CALL FOR GRANT APPLICATIONS
(AE2023-0062)

INESC TEC is now accepting grant applications to award 1 Research Grant (BI) within the scope of the project PAC (POCI-01-0247-FEDER-046095) co-funded by the ERDF - European Regional Development Fund, through the Operational Programme for Competitiveness and Internationalisation - COMPETE 2020 Programme.

1. GRANT DESCRIPTION

Type of grant: Research Grant (BI)

General scientific area: ENGINEERING

Scientific subarea: Electrical engineering

Grant duration: 3 months 15 days, starting on 2023-03-16.

Scientific advisor: Pedro Gomes Costa

Workplace: INESC TEC, Porto, Portugal

Maintenance stipend: € 875,98 or 1144,64, according to the table of monthly maintenance stipend for FCT grants (http://www.fct.pt/apoios/bolsas/valores), 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:

Implement two man-machine interfaces, capable of interacting, by sending orders and commands, with a multi robot system operating in the ROS framework (Robot Operating System): System configuration interface (creation of occupancy map, definition of possible trajectories; identification of workstations on the map, identification of battery charging points, identification of trajectories of mobile external objects); Operation and Monitoring Interface (monitoring the state of the AGVs in 2D, its position, what it is executing, task monitoring, problem messages, etc.).

3. BRIEF PRESENTATION OF THE WORK PROGRAMME AND TRAINING:

1. Implementation of the simulation environment to be used, definition of the information to be exchanged between the interface and design of the interface mockup;
2. Development of ROS modules to orchestrate the interaction between the interface and the rest of the system;
3. Development and implementation of the configuration interface;
4. Development and implementation of the Operation and Monitoring interface;
5. Testing and improving the scalability and accessibility of the interface.

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4. REQUIRED PROFILE:

Admission requirements:

Degree or Master's in Electrical and Computer Engineering, Computer Engineering, Chemical Engineering, Mechanical Engineering, or a related scientific area. Preference will be given to candidates with a Master's degree and only candidates with a Bachelor's degree will be hired if no Master's degree candidates apply, or if they do apply, that the latter are not from the intended training area and/or do not have the experience referred to above.

The awarding of the fellowship is dependent on the applicants' enrolment in study cycle or non-award courses of Higher Education Institutions.

Preference factors:

1- Experience in the project area, in areas related to the project; 2- Knowledge in: UNIX/Linux environments; Programming languages (Python, C, C++, C#); Framework ROS (Robot Operating System); Framework QT; 3- Experience in designing and creating web applications and services: HTML, PHP, Javascript, on the AngularJS framework and Smarty.

Minimum requirements:

Be a student enrolled in a master's course in the area of Electrical and Computer Engineering or a related scientific area, a requirement to be duly proven at the time of hiring.

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%).

The Selection Jury is composed of the following members:

President of the Jury: Pedro Gomes Costa
Full member: Héber Miguel Sobreira
Full member: Paulo José Costa
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 dully recognised in Portugal;
   - Documents proving the awarding of academic degrees and diplomas, or the according recognition - in cases of academic degrees or diplomas granted by a foreign higher education institution - can be dismissed in the application process, and replaced by the applicant's declaration of honour, with the verification of said condition taking place during the grant's hiring stage. The submission of the certificate is mandatory when signing the contract.
   - Academic degrees or diplomas awarded by a foreign higher education institution require an authentication by a Portuguese higher education institution, and the corresponding registration on the DGES platform, in conformity with Decree-Law no. 66/2018, of August 16, and Ordinance no. 33/2019, of January 25. More information available on the website https://www.dges.gov.pt/pt/pagina/reconhecimento?plid=374
4. Proof of enrollment in a degree awarding study cycle or in a non degree awarding Higher Education program.

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- 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 2023-02-15 to 2023-02-28

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