

EDA INNOVATION IN DEFENCE PRIZE

2020 Edition Applicants



The "Innovation in Defence Prize" of the European Defence Agency (EDA) aims to stimulate engagement of non-traditional defence R&T communities and innovators in order to accelerate access to emerging and potentially disruptive research and if possible, to identify areas in which additional investment is needed to fully address future defence capability needs.

The objective of the contest is to reward innovative defence-related ideas which could be in the future implemented through a collaborative R&T effort within an EDA framework.

It is expected that the EDA Innovation Prize will further stimulate involvement of innovative industrial and research entities within the EDA R&T framework and contribute to the new generation of defence research projects by exploiting all the possible defence research funding instruments, in accordance with their respective provisions. The contest also provides a good opportunity for actors non-traditionally involved in defence R&D, such as Small and Medium sized Enterprises (SMEs), research organizations or universities, to demonstrate their know-how, maximize dual-use synergies and to form valuable partnerships with key players in the defence field.

Objectives of the 2020 edition

Unmanned Aerial Vehicles (UAV), especially when used in large swarms coordinated by Artificial Intelligence platforms, can pose serious threats. Countering UAVs is therefore an important element of modern air defence and protection of forces.

Capabilities to counter UAVs are thus not only part of the revised European Defence Capability Development Priorities adopted in 2018, but they are also highlighted in one of the six focus areas for potential future cooperation, identified in the first Coordinated Annual Review on Defence (CARD).

In this scenario, the 2020 contest aimed at rewarding innovative defence-related ideas in the area of "innovative solutions/technologies for countering swarms of Unmanned Aerial Vehicles (UAVs), specifically on the protection of static and dynamic land facilities and platforms", and covering the following topics:

- detection and identification of swarms of small drones;
- mitigation measures incorporating the capability to intercept, disable and neutralise hostile vehicles;
- minimisation of collateral damages;

The prize winner was expected to propose ideas which would, if implemented between 2020 and 2035, contribute to the enhancement of specific EU defence capabilities.

Results

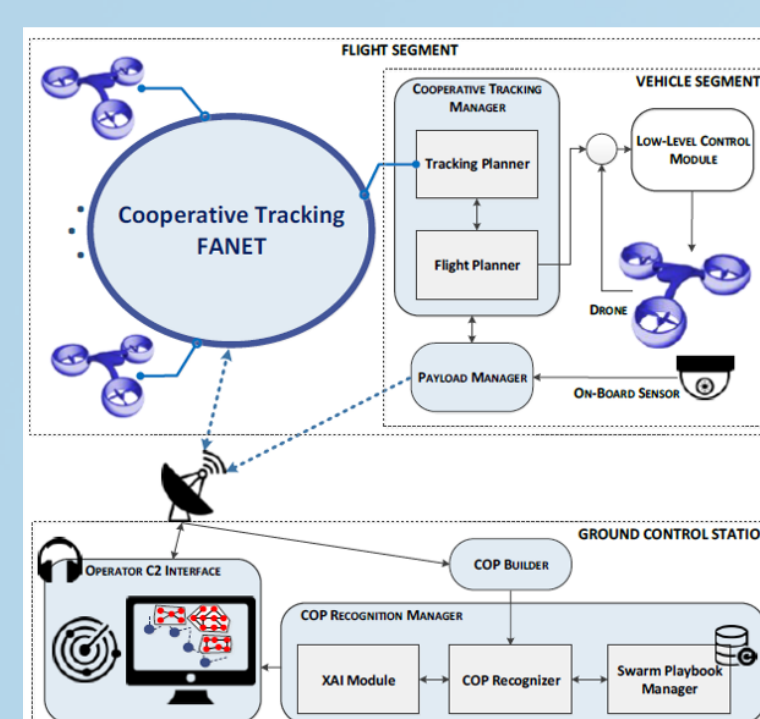
The Innovation Prize call for proposals was issued in March 2020 and received 12 proposals from France, Germany, Italy, Belgium, Estonia, The Netherlands and Spain, with an overall very high quality.

As in previous years, the call successfully attracted non-traditional actors. Key criteria for this award are the innovativeness, the possibility of implementation through a collaborative project and the cost-effectiveness of development and exploitation.

Due to the excellence of two proposals received, EDA decided to award two winners in 2020, namely:

CIRA Italian Aerospace Research Centre

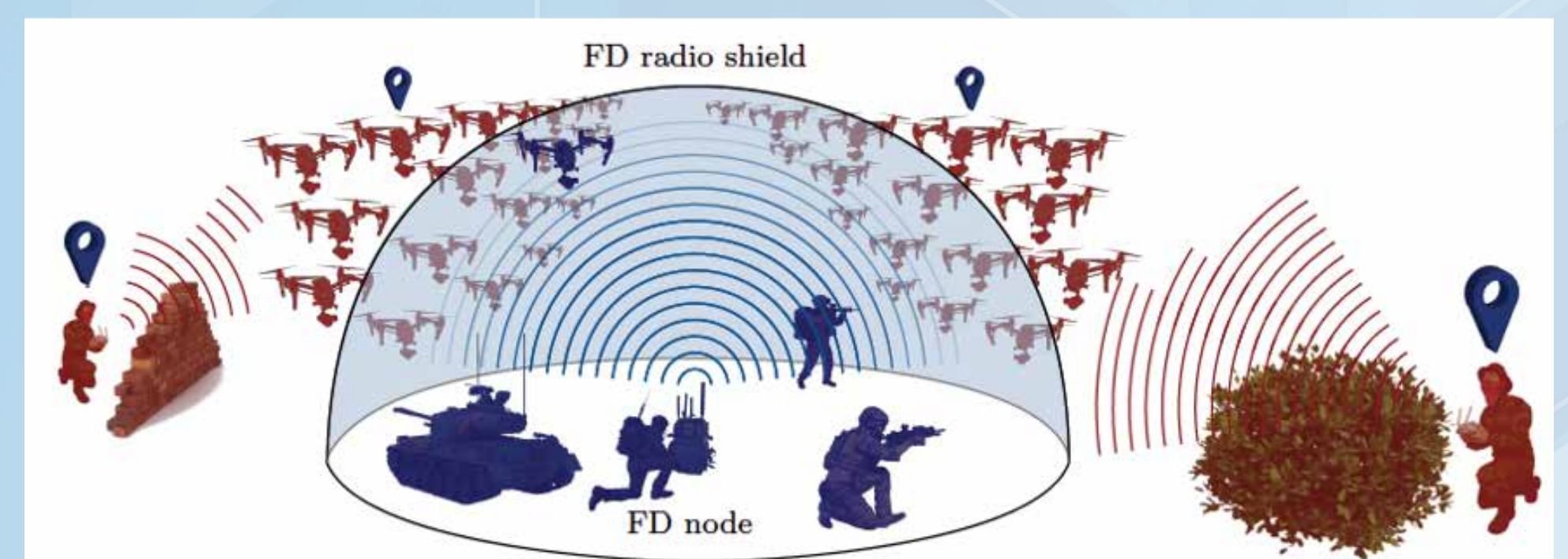
The proposal aimed at using heterogenous vehicles as sensor carriers for tracking swarms and offered ideas for a coherent approach to develop such a system. The concept of intelligent network for mobile proximal sensing with the use of own autonomous defensive swarm drones, sensors and common operational picture is very innovative and will likely open excellent opportunities for defence capabilities. This is a direct defence application, which is not present in currently available defence technologies. The proposal presented a coherent, well-structured and very detailed roadmap and budget proposal, which positively contributed to the possibility of launching a R&T project at EDA.



CIRA 2

OÜ Rantelon & Tampere University

The proposal aimed at developing novel, disruptive full-duplex radio technology-based counter-UAS, allowing both the simultaneous detection and recognition of drones via their RF signals and their successive neutralisation, e.g. via jamming. This is expected to contribute to: an enhanced situational awareness, improved neutralisation performance, multifunction capabilities, and minimised collateral damage. This technology has a high potential to create excellent dual-use synergies and to form new valuable partnerships between key players in the defence field and non-traditional defence R&T communities and innovators for both defence and civil applications.



Rantelon 1 (2020 Edition)

Way Ahead (2021 edition)

The 2021 edition will focus on **innovative solutions & technologies on Human-Machine Interfaces** enabling Human-Machine-Teaming for Defence. Some examples of technologies eligible for the new competition include: virtual assistants, stress and health monitoring, human-AI interaction, brain computing interface and virtual/augmented reality.

The new prize edition aims at addressing the CDP priority of: enhanced logistic and medical supporting capabilities; Ground combat capabilities; Air superiority and Underwater control contributing to resilience at sea. The winning idea/concept will be awarded 30,000€. The deadline for submission of applications is 31 August 2021. The prizes award will take place by the end of the year.

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2021 Edition
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