

Information on the deployment of Cooperative ITS in Europe

The C-Roads Platform is a joint initiative of 18 European Member States and 6 associated members for testing and implementing Cooperative ITS (C-ITS) services.

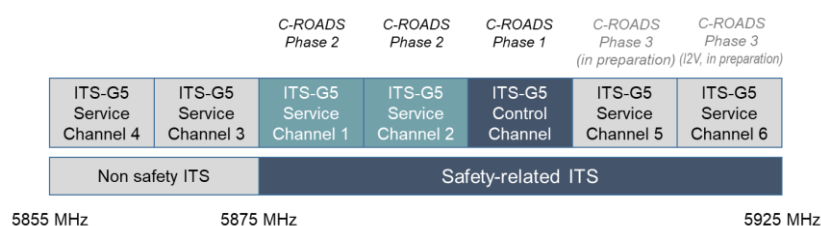
State of C-ITS Deployment in Europe

20 000 km of European roads have been equipped with ITS-G5 by 2022 in C-ROADS member states. Almost one million vehicles have been equipped with ITS-G5. They exchange safety-related messages among themselves, and strongly benefit from infrastructure-based services as of today. The joint deployment of member states and the automobile industry has put Europe in a leading position worldwide.



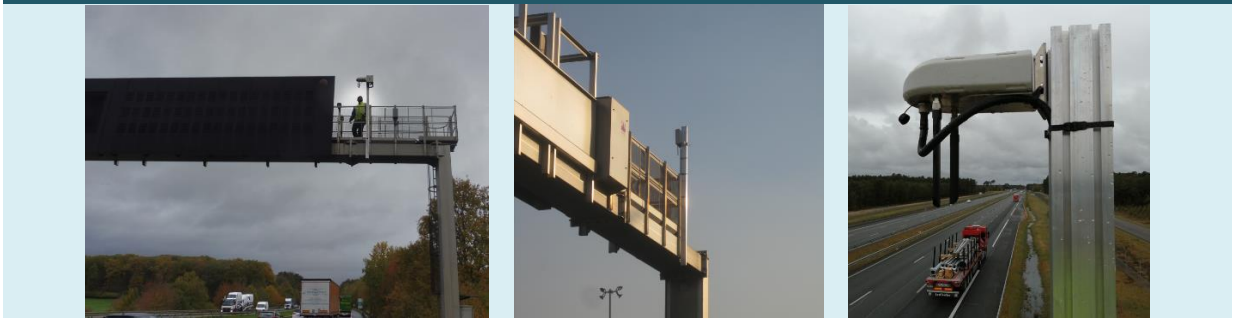
Short Range Communication in the 5.9 GHz ITS band

ETIS ITS-G5 is based on a variant of the WLAN (Wi-Fi) standard that allows direct ad hoc communication among vehicles (V2V) and between vehicle and infrastructure (I2V). It works without access points, base stations or Internet connectivity. Ad hoc short range communication allows every single vehicle, road side unit, safety trailer, emergency vehicle, tram, or bus to directly communicate with others. It is independent of other infrastructure and adds resilience to critical transport infrastructure.

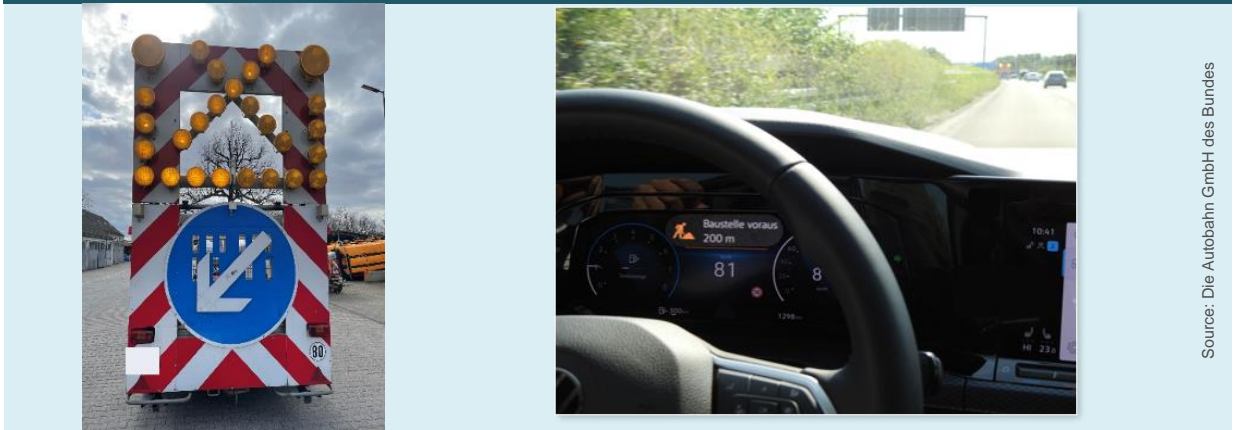


C-ROADS Deployment Examples

ITS-G5 Roadside units in France



Road works warning based on ITS-G5 on German Autobahn



Source: Die Autobahn GmbH des Bundes

Railway crossing with ITS-G5 in Czech Republic



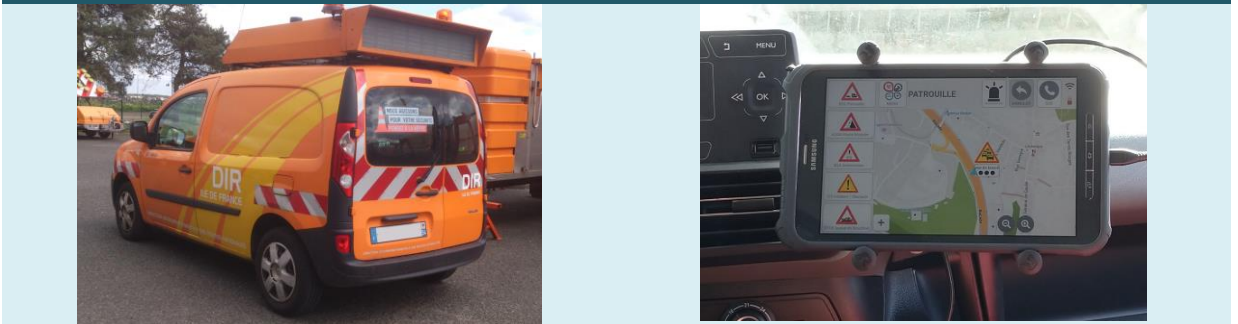
Prioritised vehicles with ITS-G5 in Austria



Emergency warning and traffic light prioritisation via ITS-G5 in Czech Republic



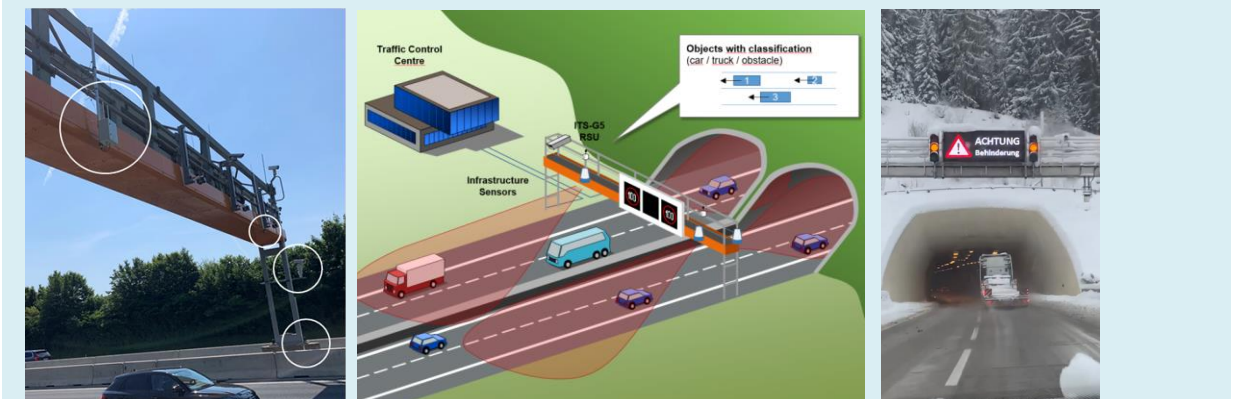
Road operator vehicles with ITS-G5 in France



Public Transport Vehicles with ITS-G5 in Czech Republic



Cooperative Perception (Sensor Data Sharing) via ITS-G5 in Austria



C-ROADS works on a growing list of use cases, which can be grouped as follows.



#SafeRoadsTODAY

<https://youtu.be/6C4SaTxRMKc>



How C-ROADS contributed to Road Safety Needs

The following examples show C-ROADS contributions to respond to urgent road safety needs. The corresponding safety warnings have become reality in ITS-G5-equipped vehicles today – a result of the joint effort of C-ROADS and CAR 2 CAR.

Road works zones are dangerous for drivers and workers –Cooperative ITS warns drivers

Dangerous situation:



C-ROADS contribution:



Road works warning is one of the first C-ROADS use cases that has been deployed. Every new series vehicle with C-ITS (ITS-G5) benefits from these warnings.

Safeguarding vehicles are at risk – Cooperative ITS increases awareness

Dangerous situation:



C-ROADS contribution:



Hazardous location notification by emergency and road operator vehicles is a deployed C-ROADS use case. These warnings are already shown in series vehicles equipped with C-ITS (ITS-G5).