

Press Release

Green light for path to UK's first 'electric motorway'

- Through Innovate UK, DfT has commissioned a consortium to assess the economic and technical potential of the UK's first 'eHighway'
- The study is part of the UK government's plan to reach zero net emissions for heavy road freight
- It aims to demonstrate the technology is ready for a national roll-out

27 July, 2021 – The Department for Transport has awarded funding through Innovate UK to a consortium to lead the UK's first ever study on the electrification of long range trucks with dynamic charging, using overhead wires on motorways.

<https://www.gov.uk/government/news/road-freight-goes-green-with-20-million-funding-boost>

The study is part of the £20m put aside for zero emission road freight trials under the recently-announced [Transport Decarbonisation Plan \(TDP\)](#), and was awarded based on the consortium's expertise in sustainable transport. It includes Siemens Mobility, Scania, Costain, The Centre for Sustainable Road Freight (Cambridge University and Heriot-Watt University), ARUP, Milne Research, SPL Powerlines, CI Planning, BOX ENERGI and Possible.

Heavy Goods Vehicles (HGVs) currently [emit 18% of all road vehicle CO2 emissions](#), despite only representing 1.2% of the total number of vehicles on the road and 5% of the total miles driven. They are, however, essential to the health of the UK economy, with the new plan citing them as "critical to our economic wellbeing," [transporting 98% of our food, consumer and agricultural products across the country](#). Because of the limits of existing technology, the plan says "removing [road freight] emissions requires the development and deployment of clean technologies."

The consortium has proposed an 'electric road system', using the Siemens Mobility 'eHighway' technology, as the fastest, lowest carbon and most cost-effective route to decarbonising our road freight industry and delivering cleaner air. The nine-month study kicks off this month, and is hoped to be the forerunner of a scheme that aims to see [the UK's major roads served by overhead lines by the 2030s](#). These eHighways allow specially-adapted trucks to attach to the overhead wires and run using the electricity, similar to rail and trolley-bus systems. The trucks come equipped with a battery that charges while they are in motion so they can detach to both overtake vehicles and reach their final destination with zero emissions from start to finish.

Consortium members Siemens Mobility, Scania and SPL have previously trialled smaller [electric road systems in Germany](#) and Sweden, with this UK initiative being the first in the world to investigate deploying it at a much larger scale. The project will look at electrifying at least 30km (19 miles) of the M180 as the pilot, linking Immingham Port with the logistics hubs of Doncaster and its airport. The partners plan to take the lessons learned from Europe, and provide technical, economic and environmental recommendations for installing a proof-of-concept system with a bigger demonstration fleet.

A fully-operational electric road system across the UK would be expected to create tens of thousands of jobs across a range of green industries, with around 200,000 new electric trucks needing to be built over a 10-15 year period. This will also provide an opportunity to completely revamp the UK truck manufacturing industry and its supply chains, future-proofing it by accelerating fleet digitalisation; [a key lesson learned across the industry as it recovers from the 2020 pandemic's disruption](#).

Research by the consortium has even found that initial investments into new vehicles by operators could be [recouped within 18 months](#), due to lower energy costs, and the electrification infrastructure would pay back investors in 15 years.

William Wilson, CEO of Siemens Mobility Limited, speaking on behalf of the partnership, said: “Investing in proven technologies like eHighways can help us go further and faster to decarbonise the UK’s transport network, and support jobs and growth to level up the country. By building on successful trials from other countries like Germany, our ERS consortium M180 trial will help the UK move a step closer to replacing more polluting trucks with clean, efficient electric HGVs.”

Alistair Barnes, Innovation Lead for Zero Emission Vehicles at Innovate UK, said: “We’re delighted this consortium is bringing its extensive experience to solve challenges around decarbonising HGVs by planning to demonstrate this technology at scale on UK roads. Innovate UK is proud to be supporting this project as part of its partnership with the Department for Transport.”

Quotes

James Armstrong, Managing Director for Scania Great Britain Ltd, said: “Electrifying road freight is key in the UK’s journey to zero net emissions. We have been working with our partners to develop and mature the eHighway technologies, and have demonstrated that they are not only viable but attractive, cost-effective alternatives to fossil fuel-based vehicles for our customers. This partnership

is dedicated to marrying technical excellence with visionary ambition, which is how we will achieve a practical and affordable electric roads system for the freight and logistics industry.”

Professor David Cebon, Director of the Centre for Sustainable Road Freight (Cambridge University and Heriot-Watt University), said: “Our previous research says that overhead catenary power will provide the lowest cost, lowest carbon, and most rapidly deployable solution to decarbonise long-haul road freight in the UK. This project will test the concept at the next level of detail. Moreover, the technologies this consortium is working on could be deployed in most countries once demonstrated, supporting the global move towards greener logistics.”

Sue Kershaw, Managing Director of Transportation for Costain, said: “This study is another important step towards understanding how industry could work together to tackle one of the largest carbon emission producers in the country and create a cleaner, greener and more efficient road freight network across the UK. Bringing our heritage in complex programme delivery and expertise in integrating technology to this consortium is part of our Climate Change Action Plan to implement change and create a green transport future through collaboration.”

Max Wakefield, Director of Campaigns at climate charity Possible, said: “The urgent action required to tackle the climate emergency calls for unconventional partnerships. Climate charity Possible is delighted to be working with leading companies and academics on the UK's first electric motorway trial and we are excited to see the diverse range of perspectives, insights and experiences that each partner will bring to the table. Decarbonising freight is just one part of the puzzle in the UK's efforts to achieve net-zero, to which technological innovations such as these are going to play a major part. But it is also vital that projects such as these engage with local communities and workers that could be affected by a wide-scale rollout.”

Ends

Contact for journalists

Phil Sampson (Scania Press Office)

Email: phil.sampson@scania.com Tel: 01908 329 384 Mob: 07885 152132

Tanya Neech (UK Sustainability Officer, Scania)

Email: tanya.neech@scania.com; Tel: 07469 085271

Alison O'Donnell

alison.odonnell@costain.com

Barry Pearson

Email: barry@objectivecomms.co.uk

Notes for editors

The project is funded by the Department for Transport and delivered by the UK's innovation agency, [Innovate UK](#).

About Siemens Mobility

Siemens Mobility is a separately managed company of Siemens AG. As a leader in transport solutions for more than 160 years, Siemens Mobility is constantly innovating its portfolio in its core areas of rolling stock, rail automation and electrification, turnkey systems, intelligent traffic systems as well as related services. With digitalization, Siemens Mobility is enabling mobility operators worldwide to make infrastructure intelligent, increase value sustainably over the entire lifecycle, enhance passenger experience and guarantee availability. In fiscal year 2020, which ended on September 30, 2020, Siemens Mobility posted revenue of €9.1 billion and had around 38,500 employees worldwide. Further information is available at: www.siemens.com/mobility.

About Costain

Costain helps to improve people's lives with integrated, leading edge, smart infrastructure solutions across the UK's energy, water, transportation, and defence markets. We help our clients improve their business performance by increasing capacity, improving customer service, safeguarding security, enhancing resilience, decarbonising, and delivering increased efficiency. We offer our clients leading edge solutions that are digitally optimised through the following five services which cover the whole lifecycle of their assets: future-shaping strategic consultancy; consultancy and advisory; digital technology solutions; asset optimisation and complex programme delivery. Our culture and values underpin everything we do.

In February 2020, Costain launched its Climate Change Action Plan in which we commit to delivering low carbon solutions to every client by 2023, including tackling 'Scope 3' emissions, and to be net zero by 2035. The plan also outlines how the Group will play a leading role in the development and delivery of both carbon capture and clean and renewable energy generation to reduce carbon footprints across every sector.

For more information visit www.costain.com

About Scania

Scania, a part of TRATON SE, is a world-leading provider of transport solutions. Operating in more than 100 countries worldwide, Scania delivered 66,900 trucks, 5,200 buses and coaches, and 11,000 industrial and marine engines in 2020. Net sales totalled more than SEK 125 billion, of which over 20 percent were services-related.

In the UK, Scania is a major supplier of trucks, buses, coaches and engines for industrial and marine applications. Additionally, the company provides a wide range of complementary and ancillary services in support of its products and customers through its 86-strong network of service centres. In 2020, Scania's share of the UK heavy truck market was 18.2% and its combined bus and coach market share amounted to 10.1%

Sustainability is central to Scania's operations, and driving the shift to more sustainable transport solutions is a key element of the organisation's global strategy and philosophy today. Scania adheres to Science Based Targets set by sustainability partnership, SBTi, and became the first manufacturer in its sector have its Science Based Targets approved.

For further information on Scania and its range of products and services, see: www.scania.co.uk

About the Centre for Sustainable Road Freight (SRF)

The Centre For Sustainable Road Freight brings together multi-disciplinary teams of researchers and industry leaders to improve road freight efficiency and reduce its environmental impact. Its purpose is to research engineering and organizational solutions to make road freight economically, socially and environmentally sustainable.

For further information on the SRF see www.csrf.ac.uk

About Heriot-Watt University 2021 bicentenary

In 2021, Heriot-Watt University celebrates the 200th anniversary of its founding in Scotland. From its beginnings as the world's first mechanics institute in the heart of Edinburgh, two centuries of innovation have led to what is today a unique international institution with campuses in the UK, Dubai and Malaysia.

Throughout this year, there will be an extensive programme of events and debates across its campuses, and online, offering something for everyone to take part in and enjoy. This activity starts with the launch of the inaugural Pan-mure House Prize in January 2021, to celebrate the University's research impact on wider society.

While the University is using its bicentenary to recognise its past, it continues to be a pioneer in education, working towards overcoming global challenges and with a focus on the future.

You can stay up to date with all bicentenary activities by following the Heriot-Watt University social media accounts and searching #HeriotWatt200.

Possible is a charity that brings people together to help tackle climate change. We run positive, practical projects all over the UK, giving people a chance to be part of the solution. We also combine these local actions into a force for larger-scale change.

From our founding challenge to cut carbon by 10% by 2010 to our world-leading Solar Schools campaign, or more recent work on solar powered railways, everything we do is about inspiring more people to take more action on climate change. For our first ten years, we went by the name 10:10 Climate Action, a nod to our founding 10% campaign. In 2019, we decided the demands of the climate crisis as we approach the 2020s needed a fresh approach and relaunched with our new name, Possible.