

## INDRA INCREASES THE CYBERSECURITY OF CONNECTED AND AUTONOMOUS VEHICLES

- **Indra is working on new security technologies for communications, information exchange, cloud and distributed intelligent processing, which will increase the levels of privacy and security of automated systems and data of all types of connected vehicles**
- **The advances are part of the European SECREDAS and SCOTT projects, in which Indra is already deploying new services that will allow information to be sent to the vehicles safely, such as speed limits and other signals, alerts and information from other means of transport**
- **With these new developments, Indra strengthens its leadership position in Smart Mobility and in the service market for autonomous and/or connected vehicles, in which it is already leading the AUTOCITS project that is testing autonomous driving on highways in Madrid, Lisbon and Paris**

**Madrid, November 26, 2018.-** Vehicle connectivity and automation improves mobility and increases the safety of journeys, but also opens the door to possible cybersecurity attacks on connected cars, infrastructure and traffic control centers. Indra, one of the leading global technology and consulting companies, is already developing new solutions aimed at ensuring the cybersecurity of connected and autonomous vehicles within the framework of the European RDI projects SECREDAS and SCOTT. These cybersecurity solutions can be applied not only to cars, but also to connected buses, trams or trains.

The SECREDAS project, composed of 69 entities from 16 European countries and with a budget of 50 million Euros from the European Union ECSEL program, aims to create a secure benchmark technology for automated systems, which also complies with the new General Data Protection Regulation (RGPD). It addresses technologies related to cybersecurity in the areas of transport, both rail and automotive, and health.

In the automotive sector, the project addresses the development of tools and mechanisms to preserve privacy and ensure the security of data and automated systems in all communication layers of connected cars and their ecosystem: from internal communications between the systems of the vehicles themselves and their unlocking systems or sensors, to the exchange of data with the control center, the infrastructure and the cloud platforms that provide the vehicles with new services.

Specifically, Indra will deploy in the project, in collaboration with several vehicle manufacturers, new services for connected cars, based on information exchange technologies and secure communications, Cloud Computing and distributed intelligent processing, taking into account the highest levels of security.

Likewise, in the European project SCOTT, the company is developing an intermodal platform in the cloud, which will allow real-time information such as speed limits or other signals, recommendations or alerts, and even information from other means of transport, to be sent securely to vehicles , .

Besides making possible the deployment of these added value services, Indra is working in the SCOTT project on the development of new solutions and products based on secure, reliable and inter-operable wireless communication technologies. All of this in a cybersecurity environment through which it is intended to increase confidence in wireless communications of connected vehicles.

Thanks to the security built into the exchange of information with other means of transport, the project will make it possible to reliably notify connected and autonomous vehicles of different alerts, for example, the arrival of a train at a junction, improving transportation efficiency and traveler safety. This interoperability is especially important in cities where a large number of different means of transport coexist, with the ability to provide useful information and where one of the main challenges is to integrate conventional vehicles,

connected vehicles, autonomous cars and other means of transport to improve urban mobility and travel safety.

The SCOTT project has 57 partners from 12 countries and is co-financed by the Ministry of Energy, Tourism and Digital Agenda and the European Commission.

### **Leading services for autonomous and connected vehicles**

Indra brings to the SECREDAS and SCOTT projects its experience and technology for the transport sector, but also its cloud processing capabilities and cybersecurity. With the advances it is developing in both projects, Indra strengthens its leadership position in **Smart Mobility** and in the autonomous and/or connected transport service market.

The company is leading the European RDI project AUTOCITS, which is testing autonomous driving on highways in Madrid, Lisbon and Paris to adapt regulations, control centers and infrastructures to connected and autonomous cars. In tests, an autonomous car of the project is already traveling at speeds of over 50 mph in the lane for HOV and buses on the A-6 highway in Madrid. To this end, a network of equipment fitted with various ITS-G5 communication technologies and mobile communications has been installed, which facilitates communication between the autonomous car and the traffic control center. Thanks to the intelligent and cooperative transport services (C-ITS) developed in the project, the car can be sent real time information about the traffic situation, the weather or road works. In this way, its "vision" is broadened and a safe coexistence between autonomous and conventional vehicles is facilitated.

Indra 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.

Indra 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. It is also participating in the development of services such as adverse weather, upcoming tailbacks and approaching emergency vehicle warning systems, to be able to send data to autonomous vehicles and alert conventional vehicle drivers, improving driving experience and safety.

### **The challenge of Cybersecurity**

With the connectivity of cars to the Internet, external attacks are possible, a threat that did not exist ten years ago. The connectivity, hardware and software that train connected vehicles add new security and privacy requirements that have direct implications for the internal structure of vehicles and infrastructure, with more than 50 possible points of attack.

The remote connection with a connected vehicle means that its electronic control units can be accessed, such as the vehicle access system, steering wheel control units, braking system, engine, transmission, lighting, airbags, etc. In addition, the very design and implementation of connectivity systems in vehicles may have weaknesses and failures, which cybercriminals could exploit to carry out attacks that include the control of a broad set of functionalities and overriding the driver's actions. The vehicles and/or drivers' data could also be stolen.

Hence the importance of developing new solutions to ensure the cybersecurity of connected and autonomous vehicles.

### **About Indra**

Indra ([www.indracompany.com](http://www.indracompany.com)) is one of the leading technology and consulting companies in the world and a major technology partner on key operations its clients' businesses world-wide. It is a world-leader in providing proprietary solutions in specific segments in Transport and Defense markets, and the 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 2017 financial year, Indra achieved revenue of

€3.011 billion, with 40,000 employees, a local presence in 46 countries and business operations in over 140 countries.