



Press Release

Towards a connected city with autonomous cars: Teoresi tests the use of 5G technology for the mobile future in Turin

European ENVELOPE project - cooperation with Torino City Lab

Turin, 20 February 2024 - Turin will become the European test laboratory for new 5G and 6G technology solutions for autonomous and connected vehicles. As part of the European ENVELOPE project that has now been launched, the Italian automotive metropolis is playing a leading role in the search for solutions to help achieve the European Union's 2030 environmental, energy and climate targets.

ENVELOPE is one of a total of 27 research and innovation initiatives launched at the beginning of the year by the *Smart and Services Joint Undertaking* (SNS JU) as part of the second Horizon Europe call. SNS JU is a public-private partnership led by the *European Commission* and the *6G Smart Networks and Services Industry Association* (6G-IA). The aim of ENVELOPE is to further expand the efficient use of 5G mobile networks and, at the same time, advance the development of 6G concepts.

International: 23 European partners - focus in Turin on mobility

ENVELOPE comprises a total of 23 partners at various locations in Europe. In Turin, work is focused on the field of mobility, with three local partners cooperating with each other. In addition to the [Teoresi Group](#) (Teoresi), which specializes in the development of cutting-edge technologies, there is the research laboratory [Fondazione LINKS](#) (LINKS) and the City of Turin's [Torino City Lab](#). The Italian companies [TIM, Hewlett Packard Enterprise \(HPE\)](#) and [Nextworks](#) are also involved in the project.

As part of the ENVELOPE project, the partners in Turin will jointly develop experimental platforms and large-scale tests to promote the spread of 5G in the context of urban mobility. They will also test new technological solutions with their sights on future 6G applications. Among other things, the focus is on sensors to improve road safety, which make it possible, for example, to reconstruct the course of an accident in real time or to recognize changes in a vehicle's surroundings.

Autonomous and connected: Teoresi makes two prototypes available

Teoresi is providing two prototypes of connected self-driving cars for this purpose, which will be used to test the 5G and 6G-based platform developed as part of the project. The two prototypes were developed based on the YoYo city car from XEV, also based in Turin, and will be retrofitted with additional sensors as part of ENVELOPE in order to capture the environment in detail. With the data generated by HD cameras, LiDAR, ultrasound, RADAR and GPS, the on-board computer can reconstruct the situation in real time, thus enabling safe autonomous driving.

Teoresi's part will be supplemented by 5G-capable on-board communication technology, which LINKS will install in the vehicles. Among other things, this will enable the innovative services also developed by LINKS to be used for accident reconstruction in real time or for recognizing roadworks and obstacles on the route. The two technology partners are supported by the City of Turin, which is creating an urban context under real conditions for this purpose. This will be provided by the Torino City Lab, with its new *Living Lab ToMove* initiative, which will transform the city of Turin into an open-air test laboratory for the mobility of the future over the next 24 months.

Sustainable: Turin promotes technological innovation with a social impact

"Connectivity is the keyword for the city of the future. Innovative technologies are creating new mobility options that will permanently change our lifestyle. Teoresi has been playing a leading role in this for years: after developing our prototype of the autonomous city car, we are now working on the development of an infrastructure system based on 5G technology as part of ENVELOPE," says Marco Bazzani, Innovation Manager of the Teoresi Group: *"In the smart city of the future, autonomous driving will be connected. This is why the European Union is accelerating the development of digital urban systems that will also bring about lasting social and economic change. As Teoresi Group, we are proud to be part of this project, which also emphasises the leading role of our home town Turin as an innovation laboratory for future-oriented mobility."*

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About the Teoresi Group

Teoresi was founded in 1987 in Turin as an IT consulting company. Today, the Teoresi Group is an international engineering company with over 1,000 employees working in a total of 26 offices in four countries. In addition to its 15 offices in Italy - including in Turin, Milan, Modena, Rome and Naples - Teoresi has four German locations in Munich, Stuttgart, Berlin and Ingolstadt, as well as an office in Lugano, Switzerland. In the USA, the group is represented in Detroit, Chicago, Pittsburgh, Cleveland and Austin.

Teoresi supports companies with cutting-edge technologies in their project development. Its expertise ranges from self-driving electric cars to nanotechnology for the medical sector. With its holistic expertise in engineering and machine learning, Teoresi helps with technology design, development and consulting - always focussing on the innovative aspects. Teoresi accompanies customers through all project phases: from analysis and design idea, through conception and prototype development, to the final product and market launch.