

## CALL FOR GRANT APPLICATIONS (AE2023-0409)

INESC TEC is now accepting grant applications to award 1 Post Doctoral Research Grant (BIPD) 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:** Post Doctoral Research Grant (BIPD)

**General scientific area:** ENGINEERING

**Scientific subarea:** Electrical engineering

**Area of Work:** Power systems - Smart Grids

**Grant duration:** 12 months, starting on 2023-12-01, with the possibility of being renewed until the end of the project.

**Scientific advisor:** Jorge Correia Pereira

**Workplace:** INESC TEC, Porto, Portugal

**Maintenance stipend:** € 1741,00, [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 research plan involves the development of R&D activity in the area of power system dispatch, control, modelling, simulation and power system analysis for unbalanced networks, aiming to contribute to develop innovative solutions for smart grids, promoting the integration of new flexibility services provided by distributed energy resources. The R&D activities will also focus on the development of unbalanced network models for stationary network tools such as power flow, optimal power flow and fault analysis. Moreover, the researcher should participate in activities of scientific supervision of researchers.

### 3. BRIEF PRESENTATION OF THE WORK PROGRAMME AND TRAINING:

- 1) adapting the power flow and optimal power flow algorithms to include tree-phase network unbalanced models
- 2) modeling distributed energy resources and flexibility services for congestion and voltage management
- 3) follow the application integration tests with industrial partners

#### 4. REQUIRED PROFILE:

##### Admission requirements:

PhD degree in Electrical and Computer Engineering or similar.

The PhD degree must have been obtained within the three years prior to the date of submission of the application and the research work leading to the award must have been carried out at a host entity other than INESC TEC.

##### Preference factors:

Experience with modelling of unbalanced networks. Knowledge in steady state power flow algorithms for distribution networks. Knowledge of programming in Python and C/C++. Science and technology management, including proposal and contract negotiation.

##### Minimum requirements:

- Past experience in developing software for electrical networks;
- A minimum of 2 publications in journals.

#### 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 (70%) and EI (30%).

##### The Selection Jury is composed of the following members:

- President of the Jury: Jorge Correia Pereira
- Full member: Clara Sofia Gouveia
- Full member: Ricardo Jorge Bessa
- 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 fully 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. 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.
5. 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 2023-10-19 to 2023-11-02

**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](http://www.inesctec.pt/bolsas)

