

OPEN CALL FOR SUBMISSION OF CANDIDATES

Participation in the testing of Robotic Technology in the ATLANTIS Test Centre

The ATLANTIS project is opening grants for Robotics Innovation Experiment (RIE) for testing and validating the technical and economic viability of a robotic system prototypes namely, autonomous surface, aerial, and underwater vehicles. Under these grants, related robotic technologies will be demonstrated in specific showcases from the ATLANTIS Test Centre, located in Viana do Castelo.

This open call is directed towards Small and Medium Enterprises (SMEs), Start-up companies and Universities involved in the development of, and/or providing services using robotic technologies for inspection and maintenance of offshore wind farms.

1. Context

With the increase of offshore wind productions, developments in the inspection and maintenance of offshore wind farms are essential. Current inspection methodologies are not only expensive, covering for up to 30% of the total energy costs, but also pose significant safety implications, being mostly man-based. The elevated number of resources, such as human resources and support vessels, as well as the need for downtime for O&M activities, all lead to the high inspection and maintenance costs. The ATLANTIS aims to tackle some of these issues, thought promoting the uptake of robotic technologies by service providers and end-users for the inspection and maintenance of offshore wind farms.

In this context, it is essential to promote of appropriate testing and validation of robotic technologies, to further development an improve visibility of such technologies. It is with this objective that ATLANTIS presents this open call, to fund the testing of robotic technologies in the ATLANTIS Test Centre.

2. The ATLANTIS Test Centre

The ATLANTIS Test Centre is a large pilot capable of demonstrating key enabling robotic technologies for inspection and maintenance of offshore wind farms. It is deployed in Viana do Castelo, Portugal, which captures the unique conditions of the Atlantic Ocean.

The ATLANTIS Test Centre is divided in Coastal and Offshore Testbeds. A Supervisory Control Centre, for planning, monitoring and analysis of the operations is installed on the coast of Viana do Castelo, with direct line of sight to the Coastal Testbed.



- The Coastal Testbed is deployed in the river Lima and will allow the testing of less mature (lower TRL) technologies.
- The Offshore Testbed consists of a real offshore wind park, the WindFloat Atlantic, deployed up 20 km off the coast of Viana do Castelo and allows for the testing of more mature (higher TRL) technologies.

This call concerns the testing of technologies on both the Coastal Testbed and the Offshore Testbed of the ATLANTIS Test Centre. The Coastal Testbed contains a floating structure and all related components. The area where the floating structure is implemented has an average depth of 6 m (between 5 and 7 meters depending on the tides).

The monitoring of the tests can be performed from shore (with direct line of sight to the structure), from a vessel or from the top of the structure. The SCC will also have direct line of sight for the floating structure and will allow for complete coordination of the activities taking place on the Testbed.

The Offshore Testbed contains three floating wind turbines, anchored between 10 and 20 km of the coast of Viana do Castelo. All technology to be tested and demonstrated in the Offshore Testbed is required to be first tested in the Coastal Testbed. Testing on the Offshore Testbed requires the presentation of certificates for Sea Survival training and OEUK medical certification (or equivalent). The monitoring of the tests will be performed from the vessel, but internet connection will also allow remote monitoring from the SCC.

As part of the ATLANTIS, a set of 8 scenarios has been defined, to address key areas, according to end-users, where robotics can have major impact. These scenarios are focused on four particular topics (showcases): **turbine inspection and maintenance; export and array cable maintenance; foundation and scour protections; and logistics.** The testing supported by this call should be directed towards the scenarios included in these topics. More information on each scenario can be found in the ATLANTIS website (www.atlantis-h2020.eu/).

The tests supported by this call are expected to take place between July and September 2023, after the preliminary decision.

3. Type of Support

The funding available for this call will cover all operational costs in the Coastal Tested such as, the access to the infrastructure, support vessel operation, fuel, and technical support. Lunch for personnel performing the testing will be provided.

Excluded from the scope of this call are costs related to travel, accommodation, insurance, and transport of material to/from ATLANTIS Test Centre.



4. Eligibility Criteria

For this call are eligible international companies and universities working in robotics, artificial intelligence, specifically in the field of inspection and maintenance of assets from the offshore renewable energy sector.

The applying companies should be either technology developers, working in the implementation of new technological solutions for the inspection and maintenance of offshore infrastructures, or service providers, aiming to test and/or demonstrate their technology and methodologies.

5. Selection Criteria

The evaluation of the proposals will be performed by an internal panel composed of at least 3 members of the consortium. The selection of the of the proposals will be performed based on a final grade (FG) that will be attributed base on the following selection criteria:

- A. Suitability of the technology to the showcases and description of the methodology for testing;
- B. Socio-economic impact of the validation campaign for the institution;
- C. Resources required for the testing;
- D. Type of institution.

The final grade for each proposal will be attributed by the following:

$$FG = 0.4 \times A + 0.3 \times B + 0.2 \times C + 0.1 \times D$$

Each criterion will be granted a score ranging from 1 to 10. The result of the FG will be rounded to one decimal case.

A minimum of 3 participants will be selected.

6. Submission of proposals

Proposals for testing can be submitted from the 22nd of January 2023 to the 26th of February 2023 (11:59 pm GMT). All proposals should be submitted in English, through a form available on the project's website (www.atlantis-h2020.eu/), that can be submitted directly on the website.

7. Inclusion and diversity policy

The ATLANTIS project promotes a policy of inclusion and diversity, ensuring non-discrimination and providing equal access to opportunities. As a result, no proposal can



be benefited, prejudiced or deprived of any right or exempted of any duty in reason of factors such as gender, age, education level, country of origin, amongst others.

8. Applicable Legislation and Disclaimer

With submission of a proposal, candidates accept the existing legislation for both the open call and the operation in the Coastal Testbed of the ATLANTIS Test Centre. This includes, but is not limited to:

- The ATLANTIS is not responsible for damages to the robotic technologies caused in the ATLANTIS Test Centre, outside the operating guidelines. All the equipment used, as well as all personnel participating in any testing performed in the ATLANTIS Test Centre is required to be insured.
- The dates for testing are subject to changes for reasons of force majeure (e.g. weather conditions, restrictions from the Portuguese authorities, etc.). The ATLANTIS Consortium is not liable for costs related to changes in the testing dates for these reasons.
- All testing performed in the ATLANTIS Test Centre is subject to environmental, health and safety and operational guidelines. These will be provided to all potential participants upon the presentation of the preliminary decision.
- All personal data collected from submissions and testing will be protected in accordance with the current General Data Protection Regulation (GDPR).

9. Contact

Information on the open call and questions on the submission process or other topics should be submitted to the email address: atlantis.testcentre@inesctec.pt

