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Horizon 2020-funded security research projects with dual-use potential: An overview (2014-2018)

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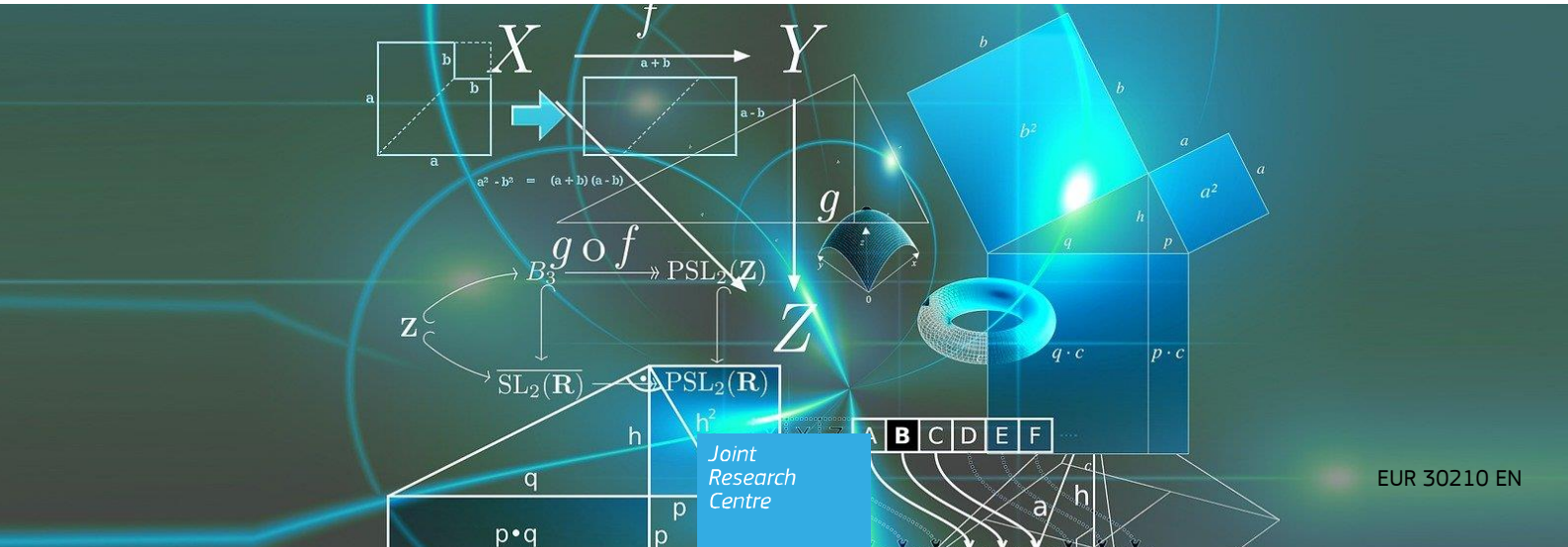

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Contents

Abstract

The analysis carried out in this report facilitates the identification of research topics and projects funded under Horizon 2020 that have a dual-use civilian and military potential; that is, their results could be applied by both security and defence stakeholders (including industry). It is intended to support future security and defence research programmes in their attempts to avoid duplication of investment and to promote synergies.

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Executive summary

Policy context

Horizon 2020 research projects focus exclusively on civil applications, but that does not prevent them producing results that could lead to innovations with possible defence applications. The growing potential for synergies between civil and military research has been highlighted by the European Commission since 2013 and resonates even more strongly today, as the first fully fledged European defence research programme will be funded under the European Defence Fund from 2021. The importance of seeking complementarity and synergies with Horizon Europe, the next framework programme for research and innovation (2021–2027), so that the results of defence research also benefit civil research and vice versa, is particularly underlined in the multiannual financial framework proposal for 2021–2027.

Under Horizon 2020 procedures, a declaration of the dual-use character of projects is based on an ethics self-assessment made by the entities applying for funding. The purpose of the present study is to provide an alternative approach that will facilitate the identification of dual-use research topics and projects the results of which could be applied by both security and defence stakeholders (including industry). The methodology applied for this purpose considers the key enabling technologies (KETs) that are the fundamental blocks for a range of goods and services in both the civil and the defence sectors and thus represent key innovation accelerators for industry. The analysis carried out here is intended to support future security and defence research programmes in their attempts to avoid duplication of investment and to promote synergies.

Main findings

This report builds upon previous work, in particular a recent inventory carried out by the authors (Bordin et al., 2019), which identified 349 security and defence projects funded by various Horizon 2020 programmes, of which 309 were evaluated to have a dual-use potential. It also relies on a study by Scalia et al. (2017), which established a list of 167 KET-related dual-use innovation fields, a set of which (38) was considered a priority for future research and innovation (R & I) programmes (recommended innovation field).

The analysis of the 309 Horizon 2020-funded R & I projects with dual-use potential showed that the greatest number are associated with three KET-related dual-use innovation fields. These 'top 3' innovation fields deal with issues concerning two major domains of contemporary society: cyberspace (here mainly advanced encryption systems and protection of personal computers, cyberspace navigation and cyber identity) and critical infrastructures (their overall protection). More than half of the projects (57 %) are associated with more than one innovation field; that is, the results of their research could be applied in several domains.

Another interesting finding is that 75 % of the projects are linked to at least one innovation field considered a priority for future R & I programmes (known as 'recommended innovation fields'). The 'top 7' recommended innovation fields include those with which 20 or more projects are associated: (1) improved encryption solutions; (2) protection of critical infrastructures; (3) screening devices for the detection of traces of potential threats (including chemical, biological, radiological, nuclear and high-yield explosive, or CBRN-E); (4) data mining for early detection of threats; (5) individuals and events recognition solutions; (6) biometric access control systems; and (7) mobile equipment for CBRN-E detection.

The recommended innovation fields were originally clustered in thematic areas. Analysing the projects according to those areas shows a predominance of those labelled 'security/cybersecurity systems'. This illustrates the major role of research basically aiming to enhance prevention against all kinds of cyber- and physical attacks. Furthermore, the importance of issues related to CBRN-E becomes clear. Although the thematic area 'health and sanitary protection, including against CBRN-E threats' contains six recommended innovation fields, only three are pertinent to the projects studied; however, all three deal precisely with CBRN-E.

In total, 1 205 organisations have contributed (as coordinators or participants) to the 309 dual-use R & I projects through 1 890 individual contributions. Half of them are private for-profit organisations, but only a small share of those are involved in five projects or more (1.7 %), compared with 8.9 % of research organisations. Most entities contribute to only one project, especially the private for-profit organisations, of which 80 % do so, compared with around 60–70 % of the other types of organisation.

Related and future Joint Research Centre work

The present study builds upon a previous one carried out by the Joint Research Centre (JRC) of the European Commission, namely an inventory of research projects funded through Horizon 2020 dealing with security and having relevance for defence for the period from January 2014 to May 2018 (Bordin et al., 2019). The purpose was to look beyond the programme dedicated to security, '3.7 – Secure societies', and to cover all projects related to the building blocks identified in the JRC internal strategy on security and defence and the priorities listed in the European agenda on security. The selection of relevant projects was based on a set of 34 keywords and excluded those related solely to natural hazards, climate change, financial crisis or purely safety-related topics. The projects identified were analysed using several criteria, such as security and defence topics, Horizon 2020 funding programmes, countries and entities involved, and dual-use potential.

Future studies of research projects with dual-use potential funded by the European Defence Fund may help to improve the coordination of research topics between the security and defence work programmes.

Quick guide

The importance of building upon the potential synergies between civil and military research was first highlighted by the European Commission in 2013. A year later, it presented a detailed roadmap with specific actions and timelines, including a section dedicated entirely to exploiting the dual-use potential of research and reinforcing innovation. This included maximising synergies between civil research under Horizon 2020 and defence research coordinated by the European Defence Agency, as well as identifying innovation fields and applications. Regarding dual-use aspects under the new defence research programme, the proposal for a regulation establishing the European Defence Fund (under the multiannual financial framework 2021–2027) states that, 'complementarity and synergies with Horizon Europe will be ensured, so that results under defence research also benefit civil research and vice-versa'.

For the purpose of the present study, the important concept of 'KET-related innovation fields with dual-use potential' was used. It was developed in the report *Study on the dual-use potential of key enabling technologies* (Scalia et al., 2017), commissioned by the EU Executive Agency for Small and Medium-sized Enterprises, and is defined as follows: 'An innovation field is made up of innovative new products, processes or services that result from cutting edge research in KETs. They represent an area of converging interest between market requirements and industrial challenges. A dual-use innovation field also answers to a capacity need of defence.' That study identified 167 KET-related innovation fields with dual-use potential, and a subset of 38 were recommended as priorities for European research and technological development with dual-use purposes in future R & I programmes. These 'recommended innovation fields' had to address three main criteria: (1) the independence of EU civilian and defence (supply chains); (2) the economic impact; and (3) the knowledge base and technology impact.

In 2019, we published a landscape study that identified 349 research projects funded under Horizon 2020, dealing with security or displaying a defence component, for the period from January 2014 to May 2018. Those projects were compared with the list of innovation fields displaying significant dual-use potential to assess whether the project has dual-use potential or not. This process led to a set of 309 projects displaying potential dual-use applications. Ultimately, they were associated with (1) one or several of the 167 dual-use innovation fields and (2) one or several of the 38 recommended dual-use innovation fields. It could be argued that a project could have a dual-use potential despite not being related to any of the KETs. However, the KET-related innovation fields are so broad and so numerous that it is reasonable to think that they capture the most substantial part of the Horizon 2020-funded projects with dual-use potential (from January 2014 to May 2018).

1 Introduction

Security and defence research have been gaining increasing importance on the European Commission's agenda, driven by correlated developments in geopolitical, technological and globalisation factors. The first fully fledged EU security research programme started in 2007 under FP7 (2007–2013) and has continued to be part of the subsequent framework programmes for research and innovation, the current Horizon 2020 (2014–2020) and the next Horizon Europe (2021–2027) programmes. Defence research has mainly been undertaken so far by national actors, although there has been some limited collaboration between EU Member States through the European Defence Agency (EDA). However, from 2021, the first fully fledged EU defence research programme will be funded under the European Defence Fund. The President of the European Commission, Ursula von der Leyen, proposed in her political guidelines to strengthen the European Defence Fund in support of research and capability development, which will reveal new opportunities for EU high-tech industries and other parts of the economy.

Military and defence bodies rely more and more on civil innovations, whereas civil companies use technologies that are also of interest to defence enterprises. A major consequence of this increasing overlap between the civil and defence domains is a growing interest in the dual-use potential of research ([1]). The growing potential for synergies between civil and military research was first highlighted by the European Commission in 2013 in its communication 'Towards a more competitive and efficient defence and security sector' ([2]). It recognises that research within Horizon 2020 offers prospects for technological advances that can trigger innovation not only for civil applications but also with a dual-use potential. It calls for capitalising on this potential and maximising the synergies between civil research under Horizon 2020 and the defence research coordinated by the EDA. This statement is also valid for the next framework programme for research and innovation, Horizon Europe, and the new defence research programme and, as such, is specifically highlighted in the proposal for the multiannual financial framework for 2021–2027.

Under Horizon 2020 procedures, a declaration of the dual-use character of projects is based on an ethics self-assessment made by the entities filling out the forms to apply for funding (European Commission, 2019a). For this purpose, the definition of research involving 'dual-use items' refers to the EU export control regulation ([3]) and, broadly speaking, describes dual-use items as those normally used for civilian purposes but which may have military applications or may contribute to the proliferation of weapons of mass destruction. This means that research carried out within the frame of trade controls does not represent all dual-use-related research and innovation (R & I) (Allan et al., 2020) but only what Charatsis (2017: 53) called 'export controlled research', defined as 'those research and development activities involving items, technologies, and software restricted under relevant trade control law'. This approach obviously limits the number and scope of projects declared as dual use and, therefore, makes difficult an analysis of the dual-use potential of the Horizon 2020 projects and hampers the evaluation of potential synergies.

The purpose of the present study, carried out by the Joint Research Centre (JRC) of the European Commission, is thus to overcome the above-mentioned limitation of 'export controlled research' and to try to detect Horizon 2020 security research projects that have a dual-use potential using criteria other than the self-assessment declaration. The aim is to shed light on those projects, their areas of research and the entities and countries that conduct them. To do so, projects have been related to a set of 'innovation fields' having significant dual-use potential, as identified by Scalia et al. (2017), including a subset assessed as priorities for future R & I programmes.

This procedure should allow wider and better identification of those R & I projects that produce results and outcomes with potential applications in both the security and defence domains.

([1]) An interesting literature survey on the matter is available in Charitidis (2018).
([2]) European Commission communication COM(2013) 542 final.
([3]) Council Regulation (EC) No 428/2009.

2 Research with dual-use potential and innovation fields

The term 'dual-use' has been widely used in recent years; however, there is no generally accepted definition, not to mention an explanation of what the term encompasses, namely technology, research, artefacts, items, software and other goods. The purpose of this chapter is to provide a brief overview of the concept of dual use and its varying definition depending on the context in which it is used. Section 2.1 explains briefly what dual-use items and research mean, Section 2.2 presents the EU considerations with regard to maximising synergies between civil security and defence research and, finally, Section 2.3 presents the dual-use KET-related innovation fields that were used as the basis for the analysis carried out in the present report.

2.1 The dual-use concept

According to authors such as Forge (2010) and Rath et al. (2014), the term dual use was first used in 1993 by the US Office of Technology Assessment (US Congress, 1993) 'in discussions related to technology transfers between civilian and military applications and is associated with a concept where civilian and military research and technology go hand-in hand to maximise their usage in a win-win scenario. Only later on, when the term started to be used in non-proliferation legislation, like export control laws, to address the problem that the same materials, technologies or knowledge might be used for wanted and unwanted purposes, the so-called dual-use dilemma emerged (Atlas and Dando, 2006)'(Rath et al., 2014).

In their study on the development of different dual-use concepts in international and national law, as well as its implications for research ethics and governance, Rath et al. (2014) discuss four main dual-use concepts as applied today in their study field: (1) civilian versus military; (2) peaceful versus non-peaceful; (3) legitimate versus illegitimate; and (4) benevolent versus malevolent. These four meanings of the expression dual use are not mutually exclusive.

As far as research is concerned, dual-use potential refers most often to the pair civilian/military, especially in fields other than the life sciences. In the latter wide domain, the misuse of advances generates many security concerns. Consequently, a specific concept has been accepted worldwide: dual-use research of concern (DURC), defined by the World Health Organization (WHO) as 'life sciences research that is intended for benefit, but which might easily be misapplied to do harm' ([4]).

In the EU, a 2009 regulation sets up a Community regime for the control of exports, transfer, brokering and transit of dual-use items ([5]) and defines, for the sake of trade controls, dual-use items as 'items, including software and technology, which can be used for both civil and military purposes, and shall include all goods which can be used for both non-explosive uses and assisting in any way in the manufacture of nuclear weapons or other nuclear explosive devices'. The regulation is currently under revision in a 'trilogue' process involving the European Commission, the European Parliament and the Council of the EU. This EU dual-use control list has been assembled to include all possible goods identified for their relevance to the risk of proliferation of weapons of mass destruction (nuclear, chemical, biological) and means of delivery but also other potential threats, for example those associated with cybersecurity and, hence, also possible human rights violations. It defines, de facto, dual use in a much broader perspective than just the prevention of nuclear, chemical and biological proliferation.

2.2 EU call for maximisation of synergies between security and defence research

The first security research programme under FP7 had an exclusively civil orientation, although at that time the need for close coordination with the EDA on areas relating to dual-use technology was already recognised ([6]). In its 2013 communication ([7]), the European Commission called for the exploitation of potential dual-use synergies between civil and military research, such as civil applications developed under the Horizon 2020 areas 'Leadership in enabling and industrial technologies' (including the 'key enabling technologies', or KETs) and 'Secure societies' (Societal challenge), offering prospects of technological advances that may also have a dual-use potential.

([4]) https://www.who.int/csr/durc/en/; accessed on 30 March 2020.
([5]) Council Regulation (EC) No 428/2009.
([6]) Decision No 1982/2006/EC of the European Parliament and of the Council.
([7]) European Commission communication COM(2013) 542 final.

In a later communication ([8]), the Commission presented a detailed roadmap with specific actions and timelines, including a section dedicated entirely to exploiting the dual-use potential of research and reinforcing innovation. This included maximising synergies between civil research under Horizon 2020 and the defence research coordinated by the EDA, as well as identifying innovation fields and applications. Many areas are concerned; to mention just to mention a few, they include dual-use components in information and communications technology (ICT) and cybersecurity, dual-use products belonging to chemical, biological, radiological, nuclear, and high yield explosives (CBRN-E) materials, space activities and systems such as dual-use satellites.

In a further step towards the development of an EU defence research programme, the Commission presented the European defence action plan ([9]) which included the establishment of the European Defence Fund, launched in June 2017 ([10]), and other actions to support Member States' more efficient spending on joint defence.

Regarding dual-use aspects under the new defence research programme, the proposal for a regulation establishing the European Defence Fund (under the multiannual financial framework 2021–2027) states that, 'complementarity and synergies with Horizon Europe will be ensured, so that results under defence research also benefit civil research and vice-versa' ([11]).

2.3 Key enabling technologies and dual-use innovation fields

In 2009, the European Commission ([12]) defined KETs as a group of technologies providing the basis for innovation in a wide range of both emerging and traditional industrial sectors. Six KETs were identified – micro- and nanoelectronics, nanotechnology, industrial biotechnology, advanced materials, photonics, and advanced manufacturing technologies – as priority areas for improving European industrial competitiveness ([13]).

The EU has a strong knowledge base but is not capitalising enough on its R & I potential in terms of marketable goods and services. Furthermore, there is a well identified risk of technology dependence in strategic areas (including defence, space, security and areas of high economic importance). Research and essential technologies are an important source of innovation for both defence and civilian industries. KETs play an important role in this framework.

The report *Study on the dual-use potential of key enabling technologies*, commissioned by the EU Executive Agency for Small and Medium-sized Enterprises was published in 2017 (Scalia et al., 2017). Based on the results of previous work (D'Appolonia et al., 2014) funded by the European Commission, the study aimed to establish a list of 'innovation fields', with related technologies, displaying significant dual-use potential. An innovation field is defined as follows: 'An innovation field is made up of innovative new products, processes or services that result from cutting edge research in KETs. They represent an area of converging interest between market requirements and industrial challenges. A dual-use innovation field also answers to a capacity need of defence.'

The study identified 167 KET-related innovation fields with dual-use potential, further grouped into 15 cross-sectoral industrial domains (Table 1).

A subset of 38 innovation fields (out of the 167) was then recommended as a priority for European research and technological development with dual-use purposes in future R & I programmes, in which Europe should invest to position itself at the forefront of innovation (Scalia et al., 2017: 80–94) ([14]). These 'recommended innovation fields' had to address three main criteria: (1) the independence of EU civilian and defence (supply chains); (2) the economic impact; and (3) the knowledge base and technology impact. Some of these 38 fields are combinations of the 167.

Finally, these recommended dual-use innovation fields were clustered into seven thematic areas, reflecting the structure of the framework programmes and based on their sharing similar technical and industrial

([8]) European Commission report COM(2014) 387 final.
([9]) European Commission communication COM(2016) 950 final.
([10]) European Commission communication COM(2017) 295 final.
([11]) European Commission communication COM(2018) 476 final.
([12]) European Commission communication COM(2009) 512 final.
([13]) European Commission communication COM (2009) 512 final.
([14]) Originally, 46 innovation fields were assessed as 'recommended', before several were merged resulting in a total of 38 recommended innovation fields. Some of the dual-use-recommended innovation fields are composed of two or more of the original dual-use innovation fields.

challenges for their advancement (Table 2). The full list of innovation fields and their corresponding cross-sectoral industrial domains, recommended innovation fields and thematic areas is given in Annex 1.

Table 1. Distribution of the 167 dual-use innovation fields by cross-sectoral industrial domain

Cross-sectoral industrial domain (CODE)	Number of innovation fields
Agro-food (AGRO)	4
Chemical processes, chemicals, chemical products and materials (CHEM)	7
Construction (CONS)	3
Defence (DEF)	35
Electronic, electric and communication systems (ELE)	20
Energy (ENER)	9
Environment (ENV)	4
Health and healthcare (HEAL)	9
Manufacturing and automation (MAN)	13
Mining, quarrying and extraction (MIN)	1
Security (SEC)	19
Space (SPA)	19
Textiles, clothing and apparel (TEX)	8
Training, education and edutainment (TRAIN)	2
Transport (TRA)	14

Source: Scalia et al. (2017).

Table 2. Distribution of the 38 recommended dual-use innovation fields by thematic area

Thematic area	Number of recommended innovation fields
Communication, navigation and surveillance systems	10
Energy for mobility	3
Fundamental non-dependence materials and components	6
Health and sanitary protection, including against CBRN-E threats	6
Human assistance and robotics	5
Production and supply chain solutions	3
Security and cybersecurity systems	5

Source: Scalia et al. (2017).

3 Mapping of the Horizon 2020-funded R & I projects with dual-use potential

As mentioned earlier, Horizon 2020 research projects focus exclusively on civil applications. However, this does not prevent them producing results that could lead to innovations with possible defence applications, hence the value of identifying those projects with dual-use potential applications or enhancing possible dual-use synergies. This chapter describes the methodology used in the present study to determine the Horizon 2020 projects with outputs that could be applied in both civilian and defence fields and provides the results of the subsequent analysis.

3.1 Methodology

We recently published a landscape study that identified EU research projects funded under Horizon 2020, dealing with security and defence for the period from January 2014 to May 2018 (Bordin et al., 2019). The purpose was to look beyond the programme dedicated to security, '3.7 – Secure societies', and to cover all research projects with a security and defence component within Horizon 2020. At the cut-off date for the review (23 May 2018), the number of projects funded and recorded in the CORDIS database ([15]) amounted to 16 928. The selection of relevant projects was based on a set of 34 keywords ([16]), which covered all themes of interest to the study, namely the building blocks and priorities identified on the basis of the JRC internal strategy on security and defence and the European agenda on security ([17]), respectively. In this manner, the number of projects to be scrutinised was reduced to 5 451. Each of them was then examined individually by JRC staff (a group of three reviewers) to decide whether it would be retained in or rejected from the final data set. One additional criterion was used: the exclusion of all projects related solely to natural hazards, climate change, financial crisis or purely safety-related topics. This was a consequence of the initial scope of the landscape study, which considered exclusively man-made risks and threats that could intentionally harm individuals and societies. The selection or rejection of a project was assessed on the basis of its metadata available in CORDIS – mainly the description of the objective but also the title, the Horizon 2020 programme or programmes it belongs to, the topic of the call for proposals, etc. This resulted in an inventory of 349 projects, which were subsequently characterised by several metadata (thematic security and defence topics, priorities of the European agenda on security, Horizon 2020 funding programmes, countries and entities involved, etc.).

The inventory was then used as a starting point for the current study. Each project objective was compared with the list of innovation fields displaying significant dual-use potential (see Section 2.3) to assess whether the project has dual-use potential or not. This process led to a set of 309 projects displaying potential dual-use applications (Annex 2). Ultimately, they were associated with (1) one or several of the 167 dual-use innovation fields and their corresponding cross-sectoral industrial domain and (2) one or several of the 38 recommended dual-use innovation fields and their thematic areas. Each project was scrutinised and cross-checked by three reviewers, in order to ensure consistency. For the sake of simplicity those projects are called 'dual-use projects' throughout the analysis.

It could be argued that a project could have a dual-use potential despite not being related to any of the KETs. However, the KET-related innovation fields are so broad and so numerous (167) that it is reasonable to think that they capture the most substantial part of the Horizon 2020-funded security projects with dual-use potential (from January 2014 to May 2018). Indeed in our analysis we found only 10 projects out of the 309 that displayed a clear dual-use potential but could not be associated with any of the innovation fields. These were mainly related to external security, peacekeeping or forensics.

([15]) The Community Research and Development Information Service (CORDIS) is the European Commission's primary repository of results from the projects funded by the EU framework programmes for research and innovation (FP1 to Horizon 2020).

([16]) 'Aviation', 'border' or 'border control', 'CBRN', 'civil', 'criminal' or 'crime', 'critical infrastructure', 'critical supply' or 'critical supplies', 'customs', 'cyber', 'defence', 'disinformation', 'dual use', 'explosive', 'extremism' or 'extremist', 'fake news', 'firearm', 'hybrid', 'hybrid threat', 'maritime', 'migration', 'military', 'nuclear', 'protection', 'public space', 'radicalisation', 'security', 'smuggling', 'soft target', 'space', 'terrorism' or 'terrorist', 'threat', 'traffic', 'transport', 'war'.

([17]) European Commission communication COM(2015) 185 final.

3.2 Analysis of results

Statistical analysis of the 309 dual-use projects was performed according to the following objectives and criteria.

— Highlight the potential dual-use of civil security research projects funded under Horizon 2020 in order to assess them for further exploitation in the defence field and by the defence industry:

  - with that in mind, the dual-use projects were mapped according to the full set of 167 dual-use innovation fields; and
  - associated with the 15 cross-sectoral industrial domains to which they belong.

— Answer the question 'What has already been done or is ongoing under Horizon 2020 in the recommended dual-use innovation fields?':

  - for that purpose, the dual-use projects were mapped according to the 38 recommended dual-use innovation fields; and
  - associated with the seven thematic areas, according to which the latter are organised.

— Show who is working where on dual-use R & I projects funded by Horizon 2020. To achieve this aim, the countries conducting the projects and the organisations taking part in them were listed.

3.2.1 Dual-use R & I projects by dual-use innovation field and industrial domain

In the first phase of the study, each project was linked to 1 or more of the 167 dual-use innovation fields. From that full set (see Annex 1), only 62 were found to apply to the projects analysed; the other 105 were not recognised as present. In terms of quantitative share, not all of these innovation fields are equally important: 21 have more than 10 projects associated with them, and 3 fields emerge in particular (the 'top 3') to which around 50–60 projects are related. On the other side, 40 innovation fields have fewer than 10 projects associated with them, including 9 fields with only 1 project each. The overall distribution is presented in Table 3.

Table 3. Number of dual-use R & I projects by innovation field

Innovation field (with cross-sectoral industrial domain codes)		Number of associated projects
DEF-29	Improved encryption solutions	58
SEC-19	Smart materials and structural solutions to protect critical infrastructures against any kind of threat	49
DEF-34	Protection of personal computers, cyberspace navigation and cyber identity	47
SEC-13	Screening devices for detection of traces	29
SEC-03	High-throughput screening systems for people and freight	22
DEF-30	Resilient and anti-intrusive IT infrastructure	21
DEF-33	Text, data management and mining for early detection of threat and/or law	21
SEC-04	Individuals and events recognition solutions	21
SEC-05	Secure and fast biometric access control systems	21
DEF-02	Mobile NRBCE detection and analysis equipment for in situ investigation	20
ELE-26	Wide range of physical, chemical and biological detection and measurement	20
DEF-28	Solutions to detect suspicious online activities	18
DEF-12	Remotely piloted aircraft providing surveillance (RPAS)	15
DEF-23	Drone-based wide area surveillance in air, land and water	15
DEF-25	Permanent passive wide area surveillance system	15
MAN-25	Smart supply networks based on object connection and industrial control systems for products and production systems	15
SEC-26	Tools for protection of means of payment and detection of counterfeits	15
SEC-14	In-depth CBRN-E materials analysis and characterisation systems	14

Innovation field (with cross-sectoral industrial domain codes)		Number of associated projects
SEC-07	Tracking and tracing devices to secure supply chain	12
SEC-09	Solutions for simulation and decision-making in the event of major crisis or disasters	11
SEC-20	Embedded health-monitoring status query capability for critical infrastructures	11
DEF-07	Long-range high-capability remote detection, visualisation and identification of threats	9
SEC-08	Resilient infrastructure to support information management and dissemination	8
DEF-01	Persons and threats identification capability for video protection systems	7
DEF-06	Simulation tools and role-playing games for security agents training	7
DEF-32	Solutions to protect official documents against counterfeit	7
ELE-19	Advanced broadband wireless communication	7
SEC-18	Advanced human behaviour modelling and simulation, prediction of mass behaviour	7
TRA-23	Unmanned vehicle controls	7
DEF-26	Positioning and localisation technologies including in closed/hostile environments	6
ELE-25	Complex system-of-systems architectures	6
DEF-03	Highly sensitive passive systems for early NRBCE threat detection	5
DEF-21	Transportation system-wide security and threat response	5
DEF-27	Global and permanent solutions for surveillance and protection of power transmission and transportation networks	5
ELE-23	Specialised networks for the internet of things	5
SEC-15	CBRN-E decontamination technologies and processes for people, equipment and structures	5
SPA-03	Innovative EGNSS* based applications/services/products for transport (e.g. aviation, road, maritime and rail), LBS (location-based services) and smart cities (including internet of things)	5
DEF-04	Building or vehicle sealing, shielding and fluids filtering for NRBCE attacks context	4
DEF-05	Automated systems for operation in hazardous environments	4
DEF-10	Naval surveillance, patrolling and escorting systems to securing sea lines	4
HEAL-10	Portable point-of-care (POC) devices and test kits for instant diagnosis based on microfluidics, biosensors and/or arrays	4
DEF-31	Architecture for interoperable national and European databases	3
ELE-03	High-autonomy communicating devices	3
ELE-24	Embedded data handling and processing	3
SEC-11	Wearable personal CBRN-E protection	3
SEC-27	Enhanced global navigation solutions and location-based services	3
SPA-02	Key satellite communication technologies with increased maturity	3
DEF-11	SATCOM capabilities	2
HEAL-26	Telemedicine/surgery telecommunications capabilities for routine consultation and emergency scenarios	2
SEC-16	Infrastructure for post-disaster operations	2
SPA-04	Advanced sensor functions to survey and track space objects and analyse space surveillance and tracking captured data	2
TRA-08	Information-based fleet management systems	2
TRA-12	Advanced embedded positioning and navigation	2
DEF-18	Signature monitoring	1
DEF-35	Various purpose (including professional) interactive immersive virtual reality simulators and training modules	1

Innovation field (with cross-sectoral industrial domain codes)		Number of associated projects
ELE-05	Functionalised cost-effective components ('More than Moore')	1
ELE-14	Smart content and big data for information-based services	1
ELE-27	Chip-level systems integration solutions	1
ENV-02	Water quality and nutrient monitoring, including pollution and pathogen detection	1
MIN-02	Non-invasive exploration technologies for cost-efficient underground resource detection and definition	1
SEC-02	Robotic devices for search and rescue	1
SEC-17	Global disease surveillance systems including awareness of rare diseases	1
–	No link to any innovation field	10

EGNSS*: European Global Navigation Satellite Systems Agency.

Source: JRC analysis of CORDIS data.

Looking at the topics of the innovation fields listed in Table 3, it can be observed that the highest number of dual-use projects (58) are associated with the innovation field 'Improved encryption solutions', which deals with advanced encryption systems to ensure secured exchange of confidential data, including with pure digital solutions or cyber–physical systems.

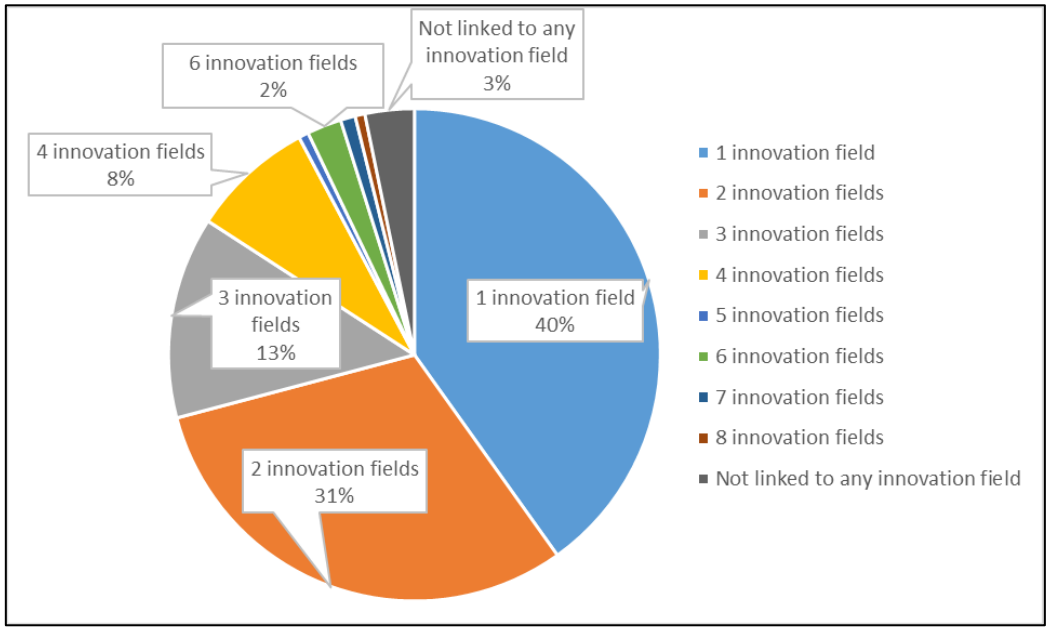
Then comes the field 'Smart materials and structural solutions to protect critical infrastructures against any kind of threat' with 49 projects. It comprises innovative materials (e.g. anti-blast concrete) and structural solutions (e.g. structural health-monitoring solutions designed to support crisis management as well as maintenance processes that optimise the resilience of structures) to protect critical infrastructures against physical threats (whether of natural or human origin).

The third innovation field in terms of number of dual-use projects associated with it (47) is 'Protection of personal computers, cyberspace navigation and cyber identity', which includes advanced solutions to secure computers, networks and web navigation, such as advanced antivirus solutions and advanced user identification techniques.

These 'top 3' innovation fields deal with issues concerning two major domains of contemporary society: cyberspace (here mainly cryptography and cyber navigation topics) and the critical infrastructures (their overall protection). This observation mirrors one of the major conclusions of the authors' previous study using the whole set of Horizon 2020-funded security and defence research projects (Bordin et al., 2019).

It is important to note that the sum of all projects in Table 3 is greater than 309, as a given project may be linked to more than one innovation field. In fact, this is the case for the majority of projects, as depicted in Figure 1.

Figure 1. Distribution of dual-use projects by number of associated dual-use innovation fields

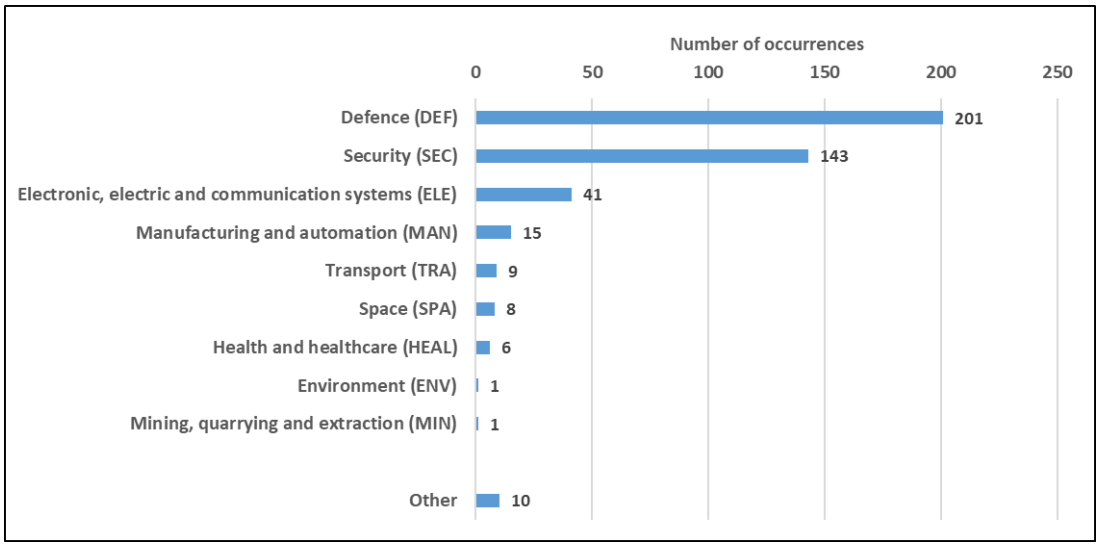


Source: JRC analysis of CORDIS data.

More than half of the projects (57 %) are associated with more than one innovation field, whereas almost three quarters of them (71 %) are associated with one or two fields, which shows the highly focused nature of many of the projects. At the other end of the scale, three and two projects were linked to seven and eight innovation fields, respectively. Full details are available in Annex 3.

As complementary information, Figure 2 shows the distribution of the dual-use projects by cross-sectoral industrial domain (see Table 1). Note that here too the sum of all projects is greater than 309, as a project may be linked to more than one innovation field and hence to more than one industrial domain.

Figure 2. Distribution of dual-use projects by cross-sectoral industrial domain



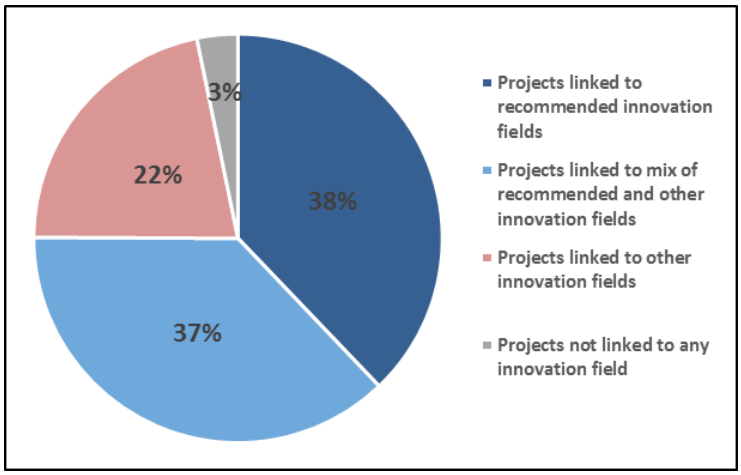
Source: JRC analysis of CORDIS data.

Of the 15 industrial domains, 9 have projects linked to them, defence (DEF) and security (SEC) unsurprisingly most of all. With a smaller but still significant share, they are followed by the domain 'Electronic, electric and communication systems' (ELE). Together these three major industrial domains account for 88 % of the projects. The remaining domains are only minimally or marginally represented.

3.2.2 Dual-use R & I projects by recommended dual-use innovation field and thematic area

In the second phase of the study, to answer the question 'What has already been done or is ongoing under Horizon 2020 in the recommended KET-related dual-use innovation fields?', the dual-use R & I projects were mapped according to the 38 recommended innovation fields. From this, four subsets of projects can be identified: (1) projects linked exclusively to recommended innovation fields; (2) those linked to both recommended and other innovation fields; (3) those linked solely to other innovation fields; and (4) those not linked to any innovation field (Figure 3).

Figure 3. Distribution of dual-use R & I projects by recommended and other innovation field



Source: JRC analysis of CORDIS data.

Interestingly, 75 % of the projects are linked to at least one recommended innovation field (whether exclusively – 117 projects – or mixed in with other fields – 115 projects – giving a total of 232), which can be interpreted as a positive outcome. Although the recommended innovation fields represent a minority of all the innovation fields (38 out of 167), a strong majority of research projects can be linked to them (232 out of 309). This would suggest a rather good fit between experts' recommendations for dual-use research topics, on the one hand, and successful projects in calls for proposals, on the other.

Out of the 38 recommended innovation fields, 24 were present in the projects analysed. They are shown in Table 4 along with the number of dual-use projects that are related to each of them.

Table 4. Number of dual-use R & I projects by recommended innovation field

Recommended innovation field		Number of associated projects
DEF-29	Improved encryption solutions	58
SEC-19	Smart materials and structural solutions to protect critical infrastructures against physical threat	47
SEC-13	Screening devices for detection of traces	29
DEF-28 + DEF-33	Data mining for early detection of threat, suspicious activities and law enforcement	28
SEC-04	Individuals and events recognition solutions	21
SEC-05	Secure and fast biometric access control systems	21
SEC-14 + DEF-02 + HEAL-10	Mobile equipment for CBRN-E detection, analysis and characterisation for *in situ* investigation	20
DEF-25	Permanent passive wide area surveillance system	15
MAN-25	Smart supply networks based on object connection and industrial control systems for products and production systems	15
DEF-23 + DEF-12	Unmanned vehicles for wide area surveillance in air, land, water and underwater	14

Recommended innovation field		Number of associated projects
SEC-07	Tracking and tracing devices to secure supply chain	12
DEF-07 (+ part of TRA-11)	Instruments and systems for all-weather operations and long-range remote detection, visualisation and identification of threats	9
ELE-19	Advanced broadband wireless communication	7
ELE-23	Specialised networks for the internet of things	5
SEC-15	CBRN-E decontamination technologies and processes for people, equipment and structures	5
ELE-03	High-autonomy communicating devices	3
ELE-24	Embedded data handling and processing	3
SEC-27	Enhanced global navigation solutions and location-based services	3
SPA-02 + DEF-11	High-throughput satellite communication	3
TRA-08	Information-based fleet management systems	2
SEC-16	Infrastructure for post-disaster operations	2
SEC-02	Robotic devices for search and rescue	1
ELE-05	3D system on chip technologies for 'More than Moore' systems	1
ELE-27	Chip-level system integration solutions	1

NB: The sum of all projects is higher than 232 since some projects are linked to more than one recommended innovation field.

Source: JRC analysis of CORDIS data.

Three groups of recommended innovation fields can be observed in terms of the number of projects linked to each of them:

— the 'top 7' fields (shaded blue) include those to which 20 or more projects are linked;

— the 'medium range' (in pastel orange) groups the four fields to which 10–19 projects are linked;

— the 'bottom range' (shaded green) gathers the 13 fields with fewer than 10 projects linked.

The 'top 7' fields are briefly described below.

The greatest number of projects (58) is gathered under the recommended innovation field dealing with improved encryption solutions, that is, advanced encryption systems to ensure secured exchange of confidential data, including with pure digital solutions or cyber–physical systems.

The second most important field (47 projects) focuses on innovative materials (e.g. anti-blast concrete) and structural solutions (e.g. structural health-monitoring solutions designed to support crisis management as well as maintenance processes that optimise the resilience of structures) to protect critical infrastructures against physical threat. All aspects of physical threats are considered, both natural (e.g. floods, earthquakes, space radiation) and human (e.g. bombing, plane or drone over-flights and crashes).

There are 29 projects under the field that considers portable, high-speed, sensitive, low-cost and easy-to-use screening devices and associated methods for the detection of any kind of traces of potential threats (including chemical, radioactive and all other sorts of CBRN-E traces).

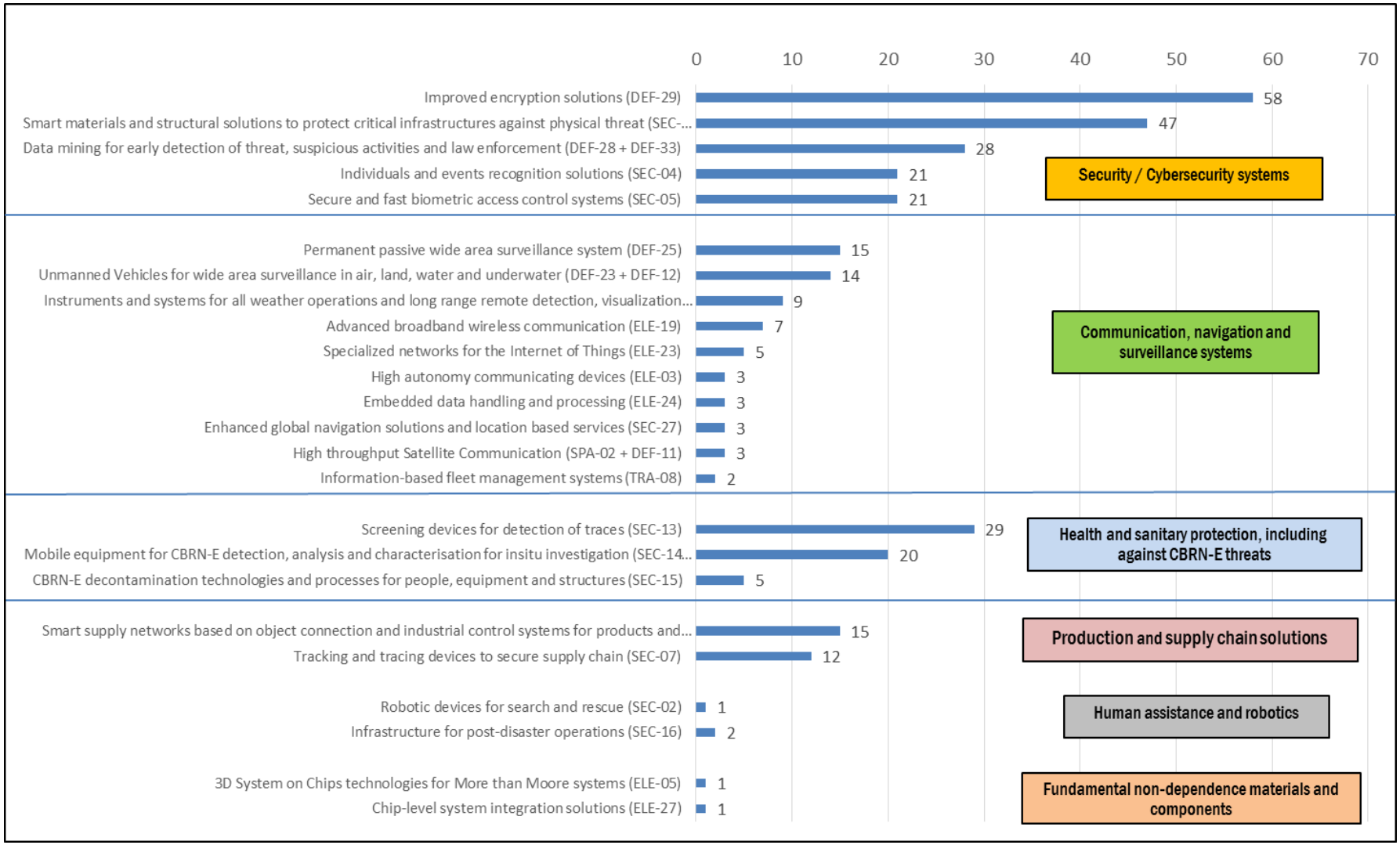
Data mining for early detection of threats, suspicious activities and law enforcement is associated with 28 projects. This field is about high-performance, legally compliant solutions – including web navigation tracing, big data processing, behavioural modelling, advanced text and data management and mining techniques – to identify any suspicious activities as early as possible.

Two innovation fields encompass 21 projects each. The first one deals with solutions to recognise an individual or an unusual or dangerous event using multimedia support such as video-surveillance, other surveillance sensors and/or any complementary source of data (including web data), with capabilities for autonomous or semi-autonomous data processing and support for human decision-making. The second one is about secure and fast biometric access control systems, considering solutions to quickly and accurately identify an individual based on biometric identification techniques at a security checkpoint.

The last 'top 7' field (20 projects) is about mobile equipment for CBRN-E detection, analysis and characterisation for *in situ* investigation. It includes several aspects: (1) laboratory, field laboratory and *in situ* devices for rapid, reliable and easy-to-use in-depth CBRN-E materials analysis and characterisation of related threats; (2) development of rapid, safe and cheap diagnostics, portable and miniaturised devices or easy kits for diagnosis or treatment monitoring at home or in any other location where sufficient medical support is not available (capable of data collection and communication with the medical doctor); (3) portable point-of-care devices and test kits for instant diagnosis based on microfluidics, biosensors and/or arrays.

As explained in the section on methodology (Section 3.1 and Table 2 above), the recommended innovation fields are also clustered in seven thematic areas. Figure 4 shows the distribution of dual-use projects according to these two criteria.

Figure 4. Distribution of dual-use R & I projects by recommended innovation field (left) and thematic area (right)



Source: JRC analysis of CORDIS data.

A few comments can be made on the data shown in Figure 4.

A predominance of the thematic area 'security/cybersecurity systems', which contains five innovation fields recommended as most relevant for R & I dual-use purposes, can be observed. All five are associated with dual-use projects, and they are also part of the set of 'top 7' fields described above. This illustrates the major role of research basically aiming to enhance prevention of all kinds of cyber- and physical attacks.

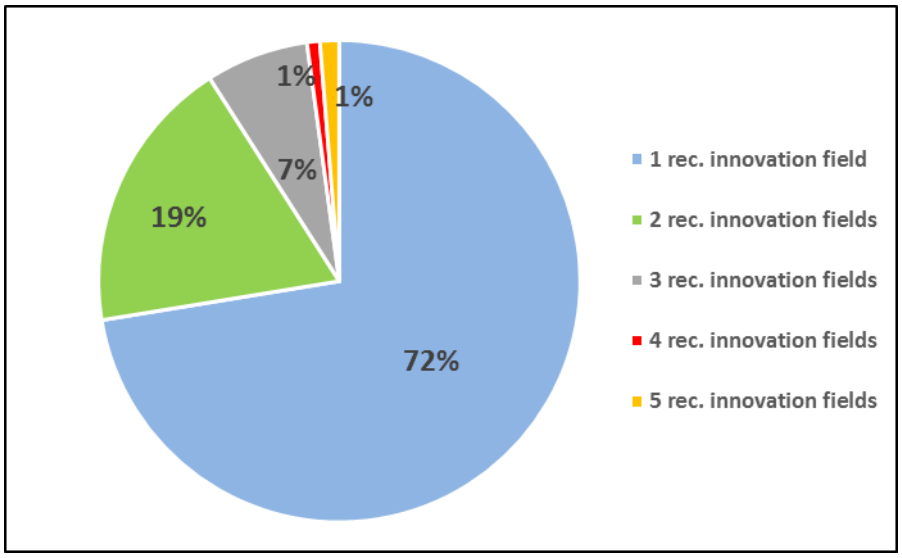
The second most represented thematic area in terms of total number of related projects is 'communication, navigation and surveillance systems'. This is a very broad area with 10 recommended innovation fields, which are all associated with projects; however, only two of them, dealing with area surveillance, belong to the 'medium range' fields (10–19 projects). The remaining ones are part of the 'bottom range' fields (fewer than 10 projects).

The importance of issues related to CBRN-E becomes clear. Although the thematic area 'health and sanitary protection, including against CBRN-E threats' contains six recommended innovation fields, only three are pertinent to the projects, all three of which deal precisely with CBRN-E. In addition, two of these three fields belong to the 'top 7' fields.

The thematic area 'production and supply chain solutions' is represented by two of its three recommended innovation fields, which are part of the 'medium range' fields.

Regarding the quantitative relation between number of projects and recommended innovation fields, almost three quarters of the 232 projects are linked to a single field, as shown in the overall distribution depicted in Figure 5. At the other end of the scale, five projects are related to four or five recommended fields. Overall, the highly focused nature of most projects is evidenced.

Figure 5. Distribution of dual-use R & I projects by number of associated recommended innovation fields



Source: JRC analysis of CORDIS data.

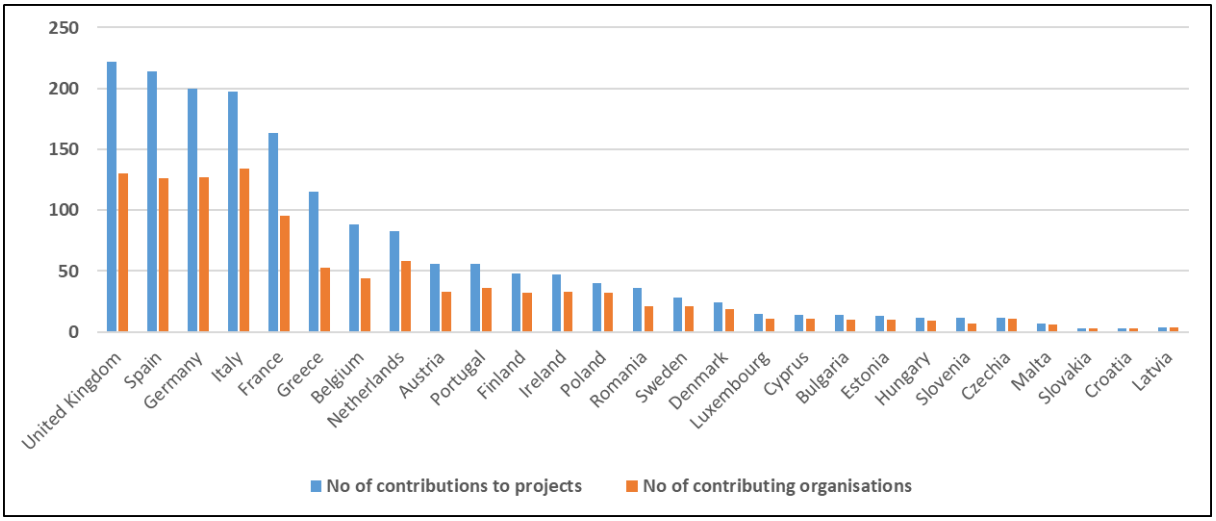
3.2.3 Countries and organisations contributing to dual-use R & I projects

The aim of the third phase of the study was to show who in Europe is working on dual-use R & I projects and in which Member States. To fulfil this aim, the Member States contributing to the projects and the organisations taking part in them were analysed.

3.2.3.1 Where is research with dual-use potential conducted?

In total, 1 205 organisations from EU Member States (90 %) and from non-EU countries (10 %) have contributed (as coordinators or participants) to the 309 dual-use R & I projects (Table 5) through 1 890 individual contributions (Table 6). The quantitative role of each country, through that of their organisations, is depicted in Figure 6 for the EU Member States and in Figure 7 for the non-EU countries.

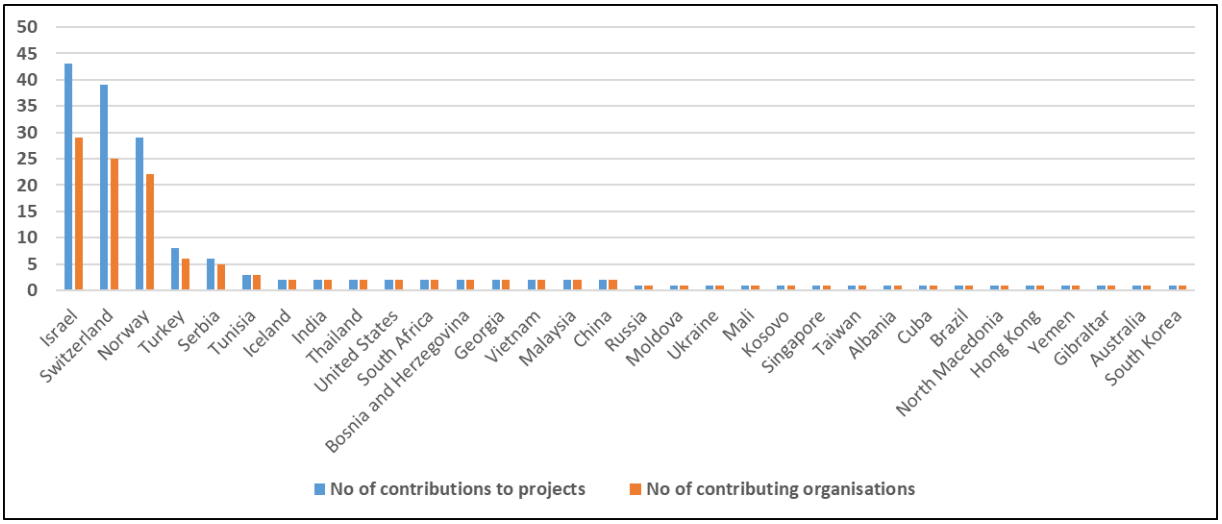
Figure 6. Number of organisations and contributions to dual-use R & I projects by EU Member State



Source: JRC analysis of CORDIS data.

The five largest EU Member States together account for more than half of the contributing organisations (57 %) and contributions to projects (58 %): United Kingdom ([18]), Spain, Germany, Italy and France. This also corresponds to their overall share of participation in all Horizon 2020 projects for the period from January 2014 to July 2018 (60 %), although in a slightly different order (Germany, United Kingdom, Spain, France, Italy) (European Commission, 2018). The ranking of other Member States in their contributions to dual-use projects shows minor variations in most cased when compared with their respective total participation, except for two notable cases: Greece, on the one hand, which contributes much more to dual-use projects (6.1 %) than its overall share of Horizon 2020 projects (3.4 %), and Sweden, on the other hand, which contributes much less to dual-use projects (1.5 %) than its total share (3.4 %) of Horizon 2020 projects. All Member States but one (Lithuania) are represented in this dual-use research activity.

Figure 7. Number of organisations and contributions to dual-use R & I projects by non-EU country



Source: JRC analysis of CORDIS data.

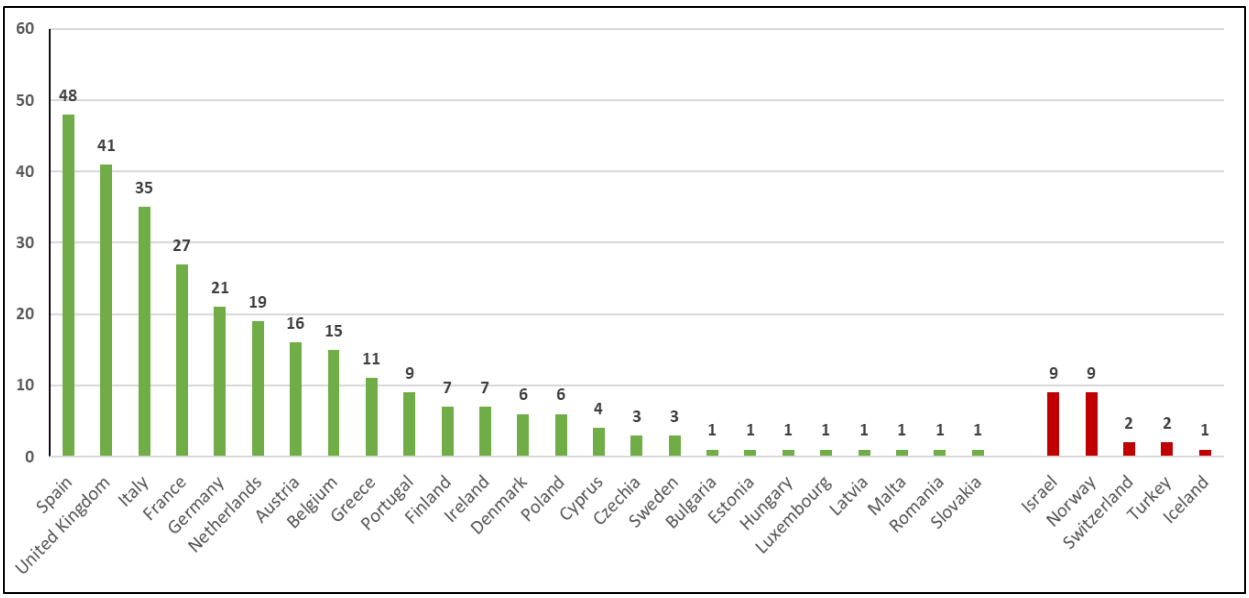
More than 30 non-EU countries are involved in dual-use R & I projects, but three, also associated with Horizon 2020 projects, have notable numbers of organisations involved (more than 20) and contributions (around 30–40), namely Israel, Switzerland and Norway. Israel's position in first place in terms of contributions to dual-

([18]) The United Kingdom was an EU Member State at the time the study was carried out.

use projects (2.3 %) is notable compared with this country's overall participation in Horizon 2020 projects (0.8 %) (European Commission, 2019b).

Each project has a coordinating organisation (coordinator), hence a coordinating country. Figure 8 shows the importance of each country in its role of project coordinator, both EU Member States (green bars) and non-EU countries (brown bars).

Figure 8. Number of dual-use R & I projects by coordinating country



Source: JRC analysis of CORDIS data.

The five EU Member States that are coordinators of more than 20 dual-use projects are the same as the top 5 overall contributors (i.e. coordinators and participants) but in a slightly different order: Spain, United Kingdom, Italy, France and Germany. For Spain, 22 % of its contributions are as coordinators, whereas for Germany the share is only 10 %. Overall, these top 5 Member States account for 56 % of all coordination roles. At the other end of the scale, three EU Member States have no coordinating role in projects: Croatia, Slovenia and Lithuania (which does not contribute to dual-use projects at all).

Five non-EU countries are also project coordinators (7 % of the projects), notably Israel and Norway.

3.2.3.2 Who is doing dual-use research?

The European Commission classifies organisations involved in research projects into five categories: (1) public bodies (e.g. ministries, public authorities and services); (2) research organisations; (3) private for-profit entities; and (4) higher and secondary education establishments (mostly universities). The fifth category, 'others', encompasses entities such as forums, foundations, non-governmental organisations and networks.

Just over half of the 1 205 contributing organisations are private for-profit entities. Just under half is made up of public research and education establishments, which are largely non-profit entities. The detailed distribution of organisations contributing to dual-use research projects is shown in Table 5.

Table 5. Distribution of organisations contributing to dual-use projects by their legal status

Legal status	EU Member States	Non-EU countries	Total (no.)	Total (%)
Private for-profit entities	551	56	607	50.3
Higher or secondary education establishments	223	41	264	21.9
Research organisations	147	10	157	13
Public bodies	118	14	132	11
Others	40	5	45	3.7
Total	**1 079**	**126**	**1 205**	**100**

Source: JRC analysis of CORDIS data.

Altogether these organisations provide 1 890 contributions to projects according to the distribution presented in Table 6.

Table 6. Distribution of organisations' contributions to dual-use projects by their legal status

Legal status	EU Member States	Non-EU countries	Total (no.)	Total (%)
Private for-profit entities	750	76	826	43.7
Higher or secondary education establishments	418	53	471	24.9
Research organisations	297	15	312	16.5
Public bodies	218	15	233	12.3
Others	43	5	48	2.5
Total	**1 726**	**164**	**1 890**	**100**

Source: JRC analysis of CORDIS data.

It is worth noting that the public and non-profit entities (i.e. research and educational organisations) altogether contribute more to projects (53.7 %) than their share of organisations (45.9 %). This is the opposite for the private for-profit entities, which contribute less to projects (43.7 %) than their share of organisations (50.3 %). The average number of contributions to projects is shown in Table 7.

Table 7. Average number of organisations' contributions to projects by their legal status

Legal status	Number of contributions to projects
Private for-profit entities	1.36
Higher or secondary education establishments	1.78
Research organisations	1.99
Public bodies	1.77
Others	1.1
Overall	**1.57**

Source: JRC analysis of CORDIS data.

Research and educational organisations are quite logically at the top with on average almost two contributions to projects each, whereas private for-profit companies are below the overall average contribution to projects. Put differently, only a small share of private for-profit entities are involved in more than five projects (1.7 %), whereas 8.9 % of research organisations are in the same situation (Table 8). On the

whole, most entities contribute to only one project, especially the private for-profit organisations, of which 80 % do so, compared with around 60–70 % of the other types of organisation.

Table 8. Number of projects organisations contribute to by their legal status (%)

Number of projects contributed to	Private for-profit entities	Higher or secondary education establishments	Research organisations	Public bodies
10 or more	0.2	0.4	1.9	0.8
7–9	0.8	1.1	3.2	1.5
5–6	0.7	4.2	3.8	5.3
4	0.7	4.5	3.2	5.3
3	4.8	6.1	3.8	4.5
2	12.9	20.5	13.4	10.6
1	80.1	63.3	70.7	72.0

Source: JRC analysis of CORDIS data.

Table 9 lists the organisations that contribute to five or more dual-use R & I projects (the full list is available in Annex 4).

Table 9. Organisations contributing to five or more dual-use R & I projects

Name of organisation	Country	Legal status	Number of projects contributed to
FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	DE	REC	23
ATOS SPAIN SA	ES	PRC	22
KATHOLIEKE UNIVERSITEIT LEUVEN (KUL)	BE	HES	17
ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS (CERTH)	EL	REC	14
MINISTERIO DEL INTERIOR	ES	PUB	11
INSTITUT NATIONAL DE RECHERCHE EN INFORMATIQUE ET AUTOMATIQUE (INRIA)	FR	REC	11
NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK (TNO)	NL	REC	9
RUHR-UNIVERSITÄT BOCHUM	DE	HES	9
KENTRO MELETON ASFALEIAS	EL	REC	9
ENGINEERING – INGEGNERIA INFORMATICA SPA	IT	PRC	9
IBM ISRAEL – SCIENCE AND TECHNOLOGY LTD	IL	PRC	8
COMMISSARIAT À L'ÉNERGIE ATOMIQUE ET AUX ÉNERGIES ALTERNATIVES (CEA)	FR	REC	8
AUSTRIAN INSTITUTE OF TECHNOLOGY GMBH (AIT)	AT	REC	8
TECHNIKON FORSCHUNGS- UND PLANUNGSGESELLSCHAFT MBH	AT	PRC	7
UNIVERSITY OF PIRAEUS RESEARCH CENTRE	EL	HES	7
THALES COMMUNICATIONS & SECURITY SAS	FR	PRC	7
MINISTÉRIO DA ADMINISTRAÇÃO INTERNA	PT	PUB	7
MINISTÉRIO DA JUSTIÇA	PT	PUB	7
JOINT RESEARCH CENTRE – EUROPEAN COMMISSION (JRC)	BE	REC	7
IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE	UK	HES	7
IBM RESEARCH GMBH	CH	PRC	7
VRIJE UNIVERSITEIT BRUSSEL (VUB)	BE	HES	6
UNIVERSITY COLLEGE LONDON	UK	HES	6

Name of organisation	Country	Legal status	Number of projects contributed to
XLAB RAZVOJ PROGRAMSKE OPREME IN SVETOVANJE DOO	SI	PRC	6
TECHNISCHE UNIVERSITÄT DARMSTADT	DE	HES	6
UNIVERSITY OF BRISTOL	UK	HES	6
UNIVERSITY OF SOUTHAMPTON	UK	HES	6
SERVICE PUBLIC FÉDÉRAL INTÉRIEUR	BE	PUB	6
MINISTERO DELL'INTERNO	IT	PUB	6
INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS	EL	REC	6
HOME OFFICE	UK	PUB	6
CONSIGLIO NAZIONALE DELLE RICERCHE (CNR)	IT	REC	6
AYUNTAMIENTO DE MADRID	ES	PUB	6
TRILATERAL RESEARCH LTD	UK	PRC	5
TECHNISCHE UNIVERSITÄT GRAZ	AT	HES	5
UNIVERSITÉ DU LUXEMBOURG	LU	HES	5
TECHNISCHE UNIVERSITEIT EINDHOVEN	NL	HES	5
STIFTELSEN SINTEF	NO	REC	5
TEKNOLOGIAN TUTKIMUSKESKUS Oy	FI	REC	5
TECHNISCHE UNIVERSITÄT BRAUNSCHWEIG	DE	HES	5
THALES SA	FR	PRC	5
THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD	UK	HES	5
POLICE SERVICE OF NORTHERN IRELAND	UK	PUB	5
MINISTÈRE DE L'INTÉRIEUR	FR	PUB	5
SERVICIUL DE PROTECȚIE ȘI PAZĂ	RO	PUB	5
FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS	EL	REC	5
EURECOM	FR	HES	5
IDEMIA IDENTITY & SECURITY FRANCE	FR	PRC	5
INOV INESC INOVAÇÃO – INSTITUTO DE NOVAS TECNOLOGIAS	PT	REC	5

NB: REC, research organisation; HES, higher or secondary education establishment; PRC, private for-profit entity; PUB, public body; OTH, other.

Source: JRC analysis of CORDIS data.

The 'top 10' organisations contribute to at least nine dual-use research projects each (shaded yellow). Among them, half are research organisations, while private entities and education establishments account for two each and one is a public body. In terms of countries of origin, there are two from Germany, Greece and Spain, and one from Belgium, France, Italy and the Netherlands.

A short description of the major contributors among this top 10 (those contributing to 10 or more projects) is given below, together with the main fields covered by those projects (see Annex 2 for details – the fields are presented in the columns 'Building block' and 'Focus', which were developed in our previous study (Bordin et al., 2019)).

Fraunhofer Gesellschaft zur Förderung der Angewandten Forschung e.V. The multi-topical nature of this application-oriented research organisation is well reflected in the variety of areas and concepts tackled in the 23 projects it is involved in, mainly: cybersecurity (6 projects), critical infrastructures (6), law enforcement (6), border control (4), resilience (4), surveillance (3) and cloud computing (3).

Atos Spain SA. Because of its activities, this company is involved in projects dealing mostly with cybersecurity and communication: cybersecurity (18 projects out of 22), cloud computing (5), general ICT (5), critical infrastructures (4), privacy concerns (3) and internet of things (3).

Katholieke Universiteit Leuven (KUL). The KUL is strongly focused on projects dealing with the cyber world: cybersecurity (13 projects out of 17), cryptography (7), general ICT (5), internet of things (4), privacy concerns (3) and critical infrastructures (3).

Ethniko kentro erevnas kai technologikis anaptyxis (CERTH). This organisation is engaged in research, innovation and services in a variety of technological domains, in which its involvement ranges from law enforcement (6 projects out of 14) to cybersecurity (4) and surveillance (3).

Ministerio del Interior of Spain. As a government entity, a ministry is intrinsically different from all the others considered above. The mission of a current EU Member States' ministry of internal affairs is perfectly demonstrated by the main focus of the projects it is involved in: law enforcement (7 projects out of 11), fight against financing of terrorism (3) and social media (3), followed by several other topics of considerable interest for state power, for example. cybersecurity (2), border control (2) and public spaces protection (2).

Institut national de recherche en informatique et en automatique (INRIA) (New name : Institut national de recherche en sciences et technologies du numérique). As an institution devoted to digital science and technology, it is not a surprise that all projects in which INRIA is involved deal with cyberspace: cybersecurity (11 projects out of 11), cryptography (6), internet of things (4) and general ICT (2).

4 Conclusions

Horizon 2020 research projects focus exclusively on civil applications, but this does not prevent them producing results that could lead to innovations with possible defence applications. The importance of capitalising on this potential and maximising the synergies between civil security and defence research is specifically highlighted in the proposal for the multiannual financial framework for 2021–2027. The purpose of the present study was to try to detect those Horizon 2020 security research projects that have a dual-use potential and to shed light on their areas of research to assess them for further exploitation in the defence field. The methodology applied for this purpose considers the KETs that are the fundamental building blocks for a range of goods and services in both the civil and the defence sectors and thus represent key innovation accelerators for industry.

The present study builds upon previous work. A study by Scalia et al. (2017) established a list of 167 KET-related dual-use innovation fields, a subset of which (38) was considered a priority for future R & I programmes (recommended innovation fields). An inventory carried out previously (Bordin et al., 2019) identified 349 security projects funded by various Horizon 2020 programmes. Using Scalia et al.'s dual-use innovation fields, 309 of the 349 Horizon 2020 projects were found to have a dual-use potential.

The analysis showed that the greatest number of dual-use Horizon 2020 projects (around 50–60 each) are associated with three dual-use innovation fields. These 'top 3' innovation fields deal with issues concerning two major domains of contemporary society: cyberspace (here mainly advanced encryption systems and protection of personal computers, cyberspace navigation and cyber identity) and critical infrastructures (their overall protection). More than half of the projects (57 %) are associated with more than one innovation field; that is, the results of their research could be applied in several domains.

Another interesting finding, which can be considered a positive outcome, is that 75 % of the projects are linked to at least one innovation field considered a priority for future R & I programmes (recommended innovation field). Of these 232 projects, 117 were related exclusively to recommended innovation fields and 115 to a mixture of recommended fields and others. This figure of 75 % is much higher than the fraction of recommended innovation fields, which is only 23 % (38 out of 167). This would suggest a rather good fit between experts' recommendations for dual-use research topics, on the one hand, and successful projects in calls for proposals, on the other.

The 'top 7' recommended innovation fields include those with which 20 or more projects are associated: (1) improved encryption solutions; (2) protection of critical infrastructures against physical threats; (3) screening devices for the detection of traces of potential threats (including CBRN-E); (4) data mining for early detection of threats and law enforcement; (5) individuals and events recognition solutions; (6) biometric access control systems; and (7) mobile equipment for CBRN-E detection.

The recommended innovation fields are also clustered in thematic areas. One observation following the analysis is the predominance of the thematic area 'security/cybersecurity systems'. This illustrates the major role of research basically aiming to enhance prevention of all kinds of cyber- and physical attacks. Furthermore, the importance of issues related to CBRN-E becomes clear. Although the thematic area 'health and sanitary protection, including against CBRN-E threats' contains six recommended innovation fields, only three are pertinent to the projects studied; however, all three deal precisely with CBRN-E. In addition, two of these three fields belong to the 'top 7' fields.

Regarding who is working on dual-use R & I projects and where, the analysis showed that all EU Member States but one (Lithuania) are represented in this research activity. The five leading Member States in terms of contributions to (58 %) and coordination of (56 %) dual-use projects (the United Kingdom, Spain, Germany, Italy and France) are, as expected, the same five leading participants in the whole Horizon 2020 programme (60 %) but in a slightly different order. However, the role of Greece is notable, having relatively much more participation in dual-use research than its total share of Horizon 2020 projects, whereas the opposite holds true for Sweden. With more than 30 non-EU countries involved in dual-use R & I projects, three of them, Israel, Switzerland and Norway, have notable numbers of organisations (more than 20) and contributions (around 30–40). Five non-EU countries are also project coordinators (7 % of the projects), notably Israel and Norway.

In total, 1 205 organisations have contributed (as coordinators or participants) to the 309 dual-use R & I projects through 1 890 individual contributions. Half of them are private for-profit entities and around 20 % are education establishments, while research organisations and public bodies account for 13 % and 11 %, respectively. Despite their relatively low numbers, the last three tend to contribute proportionally more to

projects. Only a small share of private for-profit entities are involved in five projects or more (1.7 %), compared with 8.9 % of research organisations. Most entities contribute to only one project, especially the private for-profit organisations, of which 80 % do so, compared with around 60–70 % of the other types of organisation.

The analysis performed in this study has allowed us to identify research projects and topics with dual-use potential far beyond the more restricted concept of 'export controlled research'. It is intended to support future security and defence research programmes in their attempts to avoid duplication of investment and to promote synergies.

In addition, future similar studies of research projects with dual-use potential funded by the European Defence Fund may complement this support and help improve the coordination of R & I activities between security and defence work programmes.

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List of abbreviations

CBRN-E/NRBCE	chemical, biological, radiological, nuclear and high-yield explosive
CORDIS	Community Research and Development Information Service
EDA	European Defence Agency
EU	European Union
FP7	Seventh framework programme for research and technological development
H2020	Horizon 2020 framework programme for research and technological development
ICT	information and communication technology
JRC	Joint Research Centre
KET	key enabling technology
R & I	research and innovation

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Annexes

Annex 1. List of innovation fields and their corresponding cross-sectoral industrial domains, recommended innovation fields and thematic areas

Table 10. List of 167 innovation fields with dual-use potential and their corresponding cross-sectoral industrial domains (from Scalia et al., 2017)

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
ENER-02	Energy	Flexible solar cells (modules) enabling improved PV integrability	Flexible solar cells (modules) based on thin-films layers, organic dyes, deposited organic polymers, etc., enabling flexibility for improved PV integration, major modularity, easier installation, with more choice in appearance and reduced cost thanks to optimization of materials' consumption as well as improvements at the manufacturing level.
ENER-09	Energy	Systems for hydrogen storage for fuel cells transport as well as portable and consumer applications	To develop systems for hydrogen storage for fuel cells transport as well as portable and consumer applications (e. g. hydrogen cylinders, metal-hydride tanks, chemical-hydride tanks, methanol cartridges (for direct methanol fuel cells, DMFCs).
ENER-11	Energy	Fuel cells-based systems for transport applications	To develop fuel cell-based systems for transport applications with improved performance at both single component and system level eventually combined with efficient and reliable units for fuel processing of liquid fuels to hydrogen (reforming of, for example, gasoline, diesel and kerosene) for on board application.
ENER-12	Energy	Fuel cells-based systems for portable applications	To develop fuel cell-based systems for portable applications with improved performance at both single component and system level toward miniaturisation, compatibility, simplicity and cost-effectiveness including hybrid systems solutions capable to optimizing system efficiency, dynamics and start-up time.
ENER-25	Energy	Hybrid systems integrating several distributed energy sources	Hybrid systems capable of exploiting several distributed energy sources, including renewable, as well as heat pumps, long and short term energy storage, all sorts of heating and cooling systems and waste heat recovery in a synergistic way, with advanced controls and designed for easy and modular in situ deployment, maintenance and reconditioning, e.g. for temporary camps or other settlements requesting flexibility
ENER-28	Energy	Next generation thermal energy storage	To develop next generation thermal energy storage solutions and systems for the storage of heat and cold towards reducing costs of actual systems and improving their ability to effectively and efficiently shift heat demand over days, weeks or seasons.
ENER-33	Energy	Compressed Air Energy Storage (CAES)	Compressed Air Energy Storage (CAES) coupled with expansion for renewable energy storage and delivery of renewable electricity whose efficiency is maximized and costs are minimized
ENER-35	Energy	Seasonal thermal energy storage and other alternative thermal energy storage solutions	Exploiting river, lake or sea water through improvements in design and installation methods as well as control.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
ENER-38	Energy	Flexible, self-healing and damage resilient power transmission/ distribution	To develop flexible AC power transmission/distribution systems based on high-speed power routing equipment and systems, allowing for self-healing and more resilient grids, including for critical infrastructures power supply or external operation theatres.
TRA-01	Transport	Advanced on-board energy generation or recovery	To develop systems and solutions for the generation or recovery of energy on board vehicles, from internal (motion, heat) as well as ambient sources (solar, wind, etc.) in order to improve the overall energy consumption of the vehicle and power embedded systems.
TRA-08	Transport	Information-based fleet management systems	Services from fleets of trucks, bus, ships, aircraft, etc. benefit from accurate real-time positioning, dependable data links and user-friendly service-oriented central command & control systems, in particular so as to optimize geographical coverage, maintenance, catering, crew timetables, etc.
TRA-11	Transport	All weather transport operations	Instruments and systems robust to extreme weather conditions, able to receive useful external information and provide operators with operational assistance, so that transport operations have the capability to operate safely in a wide range of meteorological and environmental conditions.
TRA-12	Transport	Advanced embedded positioning and navigation	To develop beacon-based, satellite-based or inertial systems, eventually coupled, able to deliver a highly precise and dependable positioning and navigation service, whatever the vehicle and operational conditions, cost-effectively and with low weight and cost-effective embedded systems.
TRA-13	Transport	Information-rich operator position	In the context where information capture is increased all over the transport chain (on-board vehicles, from the infrastructure or any other source), as well as multilateral communications (vehicle-to-vehicle, vehicle-to-infrastructure), the provision of the vehicle operator – pilot, driver, sailor, traffic controller, etc. – with full situational awareness and decision-making assistance is getting fundamental. Taking stock on advanced processing capabilities, advanced ergonomics and optimal human machine interfaces, the information-rich operator position supports safer, more efficient, more automated and fool- proof vehicle operations.
TRA-15	Transport	Electric vehicle powertrain	Even though at widely different levels of maturity depending of the category of vehicle (trams and trains, cars, ships, aircraft and even satellites with ion thrusters), electric propulsion is physically the most energy efficient way of moving vehicles, with a high potential for also for operation optimization. Around the electric vehicle powertrain, shared challenges appear on embedded energy storage and charging, on-board power management, overall cost- effectiveness, use of rare materials and all sorts of hybridization.
TRA-16	Transport	Smart charging equipment for vehicle embedded energy storage capabilities	Embedded energy charging stations and infrastructures supporting the effective deployment of new mobilities, especially electric mobility, providing user-centric safe and secure charging services whilst taking into account energy networks constraint.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
TRA-17	Transport	Low emissions (and noise) vehicle powertrain	To develop combustion powertrains taking into account fuel feeding and real operational conditions so as to reduce energy consumption and pollutants emissions, taking advantage of advanced simulation means to optimize combustion conditions, engine architecture and control loops, powertrain subsidiary components, lubrication and power transmission, vibration and noise energy losses.
TRA-18	Transport	Green fuels	To develop cost-effective fuels from biomass and other sustainable resources that demonstrate sufficient energy density and satisfying operational characteristics while being producible at reasonable costs with clean highly energy-efficient processes. NB: green fuels are addressed here within the “transport” point of view but may be dedicated to other usages (e.g. combustion for energy generation). See also the correlated Innovation Field in the Chemical Processes, Chemicals, Chemical Products and Materials Domain.
TRA-19	Transport	Green and safe vehicle design	Vehicle configuration designed with the help of best material science and modelling / simulation capabilities for a minimal environment impact, in particular low emissions and structural noise, optimal all-conditions interactions with vehicle environment and operation safety.
TRA-20	Transport	Advanced vehicle structures	To develop vehicle structures – such as car chassis, aircraft airframes, ship hulls, train or satellite platforms, rocket fuselages, etc. - that are light-weight, crashworthy and wear/fatigue resistant (e.g. single-piece or rivet-less complex shapes), eventually functionalized, coated or otherwise treated for improved properties, and produced with minimal use of materials and chemicals, recyclable and cost-effective.
TRA-21	Transport	Sustainable/recyclable vehicles and systems	Vehicles and systems designed taking into account overall lifecycle, including maintenance and end of life, so as to increase recycling share and minimize waste, use of rare or toxic materials and pollutions whilst maintaining capabilities throughout campaign life.
TRA-22	Transport	Eco-efficient Maintenance, Repair and Overhaul (MRO) strategies and systems	To design vehicles and systems for maintainability, including regular, condition-based, predictive and preventive maintenance, based on eco-efficient Maintenance, Repair and Overhaul (MRO) systems, as non-destructive testing, robotic maintenance or advanced retrofit strategies.
TRA-23	Transport	Unmanned vehicle controls	To develop complete vehicle control chains - including environment data acquisition and processing, choice of reaction strategy and related actuation - enabling high level capabilities for autonomous or remote controlled operations of all sorts of unmanned vehicles, including driverless trains, drones, autonomous cars, satellites, space probes, planetary exploration robots, etc.
SPA-01	Space	Integration of Earth Observation services/products with positioning ones and ICT	Use of open standards for data analysis in Earth Observation products/services.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
SPA-02	Space	Key satellite communication technologies with increased maturity	Miniaturisation, power reduction, efficiency, versatility and/or increased functionality of photonics technologies, active antenna building blocks, flexible repeater, anti-jamming and interference mitigation techniques, on board spectrum monitoring, etc.
SPA-03	Space	Innovative EGNSS based applications/services/products for transport (e.g. aviation, road, maritime and rail), LBS (Location Based Services) and smart cities (incl. Internet of Things)	Solutions for cross modal mobility using also the Internet of Things and exploiting the interconnectivity of devices and their location. Applications for secure financial transactions, tracking solutions, social networking, safety and emergency, e-health, etc. should finally be enhanced.
SPA-04	Space	Advanced sensor functions to survey and track space objects and analyse SST (Space Surveillance & Tracking) captured data	To establish and operate a sensor function consisting of a network of ground-based or space- based existing national sensors to survey and track space objects. To establish and operate a function to process and analyse the SST data captured by sensors, including the capacity to detect and identify space objects and to build and maintain a catalogue thereof.
SPA-05	Space	Flexible satellite broadband telecommunication payload	Increase transponders data processing rates whilst keeping energy consumption under control. Develop payload capability for broadband communication (C to Ku and Ka bands), including through increased operational flexibility and re-configurability. Enable higher on-board processing power with increasing on-board available energy and improving embedded power and thermal management (including with deployable radiators or cryogenic cooling). Power and cost optimized satellite platform. Develop high performance frequency filters for optimal dimensioning of the transmitter and receiver systems, including supra-conductivity filtering. Develop building blocks for high performance low cost antennas as large focal length reflectors and their reliable deployment and actuation mechanisms, multi-beam feeds, multi-spot reflect arrays, reconfigurable beam forming antennas or classical Q/V / UHF band antenna manufactured in a repeatable way.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
SPA-06	Space	Efficient low mass / cost long campaign life spacecraft bus/platform	Develop space qualified lightweight composites or metallic alloys and optimize spacecraft structural integration. Functionalize spacecraft structural parts ('smart skin'), for structural health monitoring, electric shielding, thermal regulation, heat radiation…Reduce weight and power consumption of AOCS, EEE components, solar panels, thermal and power control, batteries, etc. Improve avionics and replace sources of vibrations with non-mechanical, micro-mechanical or high frequency features so as to improve pointing precision and stability of the satellite. Develop low cost highly efficient (high specific impulsion) and/or versatile propulsion systems for transfer phase as well as for station keeping. Develop optimized power systems (advanced power generation, storage and management), with taking into account thermal management requirements (heating and cooling, heat dissipation, energy recovery…) Support on board and system level data handling with high speed data bus and advanced on-board computing capabilities. Ensure integrity and security of the satellite with advanced cryptography and fault detection, isolation and recovery. Provide solutions for the protection of critical systems from environmental space threats as debris, dust, radiation, micro-meteoroids, electrostatic charging…
SPA-07	Space	Miniaturized high precision attitude, orbit and time management control systems	Develop high precision wide range inertial measurement and pointing (including with fibre optic gyroscopes, optical metrology, stepper motor…). Develop active compensation high resolution Line-Of-Sight actuation control techniques for LEO and GEO (star trackers, sun sensors, magnetometers). Take advantage of multi-GNSS systems reception capabilities (GPS, Galileo, Beidou, Glonass) to enable low cost satellite positioning. Implement low and very low thrust electric for station keeping and attitude control, including with full electric or hybrid propulsion systems. Minimize all equipment and subsystems vibrations, including with replacing rotating parts with non-mechanical equivalent, miniaturizing the moving parts or increasing rotation speeds. Implement compact, even miniature, accurate, high stability and robustness space qualified time measurement solutions, from ion traps to optical atomic clocks. Develop advanced spacecraft flight models for more automated space operations.
SPA-08	Space	Optimized space systems ground segment for highly efficient operations	Optimize ground segment architecture to enable a high level of scalability, modularity and flexibility as required in a multiuser and multi-mission context. Rely more and more on Service Oriented Architecture, virtualisation, grid technologies and plug and play building blocks. Improve space surveillance and operator situational awareness, in particular for debris monitoring and satellite/constellation tracking based on Synthetic Aperture Radar and other sensors. Improve man machine interface for easier satellite, constellation and related service operation. Ensure a high degree of security and integrity and ground-space communications and processing.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
SPA-09	Space	Flexible low consumption launch and space propulsion systems, including for transfer, orbit keeping and deorbitation	Optimize cryogenic propulsion for information-rich use in main and upper stage launcher propulsion, including with high efficiency re-ignition capabilities and all non-boosted phases. Develop solid propulsion engine for main/core propulsion and booster stages. Optimize engine pressure and feed flow control systems. Evaluate hybrid electric/chemical throttle-able propulsion systems for transfer phase and station keeping. Develop high specific thrust propellants and related engines/thrusters for replacing chemicals that are rare or falling under REACH constraints (as MON/MMH, Hydrazine, Xenon). Develop miniaturized low cost and modular technologies for electric thrusters, including for small satellites. Develop very high energy density propulsion and thrust subsystems (as supra-conductive EEE components). Develop highly efficient multi-purpose electric satellite propulsion systems (as high power low erosion gridded ion or multistage plasma thrusters) for all sizes of LEO to GEO satellites. Develop non-toxic / high performance de-orbitation systems for launcher upper stages as for satellites with limited impact on system launch mass but reliable enough to operate after longest lifetimes (up to 25 years).
SPA-11	Space	Embedded power and heat control and distribution systems	Increase power density of embedded energy storage systems, in particular batteries and low power supercapacitors, whilst mastering lifetime and resilience to severe operational conditions. Investigate interest for regenerative fuel cells used for energy storage. Reduce mass and increase efficiency of power control and distribution units, especially for LEO satellites. Extend voltage operational range of embedded power electronics and electrical systems, in particular for supporting electrical propulsion or high-performance telecommunication payloads. Optimize embedded power management and distribution. Enhance thermal rejection for high energy missions (as telecommunication) with the help of advanced deployable radiators or other fluidic and mechanical solutions. Develop zero/low vibration heat pumping systems for cooled detectors and systems. Develop thermo-electricity solutions for reliable and cost-effective reversible generation of cold or power.
SPA-12	Space	High throughput low energy embedded data handling and processing	Implement space qualified very high data rate payload data handling and transmission architecture and systems (including antenna). Develop regenerative/transparent in flight reconfigurable On-Board Processor, eventually based on software radio techniques. Increase capability of on-board databus and data connections (including high speed optical connections). Reliably integrate and miniaturize modem, data interface and data processing subsystems to reduce mass and power consumption, including for multi-instruments resource constrained missions. Develop space qualified high capacity high data rate mass memories, high performance eventually multi-core processors, low power / reprogrammable controllers, high speed serial link, electronic components with protecting packaging, etc. Develop software architectures that take into account space systems hardware evolution in time and limit the obsolescence effect.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
SPA-13	Space	High resolution on-board observation and detection instrument chains	Increase resolution and observation range of Earth observation detectors (including sub-mm optical observation, IR & UV spectrometry, radar systems, sub-mm radiometry, X-ray detection, fine interferometry, humidity detector, CMOS imagers, magnetometers, etc.). Develop miniaturized high stability and reliability systems for large and/or active optical observation systems. Minimize noise on detectors, including with high efficiency zero vibration cryo-coolers, and develop systems to detect and control residual errors. Integrate the complete detection chain improvement from detector improvement to accurate pointing and smart data optimisation (as with autonomous cloud detection for Earth observation systems). Develop stable, reliable and high-power LIDAR instruments for future Earth observation, including pollution monitoring.
SPA-14	Space	Planetary exploration robots and robotic systems	Setup system architectures and sensing/actuation subsystems capable for autonomous rendezvous, proximity and docking operations. Implement the right combinations of propulsion systems for long distance travel, braking, landing, ground movement and possibly come-back (including sample return). Develop re-entry capsules, possibly re-usable, with deployable and / or inflatable heat shield, ablative or permanent, and aero-braking systems for safe atmosphere entry or re-entry. Increase European capabilities for testing of atmosphere re-entry capsules, in particular plasma shock testing. Equip re-entry vehicles with accurate guidance systems for precision landing and surface navigation. Enable long duration full operational autonomy of exploration rovers, through implementing advanced unmanned systems control capabilities. Develop lightweight automated features, including robotic arm, soil penetrators/deep drillers and container sealing and handling systems for sample collection. Optimize long distance low power data transmission.
SPA-17	Space	Quick launch solutions for cost-effective low Earth orbit positioning	Design a system able to inject a small satellite in low Earth orbit within a few days of alert.
SPA-18	Space	Space debris monitoring, reduction and prevention	Develop a dual use (civil and defence) architecture for a centre maintaining an ephemeris of all detectable objects in orbit. Implement detection systems able to monitor space debris, in particular in lower orbits, down to less than 10 cm diameter. Design a standard equipment to monitor atmosphere re-entry of all orbiting vehicles and follow up possible fragmentation.
SPA-19	Space	Lightweight long-life structures for space vehicles	Develop lightweight structural materials highly resilient to space launch mechanical constraints as well as to long run incidence of severe space environment conditions (temperature, radiation, micrometeorites impacts…). Functionalize structural parts, possibly with multifunctional coatings, so as to enable optimization of characteristics such as emissivity, absorptivity, friction, insulation, etc. Develop high performance advanced adhesive and joining technologies to support more automation of manufacturing and assembly processes.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
SPA-20	Space	Substitutes for toxic chemicals and materials in space industry products and production	Replace substances falling under REACH regulation with efficient substitutes, including for solvents, cleaning products, primers for parts bonding, thermoset resins, aluminium anodisation, propellants, etc. Ensure all substitutes are adequate for space use: non-outgassing, usable with a wide temperature range, with no sourcing issue nor international dependence. Prepare for the situation where RoHS directive becomes applicable to space (especially concerning lead-free electronics).
SPA-21	Space	Satellite Earth observation for meteorology, environment monitoring and other wide area services	Satellite Earth observation systems for meteorology, environment monitoring, land exploration and other wide area services including homeland surveillance.
SAP-22	Space	High performance competitive components for hard, highly constrained environments	Deep-submicron (DSM) digital components, specifically processors and memories, based on advanced technology nodes such as 65nm CMOS or 28nm FDSOI, designed so as to deliver high performance, flexibility and scalability while competitively answering stringent mission requirements such as that of satellite payload or other systems in a high level of radiation context (e.g. anti-electromagnetic warfare military systems or embedded systems for post nuclear disaster robotic field operations). This primarily means radiation hardening (e.g. based on advanced component packaging solutions or inherent resistance of advanced semiconductor solutions) but also material to complete application specific integrated circuits (ASIC) modelling, simulation and operational characterization capabilities, ultralow fail rates for long campaign life integrity and reliability validation, including in wide temperature qualification domains, as well as assessment and qualification of the relevant supply chain, from material and machinery suppliers to partner design houses.
HEAL-07	Health & Healthcare	Technologies to identify and validate biomarkers for diagnostics and predictive personalized medicine	To develop technologies able to identify and validate more accurate and informative biomarkers for diagnostics e.g. better than PSA in prostate cancer, including epigenetic methylation profiles; including predictive biomarkers as short DNA repeats for preventing/anticipating disease susceptibility.
HEAL-10	Health & Healthcare	Portable Point-of-Care (POC) devices and test kits for instant diagnosis based on microfluidics, biosensors and/or arrays	To develop rapid, safe and cheap diagnostics, portable and miniaturized devices or easy kits for diagnosis or treatment monitoring at home (capable of data collection and Communication with the medical doctor).
HEAL-18	Health & Healthcare	Improved delivery systems, surface coatings and coating techniques for drugs	To develop new and improved delivery systems and surface coatings for conventionally fabricated tablets.
HEAL-19	Health & Healthcare	Production of antibiotics and antibodies	Production of both antibiotics and antibodies through fermentation or other biotechnological procedures.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
HEAL-20	Health & Healthcare	Robots for medical interventions	Robotic systems supporting professional medical interventions such as e.g. robotized assistance during surgery, robotized precision surgery, robot assisted micro-surgery, robotic devices for minimally invasive surgery, medical micro- and nanobots, robotized assistance in small medical interventions
HEAL-22	Health & Healthcare	Robotized systems capable to assist patients' mobility or other living functions	To develop passive robotized systems (including intelligent prostheses) capable to assist patients' mobility or other living functions (e.g. exoskeletons for disabled patients).
HEAL-23	Health & Healthcare	Robots for rehabilitation treatment	Robotized systems capable of supporting healthcare workers in patients' rehabilitation, manipulation, etc. - including robot assisted motor-coordination therapy, robot assisted physical training therapy, robot assisted mental, cognitive and social therapy, etc.
HEAL-25	Health & Healthcare	Smart telecommunications systems for theranostics	Telecommunications systems coupled to diagnostics or therapeutic approaches such as e.g. Control of Aptamer Function Using Radiofrequency Magnetic Field.
HEAL-26	Health & Healthcare	Telemedicine/surgery telecommunications capabilities for routine consultation and emergency scenarios	Data transmission, storage and analysis systems to improve telemedicine/surgery capabilities for routine consultation and emergency scenarios.
MAN-01	Manufacturing & Automation	Advanced joining technologies for long life joints of diverse materials	Improved, new or hybrid joining technologies enable competitive incorporation of materials into structures, including "self-assembly', increase the lifetime of assemblies thus reducing maintenance costs and support products adapted to extreme environments (deep sea, space, engines, medical).
MAN-02	Manufacturing & Automation	Tools and concepts to process new and advanced materials	To develop new tools and concepts for precise and fast machining and processing of new and advanced materials, especially with respect to casting, forming, moulding, material removal, shaping, 3D printing, etc.
MAN-03	Manufacturing & Automation	Mass production of functionalized surfaces and materials	To develop scalable processes, either physical (additive manufacturing, laser, Physical Vapour Deposition (PVD)) or chemical (Chemical Vapour Deposition (CVD), sol-gel), for treating or coating surfaces so as to provide them high added-value functionalities as embedded sensing, adaptive control, self-healing, antibacterial activity, self-cleaning.
MAN-04	Manufacturing & Automation	Automated production of thermoset and thermoplastic composite structures/products	Combinations of methods (automated production, out-of-autoclave production, press forming and welding, laser cutting and joining) and materials (resins and polymer matrix combinations, curable, reusable and recyclable thermoplastics) for weight reduction and novel constructs.
MAN-05	Manufacturing & Automation	Integrated non-conventional processes to reduce manufacturing time to market and increase the quality of the work piece	Integration of non-conventional technologies (such as lasers, water jet, electro discharge, ultrasonic, printing, 3D printing) to develop new multifunctional manufacturing processes (for inspection, thermal treatment, stress relieving, machining, joining, etc.) that reduce time to market and increase quality.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
MAN-06	Manufacturing & Automation	Rapid manufacturing for custom made parts	To develop new processes enabling flexibility and rapid change, including optimal topological features, added functionality and levels of personalization not previously possible at large scale. Examples include printing inks/processes (including 3D printing), on-demand (nano) coatings, use of different materials.
MAN-07	Manufacturing & Automation	Energy-efficient factories	To develop new and improved concepts for energy generation and recovery in production, including substitution of high-temperature processes.
MAN-09	Manufacturing & Automation	Quality control for robust micro- and nano-enabled production	To develop rigorous in-situ quality control systems with high 3D resolution and accuracy measurement capability, over large areas or with high aspect ratio on complex parts, in less temperature-controlled environments and a speed/throughput compatible with industrial standards.
MAN-10	Manufacturing & Automation	Tools and equipment for manufacturing of high-performance flexible structures	Methods and technologies realising the full potential of high-performance polymers and advanced textiles, including for 3D structured, multi-layered and hybrid materials, joint-free complex shapes, automated joining and a wide range of surface engineering and functionalisation techniques.
MAN-16	Manufacturing & Automation	Embedded cognitive functions for supporting the use of machinery and robot systems in changing shop floor environments	More advanced control, integration and networking among cognitive machines and robot systems, and robust behaviour with respect to unforeseen changes for machinery and robot systems that must perform well over increasing uncertainty ranges and in less/partly structured shop floor environments.
MAN-18	Manufacturing & Automation	Flexible, reconfigurable and modular machinery and robots	As-autonomous-as-possible reconfiguration of machinery and robots to support mass customized and highly personalized products and fast reactions to shifts of market demand, e.g. through self-adjustment, correction, control and networking, to decrease e.g. changeover time and energy usage.
MAN-23	Manufacturing & Automation	Intelligent maintenance systems for increased reliability and improved factory lifecycle management of production systems	Novel maintenance approaches that are able to provide required capacity and production quality. Intelligent maintenance systems based on condition prediction mechanisms, remaining useful life estimation, and analysis of machines' behaviour, operational parameters, and self- learning capabilities.
MAN-25	Manufacturing & Automation	Smart supply networks based on object connection and industrial control systems for products and production systems	"Internet of Things' of assets and products (objects carry information and communicate). It is e.g. needed to bridge the gap between different abstractions of objects operating at the shop floor level, business systems level, and at the level of supply networks for data analytics.
ELE-02	Electronic, Electric & Communication Systems	User-friendly human- machine interfaces	To enable easy human-machine interactions and interfaces that increase user-friendliness through e.g. real-time human language technologies, multimodal interfaces mimicking human communication skills, safe natural proximity and hands-free interaction and up to virtual reality for high complexity systems.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
ELE-03	Electronic, Electric & Communication Systems	High autonomy communicating devices	To develop cost-effective and all-size embedded sensors with high connectivity for the Internet of Things, or for airborne or satellite-based Earth / environment observation, with embedded sensor systems and observation/detection instrument chains or autonomous sensors / devices making use of remote power supply/storage and/or micro energy harvesting.
ELE-04	Electronic, Electric & Communication Systems	Low consumption high computing power components (“More Moore”)	To develop affordable and sustainable high computing power low consumption components and circuits, basically “more Moore’ (e.g. based on Complementary Metal-Oxide Semiconductor (CMOS) and Silicon technology), for further miniaturization, higher performance, increased energy efficiency and better heat management of computing systems, supported by a shift to renewable, abundant and non-toxic materials and more cost effective production processes and higher transistor density, such as extreme ultra-violet (UV) photolithography and increased size of semiconductor wafers.
ELE-05	Electronic, Electric & Communication Systems	Functionalized cost-effective components (“More than Moore’)	To develop components and circuits going beyond Complementary Metal-Oxide Semiconductor (CMOS) technologies (“More than Moore’) to deliver powerful low cost and/or functionalized computing, sensing and actuation solutions, building on the functionalisation of the semi-conductor substrate to enrich the non-digital capabilities of the circuits, manage their growing complexity, enable alternative computer architectures (e.g. self-organizing, reconfigurable, defect- and fault tolerant architectures) or high performance solutions for radiofrequency, sensing and control/actuation microsystems, making all these potentially integrate- able/couple-able with Complementary Metal-Oxide Semiconductor (CMOS) (“system on chip’).
ELE-07	Electronic, Electric & Communication Systems	High efficiency power control and conversion electronics	To develop efficient, effective, reliable and sustainable solid-state fast dynamics power electronics for the control and conversion of electric power, mainly for power grid or transport applications.
ELE-08	Electronic, Electric & Communication Systems	Lightweight vehicle embedded circuits and systems	To develop electronic components and circuits adapted to (and qualified for) the specific constraints of vehicle embedded systems: lightweight and energy efficient, modular (as much as possible) and easily upgraded/retrofitted, resistant/resilient to vibrations and other operational constraints (dynamics, temperature, etc.), long campaign life and fit for architectures offering the best operational safety.
ELE-09	Electronic, Electric & Communication Systems	Circuits and systems for long campaign life and/or severe operational conditions	Dedicated circuits and systems able to operate on the long run, or smoothly address the obsolescence issue, under severe environmental conditions of operation, as much as possible from adaptation of standard high performance electronic, electric and electro-mechanical (EEE) components to extreme operational conditions (extreme temperatures, out of atmosphere radiations, battlefield, space launch acceleration and vibrations, nuclear environment, etc.).

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
ELE-10	Electronic, Electric & Communication Systems	Flexible large-area electronics	To develop semi-conductive inks, substrate treatments and related manufacturing processes enabling printed and thin film electronics, eventually organic, for less performance but lower costs of circuits (compared to silicon electronics), and for developing large scale and flexible integration of smart capabilities into textiles/wearable products, packaging, buildings, lighting, etc.
ELE-11	Electronic, Electric & Communication Systems	Small scale embedded energy systems	To develop power systems and solutions, such as battery or fuel cell systems, for supplying mobile and autonomous devices with embedded energy in an operational, safe, cost-effective, user-friendly and long-lasting format.
ELE-14	Electronic, Electric & Communication Systems	Smart content and big data for information-based services	Smart ways to combine multiple, potentially heterogeneous, data sources to create and handle content automatically so as to generate metadata and process it (e.g. using semantic techniques or knowledge mining) to develop analyses, decision-making support, etc.
ELE-15	Electronic, Electric & Communication Systems	High-performance computing / supercomputing facilities	Highly energy efficient high computing power infrastructures, or 'super computers', delivering high levels of resilience, integrity and maintainability so as to support advanced simulation, modelling or calculation services.
ELE-19	Electronic, Electric & Communication Systems	Advanced broadband wireless communication	To develop radio-frequency technologies for seamless, high-performance (broadband), reliable, interoperable, efficient and secure wireless communication, including cognitive radio and new radio technologies to make better use of the limited radio spectrum and advanced wireless networks with increased bandwidth and energy efficiency and multiple communication chips in single platforms such as radio-frequency micro electromechanical systems (RF-MEMS) or Antennas and radio-frequency (RF) parts for next generation wireless networks.
ELE-20	Electronic, Electric & Communication Systems	High bandwidth optical networks	To develop advanced network infrastructures with ultrahigh bandwidth, mainly based on an optical backbone and taking advantage of solutions as radio over fibre or other seamless network technologies.
ELE-21	Electronic, Electric & Communication Systems	Embedded broadband communication payload	Transponder systems enabling embedded communication payloads of satellites, airships or any flying or otherwise moving platforms to provide a broadband communication service at a reasonable cost, with a limited energy consumption (and heat dissipation) and including with all protection systems for preventing unwanted spoofing and jamming of other systems and/or obtaining a sufficient level of encryption and confidentiality.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
ELE-22	Electronic, Electric & Communication Systems	Highly resource efficient networks	To develop resource efficient networks and infrastructures with a low use of energy (i.e. limited heat dissipation), spectrum and processing power, including through concepts such as multi- hop mesh solutions, multi-criteria routing and cognitive/self-organization, context based sleep/active cycles, low power infrastructure chipsets and modules and a special effort on developing distributed cloud computing and data centre eco-efficiency.
ELE-23	Electronic, Electric & Communication Systems	Specialized networks for the internet of things	Smart and highly specialized networks addressing specific needs (e.g. low data transfer but precise timing or specific energy constraints), taking advantage of self-organization or low power communication protocols, including passive near-field communication (RFID) for wireless sensor networks.
ELE-24	Electronic, Electric & Communication Systems	Embedded data handling and processing	High throughput low energy data handling and processing capabilities embedded into all sorts of smart vehicles, from individual cars to space systems, with optimised architectures and optimised data transfer and processing capabilities.
ELE-25	Electronic, Electric & Communication Systems	Complex system-of-systems architectures	Integrated system-of-systems architectures, based on network technologies and convergence concepts, with high levels of scalability, reliability, resilience and security so as to manage complex systems such as energy grids, transport chains, homeland security shields or other networked resources.
ELE-26	Electronic, Electric & Communication Systems	Wide range of physical, chemical and biological detection and measurement sensors	Sensors and sensor systems, either analogical or digital and with expected combinations of sensitivity, specificity, reliability, resistance, energetic-efficiency and cost-efficiency, for all sorts of physical, chemical and biological signals, or a combination of these. This includes any technologies as for detection of traces, infra-red visualisation, advanced magnetometry, etc.
ELE-27	Electronic, Electric & Communication Systems	Chip-level systems integration solutions	Chip and near-chip level integration capabilities which provide robust, highly miniaturized system integration - including 3D integration - to greatly reduce size, form factor, weight and bill of materials while maintaining performance and cost targets. This includes the capability to physically integrate components that allow traceability of the chips, to enable use of commercial off the shelf (COTS) components while delivering advanced functionalities and limit the need for new certification in those applications that need it.
CHEM-08	Chemical Processes, Chemicals, Chemical Products & Materials	Metamaterials or novel chemistries for the substitution of rare elements and other critical raw materials	Metamaterials or novel chemistries to be applied as safe and cost-effective equivalents to rare and toxic adjuvant to various productions, or minimal use of them, with application e.g. in catalysts without precious metals (especially without Platinum), permanent magnets and battery electrodes without rare earths, replacement of Indium Tin Oxide (ITO) where thin transparent oxides are needed as in screens and displays, etc.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
CHEM-10	Chemical Processes, Chemicals, Chemical Products & Materials	High-strength / low-weight fibre-reinforced polymer composite materials	Fibre-reinforced polymer composite materials with superior strength and lower weight for application in transport applications (to reduce fuel consumption while guaranteeing strength), civil engineering (to provide for steel substitution in structures requiring strength combined with light weightiness or low maintenance), sports equipment, etc.
CHEM-11	Chemical Processes, Chemicals, Chemical Products & Materials	Advanced materials and new material architectures with added functionalities	To develop advanced, mainly structural, materials with added functionalities, such as for sensing or self-repair, and new material architectures incorporating novel fibres, nanomaterials, etc., capable to provide added functionalities especially to large structures.
CHEM-12	Chemical Processes, Chemicals, Chemical Products & Materials	Ceramics, inter-metallics, alloys, super-alloys and metal/ceramic-based composite materials for high-performance applications	Lower cost, lower density, high-strength, high-temperature or corrosion-resistant ceramics, inter-metallics, alloys, super-alloys as well as metal-matrix, ceramic-matrix or metal-ceramic composites for high-performance applications mainly in the fields of energy and transport.
CHEM-13	Chemical Processes, Chemicals, Chemical Products & Materials	Coatings and surfaces with high scratch and/or corrosion resistance, good weather-ability and/or with self-repairing capabilities	Long-lasting coatings and surfaces with high scratch and/or corrosion resistance, good weather- ability as well as coatings and surfaces with self-healing, self-repairing or self-replicating properties.
CHEM-14	Chemical Processes, Chemicals, Chemical Products & Materials	Coatings and surfaces with anti-fouling or self-cleaning properties	Coatings and surfaces with anti-fouling or self-cleaning properties able to recognise and inhibit e.g. bio-fouling agents, pollutants, corrosion agents, etc.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
CHEM-17	Chemical Processes, Chemicals, Chemical Products & Materials	High mechanical, chemical and optical properties thin glass for low weight, high performance applications	Cost-effective, high mechanical, chemical and optical properties thin glass layers for low weight, high performance applications, such as to improve or replace costly coatings and surface treatments whilst maintaining mechanical and chemical properties (purity, anti-reflectiveness, spectral behaviour, anti-fog, anti-dust, etc.).
AGRO-06	Agro - Food	Analytical methods toward safe plant raw materials for food application	Analytical methods and techniques aimed at the identification and quantification of toxins, anti- nutritives, unfavourable organisms, biologic or chemical contaminations, which are systemic to or contaminating food plants, toward producing quality and safe food.
AGRO-22	Agro - Food	Assessment and prevention tools to ensure safety of food products and the food chain	To develop assessment and prevention tools (including sensors) aimed at diminishing the risk of biological contamination, chemical hazards (toxins), undesirable components (allergens) or fake components (fake meat) of food products including all along the food chain, thus ensuring safety of food products. These include solutions aimed at the traceability of foodstuff and at the identification of potentially risky events along the food chain. Product examples include, e.g. stable isotope labelling of foodstuff, monitoring systems for the real-time in-line process control for hygiene in food processing, etc. In order to ensure safety of food products, not only devices, but also versatile and affordable sensors for the control of critical quality and performance attributes for food industries are required. The European food industry needs to integrate advanced technologies into food production, jointly with high-tech and eco-efficient processing systems and smart control applications. Sensors in food processing operations play a key role: they can enable systematic preventive approaches such as Hazard Analysis and Critical Control Point (HACCP) method, practical decision-making tools and early warning systems.
AGRO-23	Agro - Food	Food packaging systems for preserving food from microbial contamination and for improving shelf life	Long food chains and storage times call for intelligent/communicative or functionalized packaging materials and/or coatings that improve food safety (e.g. through alerting risky events which may have occurred during distribution and/or storage), reduce the need of cold chain use and enable in-package food processing.
AGRO-24	Agro - Food	Cost-efficient consumer food packaging with increased environmental sustainability	Consumer food packaging as well as other single use containers for food generates vast amounts of waste whose reduction, recycling and/or reuse are called for. Solutions include more sustainable packaging designs aimed at packaging waste minimization, as well as packaging items aimed at material recycling or item reuse. Product examples include, e.g. recyclable (including biodegradable/compostable) as well as reusable packaging items along with the enhancement of the infrastructure and/or logistics supporting the recycling and/or reuse practices.
ENV-01	Environment	Supply of safe drinking water	Treatment technologies and systems for surface water, groundwater or seawater aimed at the supply of safe drinking water.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
ENV-02	Environment	Water quality and nutrient monitoring, including pollution and pathogen detection	Comprehensive water quality and nutrient on-line monitoring tools, including early warning systems for pollution and pathogen detection.
ENV-03	Environment	Water demand management systems to allocate water resources in water distribution	Real-time management systems integrating real-time monitoring and control along with decision support systems and demand management systems to allocate water resources in water distribution.
ENV-07	Environment	Membrane filtration for municipal and industrial wastewater treatment	To develop membrane filtration/separation processes (such as micro-filtration (MF), ultra- filtration (UF), nano-filtration (NF), reverse osmosis (RO)) including Membrane Bio-Reactors (MBR) for municipal and industrial wastewater treatment characterized by superior product water quality, reduced footprint at plant level and reduced energy consumption.
CONS-11	Construction	Prefabricated modular, 'plug and play', mass customised building elements	For the envelope and the other building parts to ease construction processes and replacement of components (e.g. windows, etc.).
CONS-12	Construction	Condition monitoring and self-diagnosis aimed at maintenance improvement in buildings	Aimed at conditional maintenance improvement in buildings (including of structures as well as of equipment) e.g. through the integration of self-diagnosis subsystems (i.e. sensors and algorithms).
CONS-15	Construction	Non-destructive inspection methods for diagnostics and early damage detection in critical infrastructures	Especially for those located in a natural risk (i.e. earthquakes, landslides, floods, etc.) prone area.
SEC-02	Security	Robotic devices for search and rescue	Robotized systems capable of assisting rescuers or hazardous environment operators in their activities (e.g. incident or disaster victim extraction robots, robotized labour for hazardous environments, etc.).
SEC-03	Security	High-throughput screening systems for people and freight	Techniques, such as e.g. automated scanning systems, for the security screening of both passengers/people and freight at airports, ports or any type of gate with restricted entrance permission, in order to protect passengers/civilians, staff and the aircraft or other vehicles, or the infrastructure itself.
SEC-04	Security	Individuals and events recognition solutions	Solutions to recognize a specific individual, an unusual or dangerous event on a multimedia support such as video-surveillance.
SEC-05	Security	Secure and fast biometric access control systems	Solutions to quickly and accurately identify an individual based on biometric identification techniques at a security checkpoint.
SEC-07	Security	Tracking and tracing devices to secure supply chain	Tracking and tracing devices for freight such as RFID tracking solutions, optical cameras, to secure international logistics supply chain.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
SEC-08	Security	Resilient infrastructure to support Information Management & Dissemination	An ICT infrastructure to efficiently gather & disseminate relevant information in case of crisis/disasters.
SEC-09	Security	Solutions for simulation and decision-making in the event of major crisis or disasters	Solutions to provide efficient decision-making tools, notably allowing simulations of different scenarios, to be used in the event of major crisis or disaster.
SEC-10	Security	Smart clothes and physical protection for first responders	Clothes, gloves and other protection equipment ensuring secured intervention for first responders.
SEC-11	Security	Wearable personal CBRNE protection	Protection equipment specifically dedicated to Chemical, Biological, Radioactive, Explosion risks.
SEC-13	Security	Screening devices for detection of traces	Portable, high-speed, sensitive, easy to use screening devices and associated methods for the detection of any kind of traces (including chemical, radioactive traces…).
SEC-14	Security	In-depth CBRNE materials analysis and characterisation systems	Laboratory devices for in-depth CBRNE materials analysis.
SEC-15	Security	CBRNE decontamination technologies and processes for people, equipment and structures	Decontamination solutions specific to CBRNE hazards.
SEC-16	Security	Infrastructure for post- disaster operations	Deployable, easy-to-use and autonomous infrastructures for post-disaster/attack triage, accommodation and relief of victims.
SEC-17	Security	Global disease surveillance systems including awareness of rare diseases	Global disease and pandemic risks surveillance systems.
SEC-18	Security	Advanced Human behaviour modelling and simulation, prediction of mass behaviour	Advanced human behaviour modelling tools.
SEC-19	Security	Smart materials and structural solutions to protect critical infrastructures against any kind of threat	Innovative structural solutions and materials (e.g. anti-blast concrete) to protect critical infrastructures against any kind of threat.
SEC-20	Security	Embedded health- monitoring status query capability for critical infrastructures	Solutions such as sensors networks to monitor the health status of critical infrastructures.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
SEC-26	Security	Tools for protection of means of payment and detection of counterfeits	Solutions to quickly identify counterfeited means of payment.
SEC-27	Security	Enhanced global navigation solutions and location-based services	Solutions for cross modal assisted positioning and mobility, including indoor, eventually using Internet of Things infrastructures and exploiting the interconnectivity of devices and their location, for all sorts of nomadic applications - meaning device embedded and therefore miniaturized - as well as applications for urban operations, secure financial transactions, tracking solutions, social networking, safety and emergency, e-health, etc.
TEX-01	Textiles, Clothing & Apparel	Wearable active textiles and clothing for improved human performance aimed at human safety and protection	To develop wearable textiles and clothing capable to measure and communicate human living functions (including through integrating sensors, flexible screens, embedded energy storage or harvesting devices) and/or react autonomously to changing activities or conditions of the wearer in order to optimise the wearer's comfort and safety at every moment.
TEX-02	Textiles, Clothing & Apparel	Active textiles with embedded sensing capabilities for "large area" applications	To develop textile products reacting autonomously or actively to the changing conditions of the environment (e.g. geotextiles with built in sensing functionalities capable of monitoring slopes) for environmental protection and climate-related environmental risks mitigation.
TEX-03	Textiles, Clothing & Apparel	Functionalized textile products for better health, wellbeing, comfort and aesthetics	To develop functionalized textile products with enhanced functionalities and performance for better health, wellbeing, comfort characteristics and aesthetics.
TEX-04	Textiles, Clothing & Apparel	Textiles with enhanced care (cleaning, washing, etc.) properties	To develop textiles and textile products with enhanced care (cleaning, washing, etc.) properties.
TEX-05	Textiles, Clothing & Apparel	Functional (para-) medical textiles	To develop functional (para-) medical textiles and textile-based products (e.g. bandages) with built in functionalities such as the release of drugs or active components, etc.
TEX-06	Textiles, Clothing & Apparel	Technical textiles and textile products for specialized industrial applications	To develop technical textiles for specialized industrial applications with improved functionalities and performance (e.g. textile-based filters with high filtration efficiencies; lightweight, non-flammable and scratch resistant technical textiles for mobile applications, including for seats and in-vehicle garments, etc.).
TEX-07	Textiles, Clothing & Apparel	Flexible and small-scale manufacturing of textile- based products	Flexible and small-scale manufacturing systems for the cost-effective, time-efficient and versatile production of small batches of textile-based products (e.g. garments, furniture, etc.).

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
TEX-08	Textiles, Clothing & Apparel	Technical textile reinforcements for stronger and more sustainable composite materials	For use in fibre reinforced composites manufacturing making composites stronger and enhancing their recyclability.
TRAIN-03	Training, Education & Edutainment	Characteristic (e.g. human) motion detection in computer vision	To develop characteristic (e.g. human) motion detection in computer vision characterized by real-time performance, insensitivity to background clutter and movement, and a modular design that can be generalized to other types of motion aimed at various higher-level applications (including automatic motion capture for film and television, human-computer interaction, robotics, industrial machine vision, navigation, events detection, surveillance, etc.).
TRAIN-05	Training, Education & Edutainment	Personalized / asynchronous online learning and education	Including experimental demonstrations, animations, virtual labs, etc. and relying on a one-on- one style teaching approach with the possibility for students to go back into the learning programme to cover the material in a different way.
DEF-01	Defence	Persons and threats identification capability for video protection systems	Persons and threats identification capability for video protection systems.
DEF-02	Defence	Mobile NRBCE detection and analysis equipment for in- situ investigation	Mobile CBRNE detection and analysis equipment for in-situ investigation.
DEF-03	Defence	Highly sensitive passive systems for early NRBCE threat detection	Highly sensitive passive systems for early CBRNE threat detection.
DEF-04	Defence	Building or vehicle sealing, shielding and fluids filtering for NRBCE attacks context	Building or vehicle sealing, shielding and fluids filtering for CBRNE attacks context.
DEF-05	Defence	Automated systems for operation in hazardous environment	Automated systems for operation in hazardous environment.
DEF-06	Defence	Simulation tools and role-playing games for security agents training	Training tools for security agents using latest technological developments such as scenarios using virtual reality.
DEF-07	Defence	Long range high capability remote detection, visualization and identification of threats	Long range high capability remote detection, visualization and identification of threats.
DEF-08	Defence	Submarine technologies for life support	Submarine technologies for life support.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
DEF-09	Defence	Enhance C-IED & CBRNE protection	New lighter land systems protections, upgrade of legacy vehicles (New protection capabilities against IED, SC and KE threats). New protection capability with light weight structures for new land systems, and soldiers.
DEF-10	Defence	Naval Surveillance, Patrolling & Escorting systems to securing sea lines	Naval Surveillance, Patrolling & Escorting systems to securing sea lines.
DEF-11	Defence	SATCOM capabilities	SATCOM capabilities development.
DEF-12	Defence	Remotely Piloted Aircraft providing Surveillance (RPAS)	Remotely Piloted Aircraft providing Surveillance (RPAS).
DEF-13	Defence	Logistic Support for Deployed Forces enabling Expeditionary Operations	Logistic Support for Deployed Forces enabling Expeditionary Operations.
DEF-14	Defence	Medical Support to Operations	Medical Support to Operations.
DEF-15	Defence	High Performance / Low Weight Design and Materials	High Performance / Low Weight Design and Materials for military Applications (Truss like CFC design solutions, High Strain philosophy, Ultrathin composites, Probabilistic design process, use of new materials like nano-modified resins, etc.).
DEF-16	Defence	Improved Modelling of failure and damage propagation in composite materials and structures	Decrease of cost reparation, increase of availability/survivability. Support new maintenance concepts. Reducing the development cost (design, testing, etc.).
DEF-17	Defence	High temperatures composites for missiles and jet engines.	To use composites/hybrid composites instead of metals will enhance the performance (longer range, etc.).
DEF-18	Defence	Signature monitoring	Improve the management of signature, this will provide more flexibility in ops. It could be a cross-cutting tech, having an impact in air and land platforms, and IR for the soldier.
DEF-19	Defence	Reparability (monitoring, repair, assessment) restore the initial conditions of the platform	Different technologies to be studies, in order to guaranty the reparability of: Fatigue cracking, battle damage (ballistic, explosions) Integration of Structural Health Monitoring Systems with structural systems to support new design and maintenance concepts.
DEF-20	Defence	Legal and technical boundaries for autonomy in security-defence environment	Legal and technical boundaries for autonomy in security-defence environment.
DEF-21	Defence	Transportation system wide security and threat response	To develop security systems with a holistic approach and with no breach all over the vehicle operation and infrastructure, integrating highly reliable and efficient check points for persons and goods designed to take into account the human factor and manage all sources of information in security and privacy, able to support decision-making and respond to all sort of threats, including with non-lethal neutralisation capabilities.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
DEF-22	Defence	Vehicle embedded power and heat systems	To develop more efficient embedded subsystems, utilities and power components that require less energy provision and entail less heat dissipation altogether, facilitating overall on-board energy management and making it possible to address most demanding needs as electric propulsion or broadband communications.
DEF-23	Defence	Drone-based wide area surveillance in air, land and water	Multi-robot systems and drones for surveillance in air, land and water environments aimed at border security, including land, maritime and country borders or critical infrastructure and perimeter protection.
DEF-24	Defence	Integrated water management aimed at water use minimization, reuse or recycling in industry	Integrated water management aimed at water use minimization, water reuse or recycling especially aimed at water-intensive industrial activities, which exploits solutions for the reuse or recycle of process water in a closed-loop inside a factory or on a broader perimeter among different factories and/or solutions for optimizing water-energy coupling aimed in water cooling.
DEF-25	Defence	Permanent passive wide area surveillance system	Solutions such as remote sensing sensors to quickly and efficiently detect any abnormal event in a given area, for instance close to land or maritime borders.
DEF-26	Defence	Positioning and localisation technologies including in closed/hostile environment	Solutions to localize a possible threat or a victim in a closed environment.
DEF-27	Defence	Global and permanent solutions for surveillance and protection of power transmission and transportation networks	Sensors and other techniques for the permanent surveillance of transportation networks (including power transmission networks).
DEF-28	Defence	Solutions to detect suspicious online activities	Performant solutions to identify suspicious activities through web navigation tracing.
DEF-29	Defence	Improved encryption solutions	Advanced encryption systems to ensure secured exchange of confidential data.
DEF-30	Defence	Resilient and anti-intrusive IT infrastructure	An ICT infrastructure that can resist any kind of hacker attack.
DEF-31	Defence	Architecture for interoperable national and European databases	An ICT infrastructure that allows efficient sharing of critical data between European countries (for example for passport control).
DEF-32	Defence	Solutions to protect official documents against counterfeit	Anti-counterfeit techniques specific for official documents such as national ID cards, passports.
DEF-33	Defence	Text, data management & mining for early detection of threat and/or law enforcement	Advanced data mining techniques to detect potential threat or piece of evidence among a large amount of data.

Ref	Originating Industrial sector	Innovation field - Title	Innovation field - Short description
DEF-34	Defence	Protection of personal computers, cyberspace navigation and cyber identity	Advanced solutions to secure computers, networks and web navigation, such as advanced anti- virus solutions and advanced user identification techniques.
DEF-35	Defence	Various purpose (including professional) interactive Immersive Virtual Reality simulators and training modules	Training systems offering highly realistic interactive operational environment simulation, for piloting, controlling, maintaining/repairing/servicing vehicles/infrastructures to improve crew/operator preparedness along with enhancing teams motivation, operational efficiency and safety.
MIN-02	Mining, Quarrying & Extraction	Non-invasive exploration technologies for cost- efficient underground resource detection and definition	To develop improved non-invasive exploration technologies, such as ground penetrating radars, 3D and 4D seismic prospecting, hyper spectral imaging, Measuring While Drilling (MWD) techniques, and other geophysical technologies, are needed for more cost-efficient and environment-friendly exploration aimed at the detection and definition of underground resources (i.e. oil, gas, mineral as well as water resources).

Source: Scalia et al. (2017)

Table 11. List of 38 recommended innovation fields clustered by thematic area (from Scalia et al., 2017)

Original IF	Thematic area	Recommended Innovation Field	Detailed Description
ENER-9	Energy for mobility	Hydrogen storage systems for fuel cells, for transport as well as portable application	Systems for hydrogen storage for fuel cells transport as well as portable and consumer applications (e.g. hydrogen cylinders, metal- hydride tanks, chemical-hydride tanks, methanol cartridges (for direct methanol fuel cells, DMFCs).
ENER-11		Fuel cells-based energy systems for transport applications	On board energy systems for transport applications with improved performance at both single component and system level, relying on hydrogen fuel cells as a primary energy source, with efficient and reliable units for fuel processing of liquid fuels to hydrogen (reforming of, for example, gasoline, diesel and kerosene) or as a secondary 'range extender' source for electric propulsion.
ENER-12 + ELE-11		Small-scale embedded energy systems for portable applications	Embedded energy systems, including fuel cell and battery systems as well as hybrid solutions, for portable applications and with improved autonomy and performance at both single component and system level, designed towards miniaturisation, compatibility, safety, user- friendliness, cost-effectiveness and optimized system efficiency, dynamics, start-up time and durability.
DEF-15	Fundamental non-dependence materials and components	High Performance / Low Weight Design and Materials	High Performance / Low Weight Design and Materials for launch systems (Truss like Carbon Fibre Composites design solutions, High Strain philosophy, Ultrathin composites, Probabilistic design process, use of new materials like nanomodified resins, etc.).
ELE-05		3D System on Chips technologies for More than Moore systems	Cost-effective components and circuits going beyond Complementary Metal-Oxide Semiconductor (CMOS) technologies and potentially integrate-able with "System on Chip". The aimed technology will enable delivering powerful low cost, sensing and actuation solutions, radio frequency capabilities, optical imaging and analysis, and other cognitive systems.
ELE-27		Chip-level system integration solutions	Chip and near-chip level integration capabilities which provide robust, highly miniaturized system integration - including 3D integration - to greatly reduce size, form factor, weight and bill of materials while maintaining performance and cost targets. This includes the capability to physically integrate components that allow traceability of the chips, to enable use of commercial off the shelf (COTS) components while delivering advanced functionalities and limit the need for new certification in those applications that need it.
SPA-11		Embedded power storage and distribution systems	Increase power efficiency of embedded energy storage systems, in particular batteries and low power super-capacitors, whilst mastering lifetime and resilience to severe operational conditions. Reduce mass and increase efficiency of power control and distribution units, especially for aircraft or Low Earth Orbit satellites. Extend voltage operational range of embedded power electronics and electrical systems, in particular for supporting electrical propulsion or high-performance telecommunication payloads. Optimize embedded power management and distribution.

Original IF	Thematic area	Recommended Innovation Field	Detailed Description
SPA-19		Advanced, smart materials for satellite applications	Advanced and smart materials, with specific developments for space applications. New materials and advanced manufacturing techniques to address new and emerging challenges for spacecraft systems. The mitigation of REACH impact on the space sector drives many challenges for space applications, from surface treatment, to the use of solvents, glues, resins etc. Some specific spacecraft functions also provide a breadth of opportunities with the implementation of materials with mechanical and thermal properties (e.g. high stability structural elements for antennas and mirrors). These are areas where dependence situations are frequent. The potential offered by new manufacturing techniques (additive manufacturing e.g.) is very important in space, where the benefits in terms of cost and mass reduction for equipment are very high. New manufacturing techniques may also support the development and adoption of new designs and complete new concepts, with strong potential for innovation.
SPA-22		High performance competitive components for harsh, highly constrained environments	Deep-submicron (DSM) digital components, specifically processors and memories, based on advanced technology nodes such as 65nm CMOS or 28nm FDSOI, designed so as to deliver high performance, flexibility and scalability while competitively answering stringent mission requirements such as that of satellite payload or other systems in a high level of radiation context (e.g. antielectromagnetic warfare military systems or embedded systems for post nuclear disaster robotic field operations). This primarily means radiation hardening (e.g. based on advanced component packaging solutions or inherent resistance of advanced semiconductor solutions) but also material to complete application specific integrated circuits (ASIC) modelling, simulation and operational characterization capabilities, ultralow fail rates for long campaign life integrity and reliability validation, including in wide temperature qualification domains, as well as assessment and qualification of the relevant supply chain, from material and machinery suppliers to partner design houses.
MAN-06	Production and supply chain solutions	Flexibility in production environment for custom made parts	New processes enabling flexibility and rapid change, including optimal topological features, added functionality and levels of personalization not previously possible at large scale. Examples include additive and hybrid manufacturing, printing inks/processes (including 3D printing), on-demand (nano-) coatings, use of different materials.
MAN-25		Smart supply networks based on object connection and industrial control systems for products and production systems	Internet of Things of assets and products (objects carry information and communicate). It is e.g. needed to bridge the gap between different abstractions of objects operating at the shop floor level, business systems level, and at the level of supply networks for data analytic.
SEC-07		Tracking and tracing devices to secure supply chain	Tracking and tracing devices for freight and fleet management, for example RFID tracking solutions or optical cameras, to secure international logistics supply chain. Dependable data links and user-friendly service oriented central Command & Control (C2) systems, or innovative Command, Control, Communications, Computing and Intelligence (C4I) to optimise geographical coverage, maintenance, catering, crew timetables, etc.

Original IF	Thematic area	Recommended Innovation Field	Detailed Description
ELE-02 + TRAIN-05	Human assistance and robotics	User-friendly human-machine interfaces & asynchronous learning	Easy human-machine interactions and interfaces that increase user-friendliness through e.g. real-time human language technologies, multimodal interfaces mimicking human communication skills, safe natural proximity and hands-free interaction and up to virtual reality for high complexity systems, including experimental demonstrations, animations, virtual labs.
HEAL-20 + HEAL-23		Robots for medical interventions & rehabilitation treatment	Robotic systems supporting professional medical interventions such as e.g. robotized assistance during surgery, robotized precision surgery, robot assisted micro-surgery, robotic devices for minimally invasive surgery, medical micro and nano-bots, robotized assistance in small medical interventions, including robot assisted motor-coordination therapy, robot assisted physical training therapy, robot assisted mental, cognitive and social therapy (e.g. new concepts for distributed intelligence, such as swarms).
HEAL-22		Robotised systems capable to assist personal mobility or other living functions	Passive robotized systems (including intelligent prostheses) capable to assist and/or enhance human functions, e.g. exoskeletons to assist disabled patients' mobility or other living functions or to support workers or soldiers in carrying heavy burdens.
SEC-02		Robotic devices for search and rescue	Robotized systems capable of assisting rescuers or hazardous environment operators in their activities (e.g. incident or disaster victim extraction robots, robotized labour for hazardous environments, etc.).
SEC-16		Infrastructure for post-disaster operations	Deployable, easy-to-use and autonomous infrastructures for post-disaster/ attack triage, accommodation and relief of victims, including sufficient energy systems, food and water supply solutions as well as field capabilities for contamination.
DEF-28 + DEF-33	Security / Cybersecurity systems	Data mining for early detection of threat, suspicious activities and law enforcement	Performant and state-of-law compliant solutions - including web navigation tracing, big data processing, behavioural modelling, advanced text and data management and mining techniques - to identify as early as possible any suspicious activities.
DEF-29		Improved encryption solutions	Advanced encryption systems to ensure secured exchange of confidential data, including with pure digital solutions or cyber physical systems (CPS).
SEC-04		Individuals and events recognition solutions	Solutions to recognize a specific individual, an unusual or dangerous event on a multimedia support such as video-surveillance, other surveillance sensors and/or any complementary source of data (including web data), with capabilities for autonomous or semi-autonomous data processing and support to human decision-making.
SEC-05		Secure and fast biometric access control systems	Solutions to quickly and accurately identify an individual based on biometric identification techniques at a security checkpoint.
SEC-19		Smart materials and structural solutions to protect critical infrastructures against physical threat	Innovative materials (e.g. anti-blast concrete) and structural solutions (e.g. structural health monitoring solutions designed to support crisis management as well as maintenance processes that optimize the resilience of the structures) to protect critical infrastructures against physical threat. All aspects of physical threats can be considered, both natural (e.g. floods, earthquakes, space radiations…) and human (e.g. bombing, plane or drone over flights and crashes, etc.).

Original IF	Thematic area	Recommended Innovation Field	Detailed Description
SEC-13	Health and sanitary protection, including against CBRN-E threats	Screening devices for detection of traces	Portable, high-speed, sensitive, low cost and easy to use screening devices and associated methods for the detection of any kind of traces of potential threats (including chemical, radioactive and all sorts of CBRN-E traces…).
DEF-09		Enhanced land structures and vehicle C-IED & CBRN-E protection	New lighter land systems protections, upgrade of legacy vehicles (New protection capabilities against IED threats). New protection capability with light weight structures for new land systems, and soldiers.
ENV-07		Advanced filtration for municipal, industrial and settlement wastewater treatment	Advanced filtration/separation processes (such as micro-filtration (MF), ultrafiltration (UF), nano-filtration (NF), reverse osmosis (RO)) including Membrane Bio-Reactors (MBR), bio-processes based on the use of yaws or fungus or other processes such as ozone or ultra-violet treatment for municipal, industrial or any sorts of permanent, semi-permanent or temporary settlements wastewater, all of these characterized by superior product water quality, ability to process poor and/or versatile incoming water quality, reduced footprint at plant level and reduced energy consumption.
HEAL-19		Rapid on-demand production of antibiotics and antibodies	Rapid production and supply, including with the help of decentralized and flexible production systems, of antibiotics, antibodies and all sorts of treatment needed to quickly react to epidemics or any sort of natural or malevolent contamination, including anthrax, toxins and any sort of biological weapons.
SEC-14 + DEF-02 + HEAL-10		Mobile equipment for CBRN-E detection, analysis and characterisation for in-situ investigation	Laboratory, field laboratory and in situ devices for rapid, reliable and easy-to-use in-depth CBRN-E materials analysis and characterization of related threats. To develop rapid, safe and cheap diagnostics, portable and miniaturized devices or easy kits for diagnosis or treatment monitoring at home or any other position where sufficient medical support is not available (capable of data collection and Communication with the medical doctor). Portable Point-of-Care devices and test kits for instant diagnosis based on microfluidics, biosensors and/or arrays.
SEC-15		CBRN-E decontamination technologies and processes for people, equipment and structures	Complete sets of complementary decontamination solutions, such as towels or powders to be used on human skins or washing water additives to be used on equipment and structures and in coherence with threat identification capabilities, designed for all sorts of Chemical, Bacteriological, Radiological, Nuclear and Explosive (CBRN-E) hazards.
DEF-23 + DEF-12	Communication, navigation and surveillance systems	Unmanned Vehicles for wide area surveillance in air, land, water and underwater	Remotely piloted unmanned vehicles or autonomous systems for surveillance in air, land, water and underwater environments aimed at border / battlefield security, including land, maritime and country borders or critical infrastructure (e.g. underwater pipelines, TLC network, etc.) and perimeter protection.
DEF-25		Permanent passive wide area surveillance system	Solutions such as remote sensors to quickly and efficiently detect any abnormal event or presence in a given area, for instance close to land or maritime borders and without an additional need of spectrum and not producing interference to the existing systems.

Original IF	Thematic area	Recommended Innovation Field	Detailed Description
ELE-03		High autonomy communicating devices	Cost-effective and all-size embedded sensors with high connectivity for the Internet of Things, or for airborne or satellite-based Earth / environment observation, with embedded sensor systems and observation/detection instrument chains or autonomous sensors / devices making use of remote power supply/storage and/or micro energy harvesting.
ELE-19		Advanced broadband wireless communication	Radio-frequency technologies and respective component technologies for seamlessly networked, high-performance (broadband), reliable, interoperable, energy efficient and secure wireless communication, eventually capable of reconfiguration and use of mobile and/or temporary relays, including cognitive radio, light communication (LiFi) or other directional transmission and new radio technologies that make better use of the limited radio spectrum.
ELE-23		Specialized networks for the Internet of Things	Smart and highly specialized networks addressing specific needs as remote controlled embedded networks or independent Machine-2-Machine networks (e.g. low data transfer but precise timing or specific energy constraints), taking advantage of self-organization and collective intelligence or low power communication protocols, including passive near-field communication (RFID) for wireless sensor networks (e.g. measuring biological parameters and transfer to healthcare monitoring system).
ELE-24		Embedded data handling and processing	High throughput low energy data handling and processing capabilities embedded into all sorts of smart vehicles, from individual cars to space systems, with optimised architectures and optimised data transfer and processing capabilities.
SEC-27		Enhanced global navigation solutions and location-based services	Solutions for cross modal assisted positioning and mobility, including indoor, eventually using Internet of Things infrastructures and exploiting the interconnectivity of devices and their location, for all sorts of nomadic applications - meaning device embedded and therefore miniaturized - as well as applications for urban operations, secure financial transactions, tracking solutions, social networking, safety and emergency, e-health, etc.
SPA-02 + DEF-11		High throughput Satellite Communication	Implementation of high data rate/high throughput optical and laser communications to support future missions needing optical communication links and two ways communications (e.g. GEO/ground). Development of low cost lightweight optical communications terminals for Inter Satellite Links (ISL) & optical data-relay for high-speed fully-optical links.
TRA-08		Information-based fleet management systems	Services from fleets of trucks, bus, ships, aircraft, swarms of UAVs, soldiers, etc. benefit from accurate real-time positioning, dependable data links and user friendly service-oriented central command & control systems, in particular so as to optimize geographical coverage, maintenance, catering, crew timetables, etc.

Original IF	Thematic area	Recommended Innovation Field	Detailed Description
TRA-11 + DEF-07		Instruments and systems for all weather operations and long-range remote detection, visualization and identification of threats	Instruments and systems robust to extreme weather conditions, able to receive useful external information and provide operators with operational assistance, so that operations can be run safely in a wide range of meteorological and environmental conditions. Development of Through-The-Wall radar techniques to support indoor navigation.

Source: Scalia et al. (2017)

Annex 2. Horizon 2020 security research projects displaying dual-use potential

Table 12. List of 309 projects with dual-use potential complemented with information from Scalia et al. (2017) and Bordin et al. (2019).

Project ID	Project Acronym	Programme	Project Title	Start Date	End Date	Total Cost (€)	EC Max Contribution (€)	Call	Coordinator Country	Participant Countries	Innovation Field(s)	Recommended Innovation Field(s)	Building Block(s)	Main Focus(es)
634943	PASS	H2020-EU.2.1.6.	Preparation for the establishment of a European SST Service provision function	01-09-14	31-12-16	1 153 250.00	1 000 000.00	H2020-Adhoc-2014-20	ES		SPA-04		Space	
639366	FELICITY	H2020-EU.1.1.	Foundations of Efficient Lattice Cryptography	01-10-15	30-09-20	1 311 687.50	1 311 687.50	ERC-2014-STG	FR		DEF-29	DEF-29	Cybersecurity	Cryptography
639554	aSCEND	H2020-EU.1.1.	Secure Computation on Encrypted Data	01-06-15	31-05-20	1 253 892.50	1 253 892.50	ERC-2014-STG	FR		DEF-29	DEF-29	Cybersecurity	Cryptography; Cloud
640110	BASTION	H2020-EU.1.1.	Leveraging Binary Analysis to Secure the Internet of Things	01-03-15	29-02-20	1 472 268.75	1 472 268.75	ERC-2014-STG	DE		MAN-25	MAN-25	Cybersecurity	IoT
640652	DCM	H2020-EU.1.1.	Distributed Cryptography Module	01-11-14	30-04-16	149 776.00	149 776.00	ERC-2014-PoC	IL		DEF-29	DEF-29	Cybersecurity	Cryptography
641486	spyGLASS	H2020-EU.2.1.6.	GALILEO-BASED PASSIVE RADAR SYSTEM FOR MARITIME SURVEILLANCE	01-01-15	31-12-17	1 510 250.00	1 069 317.00	H2020-Galileo-2014-1	IT	UK;DE;IT	DEF-10, 11, 25; SPA-02	DEF-25; SPA-02 + DEF-11	Space	Applications in satellite navigation; Surveillance
641492	FOSTER ITS	H2020-EU.2.1.6.	First Operational, Secured and Trusted galilEo Receiver for ITS	01-01-15	31-12-17	2 590 461.25	1 813 322.87	H2020-Galileo-2014-1	FR	DE;FR;IT	SPA-02, 03	SPA-02 + DEF-11	Space; Cybersecurity	Applications in satellite navigation; Transport
643161	ECRYPT-NET	H2020-EU.1.3.1.	European Integrated Research Training Network on Advanced Cryptographic Technologies for the Internet of Things and the Cloud	01-03-15	28-02-19	3 893 199.84	3 893 199.84	H2020-MSCA-ITN-2014	BE	FR;BE;DE;UK;NL	DEF-29	DEF-29	Cybersecurity	Cryptography; IoT; Cloud
643964	SUPERCLOUD	H2020-EU.2.1.1.3.	USER-CENTRIC MANAGEMENT OF SECURITY AND DEPENDABILITY IN CLOUDS OF CLOUDS	01-02-15	31-01-18	6 863 279.00	5 398 280.00	H2020-ICT-2014-1	AT	PT;FR;CH;NL;DE	ELE-25; DEF-29	DEF-29	Cybersecurity	Cloud; ICT
644024	CLARUS	H2020-EU.2.1.1.3.	A FRAMEWORK FOR USER CENTRED PRIVACY AND SECURITY IN THE CLOUD	01-01-15	31-12-17	4 193 548.00	4 193 548.00	H2020-ICT-2014-1	ES	FR;DE;ES;UK;BE	DEF-29	DEF-29	Cybersecurity	Privacy; Cloud; ICT
644052	HECTOR	H2020-EU.2.1.1.	HARDWARE ENABLED CRYPTO AND RANDOMNESS	01-03-15	28-02-18	4 494 087.50	4 494 087.50	H2020-ICT-2014-1	AT	AT;FR;NL;IT;BE; SK	DEF-29	DEF-29	Cybersecurity	Cryptography; ICT
644080	SAFURE	H2020-EU.2.1.1.1.	SAFety and secURity by design for interconnected mixed-critical cyber-physical systems	01-02-15	31-01-18	5 702 631.25	5 231 375.00	H2020-ICT-2014-1	AT	FR;DE;IT;CH;AT; ES	DEF-29	DEF-29	Cybersecurity	CPS; ICT
644371	WITDOM	H2020-EU.2.1.1.	empoWering prIvacy and securiTy in non-trusteD envirOnMents	01-01-15	31-12-17	4 020 281.25	2 764 031.25	H2020-ICT-2014-1	ES	SI;CH;IT;ES;BE	DEF-29	DEF-29	Cybersecurity	Privacy; ICT
644412	TREDISEC	H2020-EU.2.1.1.	Trust-aware, REliable and Distributed Information SEcurity in the Cloud.	01-04-15	31-03-18	6 470 618.94	4 412 063.00	H2020-ICT-2014-1	ES	FR;EL;CH;DE;UK; ES	DEF-29, 34	DEF-29	Cybersecurity	Cloud; ICT
644425	SCISSOR	H2020-EU.2.1.1.	Security In trusted SCADA and smart-grids	01-01-15	31-12-17	3 989 850.00	3 534 850.00	H2020-ICT-2014-1	FR	FR;CH;PL;IT;AT; BE	SEC-19, 20; ELE-25	SEC-19	Cybersecurity; Critical infrastructures	ICT
644429	MUSA	H2020-EU.2.1.1.3.	MUlti-cloud Secure Applications	01-01-15	31-12-17	3 574 190.00	3 574 190.00	H2020-ICT-2014-1	ES	DE;FI;IT;UK;FR; ES	ELE-24	ELE-24	Cybersecurity	Cloud; ICT
644571	SHARCS	H2020-EU.2.1.1.	Secure Hardware-Software Architectures for Robust Computing Systems	01-01-15	31-12-17	3 105 762.50	3 105 762.50	H2020-ICT-2014-1	EL	NL;DE;GI;IL;SE	DEF-30, 34		Cybersecurity	ICT
644666	SUNFISH	H2020-EU.2.1.1.3.	SecUre iNFormation SHaring in federated heterogeneous private clouds	01-01-15	31-12-17	4 520 047.50	4 520 029.00	H2020-ICT-2014-1	IT	UK;AT;EE;MT;IL; IT	DEF-29, 31	DEF-29	Cybersecurity	Cloud; ICT
644729	SAFEcrypto	H2020-EU.2.1.1.	Secure Architectures of Future Emerging Cryptography	01-01-15	31-12-18	4 081 827.25	3 266 927.25	H2020-ICT-2014-1	UK	FR;CH;UK;DE;IE	DEF-29	DEF-29	Cybersecurity	Cryptography; ICT

Project ID	Project Acronym	Programme	Project Title	Start Date	End Date	Total Cost (€)	EC Max Contribution (€)	Call	Coordinator Country	Participant Countries	Innovation Field(s)	Recommended Innovation Field(s)	Building Block(s)	Main Focus(es)
644814	PaaSword	H2020-EU.2.1.1.3.	A Holistic Data Privacy and Security by Design Platform-as-a-Service Framework Introducing Distributed Encrypted Persistence in Cloud-based Applications	01-01-15	31-12-17	4 461 513.00	3 984 575.00	H2020-ICT-2014-1	DE	EL;CH;RO;SE;DE;CY;LU	DEF-29	DEF-29	Cybersecurity	Cryptography; Cloud; ICT
644962	PRISMACLOUD	H2020-EU.2.1.1.	PRIvacy and Security MAintaining services in the CLOUD	01-02-15	31-07-18	8 381 952.50	7 983 008.75	H2020-ICT-2014-1	AT	AT;CH;FR;UK;DE;IT;ES;IL;SE	DEF-29	DEF-29	Cybersecurity	Privacy; Cloud; ICT
645011	SERECA	H2020-EU.2.1.1.3.	Secure Enclaves for REactive Cloud Applications	01-03-15	28-02-18	3 834 340.00	3 834 340.00	H2020-ICT-2014-1	DE	UK;DE;IT;IE	SEC-19; DEF-30	SEC-19	Cybersecurity; Critical infrastructures	CPS; IoT; Cloud; ICT
645114	SEERS	H2020-EU.2.1.1.6.	Snapshot spEctral imagEr for cost effective IR Surveillance	01-02-15	31-01-18	3 750 535.00	3 750 535.00	H2020-ICT-2014-1	ES	NL;ES;IT;FR;TR;UK	SEC-04; DEF-01; ELE-26	SEC-04	Other	ICT; Surveillance
645421	ECRYPT-CSA	H2020-EU.2.1.1.	European Coordination and Support Action in Cryptology	01-03-15	28-02-18	1 000 000.00	1 000 000.00	H2020-ICT-2014-1	BE	FR;DE;UK;NL	DEF-29, 34	DEF-29	Cybersecurity; Critical infrastructures	Cryptography; ICT
645622	PQCRYPTO	H2020-EU.2.1.1.	Post-quantum cryptography for long-term security	01-03-15	28-02-18	3 964 791.25	3 851 791.25	H2020-ICT-2014-1	NL	FR;IL;NL;DE;BE;DK;TW	DEF-29	DEF-29	Cybersecurity	Cryptography; IoT; Cloud; ICT
645865	SPOOC	H2020-EU.1.1.	Automated Security Proofs of Cryptographic Protocols: Privacy, Untrusted Platforms and Applications to E-voting Protocols	01-09-15	31-08-20	1 903 500.00	1 903 500.00	ERC-2014-CoG	FR		DEF-29	DEF-29	Cybersecurity	Privacy; Cryptography
647850	OCTAVE	H2020-EU.3.7.	Objective Control for TAlker VErification	01-06-15	31-07-17	5 208 985.00	4 406 116.00	H2020-DS-2014-1	IT	IT;UK;FI;EL;ES;FR;DK	SEC-05	SEC-05	Cybersecurity	Biometrics
650476	SmartPatch	H2020-EU.3.7.;H2020-EU.2.3.1.	Use of a cost-effective smart skin sensor system for remote Structural Health Monitoring and post event structural damage assessment in Soft Urban Targets and Critical Infrastructures Protection	01-07-14	31-12-14	71 429.00	50 000.00	H2020-SMEINST-1-2014	IT		ELE-26; SEC-19, 20	SEC-19	Critical infrastructures; Soft targets	Emergency; Disaster management
650513	SURVEIRON	H2020-EU.3.7.;H2020-EU.2.3.1.	SURVEIRON: Advanced surveillance system for the protection of urban soft targets and urban critical infrastructures	01-09-14	28-02-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	ES		SEC-04, 07, 19; DEF-07, 12, 23, 26; TRA-23	SEC-04, 07, 19; TRA-11 + DEF-07; DEF-12 + DEF-23	Critical infrastructures; Soft targets	UAV; Surveillance; Emergency
650796	SignSigma	H2020-EU.2.1.1.;H2020-EU.2.3.1.	Launching the next generation of mobile and multi-platform signature system based on biometric parameters	01-09-14	30-11-14	71 429.00	50 000.00	H2020-SMEINST-1-2014	ES		SEC-05	SEC-05	Cybersecurity	Biometrics; ICT
651272	HOLOSCAN	H2020-EU.3.7.;H2020-EU.2.3.1.	Holographic Scanner for Safe Real-Time High Throughput Screening of People and Their Bags	01-12-14	31-05-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	NO		SEC-03, 13	SEC-13	Soft targets; Border control	
651669	CAPTOR	H2020-EU.3.7.;H2020-EU.2.3.1.	cAPTor captures Advanced System Threats	01-10-14	28-02-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	ES		SEC-19	SEC-19	Critical infrastructures; Soft targets; Cybersecurity	
653212	MITIGATE	H2020-EU.3.7.	Multidimensional, IntegraTed, rIsk assessment framework and dynamic, collaborative Risk ManaGement tools for critical information infrAstrucTurEs	01-09-15	28-02-18	3 549 868.75	3 109 794.50	H2020-DS-2014-1	DE	UK;AT;RO;ES;IT;EL;DE	SEC-09; DEF-27		Cybersecurity; Critical infrastructures	Supply chain; transport
653227	EU-CIVCAP	H2020-EU.3.7.	Preventing and responding to conflict: developing EU CIVilian CAPabilities for a sustainable peace	01-12-15	30-11-18	1 714 975.00	1 714 974.50	H2020-BES-2014	UK	UK;BE;DK;IT;NL;ES;RS	Other		Defence	External security; Peace keeping
653260	RESILENS	H2020-EU.3.7.	RESILENS: Realising European ReSiliencE for CritIcaL INfraStructure	01-05-15	30-04-18	4 091 842.50	4 091 842.50	H2020-DRS-2014	IE	PT;IE;DE;IL;UK	SEC-19	SEC-19	Critical infrastructures	Resilience

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653289	DARWIN	H2020-EU.3.7.	Expecting the unexpected and know how to respond	01-06-15	31-05-18	4 998 896.25	4 998 896.25	H2020-DRS-2014	NO	SE;IE;IT;IL;DE	SEC-09, 19; DEF-06	SEC-19	Critical infrastructures; Cybersecurity	Disaster management; Resilience
653321	WISER	H2020-EU.3.7.	Wide-Impact cyber SEcurity Risk framework	01-06-15	30-11-17	3 396 455.00	2 562 596.00	H2020-DS-2014-1	ES	IT;NO;SI;BE;FR; UK	SEC-19	SEC-19	Cybersecurity; Critical infrastructures	
653323	C-BORD	H2020-EU.3.7.	Effective Container inspection at BORDer control points	01-06-15	30-11-18	11 826 452.50	11 826 452.50	H2020-BES-2014	FR	PL;FR;UK;NO;IT; DE;NL;HU;BE	SEC-03, 07, 13; DEF-02	SEC-07, 13; SEC-14 + DEF-02 + HEAL-10	Border control; CBRN-E	Supply chain
653350	TARGET	H2020-EU.3.7.	Training Augmented Reality Generalised Environment Toolkit	01-05-15	31-10-18	5 992 360.00	5 992 359.75	H2020-FCT-2014	FR	AT;FR;NO;UK; DE;LU;ES;EE;NL; SK	DEF-06, 35		Other	Law enforcement; Training
653355	FORENSOR	H2020-EU.3.7.	FOREnsic evidence gathering autonomous seNSOR	01-09-15	31-08-18	4 937 833.94	4 043 546.25	H2020-FCT-2014	EL	BE;IL;EL;ES;IT; FR;PT	ELE-03, 26; SEC-04; DEF-25	SEC-04; ELE-03; DEF-25	Other	Law enforcement; Surveillance; Forensics
653371	IECEU	H2020-EU.3.7.	Improving the Effectiveness of the Capabilities (IEC) in EU conflict prevention	01-05-15	31-01-18	2 081 110.00	2 081 110.00	H2020-BES-2014	FI	NL;DK;FI;AT;IE; SI	Other		Defence	External security
653383	IMPACT	H2020-EU.3.7.	Impact of Cultural aspects in the management of emergencies in public Transport	01-05-15	31-10-17	1 398 912.50	1 398 912.50	H2020-DRS-2014	IT	TR;NL;UK;IT;PL; BG	SEC-08, 18; DEF-21		Soft targets	Emergency; Social sciences; Transport
653390	IMPROVER	H2020-EU.3.7.	Improved risk evaluation and implementation of resilience concepts to critical infrastructure	01-06-15	31-05-18	4 323 978.75	4 323 978.75	H2020-DRS-2014	SE	NO;UK;DK;FR; PT;BE	SEC-09		Critical infrastructures	Resilience
653409	TOXI-triage	H2020-EU.3.7.	INTEGRATED AND ADAPTIVE RESPONSES TO TOXIC EMERGENCIES FOR RAPID TRIAGE: ENGINEERING THE ROADMAP FROM CASUALTY TO PATIENT TO SURVIVOR.	01-09-15	31-08-19	12 931 869.25	11 966 510.50	H2020-DRS-2014	UK	FI;DE;NL;CZ;EL; NO;ES;UK	SEC-13, 16; DEF-02; HEAL-10	SEC-13, 16; DEF-02 + HEAL-10	CBRN-E	Emergency; Rescue
653426	PRIVACY FLAG	H2020-EU.3.7.	Enabling Crowd-sourcing based privacy protection for smartphone applications, websites and Internet of Things deployments	01-05-15	30-04-18	4 538 437.50	3 142 999.75	H2020-DS-2014-1	EL	SE;EL;DK;RS;IT; LU;CH;UK	DEF-29, 34	DEF-29	Cybersecurity	Privacy
653449	TYPES	H2020-EU.3.7.	Towards transparencY and Privacy in the onlinE advertising businesS	01-05-15	31-10-17	4 661 142.50	3 992 663.00	H2020-DS-2014-1	ES	EL;ES;BE;IL;UK	DEF-34		Cybersecurity	Privacy
653454	CREDENTIAL	H2020-EU.3.7.	Secure Cloud Identity Wallet	01-10-15	30-09-18	6 686 660.00	5 978 082.50	H2020-DS-2014-1	AT	AT;IT;DE;ES;LU; EL;SE	DEF-29	DEF-29	Cybersecurity	Privacy; Cloud
653460	RESOLUTE	H2020-EU.3.7.	RESilience management guidelines and Operationalization appLied to Urban Transport Environment	01-05-15	30-04-18	3 848 581.25	3 848 581.00	H2020-DRS-2014	IT	IT;EL;DE;PT;FR	DEF-21		Critical infrastructures	Resilience; Transport
653497	PANORAMIX	H2020-EU.3.7.	Privacy and Accountability in Networks via Optimized Randomized Mix-nets	42248	43496	4 459 711.43	3 796 625.00	H2020-DS-2014-1	UK	NL;EE;EL;DE;BE; UK	DEF-29	DEF-29	Cybersecurity	Privacy
653569	SMR	H2020-EU.3.7.	Smart Mature Resilience	01-06-15	31-05-18	4 641 233.25	4 641 233.25	H2020-DRS-2014	ES	SE;IT;UK;NO;LV; DE;DK;ES	SEC-19	SEC-19	Critical infrastructures	Resilience
653586	SpeechXRays	H2020-EU.3.7.	Multi-channel biometrics combining acoustic and machine vision analysis of speech, lip movement and face	01-05-15	30-04-18	5 343 606.25	4 102 467.00	H2020-DS-2014-1	FR	UK;EE;EL;FR;RO	SEC-05	SEC-05	Cybersecurity	Biometrics
653590	AUGGMED	H2020-EU.3.7.	Automated Serious Game Scenario Generator for Mixed Reality Training	01-06-15	31-05-18	5 535 673.75	5 535 673.75	H2020-FCT-2014	UK	UK;ES;IL;DE;EL; BE	DEF-06		Other	Law enforcement; Training

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653626	microMole	H2020-EU.3.7.	SEWAGE MONITORING SYSTEM FOR TRACKING SYNTHETIC DRUG LABORATORIES	01-09-15	31-08-18	5 451 387.79	4 992 866.33	H2020-FCT-2014	PL	FR;BE;DE;SE;IS;NL;PL	ELE-26		Other	Law enforcement; Forensics
653704	OPERANDO	H2020-EU.3.7.	Online Privacy Enforcement, Rights Assurance and Optimization	42125	43220	4 455 811.25	3 746 037.00	H2020-DS-2014-1	UK	IT;RO;ES;DE;EL;UK;IL	DEF- 34		Cybersecurity	Privacy
653729	Unity	H2020-EU.3.7.	Unity	01-05-15	30-04-18	4 538 120.00	4 330 900.00	H2020-FCT-2014	UK	BG;DE;BE;ES;MK;UK;HR;EE;NL;FI	DEF-06		Other	Law enforcement
653748	CARISMAND	H2020-EU.3.7.	Culture And RISkmanagement in Man-made And Natural Disasters	01-10-15	30-09-18	3 788 526.25	3 788 526.25	H2020-DRS-2014	NL	IT;RO;PT;NL;ES;UK;FR;BG;MT;RS;DE	SEC-09, 18		Other	Disaster management; Ethical dimension
653811	CITYCoP	H2020-EU.3.7.	Citizen Interaction Technologies Yield Community Policing	01-06-15	31-05-18	5 576 716.25	5 576 716.00	H2020-FCT-2014	NL	IT;BE;DE;RO;FR;AT;UK;PT;NO;MT;ES;RS;BG	DEF-06		Other	Law enforcement; Social sciences
653839	NOSY	H2020-EU.3.7.	New Operational Sensing sYstem	01-09-15	31-08-18	5 389 132.68	4 198 684.63	H2020-FCT-2014	IT	IT;PT;SE;UK;FR	ELE-26		Other	Law enforcement; Forensics
653866	WOSCAP	H2020-EU.3.7.	Whole-of-Society Conflict Prevention and Peacebuilding	01-06-15	30-11-17	2 018 034.75	1 990 114.25	H2020-BES-2014	NL	UK;DE;FR;ML;GE;UA;ES;NL;YE	Other		Defence	Peace keeping; External security
653879	FLYSEC	H2020-EU.3.7.	Optimising time-to-FLY and enhancing airport SECurity	01-05-15	30-04-18	4 141 375.00	4 089 500.00	H2020-DRS-2014	EL	UK;IL;LU;DE;EL	SEC-03, 04, 05; DEF-21	SEC-04, 05	Border control; Critical infrastructures	Biometrics; Surveillance
653884	SafeCloud	H2020-EU.3.7.	Secure and Resilient Cloud Architecture	01-09-15	31-08-18	3 298 987.50	2 150 810.00	H2020-DS-2014-1	PT	EE;DE;CH;PT	DEF-29, 34	DEF-29	Cybersecurity	Privacy; Cloud
656971	EU and SSR	H2020-EU.1.3.2.	LOCAL OWNERSHIP IN SECURITY SECTOR REFORM ACTIVITIES WITHIN CSDP OPERATIONS OF THE EU	07-10-15	06-10-17	183 454.80	183 454.80	H2020-MSCA-IF-2014	UK		Other		Defence	External security; Peace keeping; Social sciences
659316	CYBERNETS	H2020-EU.1.3.2.	Cybernetic Communication Networks: Fundamental Limits and Engineering Challenges	01-06-15	31-05-17	185 076.00	185 076.00	H2020-MSCA-IF-2014	FR		ELE-25		Cybersecurity	
661362	LV-Pri20	H2020-EU.1.3.2.	Logic-based Verification of Privacy-Preservation in Europe's 2020 ICT	22-06-15	21-06-17	195 454.81	195 454.80	H2020-MSCA-IF-2014	UK	UK	ELE-24; SEC-27; DEF-29	ELE-24; SEC-27; DEF-29	Cybersecurity	Privacy; IoT
662784	Gait Biometrics 3	H2020-EU.2.1.1.;H2020-EU.2.3.1.	Main goal of the project is to create a prototype of the software, which will be able to identify people just based on the way how they walk.	01-02-15	31-07-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	CZ		SEC-05	SEC-05	Soft targets	Biometrics; Law enforcement; ICT; Forensics
662822	Invest	H2020-EU.3.7.;H2020-EU.2.3.1.	INtelligent Video analytics to analyse complex scenes and Enhance Security of critical infrastructure and urban soft Targets	01-01-15	30-06-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	UK		SEC-04, 19; DEF-01	SEC-04, 19	Critical infrastructures; Soft targets	Law enforcement; Surveillance
663021	ShaMROCK	H2020-EU.3.7.;H2020-EU.2.3.1.	ShaMROCK – Secure professional Mobile Radio Over Commercial networKs	01-02-15	31-07-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	ES		ELE-19	ELE-19	Other	Emergency
663680	Starlight	H2020-EU.3.7.;H2020-EU.2.3.1.	Demonstration of a High Definition Low Light Sensor (Starlight) for use in the Surveillance and Protection of Urban Soft Targets and Critical Infrastructures.	01-06-15	30-11-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	UK		ELE-26; SEC-19	SEC-19	Critical infrastructures; Soft targets	Surveillance

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663815	LineVu	H2020-EU.3.7.;H2020-EU.2.3.1.	A novel optical sensor platform for detection and measurement of contaminants in gas pipelines to protect critical infrastructure from disruption and damage – Linevu	01-03-15	31-08-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	UK		ELE-26; SEC-19	SEC-19	Critical infrastructures	Supply security; Surveillance
664032	BIWAS	H2020-EU.3.7.;H2020-EU.2.3.1.	Biological Water Alarm System (BiWAS) for protection of urban drinking water infrastructure against CBRN threats	01-02-15	31-07-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	NO	SE	SEC-13, 14; DEF-02; HEAL-10	SEC-13; SEC-14 + DEF-02 + HEAL-10	Critical infrastructures; CBRN-E	
664354	ADWICE	H2020-EU.4.a.	Advanced Wireless Technologies for Clever Engineering	01-06-15	31-05-16	349 687.00	349 687.00	H2020-WIDESPREAD-2014-1	CZ	AT	ELE-19	ELE-19	Cybersecurity	
664639	KIOS	H2020-EU.4.a.	KIOS Research Center of Excellence for Intelligent Systems and Networks	01-06-15	31-05-16	417 000.00	417 000.00	H2020-WIDESPREAD-2014-1	CY	UK	SEC-19, 20	SEC-19	Critical infrastructures	ICT
666148	DSTB	H2020-EU.2.1.1.;H2020-	Dyadic Secures The Breach	01-04-15	31-03-17	2 882 500.00	2 017 750.00	H2020-SMEINST-2-2014	IL		DEF-29, 34	DEF-29	Cybersecurity	ICT
666287	PAYPLUG LABS	H2020-EU.2.1.1.;H2020-	Next generation online payments and fraud detection API for European SMEs	01-06-15	31-12-17	2 977 725.00	1 750 000.00	H2020-SMEINST-2-2014	FR		SEC-26		Cybersecurity	ICT
666432	CITRIMACC	H2020-EU.3.4.;H2020-EU.2.3.1.	Circulation Pilot with Continuous Control of Multi-Modal Air Cargo Containers	01-08-15	31-07-17	3 412 665.00	2 388 864.75	H2020-SMEINST-2-2014	NL	UK;NL;LU	SEC-03, 07; DEF-21	SEC-07	Border control; Critical infrastructures	Transport
666490	AquaSHIELD	H2020-EU.3.7.;H2020-EU.2.3.1.	Protecting citizens against intentional drinking water contamination with a water quality firewall	01-01-15	31-05-17	1 123 136.25	786 195.00	H2020-SMEINST-2-2014	NL		SEC-19, ELE-26	SEC-19	Critical infrastructures; Soft targets	Physical threats
669891	AlmaCrypt	H2020-EU.1.1.	Algorithmic and Mathematical Cryptology	01-01-16	31-12-20	2 403 125.00	2 403 125.00	ERC-2014-ADG	FR	FR	DEF-29	DEF-29	Cybersecurity	Cryptography
670172	GTCMR	H2020-EU.1.1.	Global Terrorism and Collective Moral Responsibility: Redesigning Military, Police and Intelligence Institutions in Liberal Democracies	01-01-16	31-12-20	2 479 810.00	2 479 810.00	ERC-2014-ADG	NL	UK	Other		Combating radicalisation	Ethical dimension; Social sciences; Violence
671562	5G-ENSURE	H2020-EU.2.1.1.3.	5G Enablers for Network and System Security and Resilience	01-11-15	31-10-17	7 584 046.25	7 584 046.25	H2020-ICT-2014-2	FI	FR;SE;UK;IT;ES; FI	ELE-19	ELE-19	Cybersecurity	ICT
672001	ACES	H2020-EU.3.7.;H2020-EU.2.3.1.	ACES: Air Cargo Explosive Screener	01-10-15	30-09-17	1 233 328.75	863 330.00	H2020-SMEINST-2-2014	ES		SEC-03, 07	SEC-07	Critical infrastructures; CBRN-E; Soft targets	Certification; Transport
672045	Smart firearm safety	H2020-EU.2.1.1.;H2020-EU.2.3.1.	Project iP9 Smart firearm safety Introduction of the first smart firearm safety to the institutional market (police)	01-04-15	30-09-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	DE		DEF-18		Other	Law enforcement; Certification; ICT
672109	Andrupos	H2020-EU.3.7.;H2020-EU.2.3.1.	Automatic non-destructive recognition of used printing techniques on substrates	01-04-15	30-09-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	DE	DE;NL	SEC-26; DEF-32		Terrorism financing	Law enforcement; Forensics
672428	UPAC S-100	H2020-EU.3.7.;H2020-EU.2.3.1.	Feasibility study for URBAN PROTECTION AVIATION COPTER S-100	01-07-15	31-12-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	AT		SEC-08, 19; DEF-05, 12, 23	SEC-19; DEF-12 + DEF-23	Critical infrastructures; Soft targets; Border control	UAV; Surveillance; Disaster management
673138	SENEX	H2020-EU.3.7.;H2020-EU.2.3.1.	Table Top Device based on Nanostructured Sensors for the continuous ENvironmental monitoring of EXplosive substances in sensitive areas	01-07-15	31-12-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	IT		SEC-03, 07, 13; DEF-02	SEC-13, 07; SEC-14 + DEF-02 + HEAL-10	Border control; Critical infrastructures; CBRN-E	

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673336	CLAPPRO	H2020-EU.2.1.1.;H2020-EU.2.3.1.	Cloud Protection: Centralized encryption technology for file sharing	01-07-15	30-06-17	871 615.00	610 130.50	H2020-SMEINST-2-2014	ES		DEF-29	DEF-29	Cybersecurity	Cryptography; Cloud; ICT
673627	SafeSky	H2020-EU.3.7.;H2020-EU.2.3.1.	SafeSky – Integrated system for critical infrastructure and personal sphere monitoring and protection against aerial threats	01-07-15	31-10-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	PL	PL	SEC-19; DEF-07, 25	DEF-25; SEC-19; TRA-11 + DEF-07	Critical infrastructures; Soft targets	
673751	AIRIMGO	H2020-EU.3.7.;H2020-EU.2.3.1.	ADVANCE IRIS RECOGNITION IN MOVE	01-07-15	31-12-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	ES		SEC-03		Soft targets; Critical infrastructures	Privacy
673801	ROBIN	H2020-EU.3.7.;H2020-EU.2.3.1.	ROBotic security INnovative system	01-07-15	31-12-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	ES		SEC-19	SEC-19	Critical infrastructures	
673969	Bio-AX	H2020-EU.3.7.;H2020-EU.2.3.1.	A new wearable, cost effective and non-invasive biometric solution for accurate and high throughput screening of people, bags and vehicles	01-06-15	31-08-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	UK		SEC-03, 05	SEC-05	Border control; Soft targets	Biometrics
673980	CyberWiz	H2020-EU.3.7.;H2020-EU.2.3.1.	Cyber-Security Visualization and CAD-Tool for the Vulnerability Assessment of Critical Infrastructures	01-09-15	31-08-17	2 279 375.00	1 595 562.50	H2020-SMEINST-2-2014	DE	SE	SEC-19	SEC-19	Critical infrastructures; Cybersecurity	
674274	SPIDERS	H2020-EU.3.7.;H2020-EU.2.3.1.	Synthetic aPerture Interferometric raDiometer for sEcurity in cRitical infraStructures	01-10-15	31-05-18	1 166 000.00	816 200.00	H2020-SMEINST-2-2014	FR		SEC-03; DEF-25	DEF-25	Critical infrastructures; Soft targets; Border control	
674379	ACT4INFRA	H2020-EU.3.7.;H2020-EU.2.3.1.	Innovative Actuators for empowering smart pipeline infrastructures towards secure water, gas and heating supply	01-07-15	31-12-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	DE		SEC-19	SEC-19	Critical infrastructures	
674422	PreserviX	H2020-EU.2.1.1.;H2020-EU.2.3.1.	Reshaping Digital Preservation	01-05-15	31-10-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	NO		DEF-30, 34		Cybersecurity	ICT
674434	SMS	H2020-EU.3.7.;H2020-EU.2.3.1.	SMS – Safety Micro Sensor	01-07-15	31-12-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	IT	IT	SEC-13, 14; DEF-02; HEAL-10	SEC-13; SEC-14 + DEF-02 + HEAL-10	CBRN-E; Critical infrastructures; Soft targets	
674563	ART	H2020-EU.3.7.;H2020-EU.2.3.1.	Feasibility assessment on Alarm Resolution Technology, using X-Ray Echo Methodology	01-06-15	31-10-15	71 429.00	50 000.00	H2020-SMEINST-1-2014	NL		SEC-03, 07, 13	SEC-13, 07	Border control; CBRN-E	
674716	ChemSniff	H2020-EU.3.7.;H2020-EU.2.3.1.	Chemical sniffer device for multi-mode analysis of threat compounds	01-09-15	30-04-18	2 262 000.00	1 577 030.00	H2020-SMEINST-2-2014	NL	UK	SEC-13, 14; DEF-02; HEAL-10	SEC-13; SEC-14 + DEF-02 + HEAL-10	CBRN-E; Soft targets	
675320	NeCS	H2020-EU.1.3.1.	European Network for Cyber-security	01-09-15	31-08-19	3 882 227.76	3 882 227.76	H2020-MSCA-ITN-2015	IT	ES;UK;IT;DE	Other		Cybersecurity	Preparedness; Training
678341	USECFrontiers	H2020-EU.1.1.	Frontiers of Usable Security – Principles and Methods for Administrator and Developer Usable Security Research	01-08-16	31-07-21	1 498 976.00	1 498 976.00	ERC-2015-STG	DE		DEF-34		Cybersecurity	
678921	SIREN	H2020-EU.1.1.	Securing Internet Routing from the Ground Up	01-02-16	31-01-21	1 468 200.01	1 468 200.00	ERC-2015-STG	IL		DEF-34		Cybersecurity	
679924	QINTERNET	H2020-EU.1.1.	Quantum communication networks	01-03-16	28-02-21	1 498 725.00	1 498 725.00	ERC-2015-STG	NL		DEF-29	DEF-29	Cybersecurity	Cryptography
681402	SOPHIA	H2020-EU.1.1.	Securing Software against Physical Attacks	01-09-16	31-08-21	1 964 750.00	1 964 750.00	ERC-2015-CoG	AT		DEF-29, 30	DEF-29	Cybersecurity	Cryptography; Physical threats

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682815	TOCNeT	H2020-EU.1.1.	Teaching Old Crypto New Tricks	01-04-16	31-03-21	1 882 244.00	1 882 244.00	ERC-2015-CoG	AT		DEF-29	DEF-29	Cybersecurity	Cryptography
683032	CIRCUS	H2020-EU.1.1.	An end-to-end verification architecture for building Certified Implementations of Robust, Cryptographically Secure web applications	01-04-16	31-03-21	1 885 248.00	1 885 248.00	ERC-2015-CoG	FR		DEF-29, 34	DEF-29	Cybersecurity	Cryptography
684168	Excalibur 2.0	H2020-EU.2.1.1.;H2020-EU.2.3.1.	Revolutionary trustworthy platform for seamless authentication of Internet users	01-06-15	31-08-15	71 429.00	50 000.00	H2020-SMEINST-1-2015	PL		DEF-29, 34	DEF-29	Cybersecurity	Cryptography; ICT
684441	AIRS	H2020-EU.3.7.;H2020-EU.2.3.1.	Advanced Intelligent Raman System for detection of explosives and harmful substances at urban soft targets	01-09-15	29-02-16	71 429.00	50 000.00	H2020-SMEINST-1-2015	UK		SEC-13, 14; DEF-02	SEC-13; SEC-14 + DEF-02 + HEAL-10	Soft targets; CBRN-E; Border control	
684458	REVEN-X1	H2020-EU.2.1.1.;H2020-EU.2.3.1.	REVEN-X1: Automatic Vulnerability Detection in Binary	01-07-15	31-12-15	71 429.00	50 000.00	H2020-SMEINST-1-2015	FR		SEC-19	SEC-19	Cybersecurity; Critical infrastructures	ICT
684723	CYPRES	H2020-EU.3.7.;H2020-EU.2.3.1.	CYPRES the ICS and SCADA security companion	01-09-15	28-02-18	2 428 706.25	1 700 094.00	H2020-SMEINST-2-2015	FR	FR	SEC-19, 20		Critical infrastructures; Soft targets; Cybersecurity	
684759	INNOPROCITI	H2020-EU.3.7.;H2020-EU.2.3.1.	INNOVATIVE ENZYMES TO PROTECT CITIZENS AND CRITICAL INFRASTRUCTURES	01-09-15	29-02-16	71 429.00	50 000.00	H2020-SMEINST-1-2015	IT		ELE-26; SEC-13, 14, 15, 19; DEF-02	SEC-13, 15, 19; SEC-14 + DEF-02 + HEAL-10	Critical infrastructures; Border control; CBRN-E	
684761	SPIN	H2020-EU.2.1.1.;H2020-EU.2.3.1.	Secure and protected interoperability	01-07-15	31-12-15	71 429.00	50 000.00	H2020-SMEINST-1-2015	SE		DEF-34		Cybersecurity	Information exchange; ICT
684849	Loca Credibilia	H2020-EU.3.7.;H2020-EU.2.3.1.	Data and document integrity for services provided through critical information infrastructures	01-05-15	31-10-15	71 429.00	50 000.00	H2020-SMEINST-1-2015	HU		DEF-32		Cybersecurity; Critical infrastructures	
685074	IRON	H2020-EU.3.5.;H2020-EU.2.3.1.	High sensitivity multi-gas handheld gas analysis technology	01-09-15	31-08-17	3 351 725.00	2 346 207.50	H2020-SMEINST-2-2015	FI		ELE-26; SEC-13; DEF-02	SEC-13; SEC-14 + DEF-02 + HEAL-10	CBRN-E	
687329	STRIKE3	H2020-EU.2.1.6.	Standardisation of GNSS Threat reporting and Receiver testing through International Knowledge Exchange, Experimentation and Exploitation	01-02-16	31-01-19	1 315 428.75	1 170 615.00	H2020-Galileo-2015-1	UK	SE;KR;FI;IN;DE; UK	SPA-03; DEF-07	TRA-11 + DEF-07	Space; Cybersecurity	Applications in satellite navigation; Standardisation
687338	MOBNET	H2020-EU.2.1.6.	MOBile NETwork for people's location in natural and man-made disasters	01-01-16	28-02-18	1 242 533.75	986 272.25	H2020-Galileo-2015-1	ES	DE;PL;NL;ES	SPA-03; SEC-27; DEF-26	SEC-27	Space; Soft targets	Applications in satellite navigation; Rescue; UAV
688237	ARMOUR	H2020-EU.2.1.1.	Large-Scale Experiments of IoT Security Trust	01-02-16	31-01-18	1 999 558.75	1 999 558.75	H2020-ICT-2015	FR	FR;ES;PT;EL;BE	MAN-25; ELE-03, 23	MAN-25; ELE-03, 23	Cybersecurity	IoT; ICT
690111	SecureCloud	H2020-EU.2.1.1.	Secure Big Data Processing in Untrusted Clouds	01-01-16	31-12-18	2 285 377.00	1 499 627.00	H2020-EUB-2015	DE	IT;CH;UK;DK;IL	DEF-29	DEF-29	Cybersecurity	Cloud
690907	IDENTITY	H2020-EU.1.3.3.	Computer Vision Enabled Multimedia Forensics and People Identification	01-01-16	31-12-19	2 025 000.00	2 025 000.00	H2020-MSCA-RISE-2015	UK	SI;AT;IT;FR;ES	SEC-04, 05; DEF-01	SEC-04, 05	Other	Biometrics; Law enforcement; Forensics
690972	PROTASIS	H2020-EU.1.3.3.	Restoring Trust in the cyber space: a Systems Security Proposal	01-05-16	30-04-20	702 000.00	702 000.00	H2020-MSCA-RISE-2015	EL	NL;ES;DE;IT;FI	DEF-30		Cybersecurity	

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691025	ENCASE	H2020-EU.1.3.3.	EnhaNcing seCurity And privacy in the Social wEb: a user centered approach for the protection of minors	01-01-16	31-12-19	2 160 000.00	2 160 000.00	H2020-MSCA-RISE-2015	CY	UK;EL;IT;ES;CY	DEF-28, 33, 34	DEF-28 + DEF-33	Cybersecurity	Social media
695022	EPoCH	H2020-EU.1.1.	Exploring and Preventing Cryptographic Hardware Backdoors: Protecting the Internet of Things against Next-Generation Attacks	01-10-16	30-09-21	2 498 286.00	2 498 286.00	ERC-2015-AdG	DE		MAN-25; DEF-29	MAN-25; DEF-29	Cybersecurity	Cryptography; IoT
695305	Cathedral	H2020-EU.1.1.	Post-Snowden Circuits and Design Methods for Security	01-09-16	31-08-21	2 369 250.00	2 369 250.00	ERC-2015-AdG	BE		DEF-29, 34	DEF-29	Cybersecurity	Cryptography
696828	NED- Nano Eye Device	H2020-EU.2.3.1.;H2020-	THE NANO EYE DEVICE	01-09-15	31-01-16	71 429.00	50 000.00	H2020-SMEINST-1-2015	IT		ELE-26; SEC-07	SEC-07	Other	
696917	FACCESS	H2020-EU.3.7.;H2020-EU.2.3.1.	Enabling the large-scale deployment of Facial Recognition in banking security	01-09-15	31-01-16	71 429.00	50 000.00	H2020-SMEINST-1-2015	ES		SEC-05, 26	SEC-05	Cybersecurity	Biometrics; Ethical dimension
696945	IMPRINT	H2020-EU.3.7.;H2020-EU.2.3.1.	Defeat of Insider Theft in Nuclear and Radioactive Sites	01-12-15	30-11-17	1 474 325.00	1 032 027.00	H2020-SMEINST-2-2015	IL		SEC-13, 14; DEF-02, 04	SEC-13; SEC-14 + DEF-02 + HEAL-10	CBRN-E	
696973	HDIV	H2020-EU.3.7.;H2020-EU.2.3.1.	HDIV: SELF-PROTECTED WEB APPLICATIONS	01-11-15	31-10-17	1 325 000.00	927 500.00	H2020-SMEINST-2-2015	ES		SEC-19; DEF-34	SEC-19	Critical infrastructures; Cybersecurity	
697515	KMaaS	H2020-EU.2.1.1.;H2020-	Key Management as-a-Service	01-02-16	31-01-18	3 259 375.00	2 281 562.50	H2020-SMEINST-2-2015	DK	DK	DEF-29	DEF-29	Cybersecurity	Cryptography; Cloud; ICT
697593	OMIS	H2020-EU.3.7.;H2020-EU.2.3.1.	Optical Mid Infrared Spectrometer	01-11-15	30-04-16	71 429.00	50 000.00	H2020-SMEINST-1-2015	IT		SEC-13, 19; ELE-26	SEC-13, 19	Critical infrastructures	
700002	ALFA	H2020-EU.3.7.	Advanced Low Flying Aircrafts Detection and Tracking	01-01-17	31-12-19	4 613 831.25	4 613 831.25	H2020-BES-2015	AT	NL;DE;ES;PT;IT	DEF-07, 12, 23, 25	DEF-25; TRA-11 + DEF-07	Border control; Soft targets; Critical infrastructures	UAV
700024	TENSOR	H2020-EU.3.7.	Retrieval and Analysis of Heterogeneous Online Content for Terrorist Activity Recognition	01-09-16	31-08-19	5 618 027.50	4 977 200.50	H2020-FCT-2015	UK	UK;ES;DE;BE;EL; FR;IT	DEF-28, 33	DEF-28 + DEF-33	Combating radicalisation	Law enforcement
700071	PROTECTIVE	H2020-EU.3.7.	Proactive Risk Management through Improved Cyber Situational Awareness	01-09-16	31-08-19	4 693 612.50	4 160 596.88	H2020-DS-2015-1	IE	CZ;ES;AT;PL;IE; DE;UK;RO	SEC-04; DEF-28	SEC-04; DEF-28 + DEF-33	Cybersecurity	Preparedness
700085	ARIES	H2020-EU.3.7.	reliAble euRopean Identity EcoSystem	01-09-16	28-02-19	2 247 002.50	2 247 002.50	H2020-FCT-2015	ES	FR;BE;UK;ES;PT; CZ	SEC-05; DEF-32	SEC-05	Border control; Cybersecurity	Biometrics; Law enforcement
700176	SISSDEN	H2020-EU.3.7.	Secure Information Sharing Sensor Delivery event Network	01-05-16	30-04-19	6 341 775.00	4 912 692.50	H2020-DS-2015-1	PL	UK;CH;NL;FR;IT; DE	DEF-27, 30, 33	DEF-28 + DEF-33	Cybersecurity	Law enforcement
700197	CIVILEX	H2020-EU.3.7.	Supporting European Civilian External Actions	01-05-16	30-04-17	1 100 351.25	1 100 351.25	H2020-BES-2015	ES	NL;IT;DE;ES	SEC-04, 08, 09	SEC-04	Defence	External security; Information exchange
700199	SHIELD	H2020-EU.3.7.	Securing against intruders and other threats through a NFV-enabled environment	01-09-16	28-02-19	4 552 060.69	3 607 245.00	H2020-DS-2015-1	EL	EL;IT;ES;UK;LU; PT	ELE-25; DEF-34		Cybersecurity	
700259	PROTECT	H2020-EU.3.7.	Pervasive and UseR Focused BiomeTrics BordEr ProjeCT	01-09-16	31-08-19	4 981 752.50	4 981 752.50	H2020-BES-2015	UK	DE;AT;PL;FR;UK; BE	SEC-03, 04, 05	SEC-04, 05	Border control	Biometrics
700264	ROCSAFE	H2020-EU.3.7.	Remotely Operated CBRNe Scene Assessment Forensic Examination	01-07-16	30-06-19	4 781 061.25	4 781 061.25	H2020-FCT-2015	IE	ES;IT;IE;DE;PT	ELE-26; SEC-11, 13, 14; DEF-02, 05	SEC-13; SEC-14 + DEF-02 + HEAL-10	CBRN-E	Law enforcement; Forensics

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700281	MEDIA4SEC	H2020-EU.3.7.	The emerging role of new social media in enhancing public security	01-07-16	31-12-18	1 917 006.25	1 902 006.25	H2020-FCT-2015	UK	NL;SI;DE;ES;FR;BE;EL;UK	DEF-28, 33	DEF-28 + DEF-33	Cybersecurity; Combating radicalisation	Social media
700294	C3ISP	H2020-EU.3.7.	Collaborative and Confidential Information Sharing and Analysis for Cyber Protection	01-10-16	30-09-19	5 000 045.00	4 176 445.63	H2020-DS-2015-1	IT	UK;FR;DE;IT;PL	DEF-29	DEF-29	Cybersecurity	
700326	RAMSES	H2020-EU.3.7.	Internet Forensic platform for tracking the money flow of financially-motivated malware	01-09-16	31-08-19	3 803 087.50	3 532 000.00	H2020-FCT-2015	ES	DE;BE;IT;PT;ES;UK	SEC-26; DEF-28, 33	DEF-28 + DEF-33	Cybersecurity; Terrorism financing	Law enforcement; Forensics
700367	DANTE	H2020-EU.3.7.	Detecting and ANalysing TErrorist-related online contents and financing activities	01-09-16	28-02-19	6 199 228.75	4 998 527.88	H2020-FCT-2015	IT	AT;ES;EL;DE;IT;PT;FR;UK;BE;IE	DEF-28, 33	DEF-28 + DEF-33	Terrorism financing; Combating radicalisation	Law enforcement; Social media
700378	CIPSEC	H2020-EU.3.7.	Enhancing Critical Infrastructure Protection with innovative SECurity framework	01-05-16	30-04-19	7 017 235.00	5 258 316.25	H2020-DS-2015-1	ES	RO;DE;EL;CH;ES;IL;UK;IT	SEC-19	SEC-19	Critical infrastructures; Cybersecurity	ICT
700380	BROADMAP	H2020-EU.3.7.	Mapping Interoperable EU PPDR Broadband Communication Applications and Technology	01-05-16	30-04-17	2 169 138.00	2 169 137.50	H2020-DRS-2015	BE	FI;BE;IT;NO;HR;BA;IE;SE;RO;DE;EL;ES;IL;FR;NL	ELE-19; SEC-16	SEC-16; ELE-19	Soft targets	Communication technologies; Emergency
700381	ASGARD	H2020-EU.3.7.	Analysis System for Gathered Raw Data	01-09-16	29-02-20	11 992 556.25	11 992 553.25	H2020-FCT-2015	ES	SE;DE;BE;AT;ES;IE;EL;NL;FR;CY;PT;FI;IT;UK	DEF-33	DEF-28 + DEF-33	Other	Forensics; Law enforcement
700389	ResiStand	H2020-EU.3.7.	Increasing disaster Resilience by establishing a sustainable process to support Standardisation of technologies and services	01-05-16	30-04-18	1 962 553.75	1 962 553.75	H2020-DRS-2015	FI	NL;ES;FI;DE;IT;NO;UK	SEC-08, 09		Other	Resilience; Standardisation; Disaster management
700416	SUCCESS	H2020-EU.3.7.	Securing Critical Energy Infrastructures SUCCESS – Securing Critical Energy Infrastructures	01-05-16	31-10-18	4 999 946.25	4 999 946.25	H2020-DRS-2015	DE	DE;IE;SE;NL;BE;EL;RO;IT;FI	SEC-19	SEC-19	Critical infrastructures; Cybersecurity	CPS; Physical threats
700540	CANVAS	H2020-EU.3.7.	Constructing an Alliance for Value-driven Cybersecurity	01-09-16	31-08-19	1 569 125.00	1 000 000.00	H2020-DS-2015-1	CH	ES;CH;IE;DE;BE;FI;NL	Other		Cybersecurity	Ethical dimension
700542	FutureTrust	H2020-EU.3.7.	Future Trust Services for Trustworthy Global Transactions	01-06-16	31-05-19	7 474 030.75	6 338 948.89	H2020-DS-2015-1	DE	BE;GE;UK;LU;ZA;TR;AT;PT;RS;DE	DEF-29, 32	DEF-29	Cybersecurity	
700581	ATENA	H2020-EU.3.7.	Advanced Tools to assEss and mitigate the criticality of ICT compoNents and their dependencies over Critical InfrAstructures	01-05-16	30-04-19	8 111 937.50	6 889 925.00	H2020-DS-2015-1	IT	LU;ES;BE;IT;PT;EE;IL	SEC-19, 20	SEC-19	Critical infrastructures; Cybersecurity	
700583	PeaceTraining.eu	H2020-EU.3.7.	Strengthening the Capabilities and Training Curricula for Conflict Prevention and Peace Building Personnel with ICT-based Collaboration and Knowledge Approaches	01-09-16	31-10-18	1 499 920.00	1 499 920.00	H2020-BES-2015	AT	DE;UK;AT;XK;EE;RO;ES;BE	DEF-06		Defence	External security; Peace keeping; Training
700621	SmartResilience	H2020-EU.3.7.	Smart Resilience Indicators for Smart Critical Infrastructures	01-05-16	30-04-19	4 960 831.25	4 809 948.75	H2020-DRS-2015	DE	RS;AT;IE;SE;EL;DE;NO;HU;FI;UK;CH;IL	SEC-19	SEC-19	Critical infrastructures	Resilience
700626	iBorderCtrl	H2020-EU.3.7.	Intelligent Portable Border Control System	01-09-16	31-08-19	4 501 877.50	4 501 877.50	H2020-BES-2015	LU	ES;UK;HU;EL;LV;PL;CY;DE	SEC-03, 05; DEF-31, 32	SEC-05	Border control	
700643	SafeShore	H2020-EU.3.7.	System for detection of Threat Agents in Maritime Border Environment	01-05-16	31-10-18	5 133 582.50	5 133 582.50	H2020-BES-2015	BE	RO;CZ;BE;BG;IL;UK;IT	DEF-25	DEF-25	Border control	Surveillance
700665	CITADEL	H2020-EU.3.7.	Critical Infrastructure Protection using Adaptive MILS	01-06-16	31-05-19	6 065 267.25	4 842 819.47	H2020-DS-2015-1	UK	DE;UK;SE;AT;IT;FR;CZ;NL;ES	SEC-19	SEC-19	Critical infrastructures; Cybersecurity	ICT

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700670	GAP	H2020-EU.3.7.	Gaming for Peace	01-09-16	28-02-19	2 035 437.50	2 035 437.50	H2020-BES-2015	IE	PL;FI;IE;BG;NL;PT;UK	DEF-06		Defence	External security; Peace keeping; Training
700692	DiSIEM	H2020-EU.3.7.	Diversity Enhancements for SIEMs	01-09-16	31-08-19	4 020 018.75	3 445 875.75	H2020-DS-2015-1	PT	DE;ES;PT;UK	ELE-26; SEC-04	SEC-04	Cybersecurity	Cloud
700829	3D-Forensics/FTI	H2020-EU.3.;H2020-EU.2.	Mobile high-resolution 3D-Scanner and 3D data analysis for forensic evidence fast track to innovation	01-07-16	31-12-18	1 582 383.75	1 219 388.63	H2020-FTIPilot-2015-1	DE	DE;UK;NL;IT	SEC-13	SEC-13	Other	Law enforcement; Forensics
703613	DSMM	H2020-EU.1.3.2.	"(De) Securitising Muslims in Cyber space: Social Media, Civil society and Marginalisation After Charlie Hebdo and the Islamic State"	01-10-16	30-09-18	173 076.00	173 076.00	H2020-MSCA-IF-2015	FR		DEF-28, 33	DEF-28 +DEF-33	Combating radicalisation	Social media; Social sciences
704330	ACTING-NOW	H2020-EU.1.3.2.	Algorithmic Containment of Threats in Graphs, Networks or Webs	12-09-16	11-09-18	183 454.80	183 454.80	H2020-MSCA-IF-2015	UK		SEC-17, 18; DEF-34		Cybersecurity	
705020	SOLOMON	H2020-EU.1.3.2.	Self-Organisation and Learning Online in Mobile Observation Networks	01-02-17	31-01-19	195 454.80	195 454.80	H2020-MSCA-IF-2015	UK		SEC-04; DEF-01	SEC-04	Soft targets	Law enforcement
705207	OCGN	H2020-EU.1.3.2.	Traditional Organised Crime and the Internet: The changing organization of illegal gambling networks	22-05-17	21-11-18	146 591.10	146 591.10	H2020-MSCA-IF-2015	UK		SEC-26; DEF-28, 30, 34	DEF-28 + DEF-33	Cybersecurity	Social sciences
707135	GenoPri	H2020-EU.1.3.2.	Quantifying and Protecting the Privacy of Genomic Data	01-05-16	30-04-18	157 845.60	157 845.60	H2020-MSCA-IF-2015	TR		DEF-29	DEF-29	Cybersecurity	Privacy
708815	POMEGRANATE	H2020-EU.1.3.2.	Practice-Oriented Security Models and Granular Designs for Future-Proof Authenticated Encryption	01-09-17	30-08-20	172 800.00	172 800.00	H2020-MSCA-IF-2015	BE		DEF-29	DEF-29	Cybersecurity	Cryptography; IoT; Cloud
710770	PROTECT-2	H2020-EU.3.7.;H2020-EU.2.3.1.	PeRsonnel lOcation and Tracking for safEty of Critical InfrasTructures	01-03-16	31-08-16	71 429.00	50 000.00	H2020-SMEINST-1-2015	IT		SEC-19; DEF-26	SEC-19	Critical infrastructures; Soft targets	
711264	SURVEIRON	H2020-EU.3.7.;H2020-EU.2.3.1.	SURVEIRON: Advanced surveillance system for the protection of urban soft targets and urban critical infrastructures	01-03-16	28-02-18	2 479 592.50	1 735 714.75	H2020-SMEINST-2-2015	ES		SEC-04, 07, 19; DEF-07, 12, 23, 26; TRA-23	SEC-04, 07, 19; TRA-11 + DEF-07; DEF-12 + DEF-23	Critical infrastructures; Soft targets	UAV; Surveillance; Emergency; Disaster management
712120	TRUEPIVOT	H2020-EU.3.7.;H2020-EU.2.3.1.	Advanced engineering analytics for the detection of errors in the structural design of critical urban infrastructure.	01-02-16	31-07-16	71 429.00	50 000.00	H2020-SMEINST-1-2015	IE		SEC-19, 20	SEC-19	Critical infrastructures	Physical threats
712317	QuardCard	H2020-EU.3.7.;H2020-EU.2.3.1.	Powered smart card with a biometric one time password system	01-04-16	31-08-16	71 429.00	50 000.00	H2020-SMEINST-1-2015	DK	DK	SEC-05, 26; DEF-29, 34	DEF-29; SEC-05	Cybersecurity	Biometrics
713762	3SST2015	H2020-EU.2.1.6.	Third funding line in 2015 for the establishment of a European SST service provision function	01-01-16	31-12-17	9 017 432.93	9 000 000.00	H2020-Adhoc-2014-20	IT	ES;DE;UK;FR	SPA-04		Space	Surveillance
714048	ERNCIP CBRNE STDS 16	H2020-EU.3.7.	ERNCIP thematic group activities in 2016 supporting development of Mandate 487 for standards in security	01-01-16	31-12-16	250 000.00	250 000.00	H2020-Adhoc-2014-20	BE		SEC-13, 14, 19, 20; DEF-02, 03	SEC-13, 19; SEC-14 + DEF-02 + HEAL-10	Critical infrastructures; CBRN-E	
714294	QUASYModo	H2020-EU.1.1.	Symmetric Cryptography in the Post-Quantum World	01-09-17	31-08-22	1 330 463.00	1 330 463.00	ERC-2016-STG	FR		DEF-29	DEF-29	Cybersecurity	Cryptography
714955	POPSTAR	H2020-EU.1.1.	Reasoning about Physical properties Of security Protocols with an Application To contactless Systems	01-02-17	31-01-22	1 499 750.00	1 499 750.00	ERC-2016-STG	FR		DEF-29	DEF-29	Cybersecurity	Cryptography
715753	SECOMP	H2020-EU.1.1.	Efficient Formally Secure Compilers to a Tagged Architecture	01-01-17	31-12-21	1 498 444.00	1 498 444.00	ERC-2016-STG	FR		DEF-30, 34		Cybersecurity	

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717736	WARDIAM PERIMETER	H2020-EU.3.7.;H2020-EU.2.3.1.	WARDIAM PERIMETER	01-04-16	30-09-16	71 429.00	50 000.00	H2020-SMEINST-1-2015	ES		ELE-26; SEC-04, 19, 20	SEC-04, 19	Critical infrastructures; Soft targets	Surveillance
717915	EXTREMDRON	H2020-EU.3.7.;H2020-EU.2.3.1.	Unmanned Aerial Vehicle for protecting soft/critical urban infrastructures, and the general public in extreme environments.	01-04-16	31-07-16	71 429.00	50 000.00	H2020-SMEINST-1-2015	ES		TRA-23; SEC-02, 19; DEF-05, 12, 23	SEC-02, 19; DEF-12 + DEF-23	Critical infrastructures; Soft targets	UAV
719375	QR-PATROL PRO	H2020-EU.2.1.1.;H2020-EU.2.3.1.	A cost-effective cloud-based platform for delivering the highest level of security, supervision and management for security companies utilizing Push-to-Talk and Internet of Things technologies.	01-07-16	30-06-18	1 927 422.50	1 349 195.75	H2020-SMEINST-2-2015	EL		SEC-27	SEC-27	Other	IoT
719382	DAPS	H2020-EU.3.7.;H2020-EU.2.3.1.	Drone Alarm and Protection System	01-01-16	31-05-16	71 429.00	50 000.00	H2020-SMEINST-1-2015	DK		SEC-19; DEF-12, 23	SEC-19; DEF-12 + DEF-23	Critical infrastructures; Soft targets	UAV
719660	OneCard	H2020-EU.3.7.;H2020-EU.2.3.1.	Increasing the security of access to urban critical infrastructure with a Near Field Communication micro SD smart card for mobile devices using on-chip state of the art technology	01-03-16	31-05-16	71 429.00	50 000.00	H2020-SMEINST-1-2015	SK		SEC-03, 19	SEC-19	Critical infrastructures	
719806	BIO-AX	H2020-EU.3.7.;H2020-EU.2.3.1.	A novel wearable, cost-effective and non-invasive biometric body worn video solution for accurate and high throughput screening of people, bags and vehicles	01-03-16	28-02-18	1 103 261.25	772 282.88	H2020-SMEINST-2-2015	UK		SEC-03, 05	SEC-05	Soft targets; Border control	Biometrics
720417	SURVANT	H2020-EU.3.;H2020-EU.2.	SURveillance Video Archives iNvestigation assisTant	01-01-17	31-12-18	2 578 960.00	1 994 797.00	H2020-FTIPilot-2015-1	IT	EL;IT;ES;IE	SEC-04; DEF-01	SEC-04	Other	Law enforcement; Surveillance
724725	SWORD	H2020-EU.1.1.	Security Without Obscurity for Reliable Devices	01-09-17	31-08-22	1 997 661.34	1 997 661.34	ERC-2016-COG	BE		DEF-29	DEF-29	Cybersecurity	Cryptography
725349	DARE	H2020-EU.3.6.1.2.	Dialogue About Radicalisation and Equality	01-05-17	30-04-21	4 999 053.75	4 999 053.75	H2020-SC6-REV-INEQUAL-2016	UK	HR;NL;RU;TR; DE;UK;NO;PL; MT; FR;TN;BE;EL	DEF-33	DEF-28 + DEF-33	Combating radicalisation	Violence; Social sciences
726317	IPCOM	H2020-EU.3.7.;H2020-EU.2.3.1.	Next generation IP-based smart Push-to-Talk communication device for public security	01-07-16	30-06-18	2 446 250.00	1 712 375.00	H2020-SMEINST-2-2016-2017	FI		ELE-19	ELE-19	Other	Law enforcement; Communication technologies
726818	ProBOS	H2020-EU.3.7.;H2020-EU.2.3.1.	Protection Beyond Operating System – Development of the next generation cyber security solution	01-10-16	30-09-18	2 814 766.28	1 970 336.40	H2020-SMEINST-2-2016-2017	MT		DEF-30, 34		Cybersecurity	
727301	SHiELD	H2020-EU.3.7.4.;H2020-EU.3.1.	European Security in Health Data Exchange	01-01-17	31-12-19	3 897 267.50	3 897 267.50	H2020-DS-SC1-2016	ES	UK;ES;DE;IT;IL	HEAL-26; DEF-31		Cybersecurity	Privacy
727528	KONFIDO	H2020-EU.3.7.4.;H2020-EU.3.1.	KONFIDO – Secure and Trusted Paradigm for Interoperable eHealth Services	01-11-16	31-10-19	4 992 077.50	4 992 077.50	H2020-DS-SC1-2016	UK	IT;BE;EL;UK;DK; FR;ES	DEF-29, 30, 34; HEAL-26	DEF-29	Cybersecurity	Privacy
727982	LINCOLN	H2020-EU.3.2.5.	Lean innovative connected vessels	01-10-16	30-09-19	7 808 691.25	6 343 600.00	H2020-BG-2016-1	IT	NO;ES;IT;DE;CY; EL	TRA-08, 12; DEF-10	TRA-08	Other	Emergency; Rescue; IoT
728408	iNTACT	H2020-EU.3.7.;H2020-EU.2.3.1.	Commercialisation of the world's first iNTelligent Access Cover Technology for the protection of ALL underground infrastructure.	01-05-16	31-07-16	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	UK		SEC-19	SEC-19	Critical infrastructures	

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728516	ConnectProtect	H2020-EU.3.7.;H2020-EU.2.3.1.	A total cyber protection service to Small Businesses operating critical infrastructure and Residential customers	01-07-16	31-12-16	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	UK		DEF-34		Cybersecurity	
728532	IDENTITY	H2020-EU.3.7.;H2020-EU.2.3.1.	Usable Digital Signature	01-07-16	31-12-16	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	ES		DEF-34		Cybersecurity	Cloud
728649	LipVerify	H2020-EU.3.7.;H2020-EU.2.3.1.	Feasibility study on the development of LipVerify – a new viseme based user authentication service.	01-07-16	31-12-16	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	UK		SEC-05	SEC-05	Cybersecurity	Biometrics
728673	StandBy-U	H2020-EU.3.7.;H2020-EU.2.3.1.	Real Time Response System towards Safety and Emergency Management Improvement in critical infrastructures and soft targets	01-06-16	31-08-16	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	NL		SEC-08		Critical infrastructures; Soft targets	Emergency
729165	BISS	H2020-EU.2.1.1.;H2020-EU.2.3.1.	Biometric Identification Security System	01-06-16	30-11-16	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	AT		SEC-05	SEC-05	Cybersecurity	Biometrics
730843	CYRail	H2020-EU.3.4.8.2.	Cybersecurity in the RAILway sector	01-10-16	30-09-18	1 498 150.00	1 498 150.00	H2020-S2RJU-OC-2015-01-2	PT	FR;ES;SE;DE	DEF-21, 27		Cybersecurity; Hybrid threats	Transport
731453	VESSEDIA	H2020-EU.3.7.;H2020-EU.2.1.1.	VERIFICATION ENGINEERING OF SAFETY AND SECURITY CRITICAL DYNAMIC INDUSTRIAL APPLICATIONS	01-01-17	31-12-19	4 192 058.75	4 192 058.75	H2020-DS-LEIT-2016	AT	FR;ES;DE;FI;HU;BE	MAN-25; DEF-30	MAN-25	Cybersecurity	IoT
731456	certMILS	H2020-EU.3.7.;H2020-EU.2.1.1.	Compositional security certification for medium- to high-assurance COTS-based systems in environments with emerging threats	01-01-17	31-12-20	5 616 543.75	3 999 055.63	H2020-DS-LEIT-2016	AT	CZ;DE;ES;AT	ELE-24, 25	ELE-24	Cybersecurity	Certification; CPS
731558	ANASTACIA	H2020-EU.3.7.;H2020-EU.2.1.1.	Advanced Networked Agents for Security and Trust Assessment in CPS/IOT Architectures	01-01-17	31-12-19	5 420 208.75	3 999 208.75	H2020-DS-LEIT-2016	IT	CH;ES;FR;EL;FI;IT;IE	DEF-30, 34		Cybersecurity	CPS; IoT
731591	REASSURE	H2020-EU.3.7.;H2020-EU.2.1.1.	Robust and Efficient Approaches to Evaluating Side Channel and Fault Attack Resilience	01-01-17	31-12-19	3 528 635.00	3 478 747.50	H2020-DS-LEIT-2016	BE	FR;DE;NL;UK	MAN-25; DEF-34	MAN-25	Cybersecurity	Certification; IoT
731678	RESTASSURED	H2020-EU.2.1.1.	Secure Data Processing in the Cloud	01-01-17	31-12-19	4 996 298.75	4 996 297.00	H2020-ICT-2016-1	IL	FR;DE;UK	DEF-29	DEF-29	Cybersecurity	Cloud; ICT
731945	DITAS	H2020-EU.2.1.1.	DITAS: Data-intensive applications Improvement by moving daTA and computation in mixed cloud/fog environmentS	01-01-17	31-12-19	4 890 066.25	4 420 187.50	H2020-ICT-2016-1	ES	CH;DE;ES;IT;EL;IL	DEF-29	DEF-29	Cybersecurity	Cloud; ICT
733711	FACCESS	H2020-EU.3.7.;H2020-EU.2.3.1.	Enabling the large-scale deployment of Facial Recognition in banking security	01-12-16	30-11-18	2 418 000.00	1 692 600.00	H2020-SMEINST-2-2016-2017	ES		SEC-05, 26	SEC-05	Cybersecurity	Biometrics; Privacy
734035	ShaMROCK	H2020-EU.3.7.;H2020-EU.2.3.1.	ShaMROCK – Secure professional Mobile Radio Over Commercial networKs	01-09-16	31-10-18	1 835 445.00	1 284 811.50	H2020-SMEINST-2-2016-2017	ES		ELE-19	ELE-19	Other	Emergency
735472	NASUM	H2020-EU.3.7.;H2020-EU.2.3.1.	Innovative nanotech-based detection equipment in the area of homeland security	01-10-16	31-01-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	IT		SEC-03, 07, 13; ELE-26	SEC-07, 13	Critical infrastructures; Soft targets	
735630	SCR	H2020-EU.3.7.;H2020-EU.2.3.1.	Disruptive Cybersecurity SaaS for SMEs and freelance developers	01-07-16	31-12-16	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	UK		MAN-25; ELE-23	MAN-25; ELE-23	Cybersecurity	IoT

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735734	ThreatMark	H2020-EU.3.7.;H2020-EU.2.3.1.	Advanced Fraud Detection System – Protecting digital transactions against cyber attacks	01-08-16	30-11-16	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	CZ		SEC-26; DEF-28, 34	DEF-28 + DEF-33	Cybersecurity	
736300	Eye-O-T	H2020-EU.3.7.;H2020-EU.2.3.1.	Cyber security system with a high IoT network visibility and fast vulnerability detection for Smart Homes.	01-08-16	31-12-16	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	IL		MAN-25; ELE-23	MAN-25; ELE-23	Cybersecurity	IoT
736395	SecTrap	H2020-EU.3.7.;H2020-EU.2.3.1.	Critical urban infrastructure and soft target cyber attack protection. Users and application Behavioural Analysis supported by artificial intelligence to preempt security cyber attacks.	01-09-16	28-02-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	PT		SEC-19; DEF-30	SEC-19	Critical infrastructures; Soft targets; Cybersecurity	
736454	IDAaaS	H2020-EU.3.7.;H2020-EU.2.3.1.	Trusted online service for identity assurance	01-10-16	31-03-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	NO		DEF-34		Cybersecurity	Privacy
736783	Zoovel-UC	H2020-EU.3.7.;H2020-EU.2.3.1.	Inaudible SMART CROWDS SECURITY through existing loudspeakers”	01-10-16	31-03-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	ES		SEC-09, 18		Soft targets	Violence
739367	ColdNano-X	H2020-EU.3.7.;H2020-EU.2.3.1.	ZnO-nanotech cold cathode x-ray tube for the security market	01-10-16	31-12-18	2 730 653.00	1 911 457.10	H2020-SMEINST-2-2016-2017	SE		SEC-03		Border control; Soft targets	
739551	KIOS CoE	H2020-EU.4.a.	KIOS Research and Innovation Centre of Excellence	01-03-17	29-02-24	15 000 000.00	15 000 000.00	H2020-WIDESPREAD-01-2016-2017-TeamingPhase2	CY	UK	SEC-19, 20	SEC-19	Critical infrastructures	ICT
739685	SecIoT	H2020-EU.2.3.2.2.	Cybersecurity Threat Detection for Internet of Things Connected Devices	01-09-17	31-08-18	117 843.75	117 843.75	H2020-INNOSUP-02-2016	UK		MAN-25; ELE-03, 23	MAN-25; ELE-03, 23	Cybersecurity	IoT
739799	IPISA	H2020-EU.2.3.2.2.	Inkjet Printed Sensor Arrays for high efficient, low cost, environmental monitoring	01-09-17	31-08-18	108 750.00	108 750.00	H2020-INNOSUP-02-2016	CY		ELE-26; SEC-13	SEC-13	Soft targets	
740072	PRACTICIES	H2020-EU.3.7.6.;H2020-EU.3.7.1.	Partnership against violent radicalization in the cities	01-05-17	30-04-20	3 378 970.00	3 378 970.00	H2020-SEC-2016-2017-1	FR	TN;FR;AT;BE;ES;PT;EL;IT	DEF-33	DEF-28 + DEF-33	Combating radicalisation	Social media; Social sciences
740129	cyberwatching.eu	H2020-EU.3.7.6.;H2020-EU.3.7.4.;H2020-EU.3.7.8.	The European watch on cybersecurity privacy	01-05-17	30-04-21	1 999 895.63	1 999 895.63	H2020-DS-SC7-2016	UK	IT;BE;ES;CH;UK	Other		Cybersecurity	Privacy
740146	NESPINT	H2020-EU.3.7.;H2020-EU.2.3.1.	NEutron Spectrometry to Prevent Illicit Nuclear Trafficking	01-01-17	30-06-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	IT		SEC-03, 13; DEF-02, 03	SEC-13; SEC-14 + DEF-02 + HEAL-10	Border control; CBRN-E	
740189	EuroBioTox	H2020-EU.3.7.1.;H2020-EU.3.7.5.	European programme for the establishment of validated procedures for the detection and identification of biological toxins	01-06-17	31-05-22	9 526 721.25	7 998 747.00	H2020-SEC-2016-2017-1	DE	SE;FI;BE;FR;UK;CH;DE	SEC-13, 14; DEF-02	SEC-13; SEC-14 + DEF-02 + HEAL-10	CBRN-E	
740322	HERMENEUT	H2020-EU.3.7.4.	Enterprises intangible Risks Management via Economic models based on simulatioN of modErn cyber-aTtacks	01-05-17	30-04-19	2 007 692.50	2 007 692.50	H2020-DS-SC7-2016	IT	UK;IT;FR;BE;IL;DE	DEF-30		Cybersecurity	Social sciences

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740450	ENCIRCLE	H2020-EU.3.7.1.;H2020-EU.3.7.5.	European Cbrn Innovation for the maRket CLuster	10-03-17	09-03-21	1 997 085.00	1 997 085.00	H2020-SEC-2016-2017-1	BE	FI;IT;UK;FR;PL;DE	SEC-11, 13, 14, 15; DEF-02, 03, 04	SEC-13, 15; SEC-14 + DEF-02 + HEAL-10	CBRN-E	
740466	LETS-CROWD	H2020-EU.3.7.6.;H2020-EU.3.7.1.	Law Enforcement agencies human factor methods and Toolkit for the Security and protection of CROWDs in mass gatherings	01-05-17	31-10-19	2 919 307.50	2 919 307.50	H2020-SEC-2016-2017-1	ES	DE;UK;BE;ES;IT;RO;IL;PT	SEC-18		Soft targets	Law enforcement
740477	SAURON	H2020-EU.3.7.4.;H2020-EU.3.7.2.	Scalable multidimensionAl sitUation awaReness sOlution for protectiNg european ports	01-05-17	30-04-20	8 491 172.50	6 926 369.50	CIP-2016-2017-1	ES	FR;UK;AT;IT;SI;EL;ES;BE	SEC-03, 04, 07, 19; DEF-07, 25, 27	DEF-25; SEC-04, 07, 19; TRA-11 + DEF-07	Critical infrastructures; Hybrid threats; Cybersecurity	Physical threats
740521	eNOTICE	H2020-EU.3.7.6.;H2020-EU.3.7.2.;H2020-EU.3.7.3.;H2020-EU.3.7.1.;H2020-EU.3.7.7.;H2020-EU.3.7.8.;H2020-EU.3.7.5.	European Network Of CBRN TraIning CEnters	01-09-17	31-08-22	3 587 422.50	3 497 735.00	H2020-SEC-2016-2017-1	BE	IT;PL;FR;BE;SE;DE;UK;CZ;TR	SEC-11, 13, 14, 15; DEF-02, 03, 04	SEC-13, 15; SEC-14 + DEF-02 + HEAL-10	CBRN-E	
740558	TITANIUM	H2020-EU.3.7.6.;H2020-EU.3.7.1.	Tools for the Investigation of Transactions in Underground Markets	01-05-17	30-04-20	4 991 600.00	4 991 600.00	H2020-SEC-2016-2017-1	AT	FR;NL;AT;ES;DE;UK;FI	SEC-26; DEF-28, 33	DEF-28 + DEF-33	Cybersecurity; Terrorism financing	Law enforcement
740580	VISAGE	H2020-EU.3.7.1.;H2020-EU.3.7.7.	Visible Attributes through Genomics: Broadened Forensic Use of DNA for Constructing Composite Sketches from Traces	01-05-17	30-04-21	5 007 778.75	5 000 000.00	H2020-SEC-2016-2017-1	NL	DE;FR;UK;ES;AT;PL;SE;NL	Other		Other	Forensics
740593	ROBORDER	H2020-EU.3.7.3.;H2020-EU.3.7.7.	autonomous swarm of heterogeneous RObots for BORDER surveillance	01-05-17	30-04-20	8 997 781.50	7 999 315.82	H2020-SEC-2016-2017-1	PT	RO;ES;CH;EL;FI;BG;DE;IT;PT;BE;EE;UK;HU	SEC-04; DEF-05, 07, 12,23,25	SEC-04; DEF-25; TRA-11 + DEF-07; DEF-12 + DEF-23	Border control	Surveillance
740610	STOP-IT	H2020-EU.3.7.4.;H2020-EU.3.7.2.	Strategic, Tactical, Operational Protection of water Infrastructure against cyber-physical Threats	01-06-17	31-05-21	9 616 525.18	8 255 319.50	CIP-2016-2017-1	NO	NO;NL;DE;ES;BE;IL;EL	SEC-04, 19, 20; DEF-30; ELE-26; ENV-02	SEC-04, 19	Critical infrastructures; Cybersecurity	CPS; Physical threats
740627	IN-PREP	H2020-EU.3.7.5.	An INtegrated next generation PREParedness programme for improving effective inter-organisational response capacity in complex environments of disasters and causes of crises	01-09-17	31-08-20	9 580 781.25	7 999 556.25	H2020-SEC-2016-2017-1	EL	IE;FR;IT;EL;DE;NL;UK	SEC-09		Critical infrastructures; Soft targets	Preparedness; Disaster management
740688	RED-Alert	H2020-EU.3.7.6.;H2020-EU.3.7.1.	Real-time Early Detection and Alert System for Online Terrorist Content based on Natural Language Processing, Social Network Analysis, Artificial Intelligence and Complex Event Processing	01-06-17	31-05-20	5 064 437.50	5 064 437.50	H2020-SEC-2016-2017-1	RO	RO;UK;IL;MD;HU;ES;MT;FR	DEF-33	DEF-28 + DEF-33	Other	Law enforcement; Social media

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740689	HEIMDALL	H2020-EU.3.7.5.	HEIMDALL – MULTI-HAZARD COOPERATIVE MANAGEMENT TOOL FOR DATA EXCHANGE, RESPONSE PLANNING AND SCENARIO BUILDING	01-05-17	31-10-20	8 591 343.75	7 836 370.63	H2020-SEC-2016-2017-1	DE	IT;DK;ES;EL;FR;UK;DE	SEC-08, 09		Soft targets; Critical infrastructures	Preparedness; Resilience; Disaster management
740690	FORTIKA	H2020-EU.3.7.4.	FORTIKA – Cyber Security Accelerator for trusted SMEs IT Ecosystems	01-06-17	31-05-20	4 918 812.50	3 997 025.00	H2020-DS-SC7-2016	EL	UK;EL;ES;IT;SI;IE;DE;BG;BE	DEF-34		Cybersecurity	
740698	MARISA	H2020-EU.3.7.3.;H2020-EU.3.7.7.	Maritime Integrated Surveillance Awareness	01-05-17	31-10-19	9 765 658.75	7 997 492.50	H2020-SEC-2016-2017-1	IT	IT;FI;NL;EL;DE;BE;FR;PT;ES	DEF-10, 25, 33; ELE-14	DEF-25; DEF-28 + DEF-33	Border control	Migration; Surveillance
740723	CS-AWARE	H2020-EU.3.7.4.	A cybersecurity situational awareness and information sharing solution for local public administrations based on advanced big data analysis	01-09-17	31-08-20	4 648 362.50	3 728 603.75	H2020-DS-SC7-2016	FI	IT;UK;AT;EL;IE;DK;DE;NL	DEF-34		Cybersecurity	
740736	CAMELOT	H2020-EU.3.7.3.;H2020-EU.3.7.7.	C2 Advanced Multi-domain Environment and Live Observation Technologies	01-05-17	30-04-20	9 942 597.94	8 020 921.26	H2020-SEC-2016-2017-1	PT	RO;FR;IE;BG;PL;UK;BE;CH;PT;EL;ES	DEF-23, 25	DEF-25; DEF-12 + DEF-23	Border control	Surveillance
740754	VICTORIA	H2020-EU.3.7.6.;H2020-EU.3.7.1.	Video analysis for Investigation of Criminal and TerrORIst Activities	01-05-17	30-04-20	5 007 125.00	5 007 125.00	H2020-SEC-2016-2017-1	FR	RO;AT;DE;FR;ES;BE;UK	SEC-04; DEF-01	SEC-04	Other	Law enforcement; Surveillance
740773	Pericles	H2020-EU.3.7.6.;H2020-EU.3.7.1.	Policy recommendation and improved communication tools for law enforcement and security agencies preventing violent radicalisation	01-05-17	30-04-20	2 999 647.50	2 999 647.50	H2020-SEC-2016-2017-1	DE	FR;IE;NL;ES;EL;UK;DE;BA	DEF-33	DEF-28 + DEF-33	Combating radicalisation	Law enforcement; Violence
740787	SMESEC	H2020-EU.3.7.4.	Protecting Small and Medium-sized Enterprises digital technology through an innovative cyber-SECurity framework	01-06-17	31-05-20	5 683 820.00	3 998 922.00	H2020-DS-SC7-2016	ES	RO;CH;FR;ES;EL;NL;IL	DEF-30, 34		Cybersecurity	
740859	ALADDIN	H2020-EU.3.7.6.;H2020-EU.3.7.1.	Advanced hoListic Adverse Drone Detection, Identification Neutralization	01-09-17	31-08-20	4 998 240.00	4 998 240.00	H2020-SEC-2016-2017-1	FR	PL;ES;EL;IT;DE;BE;PT;FR;UK	SEC-19; DEF-07, 12, 23, 25	SEC-19; DEF-25; TRA-11 + DEF-07	Critical infrastructures	Law enforcement; UAV
740898	DEFENDER	H2020-EU.3.7.4.;H2020-EU.3.7.2.	Defending the European Energy Infrastructures	01-05-17	30-04-20	8 859 937.50	6 790 837.50	CIP-2016-2017-1	IT	SI;IT;DE;RO;FR;UK;IL;PT;EL	SEC-04, 19, 20; DEF-27	SEC-04	Critical infrastructures; Cybersecurity	CPS; Physical threats
740923	GHOST	H2020-EU.3.7.4.	Safe-Guarding Home IoT Environments with Personalised Real-time Risk Control	01-05-17	30-04-20	4 995 519.25	3 603 831.75	H2020-DS-SC7-2016	ES	EL;NO;UK;CH;ES; DE	MAN-25	MAN-25	Cybersecurity	IoT
740931	SMILE	H2020-EU.3.7.3.;H2020-EU.3.7.7.	SMart mobILity at the European land borders	01-07-17	30-06-20	4 999 276.25	4 999 276.25	H2020-SEC-2016-2017-1	EL	RO;UK;DE;EL;FR;BG;NO;HU	SEC-03, 05	SEC-05	Border control	Biometrics; Cloud
740934	TRIVALENT	H2020-EU.3.7.6.;H2020-EU.3.7.1.	Terrorism pReventIon Via rAdicaLisation countEr-NarraTive	01-05-17	30-04-20	2 720 420.00	2 720 420.00	H2020-SEC-2016-2017-1	IT	IT;PT;PL;BE;ES;FR;LV;AL;IL;UK	DEF-33	DEF-28 + DEF-33	Combating radicalisation	Social sciences; Violence
740972	ALGSTRONGCRYPTO	H2020-EU.1.1.	Algebraic Methods for Stronger Crypto	01-10-17	30-09-22	2 447 439.00	2 447 439.00	ERC-2016-ADG	NL		DEF-29	DEF-29	Cybersecurity	Cryptography
743831	DNA TRUSTAG	H2020-EU.3.7.;H2020-EU.2.3.1.	DNA TRUSTAG – A paradigm shift in authentication technologies	01-01-17	31-05-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	PT		SEC-26; DEF-32		Other	Forensics

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743996	U2PIA	H2020-EU.3.7.;H2020-EU.2.3.1.	Universal application 2 conduct Privacy Impact Assessment analysis and reports	01-11-16	31-03-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	IT		DEF-29, 34	DEF-29	Cybersecurity	Privacy
744397	PerfectDashboard 2.0	H2020-EU.3.7.;H2020-EU.2.3.1.	First single platform for efficient and security aware management of CMS based websites	01-10-16	31-12-16	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	PL		DEF-30		Cybersecurity	
744484	INSTET	H2020-EU.3.7.;H2020-EU.2.3.1.	Integral Security Trust Element for the Internet of Things	01-10-16	31-03-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	NL		MAN-25; ELE-27	MAN-25; ELE-27	Cybersecurity	IoT
744926	I-MUST	H2020-EU.3.7.;H2020-EU.2.3.1.	A handheld, ultra-sensitive device for rapid contactless explosive vapour detection in open air, based on Ion Mobility Universal Sensor Technology	01-12-16	31-03-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	NL		SEC-03, 13	SEC-13	Soft targets; Border control; CBRN-E	
745088	NK-52-2016	H2020-EU.3.7.;H2020-EU.2.3.1.	Next generation authentication for the digital age	01-04-17	30-09-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	LV		DEF-34		Cybersecurity	
745114	X5 bitworker	H2020-EU.2.1.1.;H2020-EU.2.3.1.	X5 bitworker – The Copying System for the Internet of Things and Industry 4.0	01-12-16	31-05-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	AT		DEF-29	DEF-29	Cybersecurity	IoT
746667	AF-Cyber	H2020-EU.1.3.2.	Logic-based Attribution and Forensics in Cyber Security	01-02-18	31-01-20	183 454.80	183 454.80	H2020-MSCA-IF-2016	UK		DEF-33	DEF-28 + DEF-33	Cybersecurity	Forensics
747249	PyroProf	H2020-EU.1.3.2.	Chemical Profiling of Inorganic and Pyrotechnic Explosives	04-09-17	03-09-19	177 598.80	177 598.80	H2020-MSCA-IF-2016	NL		SEC-13, 14; DEF-02	SEC-13; SEC-14 + DEF-02 + HEAL-10	CBRN-E	Forensics; Law enforcement
747947	EU-Drones	H2020-EU.1.3.2.	The European Commission in Drone Community: a New Cooperation Area in the Making	01-04-17	31-03-19	160 800.00	160 800.00	H2020-MSCA-IF-2016	BE		DEF-12, 23; TRA-23	DEF-12 + DEF-23	Other	UAV
748164	NWICWEP	H2020-EU.1.3.2.	NON-WESTERN MILITARY INTERVENTIONS AND THE CHARACTER OF WARFARE IN THE EUROPEAN PERIPHERY	01-09-18	31-08-20	180 277.20	180 277.20	H2020-MSCA-IF-2016	IT		Other		Defence	Social sciences; External security
748647	EVACUATION	H2020-EU.1.3.2.	Testing communication strategies to save lives in emergency evacuation	01-03-18	29-02-20	195 454.80	195 454.80	H2020-MSCA-IF-2016	UK		SEC-08, 09		Soft targets	Emergency
750348	CPR	H2020-EU.1.3.2.	A cross-country comparison of Communications designed to Prevent Radicalisation	01-11-17	31-10-19	200 194.80	200 194.80	H2020-MSCA-IF-2016	DK		DEF-28, 33	DEF-28 + DEF-33	Combating radicalisation	Social sciences
753223	NARCOREADER	H2020-EU.1.3.2.	Novel electrochemical strategies for rapid, on-site multiscreening of illicit drugs	01-05-17	30-04-19	160 800.00	160 800.00	H2020-MSCA-IF-2016	BE		ELE-26; SEC-13	SEC-13	Other	Law enforcement; Forensics
754682	NANOELECTROCHEM	H2020-EU.1.1.	Electrocatalytic Nanoreactors for Absorption, Detection and Decontamination of Hazardous Compounds	01-12-17	31-05-19	149 912.00	149 912.00	ERC-2016-PoC	UK		SEC-13, 14, 15; DEF-02	SEC-13, 15; SEC-14 + DEF-02 + HEAL-10	CBRN-E	
756482	REACT	H2020-EU.1.1.	Realizable Advanced Cryptography	01-10-17	30-09-22	1 493 803.00	1 493 803.00	ERC-2017-STG	IL		DEF-29	DEF-29	Cybersecurity	Cryptography
757096	QuardCard	H2020-EU.3.7.;H2020-EU.2.3.1.	Powered smart card with a biometric one-time password system	01-02-17	31-01-19	2 314 632.25	1 620 242.57	H2020-SMEINST-2-2016-2017	DK	DK	SEC-05,26; DEF-29, 34	DEF-29; SEC-05	Cybersecurity	Biometrics
757455	DUST	H2020-EU.1.1.	Data Assimilation for Agent-Based Models: Applications to Civil Emergencies	01-01-18	31-12-22	1 499 840.00	1 499 840.00	ERC-2017-STG	UK		SEC-08, 09, 18		Other	Emergency; Disaster Management
757731	LightCrypt	H2020-EU.1.1.	New Directions in Lightweight Cryptanalysis	01-10-17	30-09-22	1 487 500.00	1 487 500.00	ERC-2017-STG	IL		DEF-29	DEF-29	Cybersecurity	Cryptography; IoT

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758834	GRIEVANCE	H2020-EU.1.1.	Gauging the Risk of Incidents of Extremist Violence Against Non-Combatant Entities	01-01-18	31-12-22	1 458 345.00	1 458 345.00	ERC-2017-STG	UK		DEF-33	DEF-28 + DEF-33	Combating radicalisation	Social sciences; Violence
760218	Andrupos	H2020-EU.3.;H2020-EU.2.	Automatic non-destructive recognition of used printing techniques on substrates	01-07-17	31-12-19	1 753 433.75	1 269 421.25	H2020-FTIPilot-2016-1	DE	DE;NL;UK	SEC-26; DEF-32		Border control	Law enforcement; Forensics
761947	LocationWise	H2020-EU.3.7.;H2020-EU.2.3.1.	LocationWise Payment Card Validation: A cloud-based location verification system that will significantly lower cost of payment card cyber security	01-03-17	31-08-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	UK		SEC-26		Cybersecurity	
762383	GICA	H2020-EU.3.7.;H2020-EU.2.3.1.	Geolocalisation of Individuals in Critical Areas	01-04-17	30-09-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	FR		DEF-26		Critical infrastructures	Rescue
763240	CHINO	H2020-EU.3.7.;H2020-EU.2.3.1.	The Health Data Security Platform for EU Developers Enterprises	01-01-17	30-06-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	IT		DEF-34		Cybersecurity	Privacy
763599	SECOPS	H2020-EU.3.4.7.	An Integrated Security Concept for Drone Operations	01-10-17	30-09-19	909 293.75	909 293.75	H2020-SESAR-2016-1	NL	FI;BE;NL	DEF-12, 23; TRA-23	DEF-12 + DEF-23	Other	UAV
763702	PercEvite	H2020-EU.3.4.7.	PercEvite – Sense and avoid technology for small drones	01-09-17	31-08-20	899 007.50	899 007.50	H2020-SESAR-2016-1	NL	NL;FR;BE	TRA-23; DEF-12, 23	DEF-12 + DEF-23	Other	UAV
766719	FLASH	H2020-EU.1.2.1.	Far-infrared Lasers Assembled using Silicon Heterostructures	01-11-17	31-10-20	3 206 498.75	3 206 498.75	H2020-FETOPEN-1-2016-2017	IT	DE;CH;UK	SEC-03; ELE-05, 19	ELE-05, 19	Border control	
767383	COUNTERCRAFT	H2020-EU.3.7.;H2020-EU.2.3.1.	Intelligence campaigns in the digital realms	01-09-17	31-08-19	1 619 375.00	1 133 562.50	H2020-SMEINST-2-2016-2017	ES		DEF-28, 30	DEF-28 + DEF-33	Cybersecurity	
767454	BOTFIND	H2020-EU.1.1.	BOTFIND: Finding Bots, Detect Harassing Automation, and Restoring Trust in Social Media Civic Engagement	01-08-17	31-01-19	149 921.00	149 921.00	ERC-2017-PoC	UK		DEF 28, 33	DEF-28 + DEF-33	Cybersecurity	Social media
767542	INSIKT	H2020-EU.3.7.;H2020-EU.2.3.1.	Novel Social Data Mining Platform to Detect and Defeat Violent Online Radicalization	01-10-17	30-09-19	2 190 218.75	1 533 153.13	H2020-SMEINST-2-2016-2017	ES		DEF-28, 33	DEF-28 + DEF-33	Combating radicalisation	Law enforcement; Social media
768242	KNOX	H2020-EU.3.7.;H2020-EU.2.3.1.	Cost advantageous and scalable drone alarm and protection system for urban contexts	01-08-17	31-07-19	1 804 500.00	1 258 775.00	H2020-SMEINST-2-2016-2017	DK		SEC-19; DEF-12, 23	SEC-19; DEF-12 + DEF-23	Soft targets; Critical infrastructures	UAV
772665	3ants	H2020-EU.3.7.;H2020-EU.2.3.1.	Enhancing security of digital property rights and citizens' awareness through an innovative anti-piracy framework of digital content based on Machine Learning and Artificial Intelligence	01-07-17	31-12-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	ES		SEC-26; DEF-28	DEF-28 + DEF-33	Cybersecurity	
774256	ePatriot	H2020-EU.3.7.;H2020-EU.2.3.1.	Evolved Sky Patriot – Phase 1 Feasibility Study	01-07-17	31-12-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	UK		SEC-19; DEF-12, 23	SEC-19; DEF-12 + DEF-23	Critical infrastructures	Law enforcement; UAV
774802	BlockchainKYC	H2020-EU.3.7.;H2020-EU.2.3.1.	Blockchain-based, 100 % automated KYC (Know Your Customer) service	01-07-17	30-11-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	IS		DEF-29, 34	DEF-29	Cybersecurity	Biometrics; Blockchain
775251	REDSENTRY	H2020-EU.3.7.;H2020-EU.2.3.1.	Proactive Operational Intelligence Cybersecurity Platform for the Financial Services Industry	01-07-17	31-12-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	ES		DEF-28, 34	DEF-28 + DEF-33	Cybersecurity	
775593	GO 4G	H2020-EU.3.7.;H2020-EU.2.3.1.	InvizBox Go 4G – Security and Privacy, Everywhere	01-07-17	31-12-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	IE		DEF-34		Cybersecurity	Privacy

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775636	MASS	H2020-EU.3.4.;H2020-EU.2.1.1.;H2020-EU.2.3.1.	Micro AIS Shore Station – MASS	01-06-17	30-11-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	TR		DEF-10, 25	DEF-25	Border control	Surveillance
775707	UNFRAUD	H2020-EU.3.7.;H2020-EU.2.3.1.	An advanced online anti-fraud software equipped with deep learning Artificial Intelligence that can face and detect, current fraudulent techniques and their continued evolution in a cost effective man	01-06-17	30-09-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	IT		SEC-26; DEF-28, 30, 34	DEF-28 + DEF-33	Cybersecurity	
775989	CBRNE STNDS 2017	H2020-EU.3.7.2.;H2020-EU.3.7.7.;H2020-EU.3.7.5.	ERNCIP CBRNE STANDARDS 2017 and 2018 – support to Mandate 487	01-06-17	31-05-19	500 000.00	500 000.00	H2020-IBA-SC7-ERNCIP-2017	BE		SEC-13, 14, 19; DEF-02, 03, 04	SEC-13, 19; SEC-14 + DEF-02 + HEAL-10	CBRN-E; Critical infrastructures; Soft targets	Standardisation
776099	SARA	H2020-EU.3.2.1.;H2020-EU.2.1.6.3.;H2020-EU.2.1.6.1.2.	Search And Rescue Aid and Surveillance using High EGNSS Accuracy	01-02-18	31-01-20	1 942 327.50	1 455 583.13	H2020-GALILEO-GSA-2017-1	IT	DK;IT;BE;NL;PL	DEF-12, 25; SPA-03	DEF-25; DEF-12 + DEF-23	Border control; Space	Migration; Rescue; Surveillance; Applications in satellite navigation; UAV
776293	GAUSS	H2020-EU.3.4.2.2.;H2020-EU.3.4.1.2.;H2020-EU.2.1.6.3.;H2020-EU.2.1.6.1.2.	Galileo-EGNOS as an Asset for UTM Safety and Security	01-03-18	28-02-21	3 695 758.31	2 972 489.49	H2020-GALILEO-GSA-2017-1	ES	EL;IT;ES;NL;UK	DEF-12, 23; TRA-23	DEF-12 + DEF-23	Space	Applications in satellite navigation; UAV
776355	TransSec	H2020-EU.3.4.2.2.;H2020-EU.3.4.1.2.;H2020-EU.2.1.6.3.;H2020-EU.2.1.6.1.2.	Autonomous emergency manoeuvring and movement monitoring for road transport security	01-02-18	31-01-21	3 007 613.75	2 527 229.38	H2020-GALILEO-GSA-2017-1	DE	IE;ES;DE;AT	TRA-08, 12; DEF-07, 26	TRA-08; TRA-11 + DEF-07	Soft targets; Space	Applications in satellite navigation; Transport
776487	INFACT	H2020-EU.3.5.3.	Innovative, Non-invasive and Fully Acceptable Exploration Technologies	01-11-17	31-10-20	5 624 029.59	5 624 029.59	H2020-SC5-2017-OneStageB	DE	ES;FI;DE;FR;IT;UK;ZA	MIN-02		Critical supplies	Supply security
777996	SealedGRID	H2020-EU.1.3.3.	Scalable, trustEd, and interoperAble pLatform for sEcureD smart GRID	01-01-18	31-12-21	1 080 000.00	1 080 000.00	H2020-MSCA-RISE-2017	EL	RO;ES;EL	SEC-19; ELE-25	SEC-19	Critical infrastructures; Cybersecurity	Physical threats
778550	Signa2.0	H2020-EU.3.7.;H2020-EU.2.3.1.	Signaturit	01-01-18	30-06-19	1 739 187.50	1 217 431.25	H2020-SMEINST-2-2016-2017	ES		DEF-29, 34	DEF-29	Cybersecurity	Biometrics; Blockchain
778571	Smart-Trust	H2020-EU.3.7.;H2020-EU.2.3.1.	Smart Trust: Secure Mobile ID for Trusted Smart Borders	01-01-18	31-12-19	2 991 000.00	2 093 700.00	H2020-SMEINST-2-2016-2017	PT		SEC-05	SEC-05	Border control	Biometrics; Blockchain
779391	FutureTPM	H2020-EU.3.7.4.;H2020-	Future Proofing the Connected World: A Quantum-Resistant Trusted Platform Module	01-01-18	31-12-20	4 868 890.00	4 868 890.00	H2020-DS-LEIT-2017	AT	AT;CH;DE;UK; EL;LU;CY;IE;PT	DEF-29	DEF-29	Cybersecurity	Cryptography

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779899	SecureIoT	H2020-EU.2.1.1.	Predictive Security for IoT Platforms and Networks of Smart Objects	01-01-18	31-12-20	4 860 335.00	4 860 335.00	H2020-IOT-2017	BE	FR;DE;NL;RO;EL;ES;CY;BE;LU	MAN-25; DEF-34	MAN-25	Cybersecurity	IoT
780075	CHARIOT	H2020-EU.2.1.1.	Cognitive Heterogeneous Architecture for Industrial IoT	01-01-18	31-12-20	4 928 562.50	4 928 562.50	H2020-IOT-2017	UK	EL;FR;IT;IE;CY;BE	MAN-25	MAN-25	Cybersecurity	Blockchain; IoT
780108	FENTEC	H2020-EU.3.7.4.;H2020-EU.2.1.1.	Functional Encryption Technologies	01-01-18	31-12-20	4 223 141.25	4 223 141.25	H2020-DS-LEIT-2017	ES	FI;SI;CH;FR;DE;BE;UK	DEF-29	DEF-29	Cybersecurity	Cryptography
780139	SerIoT	H2020-EU.2.1.1.	Secure and Safe Internet of Things	01-01-18	31-12-20	4 999 083.75	4 999 083.75	H2020-IOT-2017	PL	CY;EL;ES;AT;DE;UK;BE	MAN-25	MAN-25	Cybersecurity	IoT
780355	FANDANGO	H2020-EU.2.1.1.	FAke News discovery and propagation from big Data ANalysis and artificial intelliGence Operations	01-01-18	31-12-20	3 583 125.00	2 879 250.00	H2020-ICT-2017-1	IT	EL;ES;BE;IE;IT	DEF-28, 33	DEF-28 + DEF-33	Hybrid threats	Social media; ICT
780477	PRIViLEDGE	H2020-EU.3.7.4.;H2020-EU.2.1.1.	Privacy-Enhancing Cryptography in Distributed Ledgers	01-01-18	31-12-20	4 527 917.50	4 527 917.50	H2020-DS-LEIT-2017	EE	EL;IT;EE;CH;NL;UK	DEF-29	DEF-29	Cybersecurity	Privacy; Cryptography; Blockchain
780498	YAKSHA	H2020-EU.2.1.1.	Cybersecurity Awareness and Knowledge Systemic High-level Application	01-01-18	30-06-20	2 506 226.25	1 998 813.75	H2020-ICT-2017-1	PT	IT;FI;BG;FR;TH;ES;VN;EL;MY	DEF-30, 34		Cybersecurity	ICT; Supply chain
780701	PROMETHEUS	H2020-EU.3.7.4.;H2020-EU.2.1.1.	PRivacy preserving pOst-quantuM systEms from advanced crypTograpHic mEchanisms Using latticeS	01-01-18	31-12-21	5 496 968.94	5 496 968.75	H2020-DS-LEIT-2017	FR	FR;NL;IL;ES;CH;DE;UK	DEF-29	DEF-29	Cybersecurity	Privacy; Cryptography
781027	ARIA	H2020-EU.3.7.;H2020-EU.2.3.1.	Advanced ultra-wideband Radar for Integrated Applications	01-08-17	30-11-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	IT		SEC-04; DEF-25	SEC-04; DEF-25	Other	Surveillance
781271	UltraFiBi	H2020-EU.3.7.;H2020-EU.2.3.1.	Next-generation Strong Ultrasonic Fingerprint Biometrics	01-10-17	31-03-18	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	FR		SEC-05	SEC-05	Other	Biometrics
781400	CLTRe	H2020-EU.2.1.1.;H2020-EU.2.3.1.	The Cybersecurity Behavioural Toolkit	01-06-17	30-11-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	NO		SEC-18		Cybersecurity	Social sciences
781524	UR Browser	H2020-EU.2.1.1.;H2020-EU.2.3.1.	The first all-European web browser capable of guaranteeing comprehensive online privacy and security for EU Internet users	01-06-17	30-09-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	FR		DEF-34		Cybersecurity	Privacy
781623	TFence	H2020-EU.3.7.;H2020-EU.2.3.1.	A patent pending solution/microchip for the IoT cybersecurity market requirements: no access to online software updates, very small size, inexpensive hardware, low energy consumption.	01-08-17	30-11-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	IL		MAN-25; ELE-23, 26	MAN-25; ELE-23	Cybersecurity	IoT
781707	Babbler	H2020-EU.3.7.;H2020-EU.2.3.1.	Babbler feasibility study in adjacent market segments.	08-05-17	07-10-17	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	NL		SEC-07; MAN 25	SEC-07; MAN-25	Border control	IoT; Supply chain
783183	GATEMAN	H2020-EU.3.4.7.	GNSS NAVIGATION THREATS MANAGEMENT	01-01-18	31-12-19	565 743.75	565 743.75	H2020-SESAR-2016-2	ES	FI;IT	SPA-02, 03; DEF-11	SPA-02 + DEF-11	Space; Cybersecurity	Applications in satellite navigation; Transport

Project ID	Project Acronym	Programme	Project Title	Start Date	End Date	Total Cost (€)	EC Max Contribution (€)	Call	Coordinator Country	Participant Countries	Innovation Field(s)	Recommended Innovation Field(s)	Building Block(s)	Main Focus(es)
783977	Wardiam Perimeter	H2020-EU.3.7.;H2020-EU.2.3.1.	An innovative intruder detection hidden technology based on Controlled Magnetic Fields able to detect threats before happening	01-02-18	31-07-19	1 390 600.00	973 420.00	H2020-SMEINST-2-2016-2017	ES		SEC-04, 19; DEF-01, 25	SEC-04, 19; DEF-25	Critical infrastructures	Surveillance; Physical threats
784247	IDAaaS	H2020-EU.3.7.;H2020-EU.2.3.1.	Trusted online service for identity assurance	01-10-17	31-05-19	1 940 661.25	1 358 462.00	H2020-SMEINST-2-2016-2017	NO		DEF-34		Cybersecurity; Terrorism financing	
790554	Genomcore Identity	H2020-EU.3.7.;H2020-EU.2.3.1.	Genomcore Identity: databank proxy for DNA fingerprinting from whole exome/genome for biometric identification	01-01-18	30-06-18	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	ES		SEC-05	SEC-05	Other	Biometrics; Law enforcement; Forensics
790798	PMT4NIIS	H2020-EU.3.7.;H2020-EU.2.3.1.	Predictive Maintenance Tool for Non-Intrusive Inspection Systems	01-01-18	30-06-18	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	BG		SEC-03, 07, 13	SEC-07, 13	Border control	Supply chain
791208	V-SPHERE	H2020-EU.3.7.;H2020-EU.2.3.1.	Vulnerability Search and Prevention through Holistic End-to-end Risk Evaluation	01-02-18	31-05-18	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	NO		DEF-30, 34		Cybersecurity	
791486	Glyco-DeCon	H2020-EU.3.7.;H2020-EU.2.3.1.	Decontamination by glycosylation based wipes	01-01-18	30-06-18	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	IE		SEC-15	SEC-15	CBRN-E	
791727	ProtonSuite	H2020-EU.3.7.;H2020-EU.2.3.1.	The world's largest secure collaboration suite	01-12-17	31-03-18	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	CH		DEF-29	DEF-29	Cybersecurity	Privacy
808316	Radiation detector	H2020-EU.2.1.1.;H2020-EU.2.3.1.	Novel radioactive radiation technology feasibility verification	01-03-18	30-06-18	71 429.00	50 000.00	H2020-SMEINST-1-2016-2017	FI		SEC-13; DEF-02	SEC-13; SEC-14 + DEF-02 + HEAL-10	Border control; CBRN-E	

Source: CORDIS for columns "Project ID" – "Participant Countries"; Bordin et al. (2019) for columns "Building Block(s)" and "Main Focus(es)'; authors for columns "Innovation Field(s)" and "Recommended Innovation Field(s)".

Annex 3. Data from the analysis of the R & I projects displaying dual-use potential

Table 13. Number of dual-use R & I projects by number of associated dual-use innovation fields

Number of innovation fields per project	Number of projects
1 innovation field	124
2 innovation fields	95
3 innovation fields	41
4 innovation fields	25
5 innovation fields	2
6 innovation fields	7
7 innovation fields	3
8 innovation fields	2
Not linked to any innovation field	10
Total	**309**

Source: JRC analysis of CORDIS data

Table 14. Number of dual-use R & I projects by cross-sectoral industrial domain

Originating (industrial) sector	Number of projects
Defence (DEF)	201
Security (SEC)	143
Electronic, Electric & Communication Systems (ELE)	41
Manufacturing & Automation (MAN)	15
Transport (TRA)	9
Space (SPA)	8
Health & Healthcare (HEAL)	6
Environment (ENV)	1
Mining, Quarrying & Extraction (MIN)	1
Not linked to any innovation field & industrial domain	10

Source: JRC analysis of CORDIS data

Table 15. Number of dual-use R & I projects associated to recommended and other innovation fields

Total number of projects	309
Projects linked to recommended innovation fields	117
Projects linked to mix of recommended and other innovation fields	115
Projects linked to other innovation fields	67
Projects not linked to any innovation field	10

Source: JRC analysis of CORDIS data

Table 16. Number of dual-use R & I projects associated to recommended innovation fields

Recommended innovation field	Thematic areas	Number of projects
Improved encryption solutions (DEF-29)	Security/Cybersecurity systems	58
Smart materials and structural solutions to protect critical infrastructures against physical threat (SEC-19)		47
Data mining for early detection of threat, suspicious activities and law enforcement (DEF-28 + DEF-33)		28
Individuals and events recognition solutions (SEC-04)		21
Secure and fast biometric access control systems (SEC-05)		21
Permanent passive wide area surveillance system (DEF-25)	Communication, navigation and surveillance systems	15
Unmanned Vehicles for wide area surveillance in air, land, water and underwater (DEF-23 + DEF-12)		14
Instruments and systems for all weather operations and long-range remote detection, visualization and identification of threats (TRA-11 + DEF-07)		9
Advanced broadband wireless communication (ELE-19)		7
Specialized networks for the Internet of Things (ELE-23)		5
High autonomy communicating devices (ELE-03)		3
Embedded data handling and processing (ELE-24)		3
Enhanced global navigation solutions and location-based services (SEC-27)		3
High throughput Satellite Communication (SPA-02 + DEF-11)		3
Information-based fleet management systems (TRA-08)		2
Screening devices for detection of traces (SEC-13)	Health and sanitary protection, including against CBRN-E threats	29
Mobile equipment for CBRN-E detection, analysis and characterisation for insitu investigation (SEC-14 + DEF-02 + HEAL-10)		20
CBRN-E decontamination technologies and processes for people, equipment and structures (SEC-15)		5
Smart supply networks based on object connection and industrial control systems for products and production systems (MAN-25)	Production and supply chain solutions	15
Tracking and tracing devices to secure supply chain (SEC-07)		12
Robotic devices for search and rescue (SEC-02)	Human assistance and robotics	1
Infrastructure for post-disaster operations (SEC-16)		2

Recommended innovation field	Thematic areas	Number of projects
3D System on Chips technologies for More than Moore systems (ELE-05)	Fundamental non-dependence materials and components	1
Chip-level system integration solutions (ELE-27)		1

Source: JRC analysis of CORDIS data

Table 17. Number of organisations and contributions to dual-use R & I projects by EU Member State

Country	Number of contributions to projects	Number of contributing organisations
United Kingdom*	222	130
Spain	214	126
Germany	200	127
Italy	197	134
France	163	95
Greece	115	53
Belgium	88	44
Netherlands	83	58
Austria	56	33
Portugal	56	36
Finland	48	32
Ireland	47	33
Poland	40	32
Romania	36	21
Sweden	28	21
Denmark	24	19
Luxembourg	15	11
Cyprus	14	11
Bulgaria	14	10
Estonia	13	10
Hungary	12	9
Slovenia	12	7
Czechia	12	11
Malta	7	6
Slovakia	3	3
Croatia	3	3
Latvia	4	4

NB: United Kingdom was an EU Member State at the time of project assignment.

Source: JRC analysis of CORDIS data

Table 18. Number of organisations and contributions to dual-use R & I projects by non-EU country

Country	Number of contributions to projects	Number of contributing organisations
Israel	43	29
Switzerland	39	25
Norway	29	22
Turkey	8	6
Serbia	6	5
Tunisia	3	3
Iceland	2	2
India	2	2
Thailand	2	2
United States	2	2
South Africa	2	2
Bosnia and Herzegovina	2	2
Georgia	2	2
Vietnam	2	2
Malaysia	2	2
China	2	2
Russia	1	1
Moldova	1	1
Ukraine	1	1
Mali	1	1
Kosovo	1	1
Singapore	1	1
Taiwan	1	1
Albania	1	1
Cuba	1	1
Brazil	1	1
North Macedonia	1	1
Hong Kong	1	1
Yemen	1	1
Gibraltar	1	1
Australia	1	1
South Korea	1	1

Source: JRC analysis of CORDIS data

Annex 4. List of organisations that carry out dual-use R & I projects

Name	Country	Legal status	Projects contributed to
FRAUNHOFER GESELLSCHAFT ZUR FÖRDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	DE	REC	23
ATOS SPAIN SA	ES	PRC	22
KATHOLIEKE UNIVERSITEIT LEUVEN (KUL)	BE	HES	17
ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS	EL	REC	14
MINISTERIO DEL INTERIOR	ES	PUB	11
INSTITUT NATIONAL DE RECHERCHE EN INFORMATIQUE ET AUTOMATIQUE (INRIA)	FR	REC	11
NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK (TNO)	NL	REC	9
RUHR-UNIVERSITÄT BOCHUM	DE	HES	9
KENTRO MELETON ASFALEIAS	EL	REC	9
ENGINEERING – INGEGNERIA INFORMATICA SPA	IT	PRC	9
IBM ISRAEL – SCIENCE AND TECHNOLOGY LTD	IL	PRC	8
COMMISSARIAT À L'ÉNERGIE ATOMIQUE ET AUX ÉNERGIES ALTERNATIVES (CEA)	FR	REC	8
AUSTRIAN INSTITUTE OF TECHNOLOGY GMBH (AIT)	AT	REC	8
TECHNIKON FORSCHUNGS- UND PLANUNGSGESELLSCHAFT MBH	AT	PRC	7
UNIVERSITY OF PIRAEUS RESEARCH CENTER	EL	HES	7
THALES COMMUNICATIONS & SECURITY SAS	FR	PRC	7
MINISTERIO DA ADMINISTRAÇÃO INTERNA	PT	PUB	7
MINISTERIO DA JUSTIÇA	PT	PUB	7
JOINT RESEARCH CENTRE- EUROPEAN COMMISSION (JRC)	BE	REC	7
IMPERIAL COLLEGE OF SCIENCE TECHNOLOGY AND MEDICINE	UK	HES	7
IBM RESEARCH GMBH	CH	PRC	7
VRIJE UNIVERSITEIT BRUSSEL (VUB)	BE	HES	6
UNIVERSITY COLLEGE LONDON	UK	HES	6
XLAB RAZVOJ PROGRAMSKE OPREME IN SVETOVANJE DOO	SI	PRC	6
TECHNISCHE UNIVERSITÄT DARMSTADT	DE	HES	6
UNIVERSITY OF BRISTOL	UK	HES	6
UNIVERSITY OF SOUTHAMPTON	UK	HES	6
SERVICE PUBLIC FÉDÉRAL INTÉRIEUR	BE	PUB	6
MINISTERO DELL'INTERNO	IT	PUB	6

Name	Country	Legal status	Projects contributed to
INSTITUTE OF COMMUNICATION AND COMPUTER SYSTEMS	EL	REC	6
HOME OFFICE	UK	PUB	6
CONSIGLIO NAZIONALE DELLE RICERCHE	IT	REC	6
AYUNTAMIENTO DE MADRID	ES	PUB	6
TRILATERAL RESEARCH LTD	UK	PRC	5
TECHNISCHE UNIVERSITÄT GRAZ	AT	HES	5
UNIVERSITÉ DU LUXEMBOURG	LU	HES	5
TECHNISCHE UNIVERSITEIT EINDHOVEN	NL	HES	5
STIFTELSEN SINTEF	NO	REC	5
TEKNOLOGIAN TUTKIMUSKESKUS (VTT) Oy	FI	REC	5
TECHNISCHE UNIVERSITÄT BRAUNSCHWEIG	DE	HES	5
THALES SA	FR	PRC	5
THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD	UK	HES	5
POLICE SERVICE OF NORTHERN IRELAND	UK	PUB	5
MINISTÈRE DE L'INTÉRIEUR	FR	PUB	5
SERVICIUL DE PROTECTIE SI PAZA	RO	PUB	5
FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS	EL	REC	5
EURECOM	FR	HES	5
IDEMIA IDENTITY & SECURITY FRANCE	FR	PRC	5
INOV INESC INOVAÇÃO – INSTITUTO DE NOVAS TECNOLOGIAS	PT	REC	5
TECHNISCHE UNIVERSITEIT DELFT	NL	HES	4
THE UNIVERSITY OF WARWICK	UK	HES	4
TELEFONICA INVESTIGACION Y DESARROLLO SA	ES	PRC	4
UNIVERSITA DEGLI STUDI ROMA TRE	IT	HES	4
TOTALFORSVARETS FORSKNINGSINSTITUT	SE	REC	4
UNIVERSITÉ CATHOLIQUE DE LOUVAIN	BE	HES	4
TRUST-IT SERVICES LIMITED	UK	PRC	4
THE UNIVERSITY OF BIRMINGHAM	UK	HES	4
THE UNIVERSITY OF EDINBURGH	UK	HES	4
ROYAL HOLLOWAY AND BEDFORD NEW COLLEGE	UK	HES	4
POLICE AND CRIME COMMISSIONER FOR WEST YORKSHIRE	UK	PUB	4

Name	Country	Legal status	Projects contributed to
MINISTERO DELLA DIFESA	IT	PUB	4
SHEFFIELD HALLAM UNIVERSITY	UK	HES	4
POLITECNICO DI MILANO	IT	HES	4
MINISTRY OF NATIONAL DEFENCE, GREECE	EL	PUB	4
MONTIMAGE EURL	FR	PRC	4
ORSZAGOS RENDOR – FOKAPITANYSAG	HU	PUB	4
EUROPEAN UNION SATELLITE CENTRE	ES	PUB	4
FUNDACION TECNALIA RESEARCH & INNOVATION	ES	REC	4
ISTITUTO AFFARI INTERNAZIONALI	IT	REC	4
INSPECTORATUL GENERAL AL POLITIEI DE FRONTIERA	RO	PUB	4
FONDAZIONE CENTRO SAN RAFFAELE	IT	REC	4
HOCHSCHULE FUR DEN OFFENTLICHEN DIENST IN BAYERN	DE	HES	4
GOTTFRIED WILHELM LEIBNIZ UNIVERSITÄT HANNOVER	DE	HES	4
CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (CNRS)	FR	REC	4
ÉCOLE NORMALE SUPÉRIEURE (ENS)	FR	HES	4
DEEP BLUE SRL	IT	PRC	4
AYUNTAMIENTO DE VALENCIA	ES	PUB	4
UNIVERSITA DEGLI STUDI DI FIRENZE	IT	HES	3
UNIVERSITY OF LEEDS	UK	HES	3
TREELOGIC TELEMATICA Y LOGICA RACIONAL PARA LA EMPRESA EUROPEA SL	ES	PRC	3
TECH INSPIRE LTD	UK	PRC	3
THE PROVOST, FELLOWS, FOUNDATION SCHOLARS & THE OTHER MEMBERS OF BOARD OF THE COLLEGE OF THE HOLY & UNDIVIDED TRINITY OF QUEEN ELIZABETH NEAR DUBLIN	IE	HES	3
UNIVERSITAT POLITECNICA DE VALENCIA	ES	HES	3
THALES SERVICES SAS	FR	PRC	3
STICHTING VU	NL	HES	3
UNIVERSITY OF KENT	UK	HES	3
STMICROELECTRONICS SRL	IT	PRC	3
SYNELIXIS LYSEIS PLIROFORIKIS AUTOMATISMOU & TILEPIKOINONION ANONIMI ETAIRIA	EL	PRC	3
UNIVERSITÉ GRENOBLE ALPES	FR	HES	3
UNIVERSIDAD POLITECNICA DE MADRID	ES	HES	3

Name	Country	Legal status	Projects contributed to
UNIVERSITÉ PIERRE ET MARIE CURIE – PARIS 6	FR	HES	3
UNIVERSITEIT UTRECHT	NL	HES	3
UNITED TECHNOLOGIES RESEARCH CENTRE IRELAND, LIMITED	IE	PRC	3
PIRAEUS PORT AUTHORITY SA	EL	PRC	3
SINGULARLOGIC ANONYMI ETAIREIA PLIROFORIAKON SYSTIMATON KAI EFARMOGON PLIROFORIKIS	EL	PRC	3
SATWAYS – PROIONTA KAI YPIRESIES TILEMATIKIS DIKTYAKON KAI TILEPIKINONIAKON EFARMOGON ETAIRIA PERIORISMENIS EFTHINIS EPE	EL	PRC	3
NATO SCIENCE AND TECHNOLOGY ORGANISATION	BE	REC	3
OY L M ERICSSON AB	FI	PRC	3
NEC EUROPE LTD	UK	PRC	3
SAP SE	DE	PRC	3
LEONARDO – SOCIETA PER AZIONI	IT	PRC	3
ORANGE SA	FR	PRC	3
PROPRS LTD	UK	PRC	3
SERVICIUL DE TELECOMUNICATII SPECIALE	RO	PUB	3
PRZEMYSLOWY INSTYTUT AUTOMATYKI I POMIAROW PIAP	PL	REC	3
SIEMENS SRL	RO	PRC	3
NETHERLANDS FORENSIC INSTITUTE	NL	PUB	3
NORGES TEKNISK-NATURVITENSKAPELIGE UNIVERSITET (NTNU)	NO	HES	3
SIVECO ROMANIA SA	RO	PRC	3
EUROPEAN VIRTUAL INSTITUTE FOR INTEGRATED RISK MANAGEMENT EU VRI EWIV	DE	PRC	3
ITTI SP ZOO	PL	PRC	3
HELLENIC TELECOMMUNICATIONS ORGANIZATION S.A. – OTE AE (ORGANISMOS TILEPIKOINONION TIS ELLADOS OTE AE)	EL	PRC	3
ETRA INVESTIGACION Y DESARROLLO SA	ES	PRC	3
EXPERT SYSTEM IBERIA SL	ES	PRC	3
ETHNIKO KAI KAPODISTRIAKO PANEPISTIMIO ATHINON	EL	HES	3
INSTITUT PO OTBRANA	BG	REC	3
EUROPEAN ORGANISATION FOR SECURITY SCRL	BE	PRC	3
HELSINGIN YLIOPISTO	FI	HES	3
FUNDACIO EURECAT	ES	REC	3
LAUREA-AMMATTIKORKEAKOULU OY	FI	HES	3

Name	Country	Legal status	Projects contributed to
FUNDACION CENTRO DE TECNOLOGIAS DE INTERACCION VISUAL Y COMUNICACIONES VICOMTECH	ES	REC	3
EXUS SOFTWARE LTD	UK	PRC	3
ETHNIKO DIKTYO EREVNAS TECHNOLOGIAS AE	EL	PRC	3
FUTURE ANALYTICS CONSULTING LIMITED	IE	PRC	3
AIRBUS DS SAS	FR	PRC	3
DEPARTMENT OF DEFENCE	IE	PUB	3
ARTTIC	FR	PRC	3
AEORUM ESPANA S.L.	ES	PRC	3
DEUTSCHE HOCHSCHULE DER POLIZEI	DE	HES	3
COMUNE DI FIRENZE	IT	PUB	3
DEUTSCHES ZENTRUM FÜR LUFT- UND RAUMFAHRT EV	DE	REC	3
EIDGENOESSISCHE TECHNISCHE HOCHSCHULE ZÜRICH	CH	HES	3
BUNDESKRIMINALAMT	DE	PUB	3
BUNDESMINISTERIUM FÜR INNERES	AT	PUB	3
UNIVERSITAT ROVIRA I VIRGILI	ES	HES	2
UNIVERSITA DEGLI STUDI DI ROMA LA SAPIENZA	IT	HES	2
UNIVERZITET U NOVOM SADU	RS	HES	2
SYNYO GmbH	AT	PRC	2
UNIVERSITÄT DES SAARLANDES	DE	HES	2
SYSGO AG	DE	PRC	2
UNIVERSITY OF GLASGOW	UK	HES	2
TARTU ULIKOOL	EE	HES	2
WORLDSENSING SL	ES	PRC	2
TECHNISCHE UNIVERSITÄT BERLIN	DE	HES	2
UNIVERSITÄT PADERBORN	DE	HES	2
TECHNISCHE UNIVERSITÄT DRESDEN	DE	HES	2
UNIVERSITÄT PASSAU	DE	HES	2
SPACE HELLAS ANONYMI ETAIREIA SYSTIMATA KAI YPIRESIES TILEPIKOINONIONPLIROFORIKIS ASFALEIAS – IDIOTIKI EPICHEIRISI PAROCHIS YPERISION ASFA	EL	PRC	2
UNIVERSITÉ DE NEUCHATEL	CH	HES	2

Name	Country	Legal status	Projects contributed to
TECHNOLOGICAL EDUCATIONAL INSTITUTE OF CRETE	EL	HES	2
UNIVERSITY OF SURREY	UK	HES	2
THALES ITALIA SPA	IT	PRC	2
WEIZMANN INSTITUTE OF SCIENCE	IL	HES	2
STEINBEIS ADVANCED RISK TECHNOLOGIES GmbH	DE	PRC	2
UNIVERSITA CATTOLICA DEL SACRO CUORE	IT	HES	2
STELAR SECURITY TECHNOLOGY LAW RESEARCH UG	DE	REC	2
UNIVERSITA TA MALTA	MT	HES	2
THE ISRAEL ELECTRIC CORPORATION LIMITED	IL	PRC	2
UNIVERSITÄT STUTTGART	DE	HES	2
THE NATIONAL POLICE OF THE NETHERLANDS	NL	PUB	2
UNIVERSITÄT KONSTANZ	DE	HES	2
THE POLICE AND CRIME COMMISSIONER FOR SOUTH YORKSHIRE	UK	PUB	2
UNIVERSITAT POLITECNICA DE CATALUNYA	ES	HES	2
THE QUEEN'S UNIVERSITY OF BELFAST	UK	HES	2
UNIVERSITÉ DE LAUSANNE	CH	HES	2
THE UNIVERSITY OF MANCHESTER	UK	HES	2
UNIVERSITY OF CYPRUS	CY	HES	2
TTTECH COMPUTERTECHNIK AG	AT	PRC	2
UNIVERSITY OF GREENWICH	UK	HES	2
TTY-SAATIO	FI	HES	2
UNIVERSITY OF ULSTER	UK	HES	2
UBITECH LIMITED	CY	PRC	2
USATGES BCN 21 SL	ES	PRC	2
UNICONTROLS A.S.	CZ	PRC	2
WOJSKOWA AKADEMIA TECHNICZNA IM JAROSLAWA DABROWSKIEGO	PL	HES	2
UNIVERSIDAD DE MALAGA	ES	HES	2
UNIVERSIDAD DE MURCIA	ES	HES	2
ZENTRUM FÜR SICHERE INFORMATIONSTECHNOLOGIE – AUSTRIA	AT	REC	2
SENSICHIPS SRL	IT	PRC	2
MINISTERIO DA DEFESA NACIONAL	PT	PUB	2

Name	Country	Legal status	Projects contributed to
MICROWAVE CHARACTERIZATION CENTER	FR	PRC	2
OXFORD COMPUTER CONSULTANTS LIMITED	UK	PRC	2
MAYOR'S OFFICE FOR POLICING AND CRIME	UK	PUB	2
MINISTRY OF PUBLIC SECURITY	IL	PUB	2
OBERTHUR TECHNOLOGIES SA	FR	PRC	2
SISEKAITSEAKADEEMIA	EE	HES	2
ROBOTNIK AUTOMATION SLL	ES	PRC	2
SIXSQ SARL	CH	PRC	2
S2 GRUPO DE INNOVACION EN PROCESOS ORGANIZATIVOS SL	ES	PRC	2
LEENAARS ERNA HELENE PETRONELLE	NL	PRC	2
SCYTL SECURE ELECTRONIC VOTING SA	ES	PRC	2
MOTIVIAN EOOD	BG	PRC	2
NUTCRACKER RESEARCH LIMITED	UK	PRC	2
MYDEFENCE COMMUNICATION APS	DK	PRC	2
ONTECH SECURITY SL	ES	PRC	2
POLISMYNDIGHETEN SWEDISH POLICE AUTHORITY	SE	PUB	2
MIDDLE EAST TECHNICAL UNIVERSITY	TR	HES	2
NATIONAL DEFENCE UNIVERSITY	FI	HES	2
ROMA CAPITALE	IT	PUB	2
POLITIEZONE BRECHT-MALLE-SCHILDE-ZOERSEL	BE	PUB	2
MANDAT INTERNATIONAL ALIAS FONDATION POUR LA COOPERATION INTERNATIONALE	CH	REC	2
NATIONAL UNIVERSITY OF IRELAND MAYNOOTH	IE	HES	2
MAXDATA SOFTWARE SA	PT	PRC	2
LOMBARDIA INFORMATICA SPA	IT	PRC	2
SCUOLA SUPERIORE DI STUDI UNIVERSITARI E DI PERFEZIONAMENTO SANT'ANNA	IT	HES	2
QUARDLOCK APS	DK	PRC	2
SECURE SECURE LTD	UK	PRC	2
RESEARCH AND EDUCATION LABORATORY IN INFORMATION TECHNOLOGIES	EL	REC	2
SERCO BELGIUM SA	BE	PRC	2
RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN	DE	HES	2
NXP SEMICONDUCTORS BELGIUM NV	BE	PRC	2

Name	Country	Legal status	Projects contributed to
RIJKSUNIVERSITEIT GRONINGEN	NL	HES	2
ODIN SOLUTIONS S.L.	ES	PRC	2
RINA CONSULTING SPA	IT	PRC	2
SIGNICAT AS	NO	PRC	2
RINICOM LIMITED	UK	PRC	2
SIRC SP ZOO	PL	PRC	2
RISE SICS AB	SE	REC	2
RISSC – CENTRO RICERCHE E STUDI SUSICUREZZA E CRIMINALITA ASSOCIAZIONE	IT	REC	2
PANEPISTIMIO PATRON	EL	HES	2
PARIS-LODRON-UNIVERSITÄT SALZBURG	AT	HES	2
OULUN YLIOPISTO	FI	HES	2
FUNDACION DE LA COMUNIDAD VALENCIANA PARA LA INVESTIGACION, PROMOCION Y ESTUDIOS COMERCIALES DE VALENCIAPORT	ES	REC	2
F-SECURE OYJ	FI	PRC	2
EPYXS GMBH	DE	PRC	2
GIOUMPITEK MELETI SCHEDIASMOS YLOPOIISI KAI POLISI ERGON PLIROFORIKIS ETAIREIA PERIORISMENIS EFTHYNIS	EL	PRC	2
INTRASOFT INTERNATIONAL SA	LU	PRC	2
GMV AEROSPACE AND DEFENCE SA	ES	PRC	2
ENEO TECNOLOGIA SOCIEDAD DE RESPONSABILIDAD LIMITADA	ES	PRC	2
GOBIERNO VASCO – DEPARTAMENTO SEGURIDAD	ES	PUB	2
INSTITOUTO TECHNOLOGIAS YPOLOGISTONKAI EKDOSEON DIOFANTOS	EL	REC	2
EVERIS AEROESPACIAL Y DEFENSA SL	ES	PRC	2
EMZA VISUAL SENSE LTD	IL	PRC	2
H W COMMUNICATIONS LIMITED	UK	PRC	2
ISTITUTO SUPERIORE MARIO BOELLA SULLE TECNOLOGIE DELL'INFORMAZIONE E DELLE TELECOMUNICAZIONI ASSOCIAZIONE	IT	REC	2
HEALTH SERVICE EXECUTIVE HSE	IE	PUB	2
KARLSRUHER INSTITUT FÜR TECHNOLOGIE	DE	HES	2
EXODUS ANONYMOS ETAIREIA PLIROFORIKIS	EL	PRC	2
FUTURE INTELLIGENCE LTD	UK	PRC	2
ELETTRONICA GMBH	DE	PRC	2
EURO-MEDITERRANEAN SEISMOLOGICAL CENTRE	FR	REC	2
ENVIRONICS OY	FI	PRC	2

Name	Country	Legal status	Projects contributed to
INSTITUT MINES-TELECOM	FR	HES	2
FACEPHI BIOMETRIA SA	ES	PRC	2
ESI MOBILE SOLUTIONS SL	ES	PRC	2
FCIENCIAS.ID – ASSOCIAÇAO PARA A INVESTIGAÇAO E DESENVOLVIMENTO DE CIENCIAS	PT	REC	2
INTERDISCIPLINARY CENTER (IDC) HERZLIYA	IL	HES	2
HOP UBIQUITOUS SL	ES	PRC	2
FUNDACION CENTRO TECNOLOXICO DE TELECOMUNICACIONS DE GALICIA	ES	REC	2
IBM IRELAND LIMITED	IE	PRC	2
ITA-SUOMEN YLIOPISTO	FI	HES	2
FONDAZIONE BRUNO KESSLER	IT	REC	2
FUNDACION DEUSTO	ES	REC	2
EULAMBIA ADVANCED TECHNOLOGIES MONOPROSOPI ETAIRIA PERIORISMENIS EFTHINIS	EL	PRC	2
KARLSTADS UNIVERSITET	SE	HES	2
FORSVARET OG FORSVARSMINISTERIETS STYRELSER	DK	PUB	2
LABORATORIO DI SCIENZE DELLA CITTADINANZA	IT	REC	2
FORUM EUROPEEN POUR LA SECURITE URBAINE	FR	OTH	2
INESC ID – INSTITUTO DE ENGENHARIADE SISTEMAS E COMPUTADORES, INVESTIGAÇAO E DESENVOLVIMENTO EM LISBOA	PT	REC	2
LAW AND INTERNET FOUNDATION	BG	REC	2
CRANFIELD UNIVERSITY	UK	HES	2
CHINO SOCIETA A RESPONSABILITA LIMITATA SEMPLIFICATA	IT	PRC	2
DIN DEUTSCHES INSTITUT FÜR NORMUNG E.V.	DE	OTH	2
NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITOS"	EL	REC	2
AARHUS UNIVERSITET	DK	HES	2
AIMES GRID SERVICES COMMUNITY INTEREST COMPANY	UK	OTH	2
DEPARTAMENT D'INTERIOR – GENERALITAT DE CATALUNYA	ES	PUB	2
AKADEMIA SZTUKI WOJENNEJ	PL	HES	2
ÉCOLE ROYALE MILITAIRE – KONINKLIJKE MILITAIRE SCHOOL	BE	HES	2
AN GARDA SIOCHANA	IE	PUB	2
CLOUD&HEAT TECHNOLOGIES GMBH	DE	PRC	2
ANADOLU UNIVERSITY	TR	HES	2
CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LE TELECOMUNICAZIONI	IT	HES	2

Name	Country	Legal status	Projects contributed to
AON SPA INSURANCE & REINSURANCE BROKERS	IT	PRC	2
CYBERNETICA AS	EE	PRC	2
ARCHIMEDE SOLUTIONS SARL	CH	PRC	2
DIGINEXT	FR	PRC	2
ARESCOSMO S.P.A.	IT	PRC	2
DUBLIN CITY UNIVERSITY	IE	HES	2
ASM TERNI SPA	IT	PRC	2
CENTRALNE LABORATORIUM KRYMINALISTYCZNE POLICJI	PL	REC	2
ASTER SPA	IT	PRC	2
CITY UNIVERSITY OF LONDON	UK	HES	2
ATSEC INFORMATION SECURITY AB	SE	PRC	2
CLOUDSIGMA AG	CH	PRC	2
AUDAX GLOBAL SOLUTIONS LIMITED	UK	PRC	2
ACADEMIA NATIONALA DE INFORMATII MIHAI VITEAZUL	RO	HES	2
AUTORITA DI SISTEMA PORTUALE DEL MAR TIRRENO SETTENTRIONALE	IT	PUB	2
COUNTERCRAFT SL	ES	PRC	2
BAE SYSTEMS (OPERATIONS) LIMITED	UK	PRC	2
CRYPTOEXPERTS SAS	FR	PRC	2
BAR ILAN UNIVERSITY	IL	HES	2
DELFT DYNAMICS B.V.	NL	PRC	2
BARCELONA SUPERCOMPUTING CENTER – CENTRO NACIONAL DE SUPERCOMPUTACION	ES	REC	2
DEUTSCHE TELEKOM AG	DE	PRC	2
BITDEFENDER SRL	RO	PRC	2
DIGITAL CATAPULT	UK	REC	2
BRITISH TELECOMMUNICATIONS PUBLIC LIMITED COMPANY	UK	PRC	2
DR FRUCHT SYSTEMS LTD	IL	PRC	2
EINS – ENTWICKLUNG INTERAKTIVER SOFTWARE GMBH	DE	PRC	2
EASY GLOBAL MARKET SAS	FR	PRC	2
C.C.I.C.C. LIMITED	IE	PRC	2
CENTER FOR TECHNOLOGY RESEARCH AND INNOVATION (CETRI) LTD	CY	PRC	2
CARDLAB INNOVATION APS	DK	PRC	2

Name	Country	Legal status	Projects contributed to
UNIVERSITÉ PAUL SABATIER TOULOUSE III	FR	HES	1
WATTICS LIMITED	IE	PRC	1
UNIVERSITY ST KLIMENT OHRIDSKI BITOLA	MK	HES	1
THALES NEDERLAND BV	NL	PRC	1
STMICROELECTRONICS ROUSSET SAS	FR	PRC	1
STADTWERKE HEIDELBERG GMBH	DE	PRC	1
UNIVERSITY OF DUNDEE	UK	HES	1
SONAE CENTER SERVICOS II S.A.	PT	PRC	1
VERIDOS GMBH	DE	PRC	1
THALES SYSTEMES AEROPORTES SAS	FR	PRC	1
SOFTECO SISMAT SRL	IT	PRC	1
THALES UK LIMITED	UK	PRC	1
UNIVERSITÉ DE STRASBOURG	FR	HES	1
TECHNION – ISRAEL INSTITUTE OF TECHNOLOGY	IL	HES	1
UNIVERSITETET I AGDER	NO	HES	1
THE HEBREW UNIVERSITY OF JERUSALEM	IL	HES	1
UNIVERSITY OF MACEDONIA	EL	HES	1
THE INTERNATIONAL CRIMINAL POLICE ORGANIZATION	FR	PUB	1
TG DRIVES SRO	CZ	PRC	1
SYSGO SRO	CZ	PRC	1
VISSHE UCHILISHTE PO MENIDZHMANT	BG	HES	1
THE MAIN SCHOOL OF FIRE SERVICE	PL	HES	1
X/OPEN COMPANY LIMITED	UK	PRC	1
THE MANCHESTER METROPOLITAN UNIVERSITY	UK	HES	1
STIFTUNG SECURE INFORMATION AND COMMUNICATION TECHNOLOGIES	AT	REC	1
THE MAYOR AND COMMONALTY AND CITIZENS OF THE CITY OF LONDON	UK	PUB	1
UNIVERSITÉ DE NAMUR	BE	HES	1
SOUPER TOYS SKAFI EPE	EL	PRC	1
STREMBLE VENTURES LTD	CY	PRC	1
THE OPEN UNIVERSITY	UK	HES	1
UNIVERSITEIT LEIDEN	NL	HES	1

Name	Country	Legal status	Projects contributed to
THE OPEN UNIVERSITY*	IL	HES	1
SUOMEN STANDARDISOIMISLIITTO SFS RY	FI	OTH	1
THE PEOPLE FOR CHANGE FOUNDATION	MT	REC	1
UNIVERSITY OF HAIFA	IL	HES	1
T4I ENGINEERING LTD	UK	PRC	1
UNIVERSITY OF STRATHCLYDE	UK	HES	1
STICHTING ARQ	NL	OTH	1
UNPARALLEL INNOVATION LDA	PT	PRC	1
SOUTH CHINA UNIVERSITY OF TECHNOLOGY	CN	HES	1
VEILIGHEIDSREGIO IJSSELLAND	NL	PUB	1
THE UNIVERSITY COURT OF THE UNIVERSITY OF ABERDEEN	UK	HES	1
VISEO TECHNOLOGIES	FR	PRC	1
STICHTING CENTRUM VOOR WISKUNDE EN INFORMATICA	NL	REC	1
SYMTAVISION GMBH	DE	PRC	1
STICHTING GLOBAL PARTNERSHIP FOR THE PREVENTION OF ARMED CONFLICT	NL	OTH	1
THALES AUSTRIA GMBH	AT	PRC	1
THE UNIVERSITY OF HERTFORDSHIRE HIGHER EDUCATION CORPORATION	UK	HES	1
X-NET TECHNOLOGIES GMBH	AT	PRC	1
TECHNISCHE UNIVERSITÄT MÜNCHEN	DE	HES	1
TEKEVER II AUTONOMOUS SYSTEMS LDA	PT	PRC	1
THE UNIVERSITY OF NOTTINGHAM	UK	HES	1
UNIVERSITÄT WIEN	AT	HES	1
THE UNIVERSITY OF READING	UK	HES	1
TELCOSERV SCHEDIASMOS YLOPOIHSH & BELTIOPOIHSH THLEPIKOINONIAKON DIKTION-EGKATASTASIS THLEPIKOINONIAKOU EKSOPLISMOU DIATAKSEON-KATASKEVASTIK	EL	PRC	1
THE UNIVERSITY OF SHEFFIELD	UK	HES	1
UNIVERSITÉ DE NICE SOPHIA ANTIPOLIS	FR	HES	1
THE UNIVERSITY OF SYDNEY	AU	HES	1
UNIVERSITÉ DES SCIENCES JURIDIQUES ET POLITIQUES DE BAMAKO	ML	HES	1
STICHTING KATHOLIEKE UNIVERSITEIT	NL	HES	1
UNIVERSITÉ LYON 1 CLAUDE BERNARD	FR	HES	1

Name	Country	Legal status	Projects contributed to
THREATMARK SRO	CZ	PRC	1
UNIVERSITEIT ANTWERPEN	BE	HES	1
TIME.LEX	BE	PRC	1
SUNDHED.DK IS	DK	PRC	1
TOI SRL	IT	PRC	1
UNIVERSITY COLLEGE CORK – NATIONAL UNIVERSITY OF IRELAND, CORK	IE	HES	1
TOPVIEW SRL START UP INNOVATIVA	IT	PRC	1
SUOMEN YMPARISTOKESKUS	FI	REC	1
STICHTING KATHOLIEKE UNIVERSITEIT BRABANT	NL	HES	1
STADT DORTMUND	DE	PUB	1
TOULON VAR TECHNOLOGIES	FR	OTH	1
SWARCO MIZAR SRL	IT	PRC	1
TOUSSAINT MASCIA DIANA	NL	PRC	1
SYMETRICA SECURITY LTD	UK	PRC	1
TOXOGEN GMBH	DE	PRC	1
TERRACOM INFORMATICS LTD	EL	PRC	1
TRAINOSE METAFORES-METAFORIKES YPIRESIES EPIVATON KAI FORTIOU AE	EL	PRC	1
TETRANE	FR	PRC	1
TRANSPARENCY SOLUTIONS LIMITED	UK	PRC	1
UPSKILL ENTERPRISE LTD	UK	PRC	1
STICHTING NATIONAAL LUCHT- EN RUIMTEVAARTLABORATORIUM	NL	REC	1
UTI GRUP SA	RO	PRC	1
TRENITALIA SPA	IT	PRC	1
VELTI ANONYMI ETAIREIA PROIONTON LOGISMIKOU & SYNAFON PRIONTON & PIRESION	EL	PRC	1
STICHTING NEDERLANDS NORMALISATIE INSTITUUT	NL	REC	1
VIASAT ANTENNA SYSTEMS SA	CH	PRC	1
TRUEPIVOT LTD	IE	PRC	1
VISIONSPACE TECHNOLOGIES LDA	PT	PRC	1
TRUSTABLE LIMITED	UK	PRC	1
VLTN GCV	BE	PRC	1
STICHTING NEDERLANDSE WETENSCHAPPELIJK ONDERZOEK INSTITUTEN	NL	REC	1

Name	Country	Legal status	Projects contributed to
WALLIX	FR	PRC	1
TECHNISCHE UNIVERSITÄT WIEN	AT	HES	1
THALES ALENIA SPACE ESPANA, SA	ES	PRC	1
SP FIRE RESEARCH AS	NO	PRC	1
STADTGEMEINDE SALZBURG	AT	PUB	1
TURKIYE BILIMSEL VE TEKNOLOJIK ARASTIRMA KURUMU	TR	REC	1
XITRUST SECURE TECHNOLOGIES GMBH	AT	PRC	1
TURUN AMMATTIKORKEAKOULU OY	FI	HES	1
ZANASI ALESSANDRO SRL	IT	PRC	1
TW – TEAMWARE SRL	IT	PRC	1
TEKEVER ASDS	PT	PRC	1
TXN SRL	IT	PRC	1
SRK EXPLORATION SERVICES LIMITED	UK	PRC	1
TALAIA NETWORKS SL	ES	PRC	1
TELBIOS SRL	IT	PRC	1
UBIWHERE LDA	PT	PRC	1
UNIVERSITÄT ZÜRICH	CH	HES	1
UK SPACE AGENCY	UK	PUB	1
UNIVERSITÉ DE GENEVE	CH	HES	1
UMEA UNIVERSITET	SE	HES	1
UNIVERSITÉ DE LILLE	FR	HES	1
UNABHAENGIGES LANDESZENTRUM FÜR DATENSCHUTZ	DE	PUB	1
TELECOM ITALIA SPA	IT	PRC	1
UNBOUND TECH LTD	IL	PRC	1
UNIVERSITÉ DE RENNES I	FR	HES	1
SRH HOCHSCHULEN GMBH UNIVERSITY OF APPLIED SCIENCES	DE	HES	1
UNIVERSITÉ DE TOULOUSE II – LE MIRAIL	FR	HES	1
UNIFLY	BE	PRC	1
SOCIETÉ DE L'AÉROPORT DE LUXEMBOURG SA	LU	PRC	1
UNINOVA-INSTITUTO DE DESENVOLVIMENTO DE NOVAS TECNOLOGIAS-ASSOCIAÇAO	PT	REC	1
UNIVERSITÉ JEAN MONNET SAINT-ETIENNE	FR	HES	1

Name	Country	Legal status	Projects contributed to
UNION INTERNATIONALE DES CHEMINS DE FER	FR	OTH	1
UNIVERSITÉ PARIS-SUD	FR	HES	1
SOCIEDADE PORTUGUESA DE INOVAÇAO – CONSULTADORIA EMPRESARIAL E FOMENTO DA INOVAÇAO S.A.	PT	PRC	1
STUDIO TECNICO BFP SOCIETA A RESPONSABILITA LIMITATA	IT	PRC	1
UNIVERSIDAD CARLOS III DE MADRID	ES	HES	1
UNIVERSITEIT GENT	BE	HES	1
UNIVERSIDAD COMPLUTENSE DE MADRID	ES	HES	1
UNIVERSITEIT MAASTRICHT	NL	HES	1
UNIVERSIDAD DE CANTABRIA	ES	HES	1
UNIVERSITEIT VAN AMSTERDAM	NL	HES	1
UNIVERSIDAD DE LA IGLESIA DE DEUSTO ENTIDAD RELIGIOSA	ES	HES	1
UNIVERSITETET I TROMSOE	NO	HES	1
TECHNO PRO HISPANIA SRL	ES	PRC	1
UNIVERSITY COLLEGE DUBLIN, NATIONAL UNIVERSITY OF IRELAND, DUBLIN	IE	HES	1
SOCIETÉ D'INGENIÉRIE DE RECHERCHES ET D'ÉTUDES EN HYDRODYNAMIQUE NAVALE	FR	PRC	1
UNIVERSITY OF BRIGHTON	UK	HES	1
UNIVERSIDAD DE NAVARRA	ES	HES	1
TELECONSULT AUSTRIA GmbH	AT	PRC	1
UNIVERSIDAD DE SANTIAGO DE COMPOSTELA	ES	HES	1
UNIVERSITY OF ESSEX	UK	HES	1
UNIVERSIDAD DE SEVILLA	ES	HES	1
TELEVES SA	ES	PRC	1
UNIVERSIDAD DE VIGO	ES	HES	1
SUPRACON AG	DE	PRC	1
UNIVERSIDAD MIGUEL HERNANDEZ DE ELCHE	ES	HES	1
UNIVERSITY OF LEICESTER	UK	HES	1
STICHTING THE SHADOWSERVER FOUNDATION EUROPE	NL	REC	1
UNIVERSITY OF NEWCASTLE UPON TYNE	UK	HES	1
UNIVERSIDAD POMPEU FABRA	ES	HES	1
SYMPHONIC SOFTWARE LTD	UK	PRC	1
UNIVERSIDAD REY JUAN CARLOS	ES	HES	1

Name	Country	Legal status	Projects contributed to
TERAFENCE LTD	IL	PRC	1
UNIVERSIDADE DE COIMBRA	PT	HES	1
UNIVERSITY OF WOLVERHAMPTON	UK	HES	1
UNIVERSIDADE ESTADUAL DE CAMPINAS	BR	HES	1
UNIVERZA V LJUBLJANI	SI	HES	1
TECHNOLOGIKO EKPEDEFTIKO IDRIMA STEREAS ELLADAS	EL	HES	1
UNIWERSYTET JAGIELLONSKI	PL	HES	1
UNIVERSITA DEGLI STUDI DI CAGLIARI	IT	HES	1
UPCOM BVBA	BE	PRC	1
ZENTRUM FÜR RISIKO- UND KRISENMANAGEMENT (ZRK)	AT	REC	1
URZAD MORSKI W GDYNI	PL	PUB	1
ZOOVEL TECHNOLOGIES SL	ES	PRC	1
USTANOVA-CENTER ZA EVROPSKO PRIHODNOST	SI	REC	1
ZURCHER HOCHSCHULE FÜR ANGEWANDTE WISSENSCHAFTEN	CH	HES	1
VALIDSOFT UK LIMITED	UK	PRC	1
TECHNOLOGIKO PANEPISTIMIO KYPROU	CY	HES	1
VEJLE KOMMUNE	DK	PUB	1
UNIVERSITA DEGLI STUDI DI ROMA TORVERGATA	IT	HES	1
VENAKA MEDIA LIMITED	UK	PRC	1
UNIVERSITA DEGLI STUDI DI SALERNO	IT	HES	1
VERTICAL	FR	PRC	1
UNIVERSITA DEGLI STUDI DI SASSARI	IT	HES	1
VIEN KHOA HOC CONG NGHE VINASA	VN	OTH	1
UNIVERSITA DEGLI STUDI DI TRENTO	IT	HES	1
VISION BOX – SOLUCOES DE VISAO POR COMPUTADOR SA	PT	PRC	1
SOCIETATEA ENERGETICA ELECTRICA SA	RO	PRC	1
VISIONWARE-SISTEMAS DE INFORMACAO SA	PT	PRC	1
UNIVERSITA DEL SALENTO	IT	HES	1
VLAAMSE MAATSCHAPPIJ VOORWATERVOORZIENING CVBA	BE	PRC	1
UNIVERSITA DELLA CALABRIA	IT	HES	1
VOCAPIA RESEARCH	FR	PRC	1

Name	Country	Legal status	Projects contributed to
UNIVERSITA DELLA SVIZZERA ITALIANA	CH	HES	1
VYSOKE UCENI TECHNICKE V BRNE	CZ	HES	1
TECNOALIMENTI S.C.P.A.	IT	REC	1
WATERFORD INSTITUTE OF TECHNOLOGY	IE	HES	1
UNIVERSITÄT DER BUNDESWEHR MÜNCHEN	DE	HES	1
WEDIA LIMITED	EL	PRC	1
UNIVERSITÄT DUISBURG-ESSEN	DE	HES	1
WEST MIDLANDS POLICE AUTHORITY	UK	PUB	1
UNIVERSITÄT HAMBURG	DE	HES	1
WORLDSENSING LIMITED	UK	PRC	1
UNIVERSITÄT INNSBRUCK	AT	HES	1
WYZSZA SZKOLA POLICJI W SZCZYTNIE	PL	HES	1
TECNOSYLVA SL	ES	PRC	1
XAVITECH AB	SE	PRC	1
UNIVERSITÄT ROSTOCK	DE	HES	1
SYNC LAB SRL	IT	PRC	1
TECOMS SRL	IT	PRC	1
YOURIS.COM	BE	OTH	1
UNIVERSITÄT ZU KOELN	DE	HES	1
ZENITH ANALYTICS OU	EE	PRC	1
UNIVERSITAT AUTONOMA DE BARCELONA	ES	HES	1
TEESSIDE UNIVERSITY	UK	HES	1
SOCIETA PER AZIONI ESERCIZI AEROPORTUALI SEA SPA	IT	PRC	1
ZORGIOS IOANNIS	EL	PRC	1
UNIVERSITA DEGLI STUDI DI MODENA E REGGIO EMILIA	IT	HES	1
SYNECTIKA RESEARCH AND CONSULTING LTD	UK	PRC	1
UNIVERSITA DEGLI STUDI DI PADOVA	IT	HES	1
PUBLIC SAFETY COMMUNICATION EUROPE FORUM AISBL	BE	OTH	1
MINISTRY OF INTERIOR	HR	PUB	1
ROSKILDE UNIVERSITET	DK	HES	1
MULTITEL	BE	REC	1

Name	Country	Legal status	Projects contributed to
POLITSEI- JA PIIRIVALVEAMET	EE	PUB	1
MUNICIPIO DA AMADORA	PT	PUB	1
RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN	DE	HES	1
LUXAI SA	LU	PRC	1
SCORPION NETWORKS LTD	IE	PRC	1
MYNDIGHETEN FOR SAMHALLSSKYDD OCH BEREDSKAP	SE	PUB	1
SINDICE LIMITED	IE	PRC	1
NAGRAVISION SA	CH	PRC	1
PROMETECH BV	NL	PRC	1
NANOTECH ANALYSIS SOCIETA A RESPONSABILITA LIMITATA	IT	PRC	1
R-DAS, s.r.o.	SK	PRC	1
NANYANG TECHNOLOGICAL UNIVERSITY	SG	HES	1
RISE RESEARCH INSTITUTES OF SWEDEN AB	SE	REC	1
NARODOWE CENTRUM BADAN JADROWYCH	PL	REC	1
SALZBURG RESEARCH FORSCHUNGSGESELLSCHAFT M.B.H.	AT	REC	1
NATIONAL BUREAU OF INVESTIGATION	FI	PUB	1
MINISTERUL AFACERILOR INTERNE	RO	PUB	1
NATIONAL CRIME AGENCY	UK	PUB	1
SFAX UNIVERSITY	TN	HES	1
LUXBRIGHT AB	SE	PRC	1
LULEA TEKNISKA UNIVERSITET	SE	HES	1
NATIONAL SCIENCE & TECHNOLOGY DEVELOPMENT AGENCY	TH	REC	1
PRÉSIDENCE DU GOUVERNEMENT	TN	PUB	1
NATIONAL TECHNICAL UNIVERSITY OF ATHENS – NTUA	EL	HES	1
PROTECCION ON-LINE SL	ES	PRC	1
NATIONAL UNIVERSITY OF IRELAND GALWAY	IE	HES	1
QUEEN MARY UNIVERSITY OF LONDON	UK	HES	1
LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY	LU	REC	1
RED HAT LIMITED	IE	PRC	1
MAANMITTAUSLAITOS	FI	REC	1
MINISTARSTVO UNUTRASNJIH POSLOVA REPUBLIKE SRBIJE	RS	PUB	1

Name	Country	Legal status	Projects contributed to
NAUKOWA I AKADEMICKA SIEC KOMPUTEROWA – PANSTWOWY INSTYTUT BADAWCZY	PL	REC	1
ROBERT KOCH-INSTITUT	DE	REC	1
NAVCERT GMBH	DE	PRC	1
S.H.S. CONSULTORES SL	ES	PRC	1
NAVPOS SYSTEMS GMBH	DE	PRC	1
MINISTERO DELLA GIUSTIZIA	IT	PUB	1
MAGEN DAVID ADOM IN ISRAEL	IL	PUB	1
SEA SOCIETÀ ELETTRICA DI FAVIGNANA SPA	IT	PRC	1
MAGGIOLI SPA	IT	PRC	1
SENSINITE OY	FI	PRC	1
NEMETSCHEK EOOD	BG	PRC	1
SERVICIOS AVANZADOS PARA LAS INSTITUCIONES S.L.	ES	PRC	1
NEMZETI ADO- ES VAMHIVATAL	HU	PUB	1
SIGMA TECHNOLOGIES S.L.	ES	PRC	1
NETCELER SAS	FR	PRC	1
MONASH UNIVERSITY SUNWAY CAMPUS MALAYSIA SDN BHD	MY	PRC	1
MAGNETI MARELLI S.P.A.	IT	PRC	1
SMARTMATIC-CYBERNETICA CENTRE OF EXCELLENCE FOR INTERNET VOTING OU	EE	PRC	1
NEURASMUS BV	NL	REC	1
POWER OPERATIONS LIMITED	UK	PRC	1
NEUROSOFT SOFTWARE PRODUCTIONS SA	EL	PRC	1
PRICEWATERHOUSECOOPERS ENTERPRISE ADVISORY SCRL-PWC ENTERPRISE ADVISORY	BE	PRC	1
NEW INFRARED TECHNOLOGIES SL	ES	PRC	1
LIVE TECH SRL	IT	PRC	1
NEW JERSEY INSTITUTE OF TECHNOLOGY	US	HES	1
PROVINCIAL POLICE HEADQUARTERS IN GDANSK	PL	PUB	1
NEXTEL SA	ES	PRC	1
QUALIFY JUST – IT SOLUTIONS AND CONSULTING LDA	PT	PRC	1
NEXTNANO GMBH	DE	PRC	1
RADIO6ENSESRL	IT	PRC	1
NIEDERSACHSISCHES MINISTERIUM FÜR INNERES UND SPORT	DE	PUB	1

Name	Country	Legal status	Projects contributed to
REAMDA LIMITED	IE	PRC	1
NIS AD NOVI SAD	RS	PRC	1
RESI INFORMATICA SPA	IT	PRC	1
NIXU OYJ	FI	PRC	1
RIGAS DOME	LV	PUB	1
NOATUM PORTS VALENCIANA, S.A.U.	ES	PRC	1
RISA SICHERHEITSANALYSEN GMBH	DE	PRC	1
NOKIA BELL LABS FRANCE	FR	PRC	1
MINISTERIE VAN FINANCIEN DIRECTORAAT GENERAAL BELASTINGDIENST	NL	PUB	1
MAGYAR TUDOMANYOS AKADEMIA ENERGIATUDOMANYI KUTATOKOZPONT	HU	REC	1
LOUGHBOROUGH UNIVERSITY	UK	HES	1
NOTTINGHAM SCIENTIFIC LTD	UK	PRC	1
LUCAS INSTRUMENTS GMBH	DE	PRC	1
NOVACOM SERVICES SA	FR	PRC	1
SAFERGLOBE RY	FI	OTH	1
NSI NIER SOLUZIONI INFORMATICHE SRL	IT	PRC	1
SAPIENZA SL	ES	PRC	1
NTP NANO TECH PROJECTS SRL	IT	PRC	1
SCHNEIDER ELECTRIC ESPANA SA	ES	PRC	1
NUOVO TRASPORTO VIAGGIATORI SPA	IT	PRC	1
MINISTERO DELL'ECONOMIA E DELLE FINANZE	IT	PUB	1
MALTA INFORMATION TECHNOLOGY AGENCY	MT	PUB	1
SECON SOLUTIONS LIMITED	UK	PRC	1
MALTA INFORMATION TECHNOLOGY LAW ASSOCIATION	MT	REC	1
SEEQUESTOR LIMITED	UK	PRC	1
NXP SEMICONDUCTORS GERMANY GMBH	DE	PRC	1
SENSOVANN AS	NO	PRC	1
OAS AKTIENGESELLSCHAFT	DE	PRC	1
MINISTRY OF INTERIOR / EUROPEAN & DEVELOPMENT PROGRAMMES AGENCY	EL	PUB	1
MANDALON TECHNOLOGIES AB	SE	PRC	1
SERVICIUL DE PROTECTIE SI PAZA DE STAT	MD	PUB	1

Name	Country	Legal status	Projects contributed to
OBRELA SECURITY INDUSTRIES – YPIRESEIES ASFALEIAS PLIROFORION ANONYMOS ETAIREIA	EL	PRC	1
SIA NOTAKEY	LV	PRC	1
OBRELA SECURITY INDUSTRIES LIMITED	UK	PRC	1
SIGNATURIT SOLUTIONS SL	ES	PRC	1
OCEANSCAN – MARINE SYSTEMS & TECHNOLOGY LDA	PT	PRC	1
SINGULARLOGIC CYPRUS LTD	CY	PRC	1
LINGUATEC GMBH	DE	PRC	1
SISTEMA D'EMERGENCIES MEDIQUES	ES	PRC	1
OFFICE NATIONAL D'ÉTUDES ET DE RECHERCHES AÉROSPATIALES	FR	REC	1
SKILLS FOR JUSTICE (ENTERPRISES) LIMITED	UK	PRC	1
OFFIS EV	DE	REC	1
POLITIEZONE: DE PANNE – KOKSIJDE – NIEUWPOORT	BE	PUB	1
ONAPP LIMITED	GI	PRC	1
POSTE ITALIANE – SOCIETA PER AZIONI	IT	PRC	1
MAVEN SEVEN SOLUTIONS ZARTKORUEN MUKODO RESZVENYTARSASAG	HU	PRC	1
PRAGSIS TECHNOLOGIES SL	ES	PRC	1
OPEN TECHNOLOGY SERVICES AE	EL	PRC	1
PRICEWATERHOUSECOOPERS ADVISORY SPA	IT	PRC	1
OPTISENSE BV	NL	PRC	1
PROGETTI D'IMPRESA SRL	IT	PRC	1
OPTIX AD	BG	PRC	1
PROMT GMBH	DE	PRC	1
LINKOPINGS UNIVERSITET	SE	HES	1
PROSA SECURITY AS	NO	PRC	1
ORBITAL SISTEMAS AEROESPACIALES SL	ES	PRC	1
PROTON TECHNOLOGIES AG	CH	PRC	1
ORGANISMOS ASTIKON SYGKOINONION ATHINON AE	EL	PRC	1
LINGACOM LTD	IL	PRC	1
ORION INNOVATIONS PRIVATE COMPANY	EL	PRC	1
PUBLIC SERVICE DEVELOPMENT AGENCY	GE	PUB	1
LIOPA LTD	UK	PRC	1
MIKKELIN KAUPUNKI	FI	PUB	1
OSLO KOMMUNE	NO	PUB	1
QUEST PHOTONIC DEVICES BV	NL	PRC	1

Name	Country	Legal status	Projects contributed to
OSLO UNIVERSITETSSYKEHUS HF	NO	HES	1
RAILSEC LTD	IL	PRC	1
OSLOMET – STORBYUNIVERSITETET	NO	HES	1
REALEYES OU	EE	PRC	1
OSPEDALE SAN RAFFAELE SRL	IT	PRC	1
REAQTA LTD	MT	PRC	1
OSTBAYERISCHE TECHNISCHE HOCHSCHULE REGENSBURG	DE	HES	1
MIKKELIN KEHITYSYHTIO MIKSEI OY	FI	OTH	1
OSTERGOTLANDS LAN	SE	PUB	1
REXEL DEVELOPPEMENT SAS	FR	PRC	1
SMARTPATCH SRLS	IT	PRC	1
MIKROPLAN GMBH	DE	PRC	1
SMITHS DETECTION WATFORD LIMITED	UK	PRC	1
MIKROSENS ELEKTRONIK SANAYI VE TICARET AS	TR	PRC	1
SOCIEDAD EUROPEA DE DETECCION SL	ES	PRC	1
MINISTÈRE DE LA JUSTICE	FR	PUB	1
MEDCOM	DK	PUB	1
RISCURE BV	NL	PRC	1
MEDIA ACTIE KUREGEM STAD	BE	OTH	1
LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE	UK	HES	1
P@SSPORT HOLLAND BV	NL	PRC	1
RNC AVIONICS LIMITED	UK	PRC	1
P3 COMMUNICATIONS GMBH	DE	PRC	1
MINISTERIE VAN INFRASTRUCTUUR EN WATERSTAAT	NL	PUB	1
P3 ENERGY & STORAGE GMBH	DE	PRC	1
ROMSOFT SRL	RO	PRC	1
MEDIZINISCHE UNIVERSITÄT WIEN	AT	HES	1
LSTECH LTD	UK	PRC	1
PANTEIO PANEPISTIMIO KOINONIKON KAIPOLITIKON EPISTIMON	EL	HES	1
RUSHFILES A/S	DK	PRC	1
MEDIZINISCHE UNIVERSITÄT INNSBRUCK	AT	HES	1
LUCIAD NV	BE	PRC	1
PARROT DRONES	FR	PRC	1
SAHER UK LTD	UK	PRC	1

Name	Country	Legal status	Projects contributed to
PARTISIA APS	DK	PRC	1
LUDWIG BOLTZMANN GESELLSCHAFT OSTERREICHISCHE VEREINIGUNG ZUR FORDERUNG DER WISSENSCHAFTLICHEN FORSCHUNG	AT	REC	1
PAUMAX OY	FI	PRC	1
SATELLITE APPLICATIONS CATAPULT LIMITED	UK	REC	1
PAYPLUG	FR	PRC	1
SCHIEBEL ELEKTRONISCHE GERAETE GMBH	AT	PRC	1
PDM E FC PROJECTO DESENVOLVIMENTO MANUTENCAO FORMACAO E CONSULTADORIALDA	PT	PRC	1
SCHWEIZERISCHE RUCKVERSICHERUNGS-GESELLSCHAFT AG	CH	PRC	1
PELASTUSOPISTO, EMERGENCY SERVICES COLLEGE	FI	HES	1
SCOTTISH FIRE AND RESCUE SERVICE	UK	PUB	1
PENNEO APS	DK	PRC	1
LUFTHANSA SYSTEMS AG	DE	PRC	1
PERACTON LIMITED	IE	PRC	1
SEARCH-LAB BIZTONSAGI ERTEKELO ELEMZO ES KUTATO LABORATORIUM KORLATOLT FELELOSSEGU TARSASAG	HU	PRC	1
PERFECT DASHBOARD SPOLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA	PL	PRC	1
SECRÉTARIAT GÉNÉRAL DE LA DÉFENSE ET DE LA SÉCURITÉ NATIONALE	FR	PUB	1
PERYTONS LTD	IL	PRC	1
SECURIQ SISTEMAS SL	ES	PRC	1
PHILIPPS UNIVERSITAET MARBURG	DE	HES	1
MINISTRY FOR FINANCE	MT	PUB	1
PHILIPS ELECTRONICS NEDERLAND B.V.	NL	PRC	1
SENSOFUSION OY	FI	PRC	1
PHILIPS MEDICAL SYSTEMS NEDERLAND BV	NL	PRC	1
SEPIOR APS	DK	PRC	1
PIQL AS	NO	PRC	1
SERVICE DÉPARTEMENTAL D'INCENDIE ET DE SECOURS DE SEINE ET MARNE	FR	PUB	1
MEKOROT WATER COMPANY LIMITED	IL	PRC	1
SERVICIO VASCO DE SALUD OSAKIDETZA	ES	PUB	1
PLATH GMBH	DE	PRC	1
LUFTHANSA SYSTEMS GMBH & CO KG	DE	PRC	1
PNO INNOVATION	BE	PRC	1
LUGINBÜHL WERNER	CH	PRC	1
POLICE AND CRIME COMMISSIONER FOR THAMES VALLEY	UK	PUB	1
MINISTRY OF SECURITY OF BOSNIA AND HERZEGOVINA	BA	PUB	1

Name	Country	Legal status	Projects contributed to
METRARC LIMITED	UK	PRC	1
MINISTRY OF THE INTERIOR	FI	PUB	1
MÉTROPOLE NICE COTE D'AZUR	FR	PUB	1
SIGNALGENERIX LTD	CY	PRC	1
POLICIJSKA AKADEMIJA	HR	HES	1
MNEMONIC AS	NO	PRC	1
POLIISIAMMATTIKORKEAKOULU	FI	HES	1
MODULEUS SAS	FR	PRC	1
POLIISIHALLITUS	FI	PUB	1
SINGULARLOGIC ROMANIA COMPUTER APPLICATIONS SRL	RO	PRC	1
MICHIGAN STATE UNIVERSITY	US	HES	1
LUKA KOPER, PORT AND LOGISTIC SYSTEM, D.D.	SI	PRC	1
POLITECHNIKA WARSZAWSKA	PL	HES	1
SISTEMATICA SPA	IT	PRC	1
MICROFLUIDIC CHIPSHOP GMBH	DE	PRC	1
MTRS3 Solutions and Services LTD	IL	PRC	1
POLITECNICO DI TORINO	IT	HES	1
SMARTESTING SOLUTIONS & SERVICES	FR	PRC	1
POLITICAL DEVELOPMENT FORUM	YE	OTH	1
MULTICERT – SERVIÇOS DE CERTIFICAÇAO ELECTRONICA SA	PT	PRC	1
MICRONIC AS	SK	PRC	1
SMITHS HEIMANN SAS	FR	PRC	1
OUVRY SAS	FR	PRC	1
LEAP DEVELOPMENT BV	NL	PRC	1
OVERVIEW LIMITED	UK	PRC	1
INOVAWORKS II COMMAND AND CONTROL LDA	PT	PRC	1
JGK TECH EHF	IS	PRC	1
INTERNATIONAL MOISTURE ANALYSERS LIMITED	UK	PRC	1
ERASMUS UNIVERSITAIR MEDISCH CENTRUM ROTTERDAM	NL	HES	1
FONDATSIYA LIBRE	BG	REC	1
ERASMUS UNIVERSITEIT ROTTERDAM	NL	HES	1
INSTITUT SVITOVOI POLITIKI	UA	OTH	1
FONDAZIONE ISTITUTO TECNICO SUPERIORE MOBILITA SOSTENIBILE NEI SETTORITRASPORTI MARITTIMI E DELLA PESCA-ACCADEMIA	IT	OTH	1
ISTITUTO SUPERIORE DELLE COMUNICAZIONI E DELLE TECNOLOGIE DELL'INFORMAZIONE	IT	REC	1

Name	Country	Legal status	Projects contributed to
FONDAZIONE SANTOBOTO PAUSILIPON ONLUS	IT	REC	1
KLINIKUM DER UNIVERSITÄT ZU KÖLN	DE	HES	1
FONDAZIONE UGO BORDONI	IT	REC	1
INFORMATION CATALYST FOR ENTERPRISE LTD	UK	PRC	1
FORESEETI AB	SE	PRC	1
INSTITUT JOZEF STEFAN	SI	REC	1
ERDMANN DANIEL	DE	PRC	1
INSTITUTUL PENTRU TEHNOLOGII AVANSATE	RO	REC	1
FORSVARETS FORSKNINGINSTITUTT	NO	REC	1
INVIZBOX LTD	IE	PRC	1
FORTISS GMBH	DE	REC	1
IVANE JAVAKHISHVILI TBILISI STATE UNIVERSITY	GE	HES	1
ERICSSON AB	SE	PRC	1
FEDERAL STATE AUTONOMOUS EDUCATIONAL INSTITUTION FOR HIGHER EDUCATION NATIONAL RESEARCH UNIVERSITY HIGHER SCHOOL OF ECONOMICS	RU	HES	1
ERICSSON GMBH	DE	PRC	1
KRISTIANSAND KOMMUNE	NO	PUB	1
FPC INGENIERIE	FR	PRC	1
INFILI TECHNOLOGIES PRIVATE COMPANY	EL	PRC	1
FRANCE DEVELOPPEMENT CONSEIL (FDC)SARL	FR	PRC	1
INNOVATION ENGINEERING SRL	IT	PRC	1
ESB NETWORKS LTD	IE	PRC	1
INSTITUT CARTOGRAFIC I GEOLOGIC DE CATALUNYA	ES	PUB	1
FREDERIKSBORG BRAND OG REDNING	DK	PRC	1
EYEDPRO LTD	UK	PRC	1
FREQUENTIS AG	AT	PRC	1
INSTITUTE OF BALTIC STUDIES	EE	REC	1
ESCRYPT GMBH EMBEDDED SECURITY	DE	PRC	1
INTEGRATED DETECTOR ELECTRONICS AS	NO	PRC	1
FUJITSU TECHNOLOGY SOLUTIONS GMBH	DE	PRC	1
INTREPID MINDS LTD	UK	PRC	1
FUNDACIO D'ECOLOGIA DEL FOC I GESTIO D'INCENDIS PAU COSTA ALCUBIERRE	ES	REC	1

Name	Country	Legal status	Projects contributed to
IS-INSTRUMENTS LIMITED	UK	PRC	1
EMC INFORMATION SYSTEMS INTERNATIONAL	IE	PRC	1
ITRUST CONSULTING SARL	LU	PRC	1
FUNDACIO PRIVADA CLINIC PER A LA RECERCA BIOMEDICA	ES	REC	1
J.W. OSTENDORF GMBH & CO. KG	DE	PRC	1
FUNDACIO PRIVADA I2CAT, INTERNET I INNOVACIO DIGITAL A CATALUNYA	ES	REC	1
JYVASKYLAN YLIOPISTO	FI	HES	1
FUNDACION ANDALUZA PARA EL DESARROLLO AEROESPACIAL	ES	REC	1
KENTRO EREVNON NOTIOANATOLIKIS EVROPIS ASTIKI MI KERDOSKOPIKI ETAIREIA	EL	REC	1
EMPELOR GMBH	CH	PRC	1
KOMENDA GLOWNA STRAZY GRANICZNEJ	PL	PUB	1
EMPRESA MUNICIPAL DE ABASTECIMIENTO Y SANEAMIENTO DE GRANADA SA	ES	PRC	1
LA SOCIÉTÉ WALLONNE DES EAUX	BE	PRC	1
FUNDACION CIUDADANA CIVIO	ES	OTH	1
EXC SPOLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA	PL	PRC	1
ELES DOO SISTEMSKI OPERATER PRENOSNEGA ELEKTROENERGETSKEGA OMREZJA	SI	PRC	1
INFINEON TECHNOLOGIES AUSTRIA AG	AT	PRC	1
ENAV SPA	IT	PRC	1
INNO TSD	FR	PRC	1
FUNDACION IMDEA NETWORKS	ES	REC	1
INNOVATIVE SECURE TECHNOLOGIES IKE	EL	PRC	1
FUNDACIÓN INVESTIGACIÓN UNIVERSIDAD EMPRESA JAKINTZA LANEZKO IKERKUNTZA – EUSKOIKER	ES	REC	1
INSPECTORATUL GENERAL AL POLITIEI ROMANE	RO	PUB	1
E-LEX – STUDIO LEGALE	IT	OTH	1
INSTITUT DRUSTVENIH ZNANOSTI IVO PILAR	HR	HES	1
FUNDATIA PENTRU SMURD	RO	OTH	1
INSTITUT NATIONAL DE L ENVIRONNEMENT ET DES RISQUES (INERIS)	FR	REC	1
ENERVALIS	BE	PRC	1
EPSILON S.R.L.	IT	PRC	1
EURODEV BV	NL	PRC	1
INSTITUTE FOR CONFLICT RESEARCH	UK	REC	1

Name	Country	Legal status	Projects contributed to
G.A.S. GESELLSCHAFT FUR ANALYTISCHESENSORSYSTEME M.B.H.	DE	PRC	1
INSTITUTE OF SCIENCE AND TECHNOLOGY AUSTRIA	AT	HES	1
GALSA (PTY) LTD	ZA	PRC	1
INSTYTUT CHEMII BIOORGANICZNEJ POLSKIEJ AKADEMII NAUK	PL	REC	1
GASERA OY	FI	PRC	1
INTERACTIVE ADVERTISING BUREAU EUROPE	BE	OTH	1
GEMALTO SRO	CZ	PRC	1
INTERSOFT-HUNGARY KERESKEDELMI ES SZOLGALTATO KFT	HU	PRC	1
GENOMCORE SL	ES	PRC	1
INTU-VIEW LTD	IL	PRC	1
GEOGNOSIA SLL	ES	PRC	1
ISCC GMBH	AT	PRC	1
GEOMOBILE GMBH	DE	PRC	1
FACHHOCHSCHULE SALZBURG GMBH	AT	HES	1
GEOWISE OY	FI	PRC	1
FACTOR SOCIAL – CONSULTORIA EM PSICO – SOCIOLOGIA E AMBIENTE LDA	PT	PRC	1
GEXCEL SRL	IT	PRC	1
EMBRY-RIDDLE AERONAUTICAL DEUTSCHLAND GMBH	DE	PRC	1
GIESECKE & DEVRIENT GESELLSCHAFT MIT BESCHRANKTER HAFTUNG	DE	PRC	1
IWW RHEINISCH WESTFALISCHES INSTITUT FÜR WASSERFORSCHUNG GEMEINNUTZIGE GMBH	DE	REC	1
ELSE NUCLEAR SRL	IT	PRC	1
JCLARITY LIMITED	UK	PRC	1
GLASGOW CITY COUNCIL	UK	PUB	1
JOINT CHEMICAL, BIOLOGICAL, RADIOLOGICAL AND NUCLEAR DEFENCE CENTRE OF EXCELLENCE	CZ	REC	1
GLAVNA DIREKTSIA GRANICHNA POLITSIA	BG	PUB	1
KANTAR BELGIUM	BE	PRC	1
EUROPEAN CENTRE FOR DEVELOPMENT POLICY MANAGEMENT	NL	REC	1
KASPERSKY LAB UK LTD	UK	PRC	1
GMV SOLUCIONES GLOBALES INTERNET SAU	ES	PRC	1
KINALISOFT SRO	CZ	PRC	1
GMVIS SKYSOFT SA	PT	PRC	1

Name	Country	Legal status	Projects contributed to
KÖHLER DANIEL	DE	PRC	1
EUROPEAN DIGITAL SME ALLIANCE	BE	OTH	1
KOSOVAR CENTRE FOR SECURITY STUDIES	XK	REC	1
EUROPEAN DYNAMICS ADVANCED SYSTEMSOF TELECOMMUNICATIONS INFORMATICS AND TELEMATICS SA	EL	PRC	1
KWR WATER B.V.	NL	PRC	1
GREENHOST	NL	PRC	1
LANCASHIRE CARE NHS FOUNDATION TRUST	UK	PUB	1
GRIDPOCKET SAS	FR	PRC	1
INEO ENERGY AND SYSTEMS	FR	PRC	1
GRIDPOCKET SYSTEMS SPOLKA AKCYJNA	PL	PRC	1
INESC TEC – INSTITUTO DE ENGENHARIA DE SISTEMAS E COMPUTADORES, TECNOLOGIA E CIENCIA	PT	REC	1
GRUPO DE VENTAS HORTOFRUTICOLAS SL GRUVENTA	ES	PRC	1
INFINEON TECHNOLOGIES AG	DE	PRC	1
GUARDTIME AS	EE	PRC	1
INFOCERT SPA	IT	PRC	1
GUARINO ALESSANDRO	IT	PRC	1
INLECOM SYSTEMS LTD	UK	PRC	1
EUROPEAN DYNAMICS LUXEMBOURG SA	LU	PRC	1
INNOVASEC LTD	UK	PRC	1
HASICSKY ZACHRANNY SBOR MORAVSKOSLEZSKEHO KRAJE	CZ	PUB	1
INNOVATION SPRINT	BE	PRC	1
HAUNTED PLANET STUDIOS LTD	IE	PRC	1
EOTVOS LORAND TUDOMANYEGYETEM	HU	HES	1
EUROPEAN ELECTRONIC MESSAGING ASSOCIATION AISBL	BE	OTH	1
EPOCHE AND ESPRI SL	ES	PRC	1
HELLENIC TELECOMMUNICATIONS & TELEMATICS APPLICATIONS COMPANY	EL	PRC	1
EPSILON INTERNASIONAL ANONYMI ETAIREIA MELETON KAI SYMVOULON (EPSILON INTERNATIONAL SA)	EL	PRC	1
EUROPEAN EMERGENCY NUMBER ASSOCIATION ASBL	BE	OTH	1
INSTITUT DE SEGURETAT PUBLICA DE CATALUNYA	ES	PUB	1
HELMHOLTZ-ZENTRUM DRESDEN-ROSSENDORF EV	DE	REC	1
INSTITUT FÜR ANGEWANDTE SYSTEMTECHNIK BREMEN GMBH	DE	REC	1

Name	Country	Legal status	Projects contributed to
HELMHOLTZ-ZENTRUM FÜR UMWELTFORSCHUNG GMBH – UFZ	DE	REC	1
EYE ON AIR BV	NL	PRC	1
EUROPEAN INSTITUTE FOUNDATION	BG	OTH	1
INSTITUT NATIONAL DE POLICE SCIENTIFIQUE	FR	REC	1
HESSENWASSER GMBH & CO. KG	DE	PRC	1
INSTITUT PASTEUR	FR	REC	1
HEWLETT PACKARD ITALIANA SRL	IT	PRC	1
INSTITUT SCIENTIFIQUE DE SANTÉ PUBLIQUE	BE	REC	1
HEWLETT-PACKARD LIMITED	UK	PRC	1
INSTITUT ZA KORPORATIVNE VARNOSTNE STUDIJE LJUBLJANA	SI	REC	1
HGH SYSTÈMES INFRAROUGES	FR	PRC	1
INSTITUTE OF AUTOMATION CHINESE ACADEMY OF SCIENCES	CN	HES	1
HISPASEC SISTEMAS S.L.	ES	PRC	1
FACHHOCHSCHULE DER POLIZEI DES LANDES BRANDENBURG	DE	HES	1
EUROPEAN NETWORK AGAINST RACISM	BE	OTH	1
INSTITUTUL DE OPTOELECTRONICA SA	RO	OTH	1
LAW TRUSTED THIRD PARTY SERVICES PTY LTD	ZA	PRC	1
INSTITUTUL ROMAN PENTRU ACTIUNE, INSTRUIRE SI CERCETARE IN DOMENIUL PACII – PEACE ACTION, TRAINING & RESEARCH INST OF ROMANIA	RO	OTH	1
HOCHSCHULE DUSSELDORF	DE	HES	1
INSTYTUT INFORMATYKI TEORETYCZNEJ ISTOSOWANEJ POLSKIEJ AKADEMII NAUK	PL	REC	1
ENQUIRYA BV	NL	PRC	1
INTELLIGENCE FOR ENVIRONMENT & SECURITY – IES CONSULTING SRL	IT	PRC	1
HOLONIX SRL-SPIN OFF DEL POLITECNICO DI MILANO	IT	PRC	1
FACHHOCHSCHULE FLENSBURG	DE	HES	1
EUROPEAN PEACEBUILDING LIAISON OFFICE	BE	OTH	1
INTEROUTE S.P.A.	IT	PRC	1
HONG KONG BAPTIST UNIVERSITY	HK	HES	1
FACHHOCHSCHULE NORDWESTSCHWEIZ	CH	HES	1
ENTE PER LO SVILUPPO DELL'IRRIGAZIONE NELLA PUGLIA BASILICATA IRPINA	IT	PUB	1
INTRINSIC ID B.V.	NL	PRC	1

Name	Country	Legal status	Projects contributed to
HOPLITE SOFTWARE SL	ES	PRC	1
INVENTAS KRISTIANSAND AS	NO	PRC	1
HOROWITZ BIOMETRICS LIMITED	UK	PRC	1
IRISH WATER	IE	PRC	1
HOSPITAL CLINIC I PROVINCIAL DE BARCELONA	ES	HES	1
ISEM-INSTITUT PRE MEDZINARODNU BEZPECNOST A KRIZOVE RIADENIE, NO	SK	OTH	1
HUAWEI TECHNOLOGIES DUESSELDORF GMBH	DE	PRC	1
ISRA-TEAM 98 LTD	IL	PRC	1
HUBERG SAS – HUBER GUENTHER & C	IT	PRC	1
ISTITUTO ITALIANO PER LA PRIVACY	IT	OTH	1
HUBSTRACT SRL	IT	PRC	1
ISTITUTO SUPERIORE DI SANITA	IT	REC	1
HUGSLOCK SYSTEMS LTD	UK	PRC	1
FALCON COMMUNICATIONS LIMITED	UK	PRC	1
HUMANIST	FR	OTH	1
IT'S OWL CLUSTERMANAGEMENT GMBH	DE	PRC	1
HYDROLIFT AS	NO	PRC	1
ITUDE MOBILE BV	NL	PRC	1
I.C.T.S.(U.K.) LIMITED	UK	PRC	1
IVL SVENSKA MILJOEINSTITUTET AB	SE	REC	1
I.D.S. – INGEGNERIA DEI SISTEMI – S.P.A.	IT	PRC	1
IZBA CELNA W GDYNI	PL	PUB	1
IBATECH TECNOLOGIA SL	ES	PRC	1
JAS TECHNOLOGIE SP ZOO	PL	PRC	1
IBERMATICA SA	ES	PRC	1
JCP-CONNECT	FR	PRC	1
ENTECH SCIENTIFIC BV	NL	PRC	1
JOHANN WOLFGANG GOETHE-UNIVERSITÄTFRANKFURT AM MAIN	DE	HES	1
EUROPEAN WATER SUPPLY AND SANITATION TECHNOLOGY PLATFORM	BE	OTH	1
FEDERAL MINISTRY OF EDUCATION AND SCIENCE – FEDERATION OF BOSNIA AND HERZEGOVINA	BA	PUB	1
ELTA SYSTEMS LTD	IL	PRC	1

Name	Country	Legal status	Projects contributed to
KALOS INFORMATION SYSTEMS AS	NO	PRC	1
ICLEI EUROPEAN SECRETARIAT GMBH (ICLEI EUROPASEKRETARIAT GMBH)	DE	OTH	1
KARDARAS KONSTANTINOS	EL	PRC	1
ICT LEGAL CONSULTING – STUDIO LEGALE ASSOCIATO BALBONI BOLOGNINI & PARTNERS	IT	PRC	1
FÉDÉRATION AUTONOME DE LA FONCTION PUBLIQUE TERRITORIALE ET DES ÉTABLISSEMENTS PUBLICS	FR	PRC	1
IDEKO S COOP	ES	REC	1
FÉDÉRATION EUROPÉENNE DES GÉOLOGUES	FR	OTH	1
EVERIS SPAIN SL	ES	PRC	1
FERROCARRILS DE LA GENERALITAT DE CATALUNYA	ES	PUB	1
IDIADA AUTOMOTIVE TECHNOLOGY SA	ES	PRC	1
KING'S COLLEGE LONDON	UK	HES	1
IEKSLIETU MINISTRIJAS VALSTS POLICIJA STATE POLICE OF THE MINISTRY OF INTERIOR	LV	PUB	1
KLUGHAMMER GMBH	DE	PRC	1
IHP GMBH – INNOVATIONS FOR HIGH PERFORMANCE MICROELECTRONICS/LEIBNIZ-INSTITUT FUER INNOVATIVE MIKROELEKTRONIK	DE	REC	1
KOMENDA GLOWNA POLICJI	PL	PUB	1
IIDRE	FR	PRC	1
KOMENDA WOJEWODZKA POLICJI Z SIEDZIBA W RADOMIU	PL	PUB	1
IKERLAN S COOP	ES	REC	1
KRIMINOLOGISCHES FORSCHUNGSINSTITUT NIEDERSACHSEN	DE	REC	1
IMARINE DENIZ TEKNOLOJILERI VE ARASTIRMALARI SANAYI VE TICARET ANONIMSIRKETI	TR	PRC	1
KUNGLIGA TEKNISKA HOEGSKOLAN	SE	HES	1
EVOLEO TECHNOLOGIES LDA	PT	PRC	1
L-1 IDENTITY SOLUTIONS AG	DE	PRC	1
INCITES CONSULTING SARL	LU	PRC	1
FINDOMESTIC BANCA SPA	IT	PRC	1
INCLOSE GROUP AB	SE	PRC	1
LATVIAN STATE BORDER GUARD	LV	PUB	1
INCONNECT BV	NL	PRC	1
INDRAPRASTHA INSTITUTE OF INFORMATION TECHNOLOGY DEHLI	IN	HES	1
HIT HYPERTECH INNOVATIONS LTD	CY	PRC	1
ELEKTROTECHNICKY ZKUSEBNI USTAV, SP	CZ	PRC	1

Name	Country	Legal status	Projects contributed to
HOCHSCHULE BONN-RHEIN-SIEG	DE	HES	1
CLEVELAND FIRE AUTHORITY	UK	PUB	1
AERDRON SL	ES	PRC	1
ALMA MATER STUDIORUM – UNIVERSITA DI BOLOGNA	IT	HES	1
ARC – CENTRO RICERCHE APPLICATE	IT	PRC	1
ADITESS ADVANCED INTEGRATED TECHNOLOGY SOLUTIONS & SERVICES LTD	CY	PRC	1
AGENCIA DE INNOVACION Y DESARROLLODE ANDALUCIA	ES	PUB	1
ACADEMIA SINICA	TW	HES	1
ARESA MARINE SL	ES	PRC	1
DANLEX EOOD	BG	PRC	1
AGENCIA DE QUALITAT I AVALUACIO SANITARIES DE CATALUNYA	ES	REC	1
DNA TRUSTAG LDA	PT	PRC	1
ARGE BILDUNGSMANAGEMENT GMBH	AT	PRC	1
CHANNARAYAPATNA SHIVARAMAIAH NAGARAJ	IN	PRC	1
ARHS DEVELOPMENTS SA	LU	PRC	1
COLLEGIUM CIVITAS	PL	HES	1
ARIMA SOFTWARE DESIGN SLL	ES	PRC	1
COPTING GMBH	DE	PRC	1
ARISTOTELIO PANEPISTIMIO THESSALONIKIS	EL	HES	1
CSEM CENTRE SUISSE D'ELECTRONIQUE ET DE MICROTECHNIQUE SA – RECHERCHE ET DEVELOPPEMENT	CH	REC	1
ARMATIX GMBH	DE	PRC	1
DE GAULLE FLEURANCE & ASSOCIÉS	FR	PRC	1
ARSYS INTERNET S.L.	ES	PRC	1
ANCITEL SPA	IT	PRC	1
ARTEEVO TECHNOLOGIES LTD	IL	PRC	1
EASC EV	DE	REC	1
3RDPLACE SRL	IT	PRC	1
EGOV CONSULTING AND DEVELOPMENT GMBH	DE	PRC	1
ASISTENCIAS TECNICAS CLAVE SL	ES	PRC	1
CINECA CONSORZIO INTERUNIVERSITARIO	IT	REC	1
ASK COMMUNITY SYSTEMS BV	NL	PRC	1

Name	Country	Legal status	Projects contributed to
CLTRE AS	NO	PRC	1
AGENCIA ESTATAL CONSEJO SUPERIOR DEINVESTIGACIONES CIENTIFICAS	ES	REC	1
AKADIMAIKO DIADIKTYO	EL	REC	1
ASOCIACION CENTRO TECNOLOGICO CEIT-IK4	ES	REC	1
CONSORZIO MILANO RICERCHE	IT	REC	1
ASOCIACION CENTRO TECNOLOGICO NAVAL Y DEL MAR	ES	REC	1
ALKE SRL	IT	PRC	1
ASOCIACION DE INVESTIGACION METALURGICA DEL NOROESTE	ES	REC	1
CROWD DYNAMICS INTERNATIONAL LIMITED	UK	PRC	1
ASOCIACION DE USUARIOS DE INTERNET	ES	OTH	1
AMADEUS IT GROUP SA	ES	PRC	1
ASPISEC SRL	IT	PRC	1
DB NETZ AG	DE	PRC	1
ASSISTANCE PUBLIQUE – HOPITAUX DE PARIS	FR	REC	1
ACCIONA CONSTRUCCION SA	ES	PRC	1
ASSOCIATION FORUM DES SCIENCES SOCIALES APPLIQUÉES	TN	OTH	1
AEROVINCI BV	NL	PRC	1
ASSOCIATION GROUPE ESSEC	FR	HES	1
DIMOS RODOU	EL	PUB	1
ASSOCIATION POUR LA RECHERCHE ET LE DÉVELOPPEMENT DES MÉTHODES ET PROCESSUS INDUSTRIELS	FR	REC	1
DRUSTVO ZA KONSALTING, RAZVOJ I IMPLEMENTACIJU INFORMACIONIH I KOMUNIKACIONIH TEHNOLOGIJA DUNAVNET DOO NOVI SAD	RS	PRC	1
ASSOCIAZIONE DELLA CROCE ROSSA ITALIANA	IT	OTH	1
EBOS TECHNOLOGIES LIMITED	CY	PRC	1
ASSYSTEM ENGINEERING AND OPERATION SERVICES	FR	PRC	1
EDINBURGH NAPIER UNIVERSITY	UK	HES	1
AGENTIA DE ADMINISTRARE A RETELEI NATIONALE DE INFORMATICA PENTRU EDUCATIE SI CERCETARE	RO	REC	1
CHALMERS TEKNISKA HOEGSKOLA AB	SE	HES	1
ASTON UNIVERSITY	UK	HES	1
CHOCOLATE CLOUD APS	DK	PRC	1
ATALAYA RIO TINTO MINERA SL	ES	PRC	1
AKADEMIA GORNICZO-HUTNICZA IM. STANISLAWA STASZICA W KRAKOWIE	PL	HES	1

Name	Country	Legal status	Projects contributed to
ATHENS INTERNATIONAL AIRPORT S.A.	EL	PRC	1
CLOUDPARTNERS A/S	DK	PRC	1
ATHLONE INSTITUTE OF TECHNOLOGY	IE	HES	1
COBRE LAS CRUCES SA	ES	PRC	1
3S ANTRIEBE GMBH	DE	PRC	1
COMMUNE DE TOULOUSE	FR	PUB	1
ATRISC	FR	PRC	1
CONCEPTIVITY SARL	CH	PRC	1
AGENZIA ANSA – AGENZIA NAZIONALE STAMPA ASSOCIATA – SOCIETA COOPERATIVA	IT	PRC	1
CONSORZIO CREO-CENTRO RICERCHE ELETTRO OTTICHE	IT	REC	1
ATSEC INFORMATION SECURITY GMBH	DE	PRC	1
CONSORZIO PER IL SISTEMA INFORMATIVO (CSI PIEMONTE)	IT	PUB	1
ATTIKO METRO AE	EL	PRC	1
CORK INSTITUTE OF TECHNOLOGY	IE	HES	1
AGENZIA DELLE DOGANE	IT	PUB	1
COVER SISTEMI SRL	IT	PRC	1
AUSTRIA INSTITUT FÜR EUROPA- UND SICHERHEITSPOLITIK (AIES)	AT	REC	1
CREOS LUXEMBOURG SA	LU	PRC	1
AUSTRIATECH – GESELLSCHAFT DES BUNDES FÜR TECHNOLOGIEPOLITISCHE MASSNAHMEN GMBH	AT	REC	1
ALMAVIVA – THE ITALIAN INNOVATION COMPANY SPA	IT	PRC	1
AUTHENTEQ EHF	IS	PRC	1
CYBERCRIME RESEARCH INSTITUTE GMBH	DE	PRC	1
AUTONOOM PROVINCIEBEDRIJF CAMPUS VESTA	BE	PUB	1
DA VINCI LABORATORY SOLUTIONS BV	NL	PRC	1
AUTORIDADE NACIONAL DE PROTECÇAO CIVIL	PT	PUB	1
DANSK BRAND- OG SIKRINGSTEKNISK INSTITUT FORENING	DK	REC	1
AGENZIA NAZIONALE PER LE NUOVE TECNOLOGIE, L'ENERGIA E LO SVILUPPO ECONOMICO SOSTENIBILE	IT	REC	1
DCNS SA	FR	PRC	1
AUTORITA DI SISTEMA PORTUALE DEL MARE ADRIATICO CENTRO-SETTENTRIONALE- PORTO DI RAVENNA	IT	PUB	1
DE VLAAMSE RADIO EN TELEVISIEOMROEPORGANISATIE NV	BE	OTH	1
AVANTI COMMUNICATIONS LTD	UK	PRC	1

Name	Country	Legal status	Projects contributed to
DELFTTECH BV	NL	PRC	1
AYUNTAMIENTO DE DONOSTIA SAN SEBASTIAN	ES	PUB	1
DETOXIZYMES SRLS	IT	PRC	1
AA SAKATTI MINING OY	FI	PRC	1
DEVICE GATEWAY SA	CH	PRC	1
AALBORG UNIVERSITET	DK	HES	1
DIGITALMR LIMITED	UK	PRC	1
AGENZIA PER L'ITALIA DIGITALE	IT	PUB	1
DIRECAO-GERAL DE REINSERCAO E SERVICOS PRISIONAIS	PT	PUB	1
BALANCE TECHNOLOGY CONSULTING GMBH	DE	PRC	1
APLCOMP OY	FI	PRC	1
BALTI KAITSEKOLLEDZ	EE	HES	1
DUNE S.R.L.	IT	PRC	1
BANCO BILBAO VIZCAYA ARGENTARIA SA	ES	PRC	1
APPLIED SECURITY GMBH	DE	PRC	1
AGENZIA SPAZIALE ITALIANA	IT	REC	1
ÉCOLE DES HAUTES ÉTUDES EN SCIENCES SOCIALES	FR	HES	1
AGIT AACHENER GESELLSCHAFT FÜR INNOVATION UND TECHNOLOGIETRANSFER MITBESCHRANKTER HAFTUNG	DE	PRC	1
AQUILA BIOSCIENCE LIMITED	IE	PRC	1
BAY ZOLTAN ALKALMAZOTT KUTATASI KOZHASZNU NONPROFIT KFT	HU	REC	1
EDP DISTRIBUICAO ENERGIA SA	PT	PRC	1
BAYERISCHES ROTES KREUZ	DE	PUB	1
ARATOS SYSTEMS BV	NL	PRC	1
B-COM	FR	REC	1
CHAMBRE DE COMMERCE ET D'INDUSTRIE DE REGION PARIS ILE-DE-FRANCE	FR	PUB	1
BEIA CONSULT INTERNATIONAL SRL	RO	PRC	1
3D REPO LTD	UK	PRC	1
BEIT TOCHNA APLICATZIA LTD	IL	PRC	1
CIAOTECH Srl	IT	PRC	1
BEN-GURION UNIVERSITY OF THE NEGEV	IL	HES	1
CITRIX ELLAS MONOPROSOPI ETAIRIA PERIORISMENIS EVTHINIS	EL	PRC	1

Name	Country	Legal status	Projects contributed to
BEOGRADSKI CENTAR ZA BEZBEDNOSNU POLITIKU UDRUZENJE	RS	PRC	1
CLEAN COMMUNICATIONS LIMITED	IE	PRC	1
BERGEN KOMMUNE	NO	PUB	1
AKADEMIA MARYNARKI WOJENNEJ	PL	PUB	1
BERGHOF FOUNDATION OPERATIONS GMBH	DE	REC	1
AKADEMIA MORSKA W SZCZECINIE AM	PL	HES	1
BERGISCHE UNIVERSITÄT WUPPERTAL	DE	HES	1
COBLUE CYBERSECURITY BV	NL	PRC	1
BERLINER WASSERBETRIEBE	DE	PUB	1
COFAC COOPERATIVA DE FORMAÇAO E ANIMAÇAO CULTURAL CRL	PT	HES	1
BERNER FACHHOCHSCHULE	CH	HES	1
AEGIS IT RESEARCH LTD	UK	PRC	1
BIBA – BREMER INSTITUT FÜR PRODUKTION UND LOGISTIK GMBH	DE	REC	1
COMSEC LIMITED	IL	PRC	1
BILKENT UNIVERSITESI VAKIF	TR	HES	1
COMUNE DI TORINO	IT	PUB	1
BIOSEC GROUP KORLATOLT FELELOSSEGU TARSASAG	HU	PRC	1
CONG TY TNHH DIGITAL IDENTITY	VN	PRC	1
BIOSECO SP ZOO	PL	PRC	1
CONSORCI INSTITUT D'INVESTIGACIONS BIOMEDIQUES AUGUST PI I SUNYER	ES	REC	1
BIRMINGHAM CITY UNIVERSITY	UK	HES	1
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AGNITIO SL	ES	PRC	1
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CORK CITY COUNCIL	IE	PUB	1
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CRUZ ROJA ESPANOLA	ES	OTH	1
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CS SYSTEMES D'INFORMATION SA	FR	PRC	1
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CY.R.I.C CYPRUS RESEARCH AND INNOVATION CENTER LTD	CY	PRC	1
AALTO-KORKEAKOULUSAATIO	FI	HES	1
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CYBERSECURITY MALAYSIA	MY	REC	1
AEI CIBERSEGUIRIDAD Y TECHNOLOGIAS AVANZADAS	ES	OTH	1
DAIMLER AG	DE	PRC	1
ELBIT SYSTEMS LTD	IL	PRC	1
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DBH LOGISTICS IT AG	DE	PRC	1
AIR WORLDWIDE LIMITED	UK	PRC	1
DE FEDERALE OVERHEIDSDIENST JUSTITIE – LE SERVICE PUBLIC FEDERAL JUSTICE	BE	PUB	1
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ACIOA ASSOCIACION	TH	OTH	1
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CEFRIEL – SOCIETA CONSORTILE A RESPONSABILITA LIMITATA	IT	REC	1
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DIREKTORATET FOR NODKOMMUNIKASJON	NO	PUB	1
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CENTRUL ROMAN AL ENERGIEI – CRE	RO	OTH	1
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ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE	KR	REC	1
BUNDESVERWALTUNGSAMT BVA	DE	PUB	1
INSTITUTUL NATIONAL DE CERCETARE -DEZVOLTARE PENTRU FIZICA SI INGINERIE NUCLEARA ‘HORIA HULUBEI’ (IFIN-HH)’	RO	REC	1
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