

Transportation

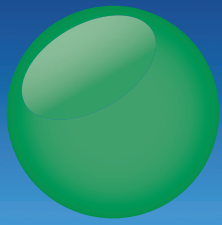


A Connected World



Systems for people
on the move

Bringing the power of ICT
to a world of mobility



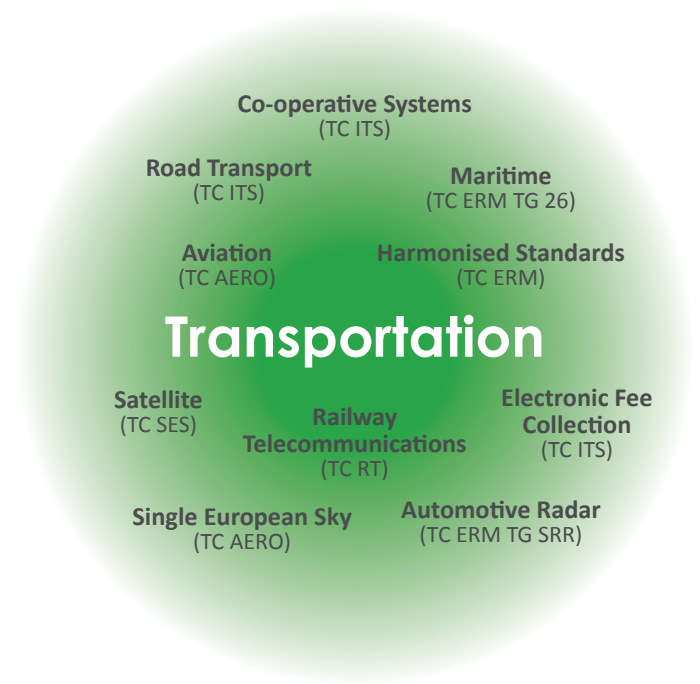
Transportation

Information and Communication Technologies (ICT) are revolutionizing the transport sector. Intelligent and connected transport systems are more efficient, provide a more dependable service, offer increased passenger safety and consume less energy. Radio systems in particular are now used extensively in the transport sector, from maritime radio or train signaling, to connected cars and NFC ticketing.

ETSI supports road, rail, aviation and maritime transportation with activities which are carried out by key industry players and therefore reflect true market demand.

ETSI Groups in the Transportation Cluster

- **ITS** (Intelligent Transport Systems)
- **AERO** (Aeronautics)
- **RT** (Railway Telecommunications)
- **ERM** (EMC and Radio spectrum Matters)
- **ERM TG 26** (Task Group Maritime)
- **ERM TG SRR** (Task Group Automotive and Surveillance Radar)
- **SES** (Satellite Earth stations & Systemss)



Much of the work performed in the cluster in support of European initiatives is done under Mandates issued by the European Commission and the European Free Trade Association (EFTA). The cluster also co-operates closely with various international organizations, including CEN, ISO, IEEE, SAE, IETF, ARIB, EUROCAE, EASA and ICAO to ensure harmonization and interoperability.

Standardization Activities

Standardization for road transport is focused on wireless communications for Cooperative ITS, with a priority on safety.

Intelligent Transport Systems (ITS) offers numerous benefits including increased travel safety, minimized environmental impact (in terms of CO₂ emissions and fuel consumption) and improved traffic management.

Our ITS committee (TC ITS) is leading the drive to achieve global standards for **Co-operative ITS**, which offers enormous potential through vehicle-to-vehicle and vehicle-to-roadside communication. Applications include road safety, traffic control, fleet and freight management and location-based services, providing driver assistance and hazard warnings and supporting emergency services. Release 1 standards are being fine-tuned, taking account of feedback received.

Release 2 is being developed and will include new features and functionalities anticipated in future Co-operative ITS. In particular, it will include specifications to protect vulnerable road users such as cyclists and motor cycle riders, and for **Co-operative Adaptive Cruise Control**. It will also address platooning, a practice which is expected to save both fuel and space on the roads. Work is ongoing on the **Co-operative Observation Service**, whereby sensor information is shared between road users to, in effect, extend a driver's field of vision, and we have initiated pre-studies into relevant use cases. Cross layer **Decentralized Congestion Control** for the management of Co-operative ITS is being addressed.

Conformance tests, which are crucial for the commercial deployment of Co-operative ITS are being developed. Our Technical Specification (TS) on mitigation techniques is being revised to avoid interference between European CEN Dedicated Short Range Communication equipment and ITS operating in the 5 GHz frequency range.

Spectrum requirements of Release 2 are continuously being addressed.

Our **Automotive Radar** standards take recent developments into account. In the Ultra Wideband automotive radar area, our Harmonised Standards for ground based vehicular radar in the 76 - 77 GHz range and high resolution automotive radar in the 77 - 81 GHz range are being revised in the light of the EC MOSARIM project on radar interference mitigation and the amended regulatory framework. A new European Standard (EN) on the use of helicopter radar to prevent accidents is being developed.

Aviation related work in response to EC mandate M/524 in support of the Single European Sky (SES) Air Traffic Management (ATM) Master Plan was discontinued in 2014 in the light of the EC's restructuring of the SES and European Aviation Safety Agency regulations. However, the EC will still require our Community Specifications, at least temporarily. Our Aeronautics committee (TC AERO) is therefore updating its two-part EN on the Advanced Surface Movement Guidance and Control System (A-SMGCS). We await clarification from the EC as to whether or not we should begin new work in support of M/524.

Our multipart EN on the A-SMGCS is being extended with a new part on multilateration equipment and our ENs for the ground-based VHF Digital Link Modes 2 and 4 radio transceivers for the aeronautical mobile service are being revised, in support of EC Mandate M/405 on ATM systems.

Our **Railway Telecommunications** committee (TC RT) is working to resolve interference issues with public systems. Our TS on receiver parameters, specifically to deal with the introduction of 2W mobile handheld devices will be updated and a specification to incorporate Internet Protocol into the core network and interfaces is being developed.

A feasibility study into the use of **GSM-R** (GSM™ on railways) radio performance enhancements and resource optimization to improve system capacity, spectrum efficiency and the robustness of the radio link is expected to be completed. A new TS on the **General Packet Radio Service (GPRS)/Enhanced GPRS** features

With regard to **maritime**, the Harmonised Standard on fixed and portable VHF equipment in the 121,5 - 123,1 MHz band for search and rescue purposes is being revised. Our EN on Digital Selective Calling equipment is being updated and a new Harmonised Standard on

Our **Satellite Earth Stations and Systems** committee (TC SES) expects to publish a new EN on **Earth Stations on Mobile Platforms** (ESOMPs) operating with non-geostationary satellites in the Ka band. This will facilitate the introduction of new equipment for satellite broadband access on board aircraft and vessels. Standards aimed at adding new antenna types for ESOMPs operating with geosynchronous orbit satellite systems are also being developed.



To find out more information on this cluster, please contact:

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ETSI produces globally-applicable standards for Information and Communications Technologies (ICT), including fixed, mobile, radio, converged, aeronautical, broadcast and internet technologies and is officially recognized by the European Union as a European Standards Organization. ETSI is an independent, not-for-profit association whose more than 800 member companies and organizations, drawn from 64 countries across five continents, determine its work programme and participate directly in its work.

For further information, please visit: www.etsi.org