CALL FOR GRANT APPLICATIONS
(AE2020-0199)

INESC TEC is now accepting grant applications to award 1 Research Grant (BI) within the scope of the SHIELD funded by National Funds through FCT - Portuguese Foundation for Science and Technology, I.P., project (reference JPICH/0001/2019

1. GRANT DESCRIPTION

Type of grant: Research Grant (BI)

General scientific area: ENGINEERING

Scientific subarea: Electronic engineering

Grant duration: 12 months, starting on 2020-12-18, with the possibility of being renewed for a maximum term of four years, in the cases of students enrolled in a PhD.

Scientific advisor: Hugo Miguel Silva

Workplace: INESC TEC, Porto, Portugal

Maintenance stipend: € 1074,64, 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.

Costs attributable to INESC TEC may include registration, enrolment or tuition fee stipend, either directly or through reimbursement, during the grant duration.

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

2. OBJECTIVES:

To develop and integrate a visual on-board perception system inside an Unmanned Aerial Vehicle.
To develop novel methods to detect and track targets using on-board perception.

3. BRIEF PRESENTATION OF THE WORK PROGRAMME AND TRAINING:

Development and customization of the onboard sensors data payload. Perform the assembly of the UAS sensors hardware, e.g. RGB cameras, NIR+SWIR
Assemble the onboard sensors CPU+GPU unit, perform data acquisition and registration in the laboratory environment, and to perform sensor calibration.
Development of the onboard sensors data acquisition and processing software, including all detection functionalities according to the mission specification requirements, develop the sensors interface with the mission software and keyframe data transmission mechanisms.
Algorithms development to perform looting and mapping detection onboard the UAS using the heterogeneous sensing payload.

4. REQUIRED PROFILE:

Admission requirements:

Msc in Electronic and Computer Engineering, or equivalent.
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 in the development and testing/integration of sensing and perception equipment on-board UAVs;
Development of visual perception systems for robotic platforms.

Minimum requirements:

Course average of not less than 13 values.

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, 50%), Scientific Publications (PC, 20%), Experience (EX, 20%) and Motivation Letter (CM, 10%).
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: Hugo Miguel Silva
Full member: Eduardo Silva
Full member: André Dias
Substitute member: Diana Viegas

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.
   - 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 2020-11-17 to 2020-11-30

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

Governo da República Portuguesa

Fundação para a Ciência e a Tecnologia
MINISTÉRIO DA EDUCAÇÃO E CIÊNCIA