



European
Commission



Horizon 2020 Secure Societies WP 2017

BES call

DG Migration and Home Affairs



Border Security and External Security

Development of technologies, capabilities and solutions to:

Improve EU border security:

- *Flow of people: research will support the exploitation of the potential given by the European Border Surveillance System (**EUROSUR** - Regulation No 1052/2013) and promote an enhanced use of new technology for border checks in relation to the SMART BORDERS legislative initiative **(DG HOME)***
- *Flow of goods: research will address, in the context of the EU's customs policy, supply chain security trying to strike the right balance with trade facilitation **(DG TAXUD)***

Support the EU External Security Policies in civilian tasks (EEAS)





Call - SECURITY

Border Security and External Security

SEC-13-BES-2017: Next generation of information systems to support EU external policies

SEC-14-BES-2016: Towards reducing the cost of technologies in land border security applications **SMILE**

SEC-15-BES-2017: Risk-based screening at border crossing

SEC-16-BES-2017: Through-foliage detection, including in the outermost regions of the EU

SEC-17-BES-2017: Architectures and organizations, big data and data analytics for customs risk management of the international goods supply chain trade movements

SEC-18-BES-2017: Acceptance of "no gate crossing point solutions"

SEC-19-BES-2016: Data fusion for maritime security applications **MARISA**

SEC-20-BES-2016: Border Security: autonomous systems and control systems **ROBORDER CAMELOT**





SEC-13-BES-2017: Next generation of information systems to support EU external policies

Scope:

- *This topic is to support the development of a cost-effective common Situational Awareness, Information Exchange and Operation Control Platform.*

Expected Impact:

- *Solid basis for a full-scale, cost-effective common situational awareness, information exchange and operation control platform for EU civilian external actions.*
- *Improved management of EU resources' allocated to EU civilian external actions.*

Type of Action: Pre-Commercial Procurement (max 10M) TRL 8





SEC-15-BES-2017: Risk-based screening at border crossing

Challenge: Maintaining current level of checks increasingly expensive given growing volumes of people and goods, and increasingly more disruptive flows. Sustainable only if thorough checks could be limited further to a preliminary (and non-disruptive) risk-based screening.

Scope:

- Take account of measures undertaken with third countries or service providers; cooperation with neighbouring countries; border control and counter-smuggling measures; control measures to prevent irregular immigration and cross-border crime inside the Schengen area.
- Develop innovative, international alert systems for co-operative law enforcement and investigative efforts (building upon lessons learned and field experience).
- Collaboration with stakeholders in other fields of transport safety (e.g. IATA, maritime, rail).
- Attention to data protection and other ethical concerns.

Expected impact:

- Enhanced situational awareness, enabling timely and proper identification of potentially dangerous people and goods, and preventing smuggling and human trafficking.
- Improved risk-management coordination and cooperation between border control (passport/persons), customs (baggage/goods) and actors in transport security.
- Improved solutions for remote detection of abnormal behaviours.
- More effective use of intelligence to reduce risks (in cooperation with SEC-18-BES-2017).

Innovation action

(TRL) 7

~€ **8million** EU indicative contribution

3 border guards or customs as beneficiaries

~€ **8million** EU indicative budget



SEC-18-BES-2017: Acceptance of "*no gate crossing point solutions*"

Challenge: In the next 10 years, technologies could make it possible to implement "*no gate crossing point solutions*" for seamless crossing of borders and security checks, for the vast majority of travellers meeting the conditions of entry, and make sure that those who do not fulfil such conditions are refused entry.

The societal and political acceptance of technologies for "*no gate solutions*" is required prior to their implementation (taking into account behaviour, gender, legal frameworks, societal issues, and possible risk of discrimination).

Scope: Methods to generate information useful for decision makers to take decisions about future technology deployments, and for industry to design products that preserve privacy.

Expected impact: Without increasing the risk of loss of privacy, and in close cooperation with SEC-15-BES-2017:

- Systems that better manage personal information and support the automated checking and analysing of various entry and exit data.
- Networks of sensors that better collect the information needed for border checks,
- A method, and metrics, to assess acceptability by the society of the concept of processes based on "*no gate crossing point solutions*", and of the required various technology components.

Research and Innovation Action;
3 border guards or customs as beneficiaries

~€ **3million EU** indicative contribution.

~€ **14million EU** indicative contribution

with SEC-07-FCT



SEC-16-BES-2017: Through-foliage detection, including in the outermost regions of the EU (i)

Challenge: Some regions at the borders of the EU covered with forests, and face extreme temperature conditions. Detecting, locating, tracking or identifying persons and vehicles crossing the border is difficult as technologies for surveillance are currently not effective.

Scope:

Systems should improve surveillance technologies and techniques for better detection in a real operational context. They could build on airborne, satellite-based, and/or on ground based platforms.

Solutions should be tested and validated in terms of capabilities to control the border covered by a vegetation layer, in all weather conditions.

Expected impact:

Short term: Improved surveillance and search-and-rescue capabilities (in forested regions);

Medium term: Validated detection technologies, in terms of fitness for purpose, low rate of false alarms, practicability, mobility, and cost effectiveness.

Long term: Demonstrated through-foliage detection in realistic operational scenarios, in extreme weather conditions, in collaboration with the relevant border surveillance authorities and in regions where important irregular border crossing and smuggling may be taking place.





SEC-16-BES-2017: Through-foliage detection, including in the outermost regions of the EU (ii)

- Overlap with the EWISA www.ewisa-project.eu to be avoided,
- Ethical and societal acceptance needs to be properly addressed.
- Possible synergies with projects funded by EDA.

Research and Innovation Action; (TRL) 6-7 ; ~€ 8million EU indicative contribution
~€ 8million EU indicative budget

3 border guards authorities as beneficiaries





SEC-17-BES-2017: Architectures and organizations, big data and data analytics for customs risk management of the international goods supply chain trade movements (i)

Challenge: Effective management of risks in the international supply chain at the same time facilitating trade. The "*EU Strategy and Action Plan for customs risk management*" (COM (2014) 527 final) strategy and action plan (*endorsed by the Council in Dec. 2014 - an integral part of the European Agenda for Security*) identifies the need for customs (and other competent authorities) to acquire quality data on supply chain movements, to exploit them for risk assessment purposes, and adapt organizations and strategies for checks to become more efficient.

Scope:

- Risk management of the movement of goods identifying, evaluating and analysing the full range of largely diverse threats and risks associated.
- Strategies and tools for the timely submission to customs authorities of high-quality and comprehensive data on goods moving and crossing borders, whilst taking into consideration the national and EU legal, procedural and legacy IT systems.
- Realistic methodologies to facilitate collaboration among the relevant authorities, with data governance policies and mechanisms for sharing to be agreed.

Instruments, such as the Advance Cargo Information System, can support the intelligent use and management of complex and large amount of data, e.g. exploiting unstructured data, supporting operational and situational awareness, adding intelligence (trends analysis, correlation analysis, etc.) by means of s.o.a. technologies (e.g. in Big Data, Data Analytics, Data mining, Visualization, Intelligent User's Interfaces, Insight knowledge and knowledge representation, artificial intelligence, automatic language translation).



SEC-17-BES-2017: Architectures and organizations, big data and data analytics for customs risk management of the international goods supply chain trade movements (ii)

Expected Impact:

- Contribution to the implementation of the EU strategy and action plan for customs Risk management
- Proposals for better use of additional Advance Cargo Information– in relation to the implementation of the Union Customs Code;
- Reduction of terrorist threats; illicit trading of arms; illicit trading and counterfeiting; drug trafficking; irregular border crossing; trafficking in human beings; smuggling;
- Mitigation of risks resulting from capacity shortages in some Member States, by addressing risks in a transnational manner;
- More effective and efficient information sharing among customs within EU, as well as between customs, security and law enforcement agencies within countries, with a view to improving checks at the external border of the relevant European areas;
- Cost-effective solutions to complement national action;
- Specifications of a common external interface supporting a commonly agreed access governance.

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- *Research and Innovation action (EU indicative contribution of **€ 5million**)*
 - *International cooperation is encouraged.*
 - *At least 3 border guard authorities or customs to be beneficiaries.*



SEC-17-BES-2017: Architectures and organizations, big data and data analytics for customs risk management of the international goods supply chain trade movements (iii)

Policy background for Customs Risk Management: Practitioners' Guidance Document:

- additional information regarding the key customs (operational) risk management (of international goods supply chains) challenges, arising from the current (and future):

- i) EU strategic and policy framework,*
- ii) customs IT systems and architectures,*
- ii) operational needs faced by customs authorities in their daily work, and future opportunities from emerging technologies in the field of big data analysis;*

- help interested parties to understand the current environment from the customs risk management perspective;

- for general information only / no effect on requirements of the call or on the evaluation of proposals. (The text of the Work Programme will always prevail over this document).





SEC-18-BES-2017: Acceptance of "no gate crossing point solutions"

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Research and Innovation action;

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3 border guards or customs as beneficiaries.