

CALL FOR GRANT APPLICATIONS

(AE2026-0167)

INESC TEC is now accepting grant applications to award 1 Research Grant (BI) within the scope of the -

1. GRANT DESCRIPTION

Type of grant: Research Grant (BI)

General scientific area: ENGINEERING

Scientific subarea: Electrical engineering

Area of Work: Mobile Robotics

Grant duration: 12 months, starting on 2026-07-01, with the possibility of being renewed until the end of the project.

Scientific advisor: Pedro Gomes Costa

Workplace: INESC TEC, Porto, Portugal

Maintenance stipend: € 1359.64, [according to the table of monthly maintenance stipend for FCT grants](#), paid via bank transfer. Grant holders may be awarded potential supplements, according to a quarterly evaluation process (Articles 19, 21 and 22 of the [Regulations for Grants of INESC TEC](#) and Annex II), up to a maximum limit of 50% of the monthly maintenance stipend.

INESC TEC supports costs with registration, enrolment or tuition fees, during the grant duration, under the terms established in the internal document: [Payment of Tuition fees to grant holders](#).

The grant holder will benefit from health insurance, supported by INESC TEC.

2. OBJECTIVES:

Implementation of the VD5050 protocol in a fleet of autonomous mobile systems, with the aim of ensuring interoperability, scalability, and standardized integration between different agents and logistics management systems.

Research and development of the protocol's adaptation to STUs (vertical lift systems in warehouses).

3. BRIEF PRESENTATION OF THE WORK PROGRAMME AND TRAINING:

This work plan proposes the implementation of the VDA 5050 protocol in a fleet of autonomous mobile systems, aiming to guarantee interoperability, scalability, and standardized integration between different agents and logistics management systems. The proposal focuses on developing a communication architecture capable of adapting the VDA 5050 standard to the specific needs of the industrial environment under study, ensuring efficient coordination between autonomous vehicles, supervisory systems, and warehouse management platforms. Particular emphasis will be placed on state synchronization, order management, and real-time monitoring, promoting greater operational robustness and ease of future integration with heterogeneous solutions.

Simultaneously, the work intends to explore the adaptation of the protocol to STUs (vertical elevators in

warehouses), extending the interoperability principles of VDA 5050 to equipment that traditionally does not belong to this ecosystem. This adaptation will allow the integration of STUs as active elements in global logistics coordination, enabling the uniform management of transport flows between warehouse levels and autonomous mobile agents. The study will examine communication, synchronization, and dynamic task assignment mechanisms between the fleet and vertical systems, ensuring operational continuity and efficiency in internal transport. Finally, an experimental evaluation of the proposed solution will be conducted in realistic industrial scenarios, analyzing gains in flexibility, operational efficiency, and integration capacity in complex logistics environments.

4. REQUIRED PROFILE:

Admission requirements:

Master's degree in Electrical and Computer Engineering, Computer Engineering, or related fields. The awarding of the fellowship is dependent on the applicants' enrolment in study cycle or non-award courses of Higher Education Institutions.

Preference factors:

Experience working with mobile robots is valued.

Participation in extracurricular activities related to robotics is valued.

Minimum requirements:

Experience in C/C++ programming

Experience with the ROS framework.

5. EVALUATION OF APPLICATIONS AND SELECTION PROCESS:

Selection criteria and corresponding valuation: the first phase comprises the Academic Evaluation (AC), based on the criteria referred to in Article 12 of the [Regulations for Grants of INESC TEC](#), while the second phase comprehends the Individual Interview (EI). All factors are evaluated on a scale of 0 to 100, taking into account the applicants' merit, suitability and conformity with the preference factors.

The weight of the AC factors are as follows: Academic Qualifications (FA, 45%), Scientific Publications (PC, 5%), Experience (EX, 45%) and Motivation Letter (CM, 5%).

Candidates who score less than 50 points in the AC average will be considered excluded on absolute merit. The top five candidates approved on absolute merit will be qualified for the individual interview. The Final Grade (CF) is obtained by the weighted average of AC (80%) and EI (20%).

DISABILITY INCENTIVE

Candidates who present a degree of disability equal to or greater than 90% will benefit from an incentive (20) in the score of the CV Assessment.

Candidates who present a degree of disability equal to or greater than 60% and less than 90% will also benefit from an incentive (10) in the score of the CV Assessment.

Said score may, in these cases, exceed 100 points.

Candidates must demonstrate the degree of disability during the application, namely through the submission of the Multi-Purpose Medical Certificate of Disability, issued in accordance with Decree-Law no. 202/96, of October 23 currently in effect.

Candidates must declare, in the application form, the type of disability used throughout the selection process, in order to proceed with the required adaptations.

The Selection Jury is composed of the following members:

President of the Jury: Pedro Gomes Costa

Full member: Manuel Santos Silva

Full member: Diogo Miguel Matos

Substitute member:

Release of results and prior hearing: the results of the selection process, as well as the terms and procedures for prior hearing, will be released to the applicants by email, under the terms referred to in Article 13 of the Regulations for Studentships and Fellowships of INESC TEC.

6. FORMALISATION OF APPLICATIONS:

Application Documents:

1. Motivation letter;
2. Curriculum Vitae (must include the list of previous fellowships, their type, beginning and end dates, funding entities and host institutions);
3. Certificate or diploma degree;
4. Proof of enrollment in a degree awarding study cycle or in a non degree awarding Higher Education program.
 - The proof of enrollment may be presented just during the grant hiring stage.
5. Signed declaration stating the infringement of the grant holder's duties (article 14, no. 4)
6. Documental evidence to support the country of residence, residence permit or other legally equivalent document, in cases where the applicant is a foreigner or non-resident in Portugal - valid until the beginning of the grant.
7. Other supporting documents relevant to the final assessment.

Failure to deliver the required documents within the 90-day period after the date of the notice of the conditional awarding of the grant implies its cancellation.

Application period: From 2026-05-21 to 2026-06-03

Submission of applications: the application will be formalised by submitting the form available in the *Work With Us* section of INESC TEC website.

7. BINDING LEGISLATION AND REGULATION

The hiring process shall comply with the current legislation regarding the Research Grant Holder Statute, approved by Law no. 40/2004 of August 18, in its current wording, as well as by the [Regulations for Grants of INESC TEC](#) and for [FCT Grants Regulation in force](#).

For more information, please check the [Regulations for Grants of INESC TEC](#) and relevant annexes at www.inesctec.pt/bolsas



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