

CALL FOR GRANT APPLICATIONS

(AE2026-0093)

INESC TEC is now accepting grant applications to award 1 Research Grant (BI) within the scope of the within the scope of the project GENESIS with reference 16995 (COMPETE2030-FEDER-00828300) co-funded by the ERDF - European Regional Development Fund through Innovation and Digital Transition Program - COMPETE 2030 under the scope of Portugal 2030 and by National Funds through the FCT - Fundacao para a Ciencia e a Tecnologia, I.P. (Portuguese Foundation for Science and Technology).

1. GRANT DESCRIPTION

Type of grant: Research Grant (BI)

General scientific area: ENGINEERING

Scientific subarea: Electrical engineering

Area of Work: Artificial Intelligence Applied to Energy Systems

Grant duration: 12 months, starting on 2026-07-01, with the possibility of being renewed until the end of the project.

Scientific advisor: Tiago André Soares

Workplace: INESC TEC, Porto, Portugal

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:

- Develop advanced skills in energy time-series forecasting (renewable generation, demand, and prices).
- Implement and compare forecasting models based on machine learning and deep learning (e.g., LSTM, Transformers, generative models).
- Support the development of predictive models for operation and planning in local electricity markets (LEM).
- Analyse the impact of forecast uncertainty and develop mitigation approaches.
- Integrate forecasting models into optimization and energy management tools.
- Apply Explainable AI (XAI) techniques to interpret predictive models.
- Consolidate skills in programming, data analysis, and scientific communication.
- Contribute to the preparation of technical reports and scientific publications.

3. BRIEF PRESENTATION OF THE WORK PROGRAMME AND TRAINING:

The increasing penetration of renewable energy sources and the decentralization of energy systems make energy forecasting a critical component for the efficient operation of power systems and local electricity markets. The variability and uncertainty associated with renewable generation (e.g., solar and wind), as well as electricity demand and prices, require robust predictive models to support both operational and strategic decision-making.

In this context, the proposed work plan focuses on the development and validation of advanced forecasting models, leveraging artificial intelligence approaches, including generative models and explainable AI techniques, aligned with the project objectives. The grantee will contribute to integrating these forecasts into decision-support tools for local electricity markets and distributed energy systems.

The main planned activities are:

- Reviewing the state of the art in energy forecasting, including statistical, machine learning, and deep learning approaches.
- Developing forecasting models for renewable generation, electricity demand, and market prices.
- Implementing advanced models (e.g., LSTM, Transformers, generative models) for time-series prediction.
- Evaluating model performance and analysing forecasting uncertainty.
- Integrating forecasting models into optimization and energy management frameworks for local electricity markets (LEM).
- Applying Explainable AI (XAI) techniques to interpret predictive models.
- Preparing technical reports, scientific papers, and dissemination materials in collaboration with the research team.

4. REQUIRED PROFILE:

Admission requirements:

Master in Electrotechnical Engineering or similar

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 energy time-series forecasting (renewable generation, demand, prices);
- Knowledge of machine learning and deep learning applied to energy problems;
- Experience in Python programming and use of libraries such as Pandas, Scikit-learn, TensorFlow, or PyTorch;
- Familiarity with advanced forecasting models (e.g., LSTM, Transformers, probabilistic models);
- Knowledge of electricity markets and energy systems;
- Experience in data analysis and visualization;
- Ability to develop models integrated with optimization and energy management;

Minimum requirements:

- Basic knowledge of time-series analysis and data analysis;

- Programming skills in Python;
- Fundamental understanding of machine learning;
- Fluency in English (written and spoken);

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 (90%) and EI (10%).

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: Tiago André Soares
- Full member: Tiago Manuel Campelos
- Full member: José Villar
- Substitute member: Ricardo Jorge Bessa

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 2026-05-01 to 2026-05-15

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

