CALL FOR APPLICATIONS: RESEARCHER

Job/position/grant:

Job reference:	AE2024-0287 (ATE - CPES)
	INESC TEC - Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciência
Job/position/grant:	RESEARCHER
City:	Porto
Research field:	Main: ENGINEERING
	Sub: Electrical engineering,Mechanical engineering

Job summary:

INESC TEC is accepting applications for 1 RESEARCHER job in the ENGINEERING - Thermal Modelling of Buildings and Storage Systems

Project:	Alliance for Energy Transition
Scientific Advisor:	Zenaida Mourão
Start Date:	2024-09-15
Location:	INESC TEC, Porto, Portugal

Job description:

Work Area: ENGINEERING - Thermal Modelling of Buildings and Storage Systems

Project overview: In the framework of this project, a PCM-based thermal storage solution will be implemented to enhance energy efficiency at industrial warehouses. The project will develop a thermal storage system (passive) in the negative cold storage zone at the warehouse, making a critical contribution to the increase of thermal inertia and allowing for better management of the cooling systems. The project will also develop an energy management tool for the cooling systems, considering the local renewable energy production, the thermal behaviour of the negative cold storage system and the PCM storage system.

Objectives: Characterization of the thermal energy profile of the building and the consumption profile of the systems associated with tertiary cold production to quantify the flexibility potential. Development of a planning system for integrating thermal storage, based on PCMs, in tertiary buildings, managing cold systems, and reducing energy losses from logistics operations. Development of a predictive optimisation module for cooling systems equipped with PCM systems to support demand management.

Academic Qualifications:	Master in Mechanical Engineering, Electrical and Computer Engineering, or similar.
Minimum profile required:	Strong skills in modelling and simulation tools for building thermal analysis (e.g., Energy Plus, ESP-R). Ability to develop models for thermal storage management in buildings. Knowledge of phase change materials (PCM) and their application in cooling systems. Ability to develop predictive optimisation modules for building energy use and thermal storage. Knowledge of programming (e.g., Python). Exceptional written and oral communication skills in English and Portuguese (desirable).
Preference factors:	Professional experience in thermal energy modelling of buildings. Experience modelling thermal storage systems in tertiary buildings, specifically phase change materials (PCM). Experience in the application and evaluation of predictive optimisation modules.

Funding Entity:	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.
Type of contract:	Uncertain term contract

The hiring shall be governed by what is stipulated in the legislation in force regarding uncertain term employment contracts and by INESC TEC norms.

Selection criteria:	The selection of the candidates will be based on the following criteria, in descending order of consideration:
	a) Relevant Curriculum in the concerned field of this tender
	b) Proven experience.
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.

Selection Jury:	President of the Jury: Zenaida Mourão;
	Member: David Emanuel Rua;
	Member: Ricardo Jorge Bessa;
Notification of results:	The results of the selection process will be sent to the interested by electronic mail.
Application period:	From 2024-07-25 to 2024-08-25
Application submission:	Electronic form filling in www.inesctec.pt in the section Work with Us