

PRESS RELEASE

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Sweden: Keolis launches a new 5G autonomous electric vehicle trial in Stockholm

- On 24 September 2020, Keolis, in partnership with Urban ICT Arena, Telia, Ericsson Intel and T-engineering, launched a new autonomous self-driving, electric minibus trial in Stockholm, Sweden, using 5G technology to remotely control and supervise the vehicle.
- This trial aims to explore the safe introduction of self-driving autonomous electric vehicles in complex urban areas with a view to optimising route planning and traffic.
- The trial will be conducted in Royal Djurgården, one of the country's most popular tourist destinations, from 24 September to 8 October 2020. The autonomous minibus, which will drive along a 1.6 km route, will serve the National Museum of Science and Technology, the Maritime Museum, the Nordic Museum and Vasa Museum.
- To mark the launch, an inauguration ceremony took place in Djurgården, attended by Prince Daniel, Duke of Västergötland, Anders Ygeman, the Swedish Minister for Energy and Digital Development, Kristoffer Tamsons, Regional Minister for Transport of the Stockholm Region and Chairman of Stockholm Public Transport, Daniel Heildén, Deputy Mayor of the Traffic Division in Stockholm, and Bernard Tabary, CEO International at Keolis Group.

"Since the launch of the world's first driverless metro in Lille (France) in 1983, Keolis has been drawing on its expertise as a pioneer in autonomous mobility to make shared mobility smarter, more connected and more sustainable. This ground-breaking trial in collaboration with our key partners constitutes another important step forward," says Bernard Tabary, CEO International at Keolis. "We're pleased to be conducting this trial in Sweden, where we already have a strong presence through our subsidiary Keolis Sverige and carry 730,000 passengers per day."

This trial illustrates Keolis' leadership in the operation of autonomous vehicles. In 2016, the Keolis Group launched a trial of the first autonomous vehicles in Lyon, France. Since then, it has operated autonomous vehicles in Australia, Belgium, Canada, the USA and the UK, carrying 200,000 passengers and covering over 100,000 km.

An important step in preparing for full autonomy in collaboration with key partners

The pilot project at Djurgården explores how a system with 5G-connected vehicles, which are monitored by a control tower remotely, can facilitate the safe introduction of self-driving electric buses in more complex and demanding urban areas. Benefits of such a system include improved route planning and traffic flows, reduced operational costs and pollution and a more reliable, accessible form of public transport for passengers.

The unique technical features of the 5G network, including extremely high data speeds combined with low latency, mean that the connected buses can respond in real time to commands from the centralised control tower. This is a prerequisite for the safe remote control of vehicles and an important step in moving the driver from the bus into the control tower.

Keolis and Ericsson, which provides the technology for the connected control tower, initiated the

project following demonstrations of remote control 5G vehicles in 2019 at the UITP exhibition in Stockholm and at the RNTP exhibition in Nantes.

Telia is providing 5G connectivity in collaboration with Ericsson. Intel is delivering processing power to both the IT system in the vehicles and the control tower, as well as the mobile network. The vehicle, which is equipped with self-driving technology, is provided by the Swedish technology firm T-engineering. It features seven seats and will drive at a maximum speed of 18km/h.

Commercial services run from Monday to Friday, between 8 am and 10 am and 2 pm and 4 pm, and feature a safety driver present in the vehicle at all times.

The trial ends on 8 October and will be continued in Kista Science City. The aim of this trial will be to pilot the vehicle from a control tower without an operator on board. In parallel with the Swedish trial, Keolis is testing fully autonomous vehicles at a site closed to traffic in Châteauroux in France.

Keolis in Sweden

Keolis Sverige has been present in Sweden since 2003 and today operates 1,650 fossil-free buses which cover 84 million km every year in five Swedish regions. With over 6,000 employees, it is the second-largest player in the Swedish bus market.

A pioneer in autonomous vehicles, Keolis Sverige partnered with Volvo in developing and demonstrating a 12-metre long electric which was parked, washed and recharged autonomously at the Keolis depot in Gothenburg in November 2019.

About Keolis

Keolis is a pioneer in developing public transport systems and works alongside public decision-makers who want to turn shared mobility systems into levers to enhance the appeal and vitality of their regions. A world leader in operating automated metro and tramway systems, Keolis is supported by a sustained and open innovative policy alongside all of its partners and subsidiaries –Kisio, EFFIA, Keolis Santé and Cykleo –to bolster its core business and develop new innovative and bespoke shared mobility solutions, including trains, buses and coaches, trolleybuses, shared car solutions, river and sea shuttle services, bike share services, car sharing, fully electric driverless shuttles and urban cable cars. In France, Keolis is the second largest parking company through its subsidiary EFFIA, and the country's leading medical transport solution since the creation of Keolis Santé in July 2017. The Group is 70%-owned by SNCF and 30%-owned by the Caisse de Dépôt et Placement du Québec (Quebec Deposit and Investment Fund), and employs some 68,500 people in 15 countries. In 2019, it posted revenue of €6.6 billion. In 2019, 3.4 billion passengers used one of Keolis' shared mobility services. www.keolis.com

* Australia, Belgium, Canada, China, Denmark, France, Germany, India, the Netherlands, Norway, Qatar, Senegal, Sweden, the United Kingdom and the United States.

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