

## Power Systems Researcher (M/F)

### The Company:

- R&D Nester is Creating a Smart Energy Future!
- R&D Nester is a global and independent R&D centre, with a multicultural DNA and a long run strategic thinking, innovating for a smart, clean, efficient and sustainable energy system, aiming to be a prestigious R&D centre with a leading position in the intelligent management of energy systems.
- R&D Nester comes from REN and State Grid Corporation of China's (SGCC) will to synergize core competences and create an R&D centre in order to promote and implement applied research, development, demonstration and testing in an international context, innovating for a smart energy system.
- With a vibrant culture of creative and long run strategic thinking, focused on finding and developing unique opportunities to create value, we shall bring unconventional strategies that will shape the future of the energy market.
- We work in an international environment, mostly in large European projects, with frequent presence in high reputation publications and events, and with achieved and ongoing patents.
- We believe in Talent, Multiculturalism, Audacity, Agility and Flexibility.

### Function details:

- Researcher – Power System Engineer (Full-time)

R&D Nester Power System Researchers are involved in multiple projects addressing engineering and economic challenges related with the Energy Transition and the energy systems of the future. Furthermore, Researchers are involved in European working groups and other international fora.

R&D Nester has also built a Real Time Power System Simulator (RTPSS<sup>1</sup>) LAB used to conduct, amid others, operational tests on various protections and control power system elements. RTPSS enables the closed-loop testing of equipment used in a real power system.

The successful candidate will benefit from a state of the art research environment and a dynamic research team.

### Main Duties and Responsibilities:

The candidate is expected to be involved in the following:

- Participation in and contribution to R&D&I projects
- Management of R&D&I tasks and projects
- Review of project deliverables and other related technical documents
- Contribute to technical guidance on R&D&I Strategy
- Identify opportunities to involve R&D Nester in national and international projects
- Scientific documents and paper writing
- Conducting briefing and technical meetings with partners, customer representatives and management.

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<sup>1</sup> a fully digital electromagnetic transient's power system simulator that operates in real time

## Qualifications:

Candidates should have a degree in engineering, preferably with a power systems major or minor, strong analytical skills, strong programming skills, experience with power/communications systems modelling and simulation.

### The successful candidate should have / be:

- Master / higher degree in electrical engineering (Power Systems), with minimum final grade of 14/20
- Familiar with relevant offline simulation software, such as Matlab SPS/Simulink, EMTP/EMTDC (preferably) and PSS/E (preferably) and operating systems (preferably LINUX)
- Strong skills in programming (e.g. Python, C/C#, Java), preferably being an experienced user of PSS/E with application development using Python
- Technical background on power system analysis (steady state analysis, transient stability, short circuit calculation); Good knowledge in power system simulation, including electromechanical and electromagnetic transients simulation; Experience in the application of optimisation methods to power system analysis and simulation
- Understanding on power systems operation processes close to real time such as maintenance practices, RES and load forecast techniques, net transfer capability, etc
- Knowledge or exposure to EU regulation concerning planning and operational standards under the CEP framework; Good understanding of electricity markets and energy regulation
- Knowledge or exposure to flexibility solutions for power systems (e.g. active power management for congestion purposes, reactive power management in the interface TSO/DSO, RES integration)
- Ability to develop applied research to power system planning or operation using intelligent optimization methods; Optimization methods development for power system problem solving (e.g. LP, NLP, EPO, GA, TS using GAMS) (pref.)
- Ability to develop models, plans and procedures for real time power system simulation and testing, including but not limited to hardware-in-the-loop and model-in-the-loop testing of protection and control systems (pref.)
- Knowledge of operation of real time power system simulator, including maintenance of equipment, executing simulation and testing (pref.)
- Design of business and technical process flows using the use-case and the Smart Grid Architecture Model approach (pref.)
- Communications networks and laboratory operations experience (pref.)
- Experience in application of real time power system simulator (pref.)
- Fluent in English (at least C1 level).



### **Personal profile:**

- Team working
- Goals oriented
- Scientific maturity and autonomy
- Proactivity
- Flexibility and resilience
- Multi-tasking
- Written and oral proficiency
- Accountability.

### **Others:**

- Job is located in Sacavém (Portugal).

### **How to apply:**

This position is available for entry from September 2021 onwards. Potential applicants are invited to send their CV and a covering letter to [info@rdnester.com](mailto:info@rdnester.com) highlighting their interests and suitability for the vacancy.