Proposal Evaluation Form

EUROPEAN COMMISSION

Horizon Europe (HORIZON)

Evaluation Summary Report - Research and innovation actions

Call: HORIZON-SESAR-2025-DES-IR-02

Type of action: HORIZON-JU-RIA

Proposal number: 101288039

Proposal acronym: SPARTA

Duration (months): 36

Proposal title: SPARTA — Space-ATM Real-Time Awareness

Activity: IR-02-WA5

N.	Proposer name	Country	Total eligible costs	%	Grant Requested	%
1	EUROCONTROL - EUROPEAN ORGANISATION FOR THE SAFETY OF AIR NAVIGATION	BE	0	0.00%	0	0.00%
2	DFS DEUTSCHE FLUGSICHERUNG GMBH	DE	81,130	1.97%	81,130	1.97%
3	DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV	DE	908,224.63	22.09%	908,224.63	22.09%
4	LUFTFARTSVERKET	SE	315,285.78	7.67%	315,285.78	7.67%
5	ENAV SPA	IT	176,917.31	4.30%	176,917.31	4.30%
6	NATS (EN ROUTE) PUBLIC LIMITED COMPANY	UK	217,059.41	5.28%	217,059.41	5.28%
7	ENAIRE	ES	106,750	2.60%	106,750	2.60%
8	Europe Space Centre GmbH	DE	55,835.85	1.36%	55,835.85	1.36%
9	ENTE NAZIONALE PER L'AVIAZIONE CIVILE - ENAC ITALIAN CIVIL AVIATION AUTHORITY	IT	242,383.75	5.90%	242,383.75	5.90%
10	SkyNav Europe	BE	842,928.98	20.50%	842,928.98	20.50%
11	ECOLE NATIONALE DE L AVIATION CIVILE	FR	162,470	3.95%	162,470	3.95%
12	LINKOPINGS UNIVERSITET	SE	73,237.5	1.78%	73,237.5	1.78%
13	C.I.R.A. CENTRO ITALIANO RICERCHE AEROSPAZIALI SCPA	IT	279,226.78	6.79%	279,226.78	6.79%
14	SCEYE SPAIN S.L.	ES	190,400	4.63%	190,400	4.63%
15	INTERNATIONAL FEDERATION OF AIR TRAFFIC CONTROLLERS ASSOCIATIONS	CA	116,812.5	2.84%	116,812.5	2.84%
16	OpenUTM Ltd.	IE	59,745	1.45%	59,745	1.45%
17	THALES LAS FRANCE SAS	FR	114,625	2.79%	114,625	2.79%
18	ANRA TECHNOLOGIES UK LTD	UK	168,317.63	4.09%	168,317.63	4.09%
19	HAPS Alliance	US	0	0.00%	0	0.00%
	Total:		4,111,350.12		4,111,350.12	

Abstract:

The development of an enhanced Network Real-time Monitoring Module and associated enhanced procedures and eventual enhanced supporting tools for the management of space-launch and higher-altitude operations at the level of the European ATM Network Manager (NM). It includes space and higher-altitude operations data integration (from Launch and Re-entry Operators (LRO), Launch and Re-entry site operators (LRSO), STM, Higher Altitude vehicle and site Operators with the NM and ATM), looking to generate, maintain and broadcast a full European network wide situational awareness picture. Note that this a continuation of ongoing research embedded in the SESAR 3 project ECHO 2, under the HORIZON-SESAR-2022-DES-IR-01 Call.

Evaluation Summary Report

Evaluation Result

Total score: 13.62 (Threshold: 10)

Criterion 1 - Excellence - weight 40%

Score: **4.40** (Threshold: 3 / 5.00 , Weight: -)

The following aspects will be taken into account, to the extent that the proposed work corresponds to the description in the work programme:
- Clarity and pertinence of the project's objectives: degree to which the objectives and scope are compliant with the call material, well understood and fully addressed.
- Soundness of the proposed methodology for developing the SESAR solutions from their initial to their target maturity level, including the underlying concepts, models, assumptions and interdisciplinary approaches. This criterion also includes appropriate consideration of the integration of a gender dimension into R&I content and the quality of open science practices, including sharing and management of research outputs and engagement of citizens, civil society and end users where appropriate.
- Level of awareness of the state of the art: degree to which the proposal demonstrates knowledge of current operations and relevant previous R&D work (both within and outside SESAR), explains how the proposed work will go beyond the state of the art and demonstrates breakthrough innovation potential.

SPARTA proposal is in line with the call specifications of WA5-2 "Highly automated ATM for all airspace users" and addresses the Enhanced automation support for space-launch management. The concept of operation covers the strategic, pre-tactical and execution of Space Transport Operations (STO) integrated with the ATM systems and processes.
The proposal identifies two solutions. Solution 1 addresses the strategic and pre-tactical phase of STO Mission Planning integrated with ATM Systems to provide the NM, ANSPs and State authorities with all the data necessary to assess the impact on the safe and regular management of the air traffic. Solution 2 focuses on the execution of launches and re-entry operations. These Solutions shall also provide STO/HAO operators with clear and predictable processes. These objectives are compliant with the call material.
The development of these Solutions is based on the work done on the previous ECHO2 project, but SPARTA extends the scope of launch and re-entry operations to cover strategic and pre-tactical phases and introduces new elements such as planning frameworks, CDM processes, and the inclusion of HAO/HAPS in an operational context to be validated at TRL6. This will be done by producing a complete set of deliverables and validated solutions that are ready for standardization, regulation and eventual deployment.

The scientific methodology is clear and sound. The approach is aligned with the SESAR Framework and associated models, ensuring that the concepts, assumptions, and architectural elements are applied. The proposal maturity target is well defined. The proposal explains what the solutions are aiming to achieve; however they are not linked to clear performance objectives and the qualitative performance expectations are not sufficiently described. This is a shortcoming.
The validation activities for reaching the target maturity level are defined very briefly and the proposal explains that the validation activities will be defined in the VALP. This is a minor shortcoming.
The DMP, the open-science and FAIR aspects are covered to a satisfactory level.

The work of SPARTA is mainly based on previous projects ECHO and ECHO2 as the topic is new and not consistently implemented in Europe. SPARTA goes beyond the state of the art proposing a standardized, interoperable and harmonized concept and prototypes in scope, with a higher maturity and integrated in the ATM system.
However, the proposal does not adequately consider the new service delivery model and the level of automation. This is a minor shortcoming.
The proposal defines that live operational systems will not be used to avoid procedural, security, and stability risks. However, it is not clearly determined how the cybersecurity aspects will be handled. This is a shortcoming.

Criterion 2 - Impact - weight 40%

Score: **4.70** (Threshold: 3 / 5.00 , Weight: -)

The following aspects will be taken into account, to the extent that the proposed work corresponds to the description in the work programme:
- Credibility of the pathways to achieve the expected outcomes and impacts specified in the call material.
- Appropriateness of the contribution to standardisation and regulation: the extent to which the proposal demonstrates that the project will contribute appropriately to the relevant standardisation and regulatory activities.
- Suitability and quality of the measures in terms of maximising expected outcomes and impacts, as set out in the dissemination and exploitation (D&E) plan, including communication activities.

The impact on the realization of the objectives and performance identified in the ATM Master Plan (MP) for the phase D can be found in the scope and objectives of SPARTA. For each Solution, an assessment of the impact has been well-provided in the proposal. The solutions developed in SPARTA will impact operational and safety, network performance, regulation and interoperability, demonstrating as such its potential breakthrough of the business as usual. By addressing these elements, SPARTA contributes to making STO and HAO missions integrated in the Digital European Sky, where all the Airspace Users (AUs) have a seamless access to the airspace with high degree of safety and efficiency as required in the ATM MP Phase D.
The breakthrough of SPARTA versus business as usual is the potential to shift STO mission management from today reactive posture and fragmented document-based exchanges, to a predictive, responsive and coordinated process at European network level. By enabling faster, more accurate and less disruptive hazard management, the solution strengthens safety and improves overall efficiency of the network for accounting all kind of operations included STO and HAO.
The impact pathways, while credible, are largely qualitative. Quantitative indicators for assessing system-level benefits and D&E performance are not fully elaborated. This is a shortcoming.

The outputs of SPARTA's Project Deliverables are suitable, concerning the contribution to standardization and regulation. OSED and Stand and Reg deliverables will be used for submission to ICAO, EUROCAE, and the EUR STO Project Team, providing direct pathway into standardization, interoperability, regulation and industrialization.

An initial plan of Communication, Dissemination and Exploitation (CDE) activities is formulated with sufficient details. This is also reflected in the dedicated WP where activities, milestones and deliverables to be produced are sufficiently described.
The IPR aspect is properly addressed and an IPR framework at Consortium Agreement level will be also implemented.

Criterion 3 - Quality and efficiency of the implementation - weight 20%

Score: **4.50** (Threshold: 3 / 5.00 , Weight: -)

The following aspects will be taken into account, to the extent that the proposed work corresponds to the description in the work programme:
- Quality and effectiveness of the work plan and assessment of risks, and appropriateness of the effort assigned to work packages, and the resources overall.
- Capacity and role of each participant, and the extent to which the consortium as a whole brings together the necessary expertise.

The SPARTA Work Plan is structured to ensure that all Work Packages contribute to the delivery of two coherent SESAR Solutions, with evidence of strong alignment across planning and operational phases as the proposal manages interdependencies both vertically (between phases of the same solution) and horizontally (across solutions and cross-cutting WPs). The breakdown of the WPs is in line with the provisions of the SESAR Framework and Project Handbook.
The Initial Stand & Reg Deliverables are expected to be delivered late at month 18 for both of the solutions. Moreover, all the deliverables' final draft should be provided two months before the Exit Maturity Gate, however some of them planned to be delivered later than the gate. This is a shortcoming.
The project structure complies with the Lump Sum approach and principles.

While the proposal outlines the main responsibilities of Work Package leaders and provides an overall view of consortium roles, it does not provide sufficient task-level details of the individual contributions. For example, there is no clear description of the activities to be performed by ANRA Technologies UK Ltd, which is requesting funding under the project. The proposal does not clearly specify this partner's concrete responsibilities, deliverables, or level of involvement in specific work packages. This a minor shortcoming.

Scope of the application

Status: **Yes**

Comments (in case the proposal is out of scope)
Not provided

Exceptional funding

A third country participant/international organisation not listed in the General Annex to the Main Work Programme may exceptionally receive funding if their participation is essential for carrying out the project (for instance due to outstanding expertise, access to unique know-how, access to research infrastructure, access to particular geographical environments, possibility to involve key partners in emerging markets, access to data, etc.). (For more information, see the HE programme guide)

Please list the concerned applicants and requested grant amount and explain the reasons why.

Based on the information provided, the following participants should receive exceptional funding:
Not provided

Based on the information provided, the following participants should NOT receive exceptional funding:
Not provided

Use of human embryonic stem cells (hESC)

Status: **No**

If YES, please state whether the use of hESC is, or is not, in your opinion, necessary to achieve the scientific objectives of the proposal and the reasons why. Alternatively, please state if it cannot be assessed whether the use of hESC is necessary or not, because of a lack of information.

Not provided

Use of human embryos

Status: **No**

If YES, please explain how the human embryos will be used in the project.

Not provided

Activities excluded from funding

Status: **No**

If YES, please explain.

Not provided

Do no significant harm principle

Status: **Yes**

If Partially/No/Cannot be assessed please explain

Not provided

Exclusive focus on civil applications

Status: **Yes**

If NO, please explain.

Not provided

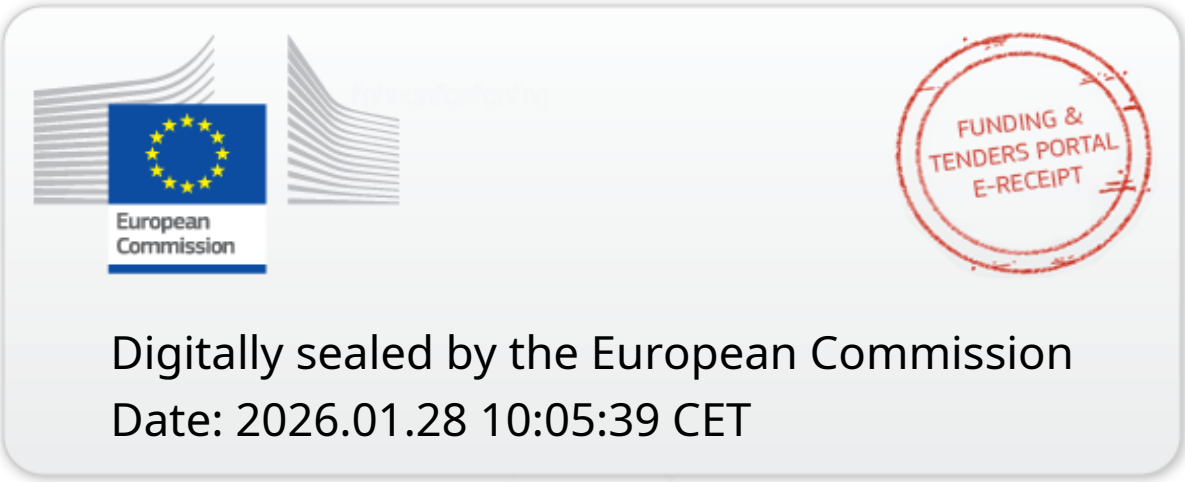
Artificial Intelligence

Status: **No**

If YES, the technical robustness of the proposed system must be evaluated under the appropriate criterion.

Overall comments

Not provided



This electronic receipt is a digitally signed version of the document submitted by your organisation. Both the content of the document and a set of metadata have been digitally sealed.

This digital signature mechanism, using a public-private key pair mechanism, uniquely binds this eReceipt to the modules of the Funding & Tenders Portal of the European Commission, to the transaction for which it was generated and ensures its full integrity. Therefore a complete digitally signed trail of the transaction is available both for your organisation and for the issuer of the eReceipt.

Any attempt to modify the content will lead to a break of the integrity of the electronic signature, which can be verified at any time by clicking on the eReceipt validation symbol.

More info about eReceipts can be found in the FAQ page of the Funding & Tenders Portal.

(https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/faq)