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Coventry's Affordable Very Light Rail Track Unveiled

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Coventry Very Light Rail (VLR) took a major step forward as Coventry City Council and WMG, University of Warwick showcased a breakthrough new track design which aims to drive down the costs associated with the installation of urban light rail.

Bringing together stakeholders from Coventry and across the West Midlands, engineers from WMG, University of Warwick provided further details on the Coventry VLR track form, which has been designed in partnership with Ingerop and its UK subsidiary Rendel.

At the University of Warwick's 'The Slate' conference centre researchers from WMG, University of Warwick spoke about the engineering challenges that had been overcome in the design of the track form.

Councillor Jim O'Boyle, cabinet member for jobs, regeneration and climate change at Coventry City Council, spoke about the potential for Coventry Very Light Rail to transform public transport in Coventry and in smaller and medium sized towns and cities, enabling the next generation of clean, green transport.

WMG, University of Warwick and Ingerop have successfully created, designed and built the novel track

form, designed to sit just 30 cm inside the road surface, making it easy to install and remove, significantly reducing the impact on utilities and potentially saving millions of pounds lost to excavation and moving gas, electrical and telecommunication systems. The new track is expected to cost as little as £10m per km compared to current tram tracks, which can cost upwards of £25m per km, and up to £100m per km in city centre locations.

The track form has been developed in parallel to a zero-emission, battery-powered lightweight shuttle vehicle developed in partnership with TDI, which will become autonomous, working like the London Underground system, where there is no timetable and passengers can hop on and off.

The vehicle is lightweight, and there will be no overhead power supply which is both costly and can have a negative impact to the city-scape.

Councillor Jim O'Boyle, cabinet member for jobs, regeneration and climate change, said: "It's incredible to see this one-of-a-kind, Coventry-led project move even closer to completion. Coventry Very Light Rail has the potential to provide Coventry, and towns and cities across the UK, with an affordable, high-quality transport mode using clean, green energy and it further cements our ambition to lead the green industrial revolution. Originated, designed and developed right here in Coventry it also has the potential to support new jobs in the future.

"This new track form, the first of its kind, is a critical part of the project and we would not be here today without the help of our incredible partners, some of the best engineering talent anywhere in the world, based right here in Coventry. I want to congratulate WMG and Ingerop on their success so far and I look forward to seeing the first tracks laid on our city's streets."

Dr Darren Hughes, Associate Professor at WMG, University of Warwick comments:
"The main driver of the Coventry VLR project was to make light rail as affordable and environmentally friendly as possible, and the track is the major part of this.

"Working with Ingerop we have successfully achieved this goal, making a unique track form using advanced materials and manufacturing processes which is not only affordable but also allows rapid installation, minimising disruption to local properties and businesses. The progress made is an excellent example of a city council, a university and an industry partner working together to solve a public transportation challenge."

Margot James, Executive Chair at WMG, said: "It is very exciting to see the latest development in the Coventry VLR project. The track technology is a world first, and reaching this milestone is a testament to the strength of the consortium and the hard work of all our partners. I am thrilled at the pivotal role WMG and the University of Warwick have played in this ground-breaking piece of work."

Philippe-André Hanna, Director for Transportation at Ingerop added: "We work all around the world on light rail schemes, in France, Spain, Africa and in the Americas and these have been very successful in bringing affordable public transport to urban areas. Light rail provides comfort, safety and frequent services, and has the potential to take people out of their cars, and reduce air pollution. We had been working over many years on how to optimise the depth of the trackform from the usual typical depth of 56cm one in

order to reduce costs and to avoid having to divert any utilities.

“When we met WMG, University of Warwick and Coventry City Council, we were immediately struck by the potential to bring about a revolution in the light rail market and found the project extremely exciting. Together with WMG, and our UK subsidiary Rendel, a company active for more 175 years in the UK, we created a fully integrated team and found a true spirit of a collaboration within the whole group. This allowed us to create a great product, which is extremely innovative, and thanks to that we have succeeded to reach a new standard of a 30cm depth of trackform construction. Reducing the depth of excavation, and avoiding the diversion and impact on all utilities, we expect a much lower cost of construction than the usual light rail systems.

“We are looking forward to installing the first slabs in the road in Coventry and thereafter providing Coventry with a new innovative, cost effective, comfortable and regular public transportation system.”

Coventry VLR is being led by Coventry City Council and supported by a number of partners, including the Black Country Local Enterprise Partnership, Coventry and Warwickshire Local Enterprise Partnership, Dudley Metropolitan Borough Council and the European Regional Development Fund.

Photo credit: Coventry City Council