EUROPEAN DEFENCE AGENCY

PREPARATORY ACTION ON DEFENCE RESEARCH

SESSION Technology Foresight

INFODAY AND BROKERAGE EVENT
12 APRIL 2018

EUROPEAN DEFENCE AGENCY

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Call Text presentation CSA Topic Call PADR-STF-02-2018

The European Defence Research Runway – Part II

PADR-STF-02-2018 - Challenge (1/2)

The European Defence Research Runway – Part II

- Technology non-dependence essential for strategic autonomy and freedom of action of EU Member States;
- Uninterrupted supply from trusted sources of key materials, components and technologies;
- Technologies subject to ITAR and EAR limit freedom of action;
- Foreign-sourced components and materials not trustable for sensitive functions.

PADR-STF-02-2018 - Challenge (2/2)

The European Defence Research Runway – Part II

Strategic technology foresight is challenging but needed in view of:

- preventing **long term critical defence technology dependencies;**
- avoiding staying behind from **global competitors;**
- ensuring the **independent development of cutting edge capabilities;**
- identifying and prioritising **components and materials desirable to be available in Europe** in the future;
- providing proposals for research topics for a follow on **defence research programme.**

PADR-STF-02-2018 - Scope (1/3)

The European Defence Research Runway – Part II

The action needs to address at least the following activities:

- **Mapping of ITAR and other non-EU sourced** components and materials;
- Identify **critical technology building blocks** and possibly components for future systems and disruptive capabilities for which European technology non-dependence will be crucial;
- Develop a **methodology to assess the supply risk** of technologies and components of point a) and b) and their criticality for armed forces and the defence industry;
- Prepare **technology roadmaps**, ideally including cost substantiated predictions, and suggest **business models** for selected technologies, taking into account supply risk and criticality.

PADR-STF-02-2018 - Scope (2/3)

The European Defence Research Runway – Part II

Activities should benefit and when appropriate complement or incorporate existing works, and in particular:

- the **European Defence Technology Runway Part I**;
- the study **"Study on the dual-use potential of dual-use potential of Key Enabling Technologies (KETs)"**;
- the study **"Raw materials in the European defence industry"** and relevant **activities of the Joint Research Centre**;
- relevant **work of the European Defence Agency**, the **"Leadership in Enabling and Industrial Technologies - Space"** research programme under Horizon 2020 and the European Space Agency (ESA), and in particular the **Critical Space Technologies** nondependence actions for identified in the frame of the Commission-ESA-EDA Joint Task Force.

PADR-STF-02-2018 - Scope (3/3)

The European Defence Research Runway – Part II

- Proposals should include elements to ensure continued monitoring and updating beyond the action's lifetime.
- EU contribution: EUR 1 500 000 to 2 000 000.
- This topic is complementary with topic "PADR-STF-01-2017: The European Defence Research Runway – part I". Grant agreements under this topic will therefore include the options for 'complementary grants.
- **No more than one action will be funded.**
- **Deadline for applications: 28/06/2018**

PADR-STF-02-2018 - Expected impact

The European Defence Research Runway – Part II

- Make the EU and the Member States understand the dependencies for defence technologies and the ways to prioritise and address them;
- Underpin coordination of defence research activities at the European and national level and improve synergies with space and other civil technology research activities addressing non-dependence needs;
- Provide input for the long term agenda for defence research in the EU in the area of critical defence technologies;
- Explore themes for a future European Defence Research Programme.

Type of Action: Coordination and Support Action (CSA)

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Information on PADR-STF-2017

PYTHIA Project

Strategic Technology Foresight 2017 / 2018

The European Defence Research Runway

- PADR-STF-02-2018 is complementary to PADR-STF-01-2017

- Grant Agreements under this topic will therefore include options for “complementary grants”
  - Including, in particular additional Access Rights to background and results for the purposed of the complementary grant

- PADR-STF-02-2018 should benefit from PADR-STF-01-2017:
  - Identifying technologies
  - Sharing methodology

Strategic Technology Foresight 2017 - Challenge (1/2)

The European Defence Research Runway

- Rapid changes in many domains with huge impact on the global security situation
- Monitor important trends and their defence and security implications
- Includes Horizon Scanning & Technology Watch:
  - Signalling of emerging threats
  - Identification of emerging technologies
  - Potential opportunities + analysis of relevant technological developments

Strategic Technology Foresight 2017 - Challenge (2/2)

The European Defence Research Runway

Strategic technology foresight is challenging but needed in view of:

- the **added value of a common European approach** in properly covering the full range of technologies and sources;
- the need to build a **common understanding of future technology** and its impact on defence trends in order to plan and coordinate accordingly our actions;
- the need for an **innovative approach** with respect to the way these activities traditionally are conducted;
- the **growing relevance of the civil technologies** for defence and the need to include the developments in the civil sector in the exercise;
- identifying **new technologies**.

Strategic Technology Foresight 2017 – Awarded Project

Predictive methodologY for TecHnology Intelligence Analysis

- Deliver a methodology for improving civil and defence technology foresight.
  - Devise an innovative methodology for strategic technology foresight,
  - Starting from a study of the cognitive factors influencing analysts' ability to perform accurate forecasting,
  - Leverage big data analytics techniques for automatically analysing large volumes of technology information
- Identify future disruptive technologies and recommend themes for European defence research.
- Duration: 18 months
- EU grant: €1 million approx.
- Consortium: **Engineering Ingegneria Informatica S.p.A. (IT),** Zanasi & Partners (Italy), Expert System France (France), Hawk Associates Ltd (UK), the Military University of Technology of Poland, the Bulgarian Defence Institute , Fondazione ICSA from Italy and Romania's National Defence University.

Questions?

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Thanks for your attention

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Back-up slides

Strategic Technology Foresight - Scope (1/3)

The European Defence Research Runway

- Performing joint technology foresight activities supported by methodologies such as horizon scanning, technology watch, scientometric tools, expert consultation activities.
- Identifying emerging defence research areas for potential exploration in the next Multi-annual Financial Framework.
- Propose and validate a methodology and process for strategic technology foresight activities to be carried out cyclically.
- Take into account similar activities conducted in EDA, NATO and other military and/or civil organisations.

Strategic Technology Foresight - Scope (2/3)

The European Defence Research Runway

Activities that should be considered could include, amongst others:

- **Collection of information** (national sources, EU research programme, occidental and non-occidental sources);
- **Analysis** (geopolitical trends, defence and security trends, technology, industrial trends);
- **Engagement with European industry** trade bodies;
- **Evaluation/assessment for defence and security** (future scenario-based evaluations such as Disruptive Technology Assessment Games, consultations of technology and military experts, input from “unconventional” groups with an outside view, more creative thinking, …);
- Defining and setting up **strategic trends for the medium and long term**;
- **Management and controlled dissemination of results** (secure web-based access with public and restricted dissemination).

Strategic Technology Foresight - Scope (3/3)

The European Defence Research Runway

- The strategic technology foresight should be coupled to a process and method for scoping EU-funded defence research based on scenarios to illustrate potential future conflicts.
- Proposals should include elements to ensure continued monitoring and updating beyond the action's lifetime.
- EU contribution: EUR 0.95 million.
- **No more than one action will be funded.**
- **Deadline for applications: 21/09/2017**