

## **INDRA PROVES HOW CAPACITY AND SAFETY OF TRAFFIC AND AUTONOMOUS CARS IMPROVES WHEN CONNECTING INFRASTRUCTURES AND VEHICLES**

- **The autonomous driving pilots of the AUTOCITS project that takes place in Lisbon, Madrid and Paris will facilitate the deployment throughout Europe of intelligent transport services based on cooperative systems, which allow vehicles to "talk" with each other and with the infrastructure**
- **During the final event of the project at the headquarters of the DGT, it was shown live how an autonomous car managed to brake and change lanes while driving on the BUS-VAO of the A-6 in Madrid thanks to the notifications sent from the control center**
- **This month the European Commission adopted new rules that speed up the deployment of these smart services, which AUTOCITS has helped to define and which will make it possible to move towards the "triple zero" goal for emissions, traffic jams and accidents in the EU**
- **The acquired experience and knowledge strengthen Indra's position as a leader in smart mobility and in the market for services for autonomous and/or connected vehicles, being also involved in the European research projects C-ROADS, SECREDAS and SCOTT**

**Madrid, 4 April, 2019.-** Indra, one of the leading global technology and consulting companies, has proven that intelligent transport services based on cooperative systems (C-ITS), which allow vehicles to "talk" with each other and with traffic infrastructure, improve the road safety, the management capacities of operators, and the safety and capacities of autonomous vehicles.

This can be seen in the results and recommendations that the company presented at the closing event of the European R&D&I project AUTOCITS led by Indra, which tested autonomous driving on Lisbon, Madrid and Paris roads. The goal: to contribute to adapting regulations, traffic control centers and infrastructures to facilitate the circulation of autonomous vehicles in urban nodes through the development of C-ITS services.

The event, which took place at the headquarters of the Directorate-General of Traffic, was inaugurated by the Deputy Director General of the DGT, Jorge Ordás, with the presence of other directors of the DGT, which is part of the consortium, the Ministry of Public Works and the European Commission, as well as several project partners: Universidad Politécnica de Madrid (UPM), Instituto Pedro Nunes (IPN), Inventeurs du Monde Numérique (INRIA) and Indra itself. The Portuguese National Road Safety Authority (ANSR) and the University of Coimbra (UC) complete the project consortium, which has received funding from the European CEF (Connecting Europe Facility) program.

The C-ITS services developed in AUTOCITS allow communication and secure exchange of data between vehicles, users and infrastructure, using the European communications standard ITS-G5. In this way, they offer valuable information to managers, users and connected and autonomous vehicles, thus expanding their "vision" and facilitating decision-making through notifications in real time about road works, traffic jam situations or adverse weather conditions, among many other examples.

During the event, attendees were able to see on the videowall of the DGT headquarters in Madrid live images from the traffic cameras of the A-6 BUS-VAO featuring one of the autonomous vehicles used in the project. This vehicle managed to reduce its speed and changed lanes following the notifications sent to it from the control center, as well as the information of its own on-board systems (ADAS).

**Project milestones**

The AUTOCITS project has contributed to the development and validation of the architecture, communications and cooperative intelligent services, it has deployed them in three metropolitan pilot projects, and has validated the guidelines that the C-ROADS platform is giving to all European projects in this field. In addition, not only have these standards been adopted, but AUTOCITS has also collaborated with this platform, offering information on the tests and their results.

The 14 autonomous and connected vehicles used in the three pilot projects have traveled more than 6,000 km during the tests, communicating with control centers and traffic infrastructures through 22 road units from four different suppliers. Its interoperability has also been tested with transnational tests, where the systems and services developed in the pilot project for one city were tested in other capitals in order to verify their proper functioning.

In this way, the pilot projects in Lisbon, Madrid and Paris will facilitate the large-scale deployment of these smart services throughout Europe, and contribute to the development of the Atlantic Corridor, one of the priority routes for the development of the European transport infrastructure.

**Collaboration for harmonized regulation and development**

In addition to designing, testing and contributing to the standardization of C-ITS services and facilitating their extension, the AUTOCITS project has analyzed the regulation for autonomous driving at a European and international level to favor their harmonization, and has laid the foundations for the development of a future legislation on autonomous driving in Portugal, where the first tests of autonomous cars took place.

More than 50 stakeholders were involved in the project, which also collaborated with other initiatives in the field of connectivity and autonomous driving, including the C-ROADS project, among others.

The event held at the headquarters of the DGT also featured presentations on this European project by Ana Blanco, Assistant Deputy Director of Circulation at the DGT, and Sergio Barral, Director of Exploitation of Calle-30 on the Concordia project, as well as the progress of autonomous driving in the United States by the Vice President of Cintra US, Juliá Monso. Sergio Gómez, Director of Innovation at Mapfre, the company that insured the autonomous vehicle used for testing in the Madrid pilot project talked about the regulation and liability vision from the insurance point of view.

**Europe goes for clean, connected and automated mobility**

The development of the AUTOCITS project happened in parallel to the efforts of the European Commission in terms of autonomous and connected driving. The last step took place this month with the adoption of new regulations that speed up the deployment of C-ITS services, which allow moving towards the "triple zero" goal for emissions, traffic jams and accidents in the EU.

According to the European Commission, starting this year, vehicles, traffic signals and highways will be equipped with this technology, which allows digital connectivity and cooperation between vehicles and transport infrastructure, which "will significantly improve road safety, traffic efficiency and driving comfort, helping drivers make the right decisions and adapt to the traffic situation".

Thanks to the experience and knowledge acquired in the AUTOCITS project, Indra is positioned as a leading company in this service market for autonomous and/or connected vehicles, and reinforces its leadership in smart mobility.

The company is also playing a prominent role in the C-ROADS project. Indra is the partner of the Spanish National Consortium, which leads the Directorate-General of Traffic, and acts as a technology provider, developer and implementer of C-ITS services for drivers in Madrid and Cantabria. It is performing a fundamental role in the development and implementation of several services, as well as of the control center software and highway equipment that allows information to be sent to vehicles.

Indra is also working on increasing cybersecurity in autonomous and connected vehicles within the SECREDAS and SCOTT projects. Both projects are developing new security technologies for

communications, information exchange, cloud and distributed intelligent processing, which will increase the levels of privacy and safety of automated systems and data for all types of connected vehicles.

**At the forefront of smart mobility**

Indra's experience in transportation is unique, with over 2,500 completed projects in more than 100 cities and 50 countries on all five continents

Its new offer, Indra Mova Solutions, combines the new digital capabilities of integration, specialization and innovation demanded by the market with reliability, business knowledge, Indra's own transport technology and the unique experience of its professional team.

With a complete portfolio of end-to-end solutions, Mova Solutions covers the entire life cycle of transport projects and helps Indra lead the creation of the mobility of the future, driven by the new digital environment and focused on making people's lives easier, safer and more comfortable.

**About Indra**

Indra ([www.indracompany.com](http://www.indracompany.com)) is one of the leading global technology and consulting companies and the technological partner for core business operations of its customers world-wide. It is a world-leader in providing proprietary solutions in specific segments in Transport and Defense markets, and a leading firm in Digital Transformation Consultancy and Information Technologies in Spain and Latin America through its affiliate Minsait. Its business model is based on a comprehensive range of proprietary products, with a high-value focus and with a high innovation component. In the 2018 financial year, Indra achieved revenue of €3.104 billion, with 43,000 employees, a local presence in 46 countries and business operations in over 140 countries.