CALL FOR GRANT APPLICATIONS
(AE2026-0043)

INESC TEC is now accepting grant applications to award 1 Research Grant (BI) within the scope of the within the POISE project with reference 2024.15783.PEX, Funded by National Funds through the FCT - Foundation for Science and Technology, I.P.

1. GRANT DESCRIPTION

Type of grant: Research Grant (BI)

General scientific area: COMPUTER SCIENCE

Scientific subarea: Informatics

Area of Work: Distributed Systems

Grant duration: 4 months, starting on 2026-03-16, with the possibility of being renewed until the end of the project.

Scientific advisor: Hugo Pereira Pacheco

Workplace: INESC TEC, Braga , Portugal

Maintenance stipend: € 1040.98, 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 main goal of this grant is to develop a library for secure Conflict-free Replicated Data Types (CRDTs) that empowers clients to define their own security policies. The specific objectives are:
- Enable clients to specify heterogeneous trust policies (e.g., trusting a set of replicas for integrity, but require a different threshold of replicas for confidentiality).
- Implement a secure computation backend based on shamir secret-sharing that ensures that replicas can synchronize state and resolve conflicts without ever accessing confidential data and that is dynamically adaptive as replicas join or leave the network.
- Demonstrate the library's utility through a concrete use case, where different stakeholders have different trust requirements.

3. BRIEF PRESENTATION OF THE WORK PROGRAMME AND TRAINING:

The work will be divided in the following steps:
- Identify a sensible use case and collect its requirements. This involves identifying the specific CRDTs needed, classifying public/secret data and mapping out the trust relationships between different categories of clients and cloud providers.
- Implement the secure computation backend and integrate it with the necessary CRDT logic, where updates and conflict resolution are performed by a secure idealized functionality.
- Support dynamic replica quorums, to ensure that different (but overlapping) sets of replicas can perform updates while respecting client security policies.
- Benchmark the library for the concrete use case and explore trade-offs between security overhead and

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synchronization latency.
- Document the implementation details and contribute to a technical report detailing architectural choices and the synergy between secure computation, CRDTs and dynamic reconfiguration.

4. REQUIRED PROFILE:

Admission requirements:
- Bachelor's degree in Computer Science/Informatics Engineering or a related field.
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 distributed systems and cryptographic fundamentals.

Minimum requirements:
- Bachelor's degree grade average higher than 14 (out of 20).

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%).

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: Hugo Pereira Pacheco
Full member: Bernardo Luís Portela
Full member: José Bacelar Almeida
Substitute member: Manuel Barbosa

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 2026-02-12 to 2026-02-25

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