

HS2 announces First of a Kind rail systems competition winners

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Innovations to accelerate track laying, rail welding, and automate cable installation are among technologies aiming to be deployed during delivery of Britain's new high speed railway after four companies behind them were selected as part of a government rail innovation competition.

The Department for Transport's *First of a Kind* initiative aims to improve cost efficiency and increase value for money in the railway sector.

The **HS2** component of the competition focused on driving economies in delivery of the railway's rail systems, which includes rails, track, signalling and electrics.

With the focus on driving efficiencies through automation and using new digitally-based methods to reduce the time taken to install the line's infrastructure, HS2 Ltd is investing over £650,000 in the four winning entrants to progress to competition's six-month development stage.

HS2 Ltd estimates that the technology could deliver economies of over £4million to the project.

First of a Kind judges selected Mirage Ltd. The Stoke on Trent-based company put forward advanced

induction heating technology, which is safer, stronger, and faster than traditional rail welding. In addition the new process offers greater fatigue resistance.

HS2 will be a highly reliable railway underpinned by its European Rail Traffic Management System (ERTMS) signalling system. Sensors developed by London firm, Mobibiz Ltd, will be attached to the ERTMS cabling to provide future maintenance teams with a web-based GIS mapping tool to illustrate its exact location, which will deliver maintenance cost savings.

Kent's I3D Robotics secured a place on *First of a Kind's* six month tech proving programme with its tunnel cable installing robot, which combines efficient automation with software that automatically assures its installation work. The competition's judges noted that the "... benefits to HS2 are clearly identified, with further efficiencies highly likely."

To help underpin HS2's reliability it will be built with highly durable slab track, instead of traditional ballast. Made off site and installed at multiple locations along the line's route, the process of fixing into place each unit requires very high precision levels.

The judging panel also awarded a place on the innovation programme's development stage to Geokod Rail's 'Panel Rectification System'. Through its involvement in slab track laying programmes in mainland Europe, the Czech firm has developed technology to heighten procession – and potentially cut by up to five minutes – of installing each of the railway's 70,000 plus slab track panels between London and the West Midlands.

Speaking as the winning four were announced, HS2 Ltd senior innovation manger Jon Kelly said: "HS2's involvement in this year's First of a Kind competition marks to start of the programme's preparations to pivot towards its rail systems phase. This will be a major stage in development of the new high speed railway.

"This why I am extremely pleased to welcome four innovative firms whose solutions we hope will make significant contributions to driving productivity growth and efficiency in the rail systems sector to the benefit of both HS2 and the wider rail industry."

Photo credit: HS2 Ltd