

Research & Knowledge Exchange
School of Science, Engineering & Environment

Job Opportunity

**Vacuum Systems Development Engineer /
KTP Associate position**

Worldheat Ltd – Dukinfield, Tameside, SK16 4RN

Overview, Job Description and Person Specification

Knowledge Transfer Partnership Associate with Worldheat Ltd

Overview

In collaboration with Worldheat Ltd, The University of Salford has been awarded a 29-month Knowledge Transfer Partnership (KTP). This position will be working across departmental teams at Worldheat's business premises in Dukinfield Tameside (SK18). However, the Associate will be required to travel to the University of Salford as required for meetings on a regular basis.

World Heat Limited is a UK-based manufacturer specialising in the design and production of advanced hot water storage cylinders, calorifiers, and buffer vessels. The company's core revenue comes from supplying high-quality hot water cylinders to residential, commercial, and industrial clients.

This KTP will advance hot water storage technology by developing a chemical-free, vacuum-insulated cylinder that delivers high energy efficiency and meets the stringent requirements of the Future Homes Standard. By adopting vacuum insulation, World Heat Limited will enable the manufacture of compact cylinders that fit within existing spatial constraints in both new builds and retrofits, while exceeding regulatory targets for heat loss.

This is an opportunity to drive a significant technological development, supported by comprehensive training and career development for the right candidate. This will be complimented by the Academic team at the University of Salford led by Dr Amir Nourian, Associate Professor in Mechanical Engineering and Prof Maziar Nzhad, Professor in Engineering and Director of NERIC.

Job Purpose

This KTP project is required to develop an innovative, chemical-free, vacuum-insulated hot water cylinder that reduces heat loss and improves energy efficiency. This project will embed advanced thermal modelling and manufacturing expertise, supporting the UK's transition to low-carbon heating and strengthening domestic capability in sustainable hot water storage solutions.

This project addresses a clear business need by enabling World Heat Limited to develop a new generation of energy-efficient, environmentally sustainable hot water cylinders. The project aligns, with the company's strategy to drive innovation and build advanced R&D capability, supporting the shift to low-carbon heating and future regulatory compliance.

World Heat Limited's future strategic aims focus on driving innovation, expanding manufacturing capacity, and establishing the company as a leader in sustainable hot water storage solutions.

Knowledge from advanced thermal modelling, simulation, and vacuum technology will be embedded through close collaboration with the University of Salford, creating robust in-house R&D capability. The partnership with NERIC will also introduce advanced manufacturing and robotics-assisted processes, improving productivity and reducing costs.

Responsibilities

The Associate will take on the challenging task of project managing this 29-month programme of research, development and implementation. This is an opportunity for the right candidate to become a key player within the business, with an awareness of strategic and operational decision-making processes.

The key objectives for this KTP Project are the following:

- To design and manufacture a next-generation hot water cylinder with at least 30 percent lower heat loss
- Embed advanced thermal modelling and simulation capabilities within the company
- Upskilling of staff in vacuum technology and lean manufacturing
- Integrating vacuum insulation technology, eliminating polyurethane foam, and adopting innovative manufacturing processes and advanced coatings to further enhance performance and sustainability
- Support the commercialisation and continuous improvement of the developed solution

This Job Description is a guide to the work you will initially be required to undertake. It may be changed from time to time to meet changing circumstances. It does not form part of your Contract of Employment.

We are seeking a candidate committed to continuing Personal/Professional Development and able to engage with appropriate development activities as required for the role. For example, KTP project management training, Data Protection training and any other identified appropriate essential learning opportunities. As part of the role there will be regular performance development and monitoring to support and enable the associate to develop essential skills and knowledge.

Person Specification

The successful candidate should demonstrate the following, which are 'Essential' (E) or 'Desirable' (D)

Qualifications

1. A minimum 2:1 BEng or BSc in Mechanical Engineering, Manufacturing, or a closely related discipline (E)
2. A postgraduate qualification (MSc or MRes) in thermal systems, mechanical engineering, or advanced manufacturing is highly desirable (D)

Background, Experience & Knowledge

3. Relevant industrial experience in product development and process optimisation (D)
4. Understanding of thermal modelling and heat transfer (E)
5. Structural and thermal metal fabrication expertise (E)
6. Experience of working with vacuum technology and advanced materials (D)
7. Experience of implementing new manufacturing processes at scale (D)

Skills & Competencies

8. Proficiency in CAD and simulation software (i.e. Ansys CFD or COMSOL) (E)
9. Strong communication and stakeholder engagement skills, adaptability, and the ability to manage complex projects in a fast-paced SME setting (E)
10. The ability to be proactive, analytical, and capable of driving change and innovation (E)