

## CALL FOR GRANT APPLICATIONS

(AE2026-0064)

INESC TEC is now accepting grant applications to award 1 Research Grant (BI) within the scope of the within the scope of the project S2GAIIA with reference NORTE2030-FEDER-00866700 (15017) co-funded by the ERDF - European Regional Development Fund through North Regional Program - NORTE 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:** Industrial engineering

**Area of Work:** Artificial Intelligence, Multi-Agent Systems

**Grant duration:** 6 months, starting on 2026-04-07, with the possibility of being renewed until the end of the project.

**Scientific advisor:** Davide Rua Carneiro

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

**Maintenance stipend:** € 1309.64, [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:

- Broaden knowledge of the state of the art in the specific scientific area of the scholarship;
- Identify and select the appropriate methods for the study in question;
- Develop research skills through the application of the selected methods;
- Exercise critical thinking in the evaluation of the research process and the results obtained.

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

The scholarship's area of training is Multi-Agent Systems and Human-Centred Artificial Intelligence (Human-Centred AI), focusing on the study, research and development of agents for the construction, customisation and continuous adaptation of dashboards and KPIs in an organisational context. The goal is to advance the state of the art in architectures and methods that enable the automatic generation of high-value dashboards for the business, linking data to objectives, context and decisions, and supporting the exploration, explanation and validation of KPIs by different user profiles (managers, analysts, operational teams). In this context, socio-technical and human-centric dimensions are essential: the aim is for agents to operate in a transparent, controllable manner, aligned with

real practices of governance, data literacy and organisational responsibility.

In particular, the scholarship aims to investigate a family of specialised agents (e.g., goal discovery agents, semantic modelling of KPIs, visualisation recommendation, explanation and narrative, persona-based personalisation, and feedback-based adaptation) that integrate into an existing multi-agent architecture, extending it with advanced capabilities for: (i) business connection (strategy, processes, objectives, KPI contracts, ownership); (ii) automatic dashboard composition (selection of metrics, layout, visualisations, alerts, hierarchies, and drill-down); (iii) dynamic and contextual adaptation (changing priorities, seasonality, events, data and user changes); and (iv) explainability, trust and human validation (justification, traceability and control mechanisms). In addition, the aim is to explore robust mechanisms for integration and governance (catalogue, lineage, quality, access, auditing), ensuring that automatically generated dashboards are accurate, relevant, auditable and actionable.

Specifically, the main activities to be carried out by the scholarship holder are:

- Analyse the state of the art in agents and multi-agent architectures applied to analytics and BI (including LLM-agents, planning and tool-use, semantic RAG, visualisation recommendation systems, conversational agents for BI, and human-in-the-loop approaches), focusing on current limitations in the generation of value-oriented dashboards and the explanation of KPIs;
- Identify and specify advanced requirements (functional and non-functional) for a dashboard/KPI-oriented agent layer: alignment with business objectives, personalisation by persona, compliance constraints, governance and auditing, robustness to imperfect data, and UX/explainability requirements;
- Propose formal/semantic models and representations to link business-data-KPI (e.g., KPI contracts, metric ontologies/taxonomies, goal-metric-action models, organisational context, and user profiles), enabling agents to reason about relevance, impact, and trade-offs;
- Develop new agents that implement functionalities such as automatic dashboard construction (specification generation, visualisation selection, layout and analytical storytelling), question-driven exploration ('why did it go up/down?', 'what explains the variation?', 'where to act?'), explanation and narrative of KPIs (justifications, breakdowns, drivers, comparisons, uncertainty), personalisation and adaptation (preferences, tasks, literacy, device, temporal context, behaviour, and feedback);
- Investigate coordination and security mechanisms between agents and tools (orchestration, goal negotiation, memory and context management, access policies), including strategies to prevent hallucinations and metric errors, automatic validation (statistical/semantic checks), and trust calibration;
- Integrate agents into an existing architecture, defining interfaces, interaction patterns, connectors to organisational sources (catalogue
- Validate in realistic scenarios, through industrial use cases (e.g., commercial performance, operation, finance, supply chain), conducting comparative experiments with traditional approaches and evaluating performance, robustness, generalisation, and organisational impact;
- Collaborate in technical-scientific production, including articles, reports, architecture and agent documentation, experimental reproducibility, and writing activity reports, systematising results and recommendations for industrial adoption and governance of agent-based solutions.

#### 4. REQUIRED PROFILE:

##### Admission requirements:

- Master's degree in computer engineering, information systems, 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:

- Fluency in Portuguese.
- Experience in Business Intelligence/Analytics
- Experience with agent frameworks

**Minimum requirements:**

- Average grade in bachelor's and master's degrees higher than 14.

**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, 0%), Experience (EX, 30%) and Motivation Letter (CM, 20%).

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: Davide Rua Carneiro

Full member: António Henrique Almeida

Full member: Hugo Miguel Ferreira

Substitute member: António Lucas Soares

**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 2026-03-05 to 2026-03-18

**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)

