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A first in public transport: French consortium to deploy fully autonomous mini buses in downtown Châteauroux



Picture credits: Benjamin Steimes - Châteauroux Métropole

- The consortium of six major mobility players - Alstom, EasyMile, Equans, Keolis, Renault Group and StatInf - is preparing the launch of a new, zero-emission public transport service at Level 4 (without an on-board supervisor) of autonomous driving
- A fleet of 6-meter driverless electric mini buses will become part of the Châteauroux Métropole public transportation network in 2026.
- Awarded as a winner of the France 2030 call for projects on "Automated road mobility, connected and low-carbon service infrastructures", the pilot project has received support from the French Ministry of Ecological Transition and Territorial Cohesion as well as from Bpifrance.



The first deployment of a Level 4 autonomous mobility service on this scale, this project, known as Mach2, marks a decisive step in the development of automated public transport in France, and in Europe. The service will be operational from 2026 in the city center of Châteauroux (in the department of Indre), integrated into the city's "Horizon" bus network, and operated by Keolis.

The consortium brings together French leaders in mobility, each contributing its own area of expertise: Renault Group for the robotized electric minibus platform, EasyMile for the autonomous driving system, StatInf for the validation of critical software elements, Equans for the Computer Aided Dispatch and Automatic Vehicle Location (CAD/AVL) system, Alstom for the connected safety infrastructure and communication protocols, and Keolis for the operation and maintenance of these new public transport services.

A technological and industrial breakthrough for a relevant service

This project addresses all aspects of autonomous mobility, to provide a real public transport service and strengthen France's leadership in this future market: the vehicle developed will be significantly larger and faster than the autonomous shuttles deployed today. The project also addresses the complex issue of interaction with emergency vehicles and connection with traffic light infrastructures. The supervision concept will be rethought in detail to allow a single supervisor to control a fleet of vehicles and guarantee the viability of the economic model for this new type of transport. All of these elements will be used to demonstrate compliance with the strictest safety standards at the French and European levels.

With a robust and reliable 6-meter minibus from the Renault range, this deployment of a genuine autonomous public transport service demonstrates the expertise of the French mobility sector. Conforming with public transport requirements, it will meet the demands of public and private players in terms of safety, passenger satisfaction and business development. Fully integrated into the Châteauroux "Horizon" bus network, this service will complete the local public transport offer, to make citizens' mobility easier, safer and more sustainable.

This project benefits from the official support of Châteauroux Métropole, the Indre department, the Ministry of the Interior and the PFA (Plateforme Automobile), as well as that of the Ministry of Ecological Transition and Territorial Cohesion, and Bpifrance. It demonstrates the relevance of this type of technology, including for medium-sized cities.

Stéphane Feray-Beaumont, Vice President, Innovation and Smart Mobility at Alstom:

"To meet the mobility challenges of tomorrow, Alstom develops and promotes sustainable and innovative mobility solutions. In particular, Alstom provides operators with signalling solutions that enable them to ensure the safe and smooth flow of passengers. In this project, Alstom will provide the traffic light interaction system that will make the automated vehicle traffic safer and more reliable. This innovative solution will also allow interaction with emergency vehicles. Called TLS (Traffic Light System), the system has recently obtained SIL4 certification, the highest level of certification for railway safety. Alstom is delighted to bring its expertise and the high standards of the railway industry to automated road mobility through this project."



Benoit Perrin, General Manager of EasyMile:

"This project is much more than just a technological success. It is a crucial step in demonstrating the value of a fleet of fully autonomous vehicles in a city. By replacing on-board supervisors with remote supervision of multiple vehicles, we will demonstrate the positive economic impact of this type of service. Autonomous technology enables more efficient, accessible and less costly public transportation for communities. This project is a major acceleration in terms of performance and as the consortium coordinator, we are proud to unite the most influential players in the French mobility ecosystem."

Baudouin Huon, CEO of Ineo Systrans, an Equans France company:

"Leading provider of Computer Aided Dispatch and Automatic Vehicle Location (CAD/AVL) systems, NAVINEO is an Equans product offering that provides real-time intelligent transportation systems to make public transportation more efficient, safer, more attractive and more innovative. Our solutions are used in 250 transportation networks (buses, trams and trains) and installed in more than 50,000 buses worldwide. In order to respond to the ambitious Mach2 project, Equans' role will be to develop its NAVINEO offer to provide the operator with a system capable of supervising a mixed fleet of autonomous and conventional vehicles in real time by making it possible to: manage routes, monitor vehicle charge status, keep passengers informed and communicate with the control center for optimal operation in case of hazards."

Annelise Avril, Director of Marketing, Innovation, New Mobility at Keolis:

"Keolis shares in this project the expertise acquired by its teams over several years in autonomous mobility. Offering new carbon-free shared mobility services is firmly at the heart of our raison d'être. We welcome the commitment of the Châteauroux metropolitan area to integrate this fleet of automated electric mini buses into its public transport network, offering passengers a complementary service and a unique travel experience. We are proud to be involved in this blueprint project, alongside our partners in autonomous public transport."

Jean-François Salessy, Director of Advanced Engineering, Renault Group:

"Renault Group embodies a mobility that is reinventing itself. Opportunities have been identified for automated transport services, without an on-board supervisor, in limited and controlled operational areas that meet the expectations of local authorities and the needs of public transport. In this context, using its experience in the field of electric vehicles and in adapting these vehicles to customer needs, Renault Group has committed to the Mach2 R&D project to develop and supply a platform of robotized electric mini buses ready to be driven by autonomous driving solutions and accessible to people with disabilities, to enable players to deploy autonomous decarbonized public transport services."

Adriana Gogonel, CEO StatInf:

"StatInf brings its expertise in the verification of the concepts of operational safety of the software embedded in the autonomous vehicles designed by the project partners. Our



participation in this project is a sign of confidence consolidating our place in the ecosystem of automated public transport in France. In addition, it will allow us to project ourselves in a serene manner for the continuation of our growth in Europe, while providing a solid solution to French and European manufacturers via our software development support technology."

Gil Avérous, Mayor, President of Châteauroux Métropole:

"Already a forerunner in 2001 with the introduction of free public transportation, the Châteauroux Métropole Agglomeration is proud to be the host territory of this new innovative service in France. Integrating perfectly with our Horizon bus network provided by public transport operator, Keolis, these automated electric mini buses will strengthen the local mobility offer in downtown Châteauroux. This project, supported by national transport leaders, will be fully operational in our region by 2026."

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