

# Preparatory Action on Defence Research (PADR)



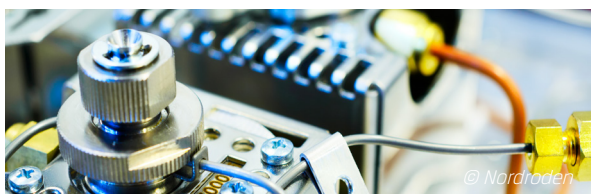
## Laying the groundwork for tomorrow's defence capabilities

It is beyond debate that investing today in future-oriented defence research and technology (R&T) programmes is crucial to developing the military capabilities that are required tomorrow.

In spite of this, national defence research expenditure by Member States has been in persistent decline over the past ten years: between 2006 and 2014, it shrunk, in real terms, by 32% (€ 1 billion). The share of R&T in total defence spending has also been gradually decreasing, from 1.32% in 2006 to 1.02% in 2014.

Against this backdrop, the need for collaborative EU-funded defence research has become ever more evident. However, the current €80 billion EU Framework Programme for Research and Innovation (Horizon 2020) restricts European funding to civilian or dual-use R&T only.

Therefore, an incremental process – of which the Preparatory Action is a corner stone – has been launched in 2015 with the aim of establishing in the future a fully-fledged European Defence Research Programme (EDRP) as part of the EU's next Multiannual Financial Framework (2021-2027).



## Step by step: from a Pilot Project to the Preparatory Action

The first step was made when, based on a European Parliament initiative, the Council and the Parliament agreed to earmark expenditure for a defence-related research **Pilot Project** in the EU budgets 2015 and 2016.

The Pilot Project is run and managed by the European Defence Agency (EDA) on behalf of the European Commission – which is a novelty – based on a delegation agreement signed between the Agency and the Commission in November 2015. As a result, the EDA is responsible for the project's execution and management.

On 23 March 2016, a call for proposals was published in the EU Official Journal. With a total budget of €1.4 million, it covers three specific topics:

- development of unmanned heterogeneous swarm of sensor platforms (project won by a consortium led by the University of Cranfield, UK)
- inside-building awareness and navigation for urban warfare (project won by a consortium led by Tekever ASDS, a Portuguese technology company)
- standardisation of detect-and-avoid systems for unmanned aerial vehicles UAV (project won by a consortium led by the Netherlands Aerospace Center - *Nationaal Lucht- en Ruimtevaartlaboratorium*, NLR)

By the 23 June 2016 deadline, the EDA received 21 submissions involving 83 participants from 20 countries. The project assessment and selection processes were concluded and the three winners announced end of October.

The Pilot Project is crucial insofar as for the first time, it is testing the conditions for defence research in an EU framework. More important, it also paved the way for the next milestone on the road towards dedicated EU defence research: the launch of the European Commission's Preparatory Action on Defence Research (PADR).

## Preparatory Action: the acid test for EU defence research

The **Preparatory Action on Defence Research (PADR)** was decided by the European Commission with one main objective in mind: to demonstrate the added-value of EU-funded research in the defence sector. Set to start in mid-2017 and running over a three-year period (2017-2019), the PADR will thus be a genuine test-bed for proving the relevance of European defence research and laying the foundations for a fully-fledged EU defence R&D programme in the Multi-annual Financial Framework 2021-2027.

The key aspect in assessing the EU added-value of the PADR will certainly be the uptake of the technology research by the industry and the Ministries of Defence which will ensure the production of new strategic capabilities for European armed forces and increase the competitiveness of the EU defence technological and industrial base.

The PADR's primary operational aim is thus to produce successful research cases which can underpin the development of military technologies and which would normally not be conducted by Member States acting alone.

The PADR work programme therefore needs to be guided by priorities identified in the Capability Development Plan (CDP) so that it can genuinely address the expressed and foreseen capability needs of the Member States.

To do this, the PADR will dispose of a budget considerably higher than that of the Pilot Project: the Commission has indeed proposed a €90 million envelope for the three years of which €25 million are approved for 2017.

## The EDA as the PADR implementing agency

Commission and EDA signed a Delegation Agreement by which the Commission entrusts the EDA with the management of the PADR.

The EDA is therefore the implementing agency for the management and implementation of the research projects to be launched within the Preparatory Action.

Already now, the EDA plays a crucial 'upstream role' in supporting Member States and the European Commission as they prepare the PADR work programme. Its contribution stretches from organising coordination meetings to consult Member States and assessing topics submitted by Member States and industry to facilitating prioritization, clustering and narrowing down of topics. The EDA had indeed consolidated Member States' views on a range of categories (Critical Defence Technologies; Disruptive Technologies; Interoperability, Complementarity and Standardisation). Benefiting from this input, Commission and Member States will have to agree on the PADR work programme for 2018.

The EDA will also have an important 'downstream role' to play, as a hub for the exploitation of the outcome of the different R&T projects under the PADR.

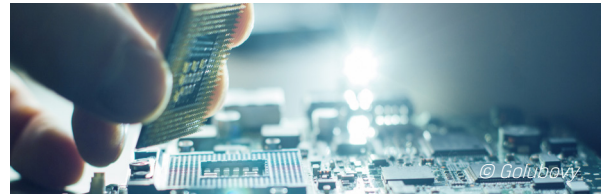
## The Work Programme for 2017

The PADR 2017 work programme includes the following three topics:

- **A technological demonstrator for enhanced situational awareness in a naval environment.** 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;
- **Research in technology and products in the context of Force Protection and Soldier Systems.** This topic focuses on aspects such as 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; as well as novel developments in active and passive military camouflage methods;
- **Strategic technology foresight.** Proposals will need to develop 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.

## Looking ahead: aiming for a genuine EDRP

The management and implementation approach applied and tested under the Preparatory Action could also become a template for the future European Defence Research Programme (EDRP) after 2021. On a much larger scale, though. The European Parliament in its report on the European Defence Union (\*) *notes that the European Defence Research Programme will need a total budget of at least EUR 500 million per year over that period in order to be credible and make a substantial difference.*



This proposal was echoed in the European Defence Action Plan (\*\*)*where, given the importance of defence research investment, the scale of existing national defence research budgets and the high costs of developing cutting-edge defence technologies, the Research Window may need an estimated annual budget of EUR 500 million in order to make a substantial difference.*

*Last update: 7 June 2017*

(\*) European Parliament report on "the European Defence Union (2016/2052(INI))" adopted on 22 November 2016

(\*\*) European Defence Action Plan – EDAP, COM(2016) 950 Dated 30 November 2016