

Empfehlung: Antwortvorlage zur Konsultation "Survey on possible research needs in Horizon 2020 "Secure Societies"

LINK: http://ec.europa.eu/enterprise/newsroom/cf/itemdetail.cfm?item_id=6092

The survey will be closed on Sunday 16 September 2012.

A. Respondent profile (Absatz A füllen Sie bitte individuell für Ihr Unternehmen aus)

Name and first name* (compulsory) (between 1 and 100 characters; count: 0)

Please provide an email adress where we can contact you* (compulsory) (between 1 and 150 characters; count: 0)

You are/you represent (optional)

Name of Organisation* (compulsory) (between 1 and 200 characters; count: 0)

Country of origin (should you represent an organisation, please provide the country of origin of your organisation* (compulsory)

Please provide a telephone number (optional) (optional) (between 1 and 100 characters; count: 0)

Can you please specify which mission area is your main area of expertise?* (compulsory)

1. Fighting crime and terrorism

2. Cyber crime and cyber terrorism

3. Strengthening security through border management

4. Critical infrastructure protection

5. Increasing Europe's resilience to crises and disasters

6. Enhancing the societal dimension of security

7. Enhancing interoperability (technical, data and syntax, semantic, organizational) of security providers, systems and processes across Europe (including standardization needs)

8. Addressing the EU-external dimension of security: humanitarian aid, conflict prevention and post-crisis stabilization)

9. Other

B. The security research missions in Horizon 2020 “secure societies”

1. Research mission: Fighting crime and terrorism

1.1 According to your area of expertise, where do you see the **main challenges** to European security at present and foreseeable, which should be addressed by this security research mission until 2020? Please specify.

Please rate the relevance of the threat, from 1=minor challenge/threat, 5=main challenge/threat

	Do not know	1	2	3	4	5
Support to health, food, water, and environmental security (optional)					X	
Organized crime (human and drug trafficking, smuggling of arms and other contraband, forced prostitution, child pornography, hostage-taking, money laundering, counterfeit, blackmail, organized robbery, piracy, etc.) (optional)					X	
Illegal sourcing, proliferation, production and use of CBRN agents, including CWA, BWA, TIC/TIM (toxic industrial chemicals/materials) and other dangerous bacteria and virus) (optional)					X	
Ordinary crime (optional)				X		
Illegal sourcing, proliferation, production and use of explosives and related chemical substances (optional)				X		
Terrorism (home-grown terrorism, international terrorism, terrorist attacks of various forms including the use of CBRNE material, recruitment of terrorists, terrorist propaganda, terrorist financing, terrorist logistics, etc.) (optional)				X		

If you believe that a different challenge/threat should be included, please specify and rate: (optional)

- In view that soon the majority of the global population will live in urban environments and “Megacities” these specific challenges and threats (civil uprisings, mobs, social media driven) in fighting crimes and terrorism are not sufficiently addressed in this mission. Apart from “fighting” an even greater weight should be put on prevention! We see this as a priority 5.
- Mafia - priority 4, ultra right wing violence - priority 2,

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1.2 According to your area of expertise, and based on your responses to the previous question, where do you see the main needs for EU action in research and innovation (i.e. topics) in this security research mission until 2020?

- Short-term, Mid-term, Long-term, Technology roadmap, Lighthouse project, Fundamental rights

Please specify and justify.

Please specify the research needs in this mission area for the **short term**

- Detection of explosives (transportation), detection of stowaways
- Data exchange possibilities of security solutions from different vendors
- Cyber security, Protection against organized crime

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Please specify the research needs in this mission area for the **mid term**:

- Since urbanization is already an ongoing phenomenon the needs for prevention and fighting of crime & terrorism is growing rapidly in this area. It seems that how a city today and in years to come shall be protected is insufficiently researched. In view of the fact that decision making in public environment is usually slow and highly political we see this topic as substantial and urgent.
- Interoperability of security solutions from different vendors
- Development of ways to detect and fight corruption and Mafia style activities, e.g. transportation of drugs
- Protection of trade routes
- Access to essential materials and energy

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Please specify the research needs in this mission area for the **long-term**:
(optional) (between 1 and 1000 characters; count: 0)

- Combination of different security solution from different vendors into a seamless integrated solution.

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Optional possibility: provide a **technology roadmap** for this mission area (optional)

- Establish standards and specifications about
 1. Data exchange interfaces
 2. Interoperability interfaces
 3. User Experienceof security solutions.
- Focus on technologies like cloud computing, data mining, central databases, web technologies.

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Referring to the above listed research and innovation needs, do you see a topic or thematic area, which bears the potential to become a European “**lighthouse project**”? Please indicate and explain. (optional)

- We see the potential that such research could best be performed as a European “lighthouse project”. This would allow direct application & practical testing of the results.
- Uniform cloud solution for the collection, processing and exchange of distributed streaming data (e.g. sensor data, video, audio) for crime prevention and clarification.
- Cyber security, secure cloud

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How should research and innovation in this security research mission ensure to protect **fundamental rights, privacy and to appropriately address ethical requirements**?

- Yes, but the three aspects require clear internationally agreed definitions (e.g. ISO standards), a one sided European view could lead to a lower level of security and/or unbalanced competitive approach. This is valid for all 8 fields or research.
- The involvement of ethical/justical members in projects of this kind seems favorable, however, not as a basic requirement for each project.
- End to end solution for data security, user rights management, user authentication, ...

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2. Research mission: Cyber crime and cyber terrorism

2.1 According to your area of expertise, where do you see the **main challenges** to European security at present and foreseeable, which should be addressed by this security research mission until 2020? Please specify.

Please rate the relevance of the threat, from 1=minor challenge/threat, 5=main challenge/threat.

	Do not know	1	2	3	4	5
cyber crime (prevention, detection, neutralisation and prosecution of criminal activities in the internet, support to law enforcement in cyber space, etc.) (optional)	X					
cyber terrorism (cyber attacks, cyber recruitment of terrorists, cyber propaganda of terrorists, cyber communication of terrorists, etc.) (optional)	X					
Cryptology (optional)	X					
protection of biometric data and digital identities (optional)	X					
governmental situational awareness in cyber space (information gathering, collection, exploitation, sharing, alerting) (optional)	X					
cyber forensics to combat crime and terrorism (optional)	X					
risk assessment and risk management for web-based activities and services of organisations ensuring life critical public services (health, etc) (optional)	X					

If you believe that a different challenge should be included, please specify and rate: (optional)

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2.2 According to your area of expertise, and based on your responses to the previous question, where do you see the main needs for EU action in research and innovation (i.e. topics) in this security research mission until 2020?

- Short-term, Mid-term, Long-term, Technology roadmap, Lighthouse project, Fundamental rights

Please specify and justify.

Please specify the research needs in this mission area for the **short term**

- Protection of digital identities
- Cyber forensic
- Awareness

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Please specify the research needs in this mission area for the **mid term**:

- Cyber crime
- Cyber terrorism
- Risk assessment

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Please specify the research needs in this mission area for the **long-term**:

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Optional possibility: provide a **technology roadmap** for this mission area (optional)

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Referring to the above listed research and innovation needs, do you see a topic or thematic area, which bears the potential to become a European **“lighthouse project”**? Please indicate and explain. (optional)

- Protection of digital identities

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How should research and innovation in this security research mission ensure to protect **fundamental rights, privacy and to appropriately address ethical requirements?**

- They are fundamental to the discussion of cyber security

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3. Research mission: Strengthening security through border management

3.1 According to your area of expertise, where do you see the **main challenges** to European security at present and foreseeable, which should be addressed by this security research mission until 2020? Please specify

Please rate the relevance of the threat, from 1=minor challenge/threat, 5=main challenge/threat

	Do not know	1	2	3	4	5
Land border management (equipment, tools, processes, and methods) (optional)	X					
Air border management (equipment, tools, processes, and methods) (optional)	X					
Sea border management (equipment, tools, processes, and methods) (optional)	X					
Border checks (equipment, tools, processes, and methods) (optional)	X					
Multinational, integrated border management concepts, architectures, information exchange, etc. (optional)	X					

If you believe that a different challenge should be included, please specify and rate

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3.2 According to your area of expertise, and based on your responses to the previous question, where do you see the **main needs for EU action in research and innovation (i.e. topics) in this security research mission until 2020?**

- Short-term, Mid-term, Long-term, Technology roadmap, Lighthouse project, Fundamental rights

Please specify and justify.

Please specify the research needs in this mission area for the short term

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Please specify the research needs in this mission area for the **mid term:**

- In or around (borders) with high corruption rates surveillance of cargo on the road and on ships should be considered. For several countries illegal immigration is an issue. Detection devices for stowaways are needed.

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Please specify the research needs in this mission area for the **long-term**:

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Optional possibility: provide a technology roadmap for this mission area (optional)

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Referring to the above listed research and innovation needs, do you see a topic or thematic area, which bears the potential to become a European **“lighthouse project”**? Please indicate and explain. (optional)

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How should research and innovation in this security research mission ensure to protect **fundamental rights, privacy and to appropriately address ethical requirements?** (optional)

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4. Research mission: Critical infrastructure protection

4.1 According to your area of expertise, where do you see the **main challenges** to European security at present and foreseeable, which should be addressed by this security research mission until 2020? Please specify.

Please rate the relevance of the threat, from 1=minor challenge/threat, 5=main challenge/threat

	Do not know	1	2	3	4	5
Electricity infrastructures, systems, and facilities for generation and transmission of electricity in respect of electricity supply (optional)					X	
Oil and gas production, refining, treatment, storage and transmission by pipelines, LNG terminals (optional)					X	
Transportation infrastructures, systems and services (road, rail, air, inland waterways, ocean and short-sea shipping and ports) (optional)					X	
Financial infrastructures, systems and services (optional)						X
Communication grids, systems and services (optional)						X
Space infrastructures, systems and services			X			
Health infrastructures, systems and services				X		
Drinking water supply infrastructures, systems and services (optional)					X	
Logistic and supply chain security (including food)				X		
Buildings and urban areas (optional)					X	
Security of environment (optional)					X	

If you believe that a different challenge should be included, please specify and rate

- Failure of a large number of personnel (due of illness or death), who are essential for operating

and supporting the critical infrastructure systems (Rating: 5)

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4.2 According to your area of expertise, and based on your responses to the previous question, where do you see the main needs for EU action in research and innovation (i.e. topics) in this security research mission until 2020?

- Short-term, Mid-term, Long-term, Technology roadmap, Lighthouse project, Fundamental rights

Please specify and justify.

Please specify the research needs in this mission area for the **short term**

- Affordable indoor navigation/positioning (e.g. Track & Trace).
- Transportation infrastructures remain vulnerable and need updated protection technologies. This applies also for supply chains.
- Financial infrastructure, energy infrastructure
- Communication grids, Logistic and Supply Chain Security
- Identification of new upcoming critical infrastructure, e.g. communication and power grids, green energy production plants etc. The setting of common security requirements in this area over a short period will help to achieve a high level of protection for these areas, which are at the moment more or less in a build-up phase.

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Please specify the research needs in this mission area for the **mid term**:

- Physical protection and resilience of infrastructural elements.
- Electricity infrastructures, transportation infrastructures, health infrastructures, building and urban areas
- Checking existing security requirements (e.g. EN 54) and adapting them to the requirements of critical infrastructure protection. Some critical areas are not fully covered by the existing regulations (e.g. fire detection and evacuation of public places), whereby state of the art technology should be considered too.
- Determining how public agencies should communicate with the populace during a disaster, taking into consideration populations with a high proportion of ethnic groups who do not have sufficient command of the local language(s). See 5.1 uniform alert tone.

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Please specify the research needs in this mission area for the **long-term**:

- After establishing protection solutions, maybe even with interconnections the next step is to establish “forecast scenarios” and “simulations” out of the data of the existing systems to simulate the crime potential if for example a new airport is to be built etc. The system should be able to give “crime forecasts” out of one country to other countries, similar to a weather forecast.
- Designing urban areas and their infrastructures in such a manner that key functions of the infrastructure will remain in place so that the population can survive by organizing itself during an incident (such as during a pandemic/epidemic) in which a large number of personnel essential to the maintenance of critical infrastructures have become sick or died.

Optional possibility: provide a **technology roadmap** for this mission area (optional)

- Defining Web based systems with a standardized strong interconnection. In case of an incident the data of all sensors, cameras and technical systems should be presented to the commander (including people counting by getting access to mobile carrier reporting the number of login mobiles in the area).

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Referring to the above listed research and innovation needs, do you see a topic or thematic area, which bears the potential to become a European **“lighthouse project”**? Please indicate and explain.

- Refer to our suggestion in 1.2. These elements have a large influence on 1.2 since they are especially critical in urban environments. Therefore we recommend a connection of the two topics.
- Using mobile Web communication to guide people in case of an incidence.
- **Urban security**
- It must be a part of the implementation that all data are anonymized if possible. The access is only possible for authorized operators and systems. All access has to be monitored by institutions and service provider for later investigations in the case of not allowed use.

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How should research and innovation in this security research mission ensure to protect **fundamental rights, privacy and to appropriately address ethical requirements**?

- The implementation must include the anonymizing all data wherever possible. Access should only be possible for authorized operators and systems. All access has to be monitored by institutions and service providers for later investigations in case of unauthorized use.

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5. Research mission: Increasing Europe’s resilience to crises and disasters

5.1 According to your area of expertise, where do you see the **main challenges** to European security at present and foreseeable, which should be addressed by this security research mission until 2020? Please specify.

Please rate the relevance of the threat, from 1=minor challenge/threat, 5=main challenge/threat

	Do not know	1	2	3	4	5
Civil protection, civil defence, law enforcement (optional)					X	
Societal acceptability (optional)				X		
Emergency management operations (e.g. fire fighting and marine pollution, search and rescue) (optional)					X	
Medical information infrastructures (optional)					X	
Societal resilience (optional)					X	
European emergency response capacity (optional)					X	
Human factors (optional)	X					
Civilian capabilities for crisis management (optional)				X		

If you believe that a different challenge should be included, please specify and rate

- Home smoke detector for disaster warning
- Uniform alert tone in the EU for fire alarms - that recognition is given wherever I am. (Study of bidirectional sound for escape route control?) - see 4.2 research needs mid term

5.2 According to your area of expertise, and based on your responses to the previous question, where do you see the **main needs for EU action in research and innovation (i.e. topics)** in this security research mission until 2020?

- Short-term, Mid-term, Long-term, Technology roadmap, Lighthouse project, Fundamental rights

Please specify and justify.

Please specify the research needs in this mission area for the short term

- Civil Protection, Emergency management, Public Alert and Mass Notification. Europe is lagging behind the US in this area both in technology and know-how.

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Please specify the research needs in this mission area for the **mid term**:

- Define Human Factors and other societal aspects.

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Please specify the research needs in this mission area for the **long-term**:

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Optional possibility: provide a **technology roadmap** for this mission area (optional)

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Referring to the above listed research and innovation needs, do you see a topic or thematic area, which bears the potential to become a European **“lighthouse project”**? Please indicate and explain. (optional)

- See 1.2

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How should research and innovation in this security research mission ensure to protect fundamental rights, privacy and to appropriately address ethical requirements? (optional) (between 1 and 1000 characters; count: 0)

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6. Research mission: Enhancing the societal dimension of security

6.1 According to your area of expertise, where do you see the **main challenges** to European security at present and foreseeable, which should be addressed by this security research mission until 2020? Please specify.

Please rate the relevance of the threat, from 1=minor challenge/threat, 5=main challenge/threat

	Do not know	1	2	3	4	5
Privacy-by-design frameworks and technologies (optional)					X	
User control of their personal data and its use by third parties (optional)				X		
Better understanding of socioeconomic, cultural, and anthropological dimensions of security, and the causes of insecurity (optional)				X		
The role of media and communication and the citizen's perceptions (optional)					X	
Ethical issues and protection of human values and fundamental rights (optional)				X		

If you believe that a different challenge should be included, please specify and rate

- Ability of mutual- and self-assistance in security-affairs. (Rating: 4)

6.2 According to your area of expertise, and based on your responses to the previous question, where do you see the main needs for EU action in research and innovation (i.e. topics) in this security research mission until 2020?

- Short-term, Mid-term, Long-term, Technology roadmap, Lighthouse project, Fundamental rights

Please specify and justify.

Please specify the research needs in this mission area for the **short term**

- Privacy-by-design, user control of their personal data, role of media and communication
- Ability of mutual- and self-assistance in security-affairs.

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Please specify the research needs in this mission area for the **mid term**:

- Better understanding of socioeconomic, cultural and anthropological dimensions of security
- Ethical issues

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Please specify the research needs in this mission area for the **long-term**:

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Optional possibility: provide a **technology roadmap** for this mission area (optional)

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Referring to the above listed research and innovation needs, do you see a topic or thematic area, which bears the potential to become a European “**lighthouse project**”? Please indicate and explain. (optional)

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How should research and innovation in this security research mission ensure to protect fundamental rights, privacy and to appropriately address ethical requirements?

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7. Research mission: Enhancing interoperability (technical, data and syntax, semantic, organizational) of security providers, systems and processes across Europe (including standardization needs)

7.1 According to your area of expertise, where do you see the **main challenges** to European security at present and foreseeable, which should be addressed by this security research mission until 2020? Please specify.

Please rate the relevance of the threat, from 1=minor challenge/threat, 5=main challenge/threat

	Do not know	1	2	3	4	5
Enhancing interoperability and intercommunication of systems, equipment, services and processes used in security applications (optional)					X	
Ensuring reliability, protection of confidentiality and integrity of information, traceability of transactions and their processing (optional)						X
Security standardization (optional)						X
Training issues (cultural, human and organizational interoperability) (optional)					X	

If you believe that a different challenge should be included, please specify and rate

- One-stop testing for interoperability between testing laboratories or certifiers
- Uniform application standard (planning, design, installation) of the European Union for safety instrumented issues (for example EN54-14 theme)

7.2 According to your area of expertise, and based on your responses to the previous question, where do you see the main needs for EU action in research and innovation (i.e. topics) in this security research mission until 2020?

- Short-term, Mid-term, Long-term, Technology roadmap, Lighthouse project, Fundamental rights

Please specify and justify.

Please specify the research needs in this mission area for the **short term**

- Security standardization in Europe needs a new approach. The process for the development and implementation of standards is much too long and often has little connection to practical application. Industry should become more involved in standardization, Industry needs should be more recognized in standardization, considering the great influence it has on this area.
- Enhancing interoperability and intercommunication of systems, security standardization
- Definition of common intercommunication standards based on Web technology including definition of interactions of the systems on a minimum level (e.g. to view a picture of a camera but not to do remote maintenance).

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Please specify the research needs in this mission area for the **mid term**:

- Interoperability.
- Standards should describe:
 - software application interoperability
 - interfaces between engineering tools
 - ensuring reliability, protection of confidentiality and integrity of information
 - training issues
- Open the range of interworking systems outside of the security area, e.g. to use the data of mobile phones and cars to analyze a critical situation and to guide people.

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Please specify the research needs in this mission area for the **long-term**:

- With access to all data (data warehouse) a forecasting system can be established to avoid critical situations (like the speed limit if the traffic is rising to avoid a traffic jam).

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Optional possibility: provide a technology roadmap for this mission area (optional)

- Standardization and of Web technology in the area of security with ongoing adaption of the latest technology

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Referring to the above listed research and innovation needs, do you see a topic or thematic area, which bears the potential to become a European **“lighthouse project”**? Please indicate and explain. (optional)

- Expansion of existing standards to all areas of security (intrusion and access) and safety (fire and public address).

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How should research and innovation in this security research mission ensure to protect **fundamental rights, privacy and to appropriately address ethical requirements**? (optional)

- For IT-Security all accesses have to be protected and logged for later investigation. An EU trust center may guarantee the integrity and validation of IT-security certificates.

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8. Research mission: Addressing the EU-external dimension of security: humanitarian aid, conflict prevention and post-crisis stabilization)

8.1 According to your area of expertise, where do you see the **main challenges** to European security at present and foreseeable, which should be addressed by this security research mission until 2020? Please specify.

Please rate the relevance of the threat, from 1=minor challenge/threat, 5=main challenge/threat

	Do not know	1	2	3	4	5
Humanitarian aid (optional)				X		
International relief logistics (optional)			x			
Conflict prevention (optional)	x					
Post-crisis stabilization (optional)					x	
Civil-military cooperation (dual-use technologies) (optional)				x		

If you believe that a different challenge should be included, please specify and rate

- In reference to **“Civil-military cooperation”**: Check on a scientific basis whether **“dual-use”** is truly a viable option for civil security, or just a nice story told by the defense companies to counterbalance their revenue losses in the defense markets.

8.2 According to your area of expertise, and based on your responses to the previous question, where do you see the main needs for EU action in research and innovation (i.e. topics) in this security research mission until 2020?

- Short-term, Mid-term, Long-term, Technology roadmap, Lighthouse project, Fundamental rights

Please specify and justify.

Please specify the research needs in this mission area for the **short term**

- Research the influence of dual-use standards on the products developments process in relevance to development time & product costs.
- Conflict prevention
- Post-crisis stabilization

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Please specify the research needs in this mission area for **the mid term**:

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Please specify the research needs in this mission area for the **long-term**:

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Optional possibility: provide a **technology roadmap** for this mission area (optional)

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Referring to the above listed research and innovation needs, do you see a topic or thematic area, which bears the potential to become a European **“lighthouse project”**? Please indicate and explain. (optional)

- Conflict prevention

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How should research and innovation in this security research mission ensure to protect **fundamental rights, privacy and to appropriately address ethical requirements**?

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C. Transversal issues

According to your area of expertise, what are the **key/critical technologies** to be addressed by EU research and innovation in H2020 secure societies until 2020? Please list the top 5 of them, and justify your claim.

Technology: (optional) (between 1 and 1000 characters; count: 0)

1. Terahertz Laser Scanning
 - use in Airports, Train Stations, Sport Stadiums (anywhere with large crowds)
 2. Big Data Mining
 - help interventional forces to better plan roster and presence where necessary
 3. Indoor Navigation
 - to allow guided evacuation of buildings in case of emergency & poor visibility
 4. Track & Trace
 - improve intelligent response in emergency situations especially in large buildings
 - improve access control (open door concept instead of closed door)
 5. Video Analysis: Standardization is missing in order to achieve interoperability
- All of the technologies above could boost the safety and security efficiency before things happen (preventive).

- Critical: Dependency on non-EU technology in IT and telecommunications
- Unmanned reconnaissance, surveillance and exploratory aircraft
- Low-cost, reliable communication technology for civil security authorities and organizations
- Simple, reliable methods for detecting dangerous pathogens and biological weapons early on
- Simple, effective protection of the population and civil security personnel against the intake and spread of dangerous pathogens and biological weapons

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Specification and justification of criticality / underpinning potential:

- Over 50% of network technology is produced by Asian companies

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According to your area of expertise, please indicate the relative importance of each mission compared to the other missions

Please rate the relevance of the threat, from 1=least important, 8 most important

	Do not know	1	2	3	4	5	6	7	8
1. Fighting crime and terrorism (optional)							X		
2. Cyber crime and cyber terrorism (optional)						X			
3. Strengthening security through border management (optional)		X							
4. Critical infrastructure protection (optional)									X
5. Increasing Europe's resilience to crises and disasters (optional)					X				
6. Enhancing the societal dimension of security (optional)				X					
7. Enhancing interoperability (technical, data and syntax, semantic, organizational) of security providers, systems and processes across Europe (including standardization needs) (optional)								X	
8. Addressing the EU-external dimension of security: humanitarian aid, conflict prevention and post-crisis stabilization (optional)			X						