A Community of Users on
Secure, Safe and Resilient Societies (CoU)

Mapping EU policies and FP7 research for enhancing partnerships in H2020
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This working paper has been prepared by the Secure Societies Programme (DG HOME). It does not reflect a formal position of the European Commission and is prone to iterations following discussions and comments from the Community of Users.
1. Executive Summary

In a world facing a growing risk of man-made and natural disasters resulting from increasingly frequent and severe natural, industrial and man-made hazards, the security of citizens, infrastructure and assets and the environment protection have become a high priority in the European Union. Strengthening capacities in disaster risk / crisis management and improving resilience in the fields of CBRN-E (Chemical, Biological, Radiological, Nuclear and Explosive) and natural and man-made disaster management, as well as in the areas of border security and the fight against crime and terrorism, represent key EU policy and research challenges.

The overall EU security policy framework covers many different sectors, which require coordination among various communities. In this respect, policy development and implementation rely on effective interactions among policy-makers, research, industry (including SMEs) and operational actors (first responders, civil protection units, police forces etc.) in the EU Member States. This requires a proper exchange of information and communication about either policy updates or (research) project results, which should be tailor-made to different sectors concerned with the goal of enhancing the transfer of research solutions or new policy recommendations to users in a timely and relevant fashion. Such exchanges are also needed to identify and address users’ needs regarding research, technologies and policies, in order to better design funding programmes at an EU level. Finally, a proper transfer of knowledge from research to policy and operational sectors may have a positive impact on policy formulation and review.

However, the policy complexity, the high number of research projects, the difficulties associated with bringing innovative tools to the market and the lack of “interfacing” mechanisms make it difficult to efficiently reach these goals. In order to improve this situation, the European Commission is funding various types of projects, including large-scale demonstration projects. In the field of Disaster Risk and Crisis Management (including CBRN-E, natural and man-made disasters), large-scale projects have helped build a critical mass by federating efforts at an EU level, namely “EDEN” and “DRIVER”, as well as other projects which have an “interfacing” component.

These projects, along with different policy committees and think-tanks, develop networks with user’s groups in the Member States which have great potential but are currently too fragmented. In this respect, the need to build a “Community of Users” in the EU based on existing user’s communities has been expressed in various fora. Discussions with different actors have hence taken place over the past months and a mapping of policies and research projects has been carried out in light of operational features regarding the overall risk management cycle (from preparedness / prevention, detection / surveillance, response / recovery) and the need to ensure a proper transfer (and implementation) of research outputs to users.

This working paper presents the reasoning for the development of a Community of Users on Secure, Safe and Resilient Societies and the results of the mapping of policies and (FP7 secure societies and sector-specific) research, which is aimed to pave the way for improving future links among Horizon2020, capacity-building, training, industrial developments and policy implementation. It has been prepared in view of setting a background for the Community of Users. It does not reflect a formal position of the European Commission.
2. Overview of Tasks and Objectives

2.1 Background

The management of disaster risks and crises of different kinds (unintentional or intentional man-made disasters, natural hazards) as well as other security / safety issues in the areas of border control, supply chains and crime are ruled by a number of international, EU and national policies covering various sectors and operational features such as preparedness, prevention, detection, surveillance, response, and recovery. A wide range of research and technological developments, as well as capacity-building and training projects, are striving to support the implementation of these policies. However, the complexity of the policy framework and the wide variety of research, capacity-building and training initiatives often leads to a lack of awareness about policies and/or project outputs by or among users, namely policy-makers, scientists, industry/SMEs and practitioners, e.g. civil protection units, medical emergency services and police departments. Highly fragmented information often leads to poor awareness of policy requirements by research and industry communities and poor transfer of research results to policy and stakeholders communities.

2.2 Objectives

In the light of the above, there is a strong need to establish a mechanism enabling better information exchanges with regular updates for all possibly interested organisations and effective interactions among projects and different communities. To better understand the type of information that should be considered and how it fits to a larger “architecture”, a mapping exercise was carried out to highlight the scientific and technological challenges of key related policies and their possible matching by research projects funded by the 7th Framework Programme. A first step is to build up the framework of science-policy-industry-practitioner’s interactions and to figure out how an efficient mechanism of information transfer could be made operational at EU and national levels in the light of Horizon 2020 developments. This is the core objective and mission of the proposed Community of Users on Secure, Safe and Resilient Societies. More specifically, five key objectives are defined, namely:

1. Ensuring that research programming (particularly H2020) takes account practitioners’ needs, thereby promoting research results that are relevant to them;
2. Identifying the most promising tools, methods, guidelines (including those developed in FP7 and H2020 projects) that have the potential to be taken up by practitioners;
3. Support the competitiveness of EU industry by enhancing the market for research results;
4. Ensuring that the expertise of practitioners is available to policy makers, thereby facilitating the policy-making process;
5. Facilitating the implementation of policy.
2.3 List of CoU tasks

The Community of Users aims to gather as many actors as possible. The registration is hence open and membership can be achieved through a simple request to be included in the CoU mail directory. To fulfil the above defined objectives, the following tasks are considered:

1. The forum of information exchanges represents a first level of interactions at EU level among research, policy, industry and practitioners. It principally concerns the organisation of meetings and reporting through:
   (a) Information exchanges (objectives 1 to 5) through biannual meetings organised in spring and autumn under the coordination of DG HOME with support from the Research Executive Agency (REA), relevant projects and the EC Joint Research Centre. The meetings aim to enhance links and interactions among research, policies, industrial developments and practitioner’s needs; they will gather representatives of the Community of Users either through physical attendance (selection done according to themes to be discussed) or via Internet (web streaming) to exchange information about research and policy updates. In particular, information will be given on key findings of FP7 / H2020 projects, as well as on newly funded projects from other funding instruments. It is hoped that these regular information exchanges and debates will help developing a culture of dialogue among the different communities at International, EU and Member State levels.
   (b) Highlight new projects, research outputs (objective 2) and policy updates (objective 4) through annual reporting (based on a similar structure as the present report) under the coordination of DG HOME and REA with involvement and contributions from other EC Directorate-Generals, complementing the present background mapping document.

2. The improvement of synergies among future Horizon2020 projects, capacity-building, training and industrial developments is the second level aimed to be developed through:
   (a) Regular survey (objective 2) of projects issued from different calls / programmes to keep the information basis as complete as possible. This will be jointly carried out by REA and DG HOME, in close cooperation with other DGs, on the basis of project fact sheets (extracts of project catalogues, or sheets produced on the basis of existing formats) regularly updated by the projects at the early stage of the projects (description of objectives), mid-term (interim findings) and final (key findings) stages.
   (b) Exchange of views with policy-makers and stakeholders (objectives 2, 4, 5) through ad-hoc meetings coordinated by REA, in close coordination with DG HOME and other DGs, gathering selected projects (max. 10) on a given theme to discuss possible synergies. Such meetings will be held in Brussels back-to-back to biannual CoU meetings and on other occasions (depending on project milestones).
   (c) Through the above subtasks, bridging projects from different funding sources (objectives 1, 2) in particular linking demonstration / training components of H2020 projects to ECHO / HOME (ISF) capacity-building and training projects. This will be a joint undertaking by concerned DGs and REA.

3. The identification of promising tools / technologies / recommendations and the production of tailor-made information (objective 2) addressed to the different communities, including Member States representatives in different policy sectors, will result from the above interactions, representing a third level, namely: Under joint coordination by DG HOME and REA, and in close cooperation with other DGs, establishing close ties between H2020 projects and their potential users from the very start of the projects by inviting coordinators of projects selected from regular calls to present their project objectives to Policy DGs, Member States (via relevant Committees) and practitioners. Depending upon the nature of the project outputs, these interactions will be coordinated either in an ad hoc way project by project (i.e. specific meeting with a single project), or through CoU or ad-hoc meetings (see above).

4. Better channelling information (in an appropriate format) on the identified outputs to different users (objectives 1, 4, 5). This concerns in particular projects which have a potential to directly support policy implementation and update and feed research programming through developed tools, technologies, guidelines and roadmaps that are of potential interest to policy-makers, industry stakeholders and practitioners in the Member States. This should result in well-designed briefs, starting from the policy background and describing the project outputs. The production of briefs will be carried out by the projects under coordination of DG HOME, REA and other DGs concerned.

5. The fifth level of interactions concerns the development of networking with practitioners at EU level through close cooperation with Member States to improve their involvement and facilitate the effective transfer and uptake of project outputs, namely through:
   (a) Sectorial networks (objective 2) with close involvement of practitioners to ensure that the identified project outputs (resulting from the three levels above) are transferred from the EU to national / regional levels in partnership with Member States committees, EU Agencies, Intergovernmental Agencies, and International Organisations.
   (b) Return of experiences (objective 4) through interactions with practitioners to get feedback about experiences in the Member States regarding the implementation of research solutions.

2.4 Logistics

The agenda and organisation of the Community of Users is under the responsibility of DG HOME.B4 in close consultation with various DGs and Agencies, as well as with REA and relevant projects.

In its first phase (2014–2015), the development of the Community of Users has been closely linked to two demonstration projects (EDEN and DRIVER) in terms of logistics, i.e. CoU meetings were organised under the umbrella of these two projects, while all other tasks were coordinated with other services. In the second phase (2016–2017), logistics will be carried out under a service contract with the development of a dedicated website.

The first phase of the CoU development has focused on disaster risk and crisis management. The scope of the mapping has been enlarged to encompass all the areas covered by research on secure, safe and resilient societies.

On the longer term (2018 and beyond), depending on the development of the CoU, the initiative could be institutionalised through an internal financing that remains to be defined, that could take over some of the tasks (meeting organisation, annual reporting) while the CoU will remain under the coordination and policy responsibility of DG HOME.B4.

1 https://www.eden-security-fp7.eu/
2 http://driver-project.eu/
2.5 Governance and knowledge transfer

The governance of the Community of Users and related knowledge transfer have to be established in the lights of the different interactions among different categories of actors, linking research, industry, policy sectors and practitioners.

In this respect, several levels of governance need to be considered: (1) a “horizontal” level in the framework of which interactions among research, industry, policy-makers and practitioners are established in a coordinated way at different scales, i.e. EU, national and regional; (2) a “vertical” level which establishes operational links among the EU, national and regional levels through appropriate information relays, synergies and demonstration activities.

The different levels are illustrated in Figure 1 and deals with, in particular:

**Horizontally**
- **Science to science**: sharing information and developing interactions among H2020 projects (via the Research DGs) dealing with specific themes to develop a critical mass and reduce fragmentation, and bring tools/technologies to the market through links with industrial stakeholders. EU-funded projects respond to topics which are generally based on well-defined policy hooks. We might hence expect that projects supporting common policy goals will establish synergies, which is rarely the case without a push from the Commission owing to various considerations (IPR and classified information in particular). Here again, sharing information and developing interactions on a regular basis should become a practice that the Commission asks of projects.
- **Policy to policy**: policy interactions in the light of policy implementation needs, including the respective DGs, and establishing links with Member States through formal committees (e.g. CBRN-E Advisory Group, Civil Protection Committee, Seveso Committee etc.). While International and EU policies are developed in close consultation among different sectors, in practice few interactions take place at the implementation level among sectors within the Member States. This is partly due to insufficient sharing of information and joint actions.
- **Science to policy**: formatting/translation of research information in a way which is tailor-made to policy applications, basically responding to well specified technical challenges. This is obviously directly linked to the above, with the requirement for the scientific community to format/translate research information in a way which is tailor-made to policy applications, basically responding to well specified technical challenges. This is the subject of the mapping described in this document.
- **Policy to science**: identification of research needs from policy-makers and ultimately user’s needs, responding to well specified technical challenges. This is obviously directly linked to the above, with the requirement for the scientific community to format/translate research information in a way which is tailor-made to policy applications, basically responding to well specified technical challenges.

**Vertically**
- **International/EU to National**: in the research sector, interactions through H2020 consortia; in the policy sector, interactions through Committees representing Member States and stakeholders, working out appropriate relays to national authorities and stakeholders based on well-formatted information. At international/ EU level, policies are elaborated by relevant organisations (e.g. UN for various conventions and European Commission for security-related EU policies). The links to the National level take place through Committees in which Member States are represented. There is a need to ensure that these Committees be informed on similar grounds about science & policy developments.
- **National to Regional/Local**: information relays through interactions with regional research partners and regional authorities as well as practitioner’s networks and associations. Once representatives of the Member State’s Committee are duly informed, it is to be expected that appropriate relays with regional / local implementers will then take place under the MS responsibility. This also requires a level of coordination which depends upon the willingness and capacity of each Member State. This level of interaction is less well defined than the EU level because of different settings within the Member States.
- **Regional to National/EU**: return of experiences from either practitioners involved in EU-funded projects or practitioners informed via national channels to the EU level.

![Figure 1. Different levels of governance](image-url)
3. Rationale behind the Development of a Community of Users

3.1 Introduction

This document presents the reasoning for the development of the Community of Users on Secure, Safe and Resilient Societies and the results of the mapping of policies and (FP7 secure societies and sector-specific) research, which is aimed to pave the way for improving future links among Horizon2020, capacity-building, training, industrial developments and policy implementation.

In a world facing a growing risk of man-made and natural disasters resulting from increasingly frequent and severe natural, industrial and man-made hazards, the security of citizens, infrastructure and assets has become a high priority in the European Union. Strengthening capacities in disaster risk / crisis management and improving resilience in the fields of CBRN-E (Chemical, Biological, Radiological, Nuclear and Explosives) and natural and man-made disaster management represent key EU policy and research challenges. In the case of CBRN-E incidents and threats, the huge explosion at the AZF fertilizer factory in Toulouse in 2001, the deadly E. Coli outbreak which hit Germany in May 2011 and the current Ebola crisis, as well as the recent chemical weapons use during the Syrian conflict, are some examples illustrating the level of risk faced by the EU today. Terrorist threats are also among the most serious risks to be anticipated as shown by the recent attacks in Paris on the 13th November 2015 and in Brussels on the 22nd March 2016. Linked to this, enhanced research efforts are called in the area of the fight against crime and terrorism. Finally, the EU is facing the refugee crisis with related border security challenges, which represent another area requiring research developments.

The impact of climate change on natural hazards has also seen a rise in the severity and frequency of various natural disasters in Europe and beyond. Meteorological hazards such as extreme weather events, floods and heat waves, as well as forest and wildfires have become recurrent phenomena in the EU. The Xynthia storm in 2010, the major floods in Southern Germany and neighbouring regions in 2013, and the deadly heat wave which struck Europe in 2003 are a few examples. Similarly, crisis management also addresses various geological hazards such as earthquakes, volcanoes and tsunamis, as well as health-related hazards (pandemics, livestock epidemics) and other man-made risks (cyber-attacks, loss of critical infrastructure) which all present risks to the EU and its citizens.

The many different risks affecting security involve various communities covering research, policy and operational actors (including industry/SMEs, first responders, civil protection units, decision-makers etc.), all of which have specificities but present also common features regarding the overall risk management cycle (preparedness / prevention, detection / surveillance, response / recovery) and the need to ensure a proper transfer (and implementation) of research outputs to “users.” Disaster Risk / Crisis Management policies have common technical grounds, including the need to check the effectiveness and performance of existing equipment, tools and processes (testing and validation), the detection of new threats (e.g. new substances) and risk assessment, training and exercises; in addition, they all support improving the usage of research results.

This diversity of actors requires that the dissemination and communication of project results be tailor-made to different sectors, while bearing in mind that the common goal is to ensure that “solutions” resulting from research will reach users (often regional implementers, first responders, civil protection units, SMEs, individuals, etc.) in a timely and relevant fashion and be translated into “useful & used operational tools”, hence contributing also to the European economy through improved competitiveness. The high number of research projects and the lack of “interfacing” mechanism make it difficult to efficiently reach this goal. This is why large-scale demonstration projects have been funded by the European Commission to improve the situation. In the field covering Disaster Risk and Crisis Management (including CBRN-E, natural and man-made disasters), two large-scale projects have the potential to help build a critical mass by federating efforts: EDEN and DRIVER (see section 1.2), as well as other projects which have an “interfacing” component.
At the Member State’s level, Ministries of Defence, Interior, Foreign Affairs, Civil Protection, Environment, Different types of scientists are to be considered (universities, research institutes, research units linked to ... need to build a “Community of Users” in Europe based on existing user communities has been expressed in various fora (Figure 1). In this respect, discussions with different actors have taken place over the last few months and a mapping of policies and research projects has been carried out in the light of features regarding the overall risk management cycle (preparation / prevention, detection / surveillance, response / recovery). The results of this mapping address several needs such as proper transfer (and implementation) of research outputs to “users” in the light of specific policy requirements (formulation, implementation, review), identifying users’ needs and taking them into consideration in designing research programmes.

3.2 Who are the users?
Fields concerned by security, safety and resilience for societies are themselves scattered into many different disciplines and sectors. To simplify, we will distinguish five main categories of users: (a) Policy–makers; (b) Scientists; (c) Industry (including SMEs); (d) Training and Operational units; and (e) NGOs and general public:

a. Policy-makers and stakeholders
- At the international level, UN bodies are closely working with the EU in the fight against crime and terrorism (UNICRI), disaster risk reduction (UN-ISDR), transboundary industrial accidents (UNCE), environment protection (UNEP) etc.
- At the EU level, the main policy DGs concerned with Crisis Management are DGs HOME (migration and security research includes a wide range of scientific disciplines which have to interact, ensure complementarity and build interdisciplinary networks.
- Different types of scientists are to be considered (universities, research institutes, research units linked to Defence/Interior ministries or agencies)

b. Scientists
- Security research involves a wide range of scientific disciplines which have to interact, ensure complementarity and build interdisciplinary networks.
- Different types of scientists are to be considered (universities, research institutes, research units linked to Defence/Interior ministries or agencies)

c. Industry (including SMEs)
- Many industry branches and stakeholders are involved in the areas of defence, forensics, civil protection etc. Research results can benefit most first responders.

Different communication approaches to be followed towards large industries and SMEs often disconnected from discussions at EU level.

d. Practitioners
- First responders, i.e. fire brigades, emergency services, police forces, civil protection units, military units, laboratories, water/flood management etc. as well as Decision-makers (at national or regional levels)

- Training centres for first responders, command control centres

e. NGOs and general public
- NGOs, Civil Society Organisations, public at large, education (schools) and training

While some of the above actors in categories a, b and c are used to participate in international meetings, this is less frequent for SMEs (in category c) and even less for actors in categories d and e. New ways must be found to ensure that information may freely circulate “horizontally” as well as “vertically” (see p. 7) in order to fertilize all project deliverables while, at the same time, maturing them to the final operational phase (also called “usefulness & use”) by end-users, and integrating them into appropriate policy implementation and development.

3.3 Why build a Community of Users?
The large span of projects leads to a huge dispersion of resources as no mechanism is presently in place to establish a common platform to exchange information of public character, boost awareness and transfer of relevant (FP7 and H2020) research projects relevant users (and to industrial/SMEs – share- and stake-holders) and make them “useful and used”. In addition, efforts will be done to better address users’ needs which will be reflected into possible inputs to research programming. Another aspect stems from the contribution of scientific progress to policy formulation, implementation and review which also requires better coordination. This awareness is readily made for the FP7 projects resulting from the Secure Societies programme (SEC), a large part of which is managed by the Research Executive Agency (REA). Information exchanges occur even less among SEC projects and projects managed by other DGs. This lack of a sharing platform led to the idea of developing a Community of Users along the principle shown in Figure 2.

A Community of Users will benefit from a better coordination of information exchanges of general nature through a visible platform. This can hardly be done without resources and by the sole officials in charge of the projects. Two Demonstration Projects (EDEN for CBRN-E, DRIVER for Crisis Management) acted as catalysts for the first phase of development of such a Community of Users (2014-2015). Both projects inter alia aim to demonstrate the added value of large scale integration of solutions (related to various risks) and to support Member States’ preparedness and response organisations in improving integration and information sharing in countering various threats. They have both their own specificities and users’ platforms in the framework of which confidential information is shared among the partners, and the proposed Community of Users will naturally not interfere with these specific fora. Other FP7 and H2020 projects have also the capacity to help the Community of User’s development and contribute effectively to exchanges of information and practices. This is one of the objectives of the initiative.

Figure 2. Principles of the Community of Users
The intention of the Community of Users is hence to provide an “umbrella” at EU level (with connections at international level) which will provide an overall outlook (based on publicly available information) of science and policy developments in the relevant sectors.
4. Targeting Readers

4.1 Key Actors / Levels

**Key actors** who have a role and interest in the objectives and implementation of security-related research programmes or projects include users (direct beneficiaries), as well as those responsible for ensuring that the results are produced as planned, and those who are accountable for the legal framework and resources that they provide to that programme or project\(^4\). In the field of security, three categories of stakeholders are considered as users of products, technologies, services and processes developed by suppliers in various fields of security\(^4\):

- **Operators / Practitioners / End-users** - Field experts who operate in their everyday duties the security products, technologies and services purchased by customers for the benefit of the general public, e.g. first responders (firefighters, policemen, medical personnel), border control agents, etc. In many projects, the terms operators, practitioners and end-users can be used indistinctly whereas the term users covers a wider concept in which end-users are part of as a distinct subcategory. Operators as practitioners and end-users rather have a technology point of view and take the perspective of support to the products and technologies. They represent the backbone of the innovation system and infrastructure.

- **Customers** - Persons, companies, or other public and private entities which take decisions on purchasing the products, technologies, services and implementation of processes to be used by operators for the benefit of the general public, e.g. airport managers, public health agencies, civil protection authorities, hospitals. They are interested in the functionality of innovative solutions and make decisions on the uptake of such solutions.

- **Consumers / General public** - EU citizens who benefit from the security products, technologies, services and processes and pay for them indirectly (e.g. through paying taxes, buying flight tickets, paying for health care services, drugs and vaccines, etc.). The general public today has increasing opportunities to influence the design, introduction and trajectory of new technologies and services in both private and public sectors. Consumers also have the ability to directly influence innovation and encourage the development of new technologies. In recent years, there has been a growing emphasis by governments on the importance of collaboration with citizens and service users as drivers for innovation to improve service delivery\(^5\).

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\(^3\) UN Development Programme. Glossary; http://web.unDP.org/evaluation/documents/mae-glo.htm


\(^5\) The OECD Innovation Strategy: Getting a Head Start on Tomorrow - © OECD 2010
4.2 Communication channels

Targeting readers and ensuring appropriate communication channels should hence consider the point of view of:

- The above specified 3 categories of users of security products, technologies, services and processes.
- Technology suppliers: academic researchers, RTOs, SMEs and large industry.
- Regulators and policy-makers, i.e., members of European, intergovernmental and/or governmental regulatory agencies that ensure compliance with laws, regulations, established rules, as well as individuals who set the plan pursued by a European, intergovernmental and/or governmental institution level, having the authority to set the policy framework of an organisation.

These different categories and subcategories of stakeholders are illustrated in Figure 3.

Figure 3. Categories of Security Stakeholders
5. Policy Background

5.1 General Framework

A large span of sectors and policies cover secure, safe and resilient society’s issues in a direct or indirect way, either by providing legally-binding frameworks of actions by EU Member States in the form of Directives, general frameworks in the form of Communications or technical specifications in the form of Decisions, for example. Figure 4 gives an illustration of the different “families” of EU General Directorates as well as Intergovernmental Agencies.

Crisis Management policies follow an integrated approach for the management of natural and man-made hazards focusing on disaster risk reduction (prevention and preparedness) and disaster response. The policy is mainly represented by the EU Civil Protection Mechanism (UCPM)\(^8\), and the operational dimension is coordinated by the Emergency Response Coordination Centre (ERCC). Disaster risk management is also addressed through the EU Internal Security Strategy\(^9\) and the resulting European Agenda on Security adopted in April 2015\(^9\) (DG HOME) and Consumer Health Protection policies (DG SANCO)\(^10\). In addition, climate-related disasters are covered by environmental and climate policies (DG ENV, in particular the Flood Directive\(^11\) and DG CLIMA through the EU climate change adaptation strategy\(^12\)). Finally, intergovernmental agencies are also involved in security policies, namely the European External Action Service (EEAS) – which implements the EU Common Foreign and Security Policy – and Europol – which is the EU Law Enforcement Agency. Both agencies assist EU Member States. There are also links with the Council Decision 2014/415/EU on the arrangements for the implementation by the Union of the solidarity clause, which covers response, situational awareness and analysis and threat assessment at Union level.

Other key EU policies concern industrial competitiveness and innovation, namely the EU Industrial Policy\(^12\) which aims to boost industrial competitiveness and innovation (thus the access to market of developed technologies) and the EU research policy represented by Horizon2020\(^13\).

With regards to CBRN-E, the key EU policy is represented by the CBRN Action Plan\(^14\) (DG HOME) and the EU Action Plan on Enhancing the Security of Explosives\(^15\) which are to expire at the end of 2015; the Regulation 98/2013 on the Marketing and Use of Explosives Precursores\(^16\) has entered into force and is directly applicable to all MS. Other EU policies include CBRN as a focal point, namely in the sectors of Civil Protection and Consumer Health Protection (see above), as well as Energy Infrastructure and Transport Networks\(^17\) (DGs ENER and MOVE), Customs\(^18\) (DG TAXUD), Environment and Industrial Risks\(^19\) (DG ENV) and International Cooperation, e.g. CBRN Centres of Excellence (DG DEVCO).

Complementary to EU policies, international policies are also active in Disaster Risk and Crisis Management. In the case of CBRN-E, various conventions exist, namely the United Nations Security Council Resolution 1540, the Chemical Weapon Convention (CWC verification by the Organisation for the Prohibition of Chemical Weapons, OPCW), the Biological and Toxin Weapon Convention (BTWC without control mechanisms), and the Nuclear Non-proliferation Treaty (NPT verification by the International Atomic Energy Agency, IAEA). In the field of Disaster Risk Management, Disaster Risk Reduction has been the core action line of the United Nations Hyogo Framework for Action on how to mitigate the impact of natural and man-made disasters, now continued by the Sendai Framework for Action setting priorities for the 2015-2025 period, among which the promotion of a better understanding of disaster risk management through the building, sharing and development of knowledge and the strengthening of the policy-science interface at local, national, regional and global levels. The implementation of these policies represents a complex and ambitious challenge as they involve a wide variety of players whereas each Member State often follows specific national approaches (national action plans) for dealing with crises and are also differently organised in terms of disaster risk management capabilities. The EU framework represents a means and a real opportunity to discuss possible ways to improve coordination among the various national approaches and develop a common EU vision strengthened by a joint strategy in this field. The development of a Community of Users is, in this respect, an essential component to bring together key scientific, policy and industry actors, as well as other stakeholders (e.g. first responders, police representatives, fire fighters, civil protection units) around this common vision and strategy. This is closely linked to the EU industrial policy\(^20\) under the responsibility of DG GROW, the EU research policy\(^21\) coordinated by DG R&I and involving DG HOME (Secure Societies Programme), DG CNECT and JRC, the EU civil protection policy managed by DG ECHO, as well as the EU environmental and climate policies coordinated by DG ENV and CLIMA respectively.

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8 Decision 1513/2013
10 The European Agenda on Security, COM(2015) 185 final
11 Decision 1082/2015
12 Directive 2007/60/EC
13 COM (2013) 216 final
14 Directive 2012/417 final
17 Council of the European Union, EU Action Plan on Enhancing the Security of Explosives
5.2 EU Civil Protection Mechanism and related international policies

The UCPM aims to facilitate reinforced cooperation between the EU and the Member States and to facilitate coordination in the field of civil protection, in order to improve the effectiveness of systems for preventing, preparing for and responding to natural and man-made disasters. It supports and complements the efforts of the Member States for the protection, primarily of people but also of the environment and property, including cultural heritage. It promotes disaster risk reduction, preparedness and the efficient response to disasters caused by human-made disaster events, such as technological failure and accidents, and environmental disasters such as climate change and extreme weather events, floods, forest fires, etc. It also covers natural disasters such as earthquakes, tsunamis, storms, earthquakes and floods. The UCPM is based on the idea that the Union, by means specifically targeted at disaster prevention, preparedness and response, beyond its current frameworks, can provide additional, complementary and usually more effective assistance than Member States alone. The UCPM is based on an internationally agreed setup and hence it can provide a basis on which other large international humanitarian missions are conducted.

On technical grounds, the UCPM is working towards a general policy framework on disaster risk prevention aimed at achieving a higher level of protection and resilience against disasters by preventing or reducing their effects and by fostering a culture of prevention. From this perspective, it promotes the review of risk assessment, risk management planning conducted at national/regional level and the development of an integrated approach, linking risk prevention, preparedness and response actions. On the basis of information received from the EU Member States, the European Commission establishes and regularly updates a cross-sectoral risk overview. Among its priorities is the action to ‘improve the knowledge base on disaster risks and facilitate the sharing of knowledge, best practices and information’.

The UCPM is closely related to the Sendai Framework for Action 2015-2025 (Building the resilience of nations and communities to disasters) which is the successor of the Hyogo Framework for Action adopted by 168 UN Member States that voluntarily committed to work towards achieving its objectives, in particular improving disaster resilience and disaster risk reduction as a necessary ingredient for the achievement of poverty reduction and sustainable development. The Sendai Framework for Action sets out an ambitious set of priorities to place disaster risk reduction as a key element of sustainable development efforts, to define further steps to reduce existing and emerging risks and foster disaster resilience. As stressed in Council Conclusions on this matter, the EU supports a framework which strengthens the contribution of disaster risk management to smart, sustainable and inclusive growth by promoting the use and development of innovative technologies and encouraging a more systematic and reinforced science-policy interface in disaster risk management. These objectives are supported by IPCC recommendations expressed in the special report on extreme events.

The UCPM is also financing actions related to preventing, preparing for and responding to disasters. These include: an important EU Civil protection training programme, regular large-scale exercises and modules exercises, exchange of experts, prevention and preparedness projects (through annual calls for applications), logistical and transport support for response missions, deployment of coordination, assessment or advisory missions, adaptation and certification of assets to be included in the Voluntary Pool, the availability of buffer capacities under the Voluntary Pool (additional assets that those made available by the Member States). In the area of marine pollution these actions are coordinated with the European Maritime Safety Agency and the regional sea conventions.

5.3 Critical Infrastructure Protection

The new approach to the European Programme for Critical Infrastructure Protection (EPCIP) is built on a review of the 2006 programme and the Council Directive 2008/114/EC on the identification and designation of European critical infrastructures and the assessment of the need to improve their protection. It aims to ensure a high degree of protection of EU infrastructures and increase their resilience (against all threats and hazards). It looks at interdependencies between critical infrastructures, industry and state actors, taking account of the cross border dimension and interdependencies between sectors (e.g. European high-voltage electricity grid). The EPCIP established (1) procedures for the identification and designation of European critical infrastructures and assessment of the need to improve their protection (Directive 2008/114/EC); (2) measures to facilitate its implementation, including an action plan, CWIN, CIP expert groups at EU level and information sharing process; (3) funding for CIP-related measures and projects focussing on ‘Prevention, Preparedness and Consequence Management of Terrorism and other Security Related Risks’; and (4) an external dimension for engagement with third countries on CIP. At the time of publication of the revised approach (2013), less than 20 European Critical Infrastructures had been designated and hence very few Operator Security Plans had been produced; the number of CEI designated has since increased substantially. The Directive 2008/114/EC has mainly encouraged bilateral engagement of Member States instead of a real European forum for cooperation – the sector-focused approach of the directive represents a challenge to a number of MS as in practice the analysis of criticalities is not confined to sectoral boundaries and follows rather a ‘system’ or ‘service’ approach (e.g. hospitals, financial services). There is a need for a cross-sectoral approach development. In practical terms, development of preparedness strategies are based around contingency planning, stress tests, awareness raising, training, joint courses, exercises and staff exchange. The programme also promotes the dialogue between the operators of the critical infrastructures and those who rely upon them in order to better prepare responses to events affecting European critical infrastructures. The gaps identified in the review of the EPCIP led the Commission to present its new approach to the implementation of the EPCIP in 2013, with a greater focus on interdependencies and proposing practical work with four critical infrastructures of a European dimension (Eurocontrol, Galileo, the electricity transmission grid and the gas transmission network).

The guidelines for trans-European energy infrastructure are built upon the Communication of 28 February 2011 entitled ‘Energy infrastructure priorities for 2020 and beyond – A blueprint for an integrated European energy network’, it stipulates that the Union’s energy infrastructure should be upgraded in order to prevent technical failure and to increase its resilience against such failure, natural or man-made disasters, adverse effects of climate change and threats to its security, in particular as regards European Critical Infrastructures and the assessment of the need to improve their protection.

Creating the environment for safe transport is essential for European citizens. EU transport policies cover a wide range of security and safety policies in the air, road, maritime and rail areas which all relate to technical standards for preventing / detection risks and responding to major threats, including terrorist attacks, crimes and accidents. In order to maintain proper security levels cooperation with third countries is paramount and the Commission consolidates and strengthens security by working together with major international partners, exchanging experiences and best practices. Security in transport also relies on new technologies that can really assist in developing smooth high-security systems for the future but without making the security checks too long and intense.

26 Council Regulation No 1257/96, OJ L 163, 27.7.1996
28 http://www.unece.org/we/coordinate/sendai-framework
31 http://swd.europa.eu/2013/3182/final
34 http://ec.europa.eu/transport/home_en
35 A Community of Users on Secure, Safe and Resilient Societies (CoU)
36 Mapping EU policies and FP7 research for enhancing partnerships in H2020
5.4 CBRN and Explosives

From the above, it is clear that Chemical, Biological, Radiological, Nuclear and Explosive (CBRN-E) threats are covered by a range of policies. In views of improving coordination of actions related to CBRN-E risk management, the European Commission has issued strategic documents which main features are described below regarding technical challenges.

5.4.1 CBRN Action Plan

The CBRN Action Plan aimed to ensure that unauthorised access to CBRN materials of concern is as difficult as possible. Prevention is based on robust risk-assessment processes, which include the prioritisation, security, and control of high-risk CBRN materials and facilities, developing a high-security culture of staff, improving the security of transport, information exchange, import and export regimes, and strengthening cooperation on the security of nuclear materials. Key Actions defined in the Plan are designed to reduce threat and damage from CBRN incidents of accidental, natural and intentional origin, including terrorist threats. It is a political commitment which may be seen as a roadmap of intentions guided by principles of EU solidarity (the responsibility of protecting populations against CBRN incidents lays with the Member States), EU added value (respecting principles of subsidiarity and proportionality), based on existing regulations and instruments, and in close consultation with national authorities. Actions are based on risk- and threat assessments and cost-effective assessments. Confidentiality of certain types of information is taken into account. Actions have been financially supported by expired and existing Union programmes and fund.26, 27

The plan aims to efficiently respond to incidents involving CBRN materials and recover from them as quickly as possible. Specific attention is made to CBRN emergency planning, strengthening countermeasure capacity, reinforcing information flows, developing better modelling tools and improving criminal investigation capacity. The plan focuses on the required capability to detect CBRN materials in order to prevent or respond to CBRN incidents. This is related to the development of minimum detection standards to be applied across the entire EU, establishing trialling, testing and certification schemes for CBRN detection and improving the exchange of good practices on the detection of CBRN materials. The Plan promotes a scenario-based/modelling approach at EU level to identify work priorities in the detection field (identification of CBRN material and detection technologies, wide risk assessment (including events with cross-border effects) built on existing scenarios and national experience, and gap analysis; it supports the exchange of methods and procedures for developing scenarios and modelling, interconnecting detectors at national levels where feasible including data on incidents, coordination of exercises and lessons learnt. It also promotes a mechanism of information exchange among Member States on methodologies of scenario development related to sampling and detection, taking appropriate confidentiality into account. In the specific area of biological pathogens and toxins, the Plan promotes the development of detection models, considering distribution, possible vectors, infectious dose and stability.

The CBRN Action Plan is complemented by the new EU approach to the detection and mitigation of CBRN-E risks which adopts a proactive approach to the detection of threats, and proposes among others to put effective, proportional safeguards in place, including prevention, preparedness and response measures at EU level with the objective to better assess the risks, to develop countermeasures, to share knowledge and best practices, test and validate new safeguards with the ultimate goal of adopting new security standards. The response mechanisms within the CBRN Action Plan are linked to various EU policy instruments such as the EU Mechanism for Civil Protection (see section 5.2), the EU Integrated Political Crisis Response Arrangements (IPCR), the implementation of the Solidarity Clause, the ARGUS crisis management system allowing for an immediate test and validate new safeguards with the ultimate goal of adopting new security standards. The response mechanisms within the CBRN Action Plan are linked to various EU policy instruments such as the EU Mechanism for Civil Protection (see section 5.2), the EU Integrated Political Crisis Response Arrangements (IPCR), the implementation of the Solidarity Clause, the ARGUS crisis management system allowing for an immediate exchange of information among Commission rapid alert systems such as the ECURIE system for radiological emergencies, the Early Warning and Response System (EWRS) for communicable diseases, and the RAS-BICHAT for biological and chemical health threat.

5.4.2 Explosive Action Plan and Regulation 98/2013

The enhancement of the security of explosives has been identified as a priority issue for the European Commission in its efforts in the field of combating terrorism. Home-made explosives can be fabricated from certain easily accessible chemical precursors and can be misused by terrorists to inflict casualties and damage. In order to mitigate the risk of such misuse, in 2008 the Justice and Home Affairs Council approved the EU Action Plan on Enhancing the Security of Explosives. The Action Plan thus contributes to the implementation of the EU Counter Terrorism Strategy (2005) and is in line with the Internal Security Strategy (2010).

The EU Explosives Action Plan contains 48 measures related to the prevention, detection, and preparedness and response to explosives-related incidents. The recommendations for action address a comprehensive range of relevant aspects, such as precursors, storage, transport, traceability, detection, research, information exchange, and inter-agency coordination.

A first set of horizontal measures aims at improving the exchange of timely information and best practices, and supporting and promoting research, including research into inhibitors to precursors. A second set of measures focuses on prevention around explosives precursors, by raising staff awareness, increasing control over substances and explosives available on the market (including pyrotechnics), and establishing a mechanism for reporting suspicious transactions. Other prevention measures cover the security of explosives facilities and transport, as well as the security vetting of personnel at any stage in the supply chain. The action plan calls, in addition, for increased efforts to reduce the presence of bomb-making information over the internet. A third set of actions focuses on the detection of explosives threats. The plan has as a priority to establish a scenario-based approach to identifying priorities in the detection field, notably to identify detection technology requirements, current equipment that is available, and common minimum detection standards which should be applied. In the area of detection, the action plan recognises that there is an urgent need for improved exchange of information between authorities, researchers, and end-users, particularly in order to establish an EU-wide certification, testing and trialling scheme for the detection of explosives, and to continuously reassess the use of detection technologies in specific locations. Finally, a set of preparedness and response measures call on the creation of a network which improves the exchange of information and best practices among explosives ordnance disposal units in Europe, and also supports the development of threat assessments on explosives and on specific threats.

The actions contained in the EU Explosives Action Plan are implemented through a joint effort of the European Commission, Member States, Europol, research institutions as well as private sector stakeholders. DG HOME aimed at fully achieving implementation by the end of 2015.

One of the key actions of the EU Explosives Action Plan called on the Commission to consider measures to regulate the availability of explosives precursors on the market. As a result of the work done to implement this action, Regulation (EU) 98/2013 on the marketing and use of explosives precursors was adopted with a view to enhancing the protection of citizens from the threat of homemade explosives. Regulation 98/2013 came into force on 2 September 2014. It restricts availability, possession and use, by members of the general public, of seven dangerous substances (‘restricted explosives precursors,’ listed in Annex I). Member States may decide to grant access by the public to these substances only through a system of licenses and registration. In addition, the Regulation introduces obligations for economic operators who place such substances on the market. Operators must ensure the appropriate labelling of restricted explosives precursors, and must also report any suspicious transactions involving both the seven restricted substances and eight other non-restricted substances which are also considered of concern (listed in Annex II).

26 OJ L 58, 24.2.2007, p 1-6 - Prevention, Preparedness and Consequence Management of Terrorism and other Security related risks
5.4.3 International Conventions

At international level, the EU strategy against Proliferation of Weapons of Mass Destruction (WMD strategy), together with relevant Community Instruments, in particular the Instrument for Stability (supporting third countries to develop training and assistance on CBRN risk mitigation and preparedness) and the instrument for nuclear safety cooperation, reinforce actions on reducing the risks from CBRN materials. This is linked to nuclear non-proliferation or strengthening nuclear security. Furthermore, the Implementation of the UN Security Council Resolution 1540 will be further strengthened by supporting the International Atomic Energy Agency (IAEA), in particular contributing to more efficient export control and border monitoring systems. Regional Centres of Excellence will be instrumental in order to exchange best practices, support capacity building and share experiences gathered at EU level with key regions. Issues related to the threat of CBRN materials are also discussed by international organisations such as the Organisation for the Prevention of Chemical Weapons (OPCW), the BTWC meetings, Interpol and the Global Health Security Initiative (GHSI).

5.5 Major accident hazards

Major accidents can have consequences beyond the limits of industrial establishments and the human, ecological and economic costs of an accident are borne not only by the establishment affected, but also by the society concerned. It is therefore necessary to establish and apply safety and risk-reduction measures to prevent possible accidents, to reduce the risks of accidents occurring and to minimise the effects if they do occur, thereby making it possible to ensure a high level of protection throughout the Union.

The Directive 2012/18/EU (on major-accidents hazards involving dangerous substances)35 sets risk management goal oriented objectives based on the fact that operators are obliged to take all necessary measures to prevent major accidents and to limit their consequences for human health or the environment. The Directive 2012/18/EU is better known as the so-called “Seveso III” directive; it replaced the previous Directive 96/82/EC (“Seveso II”) which was repealed in May 2015. The Directive lays down rules for the prevention of major accidents which involve dangerous substances and the limitation of their consequences for human health and the environment, and criteria for the obligations are based on the maximum amounts of the hazardous substances that are, or are likely to be present in the establishment (industrial plant) in the potential course of the accident. The Directive is focused on the un-intentional (accidental, including natural hazards) potential events in the establishments, thus usually not related to the intentional acts (attacks) and is excluding the military establishments, pipelines, as well as the transportation outside establishments. It does not focus on the cause of an (unintentional or intentional) accident but is rather impact-oriented. The safety report has to demonstrate that the operators are addressing, to the extent possible, all significant accident scenarios (including sabotage), and is complemented by CIP regulations for attack-prone installations.

At international level, the Convention on the Transboundary Effects of Industrial Accidents (TEIA)36 of UNECE (UN Economic Commission for Europe) is designed to protect people and the environment against industrial accidents, aiming to prevent accidents from occurring, or reducing their frequency and severity and mitigating their effects if required. The Convention promotes active international cooperation between countries before, during and after an industrial accident. It therefore closely cooperates with the EU, in particular in the framework of the Seveso III Directive implementation. The TEIA has also close links with the Sendai Framework for Action (see section 5.2).

5.6 Serious cross-border threats to health

The protection of human health is a matter which has a cross-cutting dimension and is relevant to numerous Union policies and activities. The Commission should ensure, in liaison with the Member States, the coordination and exchange of information between the mechanisms and structures established under the Decision 1082/2013/EU on serious cross-border threats to health as well as activities which are relevant to the preparedness and response planning, monitoring, early warning of, and combating serious cross-border threats to health. Pursuant to Decision 2119/98/EC a network for the epidemiological surveillance and control of communicable diseases in the Community has been set up. Apart from communicable diseases, a number of other sources of danger to health, in particular related to other biological or chemical agents or environmental events, which include hazards related to climate change, could by reason of their scale or severity, endanger the health of citizens in the entire Union, lead to the malfunctioning of critical sectors of society and the economy and jeopardise an individual Member State’s capacity to react. The legal framework set up under the above Decision should, therefore, be extended to cover other threats and provide for a coordinated wider approach to health security at Union level. In the context of this Decision, an important role in the coordination of recent crises of Union relevance has been played by an informal group composed of high-level representatives from Member States, referred to as the Health Security Committee, and established on the basis of the Presidency Conclusions of 15 November 2001 on bioterrorism. The Decision promotes preparedness and response planning through consultation among the Member States and the Commission in order to share best practice and experience, as well as interoperability of national preparedness planning and addressing the intersectoral dimension of preparedness and response planning at Union level.

The Health Security Committee plays an important role in responding to health threats (notably in terms of crisis preparation, exercises on CBRN events and the listing of pathogens and chemicals which pose a health threat) whilst the European Centre for Disease and Control (ECDC) provides risk assessments for communicable diseases and biological incidents.

5.7 EU Adaptation Strategy to Climate Change

The EU Adaptation Strategy to Climate Change highlights the consequences of climate change and the need for adaptation measures. It focuses on early, planned and coordinated action rather than reactive adaptation. The communication highlights the need for systematic exchanges of best practice on how to best adapt to climate change. The strategy takes account of global climate change impacts such as disruptions to supply chains or impaired access to raw materials, energy and food supplies. The overall aim is to contribute to a more climate resilient Europe by enhancing the preparedness and capacity to respond to the impacts of climate change at local, regional, national and EU levels, developing a coherent approach and improving coordination. This strategy is closely linked to national adaptation strategies which are considered as recommended instruments by the UN Framework Convention on Climate Change. A close coordination between climate change adaptation and disaster risk management / policies is also required. Development is foreseen of guidelines on minimum standards for disaster prevention based on good practices.

The requirement for “climate-proofing” and mainstreaming of adaptation measures in various sectors also calls for strengthened preparedness and science-policy links. The strategy makes reference, in particular, to the Marine Framework Directive (Directive 2008/56/EC)37 and various environmental policies, related to e.g. Forestry (EC Regulation 2152/2003), Water (Directives listed in the COM(2012)673 on the Blueprint to Safeguard Europe’s Water Resources38), as well as other sectors such as Transport (Decision 661/2010/EC), Energy (COM(2011)665/3), and the above described Disaster Risk Prevention (within the Union Civil Protection mechanism) and Health (Decision 1082/2013).

37 http://www.unece.org/env/trae.html
39 COM(2012) 673 final
5.8 Water and Marine policies

Linked to the above, specific policy instruments are in place in the water sector related to extreme hydrometeorological events such as floods and droughts. In the first place, complementing the Water Framework Directive (WFD) and its daughter Directives, namely the Priority Substances Directive and the Groundwater Directive, flood prevention and management are tackled by the Flood Directive which requires EU Member States to assess and manage flood risks, with the aim of reducing adverse consequences for human health, the environment, cultural heritage and economic activity associated with floods in Europe. This directive has to be coordinated with the implementation of the WFD from the second river basin management plan onward (which will take place from 2015 to 2021). It therefore provides a comprehensive mechanism for assessing and monitoring increased risks of flooding, taking into account the possible impacts of climate change, and for developing appropriate adaptation approaches. Water scarcity and droughts are also considered in the policy context. In particular, a European assessment of water scarcity and droughts has been conducted by the European Commission in the framework of the Water Scarcity and Drought Communication to monitor changes across Europe and to identify where further action is needed in response to climate change. Recommendations have been taken on board in the Blueprint to Safeguard Europe’s Water Resources. It may, therefore, be considered that the successive steps of the WFD River Basin Management Planning (RBMP) and the related flood and drought policy framework may conveniently incorporate adaptation to climate-related water risks through risk assessment, monitoring, environmental objective setting, economic analysis and action programmes to achieve well defined environmental objective.

The Drinking Water Directive (DWD) regulates the quality of water intended for human consumption. The Directive is currently under evaluation as a follow-up of the European Citizens’ Initiative (ECI) Right2Water. The policy concerns the quality of drinking water from around 100,000 water supplies. It aims to protect human health by ensuring that drinking water at the consumer tap is wholesome and clean. It lays down essential quality standards at EU level, for which monitoring programmes have to be performed. For any failure remedial action has to be taken. Its intervention logic was to address all possible contamination causes, including from treatment and distribution, by setting strict minimum parametric values to be complied with at the consumer tap. It thus implicitly includes deliberate poisioning risks. The abstraction of drinking water and the protection of water bodies for this aim is, however, not regulated in the DWD, but in Article 7 of the above mentioned Water Framework Directive (WFD), which requires Member States to identify bodies of water for the abstraction of drinking water and to protect them, so that the resulting water will meet the DWD requirements under the water treatment regime applied.

Finally, while the protection of the (coastal) marine environment is covered by the WFD, EU environmental policymakers considered there was a lack of strategy underpinning the policies to protect the marine environment. A strategy was thus developed in the sixth Environmental Action Programme (2002-2012) which resulted in setting up environmental objectives for the marine environment. The related protection regime is regulated under the EU Marine Strategy which was adopted in 2008.

5.9 Control of export and Union Custom Code

The Council Regulation (EC) no 428/2009 on a Community regime for the control of exports, transfer, brokering and transit of dual-use items is setting rules that Member States have to apply to control the transfer of certain dual-use items within the Community in order to safeguard public policy or public security. This includes the effectiveness of controls on exports from the Community and those items which only pass through the territory of the Community (i.e. not assigned to a customs-approved treatment or use other than the external transit procedure or placed in a free zone or warehouse with no record of them).

EU customs policy for security and trade facilitation aim to facilitate legitimate trade whilst applying the level of controls necessary for guaranteeing the safety and security of citizens and protecting the public health, environment, financial and economic interests of the EU and its Member States. The increase in global terrorism has expanded customs to become a major player in the field of supply chain security. The deployment of detection technologies plays an essential role.

5.10 Border security

In the framework of the Communication “Examining the creation of a European Border Surveillance System (EUROSUR)”, support needed in the area of border security targeted the development of technologies and capabilities which are required to enhance systems, equipment, tools, processes, and methods for rapid identification to improve border security, whilst respecting human rights and privacy. This includes both control and surveillance issues, contributing to the further development of the EUROSUR and promoting an enhanced use of new technology for border checks, also in relation to the Smart Borders legislative initiative (for both EUROSUR and the Smart Borders, the Commission published the initial relevant communications on 13 February 2008).

At sea, the main technical challenge was identified in the detection and identification of small non cooperative vessels (and of their anomalous behaviour). At the system level the identified priority was to improve the sharing of information amongst actors active in maritime surveillance. A close interactive dialogue has taken place with other Commission DGs (DG HOME, DG MARE, DG JRC, DG MOVE) as well as with EU agencies (Frontex, EMSA and EDA). This has helped the setting by the Frontex Agency of CONOPS (concepts of operations) as related to the detection small boats detection.

5.11 Fight against crime and terrorism

Regarding the fight against crime and terrorism, the European Commission is not in charge of operational activities but supports and facilitates the activities of the security practitioners at the EU level.

The main policy framework for this action is provided by the European Agenda on Security (COM(2016) 158 final) adopted on 28th April 2015, which provides strategic focus for the EU and Member States for the overall goal of strengthening the Union’s security framework. The three pillars of the Union’s action to obtain this goal are: to strengthen the information exchange; to increase the operational cooperation; and to provide support in training, funding, research and innovation. The main thematic priorities listed in the Agenda are: terrorism, organised crime and cybercrime.

A Communication on the delivery of the Agenda on Security (COM(2016) 230 final) has been adopted in April 2016. It acknowledges the common position of the European Parliament, the EU Ministers for Justice and Home Affairs and the Commission to press ahead with the measures foreseen and to deepen the fight against terrorism. For this reason, the Communication, one year on from the presentation of the Agenda, takes stock of the progress that has been made in its implementation as concerns the EU contribution to counter-terrorism.

39 Directive 2000/60/EC
42 COM(2007) 414 final
44 Communication from the European Commission on the European Citizens’ Initiative “Water and sanitation are a human right! Water is a public good, not a commodity”, COM(2014) 177 final
46 OJ L 134/1 of 29.05.2009
47 Regulation (EU) no 952/2013
48 http://frontex.europa.eu/intelligence/eurosur/
In addition to the Agenda, a number of more specific EU legislative and policy documents apply in the area of fight against crime and terrorism. Two of the most relevant ones are the Regulation (EU) No 98/2013 of the European Parliament and of the Council of 15 January 2013 on the marketing and use of explosives precursors, and the Communication COM(2016) 379 final on supporting the prevention of radicalisation leading to violent extremism.

Also, on 13 and 14 December 2011, the Council approved conclusions (17537/11 ENFOPOL -113 COPEN 342) on the vision for European Forensic Science 2020 including the creation of a European Forensic Science Area and the development of forensic science infrastructure in Europe. Their aim was to foster cooperation between police and judicial authorities across the European. An action plan has been developed under the Dutch presidency which should be adopted as Council conclusions in June 2016.

Furthermore, the Commission assists EU Member States in the implementation of existing legal instruments such as e.g. the Data Retention Directive, the Decision on access for consultation of the Visa Information System etc.[1]. The EC also participates in specialised working groups of the Council such as COSI, and agencies such as Europol and CEPOL.

Finally support to security practitioners is also granted via the financing of national and multi-national projects that enhance police cooperation, including among police networks.
6. EU-Funding Instruments – Research and Capacity-Building

6.1 Introduction

As highlighted in section 4.1, EU research funding is orchestrated by different “research families”, namely various programmes of DG RTD, DG CNECT and DG HOME, as well as research actions undertaken by the Joint Research Centre (JRC). Other funding instruments focus on capacity-building and training (e.g. prevention, preparedness and response projects in disaster risk management funded by DG ECHO, security-related projects funded by DG HOME) but they will not be developed in this document. Linked to EU research actions, the European Defense Agency (EDA) funds research projects with interactions with DG HOME funded projects under the so-called European Framework Cooperation (EFC).

While research programming and policy responsibilities lay with the respective General-Directorates of the European Commission, the management of projects is increasingly delegated to “sister” agencies, namely the Research Executive Agency (REA) and the Executive Agency for SMEs (EASME).

6.2 Horizon 2020

Horizon 2020 is the biggest EU Research and Innovation programme ever with nearly €80 billion of funding available over 7 years (2014 to 2020) – in addition to the private investment that this money will attract. It promises more breakthroughs, discoveries and world-firsts by taking great ideas from the lab to the market. Horizon 2020 is the financial instrument implementing the Innovation Union, a Europe 2020 flagship initiative aimed at securing Europe’s global competitiveness. By coupling research and innovation, Horizon 2020 is helping to achieve this with its emphasis on excellent science, industrial leadership and tackling societal challenges. The goal is to ensure Europe produces world-class science, removes barriers to innovation and makes it easier for the public and private sectors to work together in delivering innovation. In the Security area, Horizon 2020 will contribute to the implementation of the policy goals of the Europe 2020 strategy, the Security Industrial Policy, the Internal Security Strategy, the Cyber Security Strategy16, the Union Civil Protection Mechanism, as well as supporting the various above-mentioned thematic policies. The primary aim of the Work Programme on “Secure societies – Protecting freedom and security of Europe and its citizens” is to enhance the awareness, preparedness and resilience of our society against natural and man-made disasters. Crisis Management (including CBRN-E, natural and man-made disaster risk management) related research will be considered in various topics focusing on new crisis management tools, novel solutions for the protection of critical infrastructure, and new forensic tools for fighting crime and terrorism. The current EU Framework Programme for Research and Innovation is built upon achievements of the 7th Framework Programme, which mapping is focused upon and which embedded several programmes of direct or indirect relevance to secure, safe and resilient societies, namely:

- Health, demographic change and wellbeing;
- Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the Bioeconomy;
- Secure, clean and efficient energy;
- Smart, green and integrated transport;
- Climate action, environment, resource efficiency and raw materials;
- Europe in a changing world – inclusive, innovative and reflective societies;
- Secure societies – protecting freedom and security of Europe and its citizens.

6.3 DG ECHO

The overall rationale of the DG ECHO's Programme for Capacity Building is that such investments into the global humanitarian system lead to more rapid and more cost-effective humanitarian responses, allowing a better and broader humanitarian coverage. EU Member States and the European Commission's partners agreed that “supporting the development of the collective global capacity to respond to humanitarian crises is one of the fundamental tenants of our [EU] approach”17. The principal objective of the programme is to strengthen the global humanitarian preparedness and response capacity. Specific objectives are:

1. To increase the effectiveness and reinforce the capacity of international humanitarian organisations and stakeholders to assess, analyse, prepare and respond to humanitarian needs during man-made and/or natural disasters and their immediate aftermath in a coordinated and inclusive manner.

2. To reinforce the capacity of international humanitarian organisations and stakeholders to deliver more varied and appropriate forms of food assistance, during emergencies and their immediate aftermath.

6.4 DG HOME / ISF

The goal of the Internal Security Fund, managed by DG HOME, is to contribute to ensuring a high level of security in the EU. One of two general objectives is enhancing the capacity of EU States and the Union for managing effectively security-related risk and crisis, and preparing for protecting people and critical infrastructure against terrorist attacks and other security related incidents. In this context the Fund co-finances projects in the areas of CBRN-E, critical infrastructure protection as well as crisis management. The projects are supposed to be much more operational than those funded under the Horizon 2020. The majority of the funds are implemented via the shared management, nevertheless the Commission directly manages – as union actions – around 1/3 of the total budget (which for the 2014-20 period, slightly over EUR 1 billion). These funds will have to cover however all security-related priorities, i.e. apart from above-mentioned areas, also fight against organized crime and police cooperation mechanisms.

6.5 DG DEVCO - CoE

As a matter of new international priority, the European Union decided in 2010 to launch and fund a new concept called “CBRN Risk Mitigation Centers of Excellence (CoE)”, based on a voluntary, cross border, local ownership and, last but not least, bottom up approach. As of today, 52 partner countries joined the initiative, coordinated around 8 regional secretariats based Georgia, Jordan, Algeria, Morocco, Kenya, United Arab Emirates, Uzbekistan and The Philippines launched its chemical, biological, radiological and nuclear (CBRN) Centres of Excellence (CoE) initiative (hereafter the initiative) in May 2010. The initiative is designed to strengthen the institutional capacity of non-EU countries to mitigate CBRN risks which, if not countered, may constitute a threat to the EU. The origin of these risks can be criminal (proliferation, theft, sabotage and illicit trafficking), accidental (industrial catastrophes, in particular chemical or nuclear, waste treatment and transport) or natural (pandemics but also consequence of natural hazards on CBRN material and facilities).

With a budget of 250 million euro for the 2010–2020 period, the initiative is the single biggest measure of the long-term component of the Instrument contributing to Stability and Peace (IcSP). The IcSP was designed to provide the European Union with a new strategic tool to address a number of global security and development challenges. The IcSP provides non-EU partner countries with technical and financial assistance for risk mitigation and preparedness relating to chemical, biological, radiological and nuclear material or agents. According to the European Parliament and the Council, the measures adopted through the IcSP should be complementary and consistent with measures adopted in pursuit of the EU's common foreign and security policy.

The main objectives of the EU CBRN Centres of Excellence initiative are to strengthen the long-term national and regional CBRN governance and capabilities of responsible authorities and administrative infrastructure.

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16 COM (2013) 48 final

17 As adapted by the Council, EP and Commission on 18 December, (OI 2008/C/ 25/01 of 30/01/2008)
The CoE initiative is a provider of tools and means for increased CBRN governance. It facilitates CBRN governmental officials from partner countries, belonging to all relevant ministries and agencies involved in CBRN governance, to meet regularly at the national level but also twice a year at the regional level between CBRN (round tables). This cross-agency cooperation is key to stimulate further networking and has been much appreciated by partner countries. It funding for CBRN activities identified and agreed by partner countries during these regional round tables meetings. By implementing these activities, Member States come together and work to create action and provide CBRN governance support. More than fifty CoE projects have been funded in the last 5 years. These activities include a wide variety of formats, such as workshops and trainings, train the trainers programmes, capacity building or even equipment. Interagency cooperation, team building and support for CBRN administrative reforms are also part of these activities. Furthermore, the CoE provides a funding platform and a sound methodology to first assess CBRN gaps needs at the national levels (NAQs with hundreds of supporting questions) which is activated only upon request from a partner country, and, secondly, a methodology to develop CBRN National Action Plans based on the needs assessments. Results are fully confidential and belong entirely to the country.In the last two years, more than 25 partner countries completed their CBRN needs assessments and more than 15 started to develop their own National Action Plans. Some of the first NAPs developed within the initiative will be presented shortly this afternoon by their CoE country representatives.

The European External Action Service (EEAS), the body responsible for the EU foreign policy, is responsible for the strategic orientation of the initiative. DG DEVCO —International Cooperation and Development — is the decision-making body and is responsible for implementing the initiative’s budget. It prepares the annual action programmes of the ICSP and monitors the work of the main implementing bodies: the Commission’s Joint Research Centre (JRC) and the UN Interregional Crime and Justice Research Institute (UNICRI).

Further detailed info: http://www.cbrn-coe.eu/

6.6 LIFE+

The LIFE (the Financial Instrument for the Environment) Regulation, which was published on 20 December 2013, sets a budget for the next funding period, 2014–2020, of €3.4 billion in current prices. The LIFE programme is the EU’s funding instrument for the environment and climate action. The general objective of LIFE is to contribute to the implementation, updating and development of EU environmental and climate policy and legislation by co-financing projects with European added value. The European Commission (DG Environment and DG Climate Action) manages the LIFE programme. The Commission has delegated the implementation of many components of the LIFE programme to the Executive Agency for Small and Medium-sized Enterprises (EASME). External selection, monitoring and communication teams provide assistance to the Commission and EASME. The European Investment Bank will manage the two new financial instruments (NEFF and PF4E). The LIFE programme will contribute to sustainable development and to the achievement of the objectives and targets of the Europe 2020 Strategy, the 7th Union Environmental Action Programme and other relevant EU environment and climate strategies and plans.

6.7 Structural funds

Solutions exist that can help our regions become the best that they can be. Today, the EU’s emphasis is very much on paving the way for regions to realise their full potential – by helping them to capitalise on their innate strengths while tapping into opportunities that offer possibilities for economic, social and environmental progress. Interreg Europe helps regional and local governments across Europe to develop and deliver better policy. By creating an environment and opportunities for sharing solutions, the programme aims to ensure that government investment, innovation and implementation efforts all lead to integrated and sustainable impact for people and place. By building on its forerunner, INTERREG IVC (2007-2013), Interreg Europe aims to get maximum return from the EUR 359 million financed by the European Regional Development Fund (ERDF) for 2014-2020. To achieve this goal, Interreg Europe offers opportunities for regional and local public authorities across Europe to share ideas and experience on public policy in practice, therefore improving strategies for their citizens and communities.

6.8 Education / Training

Erasmus+ is the EU’s programme to support education, training, youth and sport in Europe. Its budget of €14.7 billion will provide opportunities for over 4 million Europeans to study, train gain experience, and volunteers abroad. Set to last until 2020, Erasmus+ does not just have opportunities for students. Merging seven prior programmes, it has opportunities for a wide variety of individuals and organisations. Erasmus+ has opportunities for people of all ages, helping them develop and share knowledge and experience at institutions and organisations in different countries. Erasmus+ has opportunities for a wide range of organisations, including universities, education and training providers, think-tanks, research organisations, and private businesses. The aim of Erasmus+ is to contribute to the Europe 2020 Strategy for growth, jobs, social equity and inclusion, as well as the aims of ET2020, the EU’s strategic framework for education and training.

6.9 JRC

6.9.1 JRC’s CBRNE activities

The extensive ongoing work in CBRNE in the European Commission’s Joint Research Centre is bringing together JRC’s competences in chemical, biological, radiological, nuclear and explosive risks to respond to the needs of policy DGs in successfully addressing CBRNE as an emerging issue in the EU and in global security. In this context, the JRC collaborates with DG HOME for actions inside the EU in the implementation of the EU CBRN and Explosives action plans, and in aviation security; with DG DEVCO to support the mirroring of activities with partner countries of the EU, acknowledging that security issues are not limited by borders; and with several other partner DGs to fulfill their technical and scientific needs in the CBRNE areas. Security and non-proliferation issues remain an important pillar of the JRC’s Euratom activities, extending our support to international safeguards, combating illicit trafficking of nuclear and radioactive materials, enhancing nuclear forensics, export control, and supporting several activities of training (in nuclear safeguards and nuclear and radiological security), as well as research agreements with several institutions in the EU MS. International cooperation with key partners (US, IAEA) in activities such as the Border Monitoring Working Group is also very important in this regard. Finally, standardisation in security is a key issue for the EU market, and the JRC actively supports the development of standards by providing scientific inputs to the European and international technical committees.

The activities in CBRNE security are strongly synergic and are aggregated in JRC’s CBRNE cluster, currently including 34 projects focused on several key areas: support to the implementation and monitoring of EU CBRN security policy and international cooperation, support to CBRNE standardisation, improving CBRNE detection, optimising the prevention and detection approach to the emergence of new psychoactive drugs, implementing capacity building and training in nuclear security, supporting export control of dual use items, enhancing critical infrastructure protection and developing nuclear forensics.

Some examples of JRC’s activities in CBRNE security include:

- The establishment and running of EU-SECETRA - European nuclear security training centre, located in the JRC premises in Karlsruhe and Ispra, inaugurated in April 2013. EU-SECETRA offers hands-on training using a wide variety of radioactive and nuclear materials and a broad selection of equipment and measurement instruments. So far, EU-SECETRA has conducted trainings for several partners, among them DG TAXUD (Front Line Officers Training Course on Radiation Detection Techniques), customs experts from all the EU Member States will be trained over in total five sessions between June 2015 and February 2016), DG HOME (training for law enforcement officers being planned) and DG ENER but also external customers such as the US’ Second Line of Defence programme. It remains at the disposal of MS needs.
- The JRC leads the ITRAP+10 Phase II project, which aims at testing various families of the RN detection equipment produced in the European Union. Manufacturers of instruments used against illicit trafficking of radioactive sources and nuclear material have been invited to participate in an extensive test programme, based on available IEC and ANSI standards, and IAEA recommendations. The important results of the project have been the basis for the input given to International Standardisation Organisations to review and improve the standards. Also, a certification scheme is being set up to capacticate MS laboratories to perform the same verifications.
• The CBRN Centres of Excellence initiative (see section 6.5), launched in 2010 by the European Union, provides a platform for voluntary regional cooperation on all CBRN-related hazard issues, be it of criminal (trafficking, terrorism), natural (pandemics, volcanic eruptions) or accidental (e.g. Fukushima) origin. It also includes the JRC support to the EU outreach activities in export control for dual-use items. The initiative is managed by DG DEVCO and the EEA, with the technical and scientific support of a task force from the JRC and the collaboration of the United Nations’ UNCIRI Institute. The JRC supports countries participating in the initiative to work together to identify risks, assess gaps and needs, draft National Action Plans and design capacity building projects to be implemented in the partner regions by EU MS consortiums. Fifty-two countries are now partners of the initiative, and a further 25 are looking to join.

• The JRC - Institute for reference materials and measurements (IRMM) supports the development of advanced measurement standards and training in several fields including safety and security linked to CBRN-E threats. For example the institute provides nuclear reference measurements and conformity assessment tools to safeguards authorities, industry and the international community helping to stop illicit trafficking of nuclear and radiological materials. JRC-IRMM reviews and tests the performance of new and existing chemical, biological and explosives threat detection equipment for current and emerging substances of interest, and develops testing protocols for first responder (hand-held) equipment. Scientific studies are performed on request for DG HOME and the Standing Committee for Precursors. JRC-IRMM will also produce explosives simulants as quality control tools to i) check that regulatory requirements for explosives detection equipment are met and ii) to support the end users in the Member States. JRC-IRMM provides impartial analysis and technical support to the continuous development and implementation of EU aviation security policies. JRC-IRMM supports the implementation EU requirements for explosives trace detection (ETD), by i) assisting the Commission’s own team of aviation security inspectors, ii) providing reference materials to EU test centres who carry out testing of ETD equipment, and iii) developing training tools for personnel involved in operating ETD equipment at security checkpoints. JRC-IRMM supports a new Commission Regulation aiming at harmonising the certification of aviation security equipment, by providing impartial technical analysis of the conformity assessment practices.

6.9.2 ERNCIP

The Institute for the Protection and the Security of the Citizen of the Joint Research Centre of the European Commission set up the European Reference Network for Critical Infrastructure Protection (ERNCIP) project in 2009 (https://erncip-project.jrc.ec.europa.eu/). This took place under the mandate of the DG HOME, in the context of the European Programme for Critical Infrastructure Protection (EPCIP), and with the agreement of Member States. ERNCIP is an European effort with the mission to “foster the emergence of innovative, qualified, efficient and competitive security solutions, through networking of European experimental capabilities”, with three strategic goals to:

• Improve the protection of critical infrastructure in the EU
• Support the development of the EU’s single market for security
• Identify gaps in EU security product testing capabilities.

To achieve these goals, ERNCIP maintains an online inventory of experimental capabilities in Europe (“The ERNCIP Inventory”) and has developed a network of experts to identify and promote good test practices to form the basis of common European testing standards, aiming at harmonisation of test methodologies and test protocols, where practical. Currently, ERNCIP brings together over 200 active volunteers in this network.

The ERNCIP Inventory (https://erncip-project.jrc.ec.europa.eu/inventory) is a free-to-use search tool for information on European security experimental and testing facilities. It helps all types of critical infrastructure stakeholders to identify and make contact with CIP-related experimental expertise located in the EU. For the laboratories that are registered in the ERNCIP Inventory it provides greater visibility and increased business potential.

Member States and the Commission jointly define the Thematic Areas (TA) of concern, for ERNCIP to address at the EU level. When the need for a TA is identified, ERNCIP forms a Thematic Group (TG) to address this concern. A TG consists of nominated experts from research facilities, and also other stakeholders such as manufacturers and vendors of security solutions, government authorities, academia, and operators of critical infrastructures. Each group is led by an appointed Coordinator, who is responsible for the work programme for the TG to deliver against, in order to achieve the objectives agreed with ERNCIP.

6.9.3 Disaster Risk Management Knowledge Centre (DRMKC)

The Knowledge Centre for Disaster Risk Management is an initiative of the European Commission to further enhance and exploit the knowledge and evidence base of the Commission and the EU member states in disaster risk management. The Knowledge Centre adopts a networked approach to the science/knowledge-policy interface in Disaster Risk Management to support translating complex scientific data and analyses into usable information and provide science-based advice for DRM policies, as well as timely and reliable scientific-based analyses for emergency preparedness and response coordinated activities.

The Knowledge Centre could become a focal point of reference to support the work of Member States, relevant Commission services and the wider DRM community within and beyond the EU. For example, through taking up the results of other projects such as FP7 DRIVER, the Knowledge Centre can advise and inform Member States and others on DRM tools and cooperate with other initiatives (Community of Users). In addition, via the international dimension of the Knowledge Centre, the EU could support the Sendai framework for Disaster Risk Reduction to promote a more systematic and reinforced science-policy interface to strengthen the contribution of DRM to smart, sustainable and inclusive growth globally.

6.10 Joint Investment Programme - EDA

The European Commission (EC) and the European Defence Agency (EDA) aim at maximising the complementarity and synergy of civilian security and defence-related research activities. This synchronisation of Research & Technology (R&T) investment takes place in the context of the European Framework Cooperation (EFC). In September 2011 the EFC cooperation agreement was signed on the CBRN protection by high representatives of EDA and the EC. The EDA contribution takes the form of a Joint Investment Programme (JIP-CBRN), with a centrally managed budget funded by all contributing Members (cM). The cooperation encompasses research activities identified under the security research theme of the Union’s seventh research framework programme (FP7 SEC) and the EDA JIP CBRN. The JIP CBRN is a so called EDA R&T CAT A programme managed by a Management Committee comprising one representative from each cM. This committee is chaired by EDA and also comprises a non-voting representative from the Commission. The Management Committee is in charge of the management of the programme, the technological content and the selection of the proposals. Furthermore, they will follow the projects and do the dissemination of the results. As the JIP CBRN is an R&T Cat A programme, all the outcomes are research results (technology demonstration may be included) to be used by all the contributing Members.

Contributing Members of JIP CBRN are Austria, Belgium, Czech Republic, Germany, Spain, France, Ireland, Italy, Netherlands, Poland, Portugal, Sweden and Norway. The budget allocated to the JIP CBRN programme is 12 Million Euro. CBRN Protection is an important dual use domain in which Member States are prepared to jointly invest at a European level. In view of existing and emerging CBRN threats mid- to long-term, Member States see a need for enhanced technological development to protect against these threats.
7. Mapping Eu Policies vs Research
In The Light Of Secure, Safety And Resilience Societal Challenges

7.1 Introduction

While policies and research programming are designed in a concerted way at EU level (to avoid possible duplications and ensuring best possible complementarity), in practice policy coordination in operational terms (i.e. implementation by Member States) and research synergies are often lagging behind what could be achieved. This is partly due to a lack of “matrix” which establishes links among different branches of a given sector (in the case of this document, focusing on secure, safe and resilient societies), but this lack of matrix concerns all fields which involve policy, research, industry and training / practitioners. This section proposes a way to establish such a matrix which is not solely linked to given sectors (e.g. internal security, civil protection, health etc.) but to common features of the disaster risk / crisis management cycle and other related issues. A review of different EU policies showed that almost all regulations contain operational elements of (crisis) management cycle, namely detection/surveillance (covering the full cycle), prevention / preparedness and risk assessment (pre-crisis), situation awareness / early warning (occurrence of an event), response / recovery (post-crisis), and socio-economic impacts (full crisis cycle). In addition, horizontal and external actions (e.g. international cooperation) also embed operational features that are common to all sectors. Figure 5 below gives an illustration of the various areas covered by this document (both policy and research wise). The mapping of FP7 projects vs. different areas (and policies) are described in the sections below.

Figure 5. Various areas covered by the CoU
Complementing the above, a mapping of projects funded under the FP7 Secure Societies programme, as a starting point, has been carried out to establish links among project's objectives and outputs and policy challenges. The mapping has been complemented by projects funded by other FP7 programme and EDA. Based on the mapping elements, and taking into considerations the technical/scientific/training needs of the various EU policies, it has been possible to establish links among these (operational elements / policies) and EU-funded projects (Figure 6). The objective was not to make an impact assessment but to understand the complexity of the matrix and better prepare the ground for a strategy of science-policy-industry-operator’s interactions within future Horizon2020 projects.

Figure 6. Science-policy matrix

In the sections below, the different policy sectors are separated into operational goals with highlights of specific actions to which FP7 projects have a potential to respond (in the various tables throughout the document). It should be stressed again that, at this stage, the document is not providing an analysis of the research outputs but rather provides the overall architecture of science-policy interactions related to the different sectors. Links among policy objectives and specific projects are tentatively established with regard to an area coverage and not sensu stricto, i.e. attributions/references are prone to modifications.

7.2 Disaster resilience / Crisis management (natural hazards)

Most of the research projects listed in this section directly or indirectly support the UCPM (see section 5.2) which address all aspects of the DRM cycle by strengthening cooperation and facilitating coordination within Europe in the areas of disaster prevention, preparedness and response. The mechanism indeed includes an action to “improve the knowledge base on disaster risks and facilitate the sharing of knowledge, best practices and information”. The use of various Union funds that may support sustainable disaster prevention is promoted and EU Member States and regions are encouraged to exploit these funding opportunities.

7.2.1 All hazards

Series of projects are of generic nature and address tools and technologies related to DRM (from prevention to recovery) that can be applied to all types of (natural) disasters. The inter-operability of tools/technologies is actually mentioned in the CBRN Action Plan and UCPM as a mean to improve planning of disaster response operations, scenario building and response capacities (of direct support to the ERCC mission). The UCPM also promotes consistency in the response of disasters (networking), and the support to coordination of operational organisations (UN Office for the Coordination of Humanitarian Affairs (OCHA) and Member States).

The following section provides a snapshot of FP7 projects categorised according to specific sectors / themes related to natural hazards.

7.2.1.1 Earth observation in support of emergency and disaster management

Earth observation tools are mainly developed within projects funded by the Space Programme. The project below (ended in 2012) is an illustration of a project supporting rescue and emergency operations management.

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO-PICTURES</td>
<td>FP7 - Space</td>
<td>March 2010 / April 2012</td>
<td>Combining state of the art in satellite communication, navigation and earth observation: Signatures tagged image and sensor communication combined with latest, satellite earth observation, observe a large number of accurate optical field observations, tagged with position. Transferred via satellite-optimized protocols to a control center. Optical observers are extended to video, audio and sensors that measure temperature, moisture, wind etc. Such data is helpful in emergency/ disaster management and for improving interpretation of GMES data. Design of small lightweight equipment is disaster management expert comments pictures directly on some pictures and main needs according to the assessment, sending them immediately to the Operation Center.</td>
<td>Coordinator: 1. Ansur Technol. – Fornebu (NO)</td>
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<td>3. D.M.A.T. Consult. KG – Lübeck (AT)</td>
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<td>5. Kongsberg Satellite Services AS – Tromsø (NO)</td>
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<td>6. Sec. Estado de Ciência e Tecnologia – Manaus (BR)</td>
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<td>7. UK Med. Training and Research – Geneva (CH)</td>
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<td>8. Univ. de Amazonas Fundacao – Manaus (BR)</td>
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<td>9. Univ. Autonoma de Barcelona - Cerdanyola del Valles (ES)</td>
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http://www.geo-pictures.eu/
### 7.2.1.2 Multi-risk assessment and management of natural hazards

Research projects benefit from support from capacity building, in particular centres of excellences, and example of which is given below in the field of natural disaster monitoring capacities.

#### Consortium

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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#### 7.2.1.3 Demonstration in the area of multi-hazards crisis management

As highlighted in the introductory part, DRIVER is one of the largest FP7 projects dealing with crisis management. The project has a larger focus on natural hazards as it also covers other (man-made) threats. It is expected that this demonstration programme, running until March 2019, will have a strong role to play in bringing projects together and support the developing Community of Users.

#### Consortium

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRIVER Driving Innovation in crisis management for European Resilience</td>
<td>FPF - Secure Societies</td>
<td>June 2014 / March 2019 EUR 5,408,209 RIA-607798</td>
<td></td>
<td></td>
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</tbody>
</table>

#### Coordinator

1. ATOS – Madrid (ES)
2. Fraunhofer INT – Euskiirchen (DE)
3. FOI – Stockholm (SE)
4. Edisoft – Porto (PT)
5. Frequentis – Wien (AT)
6. JRC – Brussels (BE)
7. E-Semble – Delft (NL)
8. ITTI – Poznan (PL)
9. TNO – Amsterdam (NL)
10. Austrian Red Cross – Wien (AT)
11. Red Cross – Berlin (DE)
12. Red Cross – København (DK)
13. British Red Cross – London (UK)
14. Hagen David Arden (L)
15. FDF Risque – As en Prosecion (FR)
16. Armex – Paris (FR)
17. ARC – Brussels (BE)
18. ITI – Puerto (PL)
19. ThD – Delft (NL)
20. CEME – Erstehur – Dublin (IE)
21. EETE – Madrid (ES)
22. ESE – Reading (UK)
23. DSh – Berlin (DE)
24. Disaster Waste Rec – London (UK)
25. E-Semble – Delft (NL)
26. EOS – Brussels (BE)
27. AT – Wien (AT)
28. SATCA T – Torrecilla de Andalas (ES)
29. HVI Consultancy – Lylestard (NL)
31. MGS – Kertsz (FI)
32. FFD – Paris (FR)
33. PAND – Delft (NL)
34. D2G – Brussels (BE)
35. GMV Aerosp. Defence – Madrid (ES)
36. IDE – Madrid (ES)
37. CIVIC – Münster – Münster (Germany)
38. Techn. Hilfswerk THW – Bonn (DE)
39. ITRI – Taipei (TW)
40. CIVIC – Brussels (BE)
41. CIVIC – Manchester (UK)
42. CIVIC – London (UK)
43. CIVIC – Berlin (DE)
44. CIVIC – Athens (GR)
45. CIVIC – Cordoba (ES)
7.2.1.4 Multi Natural Hazards risk reduction, preparedness and resilience enhancement

A range of projects on multi (natural) hazards risk reduction, preparedness and resilience has been funded in FP7 from different programmes, in particular the FP7 Environment programme. This section gives an overview of these projects, starting with terminated ones:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<tbody>
<tr>
<td>CATALYST</td>
<td>F7 - Environment</td>
<td>October 2011 / September 2015</td>
<td>EUR 845,931</td>
<td>EUR 2,803,177</td>
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<td>Consortium:</td>
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<td>2. Geological Survey – Copenhagen (DK)</td>
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<td>3. GeoRISK – Heidelberg (DE)</td>
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<td>5. INFOPROBE – Immenstaedt (DE)</td>
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<td>9. UNESCO – Paris (FR)</td>
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<td>CRISMA</td>
<td>FP7 - Secure Societies</td>
<td>Call 2011.4.1</td>
<td>EUR 10,107,160</td>
<td>EUR 28,493</td>
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<td>2. CRIM – Roma (IT)</td>
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<td>3. GEOPHYS – Heidelberg (DE)</td>
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<td>5. INFOPROBE – Immenstaedt (DE)</td>
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<td>6. Moteo France – Saint Maurice (FR)</td>
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<td>8. Born Space Ag – Bucharest (RO)</td>
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<td>9. UNESCO – Paris (FR)</td>
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<td>EMBRACE</td>
<td>F7 - Environment</td>
<td>ENV 2011.1.32-1</td>
<td>October 2011 / September 2015</td>
<td>EUR 3,245,425</td>
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<td>2. Accad. Europea Bolzano – Bolzano (IT)</td>
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<td>3. Eidgenoessische Forschungsanstalt WSL – Birmensdorf (CH)</td>
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<td>4. UP – Leipzig (DE)</td>
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<td>5. King’s College – London (UK)</td>
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<td>6. Middle East Technical University – Ankara (TR)</td>
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<td>7. UCD Oxford Office Ltd – Oxford (UK)</td>
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<td>8. Univ. Reading – Reading (UK)</td>
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<td>9. UN University – Shibuya ku (JP)</td>
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<td>10. Univ. Northumbria – Newcastle Upon Tyne (UK)</td>
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<td>11. Univ. York – York (UK)</td>
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A Community of Users on Secure, Safe and Resilient Societies (CoU)

Mapping EU policies and FP7 research for enhancing partnerships in H2020
In Horizon2020, this area is complemented by strategic developments expected with the DRS-10-2015 topic on “Natural Hazards: Towards risk reduction science and innovation plans at national and European level”, as well as projects under the DRS-7-2014 topic (started around summer 2015) on “Crises and disaster resilience – operationalizing resilience concepts” which are due to provide a direct contribution to the Civil Protection Mechanism.
Another project dealing with situation awareness and survivor localisation has started in 2014 and will last until September 2018:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>A44</td>
<td>Alert for All</td>
<td>Call 2010.4.1-1</td>
<td>CP</td>
<td>Improving the effectiveness of People-Centred Early Warning Systems paradigm in case of major disasters. Development of simulation tool for spreading information and human behaviour to key crisis scenarios, communications plans, social-cultural events. Management portal for sharing information among authorities.</td>
</tr>
</tbody>
</table>

Another project dealing with situation awareness and survivor localisation has started in 2014 and will last until September 2018:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>INACHUS</td>
<td>Technological and Methodological Solutions For Integrated Wide Area Situation Awareness and Survivor Localisation to Support Search and Rescue Teams</td>
<td>September 2014 / September 2018</td>
<td>EUR 10,008,454</td>
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</tr>
</tbody>
</table>
Linked to this area, an on-going project is investigating ways to develop tools in support of assessment, recovery, health an d international needs as well as other critical humanitarian needs:

**Project Acronym / Title** | **Funding instrument** | **Contract details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
**COBACORE** | FP7 - Secure Societies | Call 2012-4-1 | Improving the matching of needs with capacities, through building upon community as an important source of information & capabilities. Development of suite of tools that will support common needs assessments efforts, damage recovery needs, economic needs, health & social needs, and other critical humanitarian needs. COBACORE assets will stimulate community-wide-involvement in information gathering, sensor-making; needs assessment practices. COBACORE platform is a set of interconnected mechanisms that maintain 5-information models: community model, context model, needs model. | 1. TNO – The Hague (NL) 2. Univ. Lieber – Cobanare (UK) 3. Deutsches Rotkreuz – Berlin (DE) 4. Paul- Riddet-Knus – The Hague (NL) 5. Future Analytics Consulting Ltd – Dublin (IE) 6. Kath. Univ. Tilsburg – Tbilburg (NL) 7. Integrated SA - Madrid (ES)

In Horizon2020, this area is complemented by strategic developments expected with the DRS-01-2016 topic on “Integrated tools for response planning and scenario building”.

### 7.2.1.7 Multi-risk assessment of natural hazards including cascading effects

Multi-risk assessment of natural hazards with possible cascading effects has been investigated in a project funded in 2010-2013:

**Project Acronym / Title** | **Funding instrument** | **Contract details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
In a complementary vein, radar and satellite imaging developments support improved multi-hazard risk analyses, including assessment of natural hazards risks on critical infrastructure systems.

### Project Acronym / Title
- **HIT-GATE**
- **BRISE**
- **EMM**

### Project Details
- **HIT-GATE**
  - Heterogeneous Interoperable Transportable Safety Gateway for First Responders
  - Coordinator: Fondazione CIMA (IT)
  - Status: FINISHED

- **BRISE**
  - Bridging resources and agencies in large-scale emergency management
  - Coordinator: Fondazione CIMA (IT)
  - Status: FINISHED

- **EMM**
  - Emergency Management in Large Infrastructures
  - Coordinator: Fondazione CIMA (IT)
  - Status: FINISHED

### Consortium
- **HIT-GATE**
  - Coordinator: Fondazione CIMA (IT)

### Project Fundings
- **HIT-GATE**
  - Call 2011.2-1
  - Status: FINISHED

### Project Abstracts
- **HIT-GATE**
  - Development of a platform to perform multi-hazard risk analyses to support the institutional framework of disaster management, including targeted support to critical infrastructure monitoring and climate change impact assessment, exploiting internally produced and available services. Adapting the newly developed 12m resolution TanDEM-X Digital Elevation Model (DEM) to risk management applications, using it as a base layer to interrogate data sets and develop specific disaster scenarios. HIT-GATE overlaid archived and near real time very high-resolution optical and radar satellite data, combined with in situ data for both global and local applications. A scenario-driven query system allows users to project situations into the future and model multiple hazard risk both before and during an event. Managers can determine the extent of flooding in a given area and determine, for example, the risk pending on Critical Infrastructure Systems.

http://www.hit-gate.eu

**7.2.1.8 Crisis emergency, including cascading effects**

In the field of crisis emergency / response to disasters, a range of projects have been funded by the Secure Societies Programme, namely:

### Project Acronym / Title
- **DISASTER**
- **Data Interoperability Solution for Stakeholders Emergency Reaction**
- **IDRIA**
- **GRID**
- **EMM**

### Project Details
- **DISASTER**
  - Coordinator: Treiberg - Madrid (ES)
  - Status: FINISHED

- **Data Interoperability Solution for Stakeholders Emergency Reaction**
  - Coordinator: Univ. Autl Science – Palermo (IT)
  - Status: FINISHED

- **IDRIA**
  - Coordinator: FhG VI-1 – Dresden (DE)
  - Consortium: FhG VI-1 – Dresden (DE)
  - Status: FINISHED

- **GRID**
  - Coordinator: IABG Ind. Betriebsgesellschaft mbH – Neuherberg (DE)
  - Status: FINISHED

### Project Fundings
- **DISASTER**
  - Call 2011.5-2
  - Status: FINISHED

### Project Abstracts
- **DISASTER**
  - Improvements of inter-operability and understanding between heterogeneous emergency management systems (EMS) located in different countries and operating within different contexts. Development of common modular ontology shared by all stakeholders to allow best solution to gather all stakeholders knowledge in unique, flexible data model, taking into account different countries culture, linguistic, legal issues. Addressing interoperability, information burden by means of transparent SQL mediation algorithms compliant with current data formats & existing solutions.

http://disaster-fp7.eu
This area is complemented by several on-going projects which are dealing with modelling, decision-support tools, guidance systems etc.

### Project Acronym / Title

**CASCADE**

**Modeling of dependencies and cascading effects for emergency management in crisis situations**

**Status:** ON-GOING

**Funding Instrument:** FP7 - Secure Societies

**Contract Duration:** Call 2013-4-2 CP

**Abstract / Website:**

Coordinating of incidents in complex environments can lead to severe cascading effects, which may be prevented in the early phase and/or result in a much greater extent. CASCADE aims at improving the coordination of such cascading effects for crisis situations through the identification of interdependencies, dependencies, and key decision points. The objectives are achieved through the development of an "Incident Evolution Tool". The tool will support Incident Commanders to improve their response strategy in order to reduce collateral damages and other unforeseen consequences associated with large events.

**Coordinator:**

1. Sveriges Tek. Forskningsinst. (SE) - Göteborg (SE)
2. FhG EMI - Freiburg (DE)
3. Red Cross - Amsterdam (NL)
4. Dialogik - Stuttgart (DE)
5. VUB - Brussels (BE)
6. TNO - Delft (NL)
7. IFSTTAR - Paris (FR)
8. Safety Region South Holland - Amsterdam (NL)
9. Sveriges Tek. Forskningsinst. (SE) - Stockholm (SE)
10. Int. Union railways - Paris (FR)
11. UNHCR - The Hague (NL)

**Funding details:**

- Call 2013-4-2 CP
- Value: EUR 3,594,938
- Duration: April 2014 / March 2017

**Project details:**

- Description: Modelling of dependencies and cascading effects for emergency management in crisis situations
- Objectives: To develop an "Incident Evolution Tool" to support Incident Commanders in improving their response strategy in order to reduce collateral damages and other unforeseen consequences associated with large events.

**Contact details:**

- Coordinator: 1. Sveriges Tek. Forskningsinst. (SE) - Göteborg (SE)
- Participants: Various organizations from different countries
- Website: [wwwCASCADE.eu](http://wwwCASCADE.eu)

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**SNOWBALL**

**Lower the impact of cascading effects in crisis situations thanks to adaptive foresight & decision-support tools**

**Status:** ON-GOING

**Funding Instrument:** FP7 - Secure Societies

**Contract Duration:** Call 2013-4-2 CP

**Abstract / Website:**

The SNOWBALL project aims at developing a comprehensive solution for dealing with cascading effects in multi-sectoral crisis situations covering aspects of critical infrastructures. The SNOWBALL solution will be composed of the following three pillars: methods, models, and software tools. A generic approach will be setup to prevent or mitigate cascading effects which will be applied in selected cases agreed with end-users.

**Coordinator:**

1. GEDICOM - Le Plessis (FR)
2. E-Sombre BV - Delft (NL)
3. IFSTTAR - Paris (FR)
4. Service Public Federal Intérieur - Brussels (BE)
5. Telesto Technologies - Athens (GR)
6. Northamptonshire County Council (UK)
7. Safety Region South Holland - Amsterdam (NL)
8. North West Fire and Rescue Service - Manchester (UK)
9. Lebanese Red Cross - Beirut (LB)
10. Int. Union railways - Paris (FR)
11. UNHCR - The Hague (NL)

**Funding details:**

- Call 2013-4-2 CP
- Value: EUR 3,460,193
- Duration: April 2014 / March 2017

**Project details:**

- Description: SNOWBALL is a project that aims at developing a comprehensive solution for dealing with cascading effects in multi-sectoral crisis situations covering aspects of critical infrastructures.
- Objectives: To develop a comprehensive solution for dealing with cascading effects in multi-sectoral crisis situations covering aspects of critical infrastructures.

**Contact details:**

- Coordinator: 1. GEDICOM - Le Plessis (FR)
- Participants: Various organizations from different countries
- Website: [http://www.snowball-project.eu](http://www.snowball-project.eu)

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**PREDICT**

**PrePlanning for the Dramatic effect in Cross situations**

**Status:** ON-GOING

**Funding Instrument:** FP7 - Secure Societies

**Contract Duration:** Call 2013.4.1 CP

**Abstract / Website:**

PREDICT aims at developing a comprehensive solution for dealing with cascading effects in multi-sectoral crisis situations covering aspects of critical infrastructures. The PREDICT solution will be composed of the following three pillars: methods, models, and software tools. A generic approach will be setup to prevent or mitigate cascading effects which will be applied in selected cases agreed with end-users.

**Coordinator:**

1. CEA - Paris (FR)
2. IFSTTAR - Paris (FR)
3. THALES - Paris (FR)
4. CEPS - Brussels (BE)
5. FORTIS - Delft (NL)
6. TNO - Delft (NL)
7. UNHCR - The Hague (NL)
8. Safety Region South Holland - Amsterdam (NL)
9. Stockholm Fire District - Stockholm (SE)
10. Int. Union railways - Paris (FR)
11. UNHCR - The Hague (NL)

**Funding details:**

- Call 2013-1-3 CP
- Value: EUR 3,607,597
- Duration: April 2014 / March 2017

**Project details:**

- Description: PREDICT is a project that aims at developing a comprehensive solution for dealing with cascading effects in multi-sectoral crisis situations covering aspects of critical infrastructures.
- Objectives: To develop a comprehensive solution for dealing with cascading effects in multi-sectoral crisis situations covering aspects of critical infrastructures.

**Contact details:**

- Coordinator: 1. CEA - Paris (FR)
- Participants: Various organizations from different countries
- Website: [http://www.predict-project.eu](http://www.predict-project.eu)

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**SUPEEDEKITS**

**Rapid deployable kits as seeds for self-recovery**

**Status:** ON-GOING

**Funding Instrument:** FP7 - Secure Societies

**Contract Duration:** Call 2011.4.2-1 CP

**Abstract / Website:**

SUPEEDEKITS aims at developing a comprehensive solution for dealing with cascading effects in multi-sectoral crisis situations covering aspects of critical infrastructures. The SUPEEDEKITS solution will be composed of the following three pillars: methods, models, and software tools. A generic approach will be setup to prevent or mitigate cascading effects which will be applied in selected cases agreed with end-users.

**Coordinator:**

1. VUB - Brussels (BE)
2. IFSTTAR - Paris (FR)
3. IFSTTAR - Paris (FR)
4. Service Public Federal Intérieur - Brussels (BE)
5. VUB - Brussels (BE)
6. TU Eindhoven (NL)
7. Politecnico di Milano (IT)
8. D’Appolonia Spa - Genova (IT)
9. De Mobiele Fab. - Amsterdam (NL)
10. Int. Union railways - Paris (FR)

**Funding details:**

- Call 2011.4.2-1 CP
- Value: EUR 269,851
- Duration: March 2012 / February 2016

**Project details:**

- Description: SUPEEDEKITS is a project that aims at developing a comprehensive solution for dealing with cascading effects in multi-sectoral crisis situations covering aspects of critical infrastructures.
- Objectives: To develop a comprehensive solution for dealing with cascading effects in multi-sectoral crisis situations covering aspects of critical infrastructures.

**Contact details:**

- Coordinator: 1. VUB - Brussels (BE)
- Participants: Various organizations from different countries
- Website: [http://www.speeedekits.eu](http://www.speeedekits.eu)

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**EVALUATE**

**A holistic, scenario-independent, situation-awareness and guidance system for sustaining Active Evacuation Route for large crowds**

**Status:** ON-GOING

**Funding Instrument:** FP7 - Secure Societies

**Contract Duration:** Call 2012-4-2-1 CP

**Abstract / Website:**

EVALUATE is developing a comprehensive solution for dealing with cascading effects in multi-sectoral crisis situations covering aspects of critical infrastructures. The EVALUATE solution will be composed of the following three pillars: methods, models, and software tools. A generic approach will be setup to prevent or mitigate cascading effects which will be applied in selected cases agreed with end-users.

**Coordinator:**

1. TUB Berlin (DE)
2. IFSTTAR - Paris (FR)
3. IFSTTAR - Paris (FR)
4. Service Public Federal Intérieur - Brussels (BE)
5. VUB - Brussels (BE)
6. TU Eindhoven (NL)
7. Politecnico di Milano (IT)
8. D’Appolonia Spa - Genova (IT)
9. De Mobiele Fab. - Amsterdam (NL)
10. Int. Union railways - Paris (FR)

**Funding details:**

- Call 2011.4.2-1 CP
- Value: EUR 269,851
- Duration: March 2012 / February 2016

**Project details:**

- Description: EVALUATE is a project that aims at developing a comprehensive solution for dealing with cascading effects in multi-sectoral crisis situations covering aspects of critical infrastructures.
- Objectives: To develop a comprehensive solution for dealing with cascading effects in multi-sectoral crisis situations covering aspects of critical infrastructures.

**Contact details:**

- Coordinator: 1. TUB Berlin (DE)
- Participants: Various organizations from different countries
- Website: [http://www.predict-project.eu](http://www.predict-project.eu)
7.2.1.9 Systems of systems demonstration for post-crisis management (generic)

Post-crisis management has been investigated by a CSA for preparing demonstrations and experiments:

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<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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</thead>
</table>
| ACRIMAS | FP7 - Secure Societies | February 2011 / May 2012 | Development of user-centric, scenario-based approach for Crisis management (CM) integrating diverse technologies, concepts, frameworks, decision supports, logistics etc. Preparation of demonstrations & experiments for enhancing CM capabilities, procedures, technologies, policies, standards through real case studies, facilitating EU wide collaboration in CM and improving cross-fertilisation between MS.
| Aftermath Crisis Management System-of-systems Demonstrators | CSA | | | Status: FINISHED |

7.2.2 Geological hazards

Research and studies about geological hazards have been mainly undertaken by the Space and Environment programmes, covering tools and technological developments supporting various steps of crisis and disaster risk management.

7.2.2.1 Data access to geohazard information

Geohazard data gathering has been subject to a GMES related project involving a wide range of organisations, namely:

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<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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http://www.pangeoproject.eu/
### 7.2.2.2 Detection of earth-surface / ground deformations

Earth observation imaging have been used for detecting earthquake precursors and ground deformations, namely:

<table>
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<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<tbody>
<tr>
<td>SUBCOAST</td>
<td>FP7 - Space</td>
<td>April 2010 / September 2013</td>
<td>Development of service for monitoring subsidence effects in coastal basins and demonstrate its capabilities in various pilots for a variety of settings around Europe with focus on flood risks. Monitoring of integrity of coastal barrier systems and infrastructure and assessment of impact of subsidence due to natural or man-made causes (groundwater pumping and oil/gas production) on land use and hydrology. Validation using the TerraSAR-X Service oriented on existing guidelines established in previous GMES projects, and in line with relevant directives at European level.</td>
<td>Coordinator: 1. TNO – Delft (NL)</td>
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<tr>
<td>GERMESP</td>
<td>FP7 - Secure Societies</td>
<td>December 2010 / November 2012</td>
<td>Investigation of the short-term transient processes in the global atmosphere-atmosphere-sphere coupled system using systematic satellite and ground-based observations. Analysis of data obtained from several micro-satellites, including the French space mission DEMETER together with those collected from the specialized network of identical VLF receivers distributed in Russia, Europe and Japan. Creation of experimental database of temporal and spatial variations of electric currents from both satellite and ground-based sources using data coming from the East and Southern European regions.</td>
<td>Coordinator: 1. Univ. Sheffield (UK)</td>
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<tr>
<td>MELINA</td>
<td>FP7 - People</td>
<td>October 2013 / September 2017</td>
<td>Bringing together experts in geodetic satellite positioning for precise earth-surface deformation monitoring related to natural disasters, like earthquakes, landslides, rockfalls, etc. to develop statistical tools for early detection of failures or progressive secular changes of very small magnitude in geodetic monitoring signals, in a timely, precise, uniform and reliable manner to support early warnings. Networking activity achieved by sharing knowledge, enhancing research training and finally acquiring new techniques through algorithm development for quality control and deformation monitoring of signals produced by satellite positioning.</td>
<td>Coordinator: 1. Tech. Univ. Crete – Chania (GR)</td>
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</table>

An on-going project funded by the FP7 People programme is aiming to bring together experts in the area of real-time detection of earth-surface deformation, that is:

- **SUBCOAST**
  - Project Acronym / Title: SUBCOAST
  - Funding Instrument: FP7 - Space
  - Contract details: April 2010 / September 2013
  - Abstract / Website: Development of service for monitoring subsidence effects in coastal basins and demonstrate its capabilities in various pilots for a variety of settings around Europe with focus on flood risks. Monitoring of integrity of coastal barrier systems and infrastructure and assessment of impact of subsidence due to natural or man-made causes (groundwater pumping and oil/gas production) on land use and hydrology. Validation using the TerraSAR-X Service oriented on existing guidelines established in previous GMES projects, and in line with relevant directives at European level.
  - Consortium: Coordinator: 1. TNO – Delft (NL)

In the area of ground deformation, a project has focused on subsidence hazards in coastal areas, namely:

- **MELINA**
  - Project Acronym / Title: MELINA
  - Funding Instrument: FP7 - People
  - Contract details: October 2013 / September 2017
  - Abstract / Website: Bringing together experts in geodetic satellite positioning for precise earth-surface deformation monitoring related to natural disasters, like earthquakes, landslides, rockfalls, etc. to develop statistical tools for early detection of failures or progressive secular changes of very small magnitude in geodetic monitoring signals, in a timely, precise, uniform and reliable manner to support early warnings. Networking activity achieved by sharing knowledge, enhancing research training and finally acquiring new techniques through algorithm development for quality control and deformation monitoring of signals produced by satellite positioning.
7.2.2.3 Landslide assessment and preparedness
This area is linked to the above projects. The example below is more focused on landslide events than on ground deformation. It focuses on modelling and risk management.

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<tbody>
<tr>
<td>LAMPRE</td>
<td>FP7 - Space</td>
<td>Space 2012-1</td>
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<td>March 2012 / February 2015</td>
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<td>EUR 1,964,196</td>
<td>EEA – 312384</td>
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<td>increasing SMEs limited operational capacity to cope with triggered landslide events and their consequences, in Europe and elsewhere. Enhanced landslide risk mitigation/preparedness efforts and joint event landslide recovery and reconstruction activities, in highly vulnerable geographic and geologic regions, achieved by: 1) Interactively integrating landslide thematic imagery, designing and utilizing intelligent image processing/3D techniques, modeling landslide-landmark interactions using advanced numerical modeling and ground based thematic information, and preparing standards for landslide mapping, susceptibility assessment and image processing.</td>
<td><a href="http://www.lampre-project.eu/">http://www.lampre-project.eu/</a></td>
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<td>Coordinator:</td>
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<td>CNR – Rome (IT)</td>
<td>consortium</td>
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<td>1. CNR – Rome (IT)</td>
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<td>2. Almaria Inf. – Barcelona (ES)</td>
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<td>4. Geomatrica SRL – Kaunas (LT)</td>
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<td>5. IGME – Madrid (ES)</td>
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<td>7. Penrose Umbrellas – Palermo (IT)</td>
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<td>8. Preveza Civil – Rome (IT)</td>
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<td>9. PMK Strategic &amp; Consulting Netherlands – BV – Amsterdam (NL)</td>
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7.2.2.4 Seismic risk evaluation and earthquake risk reduction, preparedness and protection
Seismic risks and related research on prevention, scenario building etc. have been subjected to a wide range of research projects funded by various programmes, in particular the FP7 Environment programme. The table below gives a snapshot of finished projects with a focus on risk reduction:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
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<tbody>
<tr>
<td>SHARE</td>
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<td>Call 2008.5.1.1</td>
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<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
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<th>Abstract / Website</th>
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<td>26. Univ. Leicester – Leicester (UK)</td>
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<td>30. Universitaet Linz – Linz (AT)</td>
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A Community of Users on Secure, Safe and Resilient Societies (CoU) – Mapping EU policies and FP7 research for enhancing partnerships in H2020
In the same area (risk reduction), an international cooperation is on-going under the FP7 People programme, namely:

Project Acronym / Title | Funding instrument | Contract details | Abstract / Website | Consortium
---|---|---|---|---
SYNER-G | FP7 - Environment | November 2011 / March 2015 | EUR 5,500,000 | Coordinator: A. Anastasiou Papageorgiou (THU).

Other projects dealt with specific issues related to protection and monitoring of earthquake risks:

Project Acronym / Title | Funding instrument | Contract details | Abstract / Website | Consortium
---|---|---|---|---
PRE-EARTHQUAKES | FP7 - Space | January 2012 / December 2017 | EUR 497,000 | Coordinator: J. Ammer, B. Gavrilov (UF).
In the area of response / rescue operations, projects focused on search of victims in collapsed building further to an earthquake in an urban environment, and other types of disasters (e.g. tsunami).

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<tr>
<td>SGL FOR USAR</td>
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<td>Call 2007-4.2-2</td>
<td>October 2008 - October 2012</td>
<td>EUR 4,950,026</td>
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<td>REA - 217967</td>
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</table>

Directed towards solving critical problems following large scale structural collapses in urban locations, combining chemical & physical sensors integration with development of an open ICT platform for addressing mobility & time-critical requirements of SAR operations. Focus on medical issues, an relevant ethical dilemma. Development of two tangible product prototypes: FIRST portable rescue device to monitor hazardous conditions or locate entrapped victims/wounded bodies within collapsed buildings; REDS network of remotely controlled sensors, installed in a collapsed building for unattended monitoring & to detect life signs or hazardous conditions.

Coordinator:
1. Nat. Tech Univ - Athens (GR)
2. SGS B4 - Aix-en-Provence (FR)
3. DUR - Barcelona (ES)
4. TSS - Cosenza (IT)
5. VM - Epsso (FI)
6. GAS - Dortmund (DE)
7. ECE/NTUA - Athens (GR)
8. Eurelectric - Mol (BE)
10. Dirección de Emergencias (C.C. Ambulancias) - Gardanne (FR)
11. ANOCA SA - Athens (GR)
12. Univ Dortmund (DE)
13. TEMAC Ingenieros - Madrid (ES)
14. Univ Politec. Madrid (ES)
15. Sweco Clim Ltd - Epsso (FI)
16. Univ Athens (GR)
17. Markets Int - Mal Gomergan (UK)
18. Bay Zizman Foundation for Applied Arts - Budapest (HU)
19. Critical Links SA - Cernia (PT)
20. Univ. Loughborough (UK)

Status: FINISHED

7.2.2.5 Tsunami risk evaluation and reduction

Fundamental research on tsunamis has been initiated in several programmes, an example of which is given below (ERC):

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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</thead>
<tbody>
<tr>
<td>URBAN WAVES</td>
<td>PFP - ERC</td>
<td>January 2014 - December 2018</td>
<td>EUR 1,911,515</td>
<td>ERC - 356884</td>
</tr>
</tbody>
</table>

Using experimental capability to reproduce flows on shorelines from tsunami to provide information for fundamental research into tsunami flows onshore as well as the forces and pressures they exert on model buildings and coastal protection structures. The study findings will be used to propose simplified relationships for tsunami forces/presures suitable for inclusion in codes of practice for buildings and coastal defences.

Co-ordinator:
1. University College London (UK)

A Community of Users on Secure, Safe and Resilient Societies (CoU):
Mapping EU policies and FP7 research for enhancing partnerships in H2020

Other tsunami-related projects are investigating strategies to improve risk assessment and reduction as well as mitigation of impacts:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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</thead>
<tbody>
<tr>
<td>ASTARTE</td>
<td>PFP - Environment</td>
<td>November 2013 - October 2016</td>
<td>EUR 5,995,677</td>
<td>RTO - 609859</td>
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</tbody>
</table>

Development of comprehensive strategy to mitigate tsunami impact in the North East Atlantic, Mediterranean and Adjacent Seas (NEAM) region, improving basic knowledge of tsunami generation and recurrence going beyond simple catalogues, with novel empirical data and new statistical analyses for assessing long-term recurrence and hazards of large events in sensitive areas of NEAM. Development of numerical techniques for tsunami simulation, with focus on real-time codes and novel statistical emulation approaches, and methods for assessment of hazard, vulnerability, and risk. Production of guidelines for tsunami Eurocodes, better tools for forecasting and warning for CTRNPs and NTWCs, and guidelines for debris-makers to increase sustainability and resilience of coastal communities. In summary, overall development of basic scientific and technical elements allowing for a significant enhancement of the current state of the art in the NEAM region in terms of monitoring, early warning and forecast, governance and resilience.

Co-ordinator:
1. Inst. Portugueses do Mar e da Atmosfera - Lisboa (PT)

Consortium:
2. Univ. Bologna - Bologna (IT)
3. Bogor Univ. – Indonesia (ID)
4. CNRS - Paris (FR)
5. CSIC – Madrid (ES)
6. CEA - Paris (FR)
7. Dan. Tekn Univ. – Lyngby (DK)
8. Univ. Lisboa – Lisboa (PT)
9. Helmholtz Zentrum – Potsdam (DE)
11. Helmholtz Zentrum – Munich (DE)
14. NRC - Swindon (UK)
15. Port and Airport Res Inst - Yokohama (JP)
16. Russian Acad. Sci - Yudin Shalamov (RU)
17. Genteklinduke Institut - Oslo (NO)
18. Tech. Univ Creta – Chania (GR)
19. Univ. Cantabria – Santander (ES)
20. Univ. Bremen – Bremen (DE)
21. Univ Hamburg - Hamburg (DE)
22. Univ Barcelona - Barcelona (ES)
23. Univ College Dublin – Dublin (IE)
24. Univ South California - Los Angeles (US)
25. Univ Tokoyo – Tokyo (JP)
### Project Acronym / Title
- **Funding Instrument**
  - FP7 - Space
  - ERC - ERC-StG
  - ERC - ERC-Consolidated Grant
- **Contract details**
  - Duration
  - Start date
  - End date
- **Abstract / Website**
  - Details
- **Consortium**
  - Coordinator
  - Members

#### SEISMIC
**Project Acronym / Title**
- **Funding Instrument**
  - FP7 - ERC
  - ERC-StG
  - ERC-Consolidated Grant
- **Contract details**
  - Duration
  - Start date
  - End date
- **Abstract / Website**
  - Details
- **Consortium**
  - Coordinator
  - Members

#### ON-GOING
**Project Acronym / Title**
- **Funding Instrument**
  - FP7 - Space
  - ERC - ERC-StG
  - ERC - ERC-Consolidated Grant
- **Contract details**
  - Duration
  - Start date
  - End date
- **Abstract / Website**
  - Details
- **Consortium**
  - Coordinator
  - Members

#### Another project is focusing on surveillance, combining satellite imaging to ground data:
- **Project Acronym / Title**
  - **Funding Instrument**
  - **Contract details**
  - **Abstract / Website**
  - **Consortium**

**ON-GOING**
**Project Acronym / Title**
- **Consortium**

- **Project Acronym / Title**
- **Consortium**

#### 7.2.2.6 Volcanic risk assessment and forecasting
Risk assessment and management related to volcanic eruptions are closely related to observation capacities which space services can offer, here is an example of research:

**Project Acronym / Title**
- **Funding Instrument**
  - FP7 - Space
  - FP7 - Space
  - FP7 - Space
- **Contract details**
  - Duration
  - Start date
  - End date
- **Abstract / Website**
  - Details
- **Consortium**
  - Coordinator
  - Members

#### Three major projects funded by the FP7 Environment programme has built up a solid scientific basis for improved assessment and forecasting of volcanic risks:

**Project Acronym / Title**
- **Funding Instrument**
  - FP7 - Environment
  - FP7 - Environment
  - FP7 - Environment
- **Contract details**
  - Duration
  - Start date
  - End date
- **Abstract / Website**
  - Details
- **Consortium**
  - Coordinator
  - Members
Further projects are on-going either from a fundamental perspective (ERC) or demonstration (supersite):
Another international cooperation project has investigated climate change impacts on urban environment in Africa:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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</table>
| CLUNA                  | FPF - Environment   | 2010.2.1.5-I C7 | Development of methods and knowledge to be applied to African cities to manage climate risks, to reduce vulnerabilities and to improve coping capacity and resilience towards climate change. Aim to improving the capacity of scientific institutions, local councils and society to cope with climate change, assessing the environmental, social and economic impacts and the risks of climate change. 
Reduced hazards expected to affect urban areas (roads, sea level rise, storm surges, droughts, heat waves, deforestation, storms and fire) at various time frames. Developing innovative climate change risk adaptation strategies based on strong interdisciplinary components | Coordinator:
1. ANHRP - Napoli (IT) 
2. Aalborg University - Copenhagen (DK) 
3. Technische Universität Darmstadt (DE) 
4. Météo-France - Saint Mande (FR) 
5. Meteo-France - Paris (FR) 
6. Deutscher Wetterdienst - Offenbach am Main (DE) 
7. Dhi - Hoersholm (DK) 
8. Eidgenoessisches Departement des Innern - Bern (CH) 
9. EDF S.A. - Paris (FR) 
10. Inst. Catala Ciencies del Clima – Barcelona (ES) 
11. Technische Universität München (DE) 
12. University of Milano Bicocca (IT) 
13. University of Reading (UK) 
14. King’s College London – London (UK) 
15. Wageningen University (NL) 
16. World Food Programme (IT) 
17. UNAM - Mexico City (MX) 
18. University of Manchester (UK) 
19. University of Cambridge – Cambridge (UK) 
20. University of Oslo (NO) 
21. Universitat Politècnica de Catalunya - Barcelona (ES) 
22. Wageningen University (NL) 
23. World Food Programme (IT) 
24. WHO – Geneve (CH) |

Further projects are on-going to improve risk assessment of climate extreme events and varying climatic conditions, namely:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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</thead>
</table>
| RAIN                   | FPF – Secure Societies | Call 2013.1.2-I C7 | Develop systematic risk management framework that explicitly considers impacts of extreme weather events on critical infrastructure & develops series of mitigation tools to enhance security of pan EU infrastructure network. Objectives will include making in long-term, securing new robust infrastructure development while adapting to changing climates, increasingly more unpredictable weather patterns. RAIN will minimise risk of chaos in extreme weather events by predicting, using most advanced statistical methods, how both weather patterns are likely to emerge & how infrastructures will react, reducing uncertainty & considering impacts on society | Coordinator:
1. Trinity College Dublin (IE) 
2. Technische Universität München (DE) 
3. University of KwaZulu-Natal (ZA) 
4. University of Athens (GR) 
5. Université Paris – Sorbonne (FR) 
6. Deutscher Wetterdienst - Offenbach am Main (DE) 
7. Københavns Universitet (DK) 
8. Eidgenoessisches Departement des Innern - Bern (CH) 
9. University of Cantabria – Santander (ES) 
10. University of Ljubljana – Ljubljana (SI) 
11. University of Poznan – Poznan (PL) |

7.2.3.2 Climate-related hazards risk prevention, awareness and preparedness

Complementing the above, risk prevention and reduction of climate-related disasters have been subject to major research efforts, namely:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
</table>
| KULTURISK             | FPF - Environment   | Call 2010.1.2.2 | Development of culture of risk prevention by means of comprehensive demonstration of benefits of prevention measures through enhanced memory and knowledge of past disasters, communication and understanding capacity of current and future hazards, awareness of risk and preparedness for future events. Measures include early warning systems, non-structural options (e.g. mapping and planning), risk transfer strategies (e.g. insurance policy), and structural initiatives. Focus on water-related hazards with case on floods, dikes failures and landslides, storm surges | Coordinator:
1. UNESCO (FR) – Paris (FR) |

Consortium:
1. Autorità di Bacino – Venezia (IT) 
2. Consorzio di Ricerca Sistema Lagunare Di Venezia – Venice (IT) 
3. Eidgenoessische Forschungs- Zentrum – Birmensdorf (CH) 
4. European Centre for Medium-Range Weather Forecasts – Reading (UK) 
5. Environment Canada – Corunna (CA) 
6. Wageningen University (NL) 
7. King’s College London – London (UK) 
8. University of Porto – Porto (PT) 
9. University of Manchester (UK) 
10. Universitat de Lleida – Lleida (ES) 
11. Wageningen University (NL) 
12. Universitat de Barcelona – Barcelona (ES) 
13. University of Reading (UK) 
14. University of Manchester (UK) 
15. University of Manchester (UK) 
16. Environment Canada – Corunna (CA) 
17. Wageningen University (NL) 
18. World Food Programme (IT) 
19. WHO – Geneve (CH) 
20. UNICEF – New York (US) 
21. UNESCO (FR) – Paris (FR) 
22. European Centre for Medium-Range Weather Forecasts – Reading (UK) 
23. University of Manchester (UK) 
24. World Food Programme (IT) 
25. WHO – Geneva (CH)
### 7.2.3.3 Flood risk management

Flood risk management has been studied by projects funded by the FP7 People programme, as follows:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANI-U</td>
<td>FP7 - People</td>
<td>PEOPLE-2009-IDF</td>
<td>March 2011 / February 2012</td>
<td>EUR 87,451</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Coordinator: 1. King’s College London (UK)</td>
</tr>
</tbody>
</table>

Another on-going project on fundamental research on flood risk assessment is funded by FP7 ERC:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLOODCHANGE</td>
<td>FP7 - ERC</td>
<td>ERC-AG-P10</td>
<td>April 2012 / March 2017</td>
<td>EUR 2,685,585</td>
</tr>
<tr>
<td>Deepshering River Flood Change</td>
<td></td>
<td>CP</td>
<td></td>
<td>Coordinator: 1. Technische Univ. Wien (AT)</td>
</tr>
</tbody>
</table>

### Flood early warning and alert systems, and more generally flood risk management operations have been subjected to a wide range of research projects funded by various programmes:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLADAR</td>
<td>FP7 - People</td>
<td>PEOPLE-2007-4-345</td>
<td>September 2007 / August 2001</td>
<td>EUR 100,000</td>
</tr>
<tr>
<td>Flood warning in Southeast Africa using gauge calibrated flood rainfall and advanced modelling techniques</td>
<td></td>
<td></td>
<td></td>
<td>Coordinator: Nat. Technical Univ. Athens (GR)</td>
</tr>
</tbody>
</table>
### Funding Consortium

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floods and debris flow events risk management for Flash Flood Protection of the Built Environment (FLOODPROBE)</td>
<td>FP7 - Environment</td>
<td>November 2009 / October 2015</td>
<td>EUR 5,498,727</td>
<td>Coordinator: Delft (NL)</td>
</tr>
<tr>
<td><strong>FLOODS4SAT</strong></td>
<td>FP7 - People</td>
<td>April 2011 / March 2014</td>
<td>EUR 75,000</td>
<td>Status: FINISHED</td>
</tr>
<tr>
<td><strong>FLOODS4SAT</strong></td>
<td>FP7 - People-2009-RG</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IMPACTS</strong></td>
<td>FP7 - Environment</td>
<td>January 2009 / December 2012</td>
<td>EUR 2.580.000</td>
<td>Status: FINISHED</td>
</tr>
<tr>
<td><strong>IMPACTS</strong></td>
<td>FP7 - Environment</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### IMPRINTS Improving Preparedness and Risk Management for Flash Floods and debris Flow events

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IMPACTS</strong></td>
<td>FP7 - Environment</td>
<td>January 2009 / December 2012</td>
<td>EUR 2.580.000</td>
<td>Status: FINISHED</td>
</tr>
<tr>
<td><strong>IMPACTS</strong></td>
<td>FP7 - Environment</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### URBANFLOOD UrbanFlood

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>URBANFLOOD</strong></td>
<td>FP7 - ICT</td>
<td>December 2009 / November 2012</td>
<td>EUR 2.902.544</td>
<td>Status: FINISHED</td>
</tr>
<tr>
<td><strong>URBANFLOOD</strong></td>
<td>ICT-2009-6-4</td>
<td>ICT-EC-248757</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### FLoods and debris flow events risk management for Flash Flood Protection of the Built Environment (FLOODPROBE)

Coordinator: Middle East Tech. Univ. - Ankara (TR)

### IMPACTS Improving Preparedness and Risk Management for Flash Floods and debris Flow events

Coordinator: 1. Univ. Politecnica de Catalunya - Barcelona (ES)

### URBANFLOOD UrbanFlood

Coordinator: 1. Thierry Delhez (NL)

### FLoods and debris flow events risk management for Flash Flood Protection of the Built Environment (FLOODPROBE)

Coordinator: 2. Acciona Infrastructures S.A. – A Coruña (ES)

### IMPACTS Improving Preparedness and Risk Management for Flash Floods and debris Flow events

Coordinator: 1. Deltares – Delft (NL)

### URBANFLOOD UrbanFlood

Coordinator: 1. Deltares – Delft (NL)

### FLOODPROBE Technologies for the cost-effective Flood Protection of the Built Environment

Coordinator: 2. Acciona Infrastructures S.A. – A Coruña (ES)
Flood information (emergency) services were covered by the following project by the FP7 Space programme:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLOODIS</td>
<td>FP7 - Space</td>
<td>October 2015 / July 2015</td>
<td><a href="http://www.floodis.eu/">http://www.floodis.eu/</a></td>
<td>Providing accurate location based application for portable devices, closing a critical gap for disaster management teams. Civil protection. Fast/emergency response units to better address and mitigate cross situations arising before, during, and after heavy flooding. Access to open source location based smart phone application for the general public to enable the capacity for individuals to take pre-cautionary actions, therefore slowly reducing the likelihood of human and economic loss. The project will also consider resuscitation relying on professional terminals and legacy communication channels. This combines Earth Observation and EGNOS (GPS, Galileo, EUMETSAT) technologies to deliver alerts and interactive maps on flooding risks to users in the geographical area at risk. Coordinators: 1. Ist. Sup. Marco Boella – Trivio (IT) 2. Omega Consult S.R.L. – Milano (IT) 3. Diaspor imagine (Hafengangswerkstatt) GmbH – Veil. am Rhein (DE) 4. Snapville Informationszentrale Dienstleister GmbH – Innsbruck (DE) 5. NZ Consult Ltd – London (UK) 6. Terreanea Imagen (Hafengangswerkstatt) GmbH – Burgdorf (DE) 7. UNESCO – Paris (FR)</td>
</tr>
</tbody>
</table>

As continuation of the above-mentioned INFLATER project is under development to improve protection against floods:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFLATER-DEMO</td>
<td>SME</td>
<td>December 2015 / December 2016</td>
<td><a href="http://www.corfu-fp7.eu/">http://www.corfu-fp7.eu/</a></td>
<td>Follow-up of INFLATER project, developing a flood protection device that uses the force of the flooding water to raise INFLATER to the required height and deflate once the water level goes down. The validated INFLATER will be suitable for riverbanks to protect long segments and home protection. The consortium consists of the same SMEs who are taking part in INFLATER. Additional tests on the different geometries and materials are planned to ensure a much more promising market success. Coordinators: 1. Alkonea Solutions Hungary KFT - Budapest (NL) 2. Linus Protection Sarl - Saint Pal De Lison (FR) 3. BuildIng Ingenieria y Arquitectura SA - Sant Joan Despi Barcelona (ES) 4. Pontas Gasiiddag Tanacaido KFT – Budapest (NL) 5. X-Treme Holding BV – Dréda (NL)</td>
</tr>
</tbody>
</table>

Flood resilience is another area that has been tackled by EU-funded research, namely:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
</table>

Finally, flood risk governance has been studied, leading to recommendations addressed to different decision-makers and policy implementers:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
</table>

A Community of Users on Secure, Safe and Resilient Societies (CoU)

Mapping EU policies and FP7 research for enhancing partnerships in H2020
7.2.3.4 Coastal risks induced by storm events or flooding

Coastal risks have been prone to research projects funded by two programmes, namely:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCCORE</td>
<td>FP7 - Environment</td>
<td>June 2008 / September 2011</td>
<td>EUR 3,495,954</td>
<td>Coordinator: Univ. Ferrara (IT)</td>
</tr>
</tbody>
</table>

Coastal risks have been prone to research projects funded by two programmes, namely:

- **Coastal risks induced by storm events or flooding**

  - **MCCORE**
    - **Project Acronym / Title**: MCCORE
    - **Funding Instrument**: FP7 - Environment
    - **Contract details**: June 2008 / September 2011, EUR 3,495,954
    - **Abstract / Website**: Development of probabilistic mapping of the morphological impact of marine storms and the production of early warning and information systems to support long- to medium-term disaster reviews. Review of historical storms that had a significant impact on rare representative sensitive European sites according to wave exposure, tidal regime and socio-economic pressures. One-year monitoring to collect new data sets. Development and testing of numerical models of storm-induced morphological changes, linking wave and surge forecasting models to set up a real-time warning system and lay the ground for decision-making agencies. Conceptualization of Storm Impact Indicators (STI) with defined thresholds for the identification of major morphological changes and flooding associated risks.
    - **Website**: https://www.mccore.eu

- **SIM COAST**
  - **Project Acronym / Title**: SIM COAST
  - **Funding Instrument**: Call 2009-IRSES
  - **Contract details**: April 2009 / March 2014, EUR 171,000
  - **Abstract / Website**: Improved process understanding of hydro-sedimentary events in coastal environments such as deltas, estuaries and wetlands, where many large coastal environments such as deltas, estuaries and wetlands, where many large cities and industrial areas are located.
  - **Website**: http://www.simcoast.eu

- **THESUS**
  - **Project Acronym / Title**: THESUS
  - **Funding Instrument**: FP7 - Environment
  - **Contract details**: December 2009 / September 2013, EUR 5,537,000
  - **Abstract / Website**: Developing a systematic approach to delivering both a low-risk coast for human use and healthy habitats for evolving coastal zones subject to multiple change factors. Innovative combined mitigation and adaptation technologies will include ecologically based mitigation measures (such as restoration and/or creation of habitats), hydro-morphodynamic techniques (such as wave energy converters, sediment reworkings, multi-purpose structures, vegetated resistant dikes), actions to reduce the risk on society and economy (such as promotion of risk awareness or spatial planning) and GIS-based software to support defence planning. It study sites across Europe, with specific attention to the most vulnerable coastal environments such as deltas, estuaries and wetlands, where many large cities and industrial areas are located.
  - **Website**: http://www.thesusproject.eu

Catastrophic events such as the Xynthia event in France (February 2010) highlighted research needs in the prevention / preparedness of such extreme events, that were reflected in two major projects, namely:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEAL</td>
<td>FP7 - Environment</td>
<td>January 2014 / December 2017</td>
<td>EUR 4,998,851</td>
<td>Coordinator: 1. Univ. Ferrara (IT)</td>
</tr>
</tbody>
</table>

Coastal risks have been prone to research projects funded by two programmes, namely:

- **PEAL**
  - **Project Acronym / Title**: PEAL
  - **Funding Instrument**: FP7 - Environment
  - **Contract details**: January 2014 / December 2017, EUR 4,998,851
  - **Abstract / Website**: Developing more sustainable risk management solutions for coastal communities focusing on present and projected extreme hydro-meteorological events. Seven case studies from across the EU to develop a holistic risk reduction framework that can identify multi-stressor risk assessment, risk cascading processes and strengthen risk governance by enabling an active role for key actors. Development of novel technologies and methods that can improve the early warning process and its components, building a pan-European knowledge base gathering real case studies and demonstrations of best practice across the EU to support capacity development for the delivery of cost-effective risk reduction plans. Additionally, the project provides an interface to relevant ongoing tsunami research: it plugs into global databases, early warning systems and processes at WHO, and contributes to community building, development of guidelines and communication.
  - **Website**: http://www.peal-fp7.eu

- **RIS-COT**
  - **Project Acronym / Title**: RIS-COT
  - **Funding Instrument**: FP7 - Environment
  - **Contract details**: December 2013 / December 2016, EUR 5,995,922
  - **Abstract / Website**: Development of ready-to-use methods, tools and management approaches to reduce risk and increase resilience to low-frequency, high-impact hydro-meteorological events. Key drivers of risk are the warming of oceanic and surface water flood risk - strengthening the identification of major morphological changes and flooding associated risks.
  - **Website**: http://www.nosap.eu
### 7.2.3.5 Drought risk management

In the light of the Water Scarcity and Drought Communication, technological needs have been expressed regarding drought risk assessment, trend studies and monitoring. Several research projects aimed to respond to these needs, namely projects by the FP7 Environment programme.

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>DROUGHT-R&amp;SPI</td>
<td>FP7 - Environment</td>
<td>2011.1.3.2-2</td>
<td>EUR 818,896</td>
<td>Coordinator: 1. Wageningen Universiteit (NL)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RTO - 282769</td>
<td></td>
<td>Consortium: 2. Albert Leibniz-Universität (DE)</td>
</tr>
</tbody>
</table>

#### Project details

- **Project Acronym / Title**: DROUGHT-R&SPI
- **Funding Instrument**: FP7 - Environment
- **Contract details**: 2011.1.3.2-2 EUR 818,896
- **Abstract / Website**: http://www.eu-drought.org/

#### Description

- The project will reduce future Europe’s vulnerability and risk to drought by innovative inter-disciplinary investigations in case study areas in water-stressed regions (river basin and national scale) with drought analyses at the pan-European scale. Knowledge transfer across these scales is paramount because vulnerability is context specific (e.g. physical, environmental, socio-economic, cultural, legal, institutional), which requires analyses on detailed scales, whereas international policies and drought-generating climate drivers and land surface processes are operating on large scales. The project will build a framework for the provision of drought-related guidance on how and where drought monitoring and forecasting, warning and response, and improved effectiveness of drought mitigation measures.

- **Coordinator**: 1. Deltares - Delft (NL)
- **Consortium**
  - 2. CSIR - Pretoria (ZA)
  - 3. Dinder Center Environ. Res. Ltd – Khartoum (SD)
  - 4. ECMWF – Reading (UK)
  - 5. Helmholtz-Zentrum Potsdam (DE)
  - 6. IGAD– Nairobi (KE)
  - 7. IAV Hassan II – Rabat (MA)
  - 8. JRC - Brussels (BE)

- **Status**: FINISHED

### 7.2.3.6 Forest fire prevention / preparedness and response

Research on forest fires (from both natural and man-made causes) has been funded by several programmes, examples of which are shown below with focus on Mediterranean:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>PREFER</td>
<td>FP7 - Space</td>
<td>December 2012 / November 2015</td>
<td>EUR 1,308,580</td>
<td>Coordinator: 1. Universidade de Lisboa (PT)</td>
</tr>
<tr>
<td></td>
<td>Space-2012-1</td>
<td>ESA - 512931</td>
<td></td>
<td>Consortium: 2. Cent. Sec. Studies – Athens (GR)</td>
</tr>
</tbody>
</table>

#### Project details

- **Project Acronym / Title**: PREFER
- **Funding Instrument**: FP7 - Space
- **Contract details**: December 2012 / November 2015 EUR 1,308,580
- **Abstract / Website**: http://www.prefer-copernicus.eu/

#### Description

- **Project Acronym / Title**: PREFER
- **Funding Instrument**: FP7 - Space
- **Contract details**: December 2012 / November 2015 EUR 1,308,580
- **Abstract / Website**: http://www.prefer-copernicus.eu/

#### Description

- The project will reduce future Europe’s vulnerability and risk to drought by innovative inter-disciplinary investigations in case study areas in water-stressed regions (river basin and national scale) with drought analyses at the pan-European scale. Knowledge transfer across these scales is paramount because vulnerability is context specific (e.g. physical, environmental, socio-economic, cultural, legal, institutional), which requires analyses on detailed scales, whereas international policies and drought-generating climate drivers and land surface processes are operating on large scales. The project will build a framework for the provision of drought-related guidance on how and where drought monitoring and forecasting, warning and response, and improved effectiveness of drought mitigation measures.

- **Coordinator**: 1. Wageningen Universiteit (NL)
- **Consortium**
  - 2. Albert Leibniz-Universität (DE)
  - 3. Dinder Center Environ. Res. Ltd – Khartoum (SD)
  - 4. ECMWF – Reading (UK)
  - 5. Helmholtz-Zentrum Potsdam (DE)
  - 6. IGAD– Nairobi (KE)
  - 7. IAV Hassan II – Rabat (MA)
  - 8. JRC - Brussels (BE)

- **Status**: FINISHED

---

**Note**: The text above is a summary of the content from the provided image. For detailed information, please refer to the original sources.
A more specific project has looked into fire detection and protection in cultural heritage areas:

**Project Acronym / Title** | **Funding instrument** | **Contract details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
**FIRESMART** | FP7 - Environment | February 2010 / April 2012 | EUR 520,000 | RTD - 24 5840
**Funding** | **Consortium**
**Contribution to the prevention of wildfires and forest fires, focusing on wildfire prevention theories and practices currently in use in the Mediterranean Europe, evaluating strengths and weaknesses involved in the prevention taking into account socio-economic, institutional and legislative aspects.**

**Status:** FINISHED

---

**FUND** | **Environment** | January 2012 / December 2015 | EUR 617,152 | RTD - 24 5886
**Fire**
**Fire**
**fires**
**under**
**climate**
**forest**
**fires**
**Forest**
**and land management**
**in the**
**Mediterranean**
**Europe**
**Firefighting**
**is prone**
**an on-going**
**project funded**
**by the FP7 Secure Societies programme:**

**Project Acronym / Title** | **Funding instrument** | **Contract details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
**AF5** | FP7 - Secure Societies | June 2014 / April 2017 | EUR 128,985 485 | REA - 607276
**Advanced Forest Fire Fighting** | **Status:** ON-GOING
**Implementing capabilities to increase efficiency of fire fighting operations, to save human lives, reduce damages to environment**

**Integration of 5 complex systems:**
1. **Command & Control station (to allocate resources).**
2. **Risk Analysis Tool (to assess behaviour & health risks to human, livestock, infrastructures), and**
3. **Fire Fighting Lab (to predict fire progression & active & passive countermeasures effects).**
4. **Engine, receiving input data from wide array of sensors (suitable airborne mobile systems), will process, merge heterogeneous information, will run in real time mission simulations to provide reliable support to decision makers during crisis management.**

**https://www.ittdemokritos.gr/project/af5**

---

**7.2.4 Health threats crisis management**

The 2012/2013 programme requires sharing best practice and experience in response planning among the Member States, and the establishment of early warning and response system (EWS) for alerting, assessing public health risks and determining the measures that may be required to protect public health in consideration of relevant information. Besides, the CP Action Plan promotes strengthening sharing of medical countermeasures across borders in the case of an incident. Recommendations also concern ways in which in medical staff and other first responders can receive guidance on dealing with large scale CBRN emergencies and a rapid increase of the number of victims. Various projects support these goals:

---

**7.2.4.1 Prevention / preparedness to contagion, outbreaks, pandemics**

Specific research has been developed about neurotoxins and their risks to security:

**Project Acronym / Title** | **Funding instrument** | **Contract details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
**ANTIBIOBABE** | FP7 - Secure Societies | | | |
**Neutralizing antibodies against botulinum toxins A/B/E**

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**85**
A range of on-going projects are investigating various aspects of medical issues in relation to civil protection (preparedness, emergencies):

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Project Details</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPRESS</td>
<td>Improving Preparedness and Response of Health Services in Major Crises</td>
<td>FP7 - Secure Societies</td>
</tr>
<tr>
<td></td>
<td>Improving the efficiency of decision making in emergency health operations, having direct impact on services quality to citizens. Output provide consolidated concept of operations implemented as modular Decision Support System managing medical resources, prepare, coordinate response activities, using data from multiple heterogeneous sources. Improve preparedness of emergency medical services including planning, increasing surge capacity, developing interoperable systems and response capabilities in case of large disasters.</td>
<td>Coordinator: 1. INTRACOF International SA - Luxembourg (LU)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consortium: 2. PHE - London (UK)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. CBN - Rome (IT)</td>
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<tr>
<td></td>
<td></td>
<td>4. Addresses Ltd - Nice (CF)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Sankaes Ltd - Kandalat Abla (GR)</td>
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<td>7. VENEA - Athens (GR)</td>
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<td>8. PhD - Dresden (DE)</td>
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<td></td>
<td></td>
<td>9. Ecomed bvba - Lille (FR)</td>
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<td>10. Europ. Unit. Euroc - Nice (CF)</td>
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<td>11. National Health Command Center Deep - Athens (GR)</td>
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<tr>
<th>Project Acronym / Title</th>
<th>Project Details</th>
<th>Consortium</th>
</tr>
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<tbody>
<tr>
<td>IMPACTO</td>
<td>Identifying the Needs of Medical First Responders in Disasters</td>
<td>FP7 - Secure Societies</td>
</tr>
<tr>
<td></td>
<td>Improving the efficiency of decision making in emergency health operations, having direct impact on services quality to citizens. Output provide consolidated concept of operations implemented as modular Decision Support System managing medical resources, prepare, coordinate response activities, using data from multiple heterogeneous sources. Improve preparedness of emergency medical services including planning, increasing surge capacity, developing interoperable systems and response capabilities in case of large disasters.</td>
<td>Coordinator: 1. INTRACOF International SA - Luxembourg (LU)</td>
</tr>
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<td></td>
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<td>Consortium: 2. PHE - London (UK)</td>
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<td>3. CBN - Rome (IT)</td>
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<td>4. Addresses Ltd - Nice (CF)</td>
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<td>5. Sankaes Ltd - Kandalat Abla (GR)</td>
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<td>7. VENEA - Athens (GR)</td>
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<td>8. PhD - Dresden (DE)</td>
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<td>9. Ecomed bvba - Lille (FR)</td>
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<td>11. National Health Command Center Deep - Athens (GR)</td>
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<tr>
<th>Project Acronym / Title</th>
<th>Project Details</th>
<th>Consortium</th>
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<tbody>
<tr>
<td>PULSE</td>
<td>Platform for European Medical Support during major Emergencies</td>
<td>FP7 - Secure Societies - ICT</td>
</tr>
<tr>
<td></td>
<td>The project focuses on an abstraction procedures, processes, training requirements, developing standard and consistent response procedures, providing tools to support decision making in preparedness, &amp; response phases. Providing framework that ensures decision makers have access to timely key data and support tools. Python innovative training techniques to improve professional response training. Developing emergency apps for smart phones that will allow users feel, flexible access to emergency resource availability information.</td>
<td>Coordinator: 1. Skytek Ltd (IE) - Dublin (IE)</td>
</tr>
<tr>
<td></td>
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<td>Consortium: 2. CESS - München (DE)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. ONR Solutions - Bucharest (RO)</td>
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<td>4. SELECT - Rane (IT)</td>
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<td></td>
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<td>5. Totalional Research &amp; Consulting LLP - London (UK)</td>
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<td></td>
<td></td>
<td>6. Univ.Cabildo Santa Cruz - Milan (IT)</td>
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</tbody>
</table>

Within Horizon 2020, a major topic (particularly relevant in consideration of the Ebola crisis) has been published in the 2014 call, namely the DRS-4-2014 topic on “Feasibility study for strengthening capacity-building for health and protection service in case of large-scale pandemics”.

7.4.2.2 Improved medical responses

Needs for improved medical responses, in support of the Decision 1082/2013, have been investigated in a CSA funded by the FP7 Secure Societies programme:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Project Details</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONCORD</td>
<td>Development of Coordination Mechanisms During Different Kinds of Emergencies</td>
<td>FP7 - Secure Societies</td>
</tr>
<tr>
<td></td>
<td>Improving the efficiency of decision making in emergency health operations, having direct impact on services quality to citizens. Output provide consolidated concept of operations implemented as modular Decision Support System managing medical resources, prepare, coordinate response activities, using data from multiple heterogeneous sources. Improve preparedness of emergency medical services including planning, increasing surge capacity, developing interoperable systems and response capabilities in case of large disasters.</td>
<td>Coordinator: 1. Cambridge Univ. Hospital (UK)</td>
</tr>
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<td></td>
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<td>Consortium: 2. Cross Training - Eindhoven (NL)</td>
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<td>3. Elmer emalda - Athens (GR)</td>
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<td>4. Evi Portugal - Coimbra (PT)</td>
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<td></td>
<td></td>
<td>5. European Dynamics - Athens (GR)</td>
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<td></td>
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<td>6. Global Security Intelligence Ltd - London (UK)</td>
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<tr>
<td></td>
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<td>7. Ibrovskos - Prague (CZ)</td>
</tr>
<tr>
<td></td>
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<td>8. Koç University - Istambul (TR)</td>
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<td>9. Eomed bvba - Lille (FR)</td>
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<td>10. Matheon - Berlin (DE)</td>
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<tr>
<td></td>
<td></td>
<td>11. National Health Command Center Deep - Athens (GR)</td>
</tr>
</tbody>
</table>

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## 7.2.4.3 CBRN detection

Assessment / Detection of CBRN threats is an essential component when dealing with health risks assessments, as well as requirements for ensuring the quality and comparability of data. Projects which contributed to this goal in the C and B area are:

### 7.2.4.3.1 Identification and triage of victims after a disaster

Identification and triage of victims after a disaster, or identification of unidentified bodies are prone to a wide range of research developments in support of civil protection and security policies.

### 7.2.4.3.2 Post-disaster victim identification

In another domain, also related to forensics, research has focused on the identification of victims after a disaster:

### 7.2.4.3.3 CBRN detection

In the radiological sector, one project investigated tools in support of the management of high scale radiological casualties.

### 7.2.4.3.3.1 Post-disaster victim identification

In another domain, also related to forensics, research has focused on the identification of victims after a disaster:

## Project Acronym / Title | Funding Instrument | Contract details | Abstract / Website | Consortium
--- | --- | --- | --- | ---
**MULTIBIODOS** | FP7 - Secure Societies | Call 2009-4.3-2 CP | May 2010 / April 2013 EUR 5,495,190 REA - 241536 | **Coordinator:**
1. Univ. Stockholm (SE)

**Consortium:**
2. Bundesamt für Strahlenschutz BfS - Salzgitter (DE)
3. Univ. Gent (BE)
4. Health Protection Agency - London (UK)
5. IRSN - Paris (FR)
6. ITP - Rome (IT)
7. NIRPA - Dosteran (IND)
8. STUK - Helsinki (FI)
10. ICR - Warsaw (PL)
11. Helmholtz Zentrum München (DE)
12. BMVg - Berlin (DE)
14. European Radiation Dosimetry Group - Braunsee (DE)

### Project Acronym / Title | Funding Instrument | Contract details | Abstract / Website | Consortium
--- | --- | --- | --- | ---
**BIO-PROTECT** | FP7 - Secure Societies | Call 2009-1.3-1 | June 2010 / January 2014 EUR 5,119,577 REA - 242305 | **Coordinator:**
1. LGI Consulting - Paris (FR)

**Consortium:**
2. Aalborg Univ. - Aalborg (DK)
3. C-TECH Innov. Ltd - Chester (UK)
4. Robert Koch-Institut - Berlin (DE)
5. Univ. Politecnica - Valencia (ES)
6. Univ. Stockholm (SE)
8. IUT - Berlin (DE)
9. Univ. Gent (BE)
10. BMVg - Berlin (DE)
11. UCL - Brussels (BE)
12. Health Protection Agency - London (UK)
13. CEA – Paris (FR)
14. Robert Koch-Institut - Berlin (DE)

### Project Acronym / Title | Funding Instrument | Contract details | Abstract / Website | Consortium
--- | --- | --- | --- | ---
**MIRACLE** | FP7 - Secure Societies | Call 2012-4.4-1 CSA | December 2013 / May 2015 EUR 1,150,005 ENTR – 312885 | **Coordinator:**
1. UCL - Brussels (BE)

**Consortium:**
2. RIKK - Bielbrann (NL)
3. PGI - Stockholm (SE)
4. Health canada - Ottawa (Canada)
5. Bundesministerium der Verteidigung - Berlin (DE)
6. Police Sensor of Northern Ireland PSNI - Coleraine (UK)
7. MRI - Kyiv (UK)
8. SADIR - Athens - Paris (FR)

### Project Acronym / Title | Funding Instrument | Contract details | Abstract / Website | Consortium
--- | --- | --- | --- | ---
**FASTID** | FP7 - Secure Societies | Call 2009-4.3-2 CP | September 2010 / June 2013 EUR 5,284,201 REA - 242561 | **Coordinator:**
1. CEA – Paris (FR)

**Consortium:**
2. Nat. Univ. Ireland - Galway (IE)
3. IRSN - Paris (FR)
4. Health Protection Agency - London (UK)
5. BMVg - Berlin (DE)
6. Nat. Univ. Ireland - Galway (IE)
7. IUT - Berlin (DE)
8. BMVg - Berlin (DE)
9. IUT - Berlin (DE)
10. IUT - Berlin (DE)

### Project Acronym / Title | Funding Instrument | Contract details | Abstract / Website | Consortium
--- | --- | --- | --- | ---
**CP** | FP7 - Secure Societies | Call 2009-4.3-2 CP | EUR 3,493,199 May 2010 / April 2013 | **Coordinator:**
1. UCL - Brussels (BE)

**Consortium:**
2. BMVg - Berlin (DE)
3. UCL - Brussels (BE)
4. BMVg - Berlin (DE)
5. BMVg - Berlin (DE)
6. BMVg - Berlin (DE)
7. BMVg - Berlin (DE)
8. BMVg - Berlin (DE)
9. BMVg - Berlin (DE)
10. BMVg - Berlin (DE)

### Project Acronym / Title | Funding Instrument | Contract details | Abstract / Website | Consortium
--- | --- | --- | --- | ---
**ENTR** | FP7 - Secure Societies | Call 2009-4.3-2 CP | EUR 3,493,199 May 2010 / April 2013 | **Coordinator:**
1. Interpol – Lyon (FR)

**Consortium:**
2. NAT – Estonia (ET)
3. Ministry of Defence (GB)
4. Ministry of Defence (GB)
5. Ministry of Defence (GB)
6. Ministry of Defence (GB)
7. Ministry of Defence (GB)
8. Ministry of Defence (GB)
9. Ministry of Defence (GB)
10. Ministry of Defence (GB)

### Project Acronym / Title | Funding Instrument | Contract details | Abstract / Website | Consortium
--- | --- | --- | --- | ---
**MOBILAB** | FP7 - Secure Societies | Call 2009-4.3-2 CP | EUR 3,125,577 January 2014 | **Coordinator:**
1. Interpol – Lyon (FR)

**Consortium:**
2. Nat. Univ. Ireland - Galway (IE)
3. IRSN - Paris (FR)
4. Health Protection Agency - London (UK)
5. BMVg - Berlin (DE)
6. Nat. Univ. Ireland - Galway (IE)
7. IUT - Berlin (DE)
8. BMVg - Berlin (DE)
9. BMVg - Berlin (DE)
10. BMVg - Berlin (DE)

### Project Acronym / Title | Funding Instrument | Contract details | Abstract / Website | Consortium
--- | --- | --- | --- | ---
**BOOSTER** | FP7 - Secure Societies | Call 2009-4.3-2 CP | EUR 2,270,476 April 2010 / April 2013 | **Coordinator:**
1. BMVg - Berlin (DE)

**Consortium:**
2. Nat. Univ. Ireland - Galway (IE)
3. IRSN - Paris (FR)
4. Health Protection Agency - London (UK)
5. BMVg - Berlin (DE)
6. Nat. Univ. Ireland - Galway (IE)
7. IUT - Berlin (DE)
8. BMVg - Berlin (DE)
9. IUT - Berlin (DE)
10. BMVg - Berlin (DE)
7.2.6 Information / Communication systems for Disaster Management

Disaster management closely relies on appropriate information / communication systems e.g. for alerting population, support first responder operations, etc. Several FP7 projects investigated this area.

7.2.6.1 Communication systems with focus on disaster management (generic)

Crisis management relies on proper connection and assessment of tasks for improved pre-crisis evaluation, inventory etc., examples of projects are given below:

**Project Acronym / Title** | **Funding instrument** | **Contract details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
CSONICSCORE | FP7 – Secure Societies | Call 2007-5.1-3 CP | February 2008 / April 2011 | EUR 799,174 REA – 217889 Connecting tasks of communication with crisis management & providing quality criteria for crisis communication. Tool used for preparation, crisis preparation, organisation and its communication plan, strategy development, access evaluation of crisis exercise or reflection on real-life performance after emergency situation. Another aspect concerns Warnings & Crisis response when situation is at its peak, whereas the last phase concerns actions when situation has calmed down. http://www.crosscommunication-fi.co.uk/ |

Other on-going projects are:

**Project Acronym / Title** | **Funding instrument** | **Contract details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
SECIDONE | FP7 – Secure Societies | Call 2013.5.1-1 CP | May 2014 / October 2017 | EUR 5,124,686 REA – 607582 Identification of data sets, processors, information systems, livelihoods models, used by first responders, Police authorities leading to dynamic, secure cloud based ‘common information space’. This includes a pan-EU inventory of past critical events and consequences focusing on collaborative emergency operations & real-time decision making while taking ethics, law, social practices & privacy into account. Design of secure, dynamic cloud based knowledge base, communication system concept including ability to use emergency information by means of trans-EU communication infrastructure. | Google-group-us-padborn-de/secidone/ |

**Project Acronym / Title** | **Funding instrument** | **Contract details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
ISETT | FP7 – Secure Societies | Call 2013.5-5.4 CP | September 2013 / December 2016 | EUR 10,262,495 REA – 31,2464 Global solution for interoperability between first responder (FR) communication systems 2 major PDR communications systems in EU TETRA & PTT/PDMR, remaining operational until 2025. Tackling incompatibility of radio systems, unawareness of suitable connection interfaces, lack of common procedures, improvement of interoperability to allow FRs to communicate through their own terminals in diving Country by interconnecting networks with gateways, enabling existing terminals to migrate to foreign networks using radio coverage of visited countries & sharing link groups. | http://www.ipcreativeabout/iplan/projects.php |

**Project Acronym / Title** | **Funding instrument** | **Contract details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
C2-SENSE | FP7 – Secure Societies | Call 2013.5.5-1 CP | April 2014 / April 2017 | EUR 2,885,416 REA – 607980 Development of ‘profiling’ approach to achieve seamless interoperability by addressing all layers of communication stack in security field, e.g. profile-based emergency interoperability framework using existing standards, semantically enriched Web services, Sensor Systems & other emergency crisis management systems. Assessment of outcomes in a realistic ‘fissile Scenarios in Italy’ | http://c2-sense.eu/ |

7.2.6.2 Communication systems / Response coordination for First Responders

ICT systems are also developed to directly support first responder operations, in particular in emergency situations:

**Project Acronym / Title** | **Funding instrument** | **Contract details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
SECONEORE | FP7 – Secure Societies | Call 2007-1.0-4 | June 2008 / March 2011 | EUR 2,798,517 REA– 225272 Development of new digital based personal technologies for integration into secure emergency management system to support first responders (FRs) involved in critical infra-structure incidents. This includes robust ad-hoc mesh topology broadband wireless network for interoperability between standard FRs radio sets, non-invasive biometric sensors integrated onto wearable ‘fingertip’ to monitor FRs vital signs such as blood haemoglobin, oxygen levels, heart rate, temperature, lightweight optical gas sensors for detecting CO, CO2, methane levels, radiation sensors for detecting x-rays, alpha, beta & rays, and voice annotation system to enhance voice http://www.c2-sense.eu/ |

**Project Acronym / Title** | **Funding instrument** | **Contract details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
C2-SENSE | FP7 – Secure Societies | Call 2013.5.5-1 CP | April 2014 / April 2017 | EUR 2,885,416 REA – 607980 Development of ‘profiling’ approach to achieve seamless interoperability by addressing all layers of communication stack in security field, e.g. profile-based emergency interoperability framework using existing standards, semantically enriched Web services, Sensor Systems & other emergency crisis management systems. Assessment of outcomes in a realistic ‘fissile Scenarios in Italy’ | http://c2-sense.eu/ |

Other on-going projects are:

**Project Acronym / Title** | **Funding instrument** | **Contract details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
ON-GOING | FP7 – Secure Societies | Call 2013.5.1-1 CP | May 2013 / April 2014 | EUR 2,042,895 REA – 235272 |

**Project Acronym / Title** | **Funding instrument** | **Contract details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
ON-GOING | FP7 – Secure Societies | Call 2013.5.5-1 CP | April 2014 / April 2017 | EUR 2,885,416 REA – 607980 Development of ‘profiling’ approach to achieve seamless interoperability by addressing all layers of communication stack in security field, e.g. profile-based emergency interoperability framework using existing standards, semantically enriched Web services, Sensor Systems & other emergency crisis management systems. Assessment of outcomes in a realistic ‘fissile Scenarios in Italy’ | http://c2-sense.eu/ |
E-SOSI
Emergency support system

Project Acronym / Title: E-SOSI
Funding instrument: FP7 - Secure Societies
Contract details: Call 2007-4-21 CP
Contact details: July 2007 / June 2013

Project Details:
Integrating sustainable and effective methods in the development of the future responder of the future in emergency support system (ESS).

Coordinator:
1. Vernet Syd. Ltd - Herleva Pitsch (IL)
2. Wind Telecom. Sp. - Rome (IT)
3. Int. Gaoeg. Serv Insit - Emden (DE)
4. Intergrap EGS - Praha (CZ)
5. OASYS - Madrid (ES)
6. Dignost. Av-in-Province (FR)
7. Fraunhofer AIS - St Augustin (DE)
8. ITIL Holdings pl - Alcester (UK)
9. Algospn-Sys SA - Kallithea (GR)
10. Alcatel-Lucent - Milano (IT)

Abstract / Website:
http://www.ess-project.eu

Consortium:
1. Qinetik Ltd - Farnborough (UK)
2. Wind Telecom. SpA - Rome (IT)
4. Itelazpi - Zamudio (ES)
5. NCSR Demokritos - Athens (GR)
6. Plymouth University (UK)
7. Infineon Technologies AG - Neubiberg (DE)
8. Telefunken - Milano (IT)
9. Smartex Srl - Prato (IT)
10. Alcatel-Lucent - Milano (IT)
11. BAPCO LBG - Lincoln (UK)
12. CEREN - Gardanne (FR)
13. Kemea - Athens (GR)
15. Magen David Adom - Tel Aviv (IL)
16. Ernst & Young Ltd - Tel Aviv (IL)
17. Aeronautics Defense Systems - Yavne (IL)

Funding:
- CPFP7 - Secure Societies
- REA – 218123 EUR 2,512,308 May 2014
- REA – 284863 EUR 8,790,044 December 2014

These are complemented by the following on-going projects:

Project Acronym / Title: E-SPONDER
Funding instrument: FP7 - Secure Societies
Contract details: Call 2009-4-21 CP
Contact details: July 2010 / December 2014

Project Details:
A holistic approach to the development of the future responder of the future.

Coordinator:
1. EXSIDE KS – Alhena (GR)
2. UNIKOM - Modena (IT)
3. Crexplan BV - Leiden (NL)
4. Project Software GmbH - Köln (DE)
5. Immersion SA - Brond bombers (FR)
6. Rowan Sevan – Sevans (ES)
7. Telsolc Poland Sp – Warsaw (PL)
8. L.A. CHEM – Heuchelheim (CH)
9. Smartex Srl - Prato (IT)
10. Tech. Univ. – Dresden (DE)
11. YellowMAP – Karlsruhe (DE)
12. FANOU - Athens (GR)
13. Inst. Information - Taipei (Taiwan)
14. EPLF - Gardanne (FR)

Abstract / Website:
http://www.e-sponder.eu/

Consortium:
1. Goldsmith’s College – London (GR)
2. Rom. Railway Auth – București (RO)
3. TrustSys GmbH – Welsingk (DE)
4. OKF Consulting KG – Lebach (AT)
5. AnsuR Technol. – Fornebu (NO)
6. Telcordia Poland Sp - Warszawa (PL)
7. TriaGnoSys Gmbh - Wessling (DE)
8. CRISIS – Brussels (BE)
9. Uniof. Bologna (IT)
10. Uniof. Warsaw (EN)

Funding:
- CPFP7 - Secure Societies
- ERC-SG-SH2 EUR 1,180,471 January 2011 / June 2013

These are complimented by the following on-going projects:

Project Acronym / Title: SPARTACUS
Funding instrument: FP7 - Secure Societies
Contract details: Call 2012-4-21 CP
Contact details: November 2013/ October 2016

Project Details:
Development and validation of simulated realistic world scenarios (SALCED) ready tracking/postioning solutions for critical asset tracking & crisis management.

Coordinator:
1. A Community of Users on Secure, Safe and Resilient Societies (CoU)
2. Mapping EU policies and FP7 research for enhancing partnerships in H2020

Consortium:
1. 1. A Community of Users on Secure, Safe and Resilient Societies (CoU)
2. Mapping EU policies and FP7 research for enhancing partnerships in H2020

Funding:
- CPFP7 - Secure Societies
- ERC-SG-SH2 EUR 513,956 December 2014
- ERC - 283751

These are complimented by the following on-going projects:

Project Acronym / Title: REDIREC
Funding instrument: FP7 - Secure Societies
Contract details: Call 2015-1-1 CP
Contact details: May 2016

Project Details:
Emergency Responsed Data Interoperability Network

Coordinator:
1. A. Korsakova - Bratislava (SK)
2. CrisisPlan BV - Leiden (NL)
3. Institute Information - Taipei (Taiwan)
4. UNIMORE - Modena (IT)
5. Tech. Univ. – Dresden (DE)
6. S.A.CSEM - Neuchatel (CH)

Consortium:
1. Goldsmith’s College – London (GR)
2. Rom. Railways Auth – București (RO)
3. TrustSys GmbH – Welsingk (DE)
4. OKF Consulting KG – Lebach (AT)
5. AnsuR Technol. – Fornebu (NO)
6. GMV Sistemas SA - Madrid (ES)
7. NCSR Demokritos – Athens (GR)
8. Alcatel-Lucent - Milano (IT)
9. TurboCom - Manchester (UK)
10. Tech. Univ. – Dresden (DE)
11. Smartex Srl - Prato (IT)

Funding:
- CPFP7 - Secure Societies
- ERC-SG-SH2 EUR 1,456,985 February 2016
- ERC - 207968

These are complimented by the following on-going projects:
7.2.7 Cost-assessments of hazards

This area has not been widely covered by FP7, one project has looked into natural hazards:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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</thead>
<tbody>
<tr>
<td>CONHAZ</td>
<td>FPP - Secure Societies</td>
<td>Call 2009-4.3-3 CP</td>
<td>EUR 3,495,612</td>
<td>Coordinator: 1. Middlesex Univ. – London (UK)</td>
</tr>
<tr>
<td>Costs of Natural Hazards</td>
<td>FP7 - Secure Societies</td>
<td>Call 2009-4.3-3 CP</td>
<td>EUR 2,787,672</td>
<td>Consortium: 2. Istituto Superiore di Sanità (IT)</td>
</tr>
</tbody>
</table>

7.2.8 Training

Training activities are a recognised tool for supporting security policies and funding instruments are in place by the main policy DGs, namely DG HOME and DG ECHO, to stimulate training at EU level. A range of research projects also include training components in the work programmes, primarily to enhance testing capacities of developed tools and methods. Examples target training for first responders, civil protection agencies and security personnel.

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<tr>
<td>INDIGO</td>
<td>FP7 - Secure Societies</td>
<td>Call 2009-4.3-3 CP</td>
<td>EUR 1,858,453</td>
<td>Coordinator: 1. Deloitte Business Solutions – Athens (GR)</td>
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<tr>
<td>Innovative Training &amp; Decision Support for Emergency Operations</td>
<td></td>
<td></td>
<td></td>
<td>Coordinator: 2. Österreichische Stabesleitungsanstalt für Luftrettung (AT)</td>
</tr>
<tr>
<td>Status: FINISHED</td>
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<td>April 2015</td>
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<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<tr>
<td>HYRESPONSE</td>
<td>SP1-JTI-FP7-2012 5.5</td>
<td></td>
<td>EUR 3,253,548</td>
<td>Coordinator: 1. Deloitte Business Solutions – Athens (GR)</td>
</tr>
<tr>
<td>European Hydrogen Response Emergency Response training programme for First Responders</td>
<td></td>
<td></td>
<td></td>
<td>Coordinator: 2. Österreichische Stabesleitungsanstalt für Luftrettung (AT)</td>
</tr>
<tr>
<td>Status: ON-GOING</td>
<td></td>
<td>June 2015-May 2016</td>
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7.2.9 Networking

Complementing the above, some projects focus on enhanced networking for information exchanges and training in emergencies:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>GARTNET-E</td>
<td>FP7 - Space</td>
<td>May 2010 / April 2012</td>
<td>To enable and enhance the ability of African states to use satellite Earth Observation for the management of natural and man-made humanitarian emergencies. To develop a network of EU, African organisations and african users, in order to build economic, technical and commercial capacity within African states, along the priority lines being identified in consultation with the African Union under the GARES and African initiative.</td>
<td>Coordinator: 1. Infoterra Ltd – Liverpool (UK)</td>
</tr>
<tr>
<td>ESSEN7</td>
<td>FP7 - Secure Societies</td>
<td>January 2013 / December 2014</td>
<td>User requirements &amp; lessons learnt on all levels of interoperability, network of end users willing to leverage quality of Emergency services, roadmap for common EU approach to new standards &amp; legal framework related to emergency services.</td>
<td>Coordinator: 1. IES Solutions – Rome (IT)</td>
</tr>
<tr>
<td>Emergency Services Europe Network</td>
<td>Cal 2012.5.5-2</td>
<td>EUR 629,296</td>
<td></td>
<td>Consortium: 2. ENIA – Brussels (BE) 3. Gruppo Sismico – Bra/Bres (IT)</td>
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<td>REA – 515155</td>
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<td><a href="http://www.esen7.net/">http://www.esen7.net/</a></td>
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### 7.3 Critical Infrastructure Protection

#### The European Programme for Critical Infrastructure Protection

The European Programme for Critical Infrastructure Protection (see section 5.3) is an all-hazards programme with a broad range of activities and areas related to prevention, preparedness and response. In this respect, risk management is taking stock of existing research and innovation activities conducted notably in the FP7 Environment (including climate change) programme, in particular the Group on Earth Observation (GEO) such as the Supersites Initiative and research on ‘stress tests’ for critical infrastructures. The programme is furthermore enhancing links with management activities undertaken within the Union Civil Protection Mechanism.

#### 7.3.1 Multi-hazard risk assessment, stress tests

This section focuses on multi-hazard risk assessment and stress tests, with applications to critical infrastructures. It is hence linked to sections 7.2 (cascading effects) and 7.4 (security and safety).

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>GARES</td>
<td>FP7 - Secure Societies</td>
<td>Cal 2012/1</td>
<td>Established of common and consistent taxonomy of CI’s, developing a rigorous, consistent modelling approach to hazard, vulnerability, risk and resilience assessment of low probability-high consequence (LP-HC) events, design a stress test framework and specific applications to address the vulnerability, resilience and interdependencies of CIs. Focus on threats to critical infrastructures and geographically extended infrastructures with potentially high economic and environmental impact, and (c) distributed, multiple-use infrastructures with low individual impact but large collective impact or dependencies.</td>
<td>Coordinator: 1. Eidgenössische Technische Hochschule Zurich – (CH)</td>
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<tr>
<td>Status: FINISHED</td>
<td>EUR 2,802,336</td>
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### 7.2.10 Best practices and improved knowledge management

Finally, exchange of best practices and improved knowledge management are also part of FP7 developments, e.g. for post-crisis management:

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<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
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<td>Status: FINISHED</td>
<td>REA – 512497</td>
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<td><a href="http://www.elite-eu.org/">http://www.elite-eu.org/</a></td>
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A Community of Users on Secure, Safe and Resilient Societies (CoU)
Mapping EU policies and FP7 research for enhancing partnerships in H2020
Another on-going project funded by the FP7 Secure Societies programme covers various aspects of preparedness, resilience of critical infrastructures:

### Project Acronym / Title
- **HIPow**
- **HIPow2**
- **Viking**
- **AFTER**

### Funding Instrument
- Call 2013-2-4-2 CP
- Call 2011.2.2-2 CP
- FP7 – Secure Societies
- FP7 - Secure Societies

### Contract details
- June 2012 / May 2015
- EUR 5,375,579
- ENTER – 284802
- July 2012 / July 2015
- EUR 5,497,875
- ENTER – 285257
- EUR 1,824,950
- DNEC – 225645
- October 2011
- EUR 3,473,803
- August 2014
- EUR 3,121,476
- EUR 3,099,127
- EUR 3,075,602

### Coordinator
- Pål J. Ask (DE) – Sankt Augustin
- Coordinators: 1. ABB AG – Berlin (DE)
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)

### Consortium
- http://www.hipow-project.eu/
- http://www.hipow-project.eu/hipow/
- http://www.pym.org/ww.html
- http://www.cpnmet.eu/health/

7.3.2 Protection against electromagnetic radiations

Threats to Critical Infrastructures against electromagnetic radiations has been subject to several FP7 projects as shown below, focusing on protection and resilience improvements as well as monitoring and control:

### Project Acronym / Title
- **CIPRNet**
- **HIPOW**
- **Viking**
- **AFTER**

### Funding Instrument
- Call 2012.7.4-2 CP
- Call 2011.2.2-2 CP
- Call 2012.7.4-2
- Call 2013-2-4-2 CP

### Contract details
- March 2013 / February 2017
- EUR 5,658,842
- REA – 31,2450
- July 2012 / July 2015
- EUR 5,497,875
- ENTER – 285257
- November 2008 / July 2015
- EUR 1,824,950
- DNEC – 225645
- September 2011 / August 2014
- EUR 3,473,803
- August 2014
- EUR 3,121,476
- EUR 3,099,127
- EUR 3,075,602

### Coordinator
- 1. Phis AHS (DE) – Sankt Augustin
- 1. Phis AHS (DE) – Sankt Augustin
- 1. Phis AHS (DE) – Sankt Augustin
- 1. Phis AHS (DE) – Sankt Augustin

### Consortium
- Coordinator: 1. ABB AG – Berlin (DE)
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)

### Status
- ON-GOING
- FINISHED
- FINISHED
- FINISHED

7.3.3 Electrical Power and Smart Grids

Vulnerability and security assessment for electrical power Critical Infrastructures and smart grids have been subject to several research initiatives dealing with protection, monitoring and control, as well as measures for contingency planning:

### Project Acronym / Title
- **CIPRNet**
- **HIPOW**
- **Viking**
- **AFTER**

### Funding Instrument
- Call 2012.7.4-2 CP
- Call 2011.2.2-2 CP
- Call 2012.7.4-2
- Call 2013-2-4-2 CP

### Contract details
- Building a long-lasting, durable virtual centre of shared & integrated knowledge and expertise in CP and CI MS&A Modelling Simulation, Analysis) by integrating European structures & NMS activities acquired in 50 EU co-funded projects. This centre will form the foundation for the EU Infrastructures Simulation & Analysis Centre (EISAC) by 2020. It will strengthen and structure the EU Research Area on CPs. It includes training, expert support to CPs & access the right pool of EU CP expertise. Enhances EU CI resilience by knowledge, understanding, preparation and mitigation of CI interdisciplinarity. It forms the stepping stone for the development of long-lasting cooperation & integration of EU CP-innovation process is boosted. Provide actionable, risk-informed CP analyses & strategies that support the preparation for recovery to & recovery from major CI disruptions.
- http://www.cpnmet.eu/
- http://www.hipow-project.eu/hipow/
- http://www.pym.org/ww.html

### Abstract / Website
- https://www.ciprnet.eu/
- https://www.ciprnet.eu/
- http://www.hipow-project.eu/hipow/
- http://www.pym.org/ww.html

### Project Acronym / Title
- **CIPRNet**
- **HIPOW**
- **Viking**
- **AFTER**

### Status
- FINISHED
- FINISHED
- FINISHED
- FINISHED

### Coordinator
- 1. Phis AHS (DE) – Sankt Augustin
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)

### Consortium
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)

### Project Acronym / Title
- **CIPRNet**
- **HIPOW**
- **Viking**
- **AFTER**

### Status
- FINISHED
- FINISHED
- FINISHED
- FINISHED

### Coordinator
- 1. Phis AHS (DE) – Sankt Augustin
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)

### Consortium
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)
- Coordinator: 1. Ing. Sistemi Spa IDS. – Pisa (IT)
Within Horizon2020, several topics concern Critical Infrastructure Protection, namely for the 2015 call, DRS-12-2015 on 'Critical Infrastructure “smart grid” protection and resilience under “smart meters” threats’, DRS-13-2015 linked to standardisation (but not only) on ‘Demonstration activity on tools for adapting building and infrastructure standards and design methodologies in vulnerable locations in case of natural or man-\-originated catastrophes’, DRS-14-2015 on ‘Critical infrastructure indicator – analysis and development of methods for assessing resilience’ and the SME instrument topic DRS-17-2014/2015 on ‘Protection of urban soft targets and urban critical infrastructures’. These research efforts will be complemented by an ethics/societal topic, namely DRS-20-2014 dealing with ‘Improving protection of Critical Infrastructures from insider threats’.

7.4 Security and Safety (general)

Security and safety are closely interrelated as reflected by different policy trends. This section highlights FP7 developments in various sectors related to threats affecting urban environments, cyber security, CB\-\-E risks, major accidental hazards etc.

7.4.1 Resilience of urban built environment with focus on safety and security threats

Research on safety and security threats to urban built environment has been subject to several projects funded the FP7 Secure Societies programme. Examples of finished projects are listed below:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<td>SEGRID</td>
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<td>Coordinator: TNO - Deel (NL)</td>
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<td>Consortium: 2. ABB - Vittsjö (SE)</td>
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<td>3. ABB SCHILLER Ag - Baden (CH)</td>
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<td>4. EDP Energias de Portugal - Fars (PT)</td>
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<td>5. DNV - Deel (NL)</td>
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<td>10. Swedish Institute of Computer Science - LiU - Lund (SE)</td>
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<td>11. ZF Metering Solutions SL - Taranya (ES)</td>
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A Community of Users on Secure, Safe and Resilient Societies (CoU) Mapping EU policies and FP7 research for enhancing partnerships in AGGRO
<table>
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<th>Project Acronym / Title</th>
<th>Funder</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<td>2. EUROPOL – Den Haag (NL)</td>
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<td>3. Min. Interior – Wien (AT)</td>
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<td>ENTRE – 243130</td>
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<td>6. CrisisPlan – Leiden (NL)</td>
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<td>7. Swedish Nat. Defense College – Stockholm (SE)</td>
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<td>14. JRC – Brussels (BE)</td>
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<td>15. MIN. JUSTICE – Tallinn (EE)</td>
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<td>16. Police – Bratislava (SK)</td>
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<td>18. Politecnica Urae – Torino (IT)</td>
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<td>25. FhG EMI – Freiburg (DE)</td>
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<td>27. Min. Interior – Rome (IT)</td>
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<td>30. Arup Group Ltd – London (UK)</td>
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<td>31. FhG EMI – Freiburg (DE)</td>
</tr>
</tbody>
</table>

The above projects are complemented by on-going projects dealing with various aspects of security and safety of built environment, namely:
### 7.4.2 Security threats in complex environments

More specific research focused on security threats to complex environments and areas such as e.g. land border surveillance, high security sites, historical sites etc. as well as other environments such as off-shore platforms:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
</table>

### 7.4.3 Cyber Security

Cyber security has become one of the core research areas of the FP7 Secure Societies – ICT programme (managed by DG CNECT). A range of finished projects are exemplified below:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>COCKPITCI</td>
<td>FP7 - Secure Societies</td>
<td>Call 2013.5-4 CP</td>
<td>October 2013 / September 2015 EUR 2,986,675 REA - 285647</td>
<td>Improve resilience &amp; dependability of CIs by automatic detection of cyber-threats, sharing of real time information about attacks among CI owners. Also to identify a range of security threats in CI environments and develop a system capable of detecting, analysing &amp; responding efficiently &amp; effectively to incidents to support CI owners. Project will design &amp; develop methodologies &amp; technologies, best practices, security risks in sensitive environments, to design, develop &amp; deliver methodologies, technologies &amp; tools for the development of a methodology architecture, set of tools &amp; services.</td>
</tr>
</tbody>
</table>
## On-going FP7 projects are complementing the above research efforts:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<tbody>
<tr>
<td>PROGRESS</td>
<td>FP7 – Secure Societies - IET</td>
<td>Call ICT</td>
<td>May 2014 – April 2017</td>
<td>Coordinator: 1. ZAR – Paris (FR)</td>
</tr>
</tbody>
</table>

### VIKING

Vital infrastructure, networks, information systems and systems management

**Objectives:**
- To investigate the vulnerability of SCADA systems, cost of cyber attacks on society
- To propose, test, spread technologies to mitigate these vulnerabilities
- To increase awareness for importance of critical infrastructures & need to protect them
- Objective is to develop, test, evaluate methodologies for analysis, design & operation of resilient & secure industrial control systems for CIs
- Methodologies will be developed with particular focus on increasing robustness of control system: Focus is on power transmission, distribution networks, SCADA systems, process control systems and their dependencies between CIs & underlying control systems: Analysis, modelling of interdependencies between CIs of the infrastructure, cyber-attacks, & automatically adapt to dynamically changing requirements arising from direct impact on CI from natural events, accidents, malicious attacks. Objectives:

#### On-going ON-GOING projects

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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</thead>
<tbody>
<tr>
<td>PROGRESS</td>
<td>FP7 – Secure Societies - IET</td>
<td>Call ICT</td>
<td>December 2010 – November 2011</td>
<td>Coordinator: 1. ABB AG – Berlin (DE)</td>
</tr>
</tbody>
</table>

### Protection and Resilience through Infrastructure Resilience - International Cooperation aspects

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
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### INSPIRE

Risking Security and Protection through Infrastructure Resilience - International Cooperation aspects

<table>
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<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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</table>

### VIKING

Vital infrastructure, networks, information systems and systems management

**Objectives:**
- To investigate the vulnerability of SCADA systems, cost of cyber attacks on society
- To propose, test, spread technologies to mitigate these vulnerabilities
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- Objective is to develop, test, evaluate methodologies for analysis, design & operation of resilient & secure industrial control systems for CIs
- Methodologies will be developed with particular focus on increasing robustness of control system: Focus is on power transmission, distribution networks, SCADA systems, process control systems and their dependencies between CIs & underlying control systems: Analysis, modelling of interdependencies between CIs of the infrastructure, cyber-attacks, & automatically adapt to dynamically changing requirements arising from direct impact on CI from natural events, accidents, malicious attacks. Objectives:

#### On-going ON-GOING projects

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<th>Project Acronym / Title</th>
<th>Funding instrument</th>
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### Protection and Resilience through Infrastructure Resilience - International Cooperation aspects

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</table>
### 7.4.4 Detection / Control of CBRN-E risks

The CBRN Action Plan as well as the Explosives Action Plan include various requirements regarding detection, surveillance and control, for example requirements for appropriate measures to ensure that security plans/management systems are in place in high-risk chemical facilities. Controls also concern the delivery of high-risk chemicals and equipment by chemical industry to legitimate users and licensing schemes in particular. In high-risk chemical facilities, security management systems are in place. Controls also concern the delivery of high-risk chemicals and equipment by chemical industry to legitimate users and licensing schemes in particular. In high-risk chemical facilities, security management systems are in place.

### 7.4.4.1 Demonstration project in the field of CBRNE crisis management (generic)

Capitalising on various FP7 developments, a major demonstration project is currently developing an integrated approach for CBRNE tools development and testing.

### Project Details

**Project Acronym / Title:**

- CICCAE
- SCINTILLA
- MODES-SNM
- REWARD

**Funding Instrument:**

- FP7 – Secure Societies

**Contract Details:**

- Call 2011-1.5-1 CP

**Abstract / Website:**

- http://www.ciccae.eu
- http://www.scintilla-project.eu
- http://www.modes-snm.eu
- http://www.reward-project.eu

### Major Objectives

- **CICCAE**

  - Cooperation across Europe for CBRNE-based security instruments
  - Technology development for spectroscopic measurements of radioactive sources

- **SCINTILLA**

  - Development of detection capabilities of difficult to detect radiation sources and nuclear materials

- **MODES-SNM**

  - Modular detection system for special nuclear materials

- **REWARD**

  - Real-time Wide-Area Radiation Surveillance System

### Participants

- EDEN
- CICCAE
- SCINTILLA
- MODES-SNM
- REWARD

### Funding

- **EDEN**

  - Coordinator: 1. Bae Systems - Farnborough (UK)
  - Consortium:
    - Call 2012-1.5-1 Demo
    - ENTR – #120587
  - Project Acronym / Title: A Toolbox of Toolboxes - i.e. ability to integrate already existing Tools and Toolboxes, to upgrade them, develop new tools & propose a comprehensive larger approach:
    - Covering preparedness, crisis response and recovery phases
    - Involving more stakeholders
    - Users, public organisations, first responders, large operators, media & population
    - Suppliers and SHMs with additional customers
    - User restricted forum and networks
    - Scientific expertise & networks
    - Market place

- **CICCAE**

  - Coordinator: 1. BAE Systems - Farnborough (UK)
  - Consortium:
    - Project Acronym / Title: CICCAE - Cooperation across Europe for CBRNE-based security instruments
    - Status: FINISHED
    - Contract / Project: Call 2012-1.5-1 CP
    - Abstract / Website: http://www.ciccae.eu
    - REA: #312054
    - Technology development for spectroscopic measurements of radioactive sources
    - Applications to localize radioactive sources, contamination or such as nuclear terrorism threats, lost or stolen special nuclear material

- **SCINTILLA**

  - Coordinator: 1. BAE Systems - Farnborough (UK)
  - Consortium:
    - Project Acronym / Title: SCINTILLA - Development of detection capabilities of difficult to detect radiation sources and nuclear materials
    - Status: FINISHED
    - Contract / Project: Call 2011-1.5-1 CP
    - Abstract / Website: http://www.scintilla-project.eu
    - REA: #385204
    - Building innovative, comprehensive toolbox of devices, best-of breed technologies for enhanced detection & identification of difficult to detect radioactive sources & nuclear materials. It covers broad range of different usage cases as an automatic screening of moving targets: people, cars, trucks, inspection of large containers & detection of radioactive sources in tanks.

- **MODES-SNM**

  - Coordinator: 1. BAE Systems - Farnborough (UK)
  - Consortium:
    - Project Acronym / Title: MODES-SNM - Modular detection system for special nuclear materials
    - Status: FINISHED
    - Contract / Project: Call 2011-1.5-1 CP
    - Abstract / Website: http://www.modes-snm.eu
    - REA: #384682
    - Development of a prototype for mobile, modular detection system for radioactive, Special Nuclear Materials. Measuring detection capability for SNM, the prototype combines detectors for fast, thermal neutrons, gamma-rays. Key detector technology is high pressure scintillation cells filled with noble gases. Fully integrated & field tested prototype of modular mobile system capable of passing detection week on shielded radioactive source with accuracy higher than currently available systems.

- **REWARD**

  - Coordinator: 1. BAE Systems - Farnborough (UK)
  - Consortium:
    - Project Acronym / Title: REWARD - Real-time Wide-Area Radiation Surveillance System
    - Status: FINISHED
    - Contract / Project: Call 2011-1.5-1 CP
    - REA: EUR 5,020,795
    - Network model of system for real-time, wide-area radiation surveillance, based on integration of new miniaturized solid-state radiation sensors. GD#74 detector for gamma radiation & high efficiency neutron detector based on novel silicon technologies. Sensing unit includes wireless communication interface to send data remotely to monitoring base station as GPS system to calculate the tag position. Neutron detector based on novel silicon technology is high pressure scintillation cells filled with noble gases. Fully integrated & field tested prototype of modular mobile system capable of passing detection week on shielded radioactive source with accuracy higher than currently available systems.

### Participants

- Coordinator: 1. BAE Systems - Farnborough (UK)
  - Consortium:
    - Call 2012-1.5-1 Demo
    - ENTR – #120587

### Funding Details

- **EDEN**

  - Coordinator: 1. BAE Systems - Farnborough (UK)
  - Consortium:
    - Call 2012-1.5-1 Demo
    - ENTR – #120587

- **CICCAE**

  - Coordinator: 1. BAE Systems - Farnborough (UK)
  - Consortium:
    - Call 2012-1.5-1 Demo
    - ENTR – #120587

- **SCINTILLA**

  - Coordinator: 1. BAE Systems - Farnborough (UK)
  - Consortium:
    - Call 2011-1.5-1 Demo
    - ENTR – #120587

- **MODES-SNM**

  - Coordinator: 1. BAE Systems - Farnborough (UK)
  - Consortium:
    - Call 2011-1.5-1 Demo
    - ENTR – #120587

- **REWARD**

  - Coordinator: 1. BAE Systems - Farnborough (UK)
  - Consortium:
    - Call 2011-1.5-1 Demo
    - ENTR – #120587
### DETECT

**Project Acronym / Title**
FP7 Fission Project Call 2008-5.5.1

**Funding Instrument**
FP7 Fission Project

**合同 details**
- **Contract** Details
  - **Project** Title: Design of optimized systems for monitoring of radiation and radionuclides in case of a Nuclear or Radiological Emergency in Europe
  - **Contract** Details: June 2009 - December 2011
  - **Duration**: 2 years
  - **Amount**: EUR 400,000
  - **RD** - 233562

**Abstract / Website**
- **Abstract**: Developing a methodology for optimizing the design of monitoring systems for timely and effective decision making in an emergency. This objective is achieved by developing the methodology with the expected impact: “A tool for making more efficient use of monitoring resources and improving the bases for decision making in emergencies, in particular in the context of the need to react and deploy during the next decade many of the monitoring systems installed post-Chernobyl.”
- **Website**: http://detect.solutions-belem/

**Status**
FINISHED

**Coordinator**
- **Institution**: Stichting Leiden University, Netherlands
- **Country**: Netherlands
- **Contact Person**: Prof. Dr. A. van den Boogaard
- **Email**: a.vandenboogaard@leidenuniv.nl

**Consortium**
- **Members**:
  - 1. University of Antwerp, Belgium
  - 2. Acad. Med. Centr, University of Amsterdam, Netherlands
  - 3. Biocartis Nv, Belgium
  - 4. Biomax Inform., Germany
  - 5. Biomerieux Sa, France
  - 6. Biomax Inform., Germany
  - 7. CEEPD, France
  - 8. Erasmus Univ. Med. Centrum, Rotterdam, Netherlands
  - 9. European Society of Intensive Care Medicine, Geneva, Switzerland
  - 10. FNW Institute of Pathology, Netherlands
  - 11. Fond. Penta, Italy
  - 12. Imperial College of Science, Technology and Medicine, London, United Kingdom
  - 13. Inst. Pasteur, France
  - 14. EEF Arbeitskreis Infektionsdiagnostik Diagnostik, Germany
  - 15. Erasmus Univ. Med. Centrum, Rotterdam, Netherlands
  - 16. SCK, Belgium
  - 17. Univ. Bonn, Germany
  - 18. Univ. Collge Dublin, Ireland
  - 19. Univ. Western Australia, Australia
  - 20. Univ. Birmingham, United Kingdom
  - 21. University of Antwerp, Belgium

### PREPARE

**Project Acronym / Title**
FP7 Fission Project Call 2009-5.5.1

**Funding Instrument**
FP7 Fission Project

**Contract details**
- **Project** Title: Innovative integrative tools and platforms to be prepared for Radiological emergencies, and post-accident Response in Europe
- **Contract** Details: June 2009 - December 2011
- **During**: 2 years
- **Amount**: EUR 400,000
- **RD** - 233562

**Abstract / Website**
- **Abstract**: Developing a methodology for optimizing the design of monitoring systems for timely and effective decision making in an emergency. This objective is achieved by developing the methodology with the expected impact: “A tool for making more efficient use of monitoring resources and improving the bases for decision making in emergencies, in particular in the context of the need to react and deploy during the next decade many of the monitoring systems installed post-Chernobyl.”
- **Website**: http://prepare.solutions-belem/

**Status**
FINISHED

**Coordinator**
- **Institution**: Stichting Leiden University, Netherlands
- **Country**: Netherlands
- **Contact Person**: Prof. Dr. A. van den Boogaard
- **Email**: a.vandenboogaard@leidenuniv.nl

**Consortium**
- **Members**:
  - 1. University of Antwerp, Belgium
  - 2. Acad. Med. Centr, University of Amsterdam, Netherlands
  - 3. Biocartis Nv, Belgium
  - 4. Biomax Inform., Germany
  - 5. Biomerieux Sa, France
  - 6. Biomax Inform., Germany
  - 7. CEEPD, France
  - 8. Erasmus Univ. Med. Centrum, Rotterdam, Netherlands
  - 9. European Society of Intensive Care Medicine, Geneva, Switzerland
  - 10. FNW Institute of Pathology, Netherlands
  - 11. Fond. Penta, Italy
  - 12. Imperial College of Science, Technology and Medicine, London, United Kingdom
  - 13. Inst. Pasteur, France
  - 14. EEF Arbeitskreis Infektionsdiagnostik Diagnostik, Germany
  - 15. Erasmus Univ. Med. Centrum, Rotterdam, Netherlands
  - 16. SCK, Belgium
  - 17. Univ. Bonn, Germany
  - 18. Univ. Collge Dublin, Ireland
  - 19. Univ. Western Australia, Australia
  - 20. Univ. Birmingham, United Kingdom
  - 21. University of Antwerp, Belgium

### Another on-going project is focusing on tools and platforms for improved post-accident responses in case of radiological emergencies:

**Project Acronym / Title**
FP7 Fission Project Call 2011-1 CP

**Funding Instrument**
FP7 – Secure Societies

**Contract details**
- **Project** Title: HANDHELD - HANDheld Detector
- **Contract** Details: April 2012 / September 2015
- **Duration**: 4 years
- **Amount**: EUR 5,495,805
- **RD** - 284456

**Abstract / Website**
- **Abstract**: Development of CBRNE modular sensor platform which is reconfigurable & can be deployed for stand-off detection for periods of up to 8 h, operating on battery alone. This platform will be capable of stand-alone use, implementing operational characteristics of sensor dogs used to detect sharks & explosives. Development of sensors for chemical, explosives, biological detection, and RN-detection
- **Website**: http://www.handheld.eu/

**Status**
FINISHED

**Coordinator**
- **Institution**: Queen’s University Belfast, Northern Ireland
- **Country**: United Kingdom
- **Contact Person**: Dr. D. A. McEvoy
- **Email**: dave.mcevoy@qub.ac.uk

**Consortium**
- **Members**:
  - 1. Queen’s University Belfast, United Kingdom
  - 2. Tyndall UCC, Cork, Ireland
  - 3. Scorpion Networks Ltd, Clare, Ireland
  - 4. Karlstorn Instr. Technical Fit, Karlsruhe, Germany
  - 5. Defensia Oy, Tampere, Finland
  - 6. INAS - Liebau (PT)
  - 7. Univ. Ireland - Galway, Ireland

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**7.4.4.3 CBRNE detection and post-crisis assessment for civil security**

CBRN detection for civil security applications is high on the agenda of the CBRN Action Plan and has been covered by several projects funded by the FP7 Secure Societies programme.
CBRN contamination risks in complex crises situation are also investigated in an on-going project funded by the FP7 Secure Societies programme:

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<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
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<th>Abstract / Website</th>
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</table>
A further research effort on CBRN detection within Horizon2020 will be through the DR5-2-2014 topic on “Tools for detection, traceability, triage and individual monitoring of victims after a mass CBRN contamination and/or exposure”.

7.4.4.5 Protective equipments

Research on protective equipments is of direct support to EU policies such as the CBRN Action Plan and the UCPM, so addressing both security and safety needs for first responders. Examples of finished projects are:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRESB</td>
<td>PFP – Secure Societies</td>
<td>Call 2007.4.3-5 CP</td>
<td>June 2008 / May 2012</td>
<td>Coordinator: 1. Ecole Royale Militaire – Brussels (BE)</td>
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<td><a href="http://www.fresb.eu">www.fresb.eu</a></td>
<td>Status: ON-GOING</td>
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<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<td><a href="http://www.ifreact.eu">www.ifreact.eu</a></td>
<td>Status: FINISHED</td>
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<tr>
<th>Project Acronym / Title</th>
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<th>Contract details</th>
<th>Abstract / Website</th>
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<tr>
<td></td>
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<td><a href="http://www.smartfire.eu/">http://www.smartfire.eu/</a></td>
<td>Status: ON-GOING</td>
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<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
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</thead>
<tbody>
<tr>
<td>SMARTPRO</td>
<td>PFP – Secure Societies</td>
<td>Call 2013.1.4-1 CP</td>
<td>April 2014 / September 2017</td>
<td>Coordinator: 1. Agentschap Innovatie Wetenschap Technol – Brussels (BE)</td>
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<td><a href="http://www.smartpro-project.eu">http://www.smartpro-project.eu</a></td>
<td>Status: FINISHED</td>
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</tbody>
</table>

An on-going project is focusing on protective clothing for law enforcement personnel, namely:

**Project Acronym / Title**: SMARTPRO
**Funding Instrument**: PFP – Secure Societies
**Contract details**: Call 2013.1.4-1 CP
**Abstract / Website**: http://www.smartpro-project.eu

7.4.5 Risk Assessment of Major Accident Hazards

Related to the major accident hazards and its risk management, the Directive 2012/18/EU on major-accidents hazards involving dangerous substances sets a number of obligations both to the Member States (e.g., legislation, organisation of the Inspections, reporting to the EC, etc.) as well as to the industrial establishments. To date, there are very few Secure Societies projects which cover major accident hazards. However, within Horizon2020, the DRS-15-2015 topic (2015 call on “Protecting potentially hazardous and sensitive sites, areas, and large-scale infrastructure”) will support research in support of the Directive 2012/18/EU, addressing the need that potential impacts also from -major accidents to the national or EU infrastructure are to be analysed and considered also at the strategic level, thus extending the risk management and risk assessment beyond usual scope (establishment level).

In the current major accident hazards and early warning related to new technology threats have been subject to two projects, namely:

**Project Acronym / Title** | **Funding Instrument** | **Contact details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
SECURENU | FP7 – Secure Societies | Call 2007-5.1-1 CSA | May 2009 / April 2013 | Identification and analysis of major industrial & environmental accidents for better understanding of future risks & natural phenomena (fires, floods), industrial accidents (chemical, biological). Models were used to develop systematic security foresight approach. Result methodology is a combination of assessment methods including input, experience from survey addressing more than 600 experts in EU & beyond. <br><br>www.securenu.eu<br><br>Coordinator: 1. Georges Environmental Tech - Budapest (HU)<br>2. CSIR – South Africa (ZA)<br>3. Aquisglp GmbH (DE)

**OffFlag Risk** | **Status: FINISHED** | **FINISHED** | Large-scale integrating project aimed at improving the management of emerging risks in the innovative industry. Reducing time-to-market for the lead market EU technologies and promote safety, security, environmental friendliness and social responsibility as a trade-mark of the advanced EU technologies. Improve: early recognition and monitoring of emerging risks, reduction of accidents caused by them (estimated 25 0000 EU27) and decrease of reaction times if major accidents involving emerging risks happen. | Coordinator: European Virtual Institute for Integrated Risk Management - Stuttgart (DE) And a wide range of partners | **Project Acronym / Title** | **Funding Instrument** | **Contact details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
TOSCA | FP7 - NMP 2007-3.1-1 IP | December 2008 / May 2013 | EUR 15,022,100 | Large-scale integrating project aimed at improving the management of emerging risks in the innovative industry. Reducing time-to-market for the lead market EU technologies and promote safety, security, environmental friendliness and social responsibility as a trade-mark of the advanced EU technologies. Improve: early recognition and monitoring of emerging risks, reduction of accidents caused by them (estimated 25 0000 EU27) and decrease of reaction times if major accidents involving emerging risks happen. | Coordinator: European Virtual Institute for Integrated Risk Management - Stuttgart (DE) And a wide range of partners | **Project Acronym / Title** | **Funding Instrument** | **Contact details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
SAFEWATER | FP7 – Secure Societies | Call 2012-5.1-5 CP | February 2009 / January 2013 | Developing an affordable global generic solution for detection & management of drinking water crises resulting from RBM contamination. It addresses key drinking water insistent management challenges at large & current shortcomings related to contamination of water networks by RBM agents. Functionality of leading European Water Management System will be expanded by introducing online simulation capability, allowing users to have close to real-time view of network’s behaviour. New sensors will be proposed for online B-, R-water quality measurements. | Coordinator: 1. Univ. Lorraine - Nancy (FR) | **Project Acronym / Title** | **Funding Instrument** | **Contact details** | **Abstract / Website** | **Consortium**
--- | --- | --- | --- | ---
Societies

**7.4.6 Water security and safety**

Water security threats are directly related to the quality of degradation, either from a user’s viewpoint (quality of drinking water) or ecological standpoint (ecological or chemical water status). While intentional degradation of water quality is not specifically covered by EU water policies, the quality deterioration is nevertheless regulated by the Water Framework Directive and its parent directives dealing with drinking water, priority substances and groundwater. Related projects are:

**On-going projects are dealing with sensor systems for improved security of water supply, detection of contamination events, and tap water radioactivity real-time monitoring.**
### 7.7.4 Prevention of Food Supply Chain-related threats

The Decision 1082/2013/EU requests measures to prevent food supply related threats regarding communicable disease and health issue. Projects look at border threats, focusing on the food chain security:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAMAHA_RTM</td>
<td>FP7 – Secure Societies</td>
<td>Call 2012 1 1-2</td>
<td>December 2013 / May 2018</td>
<td>Demonstrates, test new tool for real-time monitoring of radioactive contamination in tap water. Provide real-time measurement of water activity (measuring gross alpha, beta activity) to verify whether distributed water is far from limits set by the EU legislation (law Directive 80/778/EEC of EU Council). Include development of complete platform including Fast Real-Time Monitor system (RTM), Spectroscopic system (SPECS) as well as Information &amp; Communication System. Designed to include-in future also chemical and biological sensors.</td>
</tr>
</tbody>
</table>

### 7.7.4.8 Detection / inspection for customs in relation to security threats

The Regulation 952/2013 highlights the need to develop and test detection technologies, in particular Non-Intrusive Inspection equipment and radiation detection for conducting inspections. Examples of projects in this area are described in this section.

#### 7.7.4.8.1 Detection of illegal drugs and hidden persons

Supporting this area, a range of projects has been funded to develop methods of used by customs for e.g. detecting hidden persons, identifying narcotics and support counter-measures, examples are:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPICEOCD</td>
<td>FP7 – Secure Societies</td>
<td>Call 2012 1 1-2</td>
<td>June 2013 / June 2016</td>
<td>The examination of spices &amp; herbs supply chain, possible vulnerable points, investigation of sensory data of biological and chemical contamination.</td>
</tr>
</tbody>
</table>
A Community of Users on Secure, Safe and Resilient Societies (CoU)
Mapping EU policies and FP7 research for enhancing partnerships in H2020

4.2. Supply chain security

7.4.8.2 Supply chain security

Other projects are focusing on supply chain security, namely:

- **CONSORTS**
  - **Connected Objects: Stand-Off Real-Time Imaging for Security**
  - **FINISHED**
  - **Project Acronym / Title**: FP7 – Secure Societies
  - **Project Fund**: Call 2012.3.4-5
  - **Duration**: January 2014 / February 2017
  - **Budget**: EUR 8,915,449
  - **Status**: ENTR – 312749
  - **Coordinator**: Develop a demonstrator for stand-off real-time concealed object detection for future implementations of high throughput security screening for EU mass transit markets & infrastructure security. Approach incorporating multiple frequency passive submicrowave wave video camera, coupled with active 5GHz 3D imaging radar system. Automatic Anomaly Detection algorithms to improve automation and privacy issues. End-user demos at a EU airport.
  - **Fluorescence.**

- **SNOOPY**
  - **Sniffer for concealed people discovery**
  - **Project Acronym / Title**: FP7 – Secure Societies
  - **Project Fund**: Call 2012.3.4-4
  - **Duration**: January 2014 / December 2016
  - **Budget**: EUR 1,855,891
  - **Status**: ENTR – 311510
  - **Coordinator**: Integration of handheld artificial sniffer system for customs/police inspection purposes. Able to seek hidden personal, controlled goods, illicit drugs, volatile & security hazards. Target gases cover human perception like carbon: acids, alcohols, volatile compounds, nitrogen compounds, human breathing product CO2 with different kinds of sensors. Benchmarking towards dogs and ion mobility spectrometry.
  - **Fluorescence.**

- **DPFF**
  - **Artificial sniffer on/in cat technology**
  - **Project Acronym / Title**: FP7 – Secure Societies
  - **Project Fund**: Call 2011.3.4-2
  - **Duration**: January 2015
  - **Budget**: EUR 4,925,821
  - **Status**: ENTR – 285205
  - **Coordinator**: Highly innovative one-stop shop approach to complement sniffer dogs & leverage their capabilities, based on state-of-the-art technologies currently available in new generation of olfactory humans. It covers variety of border security situations in which dogs are used today. Capabilities will allow security forces to operate 24/7, while saving use of real dogs for cases in which they potentially make difference. Border security, especially at airports, will be significantly enhanced as regards illegal trafficking of all kinds (drugs, biomass, illegal immigration, etc.) as well as terrorist acts (thanks to explosion detection).
  - **Fluorescence.**

- **DIBAC**
  - **Rapid screening and identification of illegal Drugs by UV Abosorption and gas Chromatography**
  - **Project Acronym / Title**: FP7 – Secure Societies
  - **Project Fund**: Call 2009-1.3-2 & 4
  - **Duration**: March 2014
  - **Budget**: EUR 2,985,507
  - **Status**: REA – 242509
  - **Coordinator**: Development of a point sensor to be used by customs and police officers in their daily fight against trafficking of illicit drugs, suitable in particular to detect and identify amphetamines and their precursors. Compact size, capable to analyse both trace and bulk material and both volatile and non-volatile material. Identification capacity superior to commercial sensors based on HRC Analysis / recognition based on Infrared Absorption Spectroscopy.
  - **Fluorescence.**

- **SNOOPY**
  - **Sniffer for concealed people discovery**
  - **Project Acronym / Title**: FP7 – Secure Societies
  - **Project Fund**: Call 2012.3.4-4
  - **Duration**: January 2014 / December 2016
  - **Budget**: EUR 1,855,891
  - **Status**: ENTR – 311510
  - **Coordinator**: Integration of handheld artificial sniffer system for customs/police inspection purposes. Able to seek hidden personal, controlled goods, illicit drugs, volatile & security hazards. Target gases cover human perception like carbon: acids, alcohols, volatile compounds, nitrogen compounds, human breathing product CO2 with different kinds of sensors. Benchmarking towards dogs and ion mobility spectrometry.
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  - **Status**: REA – 242509
  - **Coordinator**: Development of a point sensor to be used by customs and police officers in their daily fight against trafficking of illicit drugs, suitable in particular to detect and identify amphetamines and their precursors. Compact size, capable to analyse both trace and bulk material and both volatile and non-volatile material. Identification capacity superior to commercial sensors based on HRC Analysis / recognition based on Infrared Absorption Spectroscopy.
  - **Fluorescence.**
### Project Acronym / Title | Funding Instrument | Contract details | Abstract / Website | Consortium
--- | --- | --- | --- | ---
**CASSANDRA**  
Common assessment and analysis of risks in global supply chain  
Status: FINISHED
- Project Acronym / Title: CASSANDRA
- Funding Instrument: FP7 – Secure Societies
- Call: 2010.5.2-1 IP
- Contract details: June 2011 / June 2015
- Abstract / Website: http://www.cassandra-project.eu
- Consortium: Coordinator: 1. TNO – the Hague (NL)
  
**DISMOSIS**  
Overcoming Security Market Obstacles for SMEs Involvement in the Technological Supply Chain  
Status: FINISHED
- Project Acronym / Title: DISMOSIS
- Funding Instrument: FP7 – Secure Societies
- Call: 2016.7-2 CSA
- Contract details: April 2016 / March 2016
- Abstract / Website: http://www.dismosis.eu
- Consortium: Coordinator: 1. Castellani Srl – Milano (IT)

### Other on-going projects are complementing the above:

### Project Acronym / Title | Funding Instrument | Contract details | Abstract / Website | Consortium
--- | --- | --- | --- | ---
**SAFEPOST**  
Reuse and development of Security Knowledge assets for International Postal Supply chains  
Status: FINISHED
- Project Acronym / Title: SAFEPOST
- Funding Instrument: FP7 – Secure Societies
- Call: 2011.2.4-1 IP
- Contract details: May 2012 / June 2016
- Abstract / Website: http://www.safepostoproject.eu
  
**LOGOSC**  
Development of a strategic roadmap towards a demonstration project in EU logistics & supply chain security  
Status: FINISHED
- Project Acronym / Title: LOGOSC
- Funding Instrument: FP7 – Secure Societies
- Call: 2009.1-1 IP
- Contract details: November 2009 / July 2011
- Abstract / Website: http://www.logosc.org
- Consortium: Coordinator: 1. EFP Consulting – Leeds (UK)
  
**SECRECHAMS**  
Integration of security technology in city chains and identification of weaknesses and unmet potential  
Status: FINISHED
- Project Acronym / Title: SECRECHAMS
- Funding Instrument: FP7 – Secure Societies
- Call: 2009-7-2 CSA
- Contract details: May 2010 / April 2012
- Abstract / Website: http://www.securitychains.eu
- Consortium: Coordinator: 1. INDOPOLIS – Porto (PT)

### Project Acronym / Title | Funding Instrument | Contract details | Abstract / Website | Consortium
--- | --- | --- | --- | ---
**PATCH**  
Intelligent Privacy Avoidance using threat detection and countermeasure heuristics  
Status: ON-GOING
- Project Acronym / Title: PATCH
- Funding Instrument: FP7 – Secure Societies
- Call: 2013-2.4 CSA
- Contract details: March 2014 / April 2017
- Abstract / Website: http://www.patchproject.eu/partners.aspx
- Consortium: Coordinator: 1. BMT Group Ltd – Teddington (UK)

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Other on-going projects are complementing the above:
### 7.4.9 Transport Security Threats

Security related research is also focusing on several branches of transport policies as illustrated below.

#### 7.4.9.1 Railway security

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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</thead>
</table>
### 7.4.9.2 Urban transport and road network security

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Secured Urban Transportation / European Demonstration</strong></td>
<td>FP7 – Secure Societies ICT</td>
<td>Call 2012.6.1-3 Societies ICT</td>
<td>November 2009 / August 2011</td>
<td>EUR 2,105,588</td>
</tr>
</tbody>
</table>

- Integrate consistent, interoperable use of technologies & processes, covering all aspects of EU improvement in mass transportation security through development of packaged modular solutions validated in 4 demonstrations. It aimed to be used on transport systems in EU medium & large cities core. It defines consistent & interoperable use of technologies & processes: - toolkit of operational procedures aimed at identifying, managing risks, planning operations, ensuring fast restoration of activities, varying of improved technical security solutions. Video analytics, Protection, hardening, CI resilience CBBN E-sensor systems. - standardised information-management & alarm systems controlling exchange of information between transport actors/users. - intelligent incident prevention, EWS using multiple-source correlation.

www.secur-ed.eu

### 7.4.9.3 Security of Critical Infrastructures in relation to Mass Transportation

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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www.demmast.eu

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<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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</thead>
</table>

- Strategic Risk Assessment and Contingency Planning in inter-connected Transport Networks

STAR-TRANS created models that can represent possible risk incidents, structure & assets of EU’s heterogeneous transport systems, relationship between different assets in networks. Project developed a STAR-TRANS modelling language & impact-assessment modelling language. www.startrans-project.eu

<table>
<thead>
<tr>
<th>Coordinator</th>
<th>1. Thales – Paris (FR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consortium</td>
<td>2. Bund. Straßenwesen BASt – Bergisch Gladbach (DE)</td>
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<td></td>
<td>3. Parsons Brinckerhoff – Newcastle (UK)</td>
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<td>4. Tech. Univ Graz (AT)</td>
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<td>5. Bombardeo Transp. – Berlin (DE)</td>
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<td>6. CEA – Paris (FR)</td>
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<td>7. CERT Madrid (ES)</td>
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<td>8. Deutsche Bahn AG – Berlin (DE)</td>
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<td>10. Edificio – Lisbon (PT)</td>
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<td>11. FD – Stockholm (SE)</td>
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<td>12. PhG – Munich (DE)</td>
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<td>13. Hamburg Verkehrsverwaltung (DE)</td>
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<td>14. ICC – Madrid (ES)</td>
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<td>15. INDV – Lisbon (PT)</td>
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<td>16. JRC – Bruxelles (BE)</td>
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<td>17. KTH – Stockholm (SE)</td>
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<td>20. NICE Systems Ltd – Haifa (IL)</td>
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<td>21. Univ. Paderborn (DE)</td>
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<td>22. IRTP – Paris (FR)</td>
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<td>23. Mphist – Paris (FR)</td>
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<td>25. Mphist – Paris (FR)</td>
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<td>26. SNCF – Paris (FR)</td>
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<td>27. Ferrara Nord-Milano (IT)</td>
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<td>28. Univ. Stavanger (NO)</td>
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<td>29. Statens Str. (DK)</td>
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<td>30. TNO – Delft (NL)</td>
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<td>31. TU Dresden (DE)</td>
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<td>32. UITP – Brussels (BE)</td>
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<td>33. UNITE – Brussels (BE)</td>
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<td>34. VTT – Espoo (FR)</td>
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<td>35. Univ. Iuliu- alba Iulia (RO)</td>
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<td>36. BKT – Minsk (BY)</td>
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<td></td>
<td>37. Intrasoft International – Athens (GR)</td>
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<td></td>
<td>38. Intersoft International – Athens (GR)</td>
</tr>
<tr>
<td></td>
<td>40. Securitas – Stockholm (SE)</td>
</tr>
</tbody>
</table>

7.4.10 Risk assessment related to radicalisation

Radicalisation has become one of the core research areas with the recent events, few projects have covered this area in FP7 but the coverage will be enhanced in H2020:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPACT EUROPE</td>
<td>FP7 – Secure Societies</td>
<td>Call 2012-1 CP</td>
<td>January 2014 / August 2015</td>
<td>EUR 2,081,557</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Tiling gap in knowledge &amp; understanding of what works in tackling violent radicalisation, developing evaluation toolkit that enables evaluation, policy makers, frontline workers, academics in field of violent radicalization to answer how effective are various programs in tackling violent radicalisation, what is best practice in tackling violent radicalisation, how does this inform our knowledge, understanding? This evaluation toolkit aims to help professionals in their interventions and integrating best practice into design.</td>
<td></td>
</tr>
</tbody>
</table>

7.4.11 Disaster Response and Security of Citizens

Complementing Chapter 7.2 focusing on natural disasters, issues related to disaster response and security are handled in research projects which often include classified components and involve different categories of stakeholders. The section below provides insights into projects in this area.

7.4.11.1 Interoperability and communication with focus on security

Projects below illustrate research trends in (interoperable) communications to enhance citizen’s security:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRESEC</td>
<td>FP7 – Secure Societies</td>
<td>Call 2013.5-2 CP</td>
<td>February 2014 / July 2014</td>
<td>EUR 5,284,040</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Investigating barriers to interoperability of emergency services, proposing communication solution to support information exchange through heterogeneous communication systems, deploying interoperability platform across 3 countries &amp; evaluates its operation. Creation of solution that will allow highly secure &amp; cost effective interoperability between communication infrastructures right across Europe. System operating free-of-charge through an open source gateway.</td>
<td></td>
</tr>
</tbody>
</table>

On-going projects are complementing the above research efforts:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRISYS</td>
<td>FP7 – Secure Societies</td>
<td>Call 2010.4-1 CP</td>
<td>February 2011 / May 2012</td>
<td>EUR 740,945</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Roadmap building capable of full implementation to show specific demonstration actions whilst establishing contacts &amp; awareness with main public &amp; private stakeholders. CRISYS links approaches, technical solutions, proposals, &amp; standards that exist in civil protection field, which can be extremely fragmented at national, local level, to permit fast, adequate response to natural &amp; manmade threats</td>
<td></td>
</tr>
</tbody>
</table>
In the sector of civil protection, the establishment of the European Emergency Response Capacity (EERC) is linked to quality requirements (based on international standards where such standards exist) defined by the Commission for the risk of significant strategic response capacity gaps in the Member States will ensure that it is ready to a process for certification and registration of the Member States response capacities made available to the EERC. Potentially significant strategic response capacity gaps in the EERC are identified with help by the Commission to Member States consortia.

Key standardisation goals are identified in the CBRN and Explosive Action Plans, in particular the requirement to make a comprehensive overview of relevant regulations or standards at hand and their relevance to biosecurity and biosafety, and to consider implementation of the CEN Workshop Agreement CWA 15793 and WHO Laboratory Biosafety Guidance. The plan also promotes the development of a coherent set of minimum technical detection standards (including with the context of border monitoring) based on scenarios, user requirements and risk and threat assessments while building on existing work, in particular the engagement of the private sector, especially ESOS (CEN, CENELEC, ETSI) and consideration of forensic requirements for evidence as well as legal metrology requirements. This is complemented by the requirement to develop reference materials of biological agents for both clinical and environmental samples (according to internationally accepted standards) in order to achieve quality assurance in detection. Finally, the plan also requires the setting of minimum requirements for sampling, detection, identification and monitoring of pathogens and toxins within a civilian security context at EU level and make these available to the private sector, with due consideration of confidentiality. The CBRN Action Plan also requires the development of guidelines based on existing standards for CBRN training of Explosive Ordnance Disposal (EOD) specialists, including standards developed by EDA to the non-military context.

### 7.4.12 Standardisation

Standardisation supports a range of EU policies and is closely related to research developments (pre-, co- and post-normative research). The Mandate 488 report prepared by CEN has identified a number of needs and recommendations in the CBRN-E, Crisis Management and Border Control areas, which resulted in the selection of priorities by the Commission. These were dealt with in two different ways for CBRN-E and Crisis Management: (1) the development of Workshop Agreements within the framework of expert groups coordinated by the European Reference Network for CIP (ERNCIP); and (2) mandates to CEN for the development of selected standards. Besides these formal activities, FP7 research projects also include standardisation components as described below.

Within Horizon2020, the DRS-6-2015 topic on “Addressing standardisation opportunities in support of increasing disaster resilience in Europe” will complement on-going activities (see above) on standardisation (derived from M487 recommendations) and discuss gaps and perspectives for future standardisation developments.
7.4.13 Foresights studies on security threats

The constant progress of implementation and performance of security policies require a demonstration of anticipation about future needs (either related to research or policy implementation). This is why many projects are running foresight studies and discuss roadmaps to better prepare the future. Examples of finished projects are given below:

### Project Details

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status: FINISHED</td>
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<td>4. Mulholland (IE)</td>
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<td>7. Morocco – Paris (FR)</td>
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<td>8. Magen David Adom – Tel Aviv (IL)</td>
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<td>9. Police Service of Northern Ireland PSI – Dublin (UK)</td>
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<td></td>
<td>Provide means to establish sustainable process of anticipating emerging threats to security &amp; societal security, to translate them into research priorities. Future threats &amp; needs of security organisations are explored in context &amp; situational scenarios. Identification, assessment of opportunities for enhancing societal security is conducted within context of these scenarios. Options identified in stakeholder process, aiming to identify collective priorities. Exploration of needs, options for policy intervention with emphasis on EU policy level</td>
<td><a href="http://www.ettsi-project.eu">http://www.ettsi-project.eu</a></td>
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<tr>
<td>FESTOS</td>
<td>FP7 - Secure Societies</td>
<td>Call 2009-4.3-3</td>
<td>January 2009 / December 2011</td>
<td>Coordinator: 1. ICAP – Tel Aviv (IL)</td>
</tr>
<tr>
<td>Foresee of evolving security threats poised by emerging technologies, narrative concepts, assessment of need</td>
<td>Identification of future security threats posed by emerging technologies, narrative concepts, assessment of need to knowledge control, evaluation of policy measures to cope with threats. Adequate mix of Foresight methods were employed, i.e. horizon scanning, weak signals analysis, expert surveys, brainstorming, future workshops, interactive scenario building, STEEP analysis</td>
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<td>5. TU Berlin (DE)</td>
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<td>6. Universite Lescde – Lido (FR)</td>
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<td>EVESCS</td>
<td>FP7 – Security Societies</td>
<td>Call 2009-4-5-3</td>
<td>October 2010 / October 2013</td>
<td>Coordinator: 1. Prv Int – Bukovinchen (DE)</td>
</tr>
<tr>
<td>The evolving concept of security: A critical evaluation across four dimensions</td>
<td>Security which differ depending on policy and time and to analyse similarities, differences between them. Bringing together relevant European stakeholders to discuss core values, threats to them; measures to be taken to protect them. Recommendations for changes in working parameters of various types of security end-users, will serve as guidelines for policy makers responsible for formulating measures that influence an evolving EU concept. Focus on EU &amp; close neighbours, providing a holistic view on complex &amp; somewhat diffuse concept of security by evaluating it across 4 dimensions core values, areas of security &amp; time &amp; regional case studies West-Mediterranean EU; Eastern EU Border; North-Western EU; South-Eastern EU</td>
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<td></td>
<td></td>
<td>EUR 918,125</td>
<td>REA – 601442</td>
<td>Consortium: 2. Tecnical – Bilbao (ES)</td>
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<td>3. IAS – Affan International – Rome (IT)</td>
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<td>4. PSDA – Warsaw (PL)</td>
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<td>5. HCOS – Dem Haag (NL)</td>
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<td>6. Scuola Sup. Sant Anna – Pisa (IT)</td>
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<td>7. Univ. Loughborough (UK)</td>
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<td>8. Univ. Ca. Sacro Cuore – Milan (IT)</td>
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<td>ANVIL</td>
<td>FP7 – Secure Societies</td>
<td>Call 2011.6-1</td>
<td>March 2012 / February 2014</td>
<td>Coordinator: 1. RESMANN – Dola (ND)</td>
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<td>6. Inst. Affan International – Rome (IT)</td>
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<td>9. Univ. Brescigoli – Belgrade (SRB)</td>
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<td>10. PSNI – Dublin (UK)</td>
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</tbody>
</table>

**Consortium:**

1. Sigmund Freud Univ. – Wien (AT)
2. Noos – Madrid (ES)
3. BOC Asset Man – Wien (AT)
4. Inst Inform Coms Technologen CS&H – Sofia (BG)
5. Cross border Research Association – Lausanne (CH)
6. Isabel – Madrid (ES)
7. Ceska Vesolni Uleti Technikol – Prace (CZ)
8. Secura – Brussels (BE)
9. Univ. Wiedenbildung – Krems (AT)
10. Univ. Feiha (IL)
11. BOKU – Wien (AT)
12. INO – Madrid (ES)
7.4.14 Roadmaps

Most FP7 projects dealing with exchange of good practices and training are generally turned towards civil security threats, including ability to manage incidents & crises spreading.

7.5.1.1 Air traffic management

An on-going project funded by the Secure Societies programme is focusing on global Air Traffic Management regarding security threats:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAMMA</td>
<td>P7 – Secure Societies</td>
<td>Call 2012.2-2-2 IP</td>
<td>September 2015 / August 2017</td>
<td>EUR 2,924,760 REA - 512582</td>
</tr>
</tbody>
</table>

Development of solutions to emerging air traffic management vulnerabilities backed up by practical proposals for implementation of these solutions, considering new scenarios created by Single EU Sky programme. Comprehensive assessment of full set of security threats & vulnerabilities affecting existing ATM system of systems, covering operational technological aspects. Providing basic to develop security (risk management framework) for day-to-day operation of air traffic management security.

Defining requirements of security solution, including ability to manage incidents & crisis spreading.

http://www.gamma-project.eu/

Coordinator: 1. Sales - Florence (IT)

Carnegie: 2. Airbus Prosky - Toulouse (FR)
3. Boeing - Madrid (ES)
4. Airbus Cassidian - Paris (FR)
5. CiaoTech - Rome (IT)
6. DLR - Köln (DE)
7. FOI - Stockholm (SE)
8. Isdefe - Madrid (ES)
9. Univ. Umea (SE)
10. Romatsa - Bucarest (RO)

7.5.1.2 Protection of civil aviation

Security in the civil aviation sector is supported by a continuous research programme since the beginning of FP7, in particular:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<tbody>
<tr>
<td>CDFA</td>
<td>P7 – Secure Societies</td>
<td>Call 2010-1 CSA</td>
<td>September 2011 / February 2013</td>
<td>EUR 986,582 ENTR - 261651</td>
</tr>
</tbody>
</table>

CDFA aims to answer 2 questions:

• How does the threat situation in civil aviation evolve in the future, taking into account both existing and new technologies and proliferation?

• Which opportunities arise from the development and proliferation of new technologies and security procedures to overcome the current complex and expensive security situation, and to enable sustainable growth for the future?

Balancing between security, privacy, public acceptability, mobility and costs. Ideas on how to increase flexibility and resilience of the whole aviation system against threats.

http://www.copra-project.eu/

Coordinator: 1. FhG EMIS - Freiburg (DE)

Consortium:
2. European Business School - Frankfurt am Main (DE)
3. TNO - Drift (NL)
4. Airbus S.A.S - Blagnac (FR)
5. Rostrum KG Frankfurt - Frankfurt am Main (DE)
6. EADS - Bruxelles (BE)
7. Smitte Human GmbH - Neuhardenberg (DE)
8. Konektij Luchtvart - Amsterdam (NL)
9. ECA - Paris (FR)
10. Univ. Lodz - Lodz (PL)
11. Mapfre - Paris (FR)

7.5.1.3 Total airport security system

TASS is a multi-segment, multi-level intelligence & surveillance system, aimed at creating an entire airport security monitoring solution providing real-time accurate situational awareness to airport authorities.

Concept is based on integrating different types of selected real-time sensors & sub-systems for data collection in variety or modes, including fixed & mobile, all suitable for operation under any environmental conditions. Provides airport CS systems with actionable information that they seek, to allow effective timely response.

Provides real-time accurate situational awareness of all airport facilities, surroundings (perimeters, terminal, access-points, sensitive areas...), people (passengers, employees...), vehicles, cargo, airplanes.

http://www.tass-project.eu/

Coordinator: 1. VBNVT Systems Ltd - Tel Aviv (IL)

Consortium:
2. BAA Limited - Heathrow (UK)
3. Sogas Mecanica de Vuela Sistemas SA - Valladolid (ES)
4. Rapiscan Systems Ltd - Izola (SI)
5. CRAT - Rome (IT)
6. Demodinum - Athens (GR)
7. KARSYS SKB - Linköping (SE)
8. Mentum SA - Vila-viciosa (PR)
9. Vittorio Sp - Rome (IT)
10. Alcatel-Lucent Italia - Milan (IT)
11. Univ. Queen Elizabeth - Dublin (IE)
12. HELEO AB - Göteborg (SE)
13. Elbit Security Systems - Haifa (IL)
14. Athens Int. Airport SA (GR)
15. Real Fusi France - Toulouse (FR)
16. Iximem SA - Paris (FR)
17. Red-M Wireless - Horsham (UK)
18. BAE Systems - Farnborough (UK)
19. Athens Int. Airport SA (GR)
20. Airport De Portugal SA - Lisbon (PT)
21. INDUS - Porto (PT)

Coordinator: 1. SEIEX Sensors and Airborne Systems Ltd - Southampton (UK)

Consortium:
2. ELASAT Datamap Sp - Genova (IT)
3. SNIA - Paris (FR)
4. 1-1 Identity Solutions AG - Bochum (DE)
5. ECA - Paris (FR)
6. Univ. Leeds (UK)
7. Univ. Reading (UK)
8. YTT - Espoo (FI)
9. Fachhochschule Technikum Wien (AT)
10. Fiera di Genova - Genova (IT)

7.5.1.4 Roadmaps

Most FP7 projects dealing with exchange of good practices and training are generally turned towards civil security operators, even when CBRN-E is concerned. Therefore, the relevant projects have been included in Section 7.2 of this report. This applies to foresights and roadmaps, most relevant projects of which are found in Section 7.2. A specific CBRNE project is:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<tr>
<td>CBREMAP</td>
<td>P7 – Secure Societies</td>
<td>June 2010 / October 2011</td>
<td>Call 2009-1.1-2 CSA</td>
<td>EUR 1,576,185 REA - 54964</td>
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</table>

Plan for the development of technologies & systems needed for an optimised demonstration programme. Evaluation of events leading up to, during & after CBRN-E terrorist incident as well as potential risks of various sectors, including law enforcement, civil protection, rescue, health. Gaps between CBRNE science & technology were identified, illustrating the importance of a system-of-systems in CBRNE counter-terrorism. Demonstrator focuses on threatened societal functions as mass transport & gatherings, political & military infrastructure. Mapping relies on interviews, it’s a developing technological roadmap with ongoing developments in research & technology development.

https://www.cbremap.org

Coordinator: 1. Univ. Umea (SE)

Carnegie: 2. UCL - Bruxelles (BE)
3. SOLAE - Rome (IT)
4. Robert Koch Inst. - Berlin (DE)
5. SAGOS - Düsseldorf (DE)
6. Min. Défense - Paris (FR)
7. FDI - Stockholm (SE)
8. Landsholen Park Airport - Goteborg (SE)
9. ALSYS - Paris (FR)
10. IRS - Paris (FR)
11. Státní ústav železniční, chemické & biologické ochrany, v v. v. i. - Milín (CZ)
12. Home Office - London (UK)
13. UAI - Rome (IT)
14. Haul Corrélation Français à la Défense Civil - Paris (FR)
Further on-going projects are pursuing these research efforts:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
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<tbody>
<tr>
<td>ACommunity of Users on Secure, Safe and Resilient Societies (CoU)</td>
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<tr>
<td>ABC4EU</td>
<td>FP7 – Secure Societies</td>
<td>January 2012 - June 2017</td>
<td>EUR 12,015,246</td>
<td>INTRA – 217907</td>
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ABC4EU is deployed in main European airports, most as pilot projects to test their capability to improve the border crossing processes in aspects such as speed, security, automation, false rejection reduction, etc. Harmonisation is required in areas as e-passports management, biometrics, gate design, human interface, processes, PNT certificate exchange, signalising and interoperability. Project identifying requirements for an integrated interoperable and citizen’s rights respectful ABC system at EU level, and paying special attention to citizen rights, privacy and other related ethical aspects. Harmonisation in the design and operational features of ABC Gates. Two-steps validation: Upgraded ABC systems in several MS: airports, harbours and land borders will be integrated with RTP and IES prototypes.

Coordinator: 1. Indra Sistemas – Madrid (ES)

Consortium: 2. Centre for Irish and European Security – Dublin (IE)
3. Cognitec Systems – Dresden (DE)
4. DEATTO – Madrid (ES)
5. IDEFE – Madrid (ES)
6. LIFE – Helsinki (FI)
7. LAPEE – Helsinki (FI)
8. Min. Admin. Interna – Lisbona (PT)
10. SARIC Sistemas GmbH – Munchen (DE)
11. Min. Interior – Madrid (ES)
12. VISCHINDL – Linz (AT)
13. Univ. Milano (IT)
14. Univ. Juan Carlos – Madrid (ES)

Status: FInished

7.5.2 Maritime security

With the current Refugee crisis, maritime surveillance has become a top priority. The issue had been identified as a research priority in the early stage of FP7 as illustrated by the following finished projects dealing with maritime surveillance related to illegal immigration and suspicious activities:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<td>VPMAAS</td>
<td>FP7 – Secure Societies</td>
<td>Call 2007-3.3-2</td>
<td>EUR 1,787,169</td>
<td>ENT – 217851</td>
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<tr>
<td>Surveillance in Wide Maritime area, (air vehicles)</td>
<td>CP</td>
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Airborne building block of maritime surveillance, more autonomous & improved efficiency through introduction of air vehicles with reduced or zero onboard crew to control illegal immigration. Air assets for wide area maritime surveillance providing situation awareness over extended areas (endurance, speed, long-distance detection), re-direction to areas of interest (threat), flexible recon (inspection). Simulation based on operational scenarios, innovative concepts, technologies held by simulation. In flight experiment (remote control, novel concept). www.vpmaas.eu

Coordinator: 1. Thales – Paris (FR)

Consortium: 2. ECA Group – Rome (IT)
3. Cassatl – Paris (FR)
4. Sevir Ing Systemes – Getas (IT)
5. FGI – Stockholm (SE)
6. PhD-OSB – Karlsruhe (DE)
7. VRC – Brussels (BE)
9. Euromaritime Belfast NV – Tielt (NL)
10. Satams – Goeteborg (SE)
11. SETCIE – Ljubljana (SI)
12. TKH MA – Kalkar (DE)
13. Aerosyn Televizors – San Sebastian (ES)

Status: FInished

AIRSAFE

Autonomous maritime surveillance system

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<td>AIRSAFE</td>
<td>FP7 – Secure Societies</td>
<td>Call 2007-3.3-2</td>
<td>EUR 1,490,460</td>
<td>REA – 218290</td>
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<tr>
<td>Autonomous maritime surveillance system</td>
<td>CP</td>
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Development of innovative fully autonomous & autonomous system to keep a watchful eye on EU’s coastline for suspicious activity. Design of reliable, round-the-clock maritime monitoring solutions, including a Rotation platform, sonar, hydrophones, thermal imaging camera, communications, power management & image exploitation, as well as command & control. Upon detection of suspicious vessel, images relayed directly to a central control centre, enabling coastguard & other services to take swift & appropriate action.

www.airsafe-project.eu

Coordinator: 1. Carl Zeiss Opttronics GmbH – Stuttgart (DE)

Consortium: 2. Crabbe Consult – Newcastle (UK)
3. HSF spol. s r.o. – Tisková (CZ)
4. Thales – Paris (FR)
5. Eurosense Belfort NV – Tielt (NL)
6. Univ. Los Palmar de Gran Canaria – Las Palmas (ES)
7. Univ. Los Palmar de Gran Canaria – Las Palmas (ES)
8. FNC – München (DE)
9. 12 Wind GmbH – Berlin (DE)
10. CTM – Goeteborg (SE)
11. Fugro Donors AS – Trondheim (NO)
12. Armed Forces MALTA, Luqa (MT)

Status: FInished

SECRTONIC

Security system for maritime infrastructure, ports and coastal zones

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<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
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<td>Call 2007-2.1-4</td>
<td>EUR 4,496,106</td>
<td>REA – 218245</td>
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<tr>
<td>Security system for maritime infrastructure, ports and coastal zones</td>
<td>CP</td>
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Observation, protection of critical maritime infrastructure. Passenger & goods transport. Security system & infrastructure. It combined various observation systems (radar, sonar, satellites) to develop an early warning system (EWS), relied on ships bridge or in port control rooms. EWS looks at characters objects of significance in a 360 degree radius around system. Also it facilitates responses to threats by analyzing performance gaps in existing monitoring facilities, based on unstructured scenarios, & recommended new sensors & algorithms.

http://www.secretonic.eu

Coordinator: 1. Universities Queen Mary – London (UK)

Consortium: 2. Uninav BV – Den Helder (NL)
3. Det Noriske Veritas – Hord (NO)
4. Norwegian Defence Research Establishment – Kjeller (NO)
5. Univ. Technol Chalmers – Goeteborg (SE)
6. Advanced Computer Systems Spa – Bologna (IT)
7. Nato Undersea Research Centre – La Spezia (IT)
8. Camarolli C – London (UK)
9. Bw Offshore – Doha (QAT)
10. Kiew Gu AI – Doha (QAT)
11. Hahnweede Rotterdam (Netherlands)
12. Autorite Portuaire della Spezia (IT)
An interoperable approach to European Union maritime security management

**Project Acronym / Title**
FF7 – Secure Societies

**Funding Instrument**
Call 2009-3.2-2

**Contract details**
March 2008 / March 2009

**Abstract / Website**
Evaluative of assessing threats of exchange of information, ensuring sufficient level of interoperability between current maritime security management systems and existing EU MS. It undertook field visits & stakeholders surveys, used to assess current state of information gathering, integration, dispatch between stakeholders in maritime surveillance field. It concluded that getting information sharing to become routine while also developing a common concept of operation (”CoU”). It is more than an impediment in this domain than actual technological obstacles

**Coordinator**
1. Thales – Paris (FR)
2. SES Astra TechCom – Betzdorf (LU)
3. Telemar – Brussels (BE)
4. AAD – Sellerby (NO)
5. IRC – Bruxelles (BE)
6. EIDSPOFT – Caparica PT
7. STN Security Technologies Muendling – Tunis – Ankara (TR)

**Call 2007-7.0-2**

**Societies**

**Call 2012-1**

**FP7 – Secure Societies**

**Security Upgrade for Ports**

**Project Acronym / Title**
FF7 – Secure Societies

**Funding Instrument**
Call 2009-3.2-2

**Contract details**
July 2010 / July 2014

**Abstract / Website**
SUPPORT will address ‘total’ port security upgrade solutions encompassing legal, organisational, technological and human factors perspectives. These solutions should provide substantial improvements in performance, reliability, speed, cost of EU port security & will deliver (1) validated generic port security management models (capturing requisite state-of-art best practices), (2) training & open standards based tools to aid security upgrade in EU ports.

**Coordinator**
1. BMT Group Ltd – London (UK)
2. JRC – Brussels (BE)
3. TRITON – Amsterdam (NL)
4. Piraeus Port (GR)
5. Centre de Coopération – Santander (ES)

**Project Acronym / Title**
CoU – Secure, Safe and Resilient Societies

**Funding Instrument**
FP7 – Secure Societies

**Contract details**
November 2015

**Abstract / Website**
SUPPORT will address ‘total’ port security upgrade solutions encompassing legal, organisational, technological and human factors perspectives. These solutions should provide substantial improvements in performance, reliability, speed, cost of EU port security & will deliver (1) validated generic port security management models (capturing requisite state-of-art best practices), (2) training & open standards based tools to aid security upgrade in EU ports.

**Coordinator**
1. BMT Group Ltd – London (UK)
2. JRC – Brussels (BE)
3. TRITON – Amsterdam (NL)
4. Piraeus Port (GR)
5. Centre de Coopération – Santander (ES)
Abstract / Website

Consortium

Project Acronym / Title | Funding instrument | Contract details | Abstract / Website | Consortium
--- | --- | --- | --- | ---
**SEABILLA** | FP7 – Secure Societies | Cal/2009-5.2-2 IP | June 2010 / February 2014 | Coordinator: 1. SELER – Florence (IT)
| | | | | Consortium:
| | | | | 2. Alena Aveaerotectica – Venezegro Superture (ES)
| | | | | 3. CNT – Parma (IT)
| | | | | 4. BAE Systems – Farnborough (UK)
| | | | | 5. Coreoll Systems – Or Nehudah (IL)
| | | | | 6. SADO CAO – Paris (FR)
| | | | | 7. EADS – Fosco d’Aros (IT)
| | | | | 8. Duccospi – Albaize (ES)
| | | | | 9. FO – Stockholm (SE)
| | | | | 11. Indra Sistemas – Madrid (ES)
| | | | | 12. JC – Brussels (BE)
| | | | | 15. Space R & V – Zaventem (BE)
| | | | | 16. Thales Alenia Space – Rome (IT)
| | | | | 17. Thales Defence – Stuttgart (DE)
| | | | | 18. TNO – Delft (NL)
| | | | | 19. Telepace – Rome (IT)
| | | | | 20. Thales Systemes – Paris (FR)
| | | | | 21. TI – Vienna – Santander (ES)
| | | | | 22. Univ. College London (UK)
| | | | | 23. Univ. Madi – Murcia (ES)
| | | | | 24. Univ. Portland – UK
| | | | | 25. Teo Costrin – Setubal (PT)

| | | | | Consortium:
| | | | | 2. SADO CAO – Paris (FR)
| | | | | 3. DCNS – Paris (FR)
| | | | | 4. Drog. Ingenieria Informatica Spa – Rome (IT)
| | | | | 5. Isatel – Madrid (ES)
| | | | | 6. SADO CAO – Madrid (ES)
| | | | | 7. Deretikos – Athens (GR)
| | | | | 8. Guardia Civil – Madrid (ES)
| | | | | 9. PRP – Doha (KD)
| | | | | 10. SAB – London (UK)
| | | | | 11. SES-ATM – Belotond (LU)
| | | | | 12. AEOC – Espoo (FI)
| | | | | 13. INATLS – Liege (FR)
| | | | | 14. METZIGM – Barcelona (ES)
| | | | | 15. LUSPACE – Belotond (LU)
| | | | | 16. ISSEP – Siryeux sur mer (FR)
| | | | | 17. IND INESC – Lisboa (PT)
| | | | | 18. SKYLED – Dublin (IE)
| | | | | 19. LAURERA – Virella (IT)
| | | | | 20. DERE – Zuyu (CH)
| | | | | 21. BOEING EUROPE – Madrid (ES)
| | | | | 22. ECOMYS – Rotterdam (NL)
| | | | | 23. Cork Institute CIT – Cork (IE)
| | | | | 24. Min. Interior – Paris (FR)
| | | | | 25. Forca Aidee Portuguesa Ameila (PT)
| | | | | 26. SATHAKS – Holanda (GR)
| | | | | 27. Min. Nat. Defence HMD – Athens (GR)
| | | | | 28. NATO Undersea Research Centre – La Spezia (IT)
| | | | | 29. Min. Citizen Protection – Athens (GR)
| | | | | 30. KEMEA – Athens (GR)

**PROMERC** | FP7 – Secure Societies | Cal/2013.2-4 IP | March 2013 / February 2016 | Coordinator: 1. FSE – Telecom Italia (UK)
| | | | | Consortium:
| | | | | 2. NATO – Brussels (BE)
| | | | | 3. Eur. World Marmite – Malmize (SE)
| | | | | 4. Panozetinos Algebui – Myklos (GR)
| | | | | 5. Security Asesor, For Maritime Industry Ltd – London (UK)
| | | | | 6. Unionea BV – Delft (NL)
| | | | | 7. NTO – Delft (NL)
| | | | | 8. Engineering Informatica Spa – Rome (IT)
| | | | | 9. Oldendorf Carriers GmbH – Lubeck (DE)

| | | | | Consortium:
| | | | | 2. IDERE – Madrid (ES)
| | | | | 3. Aerospace and Defense SAU DANV – Madrid (ES)
| | | | | 4. CNN – Paris (FR)
| | | | | 5. PENT – Wanzawa (PL)
| | | | | 6. UNIBR – Bologna (IT)
| | | | | 7. Act – Wien (AT)
| | | | | 8. UK – Tel Aviv (IL)
| | | | | 9. Turk Osmayt Fabrikasi Anonim Solicr VATAS – Istanbul (TR)
| | | | | 10. Sigmund Freud Privatuniversitat Wien GMBH (AT)
| | | | | 11. Min Interior – Madrid (ES)
| | | | | 12. RTO – Madrid – Netherlands (NL)
| | | | | 13. LACROIX – Nice (FR)
| | | | | 14. Turk Otomobil Fabrikasi Anonim Sokular TOPOX – Istanbul (TR)
| | | | | 15. Min Public Security MOPS/INP – Tel Aviv (IL)

**SEABILLA** proposal aims to:
- define architecture for cost-effective EU/Sea Border Surveillance systems integrating space, land, sea, air assets, including legacy systems,
- apply advanced technological solutions to increase performances of surveillance functions,
- develop & demonstrate significant improvements in detection, tracking, identification, automated behaviour analysis of all vessels, including hard to detect vessels, in open waters as well as close to coast.

http://www.seabilla.eu

**PERSEUS**

CoD: Demonstrate an EU maritime border surveillance system; integrating existing national, communitarian installations to build an effective EU maritime non-cooperative vehicles monitoring system.

http://www.perseus-fp7.eu/

**PROMERC**

ACommunity of Users on Secure, Safe and Resilient Societies (CoU) | FP7 – Secure Societies | Cal/2009-5.2-2 IP | EUR 9,841,604 | REA – 241988
--- | --- | --- | --- | ---
**Status:** FINISHED

**SEABILLA** | FP7 – Secure Societies | Cal/2009-5.2-2 IP | EUR 9,841,604 | REA – 241988
--- | --- | --- | --- | ---
**Status:** FINISHED

**PERSEUS** | FP7 – Secure Societies | Cal/2010-3.1-1 IP | EUR 3,468,860 | ENTR – 285144
--- | --- | --- | --- | ---
**Status:** FINISHED

**AEROCREATOR** | FP7 – Secure Societies | Cal/2011.1-4 IP | EUR 2,224,958 | REA – 607885
--- | --- | --- | --- | ---
**Status:** FINISHED

**AEROCREATOR** | FP7 – Secure Societies | Cal/2011.1-4 IP | EUR 1,408,860 | ENTR – 285144
--- | --- | --- | --- | ---
**Status:** FINISHED

**PROMERC**

ACommunity of Users on Secure, Safe and Resilient Societies (CoU) | FP7 – Secure Societies | Cal/2013.2-4 IP | EUR 1,408,860 | ENTR – 285144
--- | --- | --- | --- | ---
**Status:** FINISHED

**AEROCREATOR**

ACommunity of Users on Secure, Safe and Resilient Societies (CoU) | FP7 – Secure Societies | Cal/2013.2-4 IP | EUR 1,408,860 | ENTR – 285144
--- | --- | --- | --- | ---
**Status:** FINISHED

**AEROCREATOR**

ACommunity of Users on Secure, Safe and Resilient Societies (CoU) | FP7 – Secure Societies | Cal/2013.2-4 IP | EUR 1,408,860 | ENTR – 285144
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**Status:** FINISHED

**AEROCREATOR**

ACommunity of Users on Secure, Safe and Resilient Societies (CoU) | FP7 – Secure Societies | Cal/2013.2-4 IP | EUR 1,408,860 | ENTR – 285144
--- | --- | --- | --- | ---
**Status:** FINISHED

**AEROCREATOR**

**AEROCREATOR**

**AEROCREATOR**

**AEROCREATOR**
On-going projects are pursuing research efforts about border crossing and illegal entry, as well as situation awareness:

### 7.5.3 Land border security

Two projects dealing with land border surveillance systems have been developed in the first part of FP7, namely:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>TALOS</td>
<td>FP7 – Secure Societies</td>
<td>Call 2007-3.2-2</td>
<td>CNR</td>
<td>Coordinator: 0. Proyectos I+D de Universidades</td>
</tr>
<tr>
<td>OPAReUS</td>
<td>Open architecture for Unmanned aerial surveillance system</td>
<td>Call 2009-5.4-1</td>
<td>ESA</td>
<td>Coordinator: 0. MINISTRY OF DEFENSE</td>
</tr>
</tbody>
</table>

### On-going projects

Complementing the above, a series of projects are still on-going, namely:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLOSERE</td>
<td>FP7 – Secure Societies</td>
<td>Call 2012-5.1-1</td>
<td>EUR 9,218,356</td>
<td>Coordinator: 1. Ministry of Internal Affairs</td>
</tr>
<tr>
<td>ZZP</td>
<td>European Union Satellite Centre – Luxembourg (LU)</td>
<td>Call 2012-5.1-1</td>
<td>EUR 9,218,356</td>
<td>Coordinator: 0. Ministry of Interior</td>
</tr>
<tr>
<td>TALOS</td>
<td>FP7 – Secure Societies</td>
<td>Call 2007-3.2-2</td>
<td>CNR</td>
<td>Coordinator: 0. Ministry of Interior</td>
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<tr>
<td>OPAReUS</td>
<td>Open architecture for Unmanned aerial surveillance system</td>
<td>Call 2009-5.4-1</td>
<td>ESA</td>
<td>Coordinator: 0. Ministry of Interior</td>
</tr>
</tbody>
</table>

### EU CISE 2020

- EU land bed for maritime common information sharing environment in the 2020 perspective

### Status ON-GOING

- CLOSERE: Collaboration of border surveillance technologies in maritime environment by pre-operational validation of innovative solutions

- ZZP: The European Union Satellite Centre – Luxembourg (LU)

- TALOS: Transportable autonomous patrol for land border surveillance system

- OPAReUS: Open architecture for Unmanned aerial surveillance system

### EU CISE 2020

- EU land bed for maritime common information sharing environment in the 2020 perspective

- CLOSERE: Collaboration of border surveillance technologies in maritime environment by pre-operational validation of innovative solutions

- ZZP: The European Union Satellite Centre – Luxembourg (LU)

- TALOS: Transportable autonomous patrol for land border surveillance system

- OPAReUS: Open architecture for Unmanned aerial surveillance system
7.5.4 Identification technologies

Several projects are focusing on identification aspects, namely:

- **FIDELITY**
  - **Project Acronym / Title**: FIDELITY - Fast and Trustworthily Identity Delivery and Check with Biometrics Leveraging Transfer Privacy
  - **Funding Instrument**: FP7 – Secure Societies
  - **Call**: 2011.5-4-1
  - **Contract details**: REA – 284862
  - **Status**: FINISHED

  The project aimed to develop and implement new solutions for the authentication of documents, preventing impersonation and fraud in order to ensure border control processes. The project focused on developing new identification technologies that could be used in a variety of border control scenarios. The solutions were designed to be used in a variety of contexts, including airports, seaports, and land borders.

  Coordinator: Marko – Paris (FR)

- **EFFISEC**
  - **Project Acronym / Title**: EFFISEC – Efficient Integrated Security Checkpoints
  - **Funding Instrument**: FP7 – Secure Societies
  - **Call**: 2007.2-3-1
  - **Contract details**: REA – 217991
  - **Status**: FINISHED

  EFFISEC is an FP7 project that aimed to develop and implement new solutions for the authentication of documents, preventing impersonation and fraud in order to ensure border control processes. The project focused on developing new identification technologies that could be used in a variety of border control scenarios. The solutions were designed to be used in a variety of contexts, including airports, seaports, and land borders.

  Coordinator: Thales – Paris (FR)

- **VERSUS**
  - **Project Acronym / Title**: Versatile Information Toolkit for vehicle and pedestrian sources exploitation
  - **Funding Instrument**: FP7 – Secure Societies
  - **Call**: 2009.3.2-3
  - **Contract details**: REA – 608016
  - **Status**: FINISHED

  VERSUS is a project that aimed to develop and implement new solutions for the authentication of documents, preventing impersonation and fraud in order to ensure border control processes. The project focused on developing new identification technologies that could be used in a variety of border control scenarios. The solutions were designed to be used in a variety of contexts, including airports, seaports, and land borders.

  Coordinator: Thales – Paris (FR)

On-going projects in this area are listed below:

- **MINERVA**
  - **Project Acronym / Title**: MINERVA – Innovative Technology for Fingerprint Live Scanners
  - **Funding Instrument**: FP7 – Secure Societies
  - **Call**: 2012.3-4-2
  - **Contract details**: REA – 519278

  MINERVA is an FP7 project that is focused on developing new fingerprint detection technologies that can be used in a variety of border control scenarios. The solutions are designed to be used in a variety of contexts, including airports, seaports, and land borders.

  Coordinator: CNRS – Paris (FR)

- **IMPACT**
  - **Project Acronym / Title**: IMPACT – Innovative Technology to Acquire Fingerprint Images by Looking at Additional Biometrics Associated with the Finger
  - **Funding Instrument**: FP7 – Secure Societies
  - **Call**: 2007.2-3-1

  IMPACT is an FP7 project that is focused on developing new fingerprint detection technologies that can be used in a variety of border control scenarios. The solutions are designed to be used in a variety of contexts, including airports, seaports, and land borders.

  Coordinator: CNRS – Paris (FR)
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<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
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<td>ZONESEC</td>
<td>FP7 – Secure Societies</td>
<td>Call 2013-1 5-7</td>
<td>December 2014 / November 2017</td>
<td>EUR 2,262,373 / REA: 607292</td>
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<td>22. Fraport AG Frankfurt Airport Services - Frankfurt (DE)</td>
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<td>21. Univ. Oxford (UK)</td>
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<td>18. Thales SA - Paris (FR)</td>
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<td>16. TUBITAK – Ankara (TR)</td>
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<td>13. Univ. Tampere - Tampere (FI)</td>
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<td>12. Immigratie - en Natuur - DenHaag (NL)</td>
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<td>11. ICTS Ltd - London (UK)</td>
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<td>8. Univ. Roma “Tor Vergata” (IT)</td>
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<td>3. Univ. Tampere - Tampere (FI)</td>
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**ARDINS**

Funding Consortium: FP7 – Secure Societies

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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**TERASCREEN**

Funding Consortium: FP7 – Secure Societies

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<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
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<th>Consortium</th>
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<td>ORGINS</td>
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<td>November 2016</td>
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</table>

**ZONESEC**

Towards a EU framework for security of Widezones

**ATHENS**

Consortium:

1. Acciona Infraestruct - Madrid (ES)
2. Science Technology Facilities Council - Swindon (UK)
3. Min.  Interior - Wien (AT)
4. APSS Soft (CH)
5. Regula Baltija SIA - Daugavpils (LV)
6. Eidgenössische Zollverwaltung FCA - Berne (CH)
7. Rajavartiolaitos Finnish Border Guard - Helsinki (FI)
8. Secure Security Networks AG - Dornbirn (DE)
9. Miracos Ltd - Helsinki (FI)
10. Regula Baltija SIA - Daugavpils (LV)
11. Univ. Reading - London (UK)
12. Int. Centre for Migration Policy Development - Wien (AT)
13. Univ. Tampere - Tampere (FI)
14. Gunnebo Entrance Control Ltd - Münich (DE)
15. Gesenius & Devrient GmbH - Muncih (DE)
16. High Modular Dogh GmbH - Gummersbach (DE)
17. Magnetic Automation GmbH - Baden- Baden (DE)
18. JRC - Brussels (BE)
19. ITTI Sp - Poznan (PL)
20. Delbailte Dy - Tampere (FI)
21. Univ. Oxford (UK)
22. Min. Spraw Wewnetrznych - Warszawa (PL)
23. Financ Minist DTCA - Den Haag (NL)
24. MACP - Frankfurt Airport Services Westeinde - Frankfurt (DE)
25. Flughafen Wien AG - Wien (AT)
26. Intrepid Minds - Dublin (IR)

**FASTPASS**

Harmonized, modular reference system for all European automated border crossing points

**ACXIS**

Automated Companionship of X-ray Imaging for Cargo Scanning

**ZONESEC**

Towards a EU framework for security of Widezones

**ATHENS**

Consortium:

1. Acciona Infraestruct - Madrid (ES)
2. Science Technology Facilities Council - Swindon (UK)
3. Min.  Interior - Wien (AT)
4. APSS Soft (CH)
5. Regula Baltija SIA - Daugavpils (LV)
6. Eidgenössische Zollverwaltung FCA - Berne (CH)
7. Rajavartiolaitos Finnish Border Guard - Helsinki (FI)
8. Secure Security Networks AG - Dornbirn (DE)
9. Miracos Ltd - Helsinki (FI)
10. Regula Baltija SIA - Daugavpils (LV)
11. Univ. Reading - London (UK)
12. Int. Centre for Migration Policy Development - Wien (AT)
13. Univ. Tampere - Tampere (FI)
14. Gunnebo Entrance Control Ltd - Münich (DE)
15. Gesenius & Devrient GmbH - Muncih (DE)
16. High Modular Dogh GmbH - Gummersbach (DE)
17. Magnetic Automation GmbH - Baden- Baden (DE)
18. JRC - Brussels (BE)
19. ITTI Sp - Poznan (PL)
20. Delbailte Dy - Tampere (FI)
21. Univ. Oxford (UK)
22. Min. Spraw Wewnetrznych - Warszawa (PL)
23. Financ Minist DTCA - Den Haag (NL)
24. MACP - Frankfurt Airport Services Westeinde - Frankfurt (DE)
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7. Rajavartiolaitos Finnish Border Guard - Helsinki (FI)
8. Secure Security Networks AG - Dornbirn (DE)
9. Miracos Ltd - Helsinki (FI)
10. Regula Baltija SIA - Daugavpils (LV)
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14. Gunnebo Entrance Control Ltd - Münich (DE)
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16. High Modular Dogh GmbH - Gummersbach (DE)
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21. Univ. Oxford (UK)
22. Min. Spraw Wewnetrznych - Warszawa (PL)
23. Financ Minist DTCA - Den Haag (NL)
24. MACP - Frankfurt Airport Services Westeinde - Frankfurt (DE)
25. Flughafen Wien AG - Wien (AT)
26. Intrepid Minds - Dublin (IR)
### 7.5.5 Standardisation

Complementing projects listed in Section 7.4, some projects are dealing with standardisation for border security:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLOBE</td>
<td>FPP – Secure Societies</td>
<td>September 2008 / June 2009</td>
<td>EUR 999,891</td>
<td>Produce comprehensive approach to integrated border-management in EU. 2 key areas were identified as ripe for further development &amp; decision-making. GLOBE recommends that 28 EU MS adopt common definitions &amp; criteria for sharing source data, risk analysis results and decision-making indicators. GLOBE produced a road-map <a href="http://globali2projects.com/">http://globali2projects.com/</a></td>
</tr>
</tbody>
</table>

### 7.6 Fight against Crime and Terrorism

#### 7.6.1 Detection of intruders in Critical Infrastructures

A range of projects specifically focus on detecting intruders in critical infrastructures:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDETECT 4ALL</td>
<td>FPP – Secure Societies</td>
<td>June 2008 / June 2011</td>
<td>EUR 2,206,014</td>
<td>Delivering objective was to develop &amp; test a system of sensor technologies to protect critical infrastructure. Key driver was to find ways to overcome high cost, unacceptability of false alarm rates limiting deployment of existing security sensor technologies. Work focused on prototyping sensors to detect intruders, remotely scanned optical length waves by authorized personnel &amp; vehicles. Concept is based on illuminating protected area with movable, modulated light, by using solid state scanning, to continuously monitor the 3D surface profile within protected area. Presence, location of intruders will be detected from variations inflicted on this 3D profile.</td>
</tr>
</tbody>
</table>

### 7.6.2 Detection of terrorist threats

#### 7.6.2.1 Detection of terrorist threats, video-surveillance

Surveillance systems are being developed for early detection of terrorist threats and enhancing citizen’s security:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
</table>

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**Further Reading**

- A Community of Users on Secure, Safe and Resilient Societies (CoU): Mapping EU policies and FP7 research for enhancing partnerships in H2020
- A Community of Users on Secure, Safe and Resilient Societies (CoU): Funding Consortium
- A Community of Users on Secure, Safe and Resilient Societies (CoU): Abstract / Website
- CRISALS project aims at providing new means to secure CI environments from targeted attacks, carried out by resourceful & motivated individuals. It focus on developing low-cost adaptative video-surveillance systems aimed at securing buildings from terrorist attacks, developing new, more effective, techniques to analyse infected systems. http://www.crisals-project.eu/
The above projects are complemented by an on-going FP7 project, namely:

**Project Acronym / Title** | **Funding instrument** | **Contract details** | **Abstract / Website** | **Consortium**
---|---|---|---|---
**ADARTS**
Automatic Detection of Abnormal Behaviour and Threats in crowded Spaces
**FP7 – Secure Societies**
Call 2007-2-5 CP
August 2009 / September 2013
EUR 5,221,054 EURNTR – 218107
Facilitate protection of EU citizens, property & infrastructure against threats of terrorism, crime, riots, by automatic detection of abnormal human behaviour by extracting characteristics from real-time video surveillance systems based on expert classifications & analysis of CTV operator behaviour. Algorithms detecting pre-defined threat behaviour with accurate & robust detection, data from audio, video sensors. Tested on real-time evaluation platform on large scale events (football arena, critical infrastructure airports).
http://www.adarts-fp7.eu
Coordinator:
1. POI – Stockholm (SE)
Consortium:
2. Sifrei – Dului (RO)
3. TND – Dului (RO)
4. Amsterdam Univ (NL)
5. BAE – Farnborough (UK)
6. Home office – London (UK)
7. Min Inter – Sofia (BG)
8. Delta As – Dului (RO)
**ADVISE**
Advanced Video Surveillance archives search Engine for situational awareness
**FP7 – Secure Societies**
Call 2011-5-3-4 CP
March 2012 / February 2015
EUR 2,989,761 EURA – 29024
Alerted & designing & developing a verification framework for surveillance footage archive systems. ADVISE system with 2 major components, one first one performing the semantically enriched, event based video analysis which will offer efficient search capabilities of video archive and sophisticated result visualization; and second one enforcing the legal, ethical & privacy constraints that apply to the exchange & processing of surveillance data.
http://www.advise-project.eu
Coordinator:
1. Ingenea Informatica spa – Roma (IT)
Consortium:
2. CERTH – Thessaloniki (GR)
3. Queen Mary Univ – London (UK)
4. SingulAlogic – Athens (GR)
5. Inst. Européen de Video Universite Bruxelles (BE)
7. ISDEFE – Madrid (ES)
8. Almaviva – Rome (IT)
9. Innovation Eng – Rome (IT)
10. Madrid Municipal Police (ES)
**SAMURAI**
Suspicious and Abnormal Behaviour Monitoring Using a network of cameras for situation awareness enhancement
**FP7 – Secure Societies**
Call 2013-6-4-4 CP
June 2008 / November 2011
EUR 2,478,051 EURA – 217899
Develop and integrate an innovative surveillance system for monitoring both interior & surrounding areas of critical public infrastructure site. For abnormal behaviour detection it combined multi-sensor source data processing with series of preprogrammed abnormal, rare or “interest” behavioural triggers. To integrate sensory input from surrounding staff, SAMURAI designed & developed highs, wearable sensor suit with built-in data ports for camera & audio inputs.
http://www.samurai-eu.org
Coordinator:
1. Queen Mary Univ – London (UK)
Consortium:
2. Univ. Verona – Verona (IT)
3. Clusar Deltamart Spa – Genova (IT)
4. Waterfall Solutions Ltd – Woking (UK)
5. NorthWing Pogens – Turku (FIN)
6. Duopropel SP Zao – Kazan (RU)
7. SMTVALE – Lyon (FR)
8. BAM Ltd – Miamoun (UK)
**EMSA**
Early warning for increased situational awareness
**FP7 – Secure Societies**
Call 2013-5-2-1 CP
September 2014 / June 2018
EUR 10,899,785 EURNTR – 606174
Following Foresight, intelligence picture of possible threats against MS is obtained, picture created outside MS and Schengen area, through combination of video pictures which video pictures, intelligence collected from sensor stations threats at illegal migration, trafficking, smuggling, trafficking in drugs and forbidden materials, illegal trafficking in weapons. It will provide assessment of visual detectable technology, assessment of integration of current surveillance infrastructure of new capabilities to mobility industry (Blastrak) to increase intelligence in video surveillance - camera specific processes, modular implementation of successive analysis layers, applied for optimal situational awareness: training, motion figure facts; In addition to camera and processing capabilities, network consists of sensors, network analysis and system for control team.
**EMSA**
**FP7 – Secure Societies**
Call 2010-4-2-2 Demo
May 2011 / October 2014
EUR 8,424,029 EURA – 261728
PRACTICE is to improve preparedness & resilience of EU MS to attack from terrorist group using non conventional weapons as CBRN materials & to develop a new toolbox focusing on: identification, organisation, establishment of knowledge of critical elements & attacks, and determination of threats. - Allocated system or public information kit of wide selection of scenarios, real incidents & accidents, detailed characterisation of gaps - Allocated system or public information kit for decision-support, first responder training & exercise facilitation (complete system will be provided to a prototype system for coordinated response to CBRN threats with real-time to human factors, societal aspects.
http://www.practice-fp7-security.eu/
7.6.2.3 Testing and certification, and quality assurance

Trialling, testing and certification schemes for CBRN detection in the EU are also promoted as key actions in the plan, in particular regarding technical requirements necessary for the sampling and detection of CBRN materials (according to the field of applications of the devices). It also supports the exchange of good practices and methodologies for quality assurance (including criteria for method validation) related to CBRN detection in the Member States, the establishment of an EU validation and certification scheme based on continuing quality assurance mechanisms and an EU-wide trialling scheme to evaluate the quality of both detection tools and systems in practical field operations. The new CBRN-E approach is more specific as regards the support of further short-term trials for practitioners in order to improve detection during future sport, cultural and other large-scale events; it also further supports CBRN-E research, testing and validation activities and progress towards appropriate best practices standards adapted to each type of environment, including projects such as ERNCIP (European Reference Network for Critical Infrastructure Protection) and continues to support ITRAP Phase 2 assessing the feasibility of integrating radiological and nuclear risks and explosives detection in the same device, and helping Member State’s laboratories to obtain the certification in radiological and nuclear risks, evaluate new detection equipment and enabling the definition of European or international standards. Examples of FP7 projects which have contributed to the certification / testing goals are listed below.

7.6.3 Crime forensics

7.6.3.1 Crime scene investigations

Forensic evidence based on analyses, as well as intelligence analysis has been covered by several projects in FP7, namely:

**Project Acronym / Title** | Funding Instrument | Contract details | Abstract / Website | Consortium |
--- | --- | --- | --- | --- |
| EQUATOX | FP7 – Secure Societies | Call 2011-5-1 | EUR 1,578,654 | June 2010 / December 2014 | By creating a network of experts, the project will help to increase security & health threats posed by biological threats. Its teams, non-biological tools, biophysical methodologies, database could be used to prevent attacks on the basis of their availability, ease of use, high locality and lack of medical counter measures. Some of teams are concerned among most relevant agents in the field of bioterrorism. Good practices & critical gaps in detection technology will be identified foundations to harmonise and standardise detection capabilities. | Coordinator: 1. Robert Koch Inst – Berlin (DE) | Consortium: 2. BCE – Brussels (BE) | 3. Institut Scientifique de Santé Publique – Brussels (BE) | 4. Univ. Helsinki (FI) | 5. French agency for food – Paris (FR) | 6. Teesside – Teesside (DE) | 7. FDI – Stockholm (SE) | 8. Federal Department of Defence SPPZ – Bern (CH) | 9. Switzerland Chemvista – Bern (CH) |
## Other on-going projects are focusing on this research sector:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>VALCER</td>
<td>FP7 – Secure Societies</td>
<td>March 2014 / December 2017</td>
<td>Addressing European Needs for Information Exploitation of Large Complex Data in Criminal Intelligence analysis, will employ science &amp; technology of Visual Analytics to develop capabilities by combining novel visualisation, interaction techniques with powerful analytic software for automated extraction of meaningful information &amp; related text, documents, images, videos, for detecting signatures or patterns across multi-dimensional data that provide early warning or triggers of impending criminal or terrorist actions. <a href="http://www.intelligence.eu/valcer/">http://www.intelligence.eu/valcer/</a></td>
</tr>
<tr>
<td>EURORFGEN-NOE</td>
<td>FP7 – Secure Societies</td>
<td>January 2016 / December 2016</td>
<td>The EURORFGEN-NOE proposal aims to develop a network of excellence for the creation of a European Virtual Centre of Forensic Genomic Research. Forensic genetics is a highly innovative field of applied science with a strong impact on the security of citizens. However, the genomic methods to identify offenders as well as the creation of national DNA databases have caused concerns to the possible violation of privacy rights. Furthermore, studies to assess the societal dimensions of security following the implementation of even more intrusive methods such as the genetic prediction of extrinsically visible characteristics are highly relevant for their public acceptance. The network includes some of the leading groups in European forensic genetic research. It aims to create a closer integration of existing collaborations, as well as establishing new interactions in the field of security, as all key players are addressed: scientists, stakeholders, end-users, educational centres and scientific societies.</td>
</tr>
<tr>
<td>LASIE</td>
<td>FP7 – Secure Societies</td>
<td>May 2014 / October 2017</td>
<td>Design and development of a novel framework to assist forensic analysts in their investigations, based on automated technology for advanced data processing supported by an important human component in critical decision making stages, as well as legal and ethical aspects. The framework consist of tools to automatically manipulate, analyse and fuse vast amounts of heterogeneous data acquired from different sources including CCTV surveillance content, confiscated desktops and hard disks, mobile devices, internet, social networks, handwritten and calligraphic documents. The type of data and the associated existing ICT technologies allow for a multi dimensional data that provide early detecting signatures or patterns across the applied forensic science research. The system will provide judicial admissible evidence and will be able to automatically manipulate, analyse and fuse vast amounts of heterogeneous data acquired from different sources including CCTV surveillance. The proposed knowledge representation framework will also allow the system to provide recommendations to analysts, guide the investigation process and perform inference based on evidence extracted from available data. <a href="http://www.lasie-project.eu/">http://www.lasie-project.eu/</a></td>
</tr>
<tr>
<td>SIP</td>
<td>FP7 – Secure Societies</td>
<td>May 2014 / April 2016</td>
<td>Break-through Speaker Identification solution based on a novel Speaker Identification (SID) engine fusing multiple speech analytic algorithms (vuvuzela, speaker and voiceprint recognition, Sentiment/Language/Kontext ID, Keyword Taxonomy spotting and Voice cloning detection). This Fused Speaker Identification framework will result in significantly higher true positive speaker identification, reduced False Acceptance/Rejection while increasing reliability &amp; confidence. The system will provide judicial admissible evidence of suspects as well as for mapping the suspect’s forensic profile using the forensic feature extraction. The framework to assist forensic analysts in their investigations, based on automated technology for advanced data processing supported by an important human component in critical decision making stages, as well as legal and ethical aspects. The framework consist of tools to automatically manipulate, analyse and fuse vast amounts of heterogeneous data acquired from different sources including CCTV surveillance content, confiscated desktops and hard disks, mobile devices, internet, social networks, handwritten and calligraphic documents. The type of data and the associated existing ICT technologies allow for a multi dimensional data that provide early detecting signatures or patterns across the applied forensic science research. The system will provide judicial admissible evidence and will be able to automatically manipulate, analyse and fuse vast amounts of heterogeneous data acquired from different sources including CCTV surveillance. The proposed knowledge representation framework will also allow the system to provide recommendations to analysts, guide the investigation process and perform inference based on evidence extracted from available data. <a href="http://www.sip.eu/">http://www.sip.eu/</a></td>
</tr>
</tbody>
</table>

### Consortium:

#### LASIE
- **Coordinator:** Klinikum der Univers. Köln – Köln (DE)
- **Carnegie:**
- **University Of Birmingham – Birmingham (UK)
- **University Of Glasgow – Glasgow (UK)
- **University Of Newcastle Upon Tyne – Newcastle (UK)
- **Institute Of Forensic Science – Cracovie (PL)
- **Norwegian Institute Of Forensic Science – Naretac Norge (NO)
- **Jagellonian University – Krakow (PL)
- **Dortmund GmbH – Dortmund (DE)
- **National University Of Ireland – Dublin (IE)
- **King’s College London – London (UK)

#### SIP
- **Coordinator:** University Of Greenwich (UK)
- **SPEAKER IDENTIFICATION INTEGRATED PROJECT TEAM**
- **VERINT Systems Ltd  – Tel Aviv (IL)
- **IBM Research – Yorktown Heights (NY)
- **University Of Hertfordshire – Hatfield (UK)
- **University Of Manchester – Manchester (UK)
- **University Of Reading – Reading (UK)
- **University Of Southampton – Southampton (UK)
- **University Of Greenwich – London (UK)
- **Amdocs – Tel Aviv (IL)
- **Celtic IT Group – Limerick (IE)
- **Reasources – Lisbon (PT)
- **Data Analytics International – Valencia (ES)
- **Visionware-Sistemas de Informacao – Lisbon (PT)
- **Real Time Forensics – Herstmonceux (UK)
- **York University – Toronto (CA)
- **University Of Western Australia – Perth (AU)
- **University Of Southampton – Southampton (UK)
- **University Of Leuven – Leuven (BE)
- **University Of Athens – Athens (GR)
- **University Of Antwerp – Antwerp (BE)
- **University Of Rome – Rome (IT)
- **University Of Sheffield – Sheffield (UK)
- **Delft University Of Technology – Delft (NL)
- **Innovation Engineering SrL – Milan (IT)
- **Technion – Haifa (IL)
- **University Of Leeds – Leeds (UK)
- **University Of Edinburgh – Edinburgh (UK)
- **University Of Siegen – Siegen (DE)
- **University Of Oulu – Oulu (FI)
- **Universite Libre De Bruxelles – Brussels (BE)
- **University Of Reading – Reading (UK)
- **Innovation HUB – Redhill (UK)
- **University Of Liverpool – Liverpool (UK)
- **University Of Strathclyde – Glasgow (UK)

#### Other on-going projects are focusing on this research sector:

1. **EUROFORGEN-NOE - European Forensic Genetics Network of Excellence**
   - **Project Acronym / Title:** EUROFORGEN-NOE
   - **Status:** ON-GOING
   - **Funding Instrument:** FP7 – Secure Societies
   - **Contract details:** Call 2011.7.4-1
   - **Abstract / Website:** [http://www.euroforgen-noe.eu/](http://www.euroforgen-noe.eu/)
   - ** Consortium:**
     - **Coordinator:** A Community of Users on Secure, Safe and Resilient Societies (CoU)
     - **Call 2011.7.4-1**
     - **Societies**
     - **FP7 – Secure Societies**
     - **Instrument**
     - **Project Acronym / Title:** EUROFORGEN-NOE
     - **Status:** Network of Excellence
     - **Call 2013-1.6-4**
     - **Societies**
     - **FP7 – Secure Societies**
     - **Instrument**
     - **Project Acronym / Title:** EUROFORGEN-NOE
     - **Status:** Network of Excellence

2. **LASIE - Large Scale Information Exploitation of Forensics**
   - **Project Acronym / Title:** LASIE
   - **Status:** ON-GOING
   - **Funding Instrument:** FP7 – Secure Societies
   - **Contract details:** Call 2013.1.6-1
   - **Abstract / Website:** [http://www.lasie-project.eu/](http://www.lasie-project.eu/)
   - ** Consortium:**
     - **Coordinator:** Klinikum der Univers. Köln – Köln (DE)
     - **Carnegie:**
     - **University Of Birmingham – Birmingham (UK)
     - **University Of Glasgow – Glasgow (UK)
     - **University Of Newcastle Upon Tyne – Newcastle (UK)
     - **Institute Of Forensic Science – Cracovie (PL)
     - **Norwegian Institute Of Forensic Science – Naretac Norge (NO)
     - **Jagellonian University – Krakow (PL)
     - **Dortmund GmbH – Dortmund (DE)
     - **National University Of Ireland – Dublin (IE)
     - **King’s College London – London (UK)

3. **SIP - Speaker Identification Integrated Project**
   - **Project Acronym / Title:** SIP
   - **Status:** ON-GOING
   - **Funding Instrument:** FP7 – Secure Societies
   - **Contract details:** Call 2013.5.1-2
   - **Abstract / Website:** [http://www.sip.eu/](http://www.sip.eu/)
   - ** Consortium:**
     - **Coordinator:** University Of Greenwich (UK)
     - **SPEAKER IDENTIFICATION INTEGRATED PROJECT TEAM**
     - **VERINT Systems Ltd  – Tel Aviv (IL)
     - **IBM Research – Yorktown Heights (NY)
     - **University Of Hertfordshire – Hatfield (UK)
     - **University Of Manchester – Manchester (UK)
     - **University Of Reading – Reading (UK)
     - **University Of Southampton – Southampton (UK)
     - **University Of Greenwich – London (UK)
     - **Amdocs – Tel Aviv (IL)
     - **Celtic IT Group – Limerick (IE)
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     - **Data Analytics International – Valencia (ES)
     - **Visionware-Sistemas de Informacao – Lisbon (PT)
     - **Real Time Forensics – Herstmonceux (UK)
     - **York University – Toronto (CA)
     - **University Of Western Australia – Perth (AU)
     - **University Of Southampton – Southampton (UK)
     - **University Of Leuven – Leuven (BE)
     - **University Of Athens – Athens (GR)
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     - **University Of Rome – Rome (IT)
     - **University Of Sheffield – Sheffield (UK)
     - **Delft University Of Technology – Delft (NL)
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     - **Technion – Haifa (IL)
     - **University Of Leeds – Leeds (UK)
     - **University Of Edinburgh – Edinburgh (UK)
     - **University Of Siegen – Siegen (DE)
     - **University Of Oulu – Oulu (FI)
     - **Universite Libre De Bruxelles – Brussels (BE)
     - **University Of Reading – Reading (UK)
     - **Innovation HUB – Redhill (UK)
7.6.3.2 Crime scene and forensic evidences for CBRN-E threats and incidents

The CBRN Action Plan promotes the improvement of the capacity to conduct criminal investigations, e.g. through the analysis of potential problems in the transport of CBRN contaminated evidence across borders within the context of criminal investigations and emergency situations in general. Linked to this, Eurojust and a network of Forensic Science Institutes develop recommendations to ensure that collected forensic evidence in a CBRN crime scene is of a high enough quality to be admissible in court proceedings in the EU Member States, with establishment of laboratory practices which can be used during legal processes to be coordinated by Europol, Eurojust, The European Network of Forensic Science Institutes and the JRC Institute for Trans Uranium elements. These goals are supported by enhancing and supporting cooperation between forensic laboratories, reference and specialised laboratories, including those equipped for measurement/analysis of CBRN materials. Examples are:

Other on-going projects are focusing on this research sector:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIFT-CBRN</td>
<td>PFP – Secure Societies</td>
<td>Call 2014-1 1 CP</td>
<td>EUR 5,464,047 ENTR – 064547</td>
<td>Forensic investigation is hampered by a lack of protocols, training in carrying out forensic analysis on CBRN-contaminated materials. GIFT-CBRN is to develop a forensic toolbox for investigating CBRN incidents. It would provide (1) procedures, sampling methods, detection of CBRN agents at crime scene, (2) traditional forensic laboratory methods for contaminated evidence (3) laboratory methods for profiling the CBRN agents released. Procedures for chain of custody, from crime scene to court, will be developed. Education, training curriculum will be designed. Develop novel methodologies to enable traditional forensic science (DNA, fingerprint and electronic devices).</td>
</tr>
<tr>
<td>CBM-TRACK</td>
<td>PFP – Secure Societies</td>
<td>Call 2014-1 1 CP</td>
<td>EUR 5,585,940 ENTR – 515202</td>
<td>Demonstrate a working sensing device, developed into portable, miniaturised, automated, rapid, low cost, highly sensitive, &quot;sniffer&quot; &amp; detection unit, based on disposable micro-colorimetric chip. Unit can be used for identification of wide variety of illegal drugs, drug precursors, home made explosives. It combines highly advanced disciplines, as organic chemistry, micro fabrication, hardware technology, machine learning &amp; signal processing technologies. It will provide system outputs, police &amp; other authorities with an effective tool to control trafficking of illegal drugs, drug precursors.</td>
</tr>
</tbody>
</table>

In the forensics area, the H2020 FCT-3-2015 topic on Mobile, remotely controlled technologies to examine a crime scene in case of an accident or a terrorist attack involving CBIRN materials will also support the CBRN and Explosives Action Plans for the detection part.
### 7.6.3.3 Information gathering and prevention strategies

Fighting and preventing crime have been subject to a range of projects funded by the Secure Societies Programme, namely:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCIMMS</td>
<td>FP7 – Secure Societies</td>
<td>Call 2007-1.3-6</td>
<td>November 2009 / October 2012</td>
<td>The team focused on computer-based technology to strengthen ability of LEA to search, mine, fuse information from diverse sources. Taking into account how investigators construct &amp; represent data for an investigation, it produced an integrated demonstration system to show effectiveness of their technologies, which support various stages of investigation, from the forming for information to making sense of it. Useful in detecting unusual &amp; criminal behavior &amp; preventing crime in EU</td>
</tr>
</tbody>
</table>
7.6.4 Explosives

The EU Explosives Action Plan calls on Member States and the Commission to set up explosives-related research, and to ensure the aggregation and spread of research results, in particular in the areas of precursors linked to IEDs, IDEs and their properties, inhibitors which could be added to explosives to prevent them being used to manufacture explosive devices, detection technologies, and identification of various problems, detection of explosives and precursors including through the use of mobiles, mobile explosives testing kits/ detection devices (non destructive methods), certification, testing and trialling schemes for explosives detection solutions etc.

7.6.4.1 Detection / Characterisation of explosives and their precursors

Projects in support of the action plan are shown below:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>PREVAIL</td>
<td>FP7 – Secure Societies</td>
<td>Call 2009-1.3-3</td>
<td>June 2010 / January 2015</td>
<td>Coordinator: 1. FOI – Stockholm (SE)</td>
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<td>Consortium: 2. TNO - Delft (NL)</td>
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<td>3. CEA - Paris (FR)</td>
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<td>4. WINE NL incl. Hylagene and Epidemiology - Warsaw (PL)</td>
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<td>5. Yana international ASA - Oslo (NO)</td>
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<td>6. Arkema - Paris (FR)</td>
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<td>7. Insinuut Ltd - Harpenden (UK)</td>
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<td>8. SECRAB – Uttran (SE)</td>
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<td>9. Serstech AB - Lundt (SE)</td>
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<td>10. Laser Diagnostic Instrum - Zellerfeld (DE)</td>
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<td>11. Nat. Bureau Investigation - Vantaa (FI)</td>
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<td>12. Serstech AB - Lundt (SE)</td>
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<td>13. KITE - Huddersfield (UK)</td>
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<td>14. Nat. Bureau Investigation - Vantaa (FI)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Coordinator: <a href="http://www.fp7-prevail.eu/">http://www.fp7-prevail.eu/</a></td>
</tr>
</tbody>
</table>

| BONAS                   | FP7 – Secure Societies | Call 2010.1.3-3 | April 2011 / September 2014 | Coordinator: 1. Univ. Newcastle upon Tyne (UK) |
|                         |                     |                 | EUR 3,406,050 | Consortium: 2. Selective Antibodies Ltd - Newcastle upon Tyne (UK) |
|                         |                     |                 | ENTR – 251583 | 3. DLO-FBR - Wageningen (NL) |
|                         |                     |                 |                   | 4. INDRA Systemas – Madrid (ES) |
|                         |                     |                 |                   | 5. DLO - Wageningen (NL) |
|                         |                     |                 |                   | 7. Univ. Techn. Wien (AT) |
|                         |                     |                 |                   | 8. Univ. Dortmund (DE) |
|                         |                     |                 |                   | 9. Guardia Civil - Madrid (ES) |
|                         |                     |                 |                   | Coordinator: http://www.fp7-bonas.eu/ |

| ROSEPEN                 | FP7 – Secure Societies | Call 2012.7.2-1 | April 2015 / April 2015 | Coordinator: 1. TNO - Delft (NL) |
|                         |                     |                 | EUR 1,400,262 | Consortium: 2. DLO - Wageningen (NL) |
|                         |                     |                 |                   | 4. TNO - Delft (NL) |
|                         |                     |                 |                   | 5. Selective Antibodies Ltd - Newcastle upon Tyne (UK) |
|                         |                     |                 |                   | 6. TecnoVerde - Milano (IT) |
|                         |                     |                 |                   | 7. Safeguard - Ljubljana (SI) |
|                         |                     |                 |                   | 8. Univ. Malaga (ES) |
|                         |                     |                 |                   | 9. Univ. Dortmund (DE) |
|                         |                     |                 |                   | 10. CIE – Malaga (ES) |
|                         |                     |                 |                   | Coordinator: http://www.fp7-rosepen.eu/ |

| SALIANT                 | FP7 – Secure Societies | Call 2009-1.3-4 | September 2010 / December 2015 | Coordinator: 1. Tyndall Nat. Institute – Cork (IR) |
|                         |                     |                 | REA – 242757 | 3. Environics IT - Minsk (FI) |
|                         |                     |                 |                   | 4. Univ. Basel (CH) |
|                         |                     |                 |                   | 5. Department of Justice Northern Ireland Forensics - Belfast (UK) |
|                         |                     |                 |                   | 6. Police Service of Northern Ireland (PSNI) – Belfast (UK) |
|                         |                     |                 |                   | Coordinator: http://www.fp7-saliant.eu/ |

| OPTIX                   | FP7 – Secure Societies | Call 2007-1.3-1 | November 2008 / June 2015 | Coordinator: 1. Indra Systemas – Madrid (ES) |
| Optical technologies for |                     |                 | EUR 2,487,556 | Consortium: 2. Univ. Malaga (ES) |
| identification of explosives |                     |                 | REA – 218057 | 3. PO - Stockholm (SE) |
|                         |                     |                 |                   | 4. Onera - Paris (FR) |
|                         |                     |                 |                   | 5. PSI - Stockholm (SE) |
|                         |                     |                 |                   | 6. DFSPLA – Vitoria (LT) |
|                         |                     |                 |                   | 7. Avantum BV - Apeldoorn (NL) |
|                         |                     |                 |                   | 8. Tech. Univ. Clausthal – Clausthal-Zellerfeld (DE) |
|                         |                     |                 |                   | 9. Univ. Techn. Wien (AT) |
|                         |                     |                 |                   | 10. Univ. Dortmund (DE) |
|                         |                     |                 |                   | 11. Guardia Civil - Madrid (ES) |
|                         |                     |                 |                   | Coordinator: http://www.fp7-optix.eu/ |

| Sensor Platform for the |                     |                 | REA – 614555 | 3. BAH - Berlin (DE) |
| Detection of IEDs | FP7 – Secure Societies |  |  | 4. PSB Police Service of Northern Ireland (UK) |
|                     |                     |                 |                   | 5. Sens. Techn. Ltd - Cork (IE) |
|                     |                     |                 |                   | 6. Technion - Haifa (IL) |
|                     |                     |                 |                   | 7. Thales - Paris (FR) |
|                     |                     |                 |                   | 8. Univ. Manchester (UK) |
|                     |                     |                 |                   | Coordinator: http://www.fp7-commonsense.eu/ |
On-going projects are complementing the above actions:

**Project Acronym / Title**  
**Funding Instrument**  
**Contract details**  
**Abstract / Website**  
**Consortium**

**ENCOUNTER**  
FP7 – Secure Societies  
Call 2011-1  
May 2012 / June 2015  
CP  
Tools and procedures for neutralising (N) or mitigating (M) the effects of EOs and to respond appropriately and effectively to threat in the urban environment with various scenarios that EOD bodies and police units address: Evaluation of concept of operation (CONOP) of the EOD bodies and the police units operating in urban environment.  
http://www.foi.se/  
FOI, Stockholm (SE)

**SUBCOP**  
FP7 – Secure Societies  
Call 2012-1 S.2  
June 2013 / May 2016  
CP  
Develop technologies, procedures to be applied by Police Security Forces when responding to a suspected FRED (Person Born Impressed Explosive Device): It is innovative to have alertness; should it be based on detection of explosives or explosive devices, informants reporting, or other intelligence sources. It will develop guidance on how to respond to a FRED that is ethically & socially justifiable  
http://www.subcop.eu/sb_and_ahtm  
1. FOI, Stockholm (SE)

**HYPERION**  
FP7 – Secure Societies  
Call 2012-1 S.2  
August 2012 / July 2015  
CP  
HYPERION develop, test a system concept for on-site forensic analysis of an explosive device in real time. It could be used in the fast crime scene investigation provided it can help in rapidly finding terrorists, thus being pro-active in preventing future attacks.  
http://www.hyperion-fp7.eu  
1. FOI, Stockholm (SE)

**EXPEDIA**  
FP7 – Secure Societies  
Call 2011-1 S.2  
September 2014 / August 2017  
CP  
EXPEDIA will develop, test a system concept for on-site forensic analysis of an explosive device in real time. It could be used in the fast crime scene investigation provided it can help in rapidly finding terrorists, thus being pro-active in preventing future attacks.  
http://www.expedia-project.eu  
1. FOI, Stockholm (SE)

6.4.2 Crime scene investigations related to explosives

Scene investigations related explosives have been subject to few projects, namely:

**Project Acronym / Title**  
**Funding Instrument**  
**Contract details**  
**Abstract / Website**  
**Consortium**

**HYPERION**  
FP7 – Secure Societies  
Call 2012-1 S.2  
August 2012 / July 2015  
CP  
HYPERION develop, test a system concept for on-site forensic analysis of an explosive device in real time. It could be used in the fast crime scene investigation provided it can help in rapidly finding terrorists, thus being pro-active in preventing future attacks.  
http://www.hyperion-fp7.eu  
1. FOI, Stockholm (SE)

**EXPEDIA**  
FP7 – Secure Societies  
Call 2011-1 S.2  
September 2014 / August 2017  
CP  
EXPEDIA will develop, test a system concept for on-site forensic analysis of an explosive device in real time. It could be used in the fast crime scene investigation provided it can help in rapidly finding terrorists, thus being pro-active in preventing future attacks.  
http://www.expedia-project.eu  
1. FOI, Stockholm (SE)

6.5 Decontamination

Strengthening decontamination and remediation capacity is another goal of the CBRN Action Plan. The JRC is assessing modelling tools with modelling experts and emergency response personnel in order to assess practical requirements for modelling tools with the aim to identify research needs. Available means for decontamination of affected population, environment and infrastructure are also assessed, as well as their capability to deal with mass casualties with reference to CBRN materials with different cultural and social contexts. In the RN sector, further investigations are undertaken about the possibility of using RODOS (Real-time On-line Decision Support system for off-site emergency management in Europe) and ARGOS (Accident Reporting and Guidance Operational System) or other Decision Support Systems to address CBRN releases, e.g. radiological dispersion devices in events such as the polonium incident in 2006 as well as development of transport and dispersion models for large buildings, airports, railway stations and underground systems. Several projects are running in this field, some of which can be found in the civil protection and forensics sections.
### 7.6.5.1 Decontamination of CBRN agents

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
</table>

### 7.6. Prevention of extremist events and counterterrorism

In line with the policy framework described in section 5.11, a range of projects have been funded for the development of improved prevention / detection of threats of extremist events and counterterrorism actions:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
</table>
The above projects are complemented by a research action which is focusing on recovery planning further to terrorist attacks, namely:

**7.6.7 Post-crisis response and recovery following terrorist attacks**

The above projects are complemented by a research action which is focusing on recovery planning further to terrorist attacks, namely:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
</table>
| Action: PRIME, Interdicting and Mitigating Extremist events: Defending against land mine extremist events | EUR 4,252,828 | REA - 600514 | Monitoring system for controlled facilities, as target for terrorist attacks, providing real-time, reliable, continuously updated assessment of structural condition of monitored facilities after disaster with detail to be useful for recovery planning. In spatially extended events, sensory local calibration of satellite & oblique aerial photography reducing required time to inform post-disaster victims needs assessment process, providing base data for reconstruction efforts. Tool enabling the fusion of external information, and international interoperability between involved units for reconstruction & recovery planning & support collaborative work between actors. | http://www.reconass.eu/ |}

**7.6.8 Removal of anti-personal landmines**

Specific projects tackled the issue of removal of anti-personal landmines, namely:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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</table>

**Two further FP7 projects are investigated related to prevention / mitigation of extremist events, namely:**

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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</table>

**7.6.7 Post-crisis response and recovery following terrorist attacks**

The above projects are complemented by a research action which is focusing on recovery planning further to terrorist attacks, namely:

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<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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</table>

**7.6.8 Removal of anti-personal landmines**

Specific projects tackled the issue of removal of anti-personal landmines, namely:

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<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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</thead>
</table>
7.6.9 Cyber crime

Cyber crime affects a very wide range of sectors and it hence justified the funding of a wide range of projects, as exemplified below:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAMHID</td>
<td>FP7 – Secure Societies</td>
<td>Call 2013-1</td>
<td>April 2014 / March 2016</td>
<td>EUR 1,076,886</td>
</tr>
<tr>
<td>ESCORTS</td>
<td>FP7 – Secure Societies</td>
<td>Call 2007-7 - T2</td>
<td>June 2008 / December 2010</td>
<td>EUR 675,605</td>
</tr>
<tr>
<td>CAPNED</td>
<td>FP7 – Secure Societies</td>
<td>Call 2011 -1 -2</td>
<td>September 2013 / June 2014</td>
<td>EUR 5,578 546</td>
</tr>
</tbody>
</table>

Create a common platform for prevention of organized crime through sharing, exploration, analysis of Open & private information sources. Features: (a) Information acquisition from a linguistically neutral point of view; (b) Information Processing having into account different information types and different cultural issues; (c) Information Exploitation through a Visual Analytics component; (d) Standardization for interchange of data and tools; (e) Integration with Large scale Systems; (f) Secure knowledge sharing and collaboration; (g) Study and recommendations about legal, ethical and societal issues. User focused.

http://www.fp7-capned.eu/

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARTFECI</td>
<td>FP7 – Secure Societies</td>
<td>Call ICT 2013-5-7-1-1</td>
<td>January 2014 / February 2015</td>
<td>EUR 1,422,754</td>
</tr>
<tr>
<td>CMAT</td>
<td>FP7 – Secure Societies</td>
<td>Call 2012-2-2-1</td>
<td>September 2013 / August 2015</td>
<td>EUR 1,868,305</td>
</tr>
<tr>
<td>CYBERROAD</td>
<td>FP7 – Secure Societies</td>
<td>Call 2013-5-1-1</td>
<td>June 2014 / May 2016</td>
<td>EUR 1,289,754</td>
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</tbody>
</table>

The SARTFECI project proposes the creation of a simulation system for Police Intelligence analysis to support the behavior of crimes in urban environments under specific threats or additional (network, cybercrime, panic, catastrophes or terrorism) in order to plan and develop realistic realistic plans and tactics operations. This platform will be designed both as a simulation platform for training purposes and as a predictive tool for operational use. The platform will also include performance measurement tools based on safety goals and infrastructure damage to measure the skills of the analyst.

http://www.sartfeci-project.eu/

http://www.guardianproject.eu/

http://www.cyberroad-project.eu/
On-going projects are listed below:

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Project Funding Instrument</th>
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<th>Abstract / Website</th>
<th>Consortium</th>
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<tr>
<th>Project Acronym / Title</th>
<th>Project Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<tbody>
<tr>
<td>EXISTENZ</td>
<td>FP7 – Secure Societies</td>
<td>June 2014 / May 2017</td>
<td>EUR 1,462,175</td>
<td>1. Morocco – Paris (PR)</td>
</tr>
<tr>
<td>Fight against identity theft – protect theft from stealing citizen’s paper documents, or using digital means</td>
<td>Call 2013.5.1-2 CP</td>
<td>ESA - 007049</td>
<td>Today’s identity can take various forms, as primary identity delivered by H.S. (passport, ID card, driving license) – but more in “2.0” world (secondary identity for banking, administration, professional, commercial activities). 1. Similarity identity theft can take various forms, from stealing citizens’ paper documents, or using digital means. 1. It is to protect EU citizens’ identities from all current threats. It will study in deep identity theft phenomenon in EU, revealing flares in different “paper-based” procedures also in new dematerialized processes, assess threat for citizens, will develop technological components, backward compatible. Bring different types of users involved in identity chain (authorities, industries, stakeholders, businesses), technology providers, data protection experts. It will recommend updates to EU regulations to clarifyInfos, protect, propose responses &amp; increase its resilience.</td>
<td>Coordinator: 1. Morocco – Paris (PR)</td>
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</table>

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Project Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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</thead>
<tbody>
<tr>
<td>Research agenda for Cyber Crime and Terrorism</td>
<td>Call 2013.1 CS1</td>
<td>ESA - 007049</td>
<td>We deliver a measured, comprehensive, relevant research agenda for Cyber Crime and Cyber Terrorism &amp; build on three pillars, namely a user centric methodology, to identify gaps, challenges and barriers based on worldwide needs and experiences, an analytical and semantic approach, to deliver a taxonomy and create a common understanding market-oriented approach, to foster practical solutions. We will use effective test and validation solutions. This agenda will be validated through a progressive and collaborative approach, considering contexts from the legislative law enforcement, research and industrial communities.</td>
<td>Coordinator: 1. Engineering/Informatica Informatica S.p.A. – Rome (IT)</td>
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<tr>
<th>Project Acronym / Title</th>
<th>Project Funding Instrument</th>
<th>Contract details</th>
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<th>Consortium</th>
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<tbody>
<tr>
<td>HYBRM</td>
<td>FP7 – Secure Societies</td>
<td>April 2014 / April 2017</td>
<td>EUR 5,587,085</td>
<td>1. AIT – Steindorf (AT)</td>
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<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Project Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<tbody>
<tr>
<td>PREEMPITIVE</td>
<td>FP7 – Secure Societies</td>
<td>March 2014 / March 2017</td>
<td>EUR 5,851,016</td>
<td>1. Intes – Rome (IT)</td>
</tr>
<tr>
<td>Preventive Methodology and Tests to Protect Utilities</td>
<td>Call 2013.3 S-4 CP</td>
<td>ESA - 007095</td>
<td>Provide innovative solution for enhancing existing ground stations for preventing cyber attacks against hardware/software systems as DCS, SCADA, PLC, networks, wireless sensing, monitoring, diagnostic systems used by utilities networks. It proposes to: - Enhance existing/multiple cybersecurity prevention frameworks for harmonizing risk- &amp; vulnerability Assessment methods. - Development, preventive &amp; detection tools. - Develop taxonomy for classifying utilities networks. - Develop guidelines for improving Ch-surveillance.</td>
<td>Coordinator: 1. Intes – Rome (IT)</td>
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| Coordinator: | | | | |
### 6.10 Finances, Economics

<table>
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<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
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<tr>
<td>PARSIFAL</td>
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<td>September 2008 / February 2010</td>
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<tr>
<td></td>
<td>EUR 2,357,188</td>
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<tr>
<td>Protection and Trust in Financial infrastructures</td>
<td>Call ICT</td>
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<tr>
<td>Status: FINISHED</td>
<td>EUR 688,848</td>
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<tr>
<td>ESA</td>
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<tr>
<td>Laundering Intelligence, Economics</td>
<td>Call 2007-6.4-1</td>
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<td>Status: FINISHED</td>
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<tr>
<td>EUSECON</td>
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<td>April 2012 / May 2011</td>
<td></td>
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<tr>
<td>Agenda for European Security Economies</td>
<td>Call 2008-4.1-1</td>
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<tr>
<td>Status: FINISHED</td>
<td>EUR 152,565</td>
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<tr>
<td>REMIDIA</td>
<td></td>
<td>February 2014 / April 2014</td>
<td></td>
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</tr>
<tr>
<td>Hybrid Enhanced Money Laundering Intelligence, Incrimination and Alerts</td>
<td>Call ICT</td>
<td></td>
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<tr>
<td>Status: FINISHED</td>
<td>EUR 2,978,550</td>
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<tr>
<td>CNECT - 22554</td>
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<td></td>
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<tr>
<td>VALUESEC</td>
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<td>February 2011 / January 2014</td>
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<tr>
<td>Measuring the Value Function of Security Measures</td>
<td>Call ICT</td>
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<tr>
<td>Status: FINISHED</td>
<td>EUR 5,445,510</td>
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### 7.7 Population and civil protection in case of emergencies

Research actions involving population and civil protection units are increasingly needed to enable the development and validation of new tools and methods for faster and more efficient responses in case of emergencies.

### 7.7.1 Population alerting

Alert systems for population are also related to preparedness actions (see section 7.2.1.4). The project below issued recommendations in this area.

<table>
<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
</tr>
</thead>
<tbody>
<tr>
<td>POP-ALERT</td>
<td></td>
<td>September 2015 / October 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population Alerting Linking Emergencies, Resilience and Training</td>
<td>Call ICT</td>
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<td>EUR 998,846</td>
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### 7.7.2 Public Protection

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<th>Project Acronym / Title</th>
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<th>Contract details</th>
<th>Abstract / Website</th>
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<td>FDPR-TC</td>
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<td>Public Protection and Disaster Relief Transformation Center</td>
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7.7.3 Civil protection operations

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<th>Abstract / Website</th>
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<td>HELARESCUE</td>
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<td>Call 2011.5-2</td>
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7.8 Socio-economic and ethical implications

7.8.1 Post-crisis societal support psychological support

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<th>Project Acronym / Title</th>
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<th>Contract details</th>
<th>Abstract / Website</th>
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<td>OPSEC</td>
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<td>Call 2012.2-1-2</td>
<td>REA – 512785</td>
<td>Status: FINISHED</td>
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<tr>
<td>February 2013 / January 2016</td>
<td>EUR 5,535,918</td>
<td>Status: FINISHED</td>
<td>Best practice-studies for psychosocial support in crisis in order to match methods &amp; tools to all relevant target groups, typs, phases of emergencies, to develop IT based system – Operational Guidance System (OGS). OGS easy to access and can be adapted to all crisis situations. Validation through simulations tests in 3 countries with crisis managers, first responders, volunteers, possible victims according to selected key performance indicators.</td>
<td>Coordinator: 1. Red Cross - Copenhagen (DK) 2. Univ. Innsbruck (AT) 3. THG - Olden NL 4. Impact - Darmen (NL) 5. AHC - Amsterdam (NL) 6. Humanitas and Social Sciences - Zagreb (HR) 7. Uni. Duisburg-Essen – Tel Aviv (IL) 8. Tripoli - Utrecht (NL) 9. KEMIRI - Madrid (ES) 10. ICDCC - Roma (IT) 11. CRISAMRT - Stockholm (SE)</td>
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7.8.2 Public involvement / engagement in research and use of social media

7.8.2.1 Enhanced communication in crisis management

Communication is a very critical issue in case of a crisis and research is developing strategies for improving / enhancing capacities in emergencies and study of the use of Social Media, the projects below illustrate these trends:

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<thead>
<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<tr>
<td>PSYCRIS</td>
<td>FP7 – Secure Societies</td>
<td>Call 2012.4-2</td>
<td>REA – 512799</td>
<td>Status: FINISHED</td>
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| BESECU | FP7 – Secure Societies | Call 2011.5-1-1 | REA – 218524 | Status: FINISHED | Human behaviour in crisis situations; a cross-cultural investigation to tailor security-related communication |

| SUPER | FP7 – Secure Societies | Call 2015.3-1-1 | REA – 603855 | Status: FINISHED | Social sensors for security Assessments and Proactive Emergencies management |

| PEP | FP7 – Secure Societies | Call 2011.4-2-4 | REA – 284627 | Status: FINISHED | Public Employment Policies for Crisis Management |
### Project Acronym / Title | Funding instrument | Contract details | Abstract / Website | Consortium
--- | --- | --- | --- | ---
**ISAR+**  
Online and Mobile Communications for Crisis Response and Search and Rescue  
Status: FINISHED  
Funding instrument: FP7 – Secure Societies  
Call 2013.6.1-1  
CP  
Contract details: January 2015 / June 2015  
Abstract / Website: Study of the use of social media in crisis management under THED analytical framework, which embraces dimensions: 1. Technological - focused on integration of equipment, communications, information processing technologies; 2. Human, dedicated to citizens’ perspective on acceptance, employment of mobile & social media technologies in crisis; 3. Ethical, legal - concerned with ethical principles, legal framework applicable to establish ethics-by-design project, debate boundaries of privacy rights & public security.  
Coordinator:  
1. Televiz – Lisbon (PT)  
2. ENAP - Rome (IT)  
3. Polícia Segur. Pública – Lisboa (PT)  
4. Devenayvere - Paris (FR)  
5. Emergency Serv. Coll. - Kuopio (FI)  
7. ITI – Poplop (PL)  
8. Nat. Centre Emergency Comm’r Health - Bergen (NO)  
9. North Savo Rescue Department - Savo (FI)  
12. Univ. College Dublin (IE)  
13. Thales - Paris (FR)  
14. Univ. Eastern Finland - Kuopio (FI)  
15. Zanias & Partners - Modena (IT)  
On-going projects complement the above actions:  
**SOTERIA**  
Online and Mobile Communications for Emergencies  
Status: ON-GOING  
Funding instrument: FP7 – Secure Societies  
Call 2013.6.1-1  
Contract details: September 2014 / February 2017  
Abstract / Website: Developing recommendations & associated tools enlisting public safety organisations (PSOs) & citizens using new mobile, online social media technologies to communicate before, during & after an emergency event, exchange critical information for PSOs’ intervention, medical assistance situations. Empowered by new mobile phones with cameras, text messaging, internet based applications, SOTERIA innovation to dynamics between PSOs & citizens in emergencies, allowing it) understanding of impact social media actors in emergency management systems; (ii) use of all communication channels, including social media, (iii) exploitation of mobile platforms’ ubiquity to locate, communicate with citizens in distress, (iv) leverage of PSOs’ levels of shared awareness, performance, benefiting from citizens’ social media information.  
Coordinator:  
1. Televiz – Lisbon (PT)  
2. Devenayvere - Paris (FR)  
4. Thales - Paris (FR)  
5. Emergency Serv. Coll. - Kuopio (FI)  
6. North Savo Rescue Department - Savo (FI)  
7. Univ. Eastern Finland - Kuopio (FI)  
8. Police Coll. Finland - Tampere (FI)  
9. Ita-Suomen joututusten ILT - Kuopio (FI)  
10. Univ. College Dublin (IE)  
11. Bridge259 Spa - Reggio Emilia (IT)  
12. Centre for Science, Society & Citizenship - Rome (IT)  
13. Zanias & Partners - Modena (IT)  
14. Univ. Hospital - Bergen (NO)  
15. ITI – Poplop (PL)  
17. Ernst-Moritz-Arndt-Univers. Greifswald – Greifswald (DE)  
18. Ambulance & Emergency Physicians Association - Izmir (TR)  
Coordinator:  
1. Univ. Padernem (DE)  
2. IES Solutions - Rome (IT)  
4. Univ. Siegen - Siegen (DE)  
5. Tavistock Institute of Human Relations - London (UK)  
6. Western Norway Research Institute - Sogndal (NO)  
7. Federation EU Fire Officer Associations - Luxembourg (LU)  
8. European Emergency Number Association - Brussels (BE)  
9. Fire Department - Dortmund (DE)  
10. Scientific and Research Centre for Fire Protection - Warsaw (PL)  
**HELP**  
Enhanced Communications in Emergencies by Creating and Exploiting Synergies in Composite Radio Systems  
Status: FINISHED  
Funding instrument: FP7 – Secure Societies  
Call 2010-1  
CSA  
Contract details: February 2011 / May 2012  
Abstract / Website: Establishment of techno. foundation strategy dev. roadmap; aimed at increasing wireless communication capabilities of public safety organisations by proposing innovative approaches for network management, spectrum resources. Solution framework (system concept) for provision of public safety communications over diverse wireless infrastructures; Framework for management of composite emergency network; tech-economic analysis, consolidated basis, roadmap for realisation of the envisioned solution framework.  
Coordinator:  
1. Univ. Polite Catalunya – Barcelona (ES)  
2. IES Solutions - Rome (IT)  
3. Policia Segur. Pública – Lisboa (PT)  
4. DAEID-Telecom Italia - Milan (IT)  
7. ITI – Poplop (PL)  
8. Nat. Centre Emergency Comm’r Health - Bergen (NO)  
9. North Savo Rescue Department - Savo (FI)  
11. Polski Policja - Poland (PL)  
12. Univ. Dublín (IE)  
13. Thales - Paris (FR)  
14. Univ. Eastern Finland - Kuopio (FI)  
15. Zanias & Partners - Modena (IT)  
**COSMIEC**  
Distribution of Social Media in Crisis management  
Status: FINISHED  
Funding instrument: FP7 – Secure Societies  
Call 2012.6.1-3  
CSA  
Contract details: April 2013 / March 2015  
Abstract / Website: Role of social networks in mitigation of consequences of crises & disasters. COSMIEC will deliver set of instructions, recommendations, best practices related to exploitation of social media in emergency situations. This will be done by addressing, analysing roles of major stakeholders associated with crisis management & by reviewing their communication needs, infrastructure bottlenecks & security priorities during disasters.  
Coordinator:  
2. Thalwil Research & Consulting - London (UK)  
3. Safety region South Holland South and Limburg - Rotterdam (NL)  
4. Univ. Nijmegen - Nijmegen (NL)  
5. Kog University – Istanbul (TR)  
6. Holland Marine Rescue Team - The Hague (NL)  
7. Public Safety Communication Europe (BE)  
Coordinator:  
1. Univ. Padernem (DE)  
3. Oxford University - Oxford (UK)  
4. Univ. Siegen - Siegen (DE)  
5. Tavistock Institute of Human Relations - London (UK)  
6. Western Norway Research Institute - Sogndal (NO)  
7. Federation EU Fire Officer Associations - Luxembourg (LU)  
8. European Emergency Number Association - Brussels (BE)  
9. Fire Department - Dortmund (DE)  
10. Scientific and Research Centre for Fire Protection - Warsaw (PL)
7.8.2.2 Civil Society engagement.

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<tr>
<th>Project Acronym / Title</th>
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<th>Contract &amp; Start Dates</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<tr>
<td>SECURITY PART</td>
<td>FP7 – Secure Societies</td>
<td>May 2014 / April 2015</td>
<td>Understanding status quo about CSO participation, 2) helping CSOs to cope with increasing complexity of security research, 3) supporting internal structure of CSOs, promoting collaboration links among them &amp; stakeholders, 4) creating a network of practice results of best cases from partner countries, 5) creating a database for sharing tools and methods that address the needs for capacity building of CSOs, 6) stimulating a permanent public-private dialogue through engaging stakeholders &amp; planning co-management of future projects.</td>
<td>Coordinator: 1) Banke consultores iniciativas emprendedoras – San Sebastian (ES) 2) Dr. Lange GmbH &amp; Co KG – Hannover (DE) 3) NEXUS – Brussels (BE) 4) Univ. Johann Wolfgang-Goethe – Frankfurt am Main (DE) 5) Univ. Saarland (UK) 6) Gómez – Olavide de Azeméis (PT)</td>
</tr>
<tr>
<td>ASSIST</td>
<td>FP7 – Secure Societies</td>
<td>May 2014 / July 2014</td>
<td>Series of workshops to create basic of a tool &amp; strategy. Starting from synthesis of state of art discussions on security policy at EU level, it will identify best practice cases exploring assessing societal impacts of science &amp; technology in security domain &amp; beyond, 2) analyse their structural properties. This will be done in multidisciplinary fashion from different perspectives, including end-users, stakeholders, researchers, policy-makers, NGOs. Bringing together these different perspectives in series of workshops will create basic for development of a tool &amp; strategy for sustainable implementation of societal impacts in future EU research activities.</td>
<td>Coordinator: 1) IRIS – Wism (AT) 2) Teich Lerou Berlin (DE) 3) Triabval Res. Consul. – London (UK) 4) Kings College London (UK) 5) Hamburg Consul Gesellschaft für Metrologie mbH (DE)</td>
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<tr>
<td>PANDORA</td>
<td>FP7 – Secure Societies</td>
<td>January 2010 / March 2012</td>
<td>Development of smart, novel digital support environment, cross simulation system to enhance, expand training exercises, Considering of emotional impact on trainees of both crisis scenario &amp; multimedia inputs from which they have to gather information, to base strategic decisions &amp; creates environment that can provide appropriate metrics on crisis manager performance. System is required to capture emotional, behavioral state of each trainee, at appropriate level within defined scale. This information has to be passed to internal mesh-up engine as result of direct trainer input.</td>
<td>Coordinator: 1) Unir. Greenshields (UK) 2) CNR – Rome (IT) 3) CERTH – Athens (GR) 4) Xi’an rotating program expenses in Kashmiri state – Jhelumana (IN) 5) Pecso – Budapest (RO)</td>
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<tr>
<td>ALTERNATIVE</td>
<td>FP7 – Secure Societies</td>
<td>February 2012 / January 2016</td>
<td>Provide alternative, deeper understanding based on empirical evidence of how to handle conflicts in intercultural contexts in democratic societies to set up security solutions for communities, which active participation of citizens is, we have to try to put into practice theoretical approaches in empirical tested methods of dealing with conflicts in intercultural settings by R&amp;R processes.</td>
<td>Coordinator: 1) Katholische Univ. Leuven (BE) 2) Univ. Gothenburg – Gothenburg (SE) 3) University of British Columbia – Vancouver (BC) 4) Univ. Leeds – Leeds (UK) 5) Westreicher Wissens-Union – Mainz (DE)</td>
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<tr>
<td>ATHENA</td>
<td>FP7 – Secure Societies</td>
<td>December 2012 / November 2016</td>
<td>The goal of the project is to deliver two major outputs that will enable and encourage users of new media to contribute to the security of citizens in crisis situations and for search and rescue actions, namely a set of best practice guidelines for LEAs, police, first responders and citizens for the use of new media, supporting tools and technologies in crisis situations, and a suite of prototype software tools to enhance the abilities of LEAs, police, first responders and citizens in their use of mobile and smart devices in crisis situations. This project will explore how the huge popularity of new communication media, particularly well-based social media such as Twitter and Facebook, and the prolific use of high-tech mobile devices, can be harnessed to provide efficient and effective communication and enhanced situational awareness during a crisis.</td>
<td>Coordinator: 1) Yorkshire Police Authority – Manchester (UK) 2) Univ. Sheffield Hallam (UK) 3) Municipality of Lympia (IN) 4) Ini. Org. Migration – Brussels (BE) 5) Epidemiolo Ltd – Dublin (IE) 6) Univ. Vigneux- Chatillon. (Belgium) 7) Lapaz Res Publica – Riga (LV) 8) Res. in Motion Ltd – Watebras Ontario (Canada) 9) San Software Ltd – London (UK) 10) Thales – Celle (DE) 11) Eam Systems – Stockholm (SE) 12) info Research – Limerick (IE) 13) MFK – Walsburg (DE)</td>
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Within Horizon2020, the DRS-15-2014 topic on “Next generation emergency services” will provide a mean to improve early warning and communication in the area of civil protection. In addition, a Pre-commercial Procurement (PCP) has been opened via the DRS-15-2015 topic (2015 call) on “Interoperable next generation communication system for public safety and security” which will be a direct continuation of the FP7 research efforts.

The implementation of security policies is supported by good practices exchanges, which are recommended in the EU Civil Protection Mechanism. This practice is often part of research projects which have henc the capacity to respond to policy recommendations.

7.8.3 Ethics

Finally, ethic issues are also well represented in research funded by the Secure Societies Programme, as shown below:

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<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract &amp; Start Dates</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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http://www.projectathena.eu/
### PACT

**Public perception of security and privacy**

**Status:** FINISHED

**Abstract / Website:** http://www.pactproject.eu/

**FP7 – Secure Societies**

**Project Acronym / Title:** PACT

**Funding instrument:** FP7 Call 2011-1-1 - CP

**Project details:** June 2012 / July 2015

**Consortium:**
- Coordinator: Vitambs TAHBB – Grenoble (FR)

**Coordinator:** Vitambs TAHBB

**Abstract:** PACT brings together policy, privacy, ethical, social, technical expertise at the highest level of EU & world excellence. Challenge 1: To develop new reference framework for assessing security impact from a wider societal perspective. 2: To carry out pilot part EU survey on public preferences & trade-offs between security, privacy, fundamental rights to build an original Privacy Reference Framework & comprehensive Decision Support System – to provide adaptable model for security investment in terms of wide social acceptance, concerns & reactions.

**Contact details:** EUR 2,675,107

**Abstract:**

- Status: FINISHED

**Abstract:** Surveillance, Privacy and Security are subjecting to evolving technologies, causing infringements of personal freedom and privacy, fundamental rights, & examines legal, cost, public perceptions, infringement of fundamental rights, & examines legal, cost, public perceptions, infringement of fundamental rights, & examines legal, cost, public perceptions, infringement of fundamental rights, & examines legal, cost, public perceptions.

**Abstract:** Syntehing sociological, economic, security sciences to viable concrete actionable knowledge for policy makers, social planners responsible for citizens’ security. Developing & furthering state of art in modelling security problems in technological, socio-economic context & applying state of art risk assessments, analysis of causal context to develop optimal policies. Outputs are twofold: first: assessment of future & emerging threats in identified areas with robust model of operational mechanism for mitigation within policy domain. The last impact will be a methodological revolution driven by common set of modelling tools & aiming recent advances in modelling technology.

**Abstract:**

**Contact details:** EUR 285,359

**Abstract:**

**Contact details:** EUR 4,644,109

**Abstract:**

**Contact details:** EUR 285,402

**Abstract:**

**Contact details:** EUR 5,632,554

**Abstract:**

**Contact details:** EUR 284,475

**Abstract:**

**Contact details:** EUR 1,892,248

**Abstract:**

**Contact details:** EUR 218,865

**Abstract:**

**Contact details:** EUR 3,492,690

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**Contact details:** EUR 1,890,248

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<td>CP - Secure Societies</td>
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<td>EUR 3,490,491</td>
<td>Coordinator: 1. Univ. Reading (UK)</td>
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<td>9. Trinity College Dublin (IE)</td>
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<td><strong>ADDPRIV</strong></td>
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<td>Feb 2013 - May 2016</td>
<td>EUR 4,997,588</td>
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<td>Coordinator: 1. Queen Elizabeth Univ. –Belfast (IE)</td>
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<td>11. CEIS – Dublín (IE)</td>
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<td><strong>PARIS</strong></td>
<td>CP - Secure Societies</td>
<td>Jan 2015 - Feb 2016</td>
<td>EUR 3,490,491</td>
<td>Coordinator: 1. Queen Elizabeth Univ. - Dublin (IE)</td>
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<td></td>
<td>Call 2012-1</td>
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<td>REA - 515204</td>
<td>Consortium: 2. PRIO – Oslo (ND)</td>
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<td>3. TNO - Delft (NL)</td>
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**ADDPRIV** proposes novel knowledge and developments to limit the storage of unnecessary data, to be implemented on existing multi-camera networks in order to make them better comply with citizen’s privacy rights.

http://www.addpriv.eu

**SECIDE** creates an empirically inferred view of legitimacy, effectiveness of EU security legislation, legal, societal, operational, democratic perspectives. Produce interdisciplinary & multi-stakeholder understanding of mechanisms for measuring impact, legitimacy of legal measures, connecting theoretical & practical perspectives with sound & operationally-informed analysis of these measures in practice. Identify strengths, weaknesses, assumptions, discrepancies across & between existing theoretical, institutional & operational perspectives. Strategic approach to create dynamic synergies between legal, sociological, ethical disciplines, authorities & end-users in order to generate holistic understanding of operation of EU legal measures.

http://veste.eu/about-us/

**PARIS** demonstrates a methodological approach for development of surveillance systems which enforces right of citizens to privacy, justice, freedom. Management tool will be developed in order to allow for creation, editing of conceptual framework, 2) subsequently act as reference for surveillance system designers. A SALT compliant design process will be defined so that the balance of surveillance & privacy according to the specialized framework will be ensured.

http://www.paris-project.org/
<table>
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<tr>
<th>Project Acronym / Title</th>
<th>Funding Instrument</th>
<th>Contract details</th>
<th>Abstract / Website</th>
<th>Consortium</th>
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<tbody>
<tr>
<td>PS</td>
<td>FP7 – Secure Societies</td>
<td>August 2015 / July 2016</td>
<td>EUR 3,498,214 ENTR - S12784</td>
<td>The goal of the PS project is an intelligent perimeter proactive surveillance system that works robustly under wide range of weather, lighting conditions, that has strong privacy preserving features. System will monitor region outside security area of critical buildings, infrastructure, give early warning if detection of terrestrial/air threats in support of human operator. Multispectral sensor suite comprising both passive, active sensors is envisaged, i.e., system based on radar, visual, thermal sensors. It will be complemented with advanced algorithms for information fusion, object detection, classification, privacy preservation, high level modelling of intent, behaviour analysis. PS project will make contributions to evolving standards in detection systems.</td>
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</table>
| PS-SPPR-2             | FP7 – Secure Societies | Call 2012-1 CP | | Coordinator: 1. FOI – Stockholm (SE)  
Consortium: 2. Univ. Reading -UK  
3. Thermal Engin. Systems AB - Linkoping (SE)  
4. SAGEM - Paris (FR)  
5. Univ. Namur (BE)  
7. Inst. Mobil- und Satellitenfunktechnik GmbH - Kempten (DE)  
8. Oskarshamnsverkets Kraftgrupp AB - Oskarshamn (SE)  
| Privacy Preserving Perimeter Protection Project |                  |                 |                  |            |
8. Way Ahead

Most policies dealing with Disaster Risk and Crisis Management have established operational links with research. For example, the CBRN and Explosive Action Plans include the goal to strengthen and prioritise research. Furthermore, an engagement in further research cooperation with international partners is promoted with a view to enhancing synergies and avoiding duplications, using existing scientific networks, taking into account the research work performed by EDA, JRC and ESRIF (expired in 2009), organisation of periodic meetings by the Commission.

While interactions among research and policies are high on the policy agenda, much remains to be done to improve the way information flows from the different communities involved in implementation of both research outputs and policies. This includes capitalizing on past research and enhancing cooperation among EU Member States organisations. The complexity of the security sector stems from the wide variety of actors involved and the lack of coordination mechanism at EU and national level regarding the transfer of information and their actual use by implementers and decision-makers. The need for enhanced coordination and information sharing form the basis of the Community of Users on Safe, Secure and Resilient Societies described in this paper.

Prior to developing a Community of Users (based on existing communities which are presently fragmented) with the view of improving science-policy-industry-operator’s links in the context of Horizon2020, it was essential to understand the architecture of the research framework and how it interacted with various policy technical/scientific challenges. This was the subject of the mapping described in the present document which should not be regarded as an impact assessment (i.e. no analysis was done about the actual impact and use of research outputs on policies) but rather as a means to better understand the complex science-policy working environment at EU and national levels and propose a mechanism to streamline information flows and transfer in the future. The analytical value of the document stands for the “matrix” established between research and science, i.e. a factual image of the present situation. For the time being, it does not go as far as analysing the real outputs of research regarding policy implementation but complements the work of the Commission’s Disaster Risk Management Knowledge Centre (DRMKC) which intends to improve science-based services and analysis, the use and uptake of research and operational knowledge as well as to advance science and technology in DRM.

Based on this report, what is the way ahead? Several objectives will be pursued, from the short to the long term, which are described in details in Section 2 “Tasks and objectives”. Besides the technical objectives and the coordination of a better information exchange system, the Community of Users on the long term has the capacity to rise sharing of experiences among different actors involved in disaster risk and crisis management, with possible initiatives leading to synergies in the EU and beyond.

What is at stake here is to create a mechanism involving different levels (EU, national and regional) by which the different actors, and primarily the “users”, will be able to rapidly trace back information and experiences issued from research, capacity-building and training projects, giving them the possibility to identify and contact right persons at the right time to get the feedback that they are looking for via the CoU dedicated website. Regular information exchanges and debates orchestrated by the Community of Users will enable to better channel the information to the “users”, which will have a direct effect on research programming, policy implementation and update. It will also have an effect on the involvement of end-users at various levels, e.g. in steering committees of Horizon 2020 projects, consortia, and cater links between research projects and capacity-building / training initiatives, e.g. making links with training programmes and centres, modules exercises, etc.

If the Community of Users develops as expected, it has a potential to become a useful complementary supporting group on research related activities to EU security policies (not duplicating existing advisory groups dealing with policy implementation but rather channeling information about research outputs) in the framework of which the European Commission with the EU Member States (through the policy and programme committees), EU Agencies, Intergovernmental Agencies, International Organisations and the wide range of sectors concerned (research, industry, operators) will cooperate for boosting implementation of research outputs, including their usability for policy implementation in the Member States (through information given to relevant existing committees and advisory groups). This will in addition have the capacity of returns of experiences from Industry and practitioners to the EU level, and enable to identify the most potential technologies, tools and methods in order to support their access to the market.

The Community of Users, along with the DRMKC, will enable to better visualise / identify research (and on the long term capacity-building and education) projects related to different themes relevant to safety, security and resilience. In this respect, both initiatives are closely interconnected (Figure 7).

### DRMKC – HOME Community of Users

While this network is progressively establishing “horizontal” dialogues and helping interactions among different disciplines and actors, it will not have the capacity to create operational links with users at large without dedicated thematic networks (referred to as “Communities of practice”) in Figure 8.

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**Figure 7. DRMKC – HOME Community of Users**

While this network is progressively establishing "horizontal" dialogues and helping interactions among different disciplines and actors, it will not have the capacity to create operational links with users at large without dedicated thematic networks (referred to as “Communities of practice”) in Figure 8.

**Figure 8. Linking CoU to Communities of practice**

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A Community of Users on Secure, Safe and Resilient Societies (CoU)Mapping EU policies and ITD research for enhancing partnerships in H2020

A Community of Users on Secure, Safe and Resilient Societies (CoU)
Mapping EU policies and ITD research for enhancing partnerships in H2020
This need for "vertical" transfer of information from the EU to the national and the regional levels could be fulfilled by connecting the CoU to appropriate expert networks or communities, either existing or to be developed, that would play the role of knowledge integrating and "translating" bodies at European levels, with the mission – in support and in connexion with MS authorities – to effectively relays research outputs (e.g. new tools or technologies, methods etc.) to appropriate users at national, regional and even local levels. This process of pulling EU research outputs to users, i.e. transforming these outputs into outcome, can only be possible through an effective partnership with users. In other words, if the CoU provides on a regular basis information on new tools / technologies or other research information, different "communities of practice" might format this information to address different categories of users (policy-makers, scientists, industry/SMEs, practitioners, civil society) and undertake ad-hoc actions to ensure that potentials of EU research developments are known and possibly applied by them. This flow of information would enable that we do not miss opportunities (or duplicate work) and would also create effective bridges among the EU down to the citizen’s level with possible feedback received and contributing to further research programming.

Two examples are given below to illustrate this purpose. In the CBRN-E area, the CoU will continue its efforts in identifying relevant projects funded by different (research, capacity-building) programmes with the aims to propose clustering initiatives through platforms of information exchanges. Stakeholders will continue to interact with these programmes to help interfacing with relevant policies. The CoU is naturally not interfering with policy development and implementation, but contacts are readily established with different policy bodies, enabling to inform users about possible updates and helping research information to be efficiently disseminated to policy actors. The "Community of practice" need to be activated to relay ad-hoc information to users as shown in Figure 9a.

Zooming into the CBRN picture, this would imply that each Community of practice gets a comprehensive overview of leading projects in their area (research, capacity-building, training / education), help bringing these projects together if and when possible so that synergies and a critical mass may be built-up. Interfacing among research & innovation and other actors in the industry and policy areas should be facilitated by stakeholder expert / working groups with a mediating role, i.e. able to translate / format the information to target specifically different users (e.g. specific technology information addressed to industry, support to a specific policy action with reference to the appropriate regulation etc.). In bridging the different "worlds", there is a greater chance that users will get better channeled information as the knowledge base would in principle become consolidated and made known to a wide range of different actors.

The same can be exemplified in the area of natural hazards, taking into consideration the different "communities" (Figure 10a) and hazards (Figure 10b).

In conclusion, the Community of Users has the vocation to act as a facilitating platform, creating links and dialogues among different actors / disciplines (the "horizontal level") and among different levels (from EU to local). Based on the present mapping, a similar architecture will be used to develop a website which will facilitate information searches (not repeating what is readily in place but rather providing paths helping users to more easily find information per themes / areas). This mapping will be complemented on a regular basis (annually) for H2020 and other projects, and the CoU will pursue the organisation of gathering events to consolidate a culture of exchanges at EU level for the sake of improved safety, security and resilience of our societies.
A Community of Users on Secure, Safe and Resilient Societies (CoU)
Mapping EU policies and FP7 research for enhancing partnerships in H2020

Figure 10a. Main actors in the Natural Hazards area

Figure 10b. Channelling information in the Natural Hazards area