

Proposal Evaluation Form



EUROPEAN COMMISSION

Horizon Europe (HORIZON)

**Evaluation Summary
Report - Innovation
actions**

Call: HORIZON-CL3-2024-BM-01
Type of action: HORIZON-IA
Proposal number: 101225807
Proposal acronym: SARUMAN
Duration (months): 36
Proposal title: Smart Analysis of Resources for Underwater, Maritime and Aerospace Networks
Activity: HORIZON-CL3-2024-BM-01-02

N.	Proposer name	Country	Total eligible costs	%	Grant Requested	%
1	INDRA SISTEMAS SA	ES	740,726.88	12.35%	740,726.88	12.35%
2	INDRA SISTEMAS DE SEGURIDAD SA	ES	37,318.75	0.62%	37,318.75	0.62%
3	INDRA ESPACIO SLU	ES	79,878.75	1.33%	79,878.75	1.33%
4	ATHANOR ENGINEERING	FR	147,210	2.45%	147,210	2.45%
5	MTU AUSTRALO ALPHA LAB	EE	376,875	6.28%	376,875	6.28%
6	CIBER TIEMPO REAL SISTEMAS S.L.	ES	231,350	3.86%	231,350	3.86%
7	DRAMMEN HAVN AS	NO	105,125	1.75%	105,125	1.75%
8	ELISTAIR	FR	248,086.98	4.14%	248,086.98	4.14%
9	FAV INNOVATION AND TECHNOLOGIES COOP. V.	ES	402,937.5	6.72%	402,937.5	6.72%
10	MINISTERE DE L'INTERIEUR	FR	125,125	2.09%	125,125	2.09%
11	CIVIPOL	FR	93,100	1.55%	93,100	1.55%
12	INSTITUTO NACIONAL DE TECNICA AEROSPAECIAL ESTEBAN TERRADAS	ES	337,768.75	5.63%	337,768.75	5.63%
13	LEMVOS GMBH	DE	296,781.37	4.95%	296,781.37	4.95%
14	MARITIME ROBOTICS AS	NO	250,000.63	4.17%	250,000.63	4.17%
15	SMARTEX SRL SOCIETA' DI PRODOTTI E SERVIZI GIURIDICI INTERDISCIPLINARI	IT	259,742.71	4.33%	259,742.71	4.33%
16	SCUOLA SUPERIORE DI STUDI UNIVERSITARI E DI PERFEZIONAMENTO S ANNA	IT	354,500	5.91%	354,500	5.91%
17	UNIVERSIDAD POLITECNICA DE MADRID	ES	395,375	6.59%	395,375	6.59%
18	UNIVERSITETET I SOROST-NORGE	NO	457,625	7.63%	457,625	7.63%
19	VETE ENGINEERING OU	EE	201,250	3.35%	201,250	3.35%
20	FUNDACION DE LA COMUNIDAD VALENCIANA PARA LA INVESTIGACION, PROMOCION Y ESTUDIOS COMERCIALES DE VALENCIAPORT	ES	337,937.5	5.63%	337,937.5	5.63%
21	SOCIEDAD ANONIMA DE ELECTRONICA SUBMARINA SME	ES	196,380.19	3.27%	196,380.19	3.27%
22	MINISTERIO DEL INTERIOR	ES	206,792.5	3.45%	206,792.5	3.45%
23	EUROPEAN UNION SATELLITE CENTRE	ES	117,500	1.96%	117,500	1.96%

Total:	5,999,387.51	5,999,387.51	
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Abstract:

SARUMAN aims to revolutionize maritime border surveillance by leveraging autonomous vehicles and real-time sensor networks to provide unprecedented monitoring and threat detection capabilities. This project is built upon three essential pillars to achieve its vision: 1) Increase Border Surveillance Capability: SARUMAN will develop an integrated system that fuses data from autonomous underwater, surface, and aerial vehicles with a range of advanced sensors, including radar and acoustics. This system will enable simultaneous coverage of vast maritime areas, providing comprehensive surveillance and early threat detection capabilities. The use of AI technology for real-time data interpretation and analysis will allow for dynamic, automated responses to potential threats. 2) Improved Surveillance and Situational Awareness: By integrating autonomous vehicles into the surveillance framework, SARUMAN will provide broader and more precise monitoring of strategic areas. Data will be continuously collected, monitored, and stored at the command-and-control centre (C2), where environmental, operational, and situational factors will be interpreted in real-time. This continuous flow of information will enable the development of intelligent, adaptive control systems that can autonomously adjust surveillance operations based on changing conditions, such as weather, vessel behaviour, or emerging threats. 3) Improved Multi-level, Multiauthority, and Interoperability: The project seeks to ensure that the collected and processed data can be effectively shared and utilized across various levels of authorities and security systems by establishing a standardized interoperability framework. This approach will ensure that human operators can oversee and adjust operations as needed, promoting collaboration and coordination between local, national, and international entities.

Evaluation Summary Report

Evaluation Result

Total score: 12.00 (Threshold: 10)

Criterion 1 - Excellence

Score: 3.50 (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:
 - Clarity and pertinence of the project’s objectives, and the extent to which the proposed work is ambitious and goes beyond the state of the art.
 - Soundness of the proposed methodology, including the underlying concepts, models, assumptions, inter-disciplinary approaches, appropriate consideration of the gender dimension in research and innovation 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.

The proposal’s objectives are very well presented and in addressing the development of an advanced network of innovative technological solutions for near real time autonomous maritime border surveillance, interoperability, and threat detection, they are clearly in line with the specific objectives of the Call topic BM-01-02.

With respect to performance targets, suitable metrics have been provided, however some metrics lack clear baseline values (for example, with respect to user satisfaction and operational costs reduction). This is a minor shortcoming.

The proposal is innovative within the context of border management. However, the description of the state-of-the-art provides insufficient scientific, commercial and operational detail, particularly with respect to technologies related to sensors and UxVs. Furthermore, starting and target TRLs are provided in the description of the proposal, although in certain cases the starting level is rather low (for example, with respect to AI Challenge 3, starting at TRL3 and ending at TRL5). Many of the proposed technologies are already deployed in other operational contexts, and as such this significantly limits the overall ambition of the proposal’s advancements in state-of-the-art. This is a shortcoming.

The proposed methodology is credibly presented and is suitable for the technology to be developed. Two well described use-cases are also proposed, indicating an appropriate focus on wide geographic areas with harsh environmental conditions. However, the proposal does not provide sufficient detail with respect to the critical interoperability issues, and although a framework for cross-border collaboration is proposed, insufficient technical and operational detail is provided as to how this will be achieved. This is a shortcoming.

Aspects related to the employment and robustness of AI technologies are adequately described and are appropriate.

Interdisciplinary approaches are suitably illustrated through the inclusion of several actors from different areas including the private sector, universities, public authorities and EU institutions.

Aspects related to gender, open science and research data management are all very well presented.

Criterion 2 - Impact

Score: 4.00 (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 work programme, and the likely scale and significance of the contributions from the project.
- Suitability and quality of the measures to maximise expected outcomes and impacts, as set out in the dissemination and exploitation plan, including communication activities.

The pathways to delivering impact are very suitably presented and are in line with the expectations of the Call. The proposal could have a significant impact, however some of the stated targets are not sufficiently justified (for example, the generation of up to 2500 jobs and a 50% reduction in crewed missions). This is a minor shortcoming.

Barriers to achieving impact are very clearly defined, and aspects related to minimising environmental impact is of particular benefit. However, some mitigation measures are rather generically stated. (for example, collaboration with FRONTEX without clearly explaining how this will be achieved). This is a minor shortcoming.

The exploitation plan is very well presented and suitably includes a joint exploitation strategy, research and market exploitation plan, definition of key exploitable results and a business model canvas.

Dissemination plans are very clear, pertinent and suitable for reaching the target audiences, and standardisation activities are appropriately addressed.

There is a very good plan for communication of proposed activities to target audiences.

Aspects related to the management of IPR are not sufficiently presented. This is a minor shortcoming.

Criterion 3 - Quality and efficiency of the implementation

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, 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 work plan is excellently structured and is generally suitable for the work to be executed. Work packages and constituent tasks are described in detail. They are also clearly very well aligned with the proposal's overall objectives and describe an appropriate set of deliverables.

Risk management procedures are generally well presented. However, risks and their associated mitigating actions are rather generically stated, and key technical risks are not sufficiently addressed. This is a minor shortcoming.

The overall level of resources is suitable for the work to be carried out and resources are generally well allocated across participants and tasks. However, the distribution of resources related to coordination activities is unbalanced, particularly regarding the low level of resources assigned to the coordinator. This is a shortcoming.

The individual participants have very clearly defined roles and have excellent capacity and the necessary infrastructure for carrying out their assigned roles.

The consortium is excellently balanced and complementary and includes all the necessary expertise to execute the proposed work. The consortium also suitably incorporates industrial and commercial participants. Expertise with respect to open science and gender aspects is also suitably addressed.

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

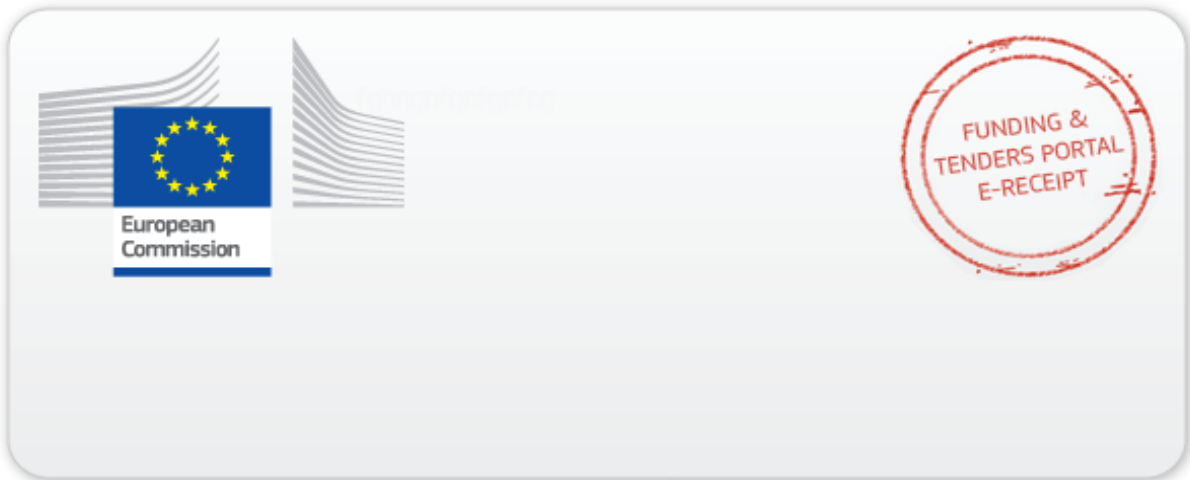
Artificial Intelligence

Status: Yes

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

Overall comments

Not provided



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