CALL FOR GRANT APPLICATIONS

(AE2026-0134)

INESC TEC is now accepting grant applications to award 1 Research Grant (BI) within the scope of the project Rescueware, with reference 21746 (NORTE2030-FEDER-02306900) 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: COMPUTER SCIENCE

Scientific subarea: Informatics

Area of Work: Operating Systems

Grant duration: 6 months, starting on 2026-07-01, with the possibility of being renewed until the end of the project.

Scientific advisor: Tânia Esteves

Workplace: Braga

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:

This scholarship aims to investigate and develop context-propagation mechanisms within eBPF, enriching visibility from the moment requests are issued, spanning from the application level down to the kernel and its underlying subsystems. Specifically, it seeks to study how additional contextual information, collected throughout the lifecycle of a request, both in user space and kernel space, can be efficiently propagated and correlated across eBPF programs. These mechanisms will form an essential foundation for the future design of ransomware monitoring and protection solutions, enabling the association of low-level events (e.g., file accesses, system call invocations) with the application context that originated them, and thereby contributing to more precise detection of malicious behavior with a lower false-positive rate.

3. BRIEF PRESENTATION OF THE WORK PROGRAMME AND TRAINING:

The work plan for this scholarship includes the following main activities:

- Research and development of context propagation mechanisms: design and implementation of eBPF extensions capable of collecting, propagating, and correlating contextual information throughout the lifecycle of a request, from the application level down to the kernel subsystems.

- Application to the ransomware protection domain: study of the applicability of the developed mechanisms in the context of monitoring and malicious behavior detection solutions, including the identification of suspicious access

patterns and their association with the originating application context.

- Experimental evaluation: validation of the developed features through experimental testing, assessing performance, precision, and false positive rate in comparison with existing approaches.

4. REQUIRED PROFILE:

Admission requirements:

- MSc Degree in 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:
- Experience with different programming languages, including C, Python, Go, and Rust.

- Proven experience with the libraries Bpftrace, BCC, libbpf, ebpf-go, and Aya, supported by technical evidence (code repositories, projects, functional prototypes, articles, or theses).

Minimum requirements:
- Solid Knowledge of operating systems, including kernel structures.
- Proven experience with Input/Output request observability tools, supported by technical evidence (code repositories, projects, functional prototypes, papers, or theses), including public URLs for the same, or by submitting them as an attachment to the application.
- Proven experience with eBPF technology, supported by technical evidence (code repositories, projects, functional prototypes, papers, or theses), including public URLs for the same, or by submitting them as an attachment to the application.

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: Tânia Esteves
Full member: João Tiago Paulo

Full member: Ricardo Gonçalves Macedo
Substitute member: Cláudia Vanessa Brito

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 2026-05-14 to 2026-05-27

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

NORTE 2030 Programa Regional do Norte
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