

EDF-2021-OPEN-RDIS: Open call addressing disruptive technologies for defence

The development of new defence products and services very often relies on incremental improvements of existing ones leading to a higher performance or more efficient operation of established capabilities. However, technologies are emerging that could – when used in a military context – radically change the balance of military power between opponents. Such disruptive technologies for defence then lead to game-changing shifts in military paradigms. Exploring innovative technologies for defence use is thus essential to alter or maintain technological dominance.

Targeted type of applicants

Proposals should be submitted by consortia involving at least two eligible entities, as defined in Article 9 of the EDF regulation, which are established in at least two different Member States or associated countries. At least two of these eligible entities established in at least two Member States or associated countries must not, during the whole implementation of the action, be controlled, directly or indirectly, by the same entity, and must not control each other.

Budget

The Union is considering a contribution of up to EUR 10 000 000 to support proposals addressing any subject of interest for defence.

Several actions, addressing different defence products, solutions, materials and technologies, may be funded under this call.

Proposals are invited against the following topic: EDF-2021-OPEN-RDIS-Open: Research on disruptive technologies for defence

Specific challenge

The specific challenge is to lay the foundations for radically new future technologies of any kind with unexpected impact that aims to bring radical technological superiority over potential adversaries. This topic also encourages the driving role of new actors in defence research and innovation, including excellent researchers, ambitious high-tech SMEs and visionary research centres of big companies, universities or research and technology organisations.

Scope

Proposals are sought for cutting-edge, high-risk/high-impact research leading to game-changing impact in a defence context. They must have the following essential characteristics:

- A disruptive impact in a defence context: Proposals need to clearly address how the proposed solutions would create a disruptive effect when integrated in a realistic military operation.
- Radical vision: Proposals must address a clear and radical vision, enabled by a new technology concept that challenges current paradigms. In particular, research to advance on the roadmap of a well-established technological paradigm, even if high-risk, will not be funded.

- Breakthrough technological target: Proposals must target novel and ambitious scientific or technological breakthroughs that can be experimentally assessed, and the suitability of the concept for new defence applications must be duly demonstrated. Basic research without a clear technological objective targeting defence applications will not be funded.

The inherently high risks of the research proposed must be mitigated by a flexible methodology to deal with the considerable science-and-technology uncertainties and for choosing alternative directions and options.

Targeted activities

The proposed actions should aim to create, underpin and improve disruptive technologies that can achieve significant effects in the area of defence (generating knowledge), not excluding downstream eligible activities for research actions (integration of knowledge, studies and design).

Functional requirements

This call is open to any technology with a high disruption potential. Proposals should describe the targeted functionalities and the foreseen means to measure progress toward the achievements of these functionalities.

Expected impacts

- Scientific and technological contributions to the foundation of a future technology with disruptive applications in the area of defence;
- Enhanced innovation capacity of the European Defence industry by identifying and exploring ground-breaking concepts and approaches or by applying technologies and concepts previously not applied in the defence sector;
- Enhanced competitiveness of the European defence industry and creation of new defence markets;
- Enhanced defence research and innovation capacity across Europe by involvement of actors that can make a difference in the future such as excellent researchers, ambitious high-tech SMEs or visionary departments of big companies, research centres and universities.

Funding information

The requested funding should match the ambition of the proposed action and be duly justified. In any case, the requested funding should not exceed EUR 4 000 000.

A lump sum approach will be used. For selected projects, the maximum EU contribution will be based on the eligible costs in the requested funding, but actual payments will be conditioned to the completion of work packages. Proposals should include clear descriptions of the proposed criteria to assess work package completion.