



AUTOASSESS

AI & robotics for safe vessel inspection

OPEN CALL FOR TECH SOLUTIONS

Annex 1: Guide for Applicants

Opening date for proposals: 25 February 2025 at 12:00 PM (CET)

Deadline for proposals: 24 April 2025 at 5:00 PM (CET)

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1. INTRODUCTION – ABOUT AUTOASSESS

AUTOASSESS is a European Project under the Horizon Europe Programme (HORIZON-CL4-2022-DIGITAL-EMERGING-02) – Grant Agreement no. 101120732. The 48-month project kicked-off in October 2023 and counts in total 16 partners (including 3 associated countries) from multiple sectors and European countries.

AUTOASSESS aims to find solutions to ensure the structural safety of ships, oil and gas and other marine infrastructures. Currently, this task is done by human surveyors who must climb into confined areas such as ballast tanks, or cargo holds which represent extremely dangerous GNSS-denied environments.

The inspection is a physically demanding task, done in tight enclosed spaces, difficult to access, with low/no light, slippery surfaces and with low/no oxygen and toxic gases. According to the International Marine Organization (IMO) one person is killed on average every week from accidents in such enclosed spaces.

Further, during the inspection process the ship cannot operate, posing high pressure on surveyors to work quickly. Major 5-year dry dock inspections are associated with around 1 M€ per vessel, resulting in about 11B€ per year for the whole industry. The reason for these high costs is that an average inspection takes up to 15 days, during which the vessel cannot operate. If the inspection time could be reduced to 3 days, the industry would save 80% (i.e. 0.8M€ per vessel). In summary, the overall goal of AUTOASSESS is to remove human surveyors and workers from dangerous and dirty confined areas of offshore structures by employing an autonomous robotic system that exceeds human capabilities and is able to perform maritime vessel classifications.

To address this goal, AUTOASSESS aims to employ a robot and remove human surveyors out of harm's way, while at the same time obtaining an accurate, repeatable, and quick vessel inspection.

In recent years progress has been made in aerial systems, or drones for mapping and inspection. Even though the inspection of enclosed marine structures in challenging conditions is still a problematic task, an aerial multi-robotic human centric system, with automated AI based scanning, mapping and Non-Destructive Testing (NDT) has the potential to remove the need for human inspection.

Only by combining and integrating the latest developments in collision-tolerant UAS, multi-modal Simultaneous Localization and Mapping, path planning, autonomous drone racing, aerial manipulation, miniaturized NDT sensors and Machine Learning-based defect identification it is possible to deploy drones in these tight spaces for inspection purposes.

This superhuman approach would also decrease time and costs, as inspections will take as little as 1 day, saving the industry multiple billion euros per year.

1.1 OPEN CALL FOR TECH SOLUTIONS

The core innovation of AUTOASSESS focuses on a fully autonomous inspection of ballast tanks and cargo holds of vessels. AUTOASSESS employs an open approach to innovation that relies upon using the entire value chain of the consortium and external stakeholders to assess the best ideas, regardless of their origin.

This includes embracing the possibilities enabled by the Financial Support to Third Parties (FSTP) mechanism. Such an approach ensures that the consortium will be able to leverage the possibilities of cocreation to create solutions that are ready to go to market before project completion.

The overall objective of the open call is to foster/promote the development & deployment of AUTOASSESS solution through the engagement of innovative technological startups & SMEs applying to the open call providing solutions to specific project's challenges or proposing new ideas/ concepts that generate value to AUTOASSESS.

As such, AUTOASSESS will fund the participation and integration of external technology providers (startups/SMEs) in the development and enhancement as well as the extension of existing use cases following the identification of particular challenges, through the implementation of two open calls:

- **Open Call for Tech Solutions** invites skilled SMEs and Startups to present their technology solutions to the use-case challenges identified by the AUTOASSESS technical team together with the use-case owners.
- **Open Call for Tech Innovations** that will also invite skilled companies to propose innovative technology solutions that they would envision (and duly justify) as of high value for the use cases.

Overall, AUTOASSESS will fund (grant) €1.85m in the development, integration and validation of technology providers solutions (by third parties), where:

- €500k will be allocated to the Open Call for Tech-Solutions (aiming to fund 5 projects; 6-months duration).
- €1.35m to Open Call for Tech-Innovations (9 projects to fund; 9-months duration).
- Funding rate of 70% [SMEs] or 100% [startups] of the costs.

This document was specifically created for the first call “Open Call for Tech solutions” Phases and respective rules are outlined in this document.

1.1.1 OPEN CALL FRAMEWORK

AUTOASSESS adopts a coherent framework to issue the Open Call for Tech Solutions to ensure transparency in all phases of the process. Figure 1 summarizes the Open Call phases starting from the applications submission phase to the deployment phase.



FIGURE 1: OPEN CALLS FRAMEWORK

2 ELIGIBILITY CRITERIA

All proposals submitted via the online application form before the deadline (**April 24th 2025 at 5:00 PM CET**) will undergo an eligibility check. Projects that do not meet the eligibility criteria (outlined below) will be deemed ineligible and excluded from consideration. Throughout the entire evaluation process, the eligibility of each proposal will be assessed based on the information provided in the application.

2.1 WHO CAN APPLY?

The AUTOASSESS project is seeking applications, that will target one of the **5 challenges described in Section 3.1**. What type of proposal can be submitted? The ideal application should demonstrate the capacity to develop the required technical solution and easily integrate it into the AUTOASSESS ecosystem. Relevant experience will be taken into consideration during the evaluation process, and applicants should clearly depict their background at the proposal stage. Participants should have the ability to rapidly prototype and scale up the solution, and only one proposal for each challenge will be approved.

2.2 TYPE OF ENTITIES

AUTOASSESS will fund **SMEs and Start-Ups** applying to the Open Call for Tech Solutions with an individual application or in consortia of 2 entities.

All entities must be eligible to work in the EU or Horizon Europe associated Member State and have a valid VAT.

As such, the Open Call for Tech Innovators is open to:

- **Single applicants (SMEs/startups)**

Single entities which are SMEs/startups eligible under Horizon Europe rules for participation and who are a solution provider may apply to the Open Call.

- **Consortia (SMEs/startups)**

In addition, AUTOASSESS is open to projects developed by a consortium of maximum two entities, out of which the coordinator must be an individual SME or Start Up. The second consortium partner must be another individual SME or Start Up.

Natural persons applying alone are not eligible.

⇒ **SME Definition**

An **SME (including start-ups)** will be considered eligible only if it complies with the [User Guide to the SME definition](#).

Note that the figures of partners and linked enterprises should also be considered as stated in the Recommendation 2003/361/EC and the SME user guide.

2.3 ELIGIBLE COUNTRIES

Only applicants legally established/resident in any of the following countries (hereafter collectively identified as the “Eligible Countries”) are eligible:

- [Member States \(MS\) of the European Union \(EU\), including their outermost region](#)
- [Horizon Europe Associated countries as defined in Horizon Europe rules for participation](#)

Entities from the UK are eligible as long as these entities can cover their own costs. European Commission cannot fund UK entities in programmes from EU projects kicked-off before 1 January 2024 (AUTOASSESS kicked Off in October 2023). [Article 23\(2\) of the Horizon Europe Basic Act \(Regulation \(EU\) 2021/695 of 28 April 2021\) - pg 27.](#)

Entities from the Switzerland are eligible as long as these entities can cover their own costs or be funded by official Swiss entities. European Commission cannot fund Swiss entities in programmes from EU projects kicked-off before 24 March 2024 (AUTOASSESS Kicked Off in October 2023). If selected, Swiss organisations will need to contact the official entity to request and receive the funding. The funding approval from official Swiss entities must meet the open call calendar. It means that the approval letter approving and confirming the funding should be sent to the AUTOASSESS consortium by the contracting phase.

2.4 LANGUAGE

English is the official language of Open Call for Tech Solutions. Submissions done in any other language will be disregarded and not evaluated. English is also the only official language during the whole execution of the AUTOASSESS sub-project. This means any requested submission of reports will be made in English to be eligible.

2.5 OTHER ELIGIBLE RULES

Single applicants and consortium members will be considered eligible for AUTOASSESS Open Call if they comply with ALL the following rules:

- i. Only one proposal per organisation will be accepted. If more than one proposal is identified, only the last proposal which has been submitted will be evaluated. Multiple submissions are not allowed.
 - ii. The legal entity is not under liquidation or is not an enterprise under difficulty according to the Commission Regulation No 651/2014, art. 2.18.
 - iii. Its project is based on the original works and going forward, any foreseen developments are free from third-party rights, or they are clearly stated.
 - iv. Have not been convicted for fraudulent behaviours, other financial irregularities, unethical or illegal business practices.
- i. People and organisations related to the AUTOASSESS project (members of the consortium) are not eligible to participate in the open call. Applicants must not be directly or indirectly involved in the AUTOASSESS project.
 - ii. If selected, the company should be incorporated/registered by the time of the contracting phase.
 - iii. Proposals have to be submitted through the F6S Platform before the deadline (April 24th 2025, 5:00 PM CET). If correctly submitted the system will send a confirmation. It is important to know that any proposal sent after the deadline and submitted outside the dedicated form will not be evaluated.

2.6 CONFLICT OF INTEREST

Applicants shall not have any actual or/and potential conflict of interest with AUTOASSESS during the selection process and the whole programme. All cases of conflict of interest will be assessed case by case. If any conflict of interest is identified at any phase of the call, the application will be immediately discarded.

In particular, applicants cannot be AUTOASSESS Consortium partners or affiliated entities nor their employees or co-operators under a contractual agreement. Example: Suppose a conflict of interest is discovered and confirmed at the time of the contracting phase. In that case, the proposal will be considered non-eligible and will not be evaluated.

2.7 SUBMISSIONS

AUTOASSESS will receive applications from February 25th 2025 at 12:00 PM CET to April 24th 2025 at 5:00 PM CET through the F6S Platform.

2.8 WHAT TYPE OF PROPOSALS CAN BE SUBMITTED?

According to the FSTP rules established in the Grant Agreement no. 101120732, applicants should meet the eligibility criteria and submit a proposal to address **one** of the following challenges:

Challenge	Title
1	Reliable high-bandwidth communication for off-board control of drones
2	Stereo event-camera on miniature drone
3	Human Operator interface for FA-IUAS
4	Crack detection with multi-element ultrasound transducer
5	Synchronization of multi-modal sensor data

TABLE 1: CHALLENGE LIST

Challenge 1 Title	Reliable high-bandwidth communication for offboard control of drones
Domain	Telecommunications, Unmanned aerial vehicles (UAVs), control systems, network protocol
Objectives	<p>The primary objectives of this challenge are:</p> <ol style="list-style-type: none"> 1. To develop and demonstrate a wireless communication system that can provide high-bandwidth and low-latency links for the offboard control of drones 2. To ensure the reliability and robustness of the communication system under various environmental conditions and operational scenarios, including barriers and high-interference environments (e.g. through multiple levels of at least 2cm thick steel and during demonstrations with a large number of connected devices around) 3. To optimize the integration of this communication system with existing drone control and navigation systems to enhance their performance
Context/ environment	<p>This challenge is set within the rapidly growing field of drone technology, where drones are increasingly used in complex and dynamic environments. These environments range from urban areas with high interference and wireless signal degrading obstructions in remote areas without network infrastructure. The solution provider will need to consider these factors to enable real-time data transmission.</p> <p>Specifically, ballast tank environment present a unique challenge. Ballast tanks, with their compartments and the material used to build them, can significantly affect signal propagation and reliability. These tanks are often made of steel metal or other dense materials, creating a highly reflective and obstructive environment for wireless communication.</p>
Specifications/ integration	<p>The communication solution is required to:</p> <ul style="list-style-type: none"> • Provide a minimum bandwidth of 1 Gbps to ensure high-quality images and telemetry data transmission. • Achieve a latency of less than 33 milliseconds to allow for real-time control and maneuvering of drones.

	<ul style="list-style-type: none"> • Maintain a reliable connection with a very low rate of packet loss. • Can be integrated with the existing drone flight stack with minimal modifications. • Can operate effectively in high-interference environments, such as during demonstrations with many attendees using their mobile devices. • Can maintain reliable communication in ship ballast tank like environments, managing signal reflections and obstructions caused by the compartments and the materials used.
Expected Results	<p>The expected outcomes of this project include:</p> <ul style="list-style-type: none"> • Prototype of communication system (hardware + software) that meet the specified requirements. • Demonstration of the system in real-world environment, showcasing the performance under different conditions specified above. • Detailed technical report documenting the design, implementation and testing process with performance metrics and analysis. • Delivered software that can be further developed or adapted by research community. (Open source-at least for the AUTOASSESS project)
How will this challenge contribute to AUTOASSESS?	<p>This Project will contribute to AUTOASSESS by enabling robust control and navigation of drones inside ballast tanks.</p> <p>It will improve the reliability of drone operations, reducing the risk of communication failures and enhance safety. A robust communication solution will provide a foundation for advanced applications of drone in areas such as autonomous navigation and remote operations.</p>

TABLE 2: CHALLENGE 1 DESCRIPTION

Challenge 2 Title	Stereo event-camera on miniature drone
Domain	Sensor integration, computer vision, design and development of miniaturized drones, advanced camera systems
Objectives	<p>The primary objectives of this project are:</p> <ol style="list-style-type: none"> 1. To design and develop a mini drone with a < 6-inch frame size that incorporates a stereo event camera 2. To ensure that the mini drone is capable of agile flight and real-time data processing of the onboard sensors 3. To integrate the stereo event camera with the drone's control and navigation systems, enhancing the drone's ability to perceive its environment and effectively avoid obstacles
Context/ environment	<p>The context for this project is developing compact and agile drones that can operate in challenging lighting conditions. Such drones will be useful for inspection of confined and dark environments such as ship ballast tanks. The use of a stereo event camera provides an innovative approach to capture dynamic scenes with high temporal resolution and low latency, which is essential for fast and precise maneuvering in complex environments. The project must consider the constraint of a small form factor and need for efficient power management and data processing capabilities.</p>

Specifications/ integration	<p>The project is required to design a mini drone that:</p> <ul style="list-style-type: none"> • Fits within a less than 6-inch frame (diagonally measured) • Integrates a stereo event camera system capable of capturing high-speed motion and providing real-time 3d-depth information • Include a stabilization system for the event cameras to reduce the noise from jerk and vibration of the drone, ensuring accurate event detection • Optionally includes an onboard processing unit capable of handling the data from the stereo event camera for tasks such as obstacle detection, navigation and mapping • Utilizes lightweight and efficient components to maximize flight time and agility • Compatible with standard communication interfaces and control protocols such as CRSF
Expected Results	<p>The expected outcomes of the project include:</p> <ul style="list-style-type: none"> • Prototypes of mini drone that meet the specified size and functionality requirements • Demonstration of flight of these drones in real-world environment, showing the capabilities of stereo event camera capture • Detailed technical reports documenting the design, implementation and testing process • Source-code of hardware and software designs that can be furthered adapted by the community
How will this challenge contribute to AUTOASSESS ?	<p>This project has potential to contribute to the goals of two AUTOASSESS work package, which focuses on agile navigation and mapping in ship ballast tanks.</p> <p>By integrating a stereo event camera into a compact drone, the project aims to improve the drone's performance in dynamic and complex environment, making it suitable for indoor navigation and inspection. It will demonstrate the potential of even-based vision technology in UAV application, driving innovation in sensor-integration and real-time processing, advantages of which could expand far beyond the AUTOASSESS project timeline.</p>

TABLE 3: CHALLENGE 2 DESCRIPTION

Challenge 3 Title	Human Operator interface for FA-IUAS
Domain	Cargo hull & ballast tank
Objectives	Developing a high-TRL operator interface for the FA-IUAS to unlock the capabilities of fully actuated aerial platforms in autonomous contact-based NDT inspections.
Context/ Environment	AUTOASSESS has the goal of performing autonomous inspections of ships. In line with the autonomy characteristic of the inspection, regulations always require an operator in a safe location to communicate with the inspector drone via an interface. The FA-IUAS is

	<p>a prototype focused on autonomous physical interaction which currently lacks such an interface. The objective of this task is to design and develop an interface particularly for the fully actuated inspector drone.</p>
<p>Specifications/ integration</p>	<p>The user interface must satisfy the following specifications.</p> <ul style="list-style-type: none"> ● Allow the user to easily monitor and guide an autonomous contact-NDT measurement mission ● Display the camera feed of the aerial robot ● Include a contact-point selection via the video feed in an intuitive manner ● Display the quality metric of the current thickness measurement ● Show the status of the drone such as: <ul style="list-style-type: none"> ○ Proximity to maximum/minimum thrust during operation ○ Battery status <p>In order to develop a highly customized and effective operator interface in the required amount of time, the design and development must be done in collaboration with the developer of the FA-IUAS in the consortium, which will be realized through a full-time secondment of the engineers from the company to the labs of the institution where the FA-IUAS is being developed.</p>
<p>Expected Results</p>	<p>The results will be measured both a qualitatively and quantitatively:</p> <ul style="list-style-type: none"> ● Quantitative metrics: <ul style="list-style-type: none"> ○ Percentage of coverage of contact points in a given time slot ○ number of high-quality thickness scans ● Qualitative metrics: <ul style="list-style-type: none"> ○ User questionnaire on usability, ergonomics, learnability.
<p>How will this challenge contribute to your AUTOASSESS?</p>	<p>The development of the FA-IUAS can significantly improve the performance of contact-based NDT with aerial platforms. However, such a task does not include the development of an operator interface. Such an interface would exploit at best the capabilities of this type of platform and create a more effective product which is then closer to the market needs. The objective of this challenge is to develop an intuitive and user-friendly operator interface that unlocks the full potential of FA-IUAS in the AUTOASSESS scenario tackled by the task involved.</p>

TABLE 4: CHALLENGE 3 DESCRIPTION

Challenge 4 Title	Crack detection with multi-element ultrasound transducer
Domain	NDT, Ultrasound
Objectives	Design a multi-element ultrasound transducer concept for crack detection of tank walls and ship hulls suitable for use as a payload for drones in AUTOASSESS. Perform tests to verify its applicability for crack detection in realistic conditions.
Context/ environment	Crack detection is hard to do with a camera, primarily due to the fact that most cracks are very thin (just a fraction of a millimeter) and might only be visible from the non-accessible side of the tank wall. Ultrasonic crack detection in metal or composite is a well-recognized method for non-destructive testing (NDT) of tank walls and ship hulls. Inspecting an area of a wall is usually done in a so-called pitch-catch setup which requires two or more transducers. Ultrasonic transducers are, however, relatively heavy. Mounting two or more standard transducers on a drone is therefore not feasible. This project aims to design and implement a multi-element ultrasonic transducer to be carried by a drone for crack inspection of tank walls and ship hulls
Specifications/ integration	The main challenges that this project needs to tackle are: <ul style="list-style-type: none"> • Keep the weight of the transducer assembly as low as possible; • Provide a practical solution to ensure good contact between the transducer and • Design a transducer and crack detection method that optimizes for the above challenges.the wall;
Expected Results	A drone-borne multi-element ultrasound transducer concept for crack detection of tank walls and ship hulls.
How will this challenge contribute to AUTOASSESS?	It will provide the inspection drones with enhanced capabilities for crack detection, which is often an important part of the scope when inspecting cargo and ballast tanks.

TABLE 5: CHALLENGE 4 DESCRIPTION

Challenge 5 Title	Synchronization of multi-modal sensor data
Domain	Sensor synchronization, sensor fusion, (Time-Sensitive) Networking
Objectives	The objectives of this challenge will be to develop a prototype that integrates a hardware solution for accurate time synchronization of multi-sensor data on an AUTOASSESS drone. A drone carrying an inertial measurement unit, LiDAR, camera, and barometer, alongside the hardware for time synchronization, will be used to perform field tests and collect datasets. The performance gain achieved with high precision hardware time synchronization of multimodal sensor data should be assessed and investigated. Specifically, the drone's capability to autonomously map, assess, and navigate in an unknown GNSS denied environment should be reviewed. A precise and accurate hardware-based approach to multi- sensor data time synchronization will be compared to a purely software-based approach, using key

	<p>markers of a known location in the environment as “ground truth”, allowing for an objective comparison between the two approaches to sensor data fusion.</p>
Context/ environment	<p>To navigate in a GNSS denied environments, auxiliary sensors such as inertial measurement units, LiDARs, cameras, and barometer can be utilized. Fusing the data available from different types of sensors into one joint understanding of the vehicle’s motion and environment is often crucial to achieve satisfactory navigation, especially in the absence of a satellite-based positioning signal. When fusing sensor data, the quality and precision of the achieved navigation is not only a function of sensor quality/accuracy, but also the accuracy and precision in which the sensor data streams are synchronized in the time-domain.</p> <p>To correctly synchronize a multi-sensor setup each sensor in the setup needs to be timed and synchronized according to the specific sensor’s timing functionality and timing primitive. Often this leads to the timing and synchronization aspect of sensor fusion to be neglected, and the problem is solved with varying degrees of success in a software-only based approach. Properly time-synchronizing sensor data streams often leads to complex technical solutions which are time-consuming to build. An example of a solution for high-precision hardware time synchronization of multiple sensors, such as 3D LiDAR, IMU, VIO camera etc is the SentiBoard (sensor interfacing and synchronization circuit board) solution by the Norwegian startup company SentiSystems.</p>
Specifications/ integration	<p>A high-precision hardware time synchronization solution should be integrated on an AUTOASSESS drone and several multimodal sensor data sets will be recorded. The hardware-based timing and synchronization information will be stored alongside a software-based time synchronization paradigm. This will yield a basis for further evaluation, where the two approaches can be compared and the increase in performance of the hardware-based approach can be measured and analyzed. The datasets should span a broad set of the drone’s motion range and speeds, and key markers with a known location should be placed in the environment, such that a “ground truth” is given allowing for an objective comparison of the two approaches.</p>
Expected Results	<p>Several multimodal sensor datasets (lidar, imu, lasers up/down, and vio camera) containing state-of-the-art accuracy and precision on the timing and synchronization of the sensor data for the AUTOASSESS TIUAS drone. The datasets are then utilized to benchmark and quantify the effect of accurate hardware time synchronization by processing the datasets with sensor fusion. This can provide answers to several critical questions:</p> <ol style="list-style-type: none"> 1) What is the increase in navigation performance (precision, accuracy, and robustness) when accurately hardware timestamping sensor data as opposed to a software-only solution. 2) What synchronization precision and accuracy are needed to successfully navigate within an application’s operational requirements in terms of positioning accuracy. 3) Will an increase in the accuracy and precision of sensor time synchronization allow the vehicle to move faster, hence completing a given task quicker? If so, by how much?
How will this challenge contribute to AUTOASSESS?	<p>Increase precision, accuracy and robustness of localization and mapping system.</p>

TABLE 6: CHALLENGE 5 DESCRIPTION

- Additional material, which has not been specifically requested in the online application form, will not be considered to evaluate. Data not included in the proposal will not be taken into account.
- 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 communication delays, automatically leads to rejection of the submission. The time of receipt of the message as recorded by the submission system will be definitive.
- AUTOASSESS offers a dedicated support channel for proposers at autoassess-opencall@f6s.com for requests or inquiries about the submission system or the call rules/scope. Those received after the closure time of the call will automatically be discarded.
- The information provided should be actual, accurate, and complete and should allow the assessment of the proposal.
- The preparation and submission of the proposal and other actions that follow this procedure (such as withdrawal) fall under the final responsibility of the applicant.

2.9 MULTIPLE SUBMISSION

- This call is competitive, and applicants should focus on one specific challenge. Therefore, only one proposal per applicant/per organisation per challenge may be submitted to this call.
- An application that targets more than 1 challenge, only the first application submitted will be considered.
- Note that the regular functioning of the F6S platform limits to one application submission per F6S user in each call.

2.10 COMPLAINT DUE TO A TECHNICAL ERROR OF THE AUTOASSESS ONLINE SUBMISSION SERVICE

If you experience any problem with the application submission system before the open call deadline, you should reach F6S by e-mail through support@f6s.com, cc'ing the AUTOASSESS team autoassess-opencall@f6s.com, and explain your situation.

Suppose you believe that the submission of your proposal was not entirely successful due to a technical error on the side of the AUTOASSESS Online Submission Service (F6S Platform). In that case, you may lodge a complaint by email through support@f6s.com cc'ing the AUTOASSESS team autoassess-opencall@f6s.com, and explain your situation.

For the complaint to be admissible, it must be filed within 3 working days following the day of the call closure. What else to do? You should secure a PDF version of all the documents of your proposal holding a timestamp (file attributes listing the date and time of creation and last modification) that is before the call deadline, as well as any proof of the alleged failure (e.g., screenshots). Later in the procedure, you may be requested by the F6S IT Helpdesk to provide these items.

For your complaint to be upheld, the F6S Support team will audit trail. The application log files and access log files of AUTOASSESS Online Submission Service must show that there was indeed a technical problem on the platform side that prevented you from submitting your proposal using the electronic submission system.

Applicants will be notified about the outcome of their complaint. If a complaint is upheld, the secured files (provided to the IT helpdesk) for which the investigation has demonstrated that technical problems at the project prevented submission will be used as a reference for accepting the proposal for evaluation.

2.11 CONFIDENTIALITY AND DEADLINE

Any information regarding the third-party proposal will be treated in a strictly confidential manner. Only proposals submitted before the deadline will be accepted. After the call closure, no additions or changes to received proposals will be taken into account.

2.12 WHAT WILL HAPPEN AFTER THE PROPOSAL IS SUBMITTED?

Proposals must be submitted before **April 24th 2025 at 5:00 PM CET**. To avoid missing the deadline, you are encouraged to submit your proposal as soon as possible.

Immediately after the submission deadline is over, the evaluation process begins (as described in detail in Section 4 of this Guide). Experts will evaluate proposals and score them adequately according to the quality of the content presented.

3 EVALUATION

3.1 ELIGIBILITY CHECK

An initial eligibility check will be performed to filter and discard non-eligible proposals. All proposals must meet the following criteria:

- Submission has been made only through the F6S platform and by the defined deadline [Yes/No].
- The applicant submitted only one proposal, which is fully completed, including all required sections and attachments [Yes/No].
- The applicant is an SME or Startup established in one of the EU Member States or a Horizon Europe-associated country as defined in Horizon Europe rules for participation.
- The proposal is written entirely in English [Yes/No].
- The applicant attached the proposal template document duly filled to the application form [<https://autoassess.eu/open-calls/>]

Proposals must meet ALL the eligibility criteria described in Section 2. Proposals that do not meet one or more of the criteria will be deemed non-eligible and discarded.

Eligible proposals will be shortlisted for the next step of the evaluation process.

Applicants whose proposals are deemed non-eligible will be notified via email of the results of the eligibility check. The eligibility check is final and not subject to appeal.

3.2 EVALUATION OF PROPOSALS

The evaluation board will review each proposal, scoring them based on the following criteria:

- **Technology concept:** Application must demonstrate that the proposed technology has a clear set of objectives aligned with one of the challenges, the AUTOASSESS goals and with the general objectives/ impacts of the project.
- **Implementation:** The presented plan must be coherent, feasible while ambitious. Applicants must provide credible evidence that the project team is committed to learn/ grow and is able to deliver the proposed technology project.
- **Ambition & scalability potential:** Applicants must define their ambition and a clear set of expectations aligned with the objectives of the Open Call. Proposals must demonstrate impact on the AUTOASSESS project and its contribution to the industry transformation towards resilience and sustainability.

- **Team skills & expertise:** Applicants must demonstrate their capacity, skills and expertise to deliver according to the proposed plan as well as to go beyond the implementation of the demonstration, scaling the concept beyond a demonstrator.

3.3 SCORES

1. Technology concept [score between 1-5; with threshold > 3]
2. Implementation [score between 1-5; with threshold > 3]
3. Ambition & scalability potential [score between 1- 5; with threshold > 3]
4. Team skills & expertise [score between 1-5; with threshold > 3]
5. Final Score [score between 1-5; with threshold > 3]

Score	Result	Description
1	Fail	The proposal fails to address the criterion under examination or cannot be judged due to missing or incomplete information
2	Poor	The criterion is addressed in an unsatisfactory manner. There are serious inherent weakness
3	Good	While the proposal broadly addresses the criterion, there are significant weakness that would need correction
4	Very Good	The proposal addresses the criterion well, although certain improvements are possible
5	Excellent	The proposal successfully addresses all relevant aspects of the criterion in question. Any shortcomings are minor.

TABLE 8: EVALUATION - SCORING DESCRIPTION

Each criterion will be scored between 0 and 5. Half-point scores are not given. The final score (including for each criterion) is calculated based on the average of the scores provided by the evaluators. Therefore, final scores may be decimals. The threshold for each criterion is three (3), therefore any criterion with a score less than three will disqualify the application.

Applications submitted for AUTOASSESS Open Call shall be unique and tailored to one of the challenges. Evaluators will flag up applications with duplicate content. These applications cannot be considered for AUTOASSESS Open Call for Tech Solutions and will be rejected in the evaluation process under criterion one (Technology Concept).

At the end of the evaluation process, all eligible applications will be ranked per issued challenge.

- Rule 1: The applications will be ranked based on their final score
- Rule 2: If there is a tie between applications, these will be ranked according to the following order:
 - I. Best score on Technology Concept (Criterion 1)
 - II. Best score on Implementation (Criterion 2);
 - III. Best score on Ambition & scalability potential (Criterion 3);
 - IV. Best score on Team skills & expertise (Criterion 4).
- Rule 3: In case following Rule 3 there are still proposals in a funding borderline position, the panel evaluation will be asked to read the specific proposals and break the tie by reevaluating them.

3.4 INTERVIEW

In case of doubts, clarifications or ties the AUTOASSESS team will have the option to interview the applicants. The interview aims to better understand project concept, team skills & competence, implementation plan and capacity and willingness to exploit the results. If during the interview applicants do not commit to what has been presented in the application form, these will be declassified.

3.5 FINAL SELECTION

At the end of the evaluation process all proposals will be ranked based on their scores

⇒ **Number of Selected Projects**

AUTOASSESS will select 5 projects to enter the programme, preferably addressing different challenges. If there is a significant difference in scoring between projects with the highest ranking applying to different challenges.

⇒ **Notification of Results**

All applicants will be notified of the results of the evaluation by email and will receive an Evaluation Summary Report (ESR).

⇒ **Reserve list**

AUTOASSESS will keep a reasonable number of applications in a reserve list, in case an applicant decides to withdraw or is not able to fulfil the contract requirements.

3.6 APPEAL PROCEDURE

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 Open Call for Tech Solutions, 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 autoassess-opencall@f6s.com. 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 3 working days since the announcement of the evaluation results to the applicants (applicants receive the evaluation summary report).

As a general rule, the project team will investigate the complaints to arrive at a decision to issue a formal notice or close the case within no more than twenty days from the date of reception of the complaint, provided that all the required information has been submitted by the complainant. Whenever this time limit is exceeded, the AUTOASSESS will inform the complainant by email of the reasons for the unforeseen delay and the subsequent step.

4 SUB-GRANT AGREEMENT

All the legal issues are accurately covered by the planned contracts with the sub-granted beneficiaries. A written Subgrantee agreement will be signed with successful applicants. It will foresee, among other things, the special clauses derived from Horizon Europe in cascading granting, the payment schedule and conditions (milestones), general legal text issues of rights and obligations by the AUTOASSESS consortium, and each sub-grantee, including IPR and audit procedures.

The sub-grantee agreement will also have a set of annexes like the technical description of the project (form submitted), a declaration of honour to be signed, a declaration of SME existence, guidelines of the call, and any other document required by AUTOASSESS to assure the correct execution of the sub-grantee projects. A sample of this document is attached here <https://autoassess.eu/open-calls/>.

Each winning applicant will sign a subgrantee agreement (contract) with the project consortium. A legal entity that does not provide the requested data and documents in due time will not enter

the AUTOASSESS Programme.

4.1 SCIENTIFIC MISCONDUCT AND RESEARCH INTEGRITY

Issues of scientific misconduct and research integrity are taken very seriously. In line with the Horizon Europe Rules for Participation, appropriate action such as termination of the Sub-Grant Agreement Preparation phase or, if the Sub-Grant Agreement has been signed, the implementation of liquidated damages and financial penalties, suspension of payments, recoveries, and termination of the Sub-Grant Agreement, will be taken against any applicants/beneficiaries found to have misrepresented, fabricated or plagiarised any part of their proposal.

5 DEPLOYMENT

The Programme duration is 6 months. It means that the selected participants will develop and test the solutions during this period. The sub-projects will start right after the contracting phase (See Figure 1). The full timeline, including the open call stages deadlines and programme Timeline is detailed in Table 10.

The third-parties will be supported and monitored by AUTOASSESS team of experts to Generate the expected outcomes.

Besides, through the Open Call for Tech Solutions, AUTOASSESS team aims to:

- Engage EU technology providers - startups & SMEs - aiming to develop and validate the AUTOASSESS technological framework;
- Provide direct support and guidance to third parties by delivering guidance, mentorship, training and access to infrastructure (demonstrators);
- Provide access to specialized and qualified resources within various disciplines and technologies;
- Create real impact on demonstrators and end-user entities;
- Develop a set of success stories to foster industry uptake of AUTOASSESS solution.

The programme will be divided into 3 stages (Plan, Develop & Integrate, Assess)

- **Plan:** Participants will submit a complete plan of activities for the next 6 months, including the milestones, implementation plan and the expected outcomes in each programme stage.
- **Develop & Integrate:** Participants will develop the solution and proceed with the integrations according to each solution proposed.
- **Assess:** Participants will test, validate and demonstrate the final solution

The expected outcome of each challenge is described in Section 3.2

5.1 PROGRAMME TIMELINE

Stage	Duration	Deadline
Plan	1 month	July 2025
Development & Integration	4 months	November 2025
Assess	1 month	December 2025

TABLE 7: PROGRAMME TIMELINE

In addition, third parties will also be invited to a:

- kick-off workshop
- collaboration (guidance by) one or more of the AUTOASSESS partners.
- End results demonstration and outcome assessment

5.2 IMPLEMENTATION AND REPORTING

Selected applicants participating in the Open Call will be responsible for the following duties:

⇒ Third-Party Projects Implementation

The programme will start in July 2025, and conclude with the implementation phase by December 2025.

⇒ Submission of Reports

After the end of each stage, the third parties will submit a report containing the work deployed and the milestones achieved.

These reports will be reviewed and approved/rejected by the AUTOASSESS tech partners. The payment will be done against the reports approval.

⇒ **Test, Validation and Demonstration**

The third-parties must test, validate and demonstrate the outcomes at the end of the programme. The test, validation and demonstration means will be jointly defined by the AUTOASSESS tech partners and the third-parties (videos, simulations, etc.) and reported at the end of the programme.

5.3 FUNDING DISTRIBUTION

The financial support to third parties will be in the form of a grant awarded (lump sum). During the programme, each selected third party will have access to the following funds to deploy their projects.

The maximum amount of funding to third-party depends on the type of project they aim to deploy:

Call	Total Budget	Grant per Project	No of Projects	Duration
Tech-Solutions	€500.000	Up to €100.000	5	6-months

TABLE 9: FUNDING DISTRIBUTION

Funding rate of 70% of the costs for SMEs and 100% for Start-ups.

If apply as a consortia, the funding to each consortium member has to be distributed as appropriate to each project, but can reach a maximum of €100 000 per project.

The payments are done against the approval of the following process:

1. Reception of the relevant deliverable(s)/report (s) (see outline below).
2. A favourable resolution by the reviewer responsible for assessing the subproject execution.
3. Reception of the Request for Payment electronically.
4. The Subgrantee’s Bank Account matches the Instructions for payment issued by the bank of the Subgrantee.
5. Finally, the payments to the Subgrantee will be made by the Treasurer.

The payment will be done in 4 instalments according to the following schema:

Stage	Amount	When ?
Plan	40%	at end of M1
Develop & Integrate	40%	20% at mid-stage; 20% end-stage
Assess	20%	at end-term.

TABLE 10: FUNDING SCHEMA

The activities that qualify for the financial support to third parties are:

- ⇒ Personnel costs associated to:
 - participation in AUTOASSESS activities, events and trainings;
 - work performed in the demonstrator facilities;
 - cross-collaboration with industry partners.

- ⇒ Travel for meetings with AUTOASSESS, industry partners and event/conferences associated with the project.

- ⇒ Software, hardware and data justified for the needs of the project implementation.

- ⇒ Access to and use of infrastructure justified for the needs of the project.

- Subcontract of services which must be:
 - - defined in the application;
 - aligned with the purpose of the project;
 - not delivered by AUTOASSESS partners.

- Audio/visual products and other communication activities related to the project.

- Promotion of project/services linked to AUTOASSESS project.

5.4 ORIGIN OF FUNDS

Any selected proposer will sign a dedicated Sub-Grant Agreement with the Consortium. The funds attached to the Sub-Grantee Funding Agreement come directly from the European Project AUTOASSESS funds. The consortium is managing the funds according to the Grant Agreement Number 101120732 signed with the European Commission.

As will be indicated in the Sub-Grant Agreement, the relation between the sub-grants and the European Commission through the AUTOASSESS project carries a set of obligations to the sub-grants with the European Commission. It is the task of the sub-grants to accomplish

them and of the AUTOASSESS consortium partners to inform about them.

5.5 INTELLECTUAL PROPERTY RIGHTS

The ownership of all IPR created by the Innovator (Open Call beneficiary), via the AUTOASSESS funding, will remain with the Innovator (Open Call beneficiary).

However, AUTOASSESS consortium partners can access and deploy the software, hardware, documents and all data generated during the sub-projects implementation and after the AUTOASSESS project ends aiming to improve/innovate/increment the solutions developed and integrated to AUTOASSESS ecosystem during the programme.

The consortium will gather the basic aspects to manage third parties IPR:

- Confidentiality
- Third-Party Ownership of Results
- Commercial exploitation of results and any necessary access right
- Relevant Patents, know-how, and information Sublicense
- Pre-existing know-how is excluded from the contract.

Nevertheless, many specific IPR cases that will need a concrete solution from the bases previously fixed, may exist. It includes agreements to introduce provisions concerning joint ownership of the results of the sub-granted projects, if this is the case.

If IPR conflict situations are identified, the project consortium will be responsible to analyse the case and arbitrate a solution.

6 OPEN CALL TIMELINE

Open Call Launch	Feb 25 th 2025 at 12:00 PM CET
Open Call Closure	Apr 24 th 2025 at 5:00 PM CET
Evaluation (Selection of 5 projects)	May 2025
Results Announcement	May 2025
Sub-Grant Agreement Signature	June 2025
Deployment Phase	July - Dec 2025

TABLE 11: OPEN CALL FOR TECH SOLUTIONS TIMELINE

7 OPEN CALL MATERIAL - KIT APPLICATION

The AUTOASSESS Open Call supported material is the following:

- **Annex 1 - Guide for Applicants.** The present document. This document provides in detail the information to help apply to Open Call for Tech-Solutions containing a description of the open call rules, the modalities for application, the evaluation process, the scheme of the funding support, and how to submit a proposal.
- **Annex 2: Proposal Template.** Mandatory Word document for applicants to prepare and submit proposals.
- **Annex 3: Online Application Form (for consultation),** the online application form, available on the F6S platform (for consultation).
- **Annex 4: Sub-grant Agreement Template (for consultation),** which provides a template of the sub-grant agreement that the successful applicants will be requested to sign.
- **Annex 5: Declaration of Honour (for consultation),** which declares that all conditions/rules of the open call are accepted by an applicant. This document will be filled out by the selected company in the contracting phase.

Annex 6: SME Declaration (for consultation), which evaluates the status of the SMEs participating in the call. This document will be filled out by the selected company in the contracting phase.

8 POINTS OF CONTACT

The project consortium will also provide information to the applicants via the F6S blog so that the information (question and answer) will be visible to all participants. No binding information will be provided via any other means (e.g., telephone, or video calls).

- More info at: <https://autoassess.eu/>
- Apply via: <https://www.f6s.com/autoassess-oc-techsolutions/apply>
- F6S support team contact: support@f6s.com
- Individual emails (Q&A): autoassess-opencall@f6s.com