



Ambitious and complex CAVForth autonomous bus service trial launches in Scotland with Enviro200AV fleet from NFI subsidiary Alexander Dennis

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Larbert, UNITED KINGDOM – May 11, 2023: (TSX: NFI, OTC: NFYEF, TSX: NFI.DB) NFI Group Inc. (“NFI” or the “Company”), a leading independent bus and coach manufacturer and a leader in electric mass mobility solutions, subsidiary Alexander Dennis Limited (“Alexander Dennis”) today announced that Scottish Transport Minister Kevin Stewart officially launched the CAVForth autonomous bus service across the iconic Forth Road Bridge near Edinburgh.

CAVForth is one of the most ambitious and complex autonomous bus trials worldwide. The project is led by Fusion Processing Ltd in cooperation with project partners Stagecoach, Transport Scotland, Alexander Dennis, Edinburgh Napier University, University of the West of England, and Bristol Robotics Laboratory. It is co-funded by the UK Government’s Centre for Connected and Autonomous Vehicles.

From May 15, 2023, the project’s fleet of five Alexander Dennis Enviro200AV autonomous buses will operate a scheduled passenger service seven days a week on Stagecoach’s new AB1 route. Buses will depart Ferrytoll Park & Ride in Fife for Edinburgh Park interchange every 30 minutes.

The 14-mile route crosses the Forth Road Bridge and is made up of A-roads, motorways, bus lanes and private land. It includes a range of complex traffic manoeuvres such as roundabouts, traffic lights, and ‘weaving’ motorway lane changes. The vehicles will travel in mixed traffic up to 50mph.

The new AB1 service provides the first direct public transport link between Fife and the business parks and retail outlets at Edinburgh Park. It has the capacity to carry up to 10,000 passengers per week. Stagecoach’s normal bus fares apply.

The Alexander Dennis Enviro200AV are derived from the manufacturer’s standard Enviro200 single decker, more than 8,000 of which are in operation across the UK, providing a tried and tested platform to develop autonomous driving capabilities.

The buses use Fusion Processing’s autonomous drive system, CAVStar, which utilises data from a suite of state-of-the-art sensors including cameras, LiDAR and radar together with artificial intelligence processing to deliver optimum efficiency throughout the journey, in all traffic conditions. In addition, receiving information directly from traffic light systems enables the bus to plan its speed to run smoothly from one green light to the next.

This intelligent autonomous driving reduces unnecessary braking and accelerating, contributing to less wear on brakes and tires, with corresponding reductions in particulate emissions.

CAVForth operates at the highest level of autonomous vehicle technology currently permissible on public roads, SAE Level 4, requiring the buses to retain a safety driver. 20 autonomous bus professionals have been recruited from Stagecoach East Scotland’s existing driving team.

To support the project’s extensive research on passenger and public acceptance of autonomous vehicle technology, a second autonomous bus professional will act as bus captain, moving freely around the vehicle to engage with customers. This demonstrates what a future autonomous service could feel like when a single bus ‘captain’ can

leave the cab while the computer does the driving.

Minister for Transport Kevin Stewart said: "It is really exciting to see the innovative and ambitious CAVForth project take to the roads in earnest after all the hard work of the partner organisations involved in bringing this world first to Scotland. We want Scotland to continue to be at the forefront in the development of Connected and Autonomous Vehicles and the start of this live trial will really help the country establish its credentials on the world stage. I am excited to see how this technology can help to support our vision for a sustainable, inclusive, safe and accessible transport system."

Paul Davies, Alexander Dennis President & Managing Director, said: "Our participation in this exciting project is testament to the great expertise of our engineering team, who continue to lead technology development for tomorrow's mobility, and the technology leadership of British bus manufacturing. We look forward to gaining further experience through CAVForth and continuing to develop this promising technology so that it can benefit our customers and open international opportunities for us."

Ray O'Toole, Executive Chairman for Stagecoach, said: "This is an incredibly exciting time, and we are delighted to see the hard work of all partners involved, pay off on the official launch by Scottish Transport Minister, Kevin Stewart. We are proud to be at the forefront of transport innovation with this project, marking a significant milestone for public transport and we look forward to welcoming our customers on board from Monday."

Jim Hutchinson, Fusion Processing CEO, said: "CAVForth is an exciting showcase of how our CAVstar® Automated Drive System can safely operate in a very complex driving environment. This pilot is globally significant and marks a step change in the operation of autonomous commercial vehicles on public roads."

Professor Nick Antonopoulos, Deputy Vice Chancellor and Vice Principal of Research & Innovation at Edinburgh Napier University, said: "CAVForth is a world-leading project, and one we are proud to be involved in. Automation offers an opportunity to transform the ways we get around in years to come, while improving safety and reducing energy consumption. As this trial gets underway, we look forward to contributing Edinburgh Napier University's transport research expertise to understand more about the passenger experience on the AB1 service."

Anthony Pipe, Professor of Robotics and Autonomous Systems at the Bristol Robotics Laboratory, said: "Bristol Robotics Laboratory is very proud to be involved in this ground-breaking project, which is taking a world-lead on advanced automation for the public service vehicle sector. The short-term benefits of vehicle autonomy in providing safer and more energy efficient travel will be illustrated by this project, and, in the longer term, we believe that it will contribute significantly to transformations in the way we achieve mobility in our society."

NFI is a leader in low- and zero-emission mobility, with vehicles operating in 13 countries, moving millions of people every day. NFI offers the widest range of vehicles including clean diesel, compressed natural gas, diesel electric hybrids, and zero-emission battery- and fuel cell-electric buses and coaches.

Notes to Editors

- CAVForth follows an earlier trial in 2018 between Stagecoach, Fusion Processing and Alexander Dennis, in which a prototype bus drove itself around a depot to get fuel, go through the bus wash and park itself up at night at the touch of a button.
- During extensive testing prior to the launch, the autonomous driving system of the CAVForth vehicles covered over 1 million miles.
- In the initial weeks of CAVForth public service, over 90% of the route will be covered in autonomous mode, with the remaining short sections under manual control as part of a controlled ramp-up of autonomous driving.
- The safety driver is required at all times to comply with legislation for testing autonomous vehicles. The second member of staff is on board to demonstrate what an autonomous service could feel like when a single bus 'captain' can leave the cab while the computer does the driving.
- Like many Stagecoach vehicles, the CAVForth buses are fitted with seatbelts. People are encouraged to wear them in line with safety guidance from other autonomous trials. The project partners don't expect them to be any more necessary than on a manually driven bus.
- A follow-on project, CAVForth2, will extend the route to Dunfermline city centre in 2024 and add an Alexander Dennis Enviro100AEV autonomous electric bus to the fleet.
- Operation of Stagecoach's new AB1 route is supported by the Centre for Connected and Autonomous Vehicles until 2025. Patronage will then be reviewed, and a decision made on whether to continue offering the service on a commercial basis.
- The Alexander Dennis Enviro200AV buses use the same low-emission driveline as thousands of similar Enviro200, providing a familiar and reliable basis for the project's research and development. The autonomous vehicle technology developed in the CAVForth project can be integrated into different bus models.
- Particulate emissions from brakes and tyres – which are reduced by smooth autonomous driving – are expected to be included in EU emissions regulations for the first time as part of the proposals for the upcoming Euro VII standard, further highlighting the benefits of autonomous vehicles within public transport networks in efforts to improve air quality, especially in cities.

High resolution images are available for download from the Alexander Dennis website at [alexander-dennis.com/media/news](https://www.alexander-dennis.com/media/news).

About NFI

Leveraging 450 years of combined experience, NFI is leading the electrification of mass mobility around the world. With zero-emission buses and coaches, infrastructure, and technology, NFI meets today's urban demands for scalable smart mobility solutions. Together, NFI is enabling more livable cities through connected, clean, and sustainable transportation.

With 7,700 team members in ten countries, NFI is a leading global bus manufacturer of mass mobility solutions under the brands New Flyer® (heavy-duty transit buses), MCI® (motor coaches), Alexander Dennis Limited (single- and double-deck buses), Plaxton (motor coaches), ARBOC® (low-floor cutaway and medium-duty buses), and NFI Parts™. NFI currently offers the widest range of sustainable drive systems available, including zero-emission electric (trolley, battery, and fuel cell), natural gas, electric hybrid, and clean diesel. In total, NFI supports its installed base of over 100,000 buses and coaches around the world. NFI's common shares trade on the Toronto Stock Exchange ("TSX") under the symbol NFI and its convertible unsecured debentures trade on the TSX under the symbol NFI.DB. News and information is available at www.nfigroup.com, www.newflyer.com, www.mcicoach.com, www.nfi.parts, www.alexander-dennis.com, www.arbocsv.com, and www.carfaircomposites.com.

About Alexander Dennis

Alexander Dennis Limited ("Alexander Dennis") is a global leader in the design and manufacture of double deck buses and is also the UK's largest bus and coach manufacturer. Alexander Dennis offers single and double deck vehicles under the brands of Alexander Dennis and Plaxton, and has over 31,000 vehicles in service in the UK, Europe, Hong Kong, Singapore, New Zealand, Mexico, Canada, and the United States. Further information is available at www.alexander-dennis.com.

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