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Engagement with the Mobility Sector at ISIS Neutron and Muon Source

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Traditionally used by academic researchers, neutron facilities also provide commercial advantages to those companies which are aware of the unique benefits of neutron scattering techniques for their research and innovation. The advanced techniques provided by neutron sources are powerful tools for multi-scale material and process characterisation down to atomic detail. As such, they are useful for a wide range of industry sectors for developing new advanced materials, new innovative products, and more efficient manufacturing processes. Within the mobility sector, ISIS Neutron and Muon Source has many collaboration points with industrial users, which clearly demonstrate the impact that neutron science has to business sectors ranging from optimisation of petrochemicals to integrity of rocket engine components, and from lightweighting of aircraft wings, to resilience of self-driving cars.

In order to improve its offer to industrial users, in 2011 ISIS established its flexible “Industrial Collaborative Research and Development”(ICRD) Route by which industrial users are quickly granted ISIS beamtime based on potential economic benefit to the UK, rather than based purely on scientific merit. To date, this access route has been used by more than 50 companies, and has resulted in an additional 50 days of beamtime per year allocated to industrial users. These have resulted in high quality case-studies which illustrate the impact of neutron scattering techniques to the mobility sector, while the economic data provided by the industrial users have formed the basis for assessment of ISIS contribution to the UK’s economy. This presentation will summarise diverse examples of industrial measurements at ISIS within the mobility sector, and will demonstrate how these examples help to quantify the contribution of ISIS to economic growth in the UK.

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