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challenging limits

Bizkaia, Spain
Bizkaia Connected Corridor

In 2021, Kapsch TrafficCom was selected by the Provincial Government of Bizkaia and the renowned Basque Technology Center, Tecnalia Research and Innovation, to provide connected vehicle technology for the country's first intelligent highway—the Bizkaia Connected Corridor project on the A8 highway near Bilbao in Northern Spain.

Spain's first Connected Corridor is a public-private initiative to test, validate, and demonstrate, in a real-world scenario, all types of technologies related to Cooperative, Connected and Autonomous Mobility (CCAM) and Intelligent and Digital Infrastructures.

A living laboratory for CCAM technologies and smart and digital infrastructures.

For this project, Kapsch TrafficCom provided connected vehicle technology—hardware and software that enable vehicles and infrastructure to communicate with each other. By providing real-time information on road and traffic conditions, such as traffic warnings, hazardous area alerts, and congestion updates, the corridor makes traffic safer and more reliable.

Project Scope:

As part of this cooperative corridor initiative, Kapsch TrafficCom delivered:

- Supply and installation of 25 Dual Roadside Units (RIS-9260) to allow data exchange between infrastructure and vehicles

- Deployment of 3 ITS G5 On-Board Units (CBX-9360) and 3 V2X On-Board Units (CBX-9160)

- Configuration and installation of a Connected Mobility Control Center (CMCC), central to the project's real-time monitoring capabilities

- Extension of the C-ITS services of Bizkaia Connected Corridor to heavy goods vehicle (HGV) drivers using the App Autoridad Portuaria de Bilbao, including the deployment of 3 Dual Roadside Units (RIS-9260) and 1 virtual Roadside Unit near the Port of Bilbao entrance/exit

- A 12-month warranty and 4 years of hardware and software maintenance

The Challenges:

- Ensuring smooth technical coordination among multiple stakeholders (Kapsch TrafficCom teams, the traffic control center, and other project partners), which was new in projects in Spain

- Availability of critical components and the need to fine-tune and validate the system

The Solution:

Spain's first connected corridor, spanning 57 km on the A8 motorway near Bilbao, from Ermua to Ugaldebieta, allows vehicles and infrastructure to communicate with each other.

- The 25 Dual Roadside Units (RIS-9260) installed along the motorway act as key points for receiving and distributing information between vehicles and the traffic control center via wireless technology.

- The Connected Mobility Control Center (CMCC) manages and monitors the Connected Vehicle environment, enabling direct communication with networked vehicles and providing real-time traffic data to the traffic control center for efficient decision-making and traffic management.

- Extending the C-ITS services by integrating Roadside Units (physical and virtual) for the Port of Bilbao in the Connected Mobility Control Center (CMCC) of the Bizkaia Connected Corridor

- Enabling the App Autoridad Portuaria de Bilbao (APB), used by HGV drivers, to function as a virtual Roadside Unit by sending messages from the traffic management center to the app via the Connected Mobility Control Center (CMCC)

The Added Value:

- These technologies and services enable a responsive traffic environment, ensuring drivers receive real-time updates about road conditions, thereby improving safety and reducing congestion.

- This project sets the stage for future innovations in connected mobility in Spain, establishing a foundation for safer, more efficient roads.