UIC
Added Value

With 214 members in 95 countries, International Union of Railways (UIC) has 137 working groups with more than 2,000 experts developing technical products and expertise on a wide range of subjects.

Technical support

UIC has developed over 100 years a technical expertise on the main technical railway topics.

Safety and Interoperability

UIC and the European Union Agency for Railways (ERA) signed a cooperation agreement in 2021. This agreement consolidates the role of UIC as a technical body in Europe. It clearly allows UIC to provide technical reports, specifications and guidelines that can be approved by ERA as Accepted Means of Compliance with European regulations.

Safety

- UIC's **Safety Platform** is an advisory body open to all UIC members, able to put in place recommendations and actions to help control, mitigate or eradicate safety risks and eliminate their underlying causes and effects. The UIC **Safety Database**, which has been collecting data covering more than 20,000 significant accidents since 2001 in 27 UIC members in Europe, Asia and the Middle East is a key tool for these recommendations and actions.
- UIC has created and leads the annual **International Level Crossing Awareness Day** (ILCAD). It brings together rail industry representatives, road authorities, academics, and other stakeholders from around the world. ILCAD aims to raise awareness of the dangers associated with level crossings. Over 40 countries participate in the event each year, and the annual campaign is launched at an international conference hosted by a partner country.
- UIC participates in a network of railway officials and experts from railway companies in the regions of North Africa and Middle East. This network was established by the EuroMed Rail Safety and Interoperability Project "**EUMedRail**", coordinated by ERA. UIC priority actions included dissemination and training activities, adoption of shared principles and implementation of comparable approaches to safety management, regulation, and supervision, through the application of common safety methods.

Telecommunications

- The introduction of the European Railway Traffic Management System (ERTMS) strategy in Europe paved the way for GSM-R, a major success story both in Europe and around the world. Designed and specified by UIC, GSM-R now covers around 150,000 km of track in Europe and 210,000 km throughout the world. UIC is working on an ongoing basis to ensure that GSM-R specifications are maintained. At the same time, UIC ensures the management of the hubs for GSM-R interconnection between the different European networks in order to ensure smooth and transparent border crossings with regards to telecommunications for international trains.
- However, GSM-R is approaching obsolescence. Consequently, UIC is developing the successor to GSM-R, the 5G Future Railway Mobile Communication System (FRMCS). UIC has already obtained specific frequencies for FRMCS in Europe. UIC is drafting the FRMCS specifications and preparing the necessary work for a European FRMCS prototype by 2025.

Passengers

- UIC has established a Station managers Global Group, which assists UIC members in adopting the best possible approaches to the coherent functioning of infrastructures (roads, buildings, bicycles and pedestrian ways) and the daily activities of station managers.
- UIC has designed, owns and manages MERITS (Multiple East-West Railways Integrated Timetable Storage). This B2B solution is a centralised database containing passenger train timetables from most European countries. It facilitates the provision of train timetables by railway companies to their passengers (national and cross-border trains). It also facilitates the construction of new train timetables.
- UIC has defined OSDM[1], a standard enabling the sale of both online and offline tickets in the same interface for passengers. This interface includes fares, multimodal trip search (including bus and local transport ticketing), booking and graphical seat reservation. OSDM is prepared for multimodality extension (MaaS).
- UIC has developed a Software as a Service solution called ETCD (E-Ticket Control Database)[2], enabling the exchange of control information on railway tickets between ticket issuers and passenger carriers.

[1] UIC IRS 90918-10: Open Sales and Distribution Model OSDM
[2] UIC IRS 90918-4

Freight

- UIC manages the General Contract of Use for Wagons (GCU). It is a single, multilateral contract between wagon operators and owners, specifying the parties' mutual rights and obligations in order to facilitate cross-border activities. Since its inception, the GCU has grown to an impressive network of more than 600 signatories across 20 countries, with more than 600,000 wagons currently declared in the GCU wagon database.
- UIC has developed Loading Guidelines, gathering a set of valid national and international regulations for the safe loading of goods in rail transport.
- UIC actively works within OTIF RID (Regulation concerning the International Carriage of Dangerous Goods by Rail).

Freight and Combined Transport

As road-rail intermodal loading units (semi-trailers, swap bodies and roller units) are optimized for road transport, their upper sections often exceed the height and gauges of railway lines when conveyed on wagons. In order to facilitate and streamline the transport authorisations of these units, UIC has been developing and administrating the "Conditions for coding intermodal loading units, combined transport lines and wagons"[1] for over 40 years. Thus, UIC is today the technical body that simplifies train operations over long distances and on the various networks in Europe by limiting the use of exceptional transport and by taking into account constraints due to different gauges used on various networks.

[1] UIC IRS 50596-6: Conditions for coding intermodal loading units in combined transport, combined transport lines and wagons

Labelling

UIC issues labels for rolling stock components (braking equipment and associated test equipment, thermal engines). These labels give railway companies the guarantee that their suppliers comply with UIC specifications.

Security

UIC Security Platform develops and disseminates worldwide analysis and recommendations for the protection of persons, information, goods, rolling stock and infrastructure from all forms of threat, ranging from everyday delinquency to terrorist attacks, in order to improve service quality and transport efficiency. In addition to these guidelines, UIC's Security team has developed the Rail Security Hub, a free online platform that provides UIC members with a comprehensive catalogue of solutions to railway security issues (more than 50 security solutions are already available).

Cybersecurity

UIC has developed two initiatives:
- A European new railway platform[1], in order to share analysis and experience in relation to railway cybersecurity and to facilitate coordination between existing cybersecurity activities;
- A global cybersecurity solutions platform, in order to identify practical solutions to cybersecurity threats in railway-critical networks.

[1] ER-ISAC (European Railways – Information Sharing and analysis Centre)

Energy

- UIC has launched its Energy Saving Task Force, that aims at identifying ways to reduce energy consumption in the railways.
- UIC is working on alternatives to diesel engines: alternative fuels, ways to retrofit existing diesel locomotive fleets at lower cost.

Dissemination

UIC has the capacity to disseminate railway best practices through more than 85 events per year (seminars, webinars) and publications (documents, websites).

Sustainability

The UIC Sustainability Platform, provides focus and leadership for the Environmental and Social sustainability agenda in the global railway community. Members promote and keep railways as the greenest form of collective and mass mobility through collaborative knowledge and advocacy. Working groups address a range of topics from Air Quality, Circular Economy, Energy and CO2 emissions, Noise and Vibration, Sustainable Land Use, in addition to other cross cutting issues such as sustainable procurement and gender equality practices.

March 2023