

Systems Engineer (Whole System Integration)

Department	Power Networks Demonstration Centre (PNDC) (https://pndc.co.uk/), Department of Electrical and Electronic Engineering (http://www.strath.ac.uk/engineering/electroniclectricalengineering/)		
Faculty	Faculty of Engineering (www.strath.ac.uk/engineering/)		
Staff Category	Knowledge Exchange	Reference No	354217
Reports To	PNDC Programme Delivery Manager	Grade:	8
Salary Range:	£41526 - £51034	Contract Type:	Open Contract
FTE:	1 (35 hours/week)	Closing Date	Sunday, 21 March 2021

Job Advert

The Power Networks Demonstration Centre (PNDC), part of the University of Strathclyde (Times Higher Education Awards University of the Year 2019 and Scottish University of the Year 2020), wishes to appoint a Systems Engineer (Whole System Integration) to lead our innovation activities focussed on the development, realisation and integration of “multi-vector” energy solutions - those that span or can impact upon more than one sector of the energy system (electricity, heat, transport). By bringing our expertise to project teams and key stakeholders, our aim is to accelerate innovation and de-risk the deployment and integration of new innovations and drive them towards business-as-usual within the net-zero energy system of the future.

The successful candidate will work as part of a growing dynamic team to develop and deliver a wide range of technical projects to support PNDC's whole energy system integration activities, with a particular emphasis on experimental validation and testing. The postholder will be expected to lead on and contribute to high value industrial funding proposals, in addition to working with the PNDC's industrial partners, with a strong focus on knowledge exchange.

Opportunities for innovation are extensive, through the strong working relationship and routes to market afforded by the PNDC's industry members and commercial engagements. This will be supplemented with collaborative opportunities with other research and industry teams in the UK and abroad.



The PNDC offers a dynamic and varied environment, providing the opportunity to be involved in leading edge work within the energy sector. As part of the University of Strathclyde, the PNDC can offer a wide range of benefits to the post holder, including a generous holiday entitlement, pension scheme, and discounts to the state-of-the-art Strathclyde Sport gym and leisure facilities. The University also currently holds a Bronze Athena SWAN award, recognising our commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.

To be considered for the role, you should possess the knowledge, skills and experience normally associated with a PhD in a relevant field or you will be educated to Honours Degree level with relevant industrial

experience. You will have experience in low-carbon technology and system innovation (ideally covering aspects of the electricity, heat and transport sectors), energy systems integration requirements, and the associated protection, control and management systems. You will be able to apply this knowledge in a highly practical environment, have experience of leading the delivery of research and development projects in collaboration with industry or in an industrial context, and have good technical writing ability and strong communication skills. In addition, you will also be able to lead and contribute to high value industrial funding proposals. You must be a self-starter, and able to plan and conduct individual research and knowledge exchange activities with minimal supervision, as well as generate new ideas and concepts, with the capacity to work in a dynamically changing team environment.

Job Description

Brief Outline of Job:

The Systems Engineer (Whole System Integration) is responsible for the development and successful delivery of research and development projects to support the PNDC's evolving portfolio of innovation activities focussed on the development, realisation and integration of "multi-vector" energy solutions. The role requires strong engagement with industry, as well as with the PNDC colleagues and the wider University team, to support the realisation of relevant and valuable results. While part of the University, the PNDC is an off-campus industry facing facility based near Cumbernauld.

Main Activities/Responsibilities:

1.	Secure and conduct research, development and testing activities in collaboration with industrial and academic colleagues focussed on the realisation and integration of multi-vector energy solutions across electricity, heat and transport. This will include aspects of: <ul style="list-style-type: none">- Developing the PNDC's whole energy systems and multi-vector systems R&D portfolio, including leading the development of geared funding proposals- Developing project requirements specifications incorporating learnings from previous research- Technology and system design, system integration, and engineering studies (including system modelling, simulation and transient performance studies)- Techno-economic assessments and feasibility studies- Production of technical guidance and briefings- Timely and on-budget delivery of complex projects, ensuring deliverables are met and clear reporting is available.
2.	Provide technical and professional support for broader PNDC activities in the area of whole system integration, including inputting to strategy, with particular emphasis on the interactions between the different sectors of the energy system (electricity, heat, transport).
3.	Provide quality technical and progress reports of research, development and testing work, adopting best practice in effective knowledge transfer to internal and external stakeholders, and supporting dissemination at conferences and in peer-reviewed journals whilst ensuring that any IP generated is recognised and managed appropriately.
4.	Attend and contribute to external reviews, project progress meetings, and knowledge exchange events and initiatives.
5.	Plan and manage own workload, with guidance from colleagues as required, while adopting safe and appropriate working practices.
6.	Maintain appropriate engagement with colleagues in the wider university teams, to draw in appropriate expertise into project and proposal activity, exploit synergy with other research programmes, and contribute to sector-leading activities aligned with key industry member and stakeholder needs.
7.	Engage in continuous professional development, participating in external networks and consultations to maintain current knowledge of relevant state of the art, patent positions, products and technology readiness levels.
8.	Contribute to policy and industry consultations and deliver thought leadership articles, in support of PNDC's professional contribution to the energy sector and the delivery of net-zero emissions.

Person Specification

Educational and/or Professional Qualifications

(E=Essential, i.e. a candidate must meet all essential criteria to be considered for selection, D=Desirable)

E1 Good Honours degree (minimum class 2:1) in a relevant discipline (e.g. electrical/electronic engineering, mechanical engineering, physics)

D1 PhD in appropriate discipline and relevant industrial experience

D2 Membership, or working towards membership, of a relevant Professional Institution

Experience

E2 Experience in whole energy system design, analysis and systems integration, with an understanding of how the different sectors of the energy system interact and influence each other

E3 Knowledge of low carbon transport, heat, and electrical power systems design and systems integration, including knowledge of the role of hydrogen-based systems

E4	Experience of engaging with external clients to capture system requirements, developing technical or project specifications from these requirements, and leading the delivery of research and development projects
E5	Experience in modelling and simulation in a relevant discipline
E6	Experience of building techno-economic models
E7	A track record of leading the delivery of research and development projects
D3	Knowledge of the energy industry landscape, and of multi-vector innovation and demonstration projects around Scotland and internationally
Job Related Skills and Achievements	
E8	An excellent problem-solver, with a track record of achievement in an R&D environment
E9	High level of initiative with the ability to apply knowledge in a highly practical environment, and to generate new ideas
E10	Ability to conduct testing, data analysis, preparation of test programmes and reports and engaging with industrial clients
E11	Ability to lead and take technical ownership of research and development areas, and manage the work of R&D engineers
D4	Ability to learn quickly in a fast moving, changing environment
Personal Attributes	
E12	Enthusiastic self-starter and able to work to deadlines, with a customer focus
E13	Excellent organisational, interpersonal and communication skills, with the ability to listen, engage and persuade with a range of audiences
E14	The ability to work independently and manage own workload, with minimum supervision, and as part of a small team

Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted before interview without further permission, unless you indicate that you would prefer otherwise. Applicants should also submit a Curriculum Vitae and a covering letter detailing the knowledge, skills and experience you think make you the right candidate for the job. Applicants should also complete the Equal Opportunities Monitoring Form.

Other Information

Further information on the application process and working at Strathclyde can be found on our website (<http://www.strath.ac.uk/hr/workforus>).

Informal enquiries about the post can be directed to Richard Knight, Director for Strategy & Technology (richard.knight@strath.ac.uk).

Conditions of Employment

Conditions of employment relating to the Knowledge Exchange staff category can be found at: [Conditions of Employment](#).

Rewards and Benefits

Our staff have access to a wide range of outstanding benefits that include financial rewards, family friendly and wellbeing benefits and career development opportunities, details of which can be found [here](#).

PVG Check

This position involves regulated work, making it a legislative requirement that the successful candidate becomes a member of the Protection of Vulnerable Groups Scheme. If appointed, employment with the University will not be confirmed, until membership of the Scheme has been received. The successful applicant will be precluded from working with protected groups until that time.

Pre-employment health screening

An offer of appointment will be subject to a medical assessment by Occupational Health. An individual who accepts an offer of employment must complete a confidential medical questionnaire and forward it to the Occupational Health Nurse within 5 days of receipt. If further information is required the individual may be contacted by the OHN or a Medical Advisor and a personal appointment with the individual may be arranged. An unconditional contract of employment will not be issued until Human Resources receives confirmation that applicant is fit to undertake the duties of the post.

Probation

Where applicable, the successful applicant will be required to serve a 12 month probationary period.

Pension

The successful applicant will be eligible to join the Universities' Superannuation Scheme. Further information regarding this scheme is available from [Payroll and Pensions](#).

Relocation

Where applicable, the University offers a relocation package to support new employees who meet the eligibility criteria. The relocation package is offered as a contribution towards costs incurred, and is designed to be flexible, allowing staff to use the financial support available in the way that will be most helpful to them. Further details are outlined in the Relocation Policy.

Interviews

Formal interviews for this post will be held in March/April 2021.

Equality and Diversity

We value diversity and welcome applications from all sections of the community.

The University currently holds a Bronze Athena SWAN award, recognising our commitment to advancing gender equality in academia across all academic disciplines and professional and support functions.

University Values

The University's Values capture what we're all about: who we are, what we believe in and what we stand for. [Our Values](#) have been derived from how we act and how we expect to be treated as part of Strathclyde.

