TOPIC : Force protection and advanced soldier systems beyond current programmes

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CALL: FORCE PROTECTION AND ADVANCED SOLDIER SYSTEMS BEYOND CURRENT PROGRAMMES

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Soldier equipment will increasingly have to meet and adapt to the requirements stemming from their future application in multinational, less and less predictable and very dynamic environments This introduces important challenges to soldier systems, such as:

- Interoperability of defence systems will be a key capability in the future. For Land Defence Systems, interoperability of vehicles, infrastructures and soldier systems will be based on open standards and joint architectures. This introduces important challenges to soldier systems, such as multi-national interoperability, effectiveness, adaptability to mission and mission intensity, maintaining equipment at state of the art, life cycle cost efficiency, logistic and human resource footprint of force protection.
- The safety of military personnel is a critical element of effective defence and security. The defensive measures as individual ballistic protection remain vital. The current ballistic protection systems for the soldiers are mainly based on the fibre technology and hard materials technology, where high-performance fibres and hard materials (and their combinations) are manufactured into 2D and 3D assemblies to retard the ballistic threat. New solutions and materials like shearthickening fluids are being implemented into body armour production, but still not in a commercialisation phase. Despite the efforts in the research area (most of them outside the EU), the shortcomings of commercially available products exist. The main disadvantage of the commercially available ballistic systems is their weight – average weight to area ratio for level IIIA (according to the NIJ Standard) remains about 6 kg/m^2, for level III is approximately 20 kg/m^2, for IIIA+ is close to 30 kg/m^2, and for level IV about 42 kg/m^2. The inflexibility

Relevant advancements in manufacturing techniques, such as 3D printing, might also be investigated.
The activities included in proposals submitted under this sub-topic should clearly differentiate from or go beyond work already covered under Horizon 2020, in particular by the Specific Challenge "Secure societies – Protecting freedom and security of Europe and its citizens".

(c) **Adaptive camouflage**

Advanced active and passive camouflage methods which are able to rapidly reconfigure or change to various patterns according to the surrounding environment. The camouflage should be active against a variety of present and future threats from advanced sensor systems and observation means, adapted to the needs and the variety of missions of the military users.
Activities are expected to focus on TRL 2 to 3 (for subtopic (a)) and TRL 2- to 4-5 (for subtopics (b) and (c))
The European Commission considers that proposals requesting a contribution from the EU in the range of EUR 1 to 1.5 million for subtopic (a) and EUR 2 to 3 million for subtopics (b) and (c) would allow this specific challenge to be addressed appropriately.
Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact:

- Convincing demonstration of EU-wide research cooperation in defence research;
- Promotion of the integration of interoperability standards;
- Enhancement of the effectiveness of military personnel;
- Reduction in life cycle costs.

Key websites
All information relating to the present calls for proposals can be accessed from the EDA website: https://www.eda.europa.eu/procurement-biz/procurement/eda-grants
Information on the Preparatory Action, is available at the following website:
http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item_id=9124&lang=en
EU Budget 2017 – Section III - Item 02 04 77 03 — Preparatory action on Defence Research:
http://eur-lex.europa.eu/budget/data/LBL/2017/en/SEC03.pdf

Preparatory Action on Defence Research: 2017 research topics description
Published on: 12/04/2017, Last update: 19/04/2017



The European Commission adopted the 2017 Financing Decision for the Preparatory Action on Defence Research (PADR) on 11 April. It includes descriptions of 3 topics for which calls for proposals will be launched in late May.

The main focus of the PADR 2017 is the first topic which calls for the launch of one complex project. The project aims to show the added value of unmanned systems in enhancing situational awareness while operating alongside and communicating with other manned and unmanned systems.

In the context of technology research, products related to force protection and soldier systems, there is a second topic.

This second topic focuses on:

- future generic open soldier system reference architecture
- technology advancements in tailor-made blast, ballistic and Chemical, Biological, Radiological and Nuclear (CBRN) protection of military personnel
- novel developments in active and passive military camouflage methods.

Finally, the third topic will call for proposals to start the strategic technology foresight. It needs to propose and validate a methodology and/or process to gather data. These foresight activities will be carried out on a recurring basis. They will be used to develop realistic scenarios of potential future conflicts which will help scoping EU-funded defence research.

The Preparatory Action on Defence Research is the first step towards a future European defence research programme. The budget for the PADR related actions in 2017 is €25 million. Its main implementation will be through grants. The call for proposals and the participation modalities will be published in late May.