INDRA LEADS A EUROPEAN PROJECT TO TEST AUTONOMOUS DRIVING ON ROADS IN LISBON, MADRID AND PARIS

- **The aim of the AUTOCITS project is to facilitate the deployment of autonomous vehicles in urban nodes by developing cooperative intelligent transport services that will enable vehicles, users and infrastructures to share information more easily**

- **The goal is to contribute to the regulatory framework and traffic rules in order to enhance the interoperability of autonomous vehicles while ensuring correct use on the roads in every country in Europe and safe coexistence with other vehicles**

- **The pilots will be the first ones in Europe to include tests closed and open to traffic on different types of roads: the Bus-HOV lane that connects the M-30 beltway in Madrid, the A-4 highway in Paris, and Avenues Marginal and Brasilia and the A-36 in Lisbon**

Madrid, November 17, 2016. Indra, one of the foremost global consulting and technology companies, is leading a pioneering project that will test autonomous driving on European roads, specifically in the metropolitan areas of Lisbon, Madrid and Paris. These are the three largest cities in the Atlantic Core Network Corridor, which comprises roads that are regarded as priorities for developing Europe's transport infrastructure.

Spain's Traffic Department (DGT), the Polytechnic University of Madrid (UPM), Portugal's National Road Safety Authority (ANSR), the University of Coimbra (UC), the Pedro Nunes Institute (IPN) and Inventors for the Digital World (INRIA) in France are the other members of the AUTOCITS consortium, which has a budget of 2.6 million euros and financing from the Connecting Europe Facility (CEF) program.

On November 23 the Indra headquarters will host the first meeting of the consortium, marking the official kickoff of the project, as well as a presentation to the different stakeholders. There will also be a presentation on November 17 at the "Tecnologías para una movilidad segura, accesible y sostenible" (Technologies for Safe, Accessible and Sustainable Mobility) event organized by the UPM Institute for Automobile Research (INSIA).

The aim of AUTOCITS is to facilitate the deployment of autonomous vehicles in urban nodes by developing intelligent transport services based on cooperative systems (C-ITS) that will enable vehicles, users and infrastructures to communicate and share information, using ITS-G5 European standard.

The R+D+I project addresses the links between this type of connectivity and automation, with a special focus on road safety and the changes, both physical and digital, that need to be implemented in the infrastructure and traffic control centers. A core aim is to reconcile the traffic management function carried out at these centers with the presence of driverless vehicles, bearing in mind that the information which traffic authorities provide through C-ITS is gaining increasing importance at the highest levels of automation for triggering actions in both conventional and automated vehicles.

The three pilots that will be designed and then developed and deployed in Lisbon, Madrid and Paris in 2017 and 2018 will test this relationship between autonomous vehicles, conventional vehicles and control centers, and recommendations will be drawn up on the basis of the results. The ultimate goal is to contribute to the regulatory framework and traffic rules in order to enhance the interoperability of autonomous vehicles while

ensuring correct use on all types of roads in every country in Europe and safe coexistence with other vehicles There is currently no European standard and the regulations in each country have a different degree of maturity, with Spain and France at the vanguard.

In addition to receiving input from traffic authorities, operators and universities, AUTOCITS will tie in with other European R&D&I initiatives in this area, such the C-Roads project and the EU EIP Platform.

Conventional and driverless vehicles on European roads

The pilots in Lisbon, Madrid and Paris will be the very first of their kind in the Atlantic Core Network Corridor and among the first ones in Europe to include tests of autonomous vehicles, from different providers, both closed and open to conventional traffic on urban and arterial roads and highway interchanges. Specifically, the tests will be carried out on the Bus-HOV lane that connects the M-30 beltway in Madrid, on the A-4 highway on the outskirts of Paris, and on Avenues Marginal and Brasilia, two major roads connecting the city of Lisbon to the A-36 highway and other transport infrastructures such as waterways and rail links.

Each pilot will include the deployment of cooperative services with state-of-the-art technology (known as "Day 1" services), drawing on the gains from previous R&D&I projects in which the different members of the consortium have been involved.

For example, in the case of Madrid there are plans to test I2V communications, where the control center sends direct information to vehicles about potential hazards such as road works, the presence of a slow or stationary emergency vehicle, and warnings about weather conditions. In Lisbon similar notifications will be sent about warnings and danger spots but using V2X communications between the vehicle and any connected object or device, in this case a second "robotic" vehicle.

In Paris the system will issue warnings not only about dangerous situations but traffic jams as well, and it will help to manage these by using I2V communications between the control center and autonomous vehicles to offer information on speed and recommended or alternative lanes, etc.

All three pilots will also include the design and testing of different services that utilize the information that the connected vehicles offer the control centers. Furthermore, the services and systems tested in one city will be shared with the other two to check that they are interoperable and function properly.

About Indra

Indra is one of the main global consulting and technology companies and the technology partner for core business operations of its clients businesses throughout the world. It offers a comprehensive range of proprietary solutions and cutting edge services with a high added value in technology, which adds to a unique culture that is reliable, flexible and adaptable to its client's needs. Indra is a world leader in the development of comprehensive technological solutions in fields such as Defense & Security, Transport & Traffic, Energy & Industry, Telecommunications & Media, Financial Services and Public Administrations & Healthcare. Through its Minsait unit, it provides a response to the challenges of digital transformation. In 2015 it reported revenues of €2,850m, had a workforce of 37,000 professionals, a local presence in 46 countries, and delivered projects in more than 140 countries.