

Press release

15 January 2017

Altran, Moltex Energy and the University of Bristol awarded Innovate UK funding to design wireless nuclear control system

Altran has announced that it is leading a consortium of Moltex Energy and the University of Bristol to deliver the ICON research project, which will explore the feasibility of designing a nuclear control system using wireless technology.

ICON (Intelligent Control for efficient Nuclear applications) was chosen for funding by Innovate UK because of the significant potential for wireless control systems to have a positive impact in the nuclear context. The ability to remotely power and securely communicate control responses and asset information within a nuclear plant can make control systems more robust and secure to external influences, while making the plant safer for operatives. By removing traditional power and data harnesses from in-reactor applications, Altran believes that it can facilitate faster deployment and replacement of instrumentation. Further, this has the potential of flexible deployment in hard-to-reach areas, which can enable monitoring of asset integrity to currently unachievable levels. These advantages will clearly contribute to reduced service downtime and increased profitability for new build, existing plants and decommissioning.

As well as designing system architectures, the research will determine appropriate control contexts, the resultant system reliability claims and safety approvals route to validate the viability of deploying this technology in nuclear applications across the UK's civil nuclear landscape.

David Lawson, Head of Energy at Altran UK, said: "As a global leader in engineering and R&D services we're perfectly positioned to oversee this important research, which promises to enhance the safety and optimise the efficiency of nuclear operations. We have over thirty years of experience in developing high-integrity control systems across a number of sectors, experience that equips us to bring a great deal of value to this project and to ensure that it delivers maximum return for the nuclear industry."

Ian Scott, CTO of Moltex Energy, said: "The guiding principle behind Moltex Energy's development of advanced nuclear reactors is to eliminate complexity and build-in robustness of operation by design. Nuclear control and instrumentation systems in most cases use technology from the 1970s, adding complexity that is not necessary today with advanced wireless C&I. Moltex Energy are therefore pleased to be working with University of Bristol and Altran in the development of this technology, in support of our mission to deploy transformatively-cheaper and abundant clean energy, without delay."

Dr Guido Herrmann, Reader in Control and Dynamics in the Department of Mechanical Engineering at the University of Bristol and project lead at Bristol, said: "The University of Bristol has a unique strength in the combination of control, communication technology and nuclear safety research which will allow us to address this problem. The aim is to make

control in nuclear systems more efficient in cost and functionality while retaining highest standards of safety and reliability.”

About Altran

As a global leader in Engineering and R&D services (ER&D), Altran offers its clients a new way to innovate by developing the products and services of tomorrow. Altran works alongside its clients on every link in the value chain of their project, from conception to industrialisation. For over thirty years, the Group has provided its expertise to key players in the Aerospace, Automotive, Defence, Energy, Finance, Life Sciences, Railway, and Telecom sectors, among others. In 2016, the Altran group generated revenues of €2.120bn. With a headcount of more than 30,000 employees, Altran is present in more than 20 countries.

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About Moltex Energy

Moltex Energy is a UK-based, nuclear technology development company, challenging the status quo. Moltex' focus is commercial deployment of their clean energy technology portfolio, to enable lower electricity costs than today's fossil fuel sources. The breakthrough Stable Salt Reactor is an advanced modular reactor that presents a low-cost, quick-to-market solution, to the demand for global deployment of large scale clean energy plants, within the next decade. Existing stockpiles of spent nuclear fuel can be used as the fuel source, and the electricity produced is flexible, to complement renewable technology on the grid. Moltex is supported by numerous international experts in the development of their technology portfolio.

About the University of Bristol

The University of Bristol is ranked within the top 50 universities in the world (QS World University Rankings 2018); it is also ranked among the top five institutions in the UK for its research, according to new analysis of the Research Excellence Framework (REF) 2014; and is the 3rd most targeted university by top UK employers.

The University was founded in 1876 and was granted its Royal Charter in 1909. It was the first university in England to admit women on the same basis as men.

The University is a major force in the economic, social and cultural life of Bristol and the region, but is also a significant player on the world stage. It has over 16,000 undergraduates and nearly 6,000 postgraduate students from more than 100 countries and its research links span the globe.