CALL FOR GRANT APPLICATIONS
(AE2026-0002)

INESC TEC is now accepting grant applications to award 1 Research Grant (BI) 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 Grant (BI)

General scientific area: ENGINEERING

Scientific subarea: Electrical engineering

Area of Work: Engineering

Grant duration: 4 months 18 days, starting on 2026-02-13.

Scientific advisor: Tatiana Guedes

Workplace: INESC TEC, Porto, 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 ATE (Alliance for Energy Transition) project aims to strengthen the competitiveness and resilience of the national energy sector value chain through the development, integration, validation, and industrialisation of innovative solutions throughout the entire value chain (generation, transport, distribution, and end use of energy). The ATE agenda addresses critical challenges of the energy transition, including the massive integration of renewable sources and new energy vectors, supported by advanced solutions for digitisation, interoperability, common data spaces and data-driven algorithms for monitoring, management and decision-making.
Within the scope of ATE, this grant falls under the activities of digitisation and advanced management of energy assets and infrastructure, with a focus on supporting the operation and maintenance (O&M) of renewable assets through the integration of SCADA data, modelling and validation of digital twins, failure analysis and simulation of operational scenarios.
The main objectives of the Grant are:
1) To develop and validate the digital twin of a photovoltaic power plant, with the aim of generating a robust database of failures and operational scenarios, in order to support monitoring, simulation and evaluation of O&M strategies.
2) Apply machine learning algorithms to diagnose faults and malfunctions in photovoltaic plants, using SCADA system data combined with synthetic data from the digital twin (DT), with a view to detecting anomalies and identifying patterns indicative of degradation or imminent faults

3. BRIEF PRESENTATION OF THE WORK PROGRAMME AND TRAINING:

1) Analysis of SCADA and DT system data for fault and malfunction diagnosis and simulation of future scenarios related to the impact of O&M strategies in the context of renewable assets.
2) Digital modelling of components and equipment, such as battery banks and electrolysers, for validation of business models applied to O&M.
3) Validation of the digital model and testing of the digital twin in failure scenarios;
4) Creation of a failure database through the generation of synthetic data for training and evaluation of detection, diagnosis and decision support algorithms, with traceability between simulated scenarios and observable events in SCADA.

4. REQUIRED PROFILE:

Admission requirements:
Electrical Engineering or 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:
- Past experience (or academic training) with low, medium and high power photovoltaic systems;
- Knowledge of programming in OpenModelica and Simulink.
- Knowledge of programming in Python and MATLAB Script.
- Academic training in operational research.

Minimum requirements:
- Advanced knowledge of electrical power systems, with a focus on PV systems, batteries, and renewable energy sources.

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, 10%), Experience (EX, 30%) 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: Ricardo Jorge Bessa
Full member: Rui Esteves Araujo
Full member: Justino Miguel Rodrigues
Substitute member: Manuel Matos

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 2026-01-15 to 2026-01-28

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

PRR Plano de Recuperação e Resiliência

REPÚBLICA PORTUGUESA

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