

Austria highways nationwide rollout, and city solutions based on C-ITS, are enabling truly connected mobility

Austria's C-ROADS C-ITS initiative: connected vehicle deployments for improved road safety

ASFINAG, the organization that builds and maintains Austria's highways, is implementing a nationwide project to improve road safety with C-ITS connected vehicle technologies. The project, which also includes connected intersection deployments in Austrian cities – including Salzburg and Vienna – is using C-ROADS specifications to ensure compatibility and interoperability for all equipment.

The nationwide highways project and city projects enhance road safety using data from connected vehicles and roadside infrastructure to provide safety information to drivers in their vehicles in real-time – from roadworks and traffic jam warnings, to severe weather notifications.

Kapsch's contribution to the nationwide highways project

Kapsch has been cooperating with ASFINAG for over ten years around Eco-AT creating specifications, pilot operations, and living lab studies, besides others, to establish the foundation of C-ITS infrastructure in Europe. Now in the operational deployment phase for the national highways project, Kapsch TrafficCom is providing in-vehicle Onboard Units (OBUs) for service vehicles to facilitate real-time data exchange with ASFINAG's C-ITS roadside infrastructure. Data from Kapsch's onboard units is used to deliver safety information to drivers' dashboards in real-time – reducing the risk of accidents.

As the radio frequencies for tolling systems and the nationwide C-ROADS C-ITS deployment are adjacent to each other, Kapsch consulted with ASFINAG to eliminate the risk of interference, and to ensure that all safety applications work reliably and within the required radio communication parameters. Kapsch TrafficCom's contributions and common experience with ASFINAG has been standardized in the European C-ITS framework by ETSI for the benefit of all road toll operators.



Enabling connected intersections in Salzburg

In the city of Salzburg, Kapsch TrafficCom is providing roadside infrastructure, vehicle onboard units, and C-ITS services for the cities and counties' C-ROADS deployment. This increases safety at several intersections by providing safety information, such as traffic light status, road conditions direct to drivers' dashboard displays, and piloting pedestrian crossing or cyclist notifications.

The C-ITS solution is able to identify pedestrians, cyclists, and vehicles and to alert drivers about safety risks thanks to Kapsch's advanced DVLP image processing technology.

Supporting safe, efficient tram operations in Vienna

Kapsch TrafficCom is also providing infrastructure and services for urban C-ROADS C-ITS deployments in Vienna. The first of these – green wave driving – tells drivers how fast to drive to avoid as many red lights as possible – reducing their journey times and minimizing congestion and emissions from 'start-stop' traffic.

Also in Vienna, Kapsch TrafficCom is providing roadside infrastructure and onboard units for a smart tram solution for the city's transport authority, Wiener Linien, which is being delivered in collaboration with a traffic light controller partner. This uses a tablet to tell tram drivers how long a tram will be stationary due to a red light, allowing drivers to keep the vehicle's doors open for as many passengers as possible before departure.

In the near future, Kapsch will also be involved in a project to give public transport vehicles priority at intersections using smart, connected vehicle technologies to improve their schedule reliability and ensure a tight cadence during peak hours.

The results: Improved road safety and driver experiences

The decision to deploy a nationwide C-ROADS C-ITS solution across all highways in Austria promises to significantly improve road safety, helping to minimize accidents across the network and pave the way for connected automated driving (CAD) for the next decade. With timely warnings of roadworks, obstacles, congestion, and other factors that jeopardize driver safety, authorities will be able to further their goal towards 'zero accident' roadways. As an additional benefit, data from Kapsch OBU and the national C-ROADS C-ITS deployment is being used to improve planning and to support initiatives to make road travel safer and faster across the country.

These benefits are also being mirrored in several Austrian cities, who have also chosen to develop and deploy connected vehicle and connected intersection solutions based on C-ROADS specifications for the greatest possible harmonization and interoperability.

The road-side Unit (RSU) installed and in action in the city of Salzburg (AT)

