



BES Call in WP2015

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DG Migration Home Affairs and Citizenship,*

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4 separate / parallel calls for proposals

✓ **Disaster Resilient Societies (DRS)**

- Crisis management and civil protection, critical infrastructure protection

✓ **Fight against Crime and Terrorism (FCT)**

- Forensics, law enforcement capabilities, ethical/societal dimension

✓ **Border and External Security (BES)**

- Border crossing points, information management, supply chain security

✓ **Digital Security (DS)**

- Privacy, access control, trust eServices, Secure information sharing

Border Security and External Security



The BES-call is divided in the following areas

- I. Maritime Border Security (4 topics: 1, 2, 3, 4)
- II. Border crossing points (3 topics: 5, 6, 7)
- III. Supply Chain Security (1 Topic: 8)
- IV. External Security:
 - Information Management (2 topics: 10, 11)
 - Conflict prevention and Peace building (1 Topic : 13)
- V. Ethical/Societal Dimension (no Topic in 2015)

Budget BES: 42,17 MEUR



Border Security and External Security

A) Targets the development of technologies and capabilities required to enhance systems, equipment, tools, processes, and methods for rapid identification to improve border security.

This includes both control and surveillance issues, exploiting the potential of EUROSUR and promoting an enhanced use of new technology for border checks, also in relation to the SMART BORDERS legislative initiative.

It also addresses supply chain security in the context of the EU's customs policy.



B) Focuses on new technologies, capabilities and solutions required to support EU's external security policies in civilian tasks, ranging from civil protection to humanitarian relief, border management or peace-keeping and post-crisis stabilisation, including conflict prevention, peace-building and mediation

This will require research on conflict resolution and restoration of peace justice, early identification of factors leading to conflict and on the impact of restorative justice processes.

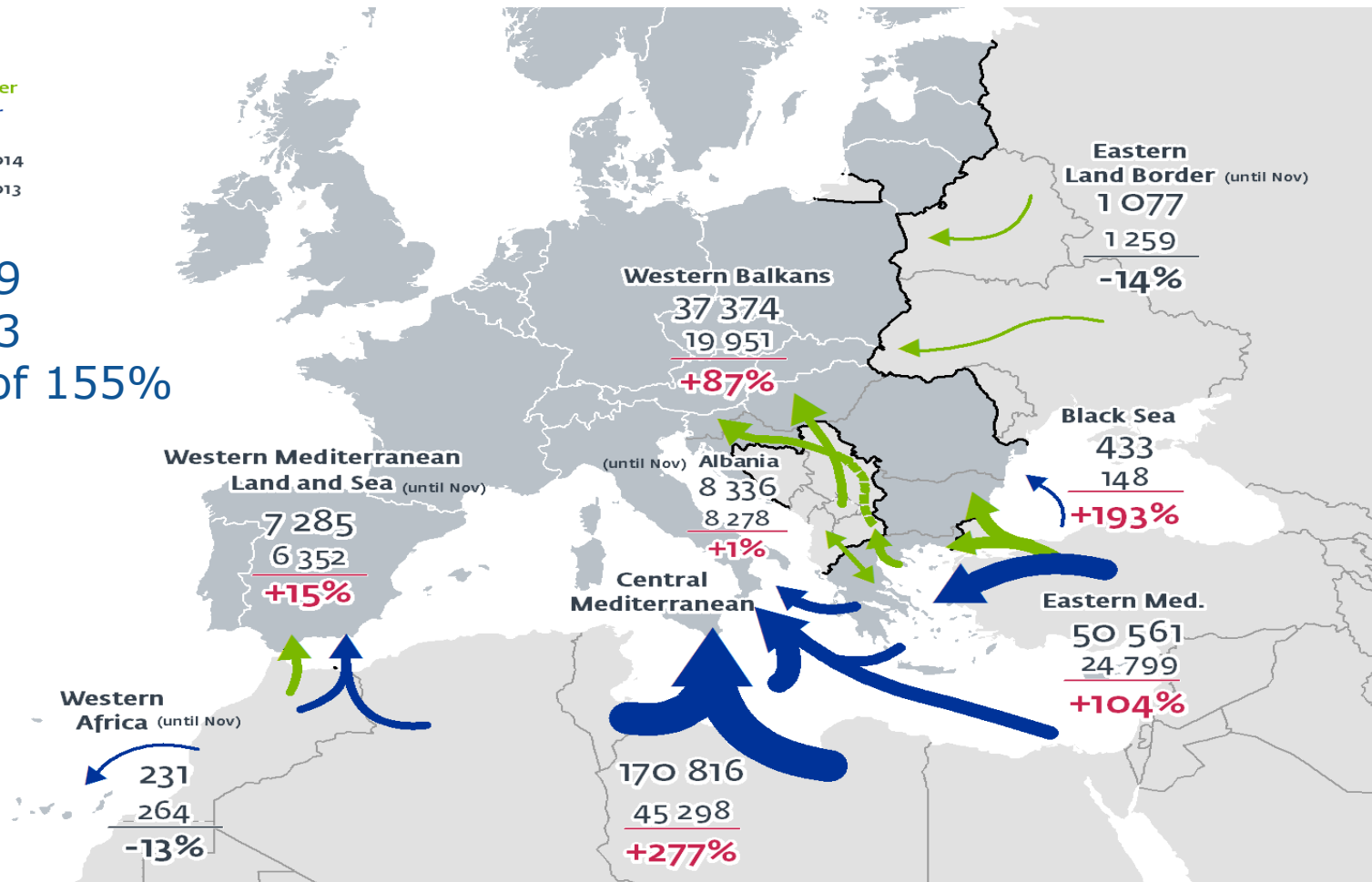


Illegal border-crossing - 2014

 FRONTEX

 Land border
 Sea border
 Route
 # — Jan-Dec, 2014
 # — Jan-Dec, 2013
 % — % change

2013 – 106 349
 2014 – 276 113
 Total increase of 155%



CSDP missions





BES-1-2015: Maritime Border Security topic 1: radar systems for the surveillance of coastal and pre-frontier areas and in support of search and rescue operations

- ✓ **Extend range of existing radar systems**
- ✓ **Focus on border surveillance and search and rescue (small boats scenarios)**
- ✓ **Improve capabilities in realistic conditions**
- ✓ **TRL 5**
- ✓ **EU tentative funding 4-8 MEUR**
- ✓ **Type of action: Research and Innovation Actions**
- ✓ **End users : maritime surveillance authorities**

BES-2-2015: Maritime Border Security topic 2: affordable and easily deployable technologies for EU coastal border surveillance with reduced impact on the environment

- ✓ **Low cost and "green" (passive) technologies for systems in environmentally sensitive areas**
- ✓ **Deployability and fitness for network configurations**
- ✓ **TRL 5**
- ✓ **EU tentative funding 3-5 MEUR**
- ✓ **Type of action: Research and Innovation Actions**
- ✓ **End users : maritime surveillance authorities**

Technology Readiness Levels (TRL)



Where a topic description refers to a TRL, the following definitions apply, unless otherwise specified:

- ✓ TRL 1 – basic principles observed
- ✓ TRL 2 – technology concept formulated
- ✓ TRL 3 – experimental proof of concept
- ✓ TRL 4 – technology validated in lab
- ✓ TRL 5 – technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- ✓ TRL 6 – technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- ✓ TRL 7 – system prototype demonstration in operational environment
- ✓ TRL 8 – system complete and qualified
- ✓ TRL 9 – actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)



BES-3-2015: Maritime Border Security topic 3: Light optionally piloted vehicles (and sensors) for maritime surveillance **(PCP)**

- ✓ **Tactical communications between surface and aerial assets key for improving situational awareness**
- ✓ **Type of action: PCP – restricted to public authorities active in surveillance**
- ✓ **Scenarios as typical of maritime border surveillance challenges. Testing to take place in a Frontex coordinated joint operation**
- ✓ **EU tentative funding 5-12 MEUR**
- ✓ **End users : maritime (border) surveillance authorities**

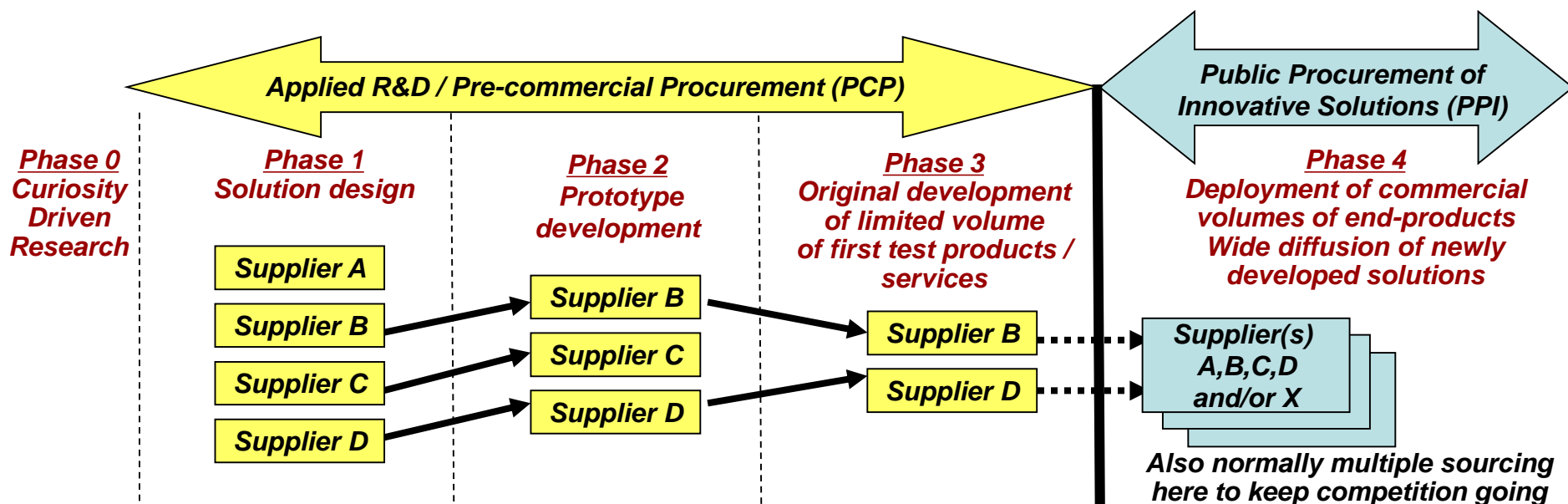
BES-4-2015: Maritime Border Security topic 4: Detection of low flying aircraft at near shore air space

- ✓ **Increased capabilities to fight cross-border crime (drugs, weapons, illicit substances..)**
- ✓ **Scenarios for validation to be defined according to realistic CONOPS (reference made to ES, PT case)**
- ✓ **Required technologies identified in work programme**
- ✓ **Highlighted for international cooperation**
- ✓ **EU tentative funding 3-5 MEUR**
- ✓ **Type of action: Research and Innovation Actions**
- ✓ **End users : maritime (border) surveillance authorities**

Pre-Commercial Procurement



- **PCP** to steer the development of solutions towards concrete public sector needs, whilst comparing/validating alternative solution approaches from various vendors
- **PPI** to act as launching customer / early adopter / first buyer of innovative commercial end-solutions newly arriving on the market



Objectives:

- Price/quality products that better fit public sector needs
- Earlier customer feedback for companies developing solutions
- Better take-up/Wider commercialisation of R&D results

PCP - Pre-Commercial Procurement



- When
 - Challenge **requires R&D** to get new solutions developed. Problem clear, but pros / cons of several potential competing solutions not compared / validated yet. **No commitment to deploy (PPI) yet.**
- What
 - Public sector buys R&D to **steer development of solutions to its needs**, gather info about pros / cons of alternative solutions to be **better informed to make specs for a follow-up PPI** possibly later, to **avoid supplier lock-in** (create competitive supply base)
- How
 - Public sector buys R&D from **several suppliers in parallel** (comparing alternative solution approaches), in form of competition **evaluating progress after critical milestones** (design, prototyping, test phase), risks & benefits of R&D (e.g. IPRs) shared with suppliers to maximise incentives for wide commercialisation



International Dimension

- All topics are open to international cooperation
- **Some topics explicitly encourage international cooperation:**
"In line with the EU's strategy for international cooperation in research and innovation international cooperation is encouraged, and in particular with international research partners involved in on-going discussions and workshops, and US homeland security research entities. Funding for third countries is however still subject to the evaluations."
- Eligibility for funding: Art. 10.2 of the Rules for Participation REGULATION (EU) No 1290/2013



BES-5-2015: Border crossing points **topic 1**: Novel mobility concepts for land border security

- ✓ **Infrastructure for land border checks not flexible and improved solutions (novel mobility concepts) are needed.**
- ✓ **The challenge is to guarantee security while facilitating flow**
- ✓ **Ability to improve (real time) detection capabilities of document forgeries**
- ✓ **EU dimension for harmonization of requirements and possible future standardization**
- ✓ **TRL 5**
- ✓ **EU tentative funding 2-5 MEUR**
- ✓ **Type of action: Research and Innovation Actions**
- ✓ **End users : border surveillance authorities**

BES-6-2015: Border crossing points **topic 2**: Exploring new modalities in biometric-based border checks

- ✓ **Research for novel biometric data to potentially store in the e-Passport chip, for higher level of security and easier retrieval**
- ✓ **modeling techniques, artificial intelligence and creation of datasets**
- ✓ **Multi-modal biometrics (in border control)**
- ✓ **Embrace the related ethical, societal and data protection aspects**
- ✓ **EU tentative funding 2-5 MEUR**
- ✓ **Type of action: Research and Innovation Actions**
- ✓ **End users : border surveillance authorities**



BES-7-2015: Border crossing points topic 3: Optimization of border control processes and planning

- ✓ **Task of border management to facilitate legitimate border crossings, while detecting and preventing illicit activities, is a critical capability**
- ✓ **Need for technical systems and procedures that are user friendly and reliable in operational conditions**
 - (a) planning efficient allocation of assets and human resources
 - (b) explore of how to best combine operators with new technologies
 - (c) design optimal information workflows
- ✓ **EU contribution between €1m and €2m**
- ✓ **End users: border guards authorities**
- ✓ **Type of action: Coordination and Support action (CSA)**

BES-8-2015: Supply Chain Security topic 1: Development of an enhanced non-intrusive (stand-off) scanner

- ✓ **Challenge: smugglers hiding commodities (internally and externally)**
- ✓ **Body scan system to automatically identify chemical composition**
- ✓ **Fitness for purpose for operational deployment**
- ✓ **Highlighted for international cooperation**
- ✓ **EU tentative funding 2-5 MEUR**
- ✓ **Type of action: Research and Innovation Actions**
- ✓ **TRL 5**
- ✓ **End users : custom and border authorities**



BES-10-2015: Information management topic 1: Civilian humanitarian mission personnel tracking

- ✓ Problem of tracking the assets and staff of missions deployed in 3rd countries (CSDP context)
- ✓ Novel secure communication and tracking solution/technologies for civilian missions (in particular those of EEAS)
- ✓ EU tentative funding 3-5 MEUR
- ✓ Type of action: Research and Innovation Actions
- ✓ End users : NGOs, public authorities

BES-11-2015: Information management topic 2: Information management, systems and infrastructure for civilian EU External Actions

- ✓ Establishment of a research agenda for 2017 workprogramme
- ✓ Type of action: coordination and support action (duration 9 to 12 months)
- ✓ EU tentative funding 1-2 MEUR
- ✓ End users : NGOs, public authorities

BES-13-2015: Conflict prevention and peace building topic 2: Training curricula for Conflict Prevention and Peace Building personnel

- ✓ Type of action: coordination and support action (duration 9 to 12 months)
- ✓ EU tentative funding 1-2 MEUR
- ✓ End users : entities involved in conflict prevention and peace keeping missions (especially in high risk countries)