Job Description

Job title:	**Lead Engineer - Energy Systems Lab**
Team:	**Engineering**
Reports to:	**IAAPS Engineering Manager**
Line manages:	**No Direct Reports**
Salary:	**£50,000**
Location:	**Bristol & Bath Science Park**

Working at IAAPS

At IAAPS, we strive to attract and select the brightest minds to be part of our team. In this role you will be working within a highly collaborative and cross-disciplinary team, and it is important to us that you can work in a way that reflects the values we believe in. Our values are:

What's involved?

As a world-leading R&I centre that supports the wider transport sector in the transition to net zero, we have great ambitions – namely, to solve the industry's biggest challenges by creating the technologies, tools and systems needed to accelerate the move to clean, affordable and sustainable mobility.

We are a commercial subsidiary of the University of Bath, and our new 11,300 sq meter, purpose built facility based at the Bristol & Bath Science Park ranks among the top three independent institutions of its type in the world. With a team in place that brings together specialists from across industry and academia and a range of highly prestigious commercial partners within the automotive, aerospace and marine sectors, IAAPS is now firmly moving into a scale up phase.

The key to our success? Put simply, it's our people. We are a dynamic SME operating at the forefront of future low carbon mobility, therefore everyone's contribution matters and makes a real difference to what we achieve together.

The Role

The Lead Engineer will be responsible for the specification and installation, together with the day to day technical leadership and operational management, of the **Energy Systems Laboratory (ESL)**. This facility underpins research and industrial collaboration in:

- AC and hybrid AC/DC energy systems
- Superconducting and cryogenic power systems
- With future expansion into advanced power electronics, motor drives and charging systems

The postholder will ensure the ESL functions as a world-leading research and industrial engagement environment, supporting IAAPS's strategic mission in clean propulsion, smart energy networks, and next-generation electrification.

> Provide day-to-day and long-term leadership for the ESL, setting technical direction and ensuring operational excellence.

> Develop and maintain laboratory procedures, workflows, usage policies, and engineering standards.

> Support the scheduling of research, testing and industrial projects, balancing academic and commercial priorities.

> Accountable to ensure maintenance regimes, calibration schedules, lifecycle management and capital upgrade planning.

> Lead development, configuration, and operation of AC grid emulators, AC network models, and smart-grid control platforms.

> Support research into flexibility services, resilience, distribution networks, and real-time energy system modelling.

> Manage hybrid AC/DC microgrid infrastructure, including high-power converters, bus architectures, and real-time PHIL systems.

> Oversee cryogenic test infrastructure including cryogenic systems, superconducting device test capability , and safety systems.

> Support engineering & research activities involving SFCLs, cryogenic DC breakers and superconducting electric machines.

> Lead operation and integration of power-electronics test stands, SiC/GaN converter rigs, DC/DC converter stations, and inverter testbeds.

> Provide specialist engineering expertise to enable research into:

  - Energy networks, smart grids, flexibility, distributed energy systems.
  - Superconducting propulsion, cryogenic converters, DC protection.
  - Power electronics, converters, electric propulsion.

> Collaborate with IAAPS engineers, academic staff and researchers, and to design and deliver experiments. research and innovation and industrial projects

- Support project proposal development, industry engagement, and collaborative R&D programmes.
- In conjunction with the Engineering Manager support scheduling of Technician and Engineering resource to support ESL activities and facility maintenance as needed
- In conjunction with the Head of Q, H&S ensure compliance with:
    - HV electrical safety regulations
    - Cryogenic safety standards
    - ISO-certified IAAPS management systems (e.g., ISO 9001, 14001, 45001)
- Conduct risk assessments, method statements, hazard identification and system-level safety audits.
- Develop training materials, induction sessions and competency frameworks for laboratory users.
- Mentor early-career engineers and technical staff.
- Contribute to long-term technology road mapping for IAAPS energy systems capability.
- In conjunction with senior academics and IAAPS management lead specification of future equipment, upgrades and facility expansions (AC, DC, cryogenic, propulsion).
- Support commercial engagement, consultancy, and industrial project delivery.

What do I need?

- Degree or very significant equivalent experience in Electrical Engineering, Power Systems, Energy Engineering, Power Electronics or related discipline. You may have a higher degree including research publications in your specialist field(s).
- Significant experience in AC power systems, grid emulation, power electronics or HV test environments.
- Proven capability in one or more of the following:
    - AC network modelling & smart grid systems
    - Power converter design/test (SiC/GaN, HVDC, DC/DC)
    - High-voltage laboratory operation
    - Cryogenic or superconducting device handling
- Demonstrable project leadership experience in R&D or industrial test environments.
- Strong competencies in test automation, instrumentation, and data acquisition.
- Experience working with industrial partners and external stakeholders.
- Experience of working in a high-performing multi-disciplinary team, to operate in a matrix organisation. Setting expectations, providing feedback, motivating, and engaging the team to solve problems and challenges.
- Strong communication and relationship-building skills; ability to adapt personal style to different audiences, influence, and challenge effectively.

- Previous experience of leading the resolution of business, technical and process issues within a Project Team environment.
- Experience of working with customers to understand project and market needs and develop technical relationships.
- Ability to proactively manage competing demands and deadlines, role model and support others to adapt to change and achieve results for the team.

Key Competencies

- Technical Leadership – able to drive multidisciplinary technical programmes.
- High-Voltage Safety Expertise – strong command of HV working practices.
- Problem Solving & Innovation – ability to develop creative solutions in complex energy system environments.
- Collaboration & Communication – supports world-class academic and industrial engagement.
- Strategic Thinking – able to guide the facility's long-term capabilities.
- Operational Excellence – ensures high uptime, robust processes, and safe operation.

Closing date for applications: Sunday 17th May 2026