CALL FOR GRANT APPLICATIONS
(AE2025-0042)

INESC TEC is now accepting grant applications to award 1 Research Initiation Grant (BII) within the scope of the ATE funded by IAPMEI with reference 56 Co-financed by Component 5 - Capitalization and Business Innovation, integrated in the Resilience Dimension of the Recovery and Resilience Plan within the scope of the Recovery and Resilience Mechanism (MRR) of the European Union (EU), framed in the Next Generation EU, for the period 2021 - 2026.

1. GRANT DESCRIPTION

Type of grant: Research Initiation Grant (BII)

General scientific area: COMPUTER SCIENCE

Scientific subarea: Computer Systems,Database management,Digital systems

Area of Work: Distributed Systems

Grant duration: 6 months, starting on 2025-03-03, with the possibility of being renewed until the end of the project.

Scientific advisor: Fábio André Coelho

Workplace: INESC TEC, Braga , Portugal

Maintenance stipend: € 601,12, 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:

This grant is provided in the scope of the project "Aliança para a transição Energética" – (Alliance for the Energy Transition) where a multi-tenant, cloud-based solution to enable an integrated set of cross-domain, interoperable digital services with data from several domains will be design, while allowing a simple instantiation for distinct stakeholders along the energy value-chain.
As data processing moves towards the Edge, the use of the edge-cloud plane requires new tools to provide meaningful and comparable results in terms of performance.
This grant is provided in the scope of the project "Aliança para a transição Energética" – (Alliance for the Energy Transition) where a multi-tenant, cloud-based solution to enable an integrated set of cross-domain, interoperable digital services with data from several domains will be design, while allowing a simple instantiation for distinct stakeholders along the energy value-chain.
In this scope, Edge, Fog and Cloud computing data management systems are particularly relevant, but they often provide a heterogeneous evaluation that makes a fair comparison impossible. This grant will focus on the need to design and develop a benchmarking system able to provide a comparable performance result in that scenario. This grant will evolve the current benchmarking system including new workloads that realistically address the data needs for edge in timeseries use-cases, and the reliable representation of edge devices by limiting available resources. It will conduct and exhaustive evaluation campaign to assess the performance and reliability of the benchmarking system.

3. BRIEF PRESENTATION OF THE WORK PROGRAMME AND TRAINING:

- Identification of relevant state-of-the-art on benchmarking systems specialized in edge-cloud applications and algorithms;
- Development and experimental assessment of edge-cloud benchmarking system targeting the dimensions detailed in the objectives;
- Write the specification document;
- Write and submission of scientific papers;
- Write of a MSc dissertation.

4. REQUIRED PROFILE:

Admission requirements:
Be enrolled in a MSc program in computer science or Informatics Engineering.
The awarding of the fellowship is dependent on the applicants' enrolment in study cycle or non-award courses of Higher Education Institutions.

Preference factors:
- Knowledge and experience on evaluation of systems;
- Experience with the YCSB benchmarking system and with the TPC-C,TPC-H specifications.

Minimum requirements:
- BSc average above 16 in the Portuguese rating system (out of 20);
- Knowledge with key benchmarking principles;
- Knowledge in Distributed Systems;
- Knowledge and experience with using virtualization and/or Docker containers;
- Excellent spoken and written use of English language.

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, 60%), Scientific Publications (PC, 10%), 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%).

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: Fábio André Coelho
Full member: José Orlando Pereira
Full member: João Tiago Paulo
Substitute member: João Marco

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 not having benefited from any other research fellowship (Article 5, no. 5)
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 2025-01-30 to 2025-02-12

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