

Euro-Asian trends and technical work



INTERNATIONAL UNION
OF RAILWAYS

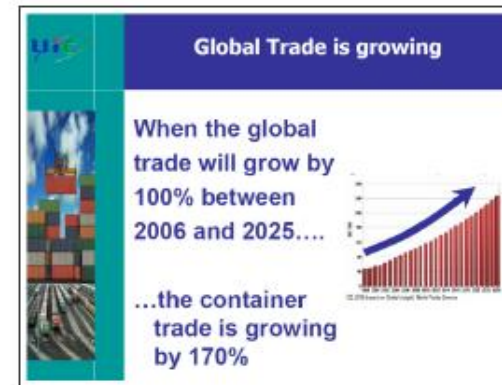
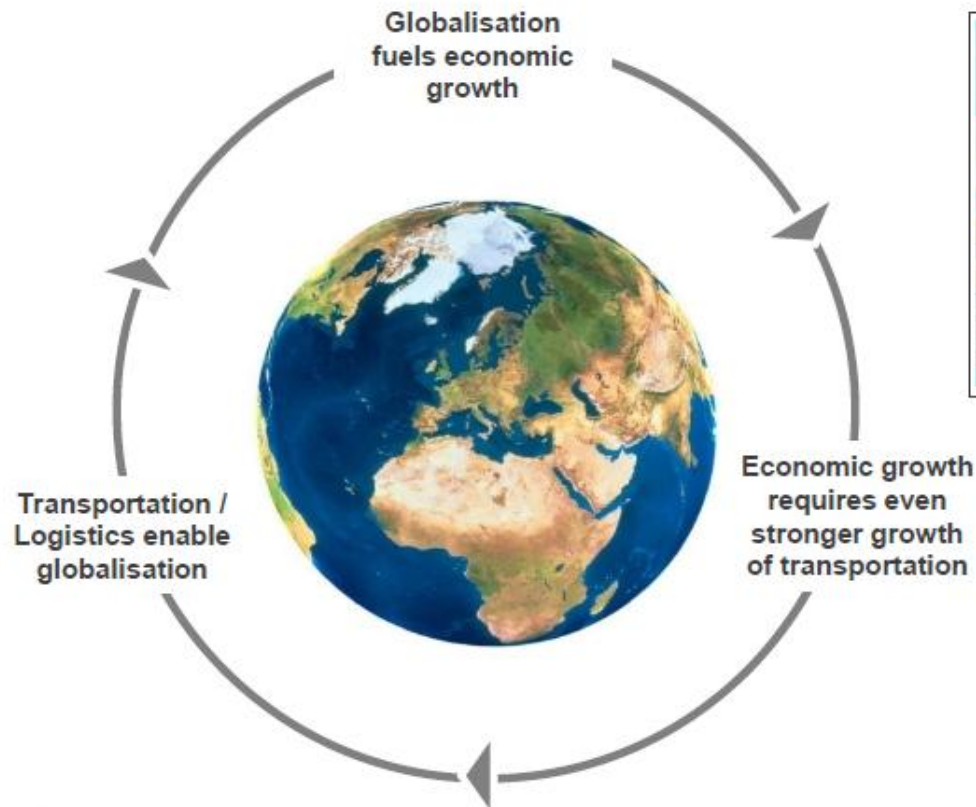
unity, solidarity, universality



UN ECE
9 September 2013

Freight : + 89 % in 15 year in Asia

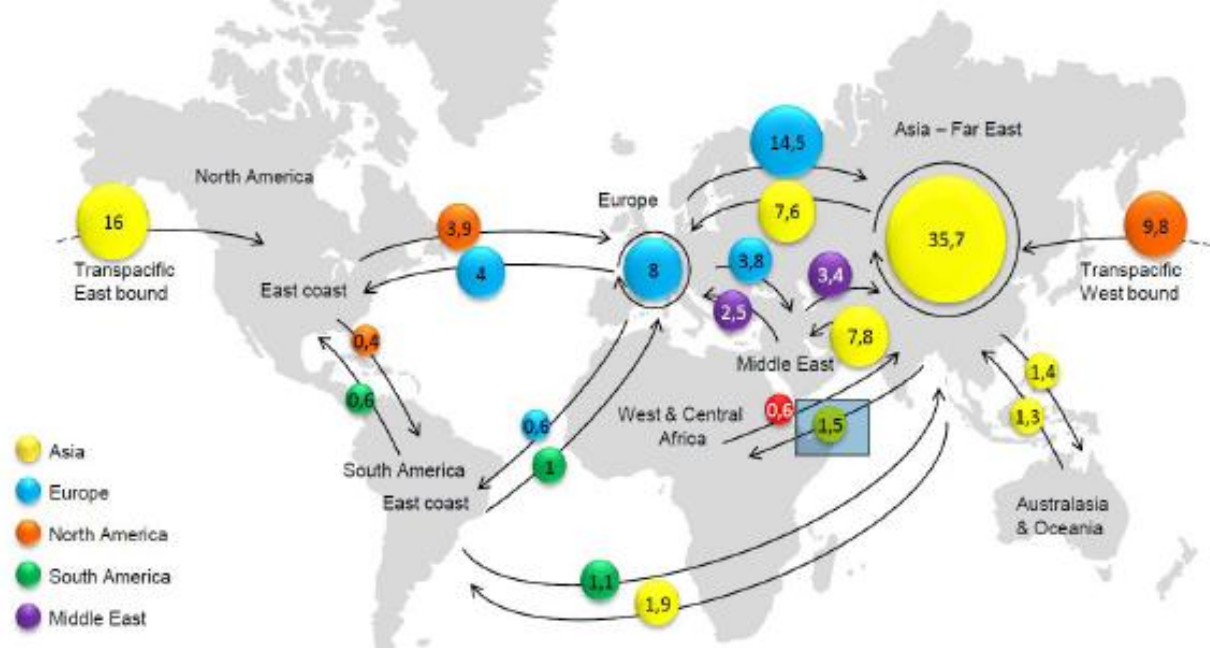
Global trade is growing and fuels the need for transportation:
“global logistics has to fit with local logistics”



Interest for transcontinental rail developments

(projection 2014, M TEU Twenty Equivalent Unit)

Forecast 2014
(TEU)







Fact: Long-term (2030), rail transport between Asia and Europe is forecast to reach around 950,000 TEU p.a. This includes traffic from East Asia, Mongolia and Kazakhstan to the EU in both directions. Traffic from South Asia could add another 150,000 TEU in the long-term.

Fact: Already today, rail could hypothetically achieve a potential of 480,000 TEU p.a providing some adjustments

Fact: Need to create awareness on opportunities, prepare the ground for enhanced rail cargo services between Asia and Europe and to promote rail transport solutions

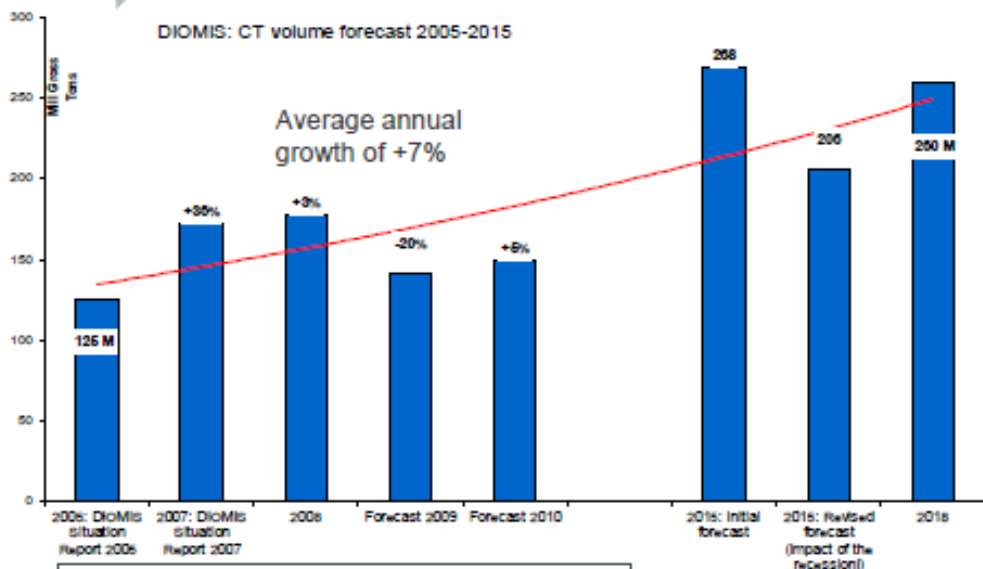
Rail can be used to support the transportation required by globalisation:

 combined transport is part of the logistics solution

Segments	Commodities	Share of volume	Competitive environment
Full Train 	Coal, Steel Construction materials	~ 35 %	<ul style="list-style-type: none">✓ Traditionally barge Competition✓ Focus of intra-modal rail competition✓ Price decline
Single Wagon Load 	Chemicals Paper and pulp	~ 50 %	<ul style="list-style-type: none">✓ Focus of road competition✓ Complex production process, high barriers to entry
Intermodal 	Finished goods Containerized goods	~ 15 %	<ul style="list-style-type: none">✓ Strong road competition✓ Subsidized in several geographies

Steady increase for combined transport volumes in Europe

➔ UIC has a dedicated structure: The Combined Transport Group

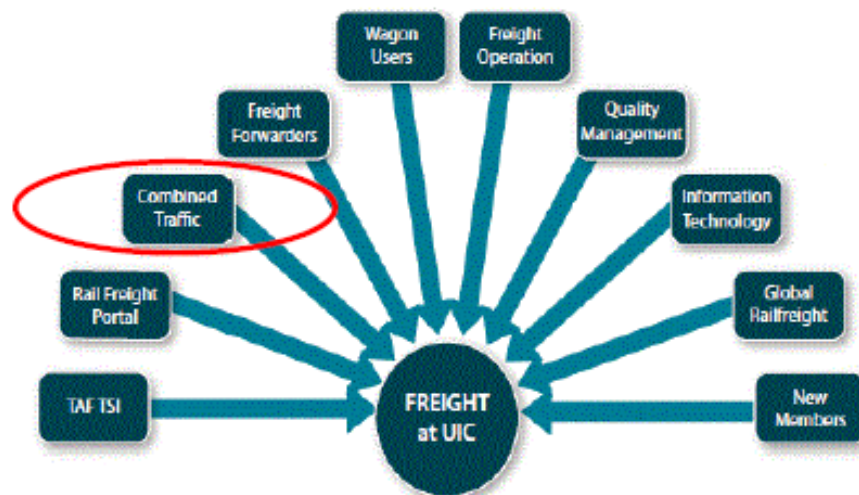


Combined Traffic

A special group was created to deal with this fast growing market segment.

The priorities for the period ahead are:

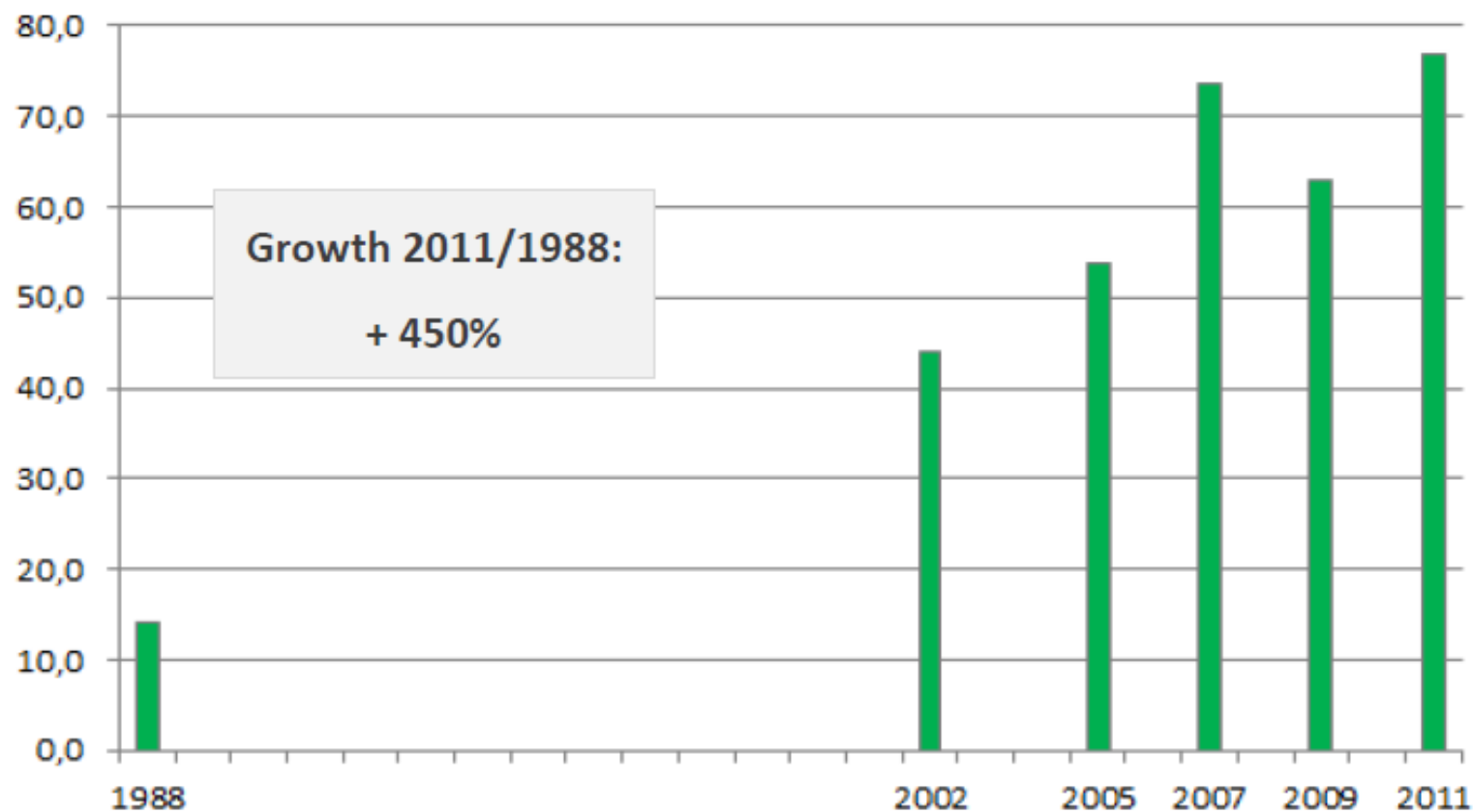
- ❑ Terminals in the combined transport chain
- ❑ Train dimensions and masses
- ❑ Positioning combined transport in the debate on freight corridors
- ❑ Launching international pilot trains using the electronic consignment note
- ❑ Monitor trends in combined transport and issue the "the 2012 Report on Combined Transport".



Unaccompanied Combined Transport Volumes

Goods moved in international CT in Europe since 1988

Gross tonnes (millions)



Continued growth of intermodal hinterland and inland traffic expected

GROWTH DRIVERS – EXPECTED TRENDS



Long-term continuation of world trade growth

- Major prerequisites for globalisation still intact
- Increasing transport volumes, especially intercontinental and hinterland traffic



Modal Shift (increasing rail-share within carrier-mix)

- Limited capacity on the road
- Growing customer-focus on „Green Logistics“
- Increasing energy costs



Growing share of standardised transport units

- Shippers increasingly exploiting advantages of containers (e.g. costs, product quality)
- Increasing share of goods being suitable for containers (e.g. coke, metals, various dry bulk goods)

To exploit the huge market potential, Eurasian rail services need to be improved significantly along key levers



Transport time



- Time is the **key differentiation** between rail and maritime transport.¹⁾ Only **fast transport times** enable benefits compared to sea and trigger monetary benefits for shippers
- **Priority should be given to reliability/predictability** rather than winning 1 or 2 days more

Reliability



- **Predictability is key** to shippers and customers
- Reliability allows for price premiums if time-sensitive or production-critical materials/goods bear high opportunity costs; reliability might differentiate rail if being further improved

Target markets



- Rail generates highest benefits in **hinterland areas** for **high-value goods**. It should optimize its product offer for these interfaces (continental consolidation points)
- Look for **balanced traffic** or **combine shorter eastbound traffics** along way back to Asia

Pricing



- Rail can compete with a **comprehensive price view**: D2D, working capital, lead time
- Working capital savings, time-to-market and built-to-order benefits allow for a price premium, but are highly dependent on fast and reliable transport times

Infrastructure, Ops



- Infrastructure requires **continuous updates** and extensions for long-term rail success
- In addition, rail needs to complement its westbound services with eastbound solutions to **optimize rolling stock and container availability** at key origins

Frequency, flexibility



- Unpredictable frequency reduces attractiveness of rail. A **regular service** is entry condition for many customers
- Target frequency of at least 1-2 departures per week, ideally more than 3

Customs



- Improvements **urgently** required, but also related to mistakes by operators/shippers
- **CIM/SMGS consignment note** and paperless transport keys to accelerate border crossing
- **Transit customs logic**: customs only at O/D terminals

Flexibility and frequency – To dos

Required frequency [trains/day]

Minimum | As a minimum, 1 train per week is enough, two would be nice

Ideal | Ideally, more than 3 trains per week

COMMENTS

- Position rail as a different product than sea/air with their daily departures (individual carrier less frequent)
- Ensure high number of services Asia-Europe from consolidation points/terminals (i.e. minimum volume per train to be ensured for terminals)
- Benefit from feeder trains/trucks to terminals to be able to deal with smaller volumes from original customer points – cooperate with feeder service companies at origins (e.g. Chinese railways)
- Introduce schedule
- For block trains, adapt frequency to specific customer needs (departure when required)/ enhance joint planning with customers

Additional services



■ Additional services mentioned during the interviews, examples warehousing, labelling, re-packaging

■ Are usually done in the proximity of ports/terminals, i.e. are also common for maritime transport



■ Additional services normally offered by logistics/forwarding companies, i.e. rail operators do not need to take care of them or would then compete with their ordering parties

■ However, transparency services need to be established to comply with market standards, examples train/container tracking, automatic delay messages



■ Additional services incur additional time and hence dilute the time advantage of rail

➔ Little potential for rail differentiation, rather need to close the gap to market standards

Environment



- **\$175 billion** Voluntary Commitment by the eight largest development banks for more sustainable transport



- “The Future We Want” - a high-level strategy for sustainable development:
“transportation and mobility are central to sustainable development”

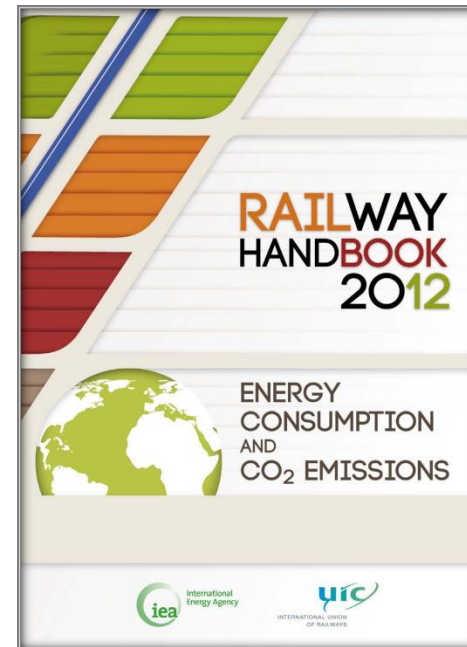
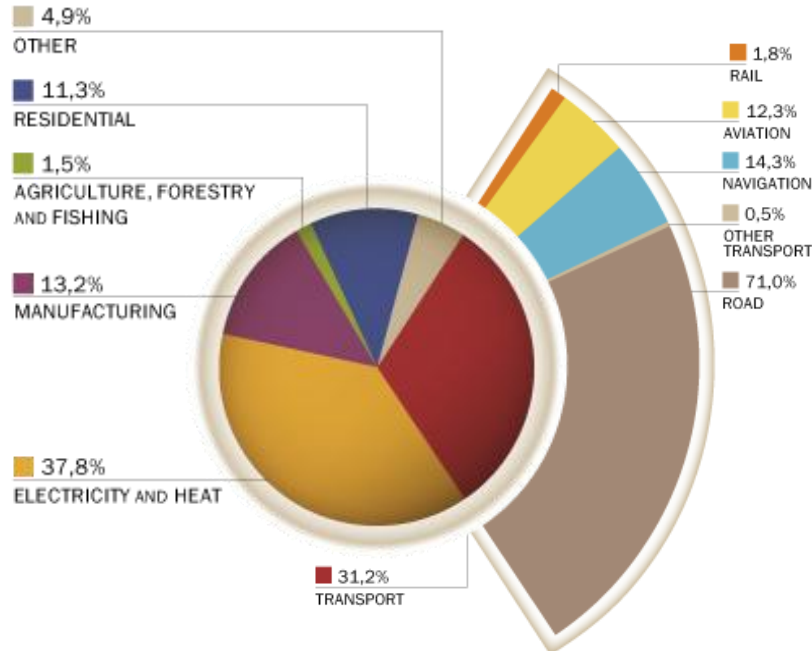
With better data we will have more influence over funding decisions



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- We need high quality data at global level including BRIC countries



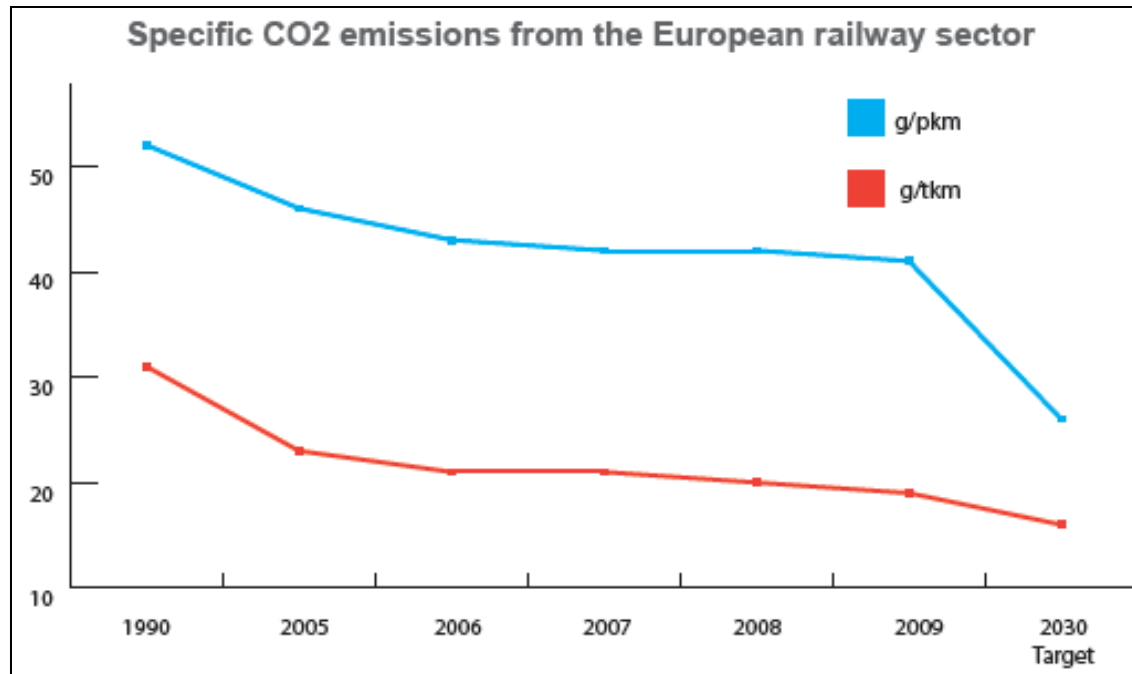
In 2009, railways produced 1.8% of total CO2 emissions from transport sector,

11 corresponding to **0,6% of total CO2 emissions** in EU27.

Highlight: Energy & CO2



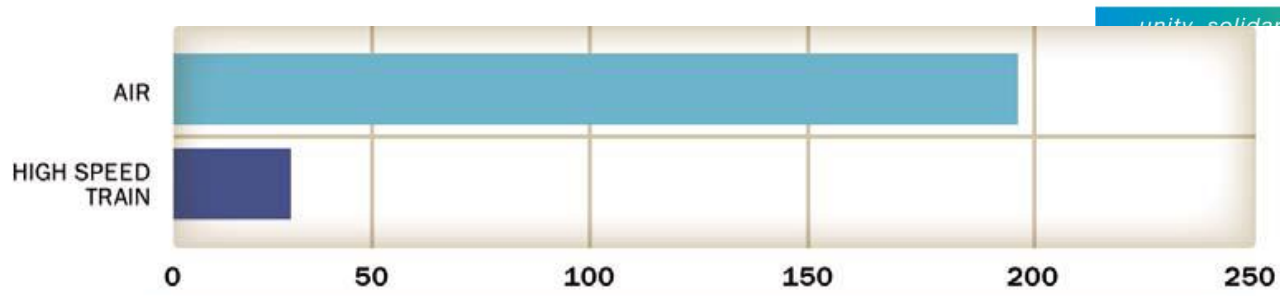
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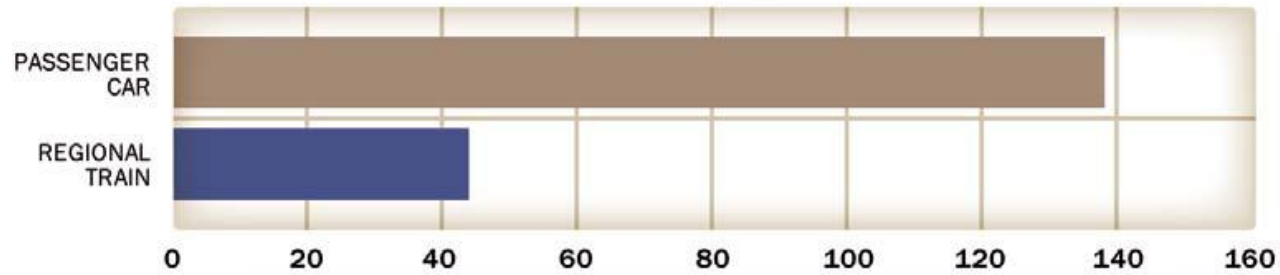
arity, universality

- UIC provides monitoring and database analysis to demonstrate
- It is of strategic importance to produce reliable environmental data also for non-european railways

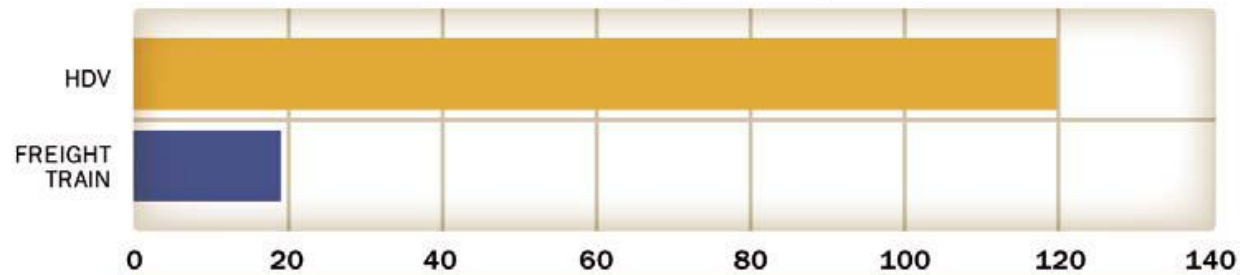
European Example: Plane vs highspeed, car vs regional, freight train



WTW GHG INTENSITY (gr CO₂eq/pkm)



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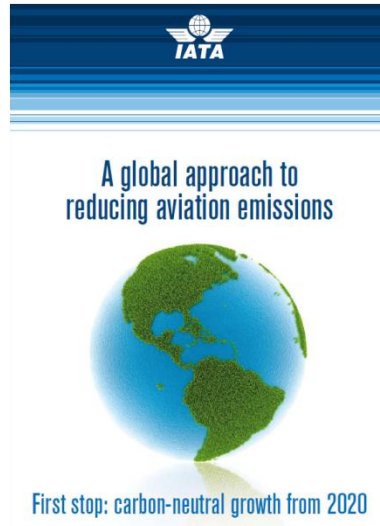
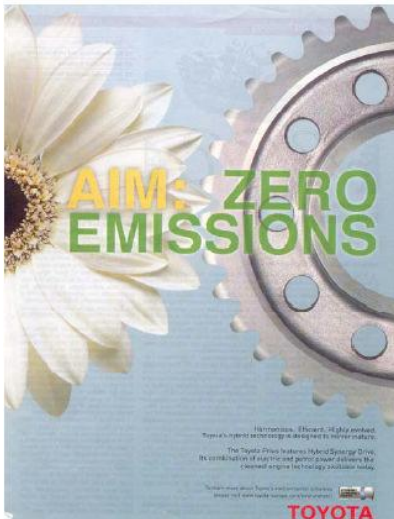


WTW GHG INTENSITY (gr CO₂eq/tkm)

Source: IEA (2012), UIC (2011a)

There is a real battle of data and communication...

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Sustainability Company	NS
Clean	A
Polluting	
CO ₂ emissions per passenger kilometre	41 grams
Paper of train tickets from ticket machine	Sustainable FSC-paper
Weekly cleaning of the train	Biodegradable soap
Sustainable energy	Top 10 largest buyer in the Netherlands

Sustainability: no hype for NS.

NS has already been dealing with sustainability for many years. Our trains are getting ever less polluting and ever more energy efficient. Between 1990 and today we have reduced our total CO₂ emissions by 10% while the numbers of passengers has increased substantially. Our trains now emit 41 grams of CO₂ per passenger kilometre compared to 100 grams for cars. There is still some work to do, but we are on the right track.

www.ns.nl/duurzame



... we need to engage with robust data to attract investment

Proposal to develop data at worldwide level

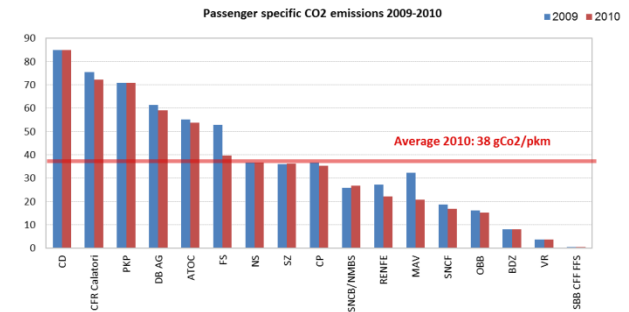
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Phase 1

Involvement of UIC non european members, with particular attention to BRICS , in the **official data collection** related to:

- Energy consumption
- CO2 emissions
- Atmospheric pollutants
- Noise
- Other Externalities (accidents, congestion)

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Special focus on **planned railway infrastructure and transport services**, like transcontinental freight corridors and commuter services for big cities, to be collected as “special cases”.

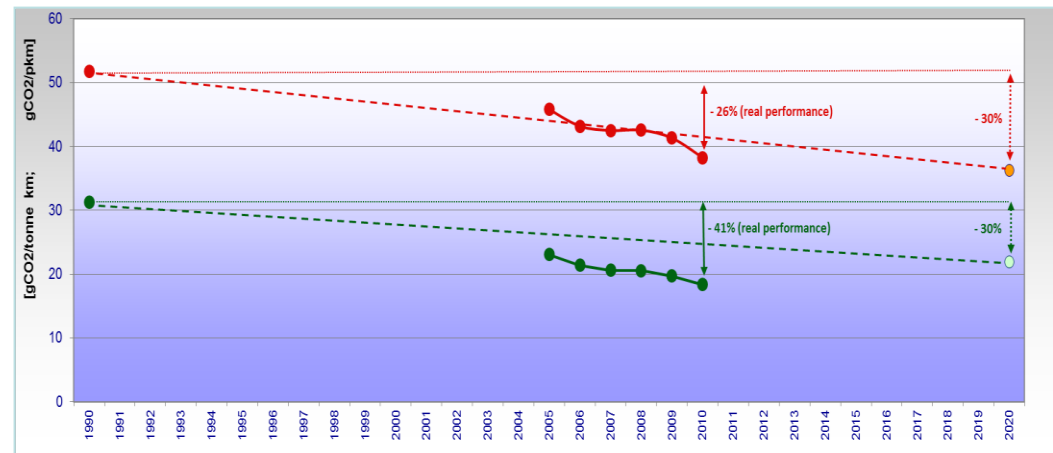
Phase 2

Cooperation with non-european members for the definition of a common **UIC world sustainability strategy 2030-2050**:

- CO2 reduction targets
- Energy efficiency targets
- Modal shift targets

Phase 1 : 2014

Phase 2: 2015



Strategic dedicated UIC actions for TAR and EATL Railways

- **ASIA = 46% of world energy production + developing countries in CIS**
 - => ENERGY CONSERVATION & GREEN STATIONS studies providing recommendations for rail transport and stations**
 - ⇒ NATURAL DISASTERS operations under climate change and extreme conditions**

- **10,500 km missing links on TAR = TECHNICAL INTEROPERABILITY, NEW TECHNOLOGIES & REDUCING LCC:**
 - => ETCS, TM & CCS harmonizing standards**
 - => Optimisation of SLEEPERS**
 - ⇒ Upgrading OHE to increase speed to 160~200 km/h**

TAP (Passengers) – TSI

- systems which provide passengers with **information before and during the journey**
- reservation and payment systems,
- luggage management
- management of connections between trains and with other modes of transport;

Promotion of UIC European activities to Asian Members

Passenger : + 76% demand between 1995~2009

MERITS/PRIFIS

Multiple **E**uropean **R**ailway **I**ntegrated **T**imetable **S**torage

- The database of UIC for:
 - Timetable and Stations.
- A central system to:
 - collect,
 - verify,
 - integrate,
 - distribute European train data.

Promotion of UIC activities to Asian Members

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Passenger

MERITS/PRIFIS

Participating Railways



Recently joined



Potential members from OSJD countries



TAF (Freight) - TSI

- information systems (realtime monitoring of freight and trains),
- marshalling and allocation systems
- reservation, payment and invoicing systems,
- management of connections with other modes of transport
- production of electronic accompanying documents.

Promotion of UIC European activities to Asian Members

Freight : + 89 % in 15 years

- *Promoting GTE*
- Assistance in implementation of Leaflets
- Attraction of participants in Freight Forum

Rail system

- Asset management : LCC reduction inc. Investment and Maintenance

Deliverables fixed in 2013 « AGCS »

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Task 1: Documentation of current systems, report: September 2013

Objective: To summarize in a single document all the existing systems and experience of their application in practice (*interim report 22/05/2013*)

Task 2: Market study, result: September 2013 (*interim report 11/05/2013*)

Objective: Obtaining information on assessment of expected benefits in relation to the use of automatic gauge change systems (synergy effect).

Task 3: Economic feasibility study, result: September 2013 (*interim report 30/06/2013*)

Objective: Determination of potential traffic flows and transport volumes at the systems interfaces as well as consideration of economic feasibility on the basis of these data.

Task 4: Admission procedure, result: October 2013 (*interim report 30/05/2013*)

Objective: Cost reduction on admission and certification

Task 5: Aspects of ecology and environmental protection, result: August 2013 (*interim report 15/13/2013*)

Objective: Reduction of a negative impact of the rolling stock and transportation on the environment in using automatic gauge change systems.

Promotion of UIC European activities to Asian Members

Security

- **Security-Border crossing International Railway Corridors**
- **Human factor**
- **Assistance in popularization of Leaflet “On the Preventive Measures Against Terrorist Acts on Railway Premises” for OSJD countries**
- **Security - Institutional partners**
Participation in NATO Transport group meetings

Cooperation with OSJD

1. TRANSPORT POLICY AND STRATEGY

- **Unification and harmonisation of technical standards and regulations of Europe, Asia and countries of the 1520 Domain**

- Cooperation on the issues concerning the border crossing procedures.
- Crossing facilitation for freight and passenger transportation (incl. CIM/SMGS dissemination)

2. FREIGHT

- NHM & GNG codes. New common UIC/OSJD leaflets
- Participation in UIC GTE Group

3. PASSENGER

- MERITS/PRIFIS proposal
- Participation in UIC forum on Station management: NEXT STATION

Cooperation with OSJD



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4. INFRASTRUCTURE

- International Railway Standards

5. CODING AND INFORMATION

- Joint Seminar on Interoperability of TSI (TAF TSI, TAP, TSI) in international railways transportation in cooperation with UIC, ERA and European Standardization Agency

6. Development of unified numeration system of Freight wagon

7. Joint consideration of creating the Railway Transport Glossary
(in cooperation WTO, ITF, ...)

8. Cross-sectorial cooperation

Cooperation with Coordinating Council on Transsiberian Transportation (CCTT)

Cooperation in the field of international transport corridor (ITC).

1. Development of International Transport corridors

- **Cross participation in UIC and CCTT planned meetings and projects.**

CCTT working Group

UIC GTE Group

2. UIC security platform

- **Security-BIRC project**

1. Development of unified and prevailing technology for ensuring safety of goods all along the way of transportation of container train;
2. Development of system work on usage of electronic safety alarm gauges;
3. Development of unified legal framework relating to checking up procedures on principal safety requirements as well as health, technical compatibility, accessibility and environmental impact;
4. Necessity to cooperate with carriers in all levels

Cooperation with Coordinating Council on Trans-Siberian Transportation (CCTT)

3. International cooperation in the sphere of innovations.

- **Electronic documents**
- **Cooperation with OSJD CI working group and CCTT DIT working group for CCTT “Electronic train” project realization.**

UIC and International organizations



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Cross-participation and Exchange of experiences in Dry ports:

Planning

Designing

Developing

Operation

=> [Resolution 69/7 of 1 May 2013 and Intergovernmental Agreement on Dry Ports](#)

“Capacity-building for the development and operation of Dry Ports of International Importance”

**Seminar for countries of North and Central Asia and East and North-East Asia
Busan, Republic of Korea, 11-12 June 2013**

UIC and International training institutes



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State Federal Budget Educational Institution for high professional education “Moscow State University of Railway Engineering” MGUPS (MIIT)



SOUTHWEST JIAOTONG UNIVERSITY

Areas of Collaboration

- Designing training courses for the purpose of enhancing the skills of railway personnel in the region.
- Providing forums for both public and private sectors to share their experiences as well as expertise in the various aspects of the rail sector.
- Harmonizing national, regional and international issues on transport and related areas.
- Promoting interoperability and common standards for railways & integration with other modes.
- Addressing issues of environmental concern that would mitigate the detrimental effects of infrastructural development and operation.
- Undertaking studies in economic, social and technical aspects of rail infrastructure.
- Organizing regional level workshops and practical seminars for dissemination of the work done by UIC relevant the needs of the regional rail systems.

UIC and international organizations (2013 ~)



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ORGANIZATION OF THE BLACK SEA ECONOMIC COOPERATION



Kazakh Academy of Transport and
Communication named
after M.Tanyshv





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Thank you for your attention!