

## **INDRA SHOWS THE TRANSPORT OF THE FUTURE: DIGITALIZATION WILL HELP ACHIEVE MORE PERSONALIZED, SAFER AND MORE SUSTAINABLE MOBILITY**

- **The Indra Transport Sector Trends Report shows the new opportunities offered by technologies such as artificial intelligence, the cloud, big data, IoT, augmented reality and machine learning**
- **Mobility as a service, inter-modality, autonomous driving and predictive maintenance are key in the mobility of the future, according to Indra**
- **Users, managers, operators and public bodies will benefit from lower costs, the possibility of resizing routes, safer car driving and less severe environmental impacts, among other advantages**

**Madrid, January 08, 2019.-** Digital technologies will shape the future of mobility, which will be personalized, integrated, safe and sustainable, and will mean important advantages for users, managers, operators and public bodies and authorities. These will benefit from lower costs, the possibility of resizing routes, safer car driving and less severe environmental impacts, among many other aspects.

Artificial intelligence, the cloud, big data, the IoT, augmented reality and machine learning will enable developments such as mobility as a service, inter-modality, autonomous driving and predictive maintenance, which are considered key factors for the mobility of the future.

This is clear from the Trends Report of the Transport Sector prepared by Indra, one of the leading global technology and consulting companies. In this report, the company analyzes the geopolitical, regulatory, social, organizational and technological environment of the sector, as well as the main challenges and objectives that the various agents of this transformation are pursuing in terms of mobility (<https://www.indracompany.com/en/ittreport2018>).

The basis of the report is the in-depth analysis that Indra has carried out to shape its new range of products and services for Transport, in addition to its knowledge of the sector and of new technologies and digital capabilities, as well as interviews carried out with important figures in transport and mobility.

The report describes how digital technologies are at the heart of the new mobility solutions that are transforming and will further transform the sector to respond to these challenges.

According to Indra's Report, users want to have control of their journey and soon they will be able to enjoy transport without technological barriers, with real-time information assistance to suit their preferences and needs at all times, optimized and at a lower cost.

This will be possible thanks to the technologies that facilitate what has become known as the shared economy, big data and solutions for urban and interurban inter-modality. For example, through one application, the user will be able to configure their profile, choose their different means of transport, access each of them interchangeably and pay at the end of the month according to their use, in addition to accessing "rewards" for choosing the most sustainable options.

As for the transport operators, this new approach will lead them to carry out a more intelligent, inter-modal and optimized management of their services. According to the Trends Report of the Transport Sector, operators of buses, subways and trains will soon have a centralized integrated route management system connected to traffic and traveler information, which machine learning and big data will use to resize routes in real time and generate customized routes for users of other means of transport.

Regarding traffic managers and highway concession holders, Indra's report indicates that they will evolve towards a mobility-as-a-service (MaaS) model for car users, which will include solutions for access to certain routes and modular pricing and payment in real time according to road conditions, the time and date, occupancy, etc. In addition, the connected and/or autonomous car, which is advancing with the use of the IoT and the new secure mobile communications, will radically change the user's experience on the road by accessing information, assistance for safer driving and even leisure content, among others.

### **Accelerated change in freight transport and maintenance**

Cost optimization of infrastructure maintenance, merchandise traceability, optimization of the so-called "last mile" and final delivery are, for Indra, the main challenges for infrastructure owners and logistics operators, respectively. The latter will have integrated merchandise management platforms with full traceability, based on blockchain and smart contracts, connected with traffic data in real time, which will make lower environmental impact deliveries easier and optimize train and truck loading.

According to the Report, transport infrastructure maintenance will be increasingly predictive, starting from the very design of the infrastructure in the BIM (Building Information Model), up to the collection of relevant data through Big Data to establish indicators and patterns that, supported by artificial intelligence, will help with decision making. Inspections through the use of unmanned vehicles (UAVs) and the use of augmented reality for operator training and remote assistance for sensitive repairs will also transform these services.

### **At the forefront of smart mobility**

This Transport Sector Trend Report is the result of an in-depth analysis carried out by Indra to shape its innovative range of products and services for the sector, with the help of Indra Mova Solutions, and the reflection of the company's experience in some of the most innovative projects and initiatives relevant to the sector at national and international levels. It also includes interviews with some of the most relevant clients and figures in the sector.

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.

Indra is already leading some of the main European innovation initiatives that progress towards the digitalization of transport and the use of new intelligent solutions based on the IoT, artificial intelligence, big data and cloud computing. Indra is part of the senior governing body of Shif2Rail, the main European initiative for research and innovation in the rail transport sector, which will develop the new generation of solutions. It leads, among others, the macro project 'Transforming Transport', which is using big data to improve mobility; and the Harmony project, which is developing technologies that enable the integration of real-time data from different operators and means of transport, as well as traffic, to improve multi-modal information services. The AUTOCITS project, which tests autonomous driving on Lisbon, Madrid and Paris roads to adapt regulations, control centers and infrastructures to connected and autonomous cars, is another good example of the company's leadership.

### **About Indra**

Indra 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 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.