

What are Intelligent Transport Systems?

Intelligent Transport Systems (ITS) add information and communications technology to transport infrastructures and vehicles in an effort to improve their safety, reliability, efficiency and quality.

ITS services are also designed to optimize transport times and fuel consumption thus providing greener and safer transportation. However, the deployment of Intelligent Transport Systems and the provision of corresponding services are not limited to the road transport sector only, but include other domains such as railways, aviation and maritime as well.

ETSI, well known for producing standards for fixed telecommunications, mobile, radio, broadcast and Internet technologies, supports the ITS domain with comprehensive standardization activities.

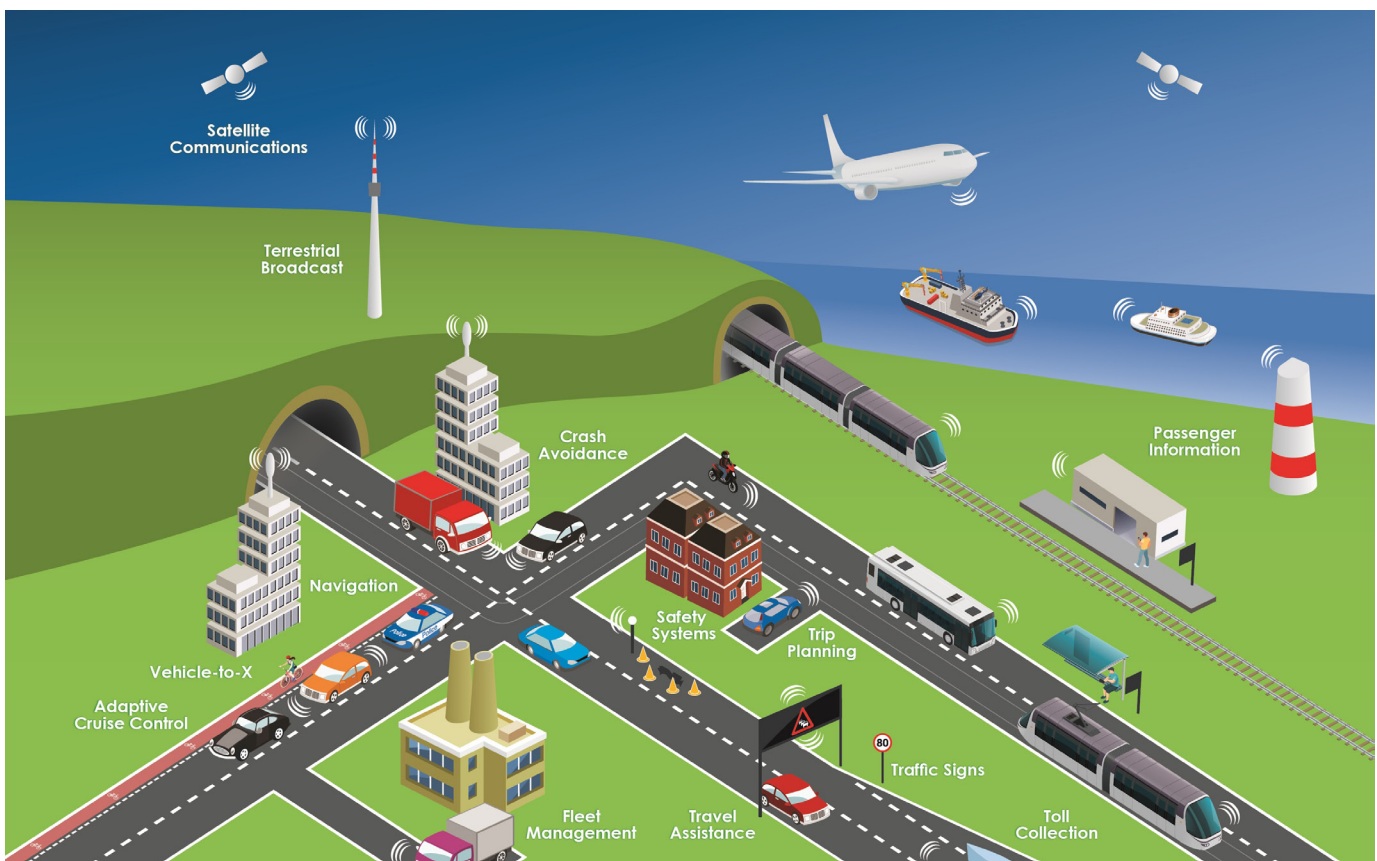
Release 1 of a set of basic ITS standards has now been published. The full list of standards in ITS Release 1 is available in ETSI Technical Report TR 101 607. This first set of standards will lead to the harmonized development of ITS related products and their deployment on the market, responding to market demands.

Who is involved in ITS standardization work?

ETSI's Technical Committee for Intelligent Transport Systems (TC ITS) creates and maintains standards and specifications for the use of information and communications technologies in transport systems. Most of the Technical Committee's ongoing standardization activities are focused on wireless communications for vehicle-to-vehicle and vehicle-to-roadside communications.

The goal is to address the safety of life through the reduction of road fatalities and injuries (in Europe over 40 000 road fatalities per year and more than 1,25 million injuries), to address traffic efficiency with a reduction in transport time and the related economic consequences, and to decrease polluting emissions such as CO₂. This is a global issue and ETSI is cooperating with standardization bodies worldwide in order to achieve global interoperability and harmonized deployment of Intelligent Transport Systems.

As a consequence, the work of TC ITS is supported by a large variety of companies who actively contribute to the standardization work. These include car makers along with automotive industry suppliers. Equally, there are silicon vendors, network operators, research bodies as well as test houses.



Intensive links are maintained with the European Commission whose ITS related initiatives aim to stimulate the deployment of Intelligent Transport Systems. In parallel, industry organizations such as the Car to Car Communication Consortium (C2CCC) provide important input to the standardization work.

Due to the international nature of this work ETSI cooperates closely with other international standardization organizations such as ISO, CEN, IEEE, SAE International, ARIB and IETF in order to achieve internationally deployed and harmonized standards on ITS, essential to achieve worldwide interoperability.

New MEC industry standards and deployment of MEC platforms will act as enablers for new revenue streams to operators, vendors and third-parties. Differentiation will be enabled through the unique applications deployed in the edge cloud.

Current standardization activities

Standardization currently focuses on cooperative systems, electronic fee collection and interoperability of these technologies. Since ITS has a global dimension, great attention is given to the creation of commonly agreed standards for the network architecture, protocols and transmission formats. Having such a set of commonly agreed standards helps lead to a global harmonization of ITS services and applications. A key issue when working on such standards is ensuring interoperability. Here, ETSI's Centre for Testing and Interoperability (CTI) provides expertise on all aspects of interoperability.

Since the Release 1 set of standards has been completed, ITS related standardization continues, in addition to the maintenance of Release 1, with the development of Release 2 designed to support additional ITS services, functionality and features. The following list shows some potential topics for which ETSI TC ITS will develop standards and technical specifications:

- Autonomous driving (e.g platooning, C-ACC and Manoeuvre Coordination Service)
- Sensor sharing (e.g. Collective Perception and Cooperative Observation Service)
- Integrated transport supporting Smart Cities
- Infrastructure-based Services (e.g. SPAT, MAP)
- Roadside platform architecture
- Integration of existing infrastructures
- Digital maps
- In vehicle platform architecture
- Urban mobility management (e.g VRUs)
- Freight and fleets

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For further details on ETSI TC ITS please visit: www.etsi.org/ITS

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