FREIGHT AT UIC

JUNE 2018
The first industrial revolution of the 19th century came about as a response to a growing need for urbanisation and regional improvement. The railways were a key player in this transformation. Indeed, it was necessary to transport quarry products, ore and coal over large distances to support the construction of towns, factories and infrastructure. The railways themselves needed steel to promote this growth, for which it was both a source and generator, an actor and vector, as rail made it possible for goods and people to move longer distances.

Freight transport was therefore the first “raison d’être” for the railways, transporting ever larger volumes of raw materials, processed products and consumer goods.

In the 20th century, generalisation brought raw materials to ports at lower cost. This prompted processing factories to relocate, depriving the railways of a significant proportion of upstream capacity traffic. Similarly, with the development of road infrastructure, road transport operators were better placed to offer road transport services for consumer goods.

Thus, in spite of market growth in industrialised countries, the volume of freight transported by train or by wagons has declined overall, along with the railways’ market share. In Europe, approximately 2,400 billion tonne-kilometres are transported annually, representing six per cent of GDP. Rail market share stands at 18 per cent.

The railways therefore had to adapt to this new multi-modal equation and improve both in terms of productivity and services. Given its assets in terms of capacity, regularity and compliance with environmental restrictions, it can be expected to become a significant vector once again in the 21st century in serving both economies and modern society. The specific energy consumption of rail is six times lower than road transport thanks to physical advantages such as wheel-on-rail and air resistance. This translates into dramatically lower external costs for rail.

The railway sector can and must position itself as an international logistics operator in order to regain the market share that it needs to grow and develop. To do so, it must promote its complementarity with other modes of transport – both road and ports – so that it can take its rightful place as part of an integral logistics chain. It is therefore vital that interfaces in these new freight centres – between the different modes of transport and breaks in continuity – are managed in an effort to simultaneously optimise both time and costs in freight transport.

The fourth industrial revolution – the digital revolution – should make it possible to improve modal interoperability and to manage capacity in a proactive way. It will also improve traceability of information on freight and transport fluidity from door to door.

To encourage a modal shift to rail, and to ensure that rail becomes the backbone of future mobility, decisive joint actions are required by railway undertakings (RUs), infrastructure managers and authorities. RUs are working to develop superior rail/multimodal products that will impress customers:

• They are continuing to restructure and modernise in order to create a competitive cost base and ensure high resource productivity
• They are improving quality, flexibility and ease of use of rail and multimodal products
• They are vigorously promoting innovation and increasing the speed of digitalisation and deployment of available technology

In addition, easier access for freight trains to railway infrastructures – particularly with the emergence of major dedicated corridors and by means of improved technical and administrative interoperability conditions and equal treatment of the operating conditions for both road and rail modes – is indispensable for the success of this new, modern logistical approach: an integrated, connected and international chain of mobility.

With this brochure, the UIC Freight department is pleased to present its strategies for addressing the current challenges for rail freight in the context of global logistics and its approach to providing unique technical support to its members on issues impacting rail freight productivity.

Jean-Pierre LOUBINOUX
UIC Director General
FREIGHT AT UIC

Freight is one of four technical departments at the International Union of Railways (UIC), along with the Passenger, Fundamental Values and Rail System departments.

01 Runs 5-10 projects a year
02 Coordinates the European Freight CEO Taskforce
03 Manages three Special Groups
04 Manages nine Expert Groups
05 Works in partnership with other departments, revising approximately 45 leaflets/IRSs
06 Organises the UIC Global Rail Freight Conference (GRFC), seminars and best practice exchanges

UIC’s freight activities are managed through two main bodies, the Steering Committee and the Freight Forum.

The Steering Committee is a strategic body which meets up to four times a year, usually via web conference. Its main aim is to ensure that the strategic priorities agreed at CEO level receive adequate technical and operational support through projects and activities.

The UIC Freight Forum holds two plenary sessions per year and is open to all UIC members with freight activities, as well as the UIC General Assembly assistants. It is a platform for review and discussion of issues of common interest and sharing of best practice. Agreed milestones for projects and activities are also reviewed at the Freight Forum. As the plenary statutory body, it endorses and approves funding for new projects and validates the three-year work programme.

On another level, the UIC Freight department – together with CER – organises the High Level Freight Meeting (HLFM) each year, at which European CEOs from the freight industry discuss major challenges from a variety of perspectives: political, technical and strategic.

UIC’s Freight department aims to support the development of cross-border rail freight in order to position rail as a key component of modern logistics.

Through the working groups and projects undertaken on behalf of its members, the UIC Freight team aims to make international freight products and services more competitive by harmonising business, operational and information processes while ensuring that rail continues to offer the highest safety standards.

CHALLENGES AND PRIORITIES

The Expert Groups and projects focus on the priorities identified by members:

ORGANISATION

To continue to guarantee SAFETY AND SECURITY

To improve INTEROPERABILITY

To integrate INNOVATION AND DIGITALISATION

In order to further improve PRODUCTIVITY
railways are a reliable transport mode, but this reliability can only be ensured by means of constant and unwavering attention from all stakeholders involved. Safe loading is one of the top priorities for all of the parties concerned and must remain so, in spite of increasingly complex interfaces.

The Loading Guidelines, developed by the UIC Loading Guidelines Group (LGG), are a guide for best practice for loading goods in railway transport. They set out the provisions for loading conditions and securing goods during shipment. Application of the guidelines ensures operating safety and prevents damage to goods and wagons.

The Loading Guidelines constitute a valuable intangible asset shared by all stakeholders, who must familiarise themselves and comply with the rules and directives, implement them properly, and use suitable equipment.

To this end, information and training workshops for the sector are organised by UIC’s experts.

The General Contract of Use for Wagons (GCU) is a multilateral contract based on the international convention COTIF 1999 and Annex CUV. The GCU specifies the mutual rights and obligations of wagon keepers and railway undertakings with regard to the use of rail freight wagons as a means of transport throughout Europe and beyond. Since its establishment in July 2006, the GCU has grown to an impressive network of more than 600 signatories across 20 countries, with around 600,000 wagons currently declared in the GCU wagon database. It is managed by the GCU Bureau based in Brussels and governed by a Joint Committee of the three associations UIP, ERFA and UIC.

For UIC members, the Wagon Users Study Group (WU SG) is the freight railways’ think tank for the GCU. It provides an efficient framework for exchange between members and aims to continuously update and improve the GCU. In this context, it oversees two expert working groups:

- Technical Transfer Inspection (Appendix 9 to the GCU)
- Maintenance (Appendix 10 to the GCU)

Moreover, the WU SG regularly deals with ad hoc topics at the request of its members in order to find solutions to facilitate the wagon business.
Operations

The Operations Study Group is a think tank of experts whose aim is to harmonise operating procedures in international freight traffic between railway undertakings (RUS) and between RUS and infrastructure managers to enhance the efficiency, quality and reliability of rail transport.

UIC prepares and updates IRSs - International Rail Solutions - for this purpose and to ensure compatibility with the European legal framework (e.g. TSIs - Technical Specifications for Interoperability), although the IRSs' geographical scope extends beyond Europe.

This group of experts works in cooperation with other UIC departments (e.g. Rail System Forum) as well as international organisations (RNE – Rail Network Europe, FTE – Forum Train Europe, IHHA - International Heavy Haul Association, etc.), and deals mainly with the following topics:

- Braking issues
- Train composition
- Train and infrastructure parameters
- Exceptional consignments
- Interoperability
- Operational rules

These themes are closely related to other freight projects focusing on European Rail Freight Corridors and looking for quick wins, such as ECCO and XBorder.

ECCO Project

Regulation (EU) 913/2010 on a European rail network for competitive freight governs the implementation of European rail freight corridors (initially nine, and now 11). With this Regulation, the EU aims to enhance the performance of rail freight in accordance with the main objectives of the Transport White Paper, based on a modal shift of 30 per cent of freight traffic from road to rail by 2030.

In the context of the implementation of Regulation 913/2010, the need for harmonisation of corridor "access" became increasingly urgent for railway undertakings (RUs) under pressure to implement productivity enhancements. RUs therefore asked UIC to facilitate and coordinate this process with the ECCO project (Efficient Cross Corridor Organisation).

ECCO, which supports the railways' spokespeople for each corridor, published the "Requirements of Railway Undertakings for the Implementation of European Rail Freight Corridors", which is a list of priority topics on which progress is needed.

ECCO provides key technical input on some of the priority issues in the Sector Statement, which represents the commitment made by the sector to boost international rail freight in the context of 11 priorities.

The main priorities are:

- Priority 5: Improving harmonisation of border processes
- Priority 9: Monitoring the quality of freight services by implementing shared KPIs
- Priority 11: Contingency management

ECCO has also contributed to the development of a list of operational issues in need of urgent attention; this document is known as the "Issue Log".

XBorder

In spite of interoperability and the common European railway market, operational constraints still exist and hamper smooth cross-border operation. The cost burden being placed on the shoulders of rail operators is increasing. Yet market share for rail freight is stagnating at around 18 per cent (less in some countries) and rail freight operators face extreme pressure from road competition.

In 2017, the Freight CEO Task Force endorsed the UIC XBorder project to develop "quick win" solutions to address the problem of poor interoperability due to drivers' language skills and operational issues.

The project is structured around the following clusters:

- Proposal for quick wins in the context of solutions implemented at selected border stations
- Communication and standardised vocabulary necessary for safe border exchange
- Requirements and communication tool for driver training
- Rollout plan

The UIC projects provide qualitative input to the RNE study on language issues (considered from an infrastructure perspective) and to the Issue Log.

ATTI

The Agreement on Freight Train Transfer Inspections (ATTI) is a UIC Special Group whose membership comprises both UIC and non-UIC railway undertakings. The ATTI has developed a set of rules to simplify the transfer of wagons between parties whilst ensuring the highest possible level of safety.

Since its creation in June 2014, the initial group of 44 participants has grown to 107 members, and a quality monitoring system has been put in place. The first pilot database of quality indicators for ATTI members has been developed and has been put in place. The first pilot database of quality indicators for ATTI members went live on 1 January 2018.

Items monitored include:

- Wagon technical conditions as per Appendix 9 of the GCU
- Train formation and adherence to schedule (from 2019)
- Dangerous goods (from 2019)

Heavy & Long Trains

The International Heavy Haul Association (IHHA) aims to develop or acquire and disseminate knowledge in respect of heavy haul railroad technology and operations.

The association requires that its members operate or are considering operating:

- Unit or combined trains weighing 5,000 tonnes or more
- Revenue freight haulage of at least 20 million gross tonnes per year over a given line segment of at least 150 km in length
- Equipment with axle loadings of 25 tonnes or more

For UIC European freight operators, this unique partnership with IHHA provides a valuable platform for sharing knowledge and best practice.

Key topics include:

- Infrastructure
- Rolling stock and wagons
- Operational improvement
**Dangerous Goods**

RULLES AND REGULATIONS FOR DANGEROUS GOODS ARE UPDATED CONTINUOUSLY TO TAKE ACCOUNT OF EXPERIENCE AND NEW TYPES OF GOODS ARRIVING ON THE MARKET. HARMONISATION OF RULES BETWEEN VARIOUS MODES OF TRANSPORT IS BECOMING INCREASINGLY IMPORTANT IN THE CONTEXT OF GROWING INTERNATIONAL TRADE AND MULTIMODAL AND INTERMODAL TRANSPORT.

The work involved in amending the various regulatory texts is carried out within intergovernmental, European and international bodies. UIC is officially represented within such bodies as a non-governmental organisation. Other organisations with the same status include UIP, CEFIC, AEGPL, FIATA, etc.

Nevertheless, UIC may submit proposals and make observations concerning the proposed amendments through the UIC RID Group of Experts by:

- Preparing in advance the proposals it puts forward and the positions it adopts
- Discussing the conditions of application of the regulations in force
- Sharing experience and useful information
- Managing UIC Leaflet 471-3

The UIC RID Group of Experts also addresses specific issues previously dealt with by the Dangerous Goods Coordination Group (GSMD), such as:

- Security
- Telematics application
- Risk assessment
- Management of UIC Leaflet 201

On behalf of UIC, the RID Group of Experts also participates in other dedicated Working Groups within the railway sector, as well as European or international intergovernmental bodies. When the issues concerned fall under the jurisdiction of the European Union, UIC positions are established jointly with the Community of European Railway and Infrastructure Companies (CER).

**IT and Digital**

The IT Study Group

The IT Study Group is an active working body within the Freight Forum, bringing freight RUs together to share information, discuss new IT solutions and improve existing applications relating to supply chain and transport systems.

The experts in this group deal with coding standards and message exchange between RUs and maintain existing shared IT databases. They also work in close cooperation with other study groups to issue position papers and offer expertise, for instance on the e-rail freight project. In addition, they provide support to members implementing the requirements of the Technical Specification for Interoperability “Telematic Applications Freight” (TAF TSI) and paperless transport.

UIC members act as project owners within the IT study group, working closely on a number of issues with the RailData Special Group.

RailData

RailData is a UIC Special Group of European freight RUs. Founded in 1995, the UIC Special Group represents over 70 per cent of the rail freight transport sector in Europe. The Group has a Steering Committee and a General Assembly in which management from member RUs take part, and oversees Working Groups with experts in rail freight processes. Each group session or meeting offers an opportunity for delegates to share information and news relating to supply chain and transport systems.

The main purpose of this Special Group is to:

- Optimise processes by means of centralised data exchange (design, develop and run IT services) in order to support its members’ freight railway business in Europe
- Provide solution-oriented IT solutions for RUs in the rail freight transport sector

Particular focus is given to functionality introduced recently for wagon tracking and tracing, consignment note data exchange for paperless transport and manual data input for advance train consist.

There are currently a number of applications in production:

- ORFEUS (Open Rail Freight EDI User System): making paper consignment notes obsolete by creating and managing consignment/wagon CIM/CUV note data exchange.
- ISR (International Service Reliability): event-driven track and trace at wagon level. Based on events from railway operating systems and from Rail Net Europe’s train information system, the application calculates mileage for each wagon and the information is distributed via web portal, real-time web services and messaging.
- CoRoDa (Commercial Responsibility Database): a wagon database with information on the keeper responsible for the wagon at any given time. Developed for and together with the UIC Wagon User Group, this database keeps track of wagons with input via user interface or messaging.
- ATT1 (Agreement on Train Transfer Inspection for Wagon Exchanges), developed for UIC’s ATT1 Special Group, is a quality management system database which centralises quality management information at European level in order to improve the safety and reliability of railway transport.

**eRail Freight**

Major European RUs share consignment note data through the ORFEUS system operated by RailData. The purpose of the e-Rail Freight project is to adapt processes in the central system and within participating companies in order to enable operation of the train without a paper consignment note. It also enables the addition of other e-documents required for train operation. This project was implemented in close cooperation with CER in relation to legal issues and with RailData in relation to technical issues.

In a second step, the electronic consignment note will be made compatible with the CIM/SMGS consignment note used within OSJD, and will be extended to other railway undertakings and intermodal operators.

**e-WAG**

RUs and wagon keepers have launched a pilot project to equip wagons with sensors to facilitate wagon operation and maintenance.

The e-Wag project defines the functionality required to ensure that the sensors, wagons and trains of different origin can communicate with each other. The technical specifications for the project were developed in cooperation with the Industry Platform for Telematics and Sensor Technology (ITSS).

In a second step, the implemented project will result in a benchmark for ensuring system compatibility.
Quality

The Quality Study Group is composed of experts responsible for quality and management systems (QMS) at UIC member companies. A core team meets regularly to discuss and assess various new developments relating to quality, certification and management systems at international level in order to provide expertise, support, advice and coaching in the field of quality management systems. The Group’s work is aligned with legal requirements and international standards such as ISO 9001:2015.

The Study Group has two main activities:
- Regular Study Group meetings held at least twice a year to exchange best practice, ideas and trends within the railway freight sector with regard to quality management systems
- Working Group meetings take place in accordance with the work programme and focus on topics relating to quality and management, e.g. integrated management systems, audits, etc.

Pallets

Wooden pallets are used for carriage of goods and form part of the packaging for goods conveyed by all modes of transport, particularly by rail.

Since 1961, the provisions and requirements of the 435 series of UIC Leaflets have constituted the basis for the production and repair of pallets. They also set out requirements for pallet licensing, control and quality systems.

To ensure the general functionality of pallet production and repair and to improve interchangeability, the UIC Working Group is committed to:
- Offering the product with the same high quality to new and existing users in an open, exchangeable pallet pool
- Revising and updating UIC Leaflet series 435 in accordance with European legislation
- Classifying existing pallet quality in accordance with trade and industry specifications
- Maintaining the rules – and, in particular, the quality system - for UIC/EUR pallets
- Proposing innovative testing systems
- Protecting the “UIC + EUR” trademark stamped on the pallets with the help of national authorities

Logistics

Freight Forum
Chair
Clemens Först
RCG

GTC
Special Group
Chair
Eric Lambert
CFL Multimodal

Freight
Forwarders
Chair
Ad Interim
Sandra Géhénot
UIC

Transcontinental Corridors
Chair
Sandra Géhénot
UIC

UIC’s work on transcontinental corridors - including the new silk routes - is ongoing and is steered through the Stakeholder Group.

The Stakeholder Group is open to all players in the logistics chain, and its work focuses on:
- Promoting the rail freight corridor concept through exchange of best practice
- Adequate market monitoring for business development
- Encouraging pilot projects for operational improvements
- Proposing innovative concepts for data exchange
- Establishing itself as a think tank for multi-regional freight projects and initiatives

Sources: Austrian Ministry for Transport, Innovation and Technology, RNE, press research, UNESCAP, Roland Berger

UIC’s work is closely aligned with the work of other bodies:
**Combined Transport**

The purpose of combined transport (CT) is to use the railways, inland waterways or sea to transport goods in containers, swap bodies or semi-trailers which are then transported by truck for the final few kilometres of a journey. Combined transport offers flexibility and performance and is especially relevant for long-distance transport.

CT is a dynamic market segment within rail freight transport, with an annual average growth rate of seven to eight per cent.

The GTC (Combined Transport Group) was established as a Special Group to work on issues relating to CT and its rapid development. Composed of RUs active in this market segment, the specific mission of the Special Group is to proactively promote the common goals and interests of its members within the context of CT development in Europe. The GTC is a joint professional platform in which RUs – normally in competition with each other - co-operate on issues of common interest to facilitate the development of CT.

Current priorities include:
- Provision of technical input on evolving regulations
- Updating technical standards to ensure that combined transport can benefit from a simplified process for access to infrastructure (codification of lines, rolling stock, units)
- Implementation of paperless transport with electronic consignment notes
- Cooperation with other organisations (UNECE, ERFA, UIRR, CER, Agora, etc.)
- Provision of relevant market monitoring

The CTG publishes a report every other year, providing an overview of combined transport in Europe with regard to:
- Actual volume of overall combined transport volumes
- Development of market structures
- Use of market technologies
- Likely future developments

**Freight Forwarders**

The third pillar of the Freight department’s work in rail logistics is undertaken jointly with shippers and forwarders.

UIC has a long-standing partnership with the International Federation of Freight Forwarders Associations (FIATA), allowing for discussion of market trends and the latest developments in the rail and logistics sectors.

UIC also liaises with the European Shippers’ Council on a regular basis on issues of common priority. These currently include quality performance indicators, data exchange, tracking and tracing.

**European Projects**

UIC also collaborates with other stakeholders of the logistics chain in a number of European Project and Studies aiming at improving multimodality and access to the rail freight offer.

HaCon and UIC, supported by UIRR, Triona and IT Kreativa, developed an EU-wide web-based portal with GIS functionalities, capable of presenting all relevant data for different kinds of last-mile infrastructure in a transparent way. The respective study “User-friendly access to information on last-mile infrastructure for rail freight”.

[www.railfreightlocations.eu](http://www.railfreightlocations.eu)
EVENTS

Market Place Seminar

Since 2008, UIC and FIATA have jointly organised a market place seminar with the aim of creating opportunities for closer cooperation and business development between RUs, operators, freight forwarders and customers, sea carriers and transport professionals in general. This seminar is usually held in a strategic European transport hub such as Prague (2008), Istanbul (2009), Barcelona (2010), Hamburg (2011), Vienna (2013), Trieste (2014), Antwerp (2015) or Duisburg (2017).

www.marketplaceseminar.org

Exchange of Best Practice

The Organization for Cooperation of Railways (OSJD) – Wagon Workshop

While the GCU is focussed on the railways of the European Union, the PGV Contract (Rules of Reciprocal Use of Wagons in International Traffic) governs the use and exchange of wagons between OSJD members.

For most railway companies - contracting parties to the PGV Contract – it is the sole agreement that makes it possible for them to transfer wagons in international railway traffic between Europe and Asia.

Managing and administering millions of wagons in an enormous area is a significant challenge. With transcontinental corridors from Western Europe to China developing rapidly, close collaboration between UIC and OSJD railways is all the more important to ensure efficient transport solutions.

UIC and OSJD meet regularly in the context of joint expert workshops.

UIC Global Rail Freight Conference

The UIC Global Rail Freight Conference (GRFC) is a key event for the rail freight and logistics industry, and has previously been held in Delhi, St Petersburg, Tangier, Vienna and Rotterdam. The 2018 conference will be held in Genoa, Italy, organised by UIC together with Ferrovie Dello Stato Italiane.

Over the past number of years, the GRFC has become a forum for exchange on strategic issues and best practice relating to the development of rail freight and logistics services, with a particular focus on transcontinental development, including the new silk routes.

www.uicgrfc.org

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Eurasian Rail Corridors

This study addresses the viability of the Eurasian rail freight routes, including the southern routes, and the interconnection of these corridors with the European RFCs.

Date of publication: October 2017


The sixth edition of the Combined Transport Report shows that combined transport continues to grow across Europe, with an increase of over eight per cent from 2013 to 2015 in tonnes transported, but just one per cent in TEUs.

This biannual report is a unique tool that provides a time series of practical data, enabling developments in combined transport to be tracked over more than ten years.

Date of publication: January 2017

Requirements of Railway Undertakings for the Implementation of European Rail Freight Corridors

The UIC publication “Requirements of Railway Undertakings for the Implementation of European Rail Freight Corridors” is a list of 12 priority topics for which progress is needed on all corridors. These topics are analysed in terms of their importance for the development of rail freight traffic, and possible strategies for implementation are proposed for each topic.

Date of publication: January 2014

Loading Rules (2018)

The Loading Guidelines, developed by the UIC Loading Group (LGG), are a guide for best practice for loading goods in railway transport. They set out the provisions for loading conditions and securing goods during shipment. Application of the guidelines ensures operating safety and prevents damage to goods and wagons.

Volume 1 – Principles:
Contains the rules to be observed for loading and securing of goods
Date of publication: April 2018

Volume 2 – Goods:
Contains loading guidelines for specific types of goods, developed in accordance with the principles set out in Volume 1 on the basis of testing in practice.
Date of publication: April 2018