HOSMARTAI
AI for the smart hospital of the future

Annex 2

Guidelines for Applicants

OPEN CALL 1
Application submission starts on:
8 February 2022, 00:00 CET
Submission deadline:
8 April 2022, 17:00 CET

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1 Introduction

This document provides a full set of information regarding the first Open Call for Proposals, also referred as **Open Call #1 – INNOVATE Call for Tech,** for the HosmartAI project. All associated Annexes must be additionally considered for the submission of a Proposal.
HosmartAI organises this first Open Call to engage innovative tech Startups/SMEs in the **design, development,** and **integration** of their technological product/service into the HosmartAI's platform/ecosystem. The objective is to solve particular HosmartAI challenges or bring new tech to be integrated in the HosmartAI platform.

1.1 Context

Healthcare systems throughout the world are endeavouring to rise to the challenges that result from an ageing population, the growth in chronic diseases, appearance of new viruses, burgeoning technical possibilities and public expectation. To cope with such elements, an increasing proportion of GDP is spent on health. In Europe, the public 1 share of health care spending is anticipated to grow from 6.8% of GDP up to 8.4% (+24%) or more in 2070. This increase will require countries to either allocate additional funds or try to decrease the actual cost through better 2 management of the resources.

On the other hand, it also has proven necessary to understand and coordinate when facing new outbreaks. COVID- 19 has been a test of the world's health community to cooperate, sharing information and relying on time-tested approaches to epidemics and collaboration with the industrial community. In all health systems, hospitals are important sectors providing vital services but also absorb considerable percentage of resources (from 40 to 80%4). Hospitals impact the health systems' efficacy, so assessing hospitals performance is of paramount importance.

Technological developments in the fields of robotics and AI can provide significant cost savings and could lead to improvements in many hospital processes. It is necessary to develop platforms that are predictably safe, so regulatory reviews can happen quickly, and that make it easy for manufacturers to produce resources at low cost on a massive scale. AI and digital solutions could also contribute to more effective and automated work management processes, while offering continuous training for health and care workers. Several are already being employed although implementation factors prevent large-scale deployment.

1.2 HosmartAI project

1.2.1 HosmartAI's ambition

VISION	The HosmartAI vision is a strong, efficient, sustainable and resilient European **Healthcare system** benefiting from the capacities to generate impact of the technology European Stakeholders (SMEs, Research centres, Digital Hubs and Universities).
MISSION	The HosmartAI mission is to guarantee the **integration of Digital and Robot technologies** in new Healthcare environments and the possibility to analyse their benefits by providing an environment where **digital health care tool** providers will be able to design and develop **AI solutions** as well as a space for the instantiation and deployment of AI solutions.
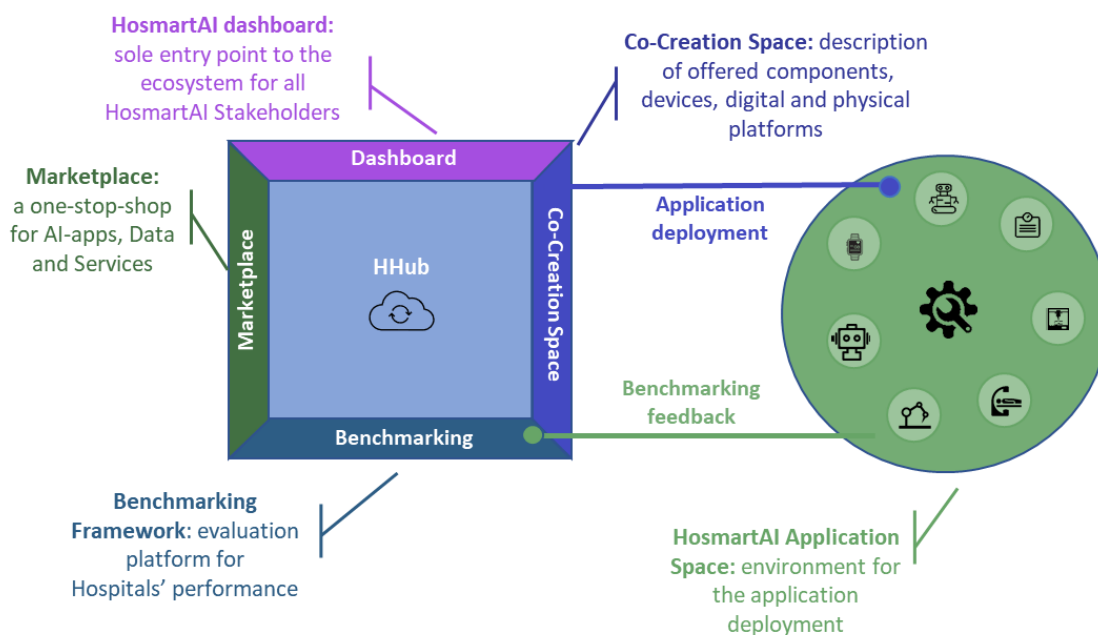
HosmartAI will create a **common open Integration Platform** with the necessary tools to facilitate and measure the benefits of integrating digital technologies (robotics and AI) in the healthcare system.

A central hub will offer multifaceted lasting functionalities (**Marketplace, Co-creation space, Benchmarking**) to healthcare stakeholders, combined with a collection of methods, tools and solutions to integrate and deploy AI-enabled solutions. The Benchmarking tool will promote the adoption in new settings, while enabling a meeting place for technology providers and end-users.

Eight Large-Scale Pilots will implement and evaluate improvements in medical diagnosis, surgical interventions, prevention and treatment of diseases, and support for rehabilitation and long-term care in several hospitals and care settings. The project will target different medical aspects or manifestations such as cancer; gastrointestinal (GI) disorders; cardiovascular diseases; thoracic disorders; neurological diseases; elderly care and neuropsychological rehabilitation; Fetal Growth Restriction (FGR) and prematurity.

To ensure a user-centred approach, harmonization in the process (e.g. regarding ethical aspects, standardization, and robustness both from a technical, social and healthcare perspective), the living lab methodology will be employed. HosmartAI will identify the appropriate instruments (KPI) that measure efficiency without undermining access or quality of care. Liaison and co-operation activities with relevant stakeholders and open calls will enable ecosystem building and industrial clustering.

HosmartAI brings together a consortium of leading organizations (3 large enterprises, 8 SMEs, 5 hospitals, 4 universities, 2 research centres and 2 associations. Description of the consortium partners is available at the project website here.

1.2.2 HosmartAI's objectives

The main objective of HosmartAI is to promote an effective and efficient health care system transformation, using AI technological developments and robotics. To achieve this transformation HosmartAI will introduce an AI platform that will allow for core facilities to be shared and linked

composing smart services for healthcare professionals, patients, information system managers, and health organisation administrations.

1.2.2.1 Technical objectives

- Successfully integrate the appropriate (including third-party) components, tools and hardware robotics in order to deliver **a holistic HealthCare Interoperability Platform** easily configurable to different cases and considering best practices and open system approaches in the market for secure experimentation composition and exploration.
- Offer (cyber) **security, privacy and trust mechanisms** at different granularities and contexts of the Platform, ensuring the inherent incorporation of all networked entities/objects by design fashion and in accordance to associated regulations, ethics, and compliance aspects.
- Develop **AI-supported tools** that will be able to compose smart services for healthcare professionals, patients' information system managers, and health organisation administrations and take advantage of new data sources and other tools, services and components.

1.2.2.2 Business objectives

- Prove the applicability, effectiveness and value of the **HosmartAI Platform,** AI-based solutions and robotics in healthcare, real-life trustworthy services, applications and standards demonstrating and stress-testing the HosmartAI artefacts, methodologies and services under pragmatic conditions against a predefined set of large-scale pilots.
- Ensure wide **communication and scientific dissemination** of the innovative HosmartAI results to the research and academic communities, to promote clustering activities amongst the industrial communities and all stakeholders involved in the Health and Care domains (with emphasis on the AI and robotics), to contribute to relevant standardization bodies, to collaborate and align with the EU **Digital Innovation Hub**[1] networks and platforms.
- Accelerate the pace of digitization, AI adoption and the innovation potential in the European Health and Care sector, through the **efficient exploitation and business planning** of the HosmartAI concepts and tools.
- Build an **innovative, sustainable and value creation ecosystem for SMEs and entrepreneurs** in the Health and Care domains by having ease and streamline mechanisms with clearly identified incentives to participate.

1.2.2.3 Scientific and innovation objectives

- Tackle the **interlinking, semantic enrichment, data improvement,** facilitating and boosting data interoperability across multiple physical and digital healthcare platforms and associated technologies, promoting data sharing, assets reuse and, through these, business value generation.
- To establish a benchmarking mechanism through the design of a **benchmarking framework** for Innovative AI-based systems providers, targeting end-goals in terms of productivity and sustainability performance of services, technologies and practices based on a set of KPIs that are relevant to the Healthcare sector.

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[1] i.e. a legal entity which functions as a network of research, innovation, business and industry organisations in order to ensure digital progress. Digital Innovation Hubs are one-stop-shops that help companies to become more competitive with regard to their business/production processes, products or services using digital technologies.

2 Call for proposals

2.1 Objectives

The HosmartAI Open Call #1 aims to enlarge a pool of health-interoperable technologies by engaging tech Startups/SMEs (Applicants) with knowledge and expertise about the integration of their solutions in the HosmartAI platform.

The Applicants can do it by solving HosmartAI challenges or bringing new and high-valuable components to be integrated in the HosmartAI ecosystem. Such solutions will enable the expansion of HosmartAI offer, value proposition, technology capacity and the possibility of being adopted by a diversity of health care entities to overcome end-users needs and challenges.

2.2 Main characteristics

- **Open Call timeframe**: from the 8th of February 2022, 00:00 CET to the 8th of April 2022, 17:00 CET
- **Target group**: Startups/SMEs (preferably developing AI-powered technology, but not limited to)
- **Activities to be funded**: Design (sprint 1), development (sprint 2) and integration (sprint 3) of AI technologies within the HosmartAI ecosystem to ensure a fast pace, quality of the deployment and measurable impact.
- **Duration of Activities:** 6months
- **Funding**: up to €50 000 per applying proposal submitted by a Startup/SME (3rd party). The total grant requested will represent up to 100% of the total costs of the submitted project.
- **How the payment will be made?** The selected 3rd party will be paid againts delievering activities submitted in Annex 3.1 Description of Work. Each project will develop an implementation plan including milestones and deliverables, and a cost estimate justifying the costs and resources in relation to the implementation plan. Checking the consistency between these costs and the expected work of the project will be part of the evaluation. The total requested budget will be divided and paid through lump sum in the 3 stages: Sprint 1 (35%), Sprint 2 (35%), Sprint 3 (30%). The payments will be made according to a staged payment arrangement based on the successful completion of specified milestones, delieverables and reviews after each of the sprint.

2.3 Topics

Applicants must submit their proposals for one of the five topics below.

Table 1: Description of Topic#1

Topic #1
AI- or data-based services for the healthcare sector enabled by the HosmartAI platform

Challenge	The HosmartAI platform enables straightforward creation of innovative AI-based solutions/services for the healthcare sector. Implication from tech companies will increase the market visibility of their solutions and services, technically improve their developments through HosmartAI technology, and enable hospitals and other healthcare institutions throughout Europe and beyond to improve their processes (of any nature, e.g., clinical, management, logistics, administrative). These solutions can be generic or specific to one specific process, technology, equipment, etc. SMEs are invited to submit proposals to implement AI/data-based solutions on the HosmartAI platform - to be promoted through the HosmartAI Marketplace. Both proprietary and open-source developments are eligible. Proposals should make interest from healthcare institutions plausible, preferably illustrated with a brief use case. The sustainability of the solution must be discussed, including maintenance and draft business model.	

Requirements	**Technology readiness level**	The TRL of the solution should reach at least level 6: the solution is expected to be based on an advanced existing solution.
	Source code availability	Proposed solutions can either be open source or proprietary.
	Standards	HosmartAI uses HL7-FHIR for any clinical data.
	Programming language	No restrictions.
	Ethics	Handling of personal and other sensitive data must comply applicable law.
	Security	HosmartAI platform functionality is recommended, but not obligatory.
	Data management	HosmartAI platform functionality is recommended, but not obligatory.
	Other(s)	Sustainability of the application shall also be addressed, both technically and commercially (i.e., on the HosmartAI marketplace).

Minimum deliverables required	**1st Sprint (M2)**	**2nd Sprint (M4)**	**3rd Sprint (M6)**
	Design and Architecture	First functional version	Integration

Resources provided by HosmartAI	• Technical Documentation on the HosmartAI platform including API definitions, architecture, etc. • An assigned mentor from HosmartAI. • Access to all HosmartAI public deliverbales: hosmartai.eu/knowledge-base/deliverables.
Expected outcome	• Novel AI/data-based services reaching hospitals and other healthcare institutions. • Clear potential for uptake. • Sustainability.

Table 2: Description of Topic #2

Topic #2 Creation of a HL7-FHIR de-identification and pseudonymization tool			
Challenge	This tool should consider all fields and combinations of fields that need to be replaced with non-PII (Personally Identifiable Information) data. It should also provide configurable levels of retaining the initial information and configurable options of pseudonymizing data that can be used for AI and data analytics.		
Requirements	**Technology readiness level**	TRL 6	
	Source code availability	Yes	
	Standards	Should be applicable to to HL7-FHIR data.	
	Programming language	Any object-oriented language.	
	Ethics	Handling of personal and other sensitive data must comply applicable law.	
	Security	HosmartAI platform functionality is recommended, but not obligatory.	
	Data management	HosmartAI platform functionality is recommended, but not obligatory.	
	Other(s)	n/a	
Minimum deliverables required	**1ˢᵗ Sprint (M2)**	**2ⁿᵈ Sprint (M4)**	**3ʳᵈ Sprint (M6)**
	Design of solution and POC	Complete first version	Final version, tested
Resources provided by HosmartAI	• Technical Documentation on the HosmartAI platform including API definitions, architecture, etc. • Requirements and specifications of intended outcome • Possibility to integrate and demo this as an available application in HosmartAI Marketplace • Possibility to provide datasets • Access to all HosmartAI public deliverbales: hosmartai.eu/knowledge-base/deliverables		
Expected outcome	A ready-to-be-used on HosmartAI datasets open-source tool, preferably under Apache 2.0, MIT, CC-BY, or a similar license that allows commercial use of the code.		

Table 3: Description of Topic #3

<table>
<tr><td colspan="3" align="center">Topic #3
Creation of a federated database system based on a popular open source FHIR Server implementation</td></tr>
<tr><td>Challenge</td><td colspan="2">A system that should allow the creation of a federated database with HL7-FHIR data, while avoiding ID collisions as much as possible. In case of collisions there should be a mechanism to still retrieve the information based on additional flags (request/response headers, extra response parameters, etc.).</td></tr>
<tr><td rowspan="9">Requirements</td><td>Technology readiness level</td><td>TRL 6</td></tr>
<tr><td>Source code availability</td><td>Yes</td></tr>
<tr><td>Standards</td><td>Compatible with a popular open-source HL7-FHIR server implementation, e.g. HapiFHIR.</td></tr>
<tr><td>Programming language</td><td>Java or other language that runs on the JVM (e.g. Kotlin, Scala, Groovy, etc.).</td></tr>
<tr><td>Ethics</td><td>Handling of personal and other sensitive data must comply applicable law.</td></tr>
<tr><td>Security</td><td>HosmartAI platform functionality is recommended, but not obligatory.</td></tr>
<tr><td>Data management</td><td>HosmartAI platform functionality is recommended, but not obligatory.</td></tr>
<tr><td>Other(s)</td><td>n/a</td></tr>
<tr><td rowspan="2">Minimum deliverables required</td><td colspan="2"></td></tr>
</table>

Minimum deliverables required	1st Sprint (M2)	2nd Sprint (M4)	3rd Sprint (M6)
	Design of solution and POC	Complete first version	Final version, tested

Resources provided by HosmartAI	• Technical Documentation on the HosmartAI platform including API definitions, architecture, etc. • Requirements and specifications of intended outcome • Possibility to integrate and demo this as an extension of the HosmartAI Platform • Access to all HosmartAI public deliverbales: hosmartai.eu/knowledge-base/deliverables
Expected outcome	A ready-to-be-used on HosmartAI datasets open-source tool, preferably under Apache 2.0, MIT, CC-BY, or a similar license that allows commercial use of the code.

Table 4: Description of Topic #4

Topic #4 **Vector space map with 3D-5D interactive graphic interface**		
Challenge	Develop a module/utility function that contains a multi-dimensional matrix with physical coordinates and other elemental properties. Each element in the data model/vector space will contain container for x, y and z spatial coordinates, a time dimension, as well as several other properties. These include density, type of matter, temperature, voltage, conductivity, colour, value, and other possible properties which can be stateless and defined by the user as needed. The module needs to be integrated for API calls and map into a graphic interface that is able to build a 3D image with 5D properties, e.g. colour, pattern, and real time dynamic evolution. The data model needs to be bitemporal. This means it must have the ability to extract the properties of an element as-is, as well as-was. The AI needs to improve through supervised machine learning or other AI methods that provide a machine learning loop with user input. The vector space needs to be integrated with other utilities that can increase the density of the space with interpolation and/or correlation functions, which would leverage machine learning and reinforced learning methods. This module needs to be integratable in real-time with an API endpoint.	
Requirements	**Technology readiness level**	TRL6
	Source code availability	There are several open source libraries (such as 3D traffic map applications) that can be leveraged. The utility should be built as an open source, with OS license version to be decided by HosmartAI partners.
	Standards	n/a
	Programming language	Preferred React or Angular framework for the front end, Javascript backend, potentially other if open-source availability dictates. K8 and graphQL for API integration.
	Ethics	No ethical issues to consider, this will be a stateless utility.
	Security	No security implications. During collaboration with HosmartAI for use cases, care will be taken to ensure same protocols of security, deidentification, and encryption as foreseen by those HosmartAI partners.
	Data management	This would be a stateless container that can be integrated to databasis as necessary, sharing the same qualities and storage space as such databses already do. No risks or issues to consider.
	Intellectual Property Rights	We recommend developing this as an open source to allow easy adjustment and integration by HosmartAI partners and others in the field.
	Other(s)	A well designed, cloud-native, UX interface that is highly customizable and interactive. Integrate a simple big-data pivot engine if possible (proprietary or open source) and cloud-native

Minimum deliverables required	1st Sprint (M2)	2nd Sprint (M4)	3rd Sprint (M6)
	"Design" Define spatial maps, using cardiac map as MVP1. Iterate with multiple heart types, sizes, disease conditions, and other properties of elements needed to be captured.	"Develop/Experiment" Design an interactive and dynamic 3D-5D mapping application / UI, that works in IOS/Android with touch screen and real-time updating (i.e. space over time with colour and pattern	"Integration" Integrate via an API endpoint with a specific use case (i.e. ablation map).
Resources provided by HosmartAI	Test data sets.		
Expected outcome	Increased efficiency and accuracy of data mapping and spatial definitions, in particular for organ imaging. Specifically an opportunity to improve ablation mapping as well as remote navigation guidance.		

Table 5: Description of Topic #5

		Topic #5 Data Parsing and Mapping Utility
Challenge		An application or utility function that can translate various data types that need to be used by HosmartAI partners, classify them and convert into standards (hl7) that are readable by various applications and easily integratable to the HosmartAI ecosystem (a generalized data parsing utility for the HosmartAI ecosystem). This data dictionary would first be established on a baseline from known relationships defined by users, but would learn over time using AI techniques, such as NLP. The library needs to be built in a generic format where various data elements and sets can be defined as input, then processed and converted into some form of a fixed-format, with AI methods used for a feedback or reinforced learning loop. In order to establish a relevant use case, at least 3 Pilots will be asked to share their challenges in understanding and translating data sets, as use cases for this tool to effectively create an open container that can dynamically adjust when these data sets are modified ad-hoc or evolve in an organized fashion over time.
Require	Technology readiness level	Existing data parser libraries, some open source, may be used to expedite the project.
	Source code availability	There may be some open source materials and libraries available for use.

Standards	Unclear what part of the application can be open source, HosmartAI partners to decide on a case by case basis which parts of the library may need to be held proprietary as it pertains to security.	
Programming language	It is desired that the backend is developed in Javascript, or Python/C/C++ that may be wrapped in Javascript. SME should not be limited to this set, in order to allow for efficient use of potential open source libraries – so long as such choices do not impact the integration to the HosmartAI ecosystem negatively.	
Ethics	Need to follow GDP and HIPAA guidelines when handling data sets, as well as all other security and data protections standards as adopted by HosmartAI partners.	
Security	Deployable through secure cloud protocols, with integration capacity to include blockchain, for use cases that need an extra layer.	
Intellectual Property Rights	In compliance with consortium agreements, the utility itself should be in open source, but could be limited by needs for security and data privacy.	
Data management	These will be highly sensitive patient data so strongest data security measures must be deployed by the solution. The sample date sets will be deidentified and encrypted. The solution needs to have proper security measures in place during the data processing paths in the libraries.	
Other(s)	The solution needs to be designed with the translated data/results in standard format, HL7 or similar, and able to integrate via API across the HosmartAI infrastructure, especially the Pilot 4 Architecture. The solution must be designed to handle big data and integrate well with AI open source components and libraries. All technologies used need to be in cloud-native ecosystem, such as K8, graphQL, Docker, Postgress DB etc.	

Minimum deliverables required	**1ˢᵗ Sprint (M2)**	**2ⁿᵈ Sprint (M4)**	**3ʳᵈ Sprint (M6)**
	"Design and Defined Use Cases" Define and understand the structure of ablation mapping files for at least 2 ablation systems (preference for Carta (Biosense Webster) and EnSite (Biosense)) and decipher the data type files and the data within them. Consider one other volunteer hosmartAI Pilot for a seconde use case. Create the ability to automatically detect and	"Develop Data Parser" Develop libraries to read all the different file types, create data dictionaries, and automatically parse the data ready for integration. Develop a utility to transfer and manage big data files to the cloud, bearing in mind high data security and ethical protocols for patient health	"Integration" Setup cloud databases that can store and process big data in a native-cloud environment. Build API library for easy integration with other applications and big data pviot engines.

	make ready to process all files that are dropped in a local or cloud location.	information data transfer.	
Resources provided by HosmartAI	• Technical Documentation on the HosmartAI platform including API definitions, architecture, etc. • Support to integrate and demo this as an available application in HosmartAI Marketplace, • Test data sets. Access to all HosmartAI public deliverbales: hosmartai.eu/knowledge-base/deliverables		
Expected outcome	This will increase interoperability between different medical entities by simplifying data translation, with initial focus on cardiac ablation.		

2.4 Timeline

Submission to the HosmartAI Open Call #1 - INNOVATE will be enabled on the **8th of February 2022, 00:00 CET** and will end on the **8th of April 2022 at 17:00 CET**. Below are presented the current tentative dates for the different phases. The dates can be subject to change in case of any modifications in the project's schedule.

Figure 1: HosmartAI Open Call #1 - INNOVATE timeline

3 Eligibility criteria

All Applicants will have to abide to all general requirements described in this section to be considered eligible for HosmartAI Open Call #1 - INNOVATE. The projects that do not comply with those criteria will be excluded and marked as ineligible. The Open Call Committee will check the eligibility criteria based on the information provided in your application during the whole evaluation process.

3.1 Who are we looking for? Type of Beneficiary

The target audience of this call are Startups/SMEs. An SME will be considered as such if complying with the European Commission Recommendation 2003/361/EC2[2] and the SME user guide[3]. As a summary, the criteria which define an SME are:

a. Independent (not linked or owned by another enterprise), in accordance to Recommendation 2003/361/EC.
b. Headcount in Annual Work Unit (AWU) less than 250.
c. Annual turnover less or equal to €50 million OR annual balance sheet total less or equal to €43 million.

Startups that do not have yet annual turnover or balance sheets are also considered eligible given that they fulfil the criteria (a) and (b) at submission time.

In case an SME is awarded, it will remain eligible even if, at a certain point during the execution of HosmartAI Activities, it does not fulfil criteria (b) or (c).

Please note that a signed version of *Annex 4: Honour Declaration* is mandatory for a proposal submission. Regarding *Annex 5: SME Declaration*, which evaluates the status of the SMEs participating at an open call, **only if your organization has a validated a 9-digit Participant Identification Code[4] (PIC) number, Annex 5 can be disregarded.**

In addition, the following condition apply:

- The applying SMEs[5] should not:
  - have convictions for fraudulent behaviour, other financial irregularities, unethical or illegal business practices.
  - have been declared bankrupt or have initiated bankruptcy procedures.
  - Be under liquidation or an enterprise under difficulty accordingly to the Commission Regulation No 651/2014, art. 2.18
  - Be excluded from the possibility of obtaining EU funding under the provisions of both national and EU law, or by a decision of both national or EU authority
- Proposals from Linked SMEs must demonstrate that there is no risk of double funding. The fundamental principle underpinning the rules for public expenditure in the EU states that no costs for the same activity can be funded twice from the EU budget, as defined in the Article 111 of Council Regulation (EC, Euratom) No 1605/2002 of 25 June 2002 on the Financial Regulation. In the case of proposals submitted by linked SMEs, all must clearly state the differences between them including but not limited to, technical aspects, market strategy and team composition, so that it remains no doubt that there is no risk of double funding. In order to properly assess these concerns HosmartAI may assign all proposals to the same set of evaluators and, should any doubt remain, exclude all proposals.

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[2] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32003H0361
[3] SME definition: Please check "User guide to the SME definition" available at https://op.europa.eu/s/n3t1
[4]https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/participant-register
[5]Please check the definition of Linked SME at "User guide to the SME definition" available at https://op.europa.eu/s/n3t1 and include the relevant information in Annex 5

3.2 Eligible countries

Only Startups/SMEs legally established in any of the following countries (hereafter collectively identified as the "Eligible Countries") are eligible:

- The Member States (MS) of the European Union (EU), including their outermost regions;
- The Overseas Countries and Territories (OCT) linked to the Member States[6];
- H2020 associated countries (those which signed an agreement with the Union as identified in Article 7 of the Horizon 2020 Regulation): according to the updated list published by the EC[7].

The UK applicants are eligible under the conditions set by the EC for H2020 participation at the time of the deadline of the call.

3.3 Multiple submission

Only one proposal will be accepted for funding per SME.

In the case of a multiple submission, only the last one received (timestamp of the system) will enter into the evaluation process, the rest being declared as non-eligible. If the last submitted proposal is declared the non-eligible or fails to reach the thresholds of the evaluation, the other proposals submitted earlier will not be considered for evaluation in any case.

3.4 Conflict of interest

Applicants shall not have any actual or/and potential conflict of interest with the HosmartAI selection process and during the whole project. All cases of conflict of interest will be assessed case by case. In particular, applicants cannot be HosmartAI Consortium partners or affiliated entities nor their employees or co-operators under a contractual agreement.

4 How to apply?

The submission will be done through the F6S platform (https://www.f6s.com/) which is directly linked from HosmartAI website. The applicants are required to register a profile at F6S to be able to submit a proposal. The documents that will be submitted are:

- **Annex 3 Application Form**: administrative questions to be completed directly in the F6S platform. In addition, some general questions for statistic purpose and tick boxes to be clicked by the third parties confirming they have read the conditions and agree with the conditions defined in this document.

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[6] Entities from Overseas Countries and Territories (OCT) are eligible for funding under the same conditions as entities from the Member States to which the OCT in question is linked.

[7] https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/3cpart/h2020-hi-list-ac_en.pdf

- **Annex 3.1**: **Description of Work** - document that must be submitted in a pdf format containing the description of the proposed project. It includes different sections: (1) Overview of the project, (2) Excellence/Innovation, (3) Expertise and Excellence of the proposed team, (4) Project Planning and value for money.
- **Annex 4**: **Applicant Declaration of Honour -** a template of the declaration that all conditions related to the HosmartAI Open Call #1 - INNOVATE are accepted by a Startup/SME legal representative.
- **Annex 5**: **SME Declaration** – mandatory to submit unless SME has a validated PIC number.

The project proposals must strictly adhere to the template provided by HosmartAI Consortium via F6S platform, which defines sections and the overall length. Participants are requested to carefully read and follow the instructions in the form. Evaluators will be instructed not to consider extra material in the evaluation. Additional material, which has not been specifically requested in the online application form, will not be considered for the evaluation of the proposals.

Applying to an open call takes time and dedication and we would like to make sure that you understand the crucial rules:

- **Be on time**: Make sure you submit your proposal through the F6S platform at https://www.f6s.com/hosmartai-open-call1/apply before the deadline of 8 April 2022, 17:00 CET. If you submit the form correctly, the system will send you a confirmation of your submission. Get in touch with us if it was not the case. Proposals submitted by any other means, will not be evaluated.
- **Be exhaustive**: Have you answered all the sections of the form and uploaded all required Annexes? It will not be possible to add any information after the submission deadline.
- **Language**: English is the official language of HosmartAI Open Call #1. All proposals must be in English in all their mandatory parts in order to be eligible. Submissions done in any other language will not be evaluated. English is also the only official language during the whole length of the Open Call INNOVATE programme. This means that any requested deliverables will be admitted only if submitted in English.
- **Every question deserves your attention**: All mandatory sections of your proposal must be filled in. Make sure that the data provided is true and complete. This is crucial for us to properly assess your proposal.
- **It is your proposal**: Your project should be based on your original work. Going forward, any foreseen developments must be free from third-party rights and if not, these third-party rights must be clearly stated.
- **Documentation format**: Any document requested in any of the phases must be submitted electronically in PDF format without restrictions for printing.

NOTE 1: The regular functioning of the F6S platform limits to one application submission per F6S user in each call. If an F6S user wishes to submit more than one application, for example on behalf of different SMEs, the F6S user should request support from the F6S support team (support@f6s.com) at least 10 days prior the open call deadline.

NOTE 2: It is strongly recommended to not wait till the last moment of submission. Failure of the proposal to arrive in time for any reason, including communications delays, or network issues is not acceptable as an extenuating circumstance and will automatically lead to rejection of the submission. The time of receipt of the proposal as recorded by the submission system will be definitive.

NOTE 3: Please note that <u>after the submission editing is not possible</u>. If the applicant discovers an error in the proposal, and provided the call deadline has not passed, the applicant may request the Open Call HosmartAI team to re-submit the proposal (for this purpose please contact us at opencalls@hosmartai.eu with email titled: RESUBMISSION REQUEST). However, HosmartAI is not committed that resubmission in time will be feasible in case the request for resubmission is not received by the Open Call HosmartAI team at least 48 hours before the call deadline.

5 Evaluation process

The evaluation process is shown in the figure 2.

Each of the stages will have a set of criteria to access the next stage but also to raise the obligation from HosmartAI Consortium on the financial support. The following paragraphs provide a detail set of procedures and criteria at the time of evaluating and awarding the financial support to the SMEs.

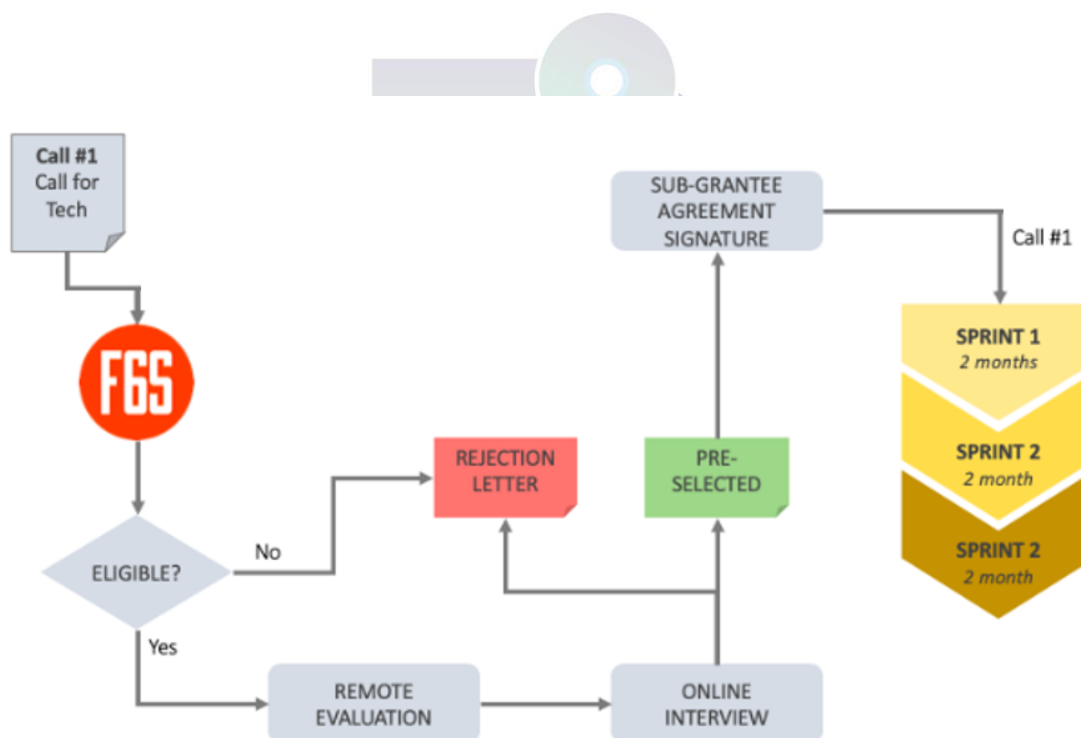*Figure 2: HosmartAI evaluation process.*

5.1 Evaluation criteria

1. **Proposals reception**: via F6S.
2. **Eligibility filter**: Eligibility check will verify (i) the existence of a legal entity in an eligible country, (ii) the uniqueness of the proposal, (iii) the existence of the same entity selected in the previous call (if applicable), (iv) the alignment with HosmartAI call for proposals and challenges.

3. **Remote evaluation:** The eligible proposals will be given to external evaluators bound by a confidentiality agreement. These evaluators with experience in AI technologies and business development will review each proposal, scoring them based on:

- *Excellence & innovation.*
  - ○ Appropriateness of the project scope addressing one of the open call topics/challenges and respective requirements.
  - ○ Quality, credibility, and clarity of project description.
  - ○ Interoperability level of the proposed solution. Innovation degree. Project outcomes and respective measurement. Potential impact.
- *Expertise* and excellence of the proposed team
  - ○ Appropriateness of skills, expertise, and experience available within the team.
- *Project planning and value for money*
  - ○ Quality, effectiveness and clarity of project activities, structure, and timing.
  - ○ Appropriateness of deliverables, KPIs and means of verification.
  - ○ Appropriateness of expected costs and resources assigned to the project.

The idepended experts will score each award criterion on a scale from 0 to 5 (decimal and centesimal point scores may be given):

- **0 = Proposal fails** to address the criterion or cannot be assessed due to missing or incomplete information.
- **1 = Poor:** criterion is inadequately addressed or there are serious inherent weaknesses.
- **2 = Fair:** proposal broadly addresses the criterion, but there are significant weaknesses.
- **3 = Good:** proposal addresses the criterion well, but a number of shortcomings is present.
- **4 = Very good:** proposal addresses the criterion very well, but a small number of shortcomings is present.
- **5 = Excellent:** proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.

For each section, the **minimum threshold** is 3 out of 5 points. The default overall threshold, applying to the sum of the three individual scores, is 9. That means if a proposal receives less than 3 in one criterion or less than 9 in the overall score it is automatically rejected.

4. **Online interview and consensus meeting:** HosmartAI evaluators will gather in a teleconference meeting to talk with the top 8-12 shortlisted ranked proposals. During this teleconference, applicants will start by doing a pitch of their project concept, followed by a Q&A. This will be an opportunity for evaluators to cover any doubts that they may have about the written application as well as about the commitment and engagement of applicants towards participating in HosmartAI ecosystem.
The evaluators will share, compare and revise (if necessary) their scores aiming to have a consensus about the respective proposal.

5. **Final ranking:** At the end of the evaluation process, the proposals will be ranked. The criteria for the ranking of the proposals will be semi-automatic following the rules below:
- Rule 1: The proposals will be ranked based on their overall score.

- Rule 2: In case following Rule 1 there are proposals in the same position, priority will be given to proposals that have higher score on the *Excellence & Innovation* award criterion.
- Rule 3: In case following Rule 2 there are proposals in the same position, priority will be given to proposals that have higher score on the *Expertise & Excellence* of the proposed team innovation award criterion.
- Rule 4: In case following Rule 3 there are proposals in the same position, priority will be given to proposals with the highest number of female participants.

6. **Selection**: The proposals with higher scores, independently of the targeted topic/challenge, will be selected until reaching the available funding. However, the HosmartAI Consortium is not obliged to select the highest scoring proposal where it has objective grounds for objecting to the participant if, for example commercial competition issues or strategic issues to balance technologies between the different platforms available in HosmartAI become apparent during the evaluation process. In this case the choice may pass, to the next ranked proposal.

7. The HosmartAI Consortium will then formally approve a list of proposals within the limits of the available funding.

8. **Approval by European Commission** prior to contracting: The list of selected projects will be submitted to the European Commission for final screening.

9. **Communication of Results**: Every applicant will receive via e-mail:

- An Evaluation Summary Report (ESR)
- A letter informing of rejection decision or invitation to negotiation and following steps.

The Consortium may conclude that there are not enough proposals with an adequate quality (indicated by their evaluation scores meeting or exceeding specific pre-defined thresholds), in which case it will make no selection or select fewer proposals than the cascaded funding budget allows. This conclusion is obligatory if not enough proposals score above the threshold given on the bespoke evaluation form.

5.2 Appeal procedures

If, at any stage of the evaluation process, the applicant considers that a mistake has been made or that the evaluators have acted unfairly or have failed to comply with the rules of this HosmartAI Open Call #1 - INNOVATE, and that her/his interests have been prejudiced as a result, the following appeal procedures are available.

A complaint should be drawn up in English and submitted by email to: opencalls@hosmartai.eu . Any complaint made should include:

- contact details,
- the subject of the complaint,
- information and evidence regarding the alleged breach.

Anonymous complaints or those not providing the mentioned information will not be considered. Complaints should also be made within five (calendar) days since the evaluation results are presented to the applicants. As a general rule, the HosmartAI Team will investigate the complaints with a view to arriving at a decision to issue a formal notice or to close the case

within no more than twenty days from the date of reception of the complaint, provided that all required information has been submitted by the complainant. Where this time limit is exceeded, the HosmartAI Team will inform the complainant by email.

Please note:

- This procedure is concerned only with the evaluation and/or eligibility checking process. The HosmartAI Team will not call into question the scientific or technical judgement of appropriately qualified experts.
- A re-evaluation will only be carried out if there is evidence of a shortcoming that affects the final decision on whether to fund it or not. This means, for example, that a problem relating to one evaluation criterion will not lead to a re-evaluation if a proposal has failed anyway on other criteria.
- The evaluation score following any re-evaluation will be regarded as definitive. It may be lower than the original score.

6 Contracting

6.1 Contract preparation

After the Open Call evaluation conclusion and projects selection, the HosmartAI coordinator will start the contract preparation in collaboration with the selected proposals' coordinators. Contract preparation will go via an administrative and financial checking (and potentially into technical or ethical/security negotiations) based on evaluators' comments. On a case by case approach, a phone call or teleconference may be needed for clarification.

The objective of the contract preparation is fulfilling the legal requirements between HosmartAI Consortium and every beneficiary of the call. The items covered will be:

- Inclusion of the comments (if any) in the Evaluation Summary Report of the proposals and mapping to the Sub-grant agreement (Contract).
- To validate the status information of the SME, the following documents will be required:
  o **SMEs declaration**: signed and stamped. In the event the applicant declares being nonautonomous, the balance sheet and profit and loss account (with annexes) for the last period for upstream and downstream organizations should also be provided.
  o **Status Information Form.** In case this is not a start-up, it includes the headcount (AWU), balance, profit & loss accounts of the latest closed financial year and the relation, upstream and downstream, of any linked or partner company. In case it is a start-up, legal document of the official founding date.
  o **Legal existence.** Company Register, Official Gazette or other official document per country showing the name of the organisation, the legal address and registration number and a copy of a document proving VAT registration (in case the VAT number does not show on the registration extract or its equivalent).
  o In cases where the number of employees and/or the ownership is not clearly identified: any other supporting documents which demonstrate headcount and ownership such as

payroll details, annual reports, national regional association records, etc. In case it is a start-up, legal document of the official founding date and declaration of ownership.

o **SME Bank account information**: The account where the funds will be transferred will be indicated via a form signed by the SME legal representative and the bank representative. The account should be a business bank account of the SME.

It should be emphasised that each SME should provide at contract preparation time a valid VAT identification number. Failure to provide the VAT number will automatically result in proposal rejection.

The request, by HosmartAI Consortium, of the above documentation will be done within predefined deadlines. In general, the sub-project negotiation should be concluded within 2 weeks. An additional week may be provided by the HosmartAI coordinator in case of a significant reasoning. In case contracting have not been concluded within the above period, the proposal is automatically rejected and the next proposal in the reserve list is invited.

6.2 Contract signature

At the end the contracting phase, the sub-grantee funding agreement will be signed between the HosmartAI Consortium represented by its coordinator (INTRA) and the beneficiary SME.

Please note:

- The sub-grantee funding agreement/contract will cover the complete 3 phases: Sprint #1, Sprint #2 and Sprint #3.
- No additional sub-grantee will be signed.
- The sub-grantee funding agreement will automatically expire at the end of each phase - Sprint #1, Sprint #2 and Sprint #3 - without any further notice from the HosmartAI Consortium, in case the SME does not enter or qualify for the next phase or if the SME is not considered eligible any more or if the Declaration of Honour has been violated.

7 Activities during INNOVATE Programme

The INNOVATE activities are divided in 3 sprints of 2 months each.

7.1 Milestones & Deliverables

The selected SMEs will have defined milestones and deliverables in their submitted proposals. These are the basis for monitoring and evaluating their work progress during the execution of the INNOVATE activities. The milestones and deliverables will be evaluated at the end of each sprint.

A remote review will take place after each sprint to evaluate the progress of the SMEs. One week before each review, the SMEs should submit their milestones and deliverables. The review will be remote via a teleconference platform (e.g. Zoom). The SMEs will make a short presentation of the work done, analyse the progress and answer questions from the experts.

After the review, within the period of 2 weeks the SMEs will receive a review report, including comments and potential recommendations. The report will also state if the deliverables are accepted or not.

- On acceptance of the deliverables, the SME may be requested to submit a financial statement requesting the payment of the corresponding sprint.
- Payments will be released no later than thirty (30) natural days after the notification by the Contractor.
- On rejection of any of the deliverables, or in case of not satisfactory review, the SME must re submit the deliverables. If deliverable(s) is approved it will qualify to proceed to the next sprint review, hence qualifying for its payment.

7.2 Participation in events

During the 3 sprints, the selected SMEs should participate in various types of events (audio calls, video calls, webinars, online training, virtual conferences, etc.) organized or suggested by the HosmartAI Consortium, to support the integration of their solution into HosmartAI's platform, extend their knowledge on the HosmartAI project, on healthcare sector needs, health-related technologies and health market. Each SME should be available to participate in a minimum of 6 remote events, and one face to face event in Europe.

After Sprint #3, the selected SMEs will provide maintenance services for a period of 12 months, to insure the functioning of the implemented and integrated solution within the HosmartAI project lifetime, at no additional cost.

8 Financial suport provided

8.1 Financial support

The maximum amount of direct funding that an SME may receive via HosmartAI is € 50 000 via any means.

HosmartAI funding is results-driven, provided as payment in a lump sum way. As such, there is no need for a traditional administrative-justification system (e.g. counting hourly dedication or calculating workload), but getting the funding is associated with the full achievement of the relevant milestone.

Selected SMEs will become part of HosmartAI INNOVATE activities and will go through an exhaustive sequential process which will last 6 months and will be composed of 3 phases called sprints. Payments will be done in 3 instalments (35% + 35% + 30%) based on concrete results, deliverables and review of each sprint.

Summary of funding:

INNOVATE Phase	Duration	Funding	Example €50k
Sprint #1	2 months	35%	€ 17 500
Sprint #2	2 months	35%	€ 17 500
Sprint #3	2 months	30%	€ 15 000

Detailed payment schedule and payment conditions will be settled in the Sub-grant Agreement.

8.2 Origin of funds

Any selected proposer will sign a dedicated Sub-Grantee Funding Agreement with the HosmartAI project coordinator (on behalf of HosmartAI Consortium). The funds attached to the Sub-Grantee Funding Agreement come directly from the funds of the European Project HosmartAI, and the HosmartAI consortium is managing the funds according to the Grant Agreement Number 101016834 signed with the European Commission.

As will be indicated in the Sub-Grantee Funding Agreement, this relation between the sub-grantees and the European Commission through HosmartAI project carries a set of obligations to the sub-grantees with the European Commission. It is the task of the sub-grantees to accomplish them, and of the HosmartAI Consortium partners to inform about them.

9 Responsibility of beneficiaries

The selected SMEs are indirect beneficiaries of European Commission funding. As such, they are responsible for the proper use of the funding and ensure that the recipients comply with obligations under H2020 specific requirements as described in Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020).

9.1 Conflict of interest

The beneficiary SMEs must take all measures to prevent any situation where the impartial and objective implementation of the INNOVATE activities is compromised for reasons involving economic interest, political or national affinity, family or emotional ties or any other shared interest ('conflict of interests').

They must formally notify to the HosmartAI coordinator without delay any situation constituting or likely to lead to a conflict of interests and immediately take all the necessary steps to rectify this situation.

The HosmartAI coordinator may verify that the measures taken are appropriate and may require additional measures to be taken by a specified deadline.

If the sub-contract member breaches any of its obligations, the sub-contract may be automatically terminated.

9.2 Data protection and confidentiality

During implementation of the INNOVATE activities and for four years after the end of the INNOVATE activities, the parties must keep confidential any data, documents or other material (in any form) that is identified as confidential at sub-contract signing time ('confidential information').

If SME requests, the Commission and the HosmartAI Consortium may agree to keep such information confidential for an additional period beyond the initial four years. This will be explicitly stated at the sub-contract.

If information has been identified as confidential during the sub-project execution or only orally, it will be considered to be confidential only if this is accepted by the HosmartAI coordinator and confirmed in writing within 15 days of the oral disclosure. Unless otherwise agreed between the parties, they may use confidential information only to implement the Contract.

The SME may disclose confidential information to the HosmartAI Consortium and to the selected reviewers, who will be bounded by a specific Non-Disclosure Agreement.

9.3 Promoting action and give visibility to the EU funding

The SMEs must promote the INNOVATE activities, the HosmartAI project and its results, by providing targeted information to multiple audiences (including the media and the public) in a strategic and effective manner and to highlight the financial support of the EC. Detailed requieremnts are listed in Open Call Beneficiary Agreement (Contract) – Annex 7.

9.4 Audits and controls

The European Commission (EC) will monitor that HosmartAI beneficiaries and the beneficiary SME comply with the conditions for Financial Support to Third parties such as set out in the HosmartAI grant agreement and may take any action foreseen by the grant agreement in case of noncompliance vis à vis the beneficiary concerned.

The beneficiary SME shall keep all sub-project deliverables and the originals or, in exceptional cases, duly authenticated copies – including electronic copies – of all documents relating to the sub-project contract for up to five years from the end of the project.

9.5 General communication

During the project execution (INNOVATE activities) a mentor will be assigned to each selected project to support execution. The mentor will serve as a first contact point for the SME.

10 Intellectual property rights (IPR)

Applicants will remain the sole owners of their respective IPR and retain the IPR to their respective solutions.

The HosmartAI Consortium itself will not retain an equity stake in any applicant's company, nor will it retain any IPR. However, the HosmartAI Consortium will be granted the right to make internal use of any IPR applicants produce as part of their HosmartAI INNOVATE activities for a period of three years after the conclusion of the HosmartAI project.

Each evaluator will sign a non-disclosure agreement (NDA) before receiving access to the database of proposals in order to protect the intellectual property of the applicants.

However, HosmartAI and the European Commission may ask participants who have received funding to present their work as part of public relations and networking events in order to showcase the benefits of the HosmartAI project.

Checklist

1) Does your planned work fit with the call for proposals? Check that your proposed work does indeed address one of the topics open in this call.

2) Is your proposal eligible? The eligibility criteria are given in chapter 3 "Eligibility Criteria".

3) Budgetary limits. Check that you comply with any budgetary limits as expressed in chapter 8 "Financial support provided". Any proposal not meeting the eligibility requirements will be considered ineligible and will not be evaluated.

4) Is your proposal complete? Have you completed all mandatory questions?

5) Does your proposal fulfil the requested information? Proposals should be precise, concise and must answer to requested information, which are designed to correspond to the applied evaluation. Omitting requested information will almost certainly lead to lower scores and possible rejection.

6) Have you maximised your chances? There will be strong competition. Therefore, edit your proposal tightly, strengthen or eliminate weak points.

7) Have you submitted your proposal before the deadline? It is strongly recommended not to wait until the last minute to submit the proposal. Failure of the proposal to arrive in time for any reason, including network communications delays, is not acceptable as an extenuating circumstance. The time of receipt of the message as recorded by the submission system will be definitive.

8) Have you provided the necessary annexes?

9) Do you need further advice and support? You are strongly advised to communicate with the HosmartAI team.

Contacts

The HosmartAI Consortium will provide information to the applicants via the F6S Online Q&A, so that the information (question and answer), will be visible to all participants.

- F6S Online Q&A: https://www.f6s.com/hosmartai-open-call1/discuss
- Apply via: https://www.f6s.com/hosmartai-open-call1/apply
- F6S support team: support@f6s.com
- More info at: https://www.hosmartai.eu/
- For extraordinal communication need, please contact the Help Desk: opencalls@hosmartai.eu