Heriot Watt enter landmark agreement on High Speed Rail

Atkins and Heriot-Watt University have signed an historic Memorandum of Understanding to create a Centre of Excellence for High Speed Rail, aiming to push the boundaries of railway track research beyond high speed into the realm of ultra high speed.

The development of the centre, based at Heriot-Watt University's Riccarton campus, will place Scotland at the forefront of rail research.

High speed technology is one of the largest civil engineering initiatives currently under development, with projects world-wide expected to be worth £100s of billions in just the next 15 years. There is therefore a very real need to create a platform to share knowledge and practical innovation to deliver transformational railways that people actually want to use.

Atkins' CEO, Professor Dr Uwe Krueger, said:- "The signing of this MoU is a key moment for the development of high speed and ultra high speed railway technology. With 15,000 miles of new high speed track due to be laid in the next decade or so, it is vital that we have a Centre of Excellence which is a 'go-to' place for design and testing of new ideas such as design of new track beds and shape of embankments.

“Atkins and Heriot-Watt both have significant experience and expertise in rail research, development and delivery. Our challenge is to deliver an approach that meets the needs of investors, technology, industry, the environment, as well as the political and social landscape. For example, how can we help reduce the footprint of the railway and make areas around the railway more usable? This alone could drastically improve the business case for such projects.”

Professor Peter Woodward, Director of the Institute for Infrastructure and Environment at Heriot-Watt, is one of the world’s leading experts on geo-engineering of railways. He plans to construct the world’s most advanced railway test track facility (GRAFT III) positioning the Centre as the world’s premier railway testing organisation for high-speed.

He said:- “The signing of the Memorandum of Understanding represents a pivotal moment in high-speed railways in both the UK and worldwide. High and ultra speed railways are our future, they have the capacity to transform the economic prosperity of nations and our challenge is to develop the technology to underpin their successful implementation and cost effectiveness across the world. The formation of this new Centre will allow this vision to become a reality.”

Heriot-Watt University has a strong track record of developing High Speed Rail research in the UK and internationally. Earlier this year, under the leadership of Professor Peter Woodward, the UK’s biggest purpose-built laboratory test track bed, (GRAFT II)which can predict the effects of high speed trains and simulate the effects of decades of operation on major lines, was constructed at the University.

It uses hydraulic systems to simulate a combined 120 tonnes of force, and can be configured to simulate three times that, allowing researchers to look at the behaviour of rail tracks, including high speed rail tracks, in real life situations and under full-scale conditions.

Professor Woodward is an established international expert, having recently delivered keynote speeches and workshops at major international conferences in China, Japan, Spain and the UK. He is in discussion about high-speed rail proposals in overseas countries and is to co-host an international conference on high-speed rail with SNCF and UIC in Paris later in the year.