

EDF-2022-DA-C4ISR-SOFC2: Deployable special operations forces multi- environment command post and C2 System

Budget

The Union is considering a contribution of up to EUR 20 000 000 for this topic under the call EDF-2022-DA.

Number of actions to be funded: Up to one action may be funded for this topic

Objective

Symmetric and asymmetric threats inside and outside the EU territory require fast response and the ability to rapidly deploy transportable units implementing a Special Operations Forces Command Post and C2 System (SOFCPC2) to areas of interest, during both peace and wartime. The 2018 Capability Development Plan (CDP-2018) encodes this need in the priority “Cross-domain capabilities contributing to achieve EU’s Level of Ambition” and in particular “c) Enabling capabilities to operate autonomously within EU’s LoA” and more specifically: “Providing a deployable joint interoperable C2 capability readily available for integration so as to be able to operate more efficiently with international and regional partners.”

General objective

In the context of CSDP operations, Small Joint Operations (SJO) conducted by Special Operation Forces (SOF) can provide a wide array of flexible military options for a rapid and effective response to the whole spectrum and all the stages of the fast-evolving crisis management landscape. The use of SOF can evidently decrease the risk of escalation that is generally associated with the employment of larger and more visible combat forces. Furthermore, SOF can be used in order to prepare and incorporate the full capacity and rapid deployment of such larger EU military forces and reinforce their operational capacities when they are already deployed in an operational theatre, in order to stabilise a deteriorating situation.

SOF can also contribute to the effort to maintain the maritime security across Mediterranean Sea, to conduct maritime security and interdiction operations in the context of combating maritime terrorist, to mitigate refugee flows and intercept illegal trafficking of people and goods.

Specific objective

A key contribution from SOF to SJO is their highly flexible mobility that can provide the ability to rapidly adapt and respond to a broad range of operational scenarios in every operational domain (land, sea, air and cyber) with minimum or no demand for host nation support.

Against this background, the SOFCPC2 should provide adequate flexibility, interoperability, deployability, scalability, discretion and redundancy, notably concerning communications systems and networks, in order to adapt easily in rapidly changing levels of conflict.

The duration of the proposed action shall not exceed three years and shall provide an initial operational capability of the prototype system.

Scope and types of activities

Scope

Proposals must focus on the development of a capability considering SOF specific requirements, which includes not only generic C2 capabilities but also those tailored for SOF. Those SOF specific

Proposals must in particular address the development of:

- A SOFCPC2 hosting infrastructure, transportable by air, road and sea, and rapidly deployable, including accommodation facilities, HVAC²³, water supply and sewage to support all operations. The facilities should be modular and adaptable to all climate zones and in line with operating Member States and Norway' needs, with the ability to be deployed on board of sea-based assets or naval vessels.
- An autonomous, energy supply system with low thermal and acoustic emission that can be integrated to air, road and sea transportable SOFCPC2 hosting infrastructure.
- An ad-hoc, adaptive, interoperable, resilient, and cyber-secure, end-to-end SOFCPC2 communication system, able to be integrated in the broader C2 infrastructure, enabling the exchange of information across the entire command hierarchy, with platforms and down to the field-deployed operators.
- An integrated C2 platform, intelligence and sensing software platform.
- A system capable to receive and fuse information from heterogeneous sensors, manned and unmanned platforms.
- A SOFCPC2 end-user terminal (field-deployed special operator), including applications to achieve the integration of C2, intelligence, sensors, weapon systems and communications platforms to a seamless architecture.
- A SOFCPC2 perimeter security system and its integration with the C2 and communications platforms.

²³ Heating Ventilation and Air Conditioning

Types of activities

The following types of activities are eligible for this topic:

Types of activities (art 10(3) EDF Regulation)		Eligible?
(a)	Activities that aim to create, underpin and improve knowledge, products and technologies, including disruptive technologies, which can achieve significant effects in the area of defence (generating knowledge)	No
(b)	Activities that aim to increase interoperability and resilience, including secured production and exchange of data, to master critical defence technologies, to strengthen the security of supply or to enable the effective exploitation of results for defence products and technologies (integrating knowledge)	Yes (optional)
(c)	Studies , such as feasibility studies to explore the feasibility of new or upgraded products, technologies, processes, services and solutions	Yes (mandatory)
(d)	Design of a defence product, tangible or intangible component or technology as well as the definition of the technical specifications on which such design has been developed, including partial tests for risk reduction in an industrial or representative environment	Yes (mandatory)
(e)	System prototyping of a defence product, tangible or intangible component or technology (prototype)	Yes (mandatory)
(f)	Testing of a defence product, tangible or intangible component or technology	Yes (mandatory)
(g)	Qualification of a defence product, tangible or intangible component or technology	Yes (optional)
(h)	Certification of a defence product, tangible or intangible component or technology	Yes (optional)
(i)	Development of technologies or assets increasing efficiency across the life cycle of defence products and technologies	Yes (optional)

Initial Operational Test and Evaluation (IOT&E) of the SOFCPC2 prototype must be attained within three years after the signature of the grant agreement.

The prototype of SOFCPC2 should be tested and evaluated for initial operational capability with facilities and equipment for multiple of ten of military personnel (at least 50), according to test scenarios and requirements that will be defined and provided by the operating Member States and associated countries before starting the design activities.

Functional requirements

The capability to be developed should meet the following functional requirements:

- REQ1 The SOFCPC2 should provide a transportable by air, road and sea (sea-based assets, naval platforms and/or merchant vessels), able to be deployed in all climate zones and in line with operating Member States and associated countries' needs, with modular and rapidly deployable facilities, including HVAC, water supply, sewage, and energy supply systems to support its operations.
- REQ2 The SOFCPC2 should implement a net-centric mobile ad hoc network with the ability to combine with heterogeneous networks of different architecture. It should integrate interoperable and cyber-secured communications at multiple levels enabling the exchange of information across the entire command hierarchy, between field-deployed SOF task groups and the SOFCPC2, within the SOFCPC2, from the SOFCPC2 towards higher hierarchical levels and from SOFCPC2 to close air supporting aircraft or other supporting units. For interoperability and compatibility purposes, the SOFCPC2 communication systems should take into account, as far as possible, all standards applicable to SOF operations, including those of NATO.
- REQ3 The SOFCPC2 should feature all necessary software platforms related to the exercise of Command and Control (C2) of multiple SOF task groups operating concurrently in the field, including the generation of all necessary situation awareness to achieve that goal across multiple domains.
- REQ4 The SOFCPC2 should embody novel terminal devices with suitable SWaP characteristics for field-deployed SOF task groups which must provide C2 functionality at the tactical edge in coordination with the SOFCPC2 C2 platform.
- REQ5 The SOFCPC2 should feature a software platform providing Digitally Aided Close Air Support (DACAS) capability and able to share tactical on-site and other sources intelligence information for target detection, recognition and assignment, while making maximum use of interoperability standards.
- REQ6 The SOFCPC2 should feature the relevant means to be integrated with several different aircraft and/or surface vessel platforms, manned and/or unmanned, employed either for the transportation of SOF Task Groups or for the collection of intelligence.
- REQ7 The SOFCPC2 should feature a military grade, autonomous, horizontally scalable, and low thermal/acoustic signature power supply system capable of furnishing the energy needs of the entire SOFCPC2, employing a resilient and proactively managed mix of thermal and renewable sources and storage.
- REQ8 The SOFCPC2 should feature a perimeter security system integrated with the core C2 and communications platforms, primarily passive and capable of detecting close range threats. The security system should be compliant with the overall SOFCPC2 electromagnetic spectrum.
- REQ9 The SOFCPC2 should be modular and scalable in terms of facilities and equipment. Initially designed for deployments from 5 up to 150 military personnel, it should be expandable and upgradable to future operational capabilities while allowing integration of other additional modules and tools.

Expected impact

By providing a reference SOF C2 System, hence improving the capabilities of the European defence technological and industrial base to develop and supply state-of-the-art C2 systems, the action should contribute to:

- promote the upgraded role of SOF as envisioned by EU;
- enable efficient SOF deployments where no permanent C2 infrastructure exists, with a state-of-the-art deployable European SOFCPC2;
- shorten the response times of the EU and its Member States as well as associated countries during both peace and war time, for a variety of missions, both civilian and military;
- reduce the cost of EU SOF SJO missions;
- facilitate the collaboration and interoperability among Member States, notably through integrated CIS and ISR means provided by Member States and Norway, EU forces, and civil agencies;
- enhance the security of supply and reduce dependencies.