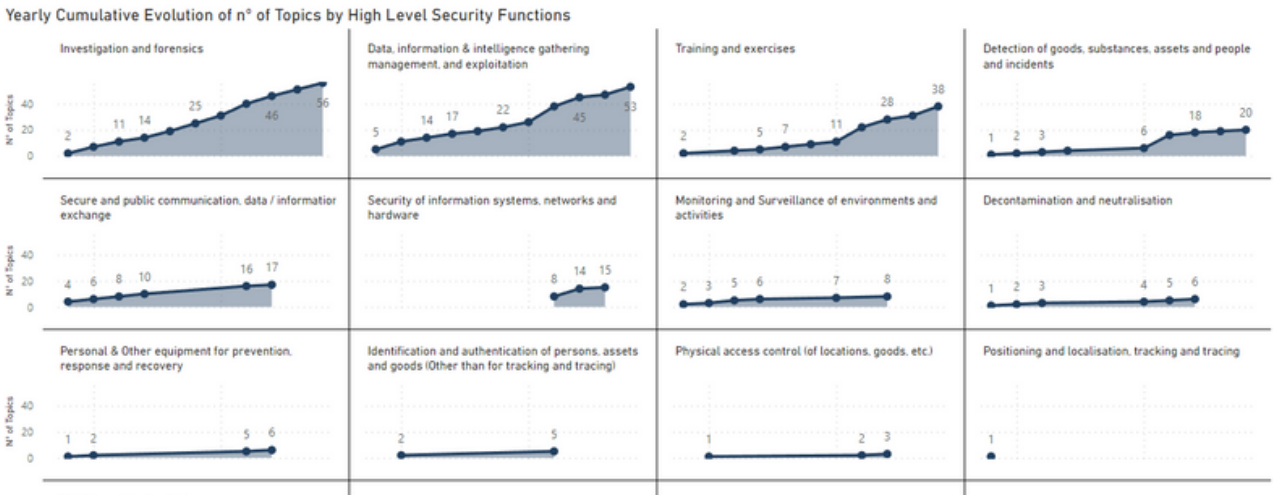

Figure 15 – Distribution of focus over Functions taxonomy elements per year

Economic data in relation to the grants funded under topics that have addressed each of the element of the Functions dimension show the following:

Table 5 – Economic data of topics addressing each Functions element of the taxonomy

High Level Security Functions	Signed Grants	Net EU Contribution	Total Cost
Investigation and forensics	73	€ 378,925,317	€ 400,394,406
Data, information & intelligence gathering management, and exploitation	67	€ 361,238,677	€ 385,309,443
Monitoring and Surveillance of environments and activities	32	€ 178,032,764	€ 185,647,768
Detection of goods, substances, assets and people and incidents	32	€ 174,058,141	€ 183,619,623
Training and exercises	39	€159,986,975	€ 167,191,673
Secure and public communication, data / information exchange	22	€ 112,941,982	€ 121,560,162
Personal & Other equipment for prevention, response and recovery	5	€ 15,844,687	€ 16,331,999
Security of information systems, networks and hardware	9	€ 33,604,643	€ 37,287,055
Decontamination and neutralisation	6	€ 28,943,488	€ 31,768,941
Identification and authentication of persons, assets and goods (Other than for tracking and tracing)	5	€ 26,055,112	€ 28,354,707
Physical access control (of locations, goods, etc.)	2	€ 4,999,620	€ 5,722,095
Positioning and localisation, tracking and tracing	1	€ 3,934,811	€ 3,934,811
Mobility and deployability	0	€ 0	€ 0

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TECHNOLOGY DIMENSION

Despite EU-funded security research being usually non-prescriptive in terms of technology, topics in the work programme often make reference to a variety of technologies. In some cases the reference is included because the technology itself is perceived as a threat, in other cases because there is a strategic push at EU level for one particular technology or technology area. In other scenarios, the inclusion stems from the unavoidable link between the threat that is addressed and the technology that has to be used to tackle this threat. In any case, the reference to particular technologies in FCT research topics is not systematic.

For the above reason, the mapping of the research topics to the Technology dimension of the taxonomy has been done using only the highest level of aggregation of this domain. The figure below shows how the FCT topics have addressed the highest level elements of the Technology taxonomy.

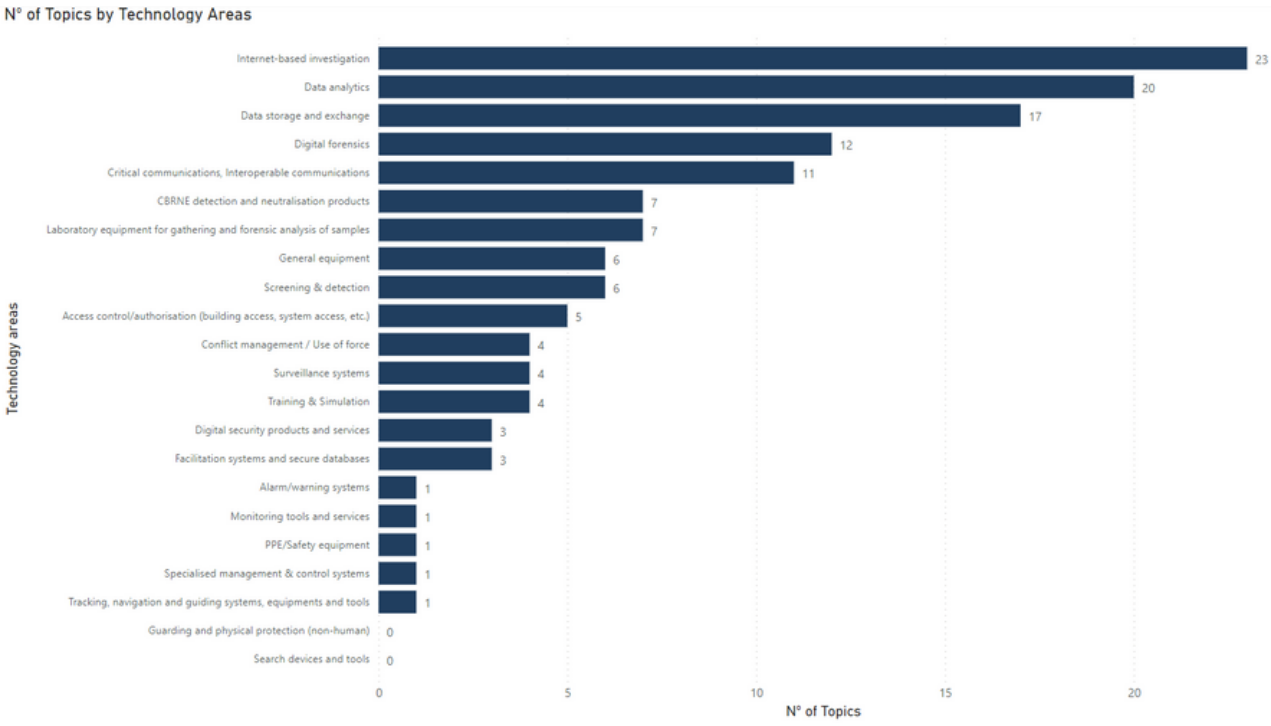

Figure 16 – Number of topics addressing Functions taxonomy elements

The results show that Internet-based investigation technologies, with 23 topics, and Data Analytics technologies, with 20, are the two technology areas that have been more present in the FCT research programme. When a technology area has not or has barely been present in the FCT research programme, it does not mean that that technology has not been addressed by projects. This should be understood as the technology not being an evident threat or as not being identified a-priori as the only, or at least a clear, enabler to tackle the threats posed in the topics.

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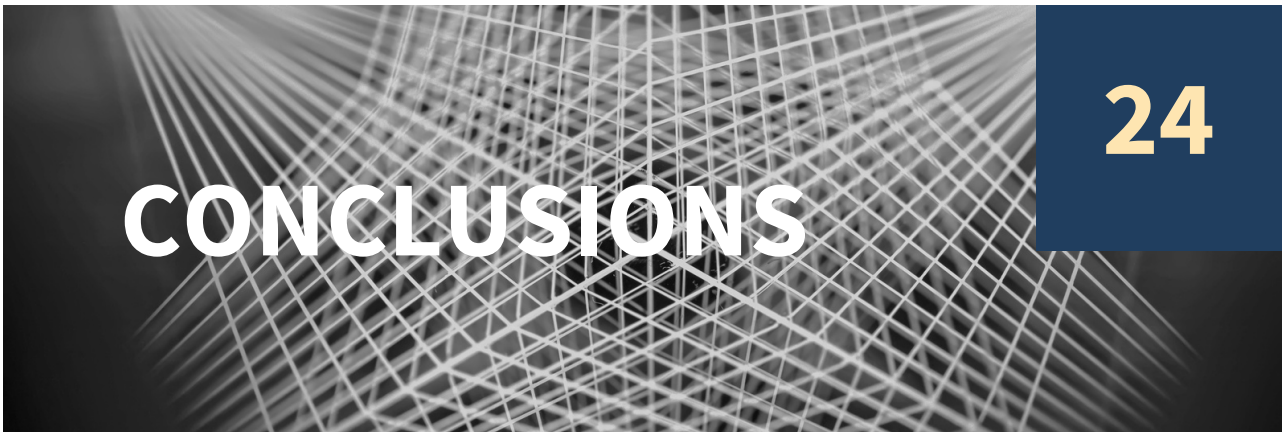
The focus done each year over the Technology Areas dimension elements is shown in the figure below, along with how it trended over time. Data Storage and exchange, and Digital Forensics are showing a rise in recent interest – this can be due to recent efforts to establish a EU Data Space for FCT Research, and also to a rise in criminal activities resorting to digital means, respectively.

Figure 17 - Distribution of focus over Technology Areas taxonomy elements per year



24 CONCLUSIONS

The objective of this report is to present raw data in a structured manner to the FCT R&I community so it can be used to support decision making in the FCT R&I community, notably in view to future research programming.

The data shows the tendencies followed by research priorities set by the Commission in the FCT domain during the past 10 years, including the policy, functions and technology dimensions that have been most addressed in FCT research, but also those areas where there is an evident funding gap. The Commission can use this data to detect any involuntary imbalance in the distribution of funding over FCT R&I focus areas and correct it if needed in future WP of Horizon Europe or even in the strategic planning of the next EU-funded R&I framework programme FP10.

Note that the focus, success or relevance of the results derived by projects funded after the topics analysed in this document is not reflected in the data. A separate analytical exercise should be carried out to understand how the research community, through the projects, addressed the different priorities.

The analysis presented in this document is a straightforward one and presents plain distribution of individual taxonomy elements across the work programmes. However, the data acquired could open the door to answering a number of other questions that could be relevant for future research planning in the FCT area, including, but not limited to:

- What are the main functions associated to certain policy areas?
- What are the main technologies linked to certain policy area or function?
- What projects have been funded after topics addressing certain policy/function/technology needs?
- What maturity levels have the technologies associated to certain policy areas or functions shown?
- How much funding has already been granted to projects addressing certain policy area, functions or technologies?

APPENDIX A: LIST OF TOPICS ANALYSED

Topic Code	Topic Description
HORIZON 2020	
FCT-01-2015	Forensics topic 1: Tools and infrastructure for the extraction, fusion, exchange and analysis of big data including cyber-offenses generated data for forensic investigation
FCT-03-2015	Forensics topic 3: Mobile, remotely controlled technologies to examine a crime scene in case of an accident or a terrorist attack involving CBRNE materials
FCT-04-2015	Forensics topic 4: Internet Forensics to combat organized crime
FCT-05-2014	Law enforcement capabilities topic 1: Develop novel monitoring systems and miniaturised sensors that improve Law Enforcement Agencies' evidence-gathering abilities
FCT-06-2015	Law Enforcement capabilities 2: Detection and analysis of terrorist-related content on the Internet
FCT-07-2014	Law enforcement capabilities topic 3: Pan European platform for serious gaming and training
FCT-09-2015	Law Enforcement capabilities topic 5: Identity Management
FCT-10-2014	Urban security topic 1: Innovative solutions to counter security challenges connected with large urban environment
FCT-13-2014	Ethical/Societal Dimension Topic 1: Factors affecting (in-) securitY
FCT-14-2014	Ethical/Societal Dimension Topic 2: Enhancing cooperation between law enforcement agencies and citizens - Community policing
FCT-15-2015	Ethical/Societal Dimension Topic 3: Better understanding the role of new social media networks and their use for public security purposes
FCT-16-2015	Ethical/Societal Dimension Topic 4 - Investigating the role of social, psychological and economic aspects of the processes that lead to organized crime (including cyber related offenses), and terrorist networks and their impact on social cohesion
SEC-06-FCT-2016	Developing a comprehensive approach to violent radicalization in the EU from early understanding to improving protection
SEC-07-FCT-2016-2017	Human Factor for the Prevention, Investigation, and Mitigation of criminal and terrorist acts
SEC-08-FCT-2016	Forensics techniques on: a) trace qualification, and b) broadened use of DNA
SEC-09-FCT-2017	Toolkits integrating tools and techniques for forensic laboratories
SEC-10-FCT-2017	Integration of detection capabilities and data fusion with utility providers' networks
SEC-11-FCT-2016	Detection techniques on explosives: Countering an explosive threat, across the timeline of a plot

APPENDIX A: LIST OF TOPICS ANALYSED

Topic Code	Topic Description
SEC-12-FCT-2016-2017	Technologies for prevention, investigation, and mitigation in the context of fight against crime and terrorism
SU-FCT01-2018-2019-2020	Human factors, and social, societal, and organisational aspects to solve issues in fighting against crime and terrorism
SU-FCT02-2018-2019-2020	Technologies to enhance the fight against crime and terrorism
SU-FCT03-2018-2019-2020	Information and data stream management to fight against (cyber)crime and terrorism
SU-FCT04-2020	Chemicals: intelligence, detection, forensics
HORIZON EUROPE	
HORIZON-CL3-2021-FCT-01-01	Terrorism anD other forms of serious crime countered using travel intelligence
HORIZON-CL3-2021-FCT-01-02	Lawful interception using new and emerging technologies (5G & beyond, quantum computing and encryption)
HORIZON-CL3-2021-FCT-01-03	Disinformation and fake news are combated and trust in the digital world is raised
HORIZON-CL3-2021-FCT-01-04	Improved access to fighting crime and terrorism research data
HORIZON-CL3-2021-FCT-01-05	Modern biometrics used in forensic science and by police
HORIZON-CL3-2021-FCT-01-06	Domestic and sexual violence are prevented and combated
HORIZON-CL3-2021-FCT-01-07	Improved preparedness on attacks to public spaces
HORIZON-CL3-2021-FCT-01-08	Fight against trafficking in cultural goodD
HORIZON-CL3-2021-FCT-01-09	Fight against organised environmental crime
HORIZON-CL3-2021-FCT-01-10	Fight against firearms trafficking
HORIZON-CL3-2021-FCT-01-11	Prevention of child sexual exploitation
HORIZON-CL3-2021-FCT-01-12	Online identity theft is countered
HORIZON-CL3-2022-FCT-01-03	Enhanced fight against the abuse of online gaming culture by extremists
HORIZON-CL3-2022-FCT-01-04	Public spaces are protected while respecting privacy and avoiding mass surveillance
HORIZON-CL3-2022-FCT-01-05	Effective fight against corruption
HORIZON-CL3-2022-FCT-01-06	Effective fight against illicit drugs production and trafficking
HORIZON-CL3-2022-FCT-01-07	Effective fight against trafficking in human beings

APPENDIX A: LIST OF TOPICS ANALYSED

Topic Code	Topic Description
HORIZON-CL3-2023-FCT-01-01	Processing of large, complex and unstructured datasets resulting from criminal investigations, while reconciling big data analysis and data protectioN
HORIZON-CL3-2023-FCT-01-02	A harmonized European forensics approach on drugs analysis
HORIZON-CL3-2023-FCT-01-03	New methods and technologies in service of community policing and transferable best practices
HORIZON-CL3-2023-FCT-01-04	Increased security of citizens against terrorism, including in public spaces
HORIZON-CL3-2023-FCT-01-05	Crime as a service
HORIZON-CL3-2023-FCT-01-06	Enhancing tools and capabilities to fight advanced forms of cyber threats and cyber-dependent crimes
HORIZON-CL3-2024-FCT-01-01	Mitigating new threats and adapting investigation strategies in the era of Internet of Things
HORIZON-CL3-2024-FCT-01-02	Open Topic
HORIZON-CL3-2024-FCT-01-03	Lawful evidence collection in online child sexual abuse investigations, including undercover
HORIZON-CL3-2024-FCT-01-04	Radicalisation and gender
HORIZON-CL3-2024-FCT-01-05	Combating hate speech online and offline
HORIZON-CL3-2024-FCT-01-06	Open Topic
HORIZON-CL3-2024-FCT-01-07	CBRN-E detection capacities in small architecture
HORIZON-CL3-2024-FCT-01-08	Tracing of cryptocurrencies transactions related to criminal purposes

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