CALL FOR GRANT APPLICATIONS

(AE2026-0161)

INESC TEC is now accepting grant applications to award 1 Research Grant (BI) within the scope of the project MOBOT2, with reference 24264 (NORTE2030-FEDER-02961400) Co-funded by ERDF - European Regional Development Fund through the NORTE 2030 Regional Program under the scope of Portugal 2030.

1. GRANT DESCRIPTION

Type of grant: Research Grant (BI)

General scientific area: ENGINEERING

Scientific subarea: Electrical engineering

Area of Work: Robotics and Automation

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

Scientific advisor: Marcelo Petry

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:

The scholarship aims to support research and development activities within the MOBOT 2.0 project – Intelligent Mobile Manipulator with Intuitive Programming and Agnostic Control, focused on the human-robot interaction aspect applied to autonomous mobile manipulators in industrial environments.

The goal is to investigate, develop, and validate intuitive interaction solutions between human operators and mobile robotic systems, using augmented reality, multimodal interfaces, demonstration programming, gesture and/or voice commands, and visual representation of the robot's state and intentions. This aspect aims to allow operators without advanced programming knowledge to configure, adapt, monitor, and execute robotic missions in a simple, safe, and efficient way.

3. BRIEF PRESENTATION OF THE WORK PROGRAMME AND TRAINING:

The plan includes the following main activities:

Human-robot interaction requirements gathering: Analysis of industrial use cases from the MOBOT 2.0 project, identification of operator needs, and definition of functional and usability requirements for the programming and supervision interface of autonomous mobile manipulators.

Study of Human-Robot Interaction models and methodologies: Investigation of multimodal interaction approaches applied to collaborative and mobile robotics, including gestural interfaces, voice commands, natural language, visual and spatial feedback, readability of robot actions, representation of system intentions, and interaction in augmented reality environments.

Development of an intuitive interface using augmented reality: Design and implementation of a graphical and spatial interface for extended reality devices, allowing the operator to create, edit, parameterize, and monitor robotic missions visually and interactively. The interface should allow the manipulation of virtual objects, visualization of the robot and the workspace, as well as monitoring the execution status of missions.

Robotic mission programming based on skills: Development and integration of mechanisms that allow the user to compose missions from a library of reusable robotic actions or "skills," reducing the need for textual programming and facilitating the adaptation of the system to new industrial tasks.

Usability testing, experimental validation, and performance evaluation: Conducting tests in a laboratory environment and/or in relevant industrial scenarios, with representative operators or users, to evaluate ease of use, mission programming time, success rate in task execution, interaction robustness, and solution acceptance.

Technical documentation, reports, and scientific dissemination: Preparation of technical documentation, progress reports, support in the preparation of project deliverables, and participation in the production of technical-scientific publications related to human-robot interaction, augmented reality applied to robotics, multimodal interfaces, and intuitive programming of robotic systems.

4. REQUIRED PROFILE:

Admission requirements:

Master's degree in Electrical 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:
The following elements will be valued:

- Knowledge and experience in the ROS/ROS2 framework.

- Experience with MQTT and Unity.

- Fluency in spoken and written English.

Minimum requirements:
Proven experience in developing R&D projects with industry;
Experience in developing, integrating, or validating robotic solutions and/or automated systems in laboratory or industrial environments.
Familiarity with human-human-robot interaction methodologies, extended reality, and graphical interface development.
Knowledge of C++ and C# programming.
Ability to produce technical documentation, project reports, scientific articles, and dissemination materials.

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: Marcelo Petry
Full member: Manuel Santos Silva
Full member: Luís Freitas Rocha
Substitute member: João Pedro Souza

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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