Road Tech

Abertis collaborates with IBM to develop more innovative, safer and eco-friendly motorways

- Thanks to a three-year agreement, both companies will jointly explore innovative solutions to reduce the impact of traffic and contribute to sustainability, offering a better service to users of the Abertis Group's international toll roads.

- The projects are based on the use of technology such as artificial intelligence, the Internet of Things and cloud computing.

- Abertis has dedicated cross-sectional and multinational teams, made up of professionals from Spain, France, Italy, Chile, Puerto Rico, Brazil, Argentina, India and Mexico.

Barcelona, 6 October 2020. - Abertis, a leading group globally in toll road management, has signed a three-year global partnership agreement with IBM to launch an Innovation Garage, a program designed to co-explore and co-develop innovative ideas for improving road infrastructure management using technology. The two companies are joining forces to help tackle future mobility challenges, which are mainly related to increased traffic, environment care and road safety, in the countries where the Abertis Group is present.

The projects being explored within this programme are aimed to find new solutions based on technological resources, such as artificial intelligence, the Internet of Things and the Cloud, among others. They also aim to improve the customer experience in Abertis' toll roads, offering a safer, more comfortable journey as well as sustainable and tailored-made. To do so, Abertis has cross-sectional and multinational teams, made up of professionals from Spain, France, Italy, Chile, Puerto Rico, Brazil, Argentina, India and Mexico.

For the time being, four projects are already under way: a continuous monitoring system to prevent the degradation of road pavements and optimise road maintenance, a weather prediction system based on artificial intelligence to provide greater safety and efficiency

during winter operations, a barrier-less mobility support system, and the use of big data to offer customised solutions to customers and to expand free-flow systems.

The Abertis Group and IBM will work together to develop these solutions and analyse their feasibility to implement them in the short to medium term.

Precise and preventive maintenance

The aim of this project is to contribute to a safer journey, optimising road maintenance. The objective of the collaboration between Abertis and IBM is to develop a constant pavement condition monitoring model, in order to predict infrastructure maintenance needs, using predictive analytical technology powered by several data sources (regulatory inspection reports, roadwork history, road condition sensors, traffic, statistics and weather predictions). The information collected will allow professionals to predict the maintenance needs of structures more accurately, optimising preventive actions and operations regarding infrastructure to improve road safety.

Reduced impact of winter operations

Within the Garage, a system is being analyzed that minimizes the impact, both on the environment and on traffic, of the winter operations carried out each year by the Abertis Group's operators. This system is based on the prediction of operations with the greatest possible precision aimed to minimize the impact of snow and ice melting agents (such as salt), equipment and resources allocated to these road protocols, with the goal of maintain road safety for drivers and reducing the environmental footprint of these activities.

Barrier-less mobility

The collaboration also includes the design of a universal and interactive system of barrier-less mobility solution using geolocalisation technology. It is designed for any type of vehicle and remote payment systems and can be used on both urban and interurban roads. In addition, it will support both connected and autonomous vehicles.

***Big data* to understand customer behaviour**

This system is based on the use of big data to better understand customer behaviour, with the aim of offering customised solutions. Solutions are being studied to expand the use of barrier-less systems. These include an advanced non-payment detection system that will

make it easier for administrations and operators to opt for free-flow solutions in the future, which are more user-friendly and more sustainable, because they reduce pollutant emission into the atmosphere.

Abertis Road Tech programme

Abertis promotes its Road Tech programme, which aims to address future mobility challenges through the application of technological advances in infrastructure. The Group is working on smart roads projects to pave the way for electric, connected and autonomous vehicles. In collaboration with public administrations, the company is also removing toll barriers, introducing innovative new payment methods that reduce congestion, fuel consumption and vehicle emissions, as users don't have to stop at the barriers to pay.

IBM Garage

IBM Garage is IBM's way of enabling businesses to move forward, innovate and be able to work as a startup regardless of their size. With IBM Garage, you can get quantifiable business value from innovation projects, enable cultural change through co-creation with IBM experts and leverage the momentum of iterative innovation to drive digital transformation at scale.