

# Systems Engineer (Hydrogen)

Department	Power Networks Demonstration Centre (PNDC) ( <a href="http://www.strath.ac.uk/pndc/">http://www.strath.ac.uk/pndc/</a> ), Department of Electrical and Electronic Engineering ( <a href="http://www.strath.ac.uk/eee/">http://www.strath.ac.uk/eee/</a> )		
Faculty	Faculty of Engineering ( <a href="http://www.strath.ac.uk/engineering/">www.strath.ac.uk/engineering/</a> )		
Staff Category	Knowledge Exchange	Reference No	339634
Reports To	PNDC Programme Delivery Manager	Grade:	8
Salary Range:	£41526 - £51034	Contract Type:	Fixed Term (24 months)
FTE	1	Closing Date	17/01/2021

## Job Advert

The University of Strathclyde in Glasgow possesses a large internationally rated Engineering Faculty with a proud history of successful joint ventures with industrial and enterprise partners. As part of the University's strategic development, the Power Networks Demonstration Centre (PNDC) has been established in Wardpark North near Cumbernauld. The PNDC is a world-class facility with a team of around 30 dedicated staff. It comprises a purpose-built and flexible test environment to enable the acceleration and de-risking of integrated technology and system solutions to support the realisation of a future decarbonised energy system. We are implementing ambitious plans to grow the facility into a "whole energy systems" innovation environment, including research activities in heat and transport to complement the existing smart grid activities. The £12.5 million Centre - the first of its kind in Europe - was founded by the University of Strathclyde and leading energy companies including Scottish Power Energy Networks and Scottish and Southern Electricity Networks, with support from Scottish Enterprise and the Scottish Funding Council. Since then the Centre has expanded its membership to eight industry partners and this growth is set to continue. The PNDC works with a range of commercial partners and is formally linked to the University through the Institute for Energy and Environment within the Department of Electronic and Electrical Engineering.



The PNDC is one of the Commercialisation Centres for the recently-announced Hydrogen Accelerator (<https://h2-accelerator.wp.st-andrews.ac.uk/>). The Hydrogen Accelerator is the Scottish initiative for developing and supporting world-leading hydrogen projects, placing Scotland at the forefront of innovative decarbonising solutions relating to hydrogen and hydrogen-based technologies in transport. Funded by Transport Scotland and the Scottish Government, the initiative will support the development and scale-up of hydrogen projects in Scotland. PNDC wishes to appoint a Systems Engineer (Hydrogen) to our team to support project activities in this growing area. By bringing our expertise to project teams and key stakeholders, we aim to accelerate innovation and de-risk effective deployment and integration.

The successful candidate will work as part of a growing dynamic team, developing and delivering a wide range of technical projects to support the activities of the Hydrogen Accelerator and the PNDC's evolving portfolio of low carbon transport projects, with particular emphasis on hydrogen-based low/zero carbon transportation systems and their integration into the wider energy system. This will include aspects of: developing project requirement specifications incorporating learnings from previous research, technology and system design reviews, technology and system design and system integration studies (including system modelling, simulation and transient performance studies), safety evaluations, electrical power system modelling, simulation and engineering studies, environmental impact analysis, techno-economic assessments and feasibility studies and production of technical guidance and briefings. In this, the successful candidate will benefit from a close association with the Industry Strategy Challenge Fund's Driving the Electric Revolution

(DER) Challenge, as a result of PNDC's role within DER Centre Scotland. This provides a unique opportunity to work at the cutting edge of deployed hydrogen projects as part of the energy transition.

To be considered for the role, you should possess the knowledge, skills and experience normally associated with a PhD in a relevant field and you will be educated to Honours Degree level. Alternatively, you will have exceptionally, equivalent relevant industrial experience. You will have experience in low-carbon transport technologies and systems (particularly hydrogen-based), energy systems integration requirements, and the associated protection, control and management systems required to enable robust integration with electrical distribution networks. 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 you will have good technical writing ability and strong communication skills. 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 (Hydrogen) is responsible for the development and successful delivery of research and development projects to support the activities of the Hydrogen Accelerator and the PNDC's evolving portfolio of low carbon transport projects. The role requires strong engagement with industry and academic colleagues within the Hydrogen Accelerator, as well as with the PNDC and 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.	Conduct research, development and testing activities in collaboration with industrial and academic colleagues within the Hydrogen Accelerator, focussed in the areas of low carbon (hydrogen) transport systems and their integration with the wider energy system (utility electrical power systems).
2.	Provide technical and professional support for broader Hydrogen Accelerator activities, including inputting to strategy, and in the areas of low carbon (hydrogen) transport systems and utility electrical power systems.
3.	Provide quality technical and progress reports of research, development and testing work, adopting best practice in effective knowledge transfer to the Hydrogen Accelerator's stakeholders, and supporting dissemination at conferences and in peer-reviewed journals.
4.	Attend and contribute to internal (Hydrogen Accelerator and PNDC) and external review and progress meetings. Attend site visits/meetings as required.
5.	Plan and manage own workload, with guidance from colleagues as required, while adopting safe and appropriate working practices.
6.	As part of the dynamic team at PNDC, contribute to the Centre's safe operational running, effective administration, and knowledge exchange events and initiatives.
7.	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.
8.	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.
9.	Contribute to policy and industry consultations where appropriate, in support of PNDC's professional contribution to the energy and transport sectors.

## 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)

EI Good Honours degree and PhD (or, exceptionally, equivalent professional experience) in a relevant discipline (e.g. chemical engineering, electrical/electronic engineering, physics)

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

<b>Experience</b>	
E2	Experience in low carbon transport system applications, with specific emphasis on hydrogen-based systems
E3	Knowledge of low carbon transport system design and systems integration
E4	Knowledge of electrical power systems design and systems integration
E5	Experience of engaging with external clients to capture system requirements, and to develop technical or project specifications from these requirements
E6	Experience in modelling and simulation in a relevant discipline
E7	Experience of building techno-economic models
D2	Knowledge of the low carbon transport and electricity supply industry landscapes, and of the energy, renewables and hydrogen projects around Scotland and internationally
<b>Job Related Skills and Achievements</b>	
E8	An excellent problem-solver, with a track record of achievement in an R&D environment
E9	Ability to work constructively within a team environment and to lead teams.
E10	High level of initiative with the ability to apply knowledge in a highly practical environment, and to generate new ideas.
E11	Ability to conduct testing, data analysis, preparation of test programmes and reports and engaging with industrial clients.
E12	Personal Attributes
E13	Enthusiastic self-starter and able to work to deadlines, with a customer focus.
E14	Excellent organisational, interpersonal and communication skills, with the ability to listen, engage and persuade with a range of audiences
E15	The ability to work independently, 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](#).

### 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 3 year 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](#).

## Interviews

Formal interviews for this post will be held at the end of January 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.

