TURKEY IN HORIZON 2020
ALTUN/HORIZ/TR2012/0740.14-2/SER/005

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

H2020 Thematic Oriented Training
"Secure Societies Calls"

Ioannis Kotsiopoulos, Stefanos Vrochidis

DotSoft S.A., CERTH Hellas

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Critical Infrastructure Protection

DCIP-01-2016-2017: Prevention, detection, response and mitigation of the combination of physical and cyber threats to the critical infrastructure of Europe

Type of Action: Innovation Action

TRL: 7 (system prototype demonstration in operational environment)

Budget: 8 million

Only the installations not covered in 2016 will remain eligible in 2017 (to be announced in March 2017)

Call - CRITICAL INFRASTRUCTURE PROTECTION

CIP-01-2016-2017: Prevention, detection, response and mitigation of the combination of physical and cyber threats to the critical infrastructure of Europe

The reasoning behind the CIP call

The lines between the physical and the cyber worlds are increasingly blurred. Recent events demonstrate the increased interconnection among the impact of hazards, of the two kinds of attacks and, conversely, the usefulness for operators to combine cyber and physical security-solutions to protect installations of the critical infrastructure of Europe: A comprehensive, yet installation-specific approach is needed

Exclusive list of CI

- Water Systems,
- Energy Infrastructure (power plants and distribution [in an all-encompassing meaning]);
- Transport Infrastructure and means of transportation;
- Communication Infrastructure;
- Health Services;
- Financial Services.

Scope

- Prevention, detection, response, and in case of failure, mitigation of consequences over the life span of the infrastructure;
- All aspects of both physical and cyber threats and incidents, but also systemic security management issues, interconnections, and cascading effects;
- Sharing information with the public in the vicinity of the installations, protection of rescue teams, security teams and monitoring teams.

Expected Impact

- **Short term:**

  Analysis of physical/cyber detection technologies as well as vulnerabilities.
- **Mid term:**

  Tested solutions to prevent, detect, respond and mitigate physical and cyber threats.
- **Long term:**

  Convergence of safety and security standards, and the pre-establishment of certification mechanisms.

Eligibility criteria

At least **2 operators** of the chosen type of critical infrastructure operating in **2 countries** must be beneficiaries (possibly, but not necessarily: coordinator) of the grant agreement and should be directly involved in the carrying out of the tasks foreseen in the grant. The participation of **industry able to provide security** solutions is required.

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Disaster Resilience Border Security

Disaster Resilience

- Broadband communication systems
- Chemical, biological, radiological and nuclear (CBRN) cluster

Border security and External Security

- Next generation of information systems to support EU external policies
- Risk-based screening at border crossing
- Acceptance of "no gate crossing point solutions"
- Architectures and organisations, big data and data analytics for customs risk management of the international goods supply chain trade movements
- Through-foliage detection, including in the outermost regions of the EU

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Disaster Resilience
Safeguarding and Securing Society

SEC-04-DRS-2017: Broadband communication systems

- A **CSA (under Call DRS-18-2015)** developed the core set of specifications and tender documents to be used for national procurements for interoperable next generation Public Protection Disaster Relief (PPDR) broadband communication systems.
- CSA: **BROADMAP**
  Mapping Interoperable EU PPDR Broadband Communication Applications and T echnology
- **Start date:** 2016-05-01, **End date:** 2017-04-30
- **BROADMAP:** the first step towards future procurement of interoperable next generation broadband radio communication systems for public safety and security

Pre-Commercial Procurement (PCP): *PCP actions focus on the public procurement of R&D services to get innovation solutions researched, developed and tested, but not yet deployed at large scale.*

BroadMap

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Phases

Phase 0. Establishment of new organisation (if required)

Phase 1: Plan and implement the tender procedures, based on the set of specifications and tender documents delivered by the CSA launched under Call DRS-18-2015 and available upon request to the European Commission, for procuring:

- **prototype communication equipment as per the foreseen communication system**
- **prototype instruments for validating the components of the foreseen communication system**

Phase 2: Establishment of a (networked) Validation Centre equipped with these instruments. Sustainability of the Validation Centre beyond the lifetime of the project should be addressed, both with respect to its legal status and its funding sources.

Phase 3: Testing and validation of the prototype components of the foreseen communication system

Phase 4: Demonstration of the foreseen communication system in a multidisciplinary (firefighters, police departments, medical emergency services, etc.), international (involving practitioners from at least 10 Member States or Associated countries), and realistic scenario.

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Added conditions

(1). Agreement from participating procurement authorities to negotiate, in good faith and on a case-by-case basis, with non-participating procurement authorities that wish to procure a capability or a product fully or partly derived from the PCP action, the use of the information required to run such a procurement process, and solely for that purpose.

Commitment from participating procurement authorities:

- **(2) to consult** with any legal entity generating information to be released for the purpose set out in paragraph (1), unless contrary to applicable legislation.
- **(3) to negotiate** the use granted under paragraph (1) on Fair Reasonable and Non-Discriminatory (FRAND) terms.

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Expected Impact

- **An established EU-interoperable broadband radio communication system for public safety and security to**
  - **provide better services to first responders and police agencies**
  - **to allow shorter reaction times**
  - **be able to be deployed by 2025**

- **Technology Readiness Level (TRL): 8 (system complete and qualified)**

- **Indicative budget: € 10million**
- **Funding rate: up to 90%**

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Disaster Resilience
Safeguarding and Securing Society

SEC-05-DRS-2016-2017: Chemical, biological, radiological and nuclear (CBRN) cluster

- **Research and development of novel CBRN technologies and innovations identified in 2016's CBRN cluster (CSA), with each action led by an SME. Each consortium must establish:**
  - **a consortium agreement among its members**
  - **a collaboration agreement with the participants in the 2016 CBRN cluster (CSA) on how each developed technology will be exploited and integrated into platforms managed by the CBRN cluster**

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Disaster Resilience
Safeguarding and Securing Society

SEC-05-DRS-2016-2017: Chemical, biological, radiological and nuclear (CBRN) cluster

Expected impact:

Shorter time to market for novel CBRN technologies and innovations

- **More business deals leading to industrial products of interest to more practitioners in Europe and world-wide**

Technology Readiness: TRL 4 → TRL 7

- ***Technology validated in lab → System prototype demonstration in operational environment***

Type of Action: Research and Innovation Action (RIA)

Indicative budget: 3.5 million per action

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Border Security
and External Security

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

Support the development of a cost-effective common Situational Awareness, Information Exchange and Operation Control Platform

- ***Based on CSA CIVILEX (http://civilex.eu)***

Expected impact

- **At least two prototype platforms deployed and tested in several, different real-life environments.**
- **Better integration of existing systems and methodologies in situational awareness, information exchange and operation control platform prototypes.**
- **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.**

TRL: 8 (system complete and qualified)

Type of Action: Pre-Commercial Procurement (PCP)

Budget: 10 million

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Border Security
and External Security

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

Phase 1: Plan the research and the design of the platform, based on performance levels, requirements and specifications developed in CIVILEX:

- ***consider integrating existing technologies, data models and methodologies according to design constraints expressed by the buyers, to ensure cost effectiveness and interoperability***
- ***results should lead to calls for tenders (for the procurement of R&D services) which focus on technologies clearly identified to be part of a unique architecture.***

Phase 2: The research and specification work should lead to at least 2 versions of flexible platforms to support, each, several scenarios for EU actions under different framework conditions.

Phase 3: By the end of 2020, the project should have documented, tested, and validated the use of each platform in at least two operational scenarios within actual multinational operations. The participation of relevant and competent authorities in the consortium of buyers is a prerequisite.

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Border Security
and External Security (SEC-15/18-BES-2017)

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

Thorough checks at borders could be limited to fewer individual goods and people via a preliminary (and non-disruptive) risk-based screening of the flows

EU 4-tier access control model:

- **joint measures (Advance Passenger Information or Passenger Name Record systems);**
- **cooperation with neighbouring countries;**
- **border control and counter-smuggling measures;**
- **control measures within Schengen**

- **International alert systems**
- **Data management, situational intelligence, sensor arrays, new operational methods**
- **Collaboration (IATA, transport industry, etc.)**
- **Data protection vs risk-based screening**

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Border Security
and External Security (SEC-15/18-BES-2017)

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

Expected impact

- **Improved risk-management coordination/cooperation among border control, customs and (pre-boarding) security in transport**
- **Enhanced situational awareness for border control: timely identification of potentially dangerous people and goods, prevention of smuggling and human trafficking**
- **Improved solutions for remote detection of abnormal behaviour;**
- **Improved and people-respectful border automated screening systems through close cooperation with actions resulting from:**
  - **SEC-18-BES–2017: Acceptance of "no gate crossing point solutions"**
- **More effective use of intelligence to reduce risks at borders**

TRL: 7 (system prototype demonstration in the operational environment)

Type of action: Innovation Action

Suggested budget: 8 million

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Border Security
and External Security (SEC-15/18-BES-2017)

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

Seamless crossing of borders and security checks for the vast majority of travellers who meet the conditions of entry

Refusal of entry for those not fulfilling such conditions

- **Assessment of the acceptability of suitable technologies (IT systems and sensors) by citizens and practitioners, with respect to privacy, human behaviour, gender, legal and societal issues**
- **Production of useful information for decision makers and industry (privacy-preserving design)**

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Border Security
and External Security (SEC-15/18-BES-2017)

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

Expected impact

- **Information systems which manage personal information and support automated checking and analysing of entry and exit data**
- **Networks of sensors to collect information needed for border checks**
- **No loss of privacy**
- **Method and metrics to assess acceptability by society**
- **Collaboration with:**
  - **SEC-15-BES-2017: “Risk-based screening at border crossing”**

TRL: not specified

Type of action: Research and Innovation Action

Suggested budget: 3 million

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Border Security
and External Security

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

The "EU Strategy and Action Plan for customs risk management" (COM (2014) 527 final) 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 to adapt organisations and strategies for more efficient controls.

Risk management of the movement of goods through the international supply chain:

- **Custom authorities: identify, analyse, evaluate diverse threats and risks;**
- **Collaboration among relevant authorities (data on movement, crosses, etc.);**
- **Common repositories (EU Advance Cargo Information System): big data, analytics, data mining, artificial intelligence, knowledge representation, etc.)**

Border Security

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

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

Expected impact

- **Contribution to the implementation of the EU strategy and action plan for customs Risk management (2014)**
- **Proposals for making better use of additional Advance Cargo Information (ACI)**
- **Reduction of terrorist threats; illicit trading of arms; illicit trading, including 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 Europe, as well as between customs, security and law enforcement agencies within individual 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**

Type of action: Research and Innovation Action, TRL: not specified

Suggested budget: 5 million

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Border Security
and External Security

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

Detecting, locating, tracking or identifying persons and vehicles crossing the border in forested regions. Technologies for surveillance through harsh unstructured environments are currently not effective.

- **Systems to combine or improve surveillance technologies; arrays of sensors to provide higher quality detection capabilities and imaging**
- **Integration of different techniques for wide- and small-area through foliage detection, despite the canopy density, in a real operational context**
- **Airborne, satellite-based, and/or on ground based platforms**
- **Solutions tested and validated to control land borders covered by vegetation layers, in all weather conditions**
- **Avoidance of overlap with the EWISA 27 project by border surveillance authorities**
- **Ethical and societal acceptance to be addressed**
- **Civil applications only, but coordination with activities of the European Defence Agency (EDA) can be considered**

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

Border Security
and External Security

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

Expected impact

- **Improved border surveillance and search-and-rescue capabilities, especially in forested regions**
- **Validated through-foliage detection technologies, in terms of fitness for purpose, low rate of false alarms, practicability, mobility, and cost effectiveness.**
- **Demonstrated through-foliage detection technologies in the context of realistic operational scenarios, in extreme weather conditions, to be implemented in collaboration with the relevant border surveillance authorities and in regions where the Frontex Agency indicates that important irregular border crossing and smuggling may be taking place**

TRL: 5-6 (technology validated-demonstrated in relevant environment)

Type of action: Research and Innovation Action

Suggested budget: 8 million

This project is co-financed by the European Union and the Republic of Turkey
Bu proje Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilmektedir

General Matters
Pan-European Networks of practitioners

SEC-21-GM-2016-2017: Pan European Networks of practitioners and other actors in the field of security

- **Support the development and implementation of evidence base for R&I policies and various groups of stakeholders**
- **3 different networks in types (a), (b), (c) and**
- **(d) – For 2017 only: support to a consortium of formally nominated NCPs in the area of security research. The activities will be tailored according to the nature of the area, and the priorities of the NCPs concerned. The network should focus on issues specific to the "Secure societies ..." challenge and follow up on the work of CSA SEREN 3 (May 2015 – April 2018).**
  - **Security research map from the SEREN3 CSA: Identify and share good practices and raise the standard of the NCP support to Horizon 2020 Secure Societies (SC7) programme applicants http://www.security-research-map.eu/**
- **Budget:**
  - **€ 3.5 million / 5 years (recommended duration) for types (a), (b) (c)**
  - **€ 2 million / 3 years (recommended duration) for type (d)**

Categories of Networks

a) Practitioners from **the same discipline** and from across Europe

b) Practitioners **from different disciplines** and concerned with current or future security or disaster risk and crisis management issues **in a particular geographical area**

c) Entities from around Europe that manage **demonstration and testing sites, training facilities** for practitioners

European Commission

a. Practitioners in the same discipline and from across Europe

1. *monitor research and innovation projects with a view to recommending the uptake or the industrialisation of results*
2. *express common requirements as regards innovations that could fill in gaps and improve their performance in the future*
3. *indicate priorities as regards domains requiring more standardization*

Eligibility Criteria

- ✓ Practitioner participation from at least 8 Member States or Associated Countries
- ✓ Each proposal must include a plan, and a budget amounting at least 25% of the total cost of the action, to interact with industry, academia, and other providers of innovative solutions
- ✓ Each consortium must commit to produce, every 6 or fewer months, a report about their findings in the 3 lines of actions
- ✓ Each proposal must include a workpackage to disseminate their findings, including an annual workshop
  - ➢ Only <u>one</u> network per discipline may be supported over the 2016-2017 period

European Commission

b) Practitioners from different disciplines addressing security issues in a particular geographical area

1. *monitor research and innovation projects,*
2. *express common requirements for innovation*
3. *indicate priorities as regards standardization*

Selected geographical areas:

- The Mediterranean region (including the Black Sea):
- The Arctic and North Atlantic region
- The Danube river basin
- The Baltic region

Eligibility Criteria

- ✓ Practitioner participation from at least 2 Member States or Associated Countries from outside the region
- ✓ Each proposal must include a plan, and a budget amounting at least 25% of the total cost of the action, to interact with industry, academia, and other providers of innovative solutions
- ✓ Each consortium must commit to produce, every 6 or fewer months, a report about their findings in the 3 lines of actions
- ✓ Each proposal must include a workpackage to disseminate their findings, including an annual workshop
  - ➢ Only <u>one</u> network per region may be supported over the 2016-2017 period

European Commission

c) Entities that manage demonstration and testing sites, training facilities for security practitioners

1. *establish and maintain a roster of capabilities and facilities*

2. *organize to share expertise*

3. *plan to pool and share resources with a view to optimize investments*

Eligibility Criteria

- ✓ Practitioner participation from at least 8 Member States or Associated Countries
- ✓ Each consortium must commit to produce, every 6 or fewer months, a report about their findings in the 3 lines of actions
- ✓ Each proposal must include a workpackage to disseminate their findings, including an annual workshop
  - ➢ Only one such (category c) network may be supported over the 2016-2017 period

European Commission

Expected Impact

- *Common understanding of innovation potential*
- *Expression of common innovation and standardization needs among practitioners in the same discipline*
- *Coordinated uptake of innovative solutions among practitioners from different disciplines who are called to act together to face major crisis.*
- *Optimized use of investments in demonstration, testing, and training facilities for security practitioners*