

Survey on possible research needs in Horizon 2020 "Secure Societies"

This survey addresses Security Research under Horizon 2020, covering the whole period of Horizon 2020, i.e. 2014–2020. It aims at collecting stakeholders' views and suggestions on challenges and derived research needs linked to the Horizon 2020 'Secure Societies' mission areas, including an indication of short-, mid-, and long-term relevance and on implementation instruments (funding schemes).

How to complete the Questionnaire?

You will notice that the survey is quite extensive. **We would however like to underline that you do not need to fill out all the passages.** It is sufficient to fill out the sections that are of interest for you, i.e. the mission areas that concern/interest you. You will also notice that for each mission area, **the possibility to upload documents has been added.**

For most of the questions, you will have to choose one or more items from a scroll-down menu or options indicated by radio buttons. Please, note that there are many questions inviting you to provide specific comments.

Completing the questionnaire should not take more than 30 minutes. We suggest that you quickly browse through the whole questionnaire before completing it. Please, note that there is a 90 minutes time-out, i.e. the session will close after being inactive for 90 minutes.

The survey will be closed on Monday 16 September 2012.

Questions marked with an asterisk * require an answer to be given.

A. Respondent profile

Name and first name * (between 1 and 100 characters)



Please fill in your full name.

Helmut SCHWABACH, PSCE President

Please provide an email address where we can contact you * (between 1 and 150 characters)

mc.bonnamour@psc-europe.eu

secretariat@psc-europe.eu

You are/you represent

- Micro or small enterprise (fewer than 49 employees, turnover less than €10 million) A multi-national/ European public body **Non governmental organisation**
- Medium enterprise (between 50 and 249 employees, turnover less than €50 million) A national administration An individual
- Large enterprise (more than 250 employees) Regional or local administration Other
- A business association An academic institution or think tank

Please specify (between 1 and 100 characters)

Public Safety Communication Europe Forum (PSCE) is a permanent autonomous organisation aiming at improving provision of public safety communications and information management systems and the safety of the citizens during crisis and emergency situations. PSCE provides a unique common platform for researchers, industry and users enabling regular exchange of ideas, information, experiences and best practices.

Name of Organisation * (between 1 and 200 characters)

Public Safety Communication Europe Forum (PSCE)

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

- | | | |
|--|--|---|
| <input type="radio"/> AT – Austria | <input type="radio"/> FI – Finland | <input type="radio"/> PL – Poland |
| <input checked="" type="radio"/> BE – Belgium | <input type="radio"/> FR – France | <input type="radio"/> PT – Portugal |
| <input type="radio"/> BG – Bulgaria | <input type="radio"/> HU – Hungary | <input type="radio"/> RO – Romania |
| <input type="radio"/> CY – Cyprus | <input type="radio"/> IE – Ireland | <input type="radio"/> SE – Sweden |
| <input type="radio"/> CZ - Czech Republic | <input type="radio"/> IT – Italy | <input type="radio"/> SI – Slovenia |
| <input type="radio"/> DE – Germany | <input type="radio"/> LT – Lithuania | <input type="radio"/> SK – Slovakia |
| <input type="radio"/> DK – Denmark | <input type="radio"/> LU – Luxembourg | <input type="radio"/> UK - United Kingdom |
| <input type="radio"/> EE – Estonia | <input type="radio"/> LV – Latvia | <input type="radio"/> Other |
| <input type="radio"/> EL – Greece | <input type="radio"/> MT – Malta | |
| <input type="radio"/> ES – Spain | <input type="radio"/> NL – Netherlands | |

Please specify (between 1 and 100 characters)

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

- | | | |
|---|---|--|
| <input type="checkbox"/> 1. Fighting crime and terrorism | <input checked="" type="checkbox"/> 2. Cyber crime and cyber terrorism | <input type="checkbox"/> 3. Strengthening security through border management |
| <input type="checkbox"/> 4. Critical infrastructure protection | <input type="checkbox"/> 5. Increasing Europe's resilience to crises and disasters | <input type="checkbox"/> 6. Enhancing the societal dimension of security |
| <input type="checkbox"/> 7. Enhancing interoperability (technical, data and syntax, semantic, organizational) of security providers, systems and processes across Europe (including standardization needs) | <input type="checkbox"/> 8. Addressing the EU-external dimension of security: humanitarian aid, conflict prevention and post-crisis stabilization) | <input type="checkbox"/> 9. Other |

Please specify (between 1 and 100 characters)

All PSCE Policy Papers are available at:

<http://www.psc-europe.eu/index.php?id=370>

Please provide a telephone number (optional) (between 1 and 100 characters)

+32 (0) 2 738 07 63

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

1. Research mission: Fighting crime and terrorism

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

(between 1 and 500 characters)

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**
- **Optional: provide technology roadmap**
- **Provide technology roadmap**
- **Lighthouse project**
- **Fundamental rights**

Please specify and justify.

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

(between 1 and 1000 characters)

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

(between 1 and 1000 characters)

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

(between 1 and 1000 characters)

Optional possibility: provide a technology roadmap for this mission area (between 1 and 1000 characters)

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.

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

2. Research mission: Cyber crime and cyber terrorism

2.1 According to your area of expertise, where do you see the **main challenges (threats)** 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.

- a: Do not know
- b: 1
- c: 2
- d: 3
- e: 4
- f: 5

	a	b	c	d	e	f
cyber crime (prevention, detection, neutralisation and prosecution of criminal activities in the internet, support to law enforcement in cyber space, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
cyber terrorism (cyber attacks, cyber recruitment of terrorists, cyber propaganda of terrorists, cyber communication of terrorists, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
cryptology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
protection of biometric data and digital identities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
governmental situational awareness in cyber space (information gathering, collection, exploitation, sharing, alerting)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>
cyber forensics to combat crime and terrorism	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
risk assessment and risk management for web-based activities and services of organisations ensuring life critical public services (health, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>

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

(between 1 and 500 characters)

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
- Optional: provide technology roadmap
- Provide technology roadmap
- Lighthouse project
- Fundamental rights

Please specify and justify.

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

(between 1 and 1000 characters)

- **Assess cyber attacks to inform cyber defense – focus on high risk technical areas first.**
- **Building of a mutual trust between public and private entities involved in the process.**
- **Ensure that security investments are focused to counter highest threats.**

Please specify the research needs in this mission area for the mid-term: (between 1 and 1000 characters)

- Maximize use of automation to enforce security controls – negate human errors.
- Attack simulation and service impact analysis
- Simulation exercises

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

- Procedures on how to handle cyber incidents do not yet exist on a pan-European level. Such procedures need to be developed, tested and constantly updated

Optional possibility: provide a technology roadmap for this mission area (between 1 and 1000 characters)

1. Inventory of Authorized and Unauthorized Devices
2. Inventory of Authorized and Unauthorized Software
3. Secure Configurations for Hardware and Software on Laptops, Workstations, and Servers
4. Secure Configurations for Network Devices such as Firewalls, Routers, and Switches
5. Boundary Defense
6. Maintenance, Monitoring, and Analysis of Security Audit Logs
7. Application Software Security
8. Controlled Use of Administrative Privileges
9. Controlled Access Based on Need to Know
10. Continuous Vulnerability Assessment and Remediation
11. Account Monitoring and Control
12. Malware Defenses
13. Limitation and Control of Network Ports, Protocols, and Services
14. Wireless Device Control
15. Data Loss Prevention
16. Secure Network Engineering
17. Penetration Tests and Red Team Exercises
18. Incident Response Capability
19. Data Recovery Capability
20. Security Skills Assessment and Appropriate Training to Fill Gaps

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.

PSCE recommends to create (where needed) with the support of EU funding, national / local cyber security centers to fill-in capability gaps, monitoring the national / local cyber space and establish link / cooperation with the European Cyber-Security Center, bringing EU MS to a common level of preparedness, prevention and, possibly, response.

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

(between 1 and 1000 characters)

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**
- **Optional: provide technology roadmap**
- **Provide technology roadmap**
- **Lighthouse project**
- **Fundamental rights**

Please specify and justify.

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

(between 1 and 1000 characters)

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

(maximum 1000 characters)

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

(between 1 and 1000 characters)

Optional possibility: provide a technology roadmap for this mission area

(between 1 and 1000 characters)

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. (between 1 and 1000 characters)

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

4. Research mission: Critical infrastructure protection

4.1 According to your area of expertise, where do you see the main challenges (threats) 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

- a: Do not know
- b: 1
- c: 2
- d: 3
- e: 4
- f: 5

Electricity infrastructures, systems, and facilities for generation and transmission of electricity in respect of electricity supply

Oil and gas production, refining, treatment, storage and transmission by pipelines, LNG terminals

Transportation infrastructures, systems and services (road, rail, air, inland waterways, ocean and short-sea shipping and ports)

Financial infrastructures, systems and services

Communication grids, systems and services

Space infrastructures, systems and services

Health infrastructures, systems and services

Drinking water supply infrastructures, systems and services

Logistic and supply chain security (including food)

Buildings and urban areas

Security of environment

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

(between 1 and 1000 characters)

It will be of interested to consider M2M surveillance mission (or IoT ; Internet of Things) missions to protect CIP

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
- Optional: provide technology roadmap
- Provide technology roadmap
- Lighthouse project
- Fundamental rights

Please specify and justify.

Please specify the research needs in this mission area for the short term (between 1 and 1000 characters)

■ Identify and assess threats and vulnerabilities.

■ Improve and enhance public/private information sharing involving attacks, threats, and vulnerabilities.

■ Develop and enhance national and pan-European analysis and warning capabilities.

Please specify the research needs in this mission area for the mid term: (between 1 and 1000 characters)

- **Provide and coordinate incident response and recovery planning efforts.**
- **Promote awareness and outreach.**

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

- **Foster training and certification.**

Optional possibility: provide a technology roadmap for this mission area (between 1 and 1000 characters)

1. **Establish robust situational assessment coordination and information exchange**
2. **Implement protective measures**
3. **Enhance contingency planning, training, and exercises**
4. **Clarify critical infrastructure protection roles with Member States**
5. **Address key interdependencies with other sectors**
6. **Strengthen public confidence**

(between 1 and 1000 characters)

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.

Communication of early warning information

An effective early warning system needs an effective communication system. Early warning communication systems are made of two main components:

- **communication infrastructure hardware that must be reliable and robust, especially during the natural disasters; and**
- **appropriate and effective interactions among the main actors of the early warning process such as the scientific community, stakeholders, decision makers, the public, and the media.**

PSCE is of the view that this subject could be perceived as a European “lighthouse project” in the context of Critical Infrastructure Protection.

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

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

According to your area of expertise, where do you see the main challenges (threats) 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

g: Do not know

h: 1

i: 2

j: 3

k: 4

l: 5

Emergency management operations (civil protection, civil defence, law enforcement)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Societal acceptability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Emergency management operations (fire fighting and marine pollution, medical information infrastructures, search and rescue)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Societal resilience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
European emergency response capacity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Human factors Civilian capabilities for crisis management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

If you believe that a different challenge/threat should be included, please specify:

Different challenges: Operational issues

- Risk and threat assessment approaches and methodologies are different across MS and not fully harmonized.
- The very broad miscellany of training and operational procedures within the MS limits mutual aid. The potential of information sharing, simulation, exercising and expert exchanges has not been fully unleashed to improve coordination, compatibility or complementarity.
- Need for improved training and simulation on common / similar procedures
- Weak links exist across first responder groups limiting interoperability (see point 7.2).
- Poor and/or late situational awareness often leads to delayed intervention and inefficient deployment of resources
- Apart from R&D projects in security research, the private sector with its competence, technology and solutions, is practically absent in today's EU civil protection programmes.
- Extremely fragmented procurement structures. (procurement can be at national, regional or local (municipality) level)

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
- Optional: provide technology roadmap
- Provide technology roadmap
- Lighthouse project
- Fundamental rights

Please specify and justify.

Please specify the research needs in this mission area for the short term (between 1 and 1000 characters)

Public safety community needs to get spectrum resources for mission critical broadband communications, including cross border missions. It should be noted that as per today the public safety services are not enabled with spectral possibilities to roll out such "broadband" services despite that they have the need to deploy higher speed data services in the field. The allocation of spectrum resources should be harmonized at European level encompassing satellite and terrestrial wireless networks in a technology and service neutral approach. Therefore, dedicated projects addressing research and prototyping activities in wireless broadband communication area should be funded in the context of the Horizon 2020.

Please specify the research needs in this mission area for the mid-term (between 1 and 1000 characters)

PSCE believes that relevant training schemes and well elaborated awareness-raising campaigns may significantly contribute to the Europe's resilience to crises and disasters. In this respect, Horizon 2020 should build up on previous successful "coordination and support action" projects and set very strict evaluation criteria in order to avoid scattering of funds. We believe that various membership associations of PSCE kind which have direct access to end users, companies and research institutes, provide a suitable platform for disseminating good practices and providing the exchange of information. Moreover, the programme should reflect the strong need for learning from experience which requires efficient mechanisms and tools for gathering.

Please specify the research needs in this mission area for the long-term (between 1 and 1000 characters)

■ **Efficient procurement structures**

Optional possibility: provide a technology roadmap for this mission area (between 1 and 1000 characters)

- **Continuous dialogue and cooperation between public administrations, first responders and private suppliers to update solutions according to evolving needs and technologies.**
- **Support the coordination on procurement of existing equipment and procedures**
- **Continuous sharing of best practices and training methodologies.**

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.

The end users are typically actively participating in local or national projects and developments. It has, however, proved to be difficult for them to participate at an international level, despite threats not respecting national borders (e.g. international crime, climatic disasters etc). The isolated presentations of users' demands are not transferrable into developments unless relevant providers take them onboard. Moreover, these providers i.e. industry cannot provide innovative solutions without high quality research. Therefore, PSCE believes that EU funds should support initiatives which directly involve end-users, industry and research bodies in a very interactive and agile manner. The end-users have to be supported by efficacious and efficient organisational as well as management structure proposed by projects. Such close cooperation would help to reduce the current gap between research and market. As a consequence, only those project proposals that address direct linkage between research and business oriented aspects should be taken into consideration.

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

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

(between 1 and 1000 characters)

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**
- **Optional: provide technology roadmap**
- **Provide technology roadmap**
- **Lighthouse project**
- **Fundamental rights**

Please specify and justify.

Please specify the research needs in this mission area for the short term (between 1 and 1000 characters)

Please specify the research needs in this mission area for the mid-term (between 1 and 1000 characters)

Please specify the research needs in this mission area for the long-term (between 1 and 1000 characters)

Optional possibility: provide a technology roadmap for this mission area (between 1 and 1000 characters)

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. (between 1 and 1000 characters)

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

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 (threats) 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

- a: Do not know
- b: 1
- c: 2
- d: 3
- e: 4
- f: 5

	a	b	c	d	e	f
Enhancing interoperability and intercommunication of systems, equipment, services and processes used in security applications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
Ensuring reliability, protection of confidentiality and integrity of information, traceability of transactions and their processing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
Security standardization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>
Training issues (cultural, human and organizational interoperability)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	<input type="radio"/>

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

(between 1 and 1000 characters)

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
- Optional: provide technology roadmap
- Provide technology roadmap
- Lighthouse project
- Fundamental rights

Please specify and justify.

Please specify the research needs in this mission area for the short-term (between 1 and 1000 characters)

In the event of accidents, emergencies or disasters, the various communities of interest have difficulty to access and share information between themselves. Interoperability is needed to solve this key issue within and between the countries, regions, and nations. To this end, the EC should encourage the development of shared, more effective and more cost-effective logistics at EU level in order to avoid the deployment by each actor of its own on-site support.

Traditionally, work on interoperability has focussed on technical issues. Whereas technological interoperability is one important factor, there is equally a need to focus on organisational and procedural interoperability in situations where different services are to collaborate.

There are deficiencies in the interoperability of Member States' operational procedures, equipment, contents, materials, language tools, C4 (command, control, communication and computing systems) procedures, capabilities and structures. All these aspects should be addressed in parallel.

Please specify the research needs in this mission area for the mid-term (between 1 and 1000 characters)

Please specify the research needs in this mission area for the long-term (between 1 and 1000 characters)

Optional possibility: provide a technology roadmap for this mission area (between 1 and 1000 characters)

(between 1 and 1000 characters)

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.

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

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 (threats) 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

- a: not know
- b: 1
- c: 2
- d: 3
- e: 4
- f: 5

	a	b	c	d	e	f
Humanitarian aid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
International relief logistics	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict prevention	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Post-crisis stabilisation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Civil-military cooperation (dual-use technologies)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

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

(between 1 and 1000 characters)

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**
- **Optional: provide technology roadmap**
- **Provide technology roadmap**
- **Lighthouse project**
- **Fundamental rights**

Please specify and justify.

Please specify the research needs in this mission area for the short-term (between 1 and 1000 characters)

Please specify the research needs in this mission area for the mid-term (between 1 and 1000 characters)

Please specify the research needs in this mission area for the long-term (between 1 and 1000 characters)

Optional possibility: provide a technology roadmap for this mission area (between 1 and 1000 characters)

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. (between 1 and 1000 characters)

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

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: (between 1 and 1000 characters)

Specification and justification of criticality / underpinning potential: (between 1 and 1000 characters)

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

g: not know

h: 1

i: 2

j: 3

k: 4

l: 5

m:6

n: 7

o: 8

	g	h	i	j	k	l	m	n	o
1. Fighting crime and terrorism	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
2. Cyber crime and cyber terrorism	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
3. Strengthening security through border management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Critical infrastructure protection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
5. Increasing Europe's resilience to crises and disasters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
6. Enhancing the societal dimension of security	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
7. Enhancing interoperability (technical, data and syntax, semantic, organizational) of security providers, systems and processes across Europe (including standardization needs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
8. Addressing the EU-external dimension of security: humanitarian aid, conflict prevention and post-crisis stabilization)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

