

Learn about this autonomous minibus made in Mexico



The project is driven by the School of Engineering and Sciences and hopes to expand its routes in the coming years.

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Luis Mario García

An **autonomous electric minibus** that will provide service around the [Monterrey campus](#) has been developed by a research group from the Tec's **School of Engineering and Sciences (EIC)** in collaboration with the Polytechnic University of Milan.

This would be the **first autonomous vehicle for public use in Latin America** developed by a university.

"This autonomous minibus is the main enabler of automated mobility districts", said Jorge Lozoya, the project leader.

“Automated mobility districts are focused on evaluating the technology and its impact on the region, transporting people and goods from point A to point B safely and cleanly, and enabling inclusivity”, he added.

Although the vehicle is currently undergoing controlled testing within the **distritotec** area, the aim is to **expand its service beyond the campus** in a few years.

The project is being carried out by researchers from Tec de Monterrey and the Polytechnic University of Milan. Photo: Luis Mario García.



Developing cleaner and safer transport

Development of the **autonomous minibus**, which is currently in the testing phase, is being carried out by the **Bloom Drive Intelligence** group and the **Mobility Research Group** at the School of Engineering and Sciences, in collaboration with the AIDA research group at the Polytechnic University of Milan.

Bloom Drive Intelligence is a research and technology initiative at the Tec that drives the advancement of smart mobility.

The project was started in 2022 by a **multidisciplinary group of experts**, including both faculty and graduate students.

The goal is to **create a sustainable and safe vehicle** that can provide transportation services around the campus.

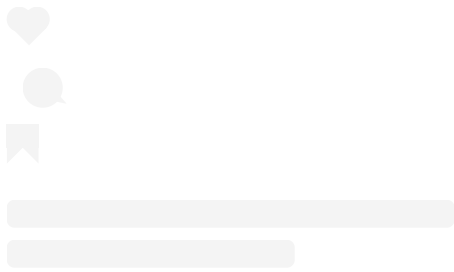
At this stage, the aim is to gather information and get to know the [distratotec](#) area better, with whom they are also collaborating.

"It's a process that requires constant engagement, conversation, and understanding the needs of the people living in our district, and that's what the urban lab is for".

"The first step is to have this autonomous map that will enable us to start testing. It will also generate data so we can evaluate the use of technology as well as traffic patterns, social and operational needs, maintenance, and, of course, generate new business opportunities", Lozoya explained.



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Autonomous Vehicle

The vehicle, a **GEM e6**, operates using a **LiDAR (Light Detection and Ranging) system** that creates three-dimensional maps of its surroundings using lasers.

It has 25 sensors. Radar measures the speed of nearby objects, cameras interpret visual signals, and high-precision GPS ensures accurate location.

Through **fused data processing**, this information is combined so the **system can gain an understanding of its surroundings and make proactive decisions**, such as **yielding to pedestrians or safely navigating obstacles**.

Approximately 40 kilometers of testing have been conducted, primarily a 2.2 km route around the **Monterrey campus** and towards the Nuevo Sur plaza 1.7 kilometers away.

As a safety measure, a **driver** and **co-driver** travel in the **minibus** during these trips.

The autonomous minibus has been tested on the avenues surrounding Monterrey campus. Photo: Luis Mario García.



Strategic Partnership

[Tec de Monterrey](#) and the Polytechnic University of Milan have joined forces to develop the project, as they did previously for the **Carrera Panamericana**.

In 2025, they participated together with the **Maserati GranCabrio Folgore** autonomous vehicle developed by the AIDA group.

The vehicle traveled the route in **leader-follower** mode guided by **El Fantástico**, a vehicle developed by **Tec**, which acted as the lead vehicle.

Sergio Savaresi, founder of the **AIDA (Artificial Intelligence Driving Autonomous) project**, said that integrating artificial intelligence into autonomous vehicles is the main challenge.

“Autonomous transportation is a very complex technology today. So, physical AI is key”.

“Digital AI is developing very rapidly, but the big step is being able to integrate it into physical systems”, explained the Head of the Department of Electronics, Information and Bioengineering at the Polytechnic University of Milan.

“This autonomous minibus is the main enabler of automated mobility districts”. - Jorge Lozoya.

Opportunities

Improving integration of **the vehicle’s system with stop lights, passenger and pedestrian safety, and regulatory compliance** are among the project’s main challenges going forward.

Promoting **new business** ideas and increasing adoption of these technologies are also central goals of this type of project.

“We believe it can inspire other young people to become entrepreneurs, not only in Monterrey, but throughout Mexico”.

“They should also be inspired to create new companies, new technologies that could be added to this living lab and in the future as startups or Mexican unicorns”, said Lozoya.

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