CONTEMPORARY CHALLENGES IN COMBINED TRANSPORT FROM A POLICY AND BUSINESS PERSPECTIVE

UIC COMBINED TRANSPORT
OCTOBER 12TH, 2023

WEBINAR START AT 10.00H
WEBINAR CONTEMPORARY CHALLENGES IN COMBINED TRANSPORT

NEW GUIDELINE ON COMBINED TRANSPORT

OCTOBER 12TH, 2023

10.00H – 12.15H
Guidelines on Combined Transport

To the question of why economic actors do not use Combined Transport, the 2 most frequently cited answers are:

- I don't know how it works
- It seems complicated

These guidelines explain what CT is and demonstrate that it's not as complicated as it seems to be.
UIC FREIGHT DEPARTMENT

Guidelines for Combined Transport

October 2023
These guidelines, jointly developed with the members of the UIC CT Transport Special Group describes the following aspects:

- Combined Transport terminology
- The different with the other modes of transport
- The different stakeholders in CT
- The roles and responsibilities of different actors
- Standardisation landscape in Europe
- A step-by-step approach when starting CT operations
- How UIC’s TC group helps its member in realising safe and efficient CT operations

All of this explained in an "easy-to-use" way, with pictures and diagrams
CONTEMPORARY CHALLENGES IN COMBINED TRANSPORT FROM A POLICY AND BUSINESS PERSPECTIVE

COMBINED TRANSPORT IN THE NEW BUSINESS CONTEXT

OCTOBER 12TH, 2023
Program

10.00 – 10.15 Introduction
Barbara Chevalier – CEO CFL Multimodal
Philip Van den bosch – UIC

10.15 – 11.00 Presenting the current trends on Combined Transport in Europe
Trends & evolutions on CT in Europe
Philip Van den bosch – Deputy Director Freight - UIC

The Role of Combined transport in current logistics operations and how it has changed (or not)
Eric Feyen – Technical Director - UIRR

The new handbook on Combined Transport
Eric Lambert – Former chairman Combined Transport Group - UIC

11.00 – 11.30 Combined Transport in a new business context
Presentation of the new study on direct shipment between rail and waterborne transport
UIC & Louis Descamps - University of Antwerp

Role of combined transport from a customer perspective
Tobia Mazzi - Transportation Purchasing Senior Manager - Arcese Trasporti

11.30 – 12.00 Combined Transport in a new legislative and political context
Presentation of the latest legislative initiatives
Jacques Dirand - Head of Rail Freight Services – CER

Stakeholder debate on the new legislative era

Combined transport in the new Eastern Europe reality
Andrius Sinkevičius - Business Development - LTG Cargo

12.00 – 12.15 Conclusions
Developments and opportunities of direct transshipment between rail and waterborne transport

Louis Descamps
Maritime and Logistics Management
12 October 2023
Agenda

• Problem definition
• Research design
• Typology
• Methodology

• Challenges and opportunities
• Results
• Conclusion
• Recommendations
Problem definition

• UIC – International Union of Railways
  o Direct transshipment between rail and waterborne transport
• Intermodal sea-rail terminals
  o Intermodal loading units (containers, swap bodies, semi-trailers)
  o Connection between ports and rail network
• Quay tracks → potential barrier to port operations?
Research design

- **Purpose**: developments and opportunities direct transshipment → seaports & inland ports
- Distinction between direct, semi-direct and indirect transshipment

- **Research questions**
  - What are the opportunities and challenges of direct transshipment?
  - Can lead times be reduced when using direct transshipment?
  - Can the total port cost be reduced because of the direct transshipment method?
Typology

• 3 types sea-rail transshipment
• Distribution based on various factors:
  o Dwell time
  o Storage area
  o Vehicle movements
• Sea ports vs. Inland ports

<table>
<thead>
<tr>
<th></th>
<th>Direct</th>
<th>Semi-direct</th>
<th>Indirect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dwell time</td>
<td>0 days</td>
<td>&lt; 2 days</td>
<td>&gt; 2 days</td>
</tr>
<tr>
<td>Storage area</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Vehicle movements</td>
<td>1</td>
<td>Multiple</td>
<td>Multiple</td>
</tr>
</tbody>
</table>
Methodology

• Literature review: transshipment from ship to train
• Interviews with inland ports (2)
• Cases
  o Sea ports: Hamburg, Antwerp and Gothenburg
  o Inland ports: Genk and Lille
• Port model (chain cost model University of Antwerp)
Port of Lille

• General manager
• 20 trains → Bordeaux, Toulouse, Marseille, Aix-en-Provence
• Direct transshipment containers rail- barge?
• No demand → Rennes-Lille-Antwerp?
  o Reach stackers → mix containers and swap bodies
  o Waiting times
Port of Genk

• Operations manager
• No direct transshipment containers rail-barge?
  o <-> bulk transport (rice Mars factory)
Port model

- New York → Hamburg
- Port of Hamburg
  - Direct transshipment containers
  - Total port cost and port time optimal
Opportunities and challenges

Opportunities

• Less handling material
• Less transfer costs
• Less congestion
• Less use of space

Challenges

• High infrastructure cost
• Synchronisation between the two transport modes
• Technically difficult to implement
• Defects \(\rightarrow\) process disrupted
Results

• Variety → development of sea-rail transshipment in ports

• Port of Hamburg and Gothenburg
  o Semi-direct transshipment
  o Rail facilities within the terminal area

  o Port of Antwerp-Bruges
    o Indirect transshipment

  o Inland ports Genk en Lille
    o Direct transshipment of bulk goods
Conclusion

• Direct transshipment of containers
  • European seaports → no direct transshipment method of containers
    o Opportunities for implementation rise increase → increase rail share
    o Opportunity to reduce waiting times
Recommendations

• Separate legal framework
• Definition ‘direct transshipment’
Thank you for your attention.
Presentation by Tobia Mazzi
CONTEMPORARY CHALLENGES IN COMBINED TRANSPORT FROM A POLICY AND BUSINESS PERSPECTIVE

COMBINED TRANSPORT IN THE NEW LEGISLATIVE AND POLITICAL CONTEXT
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12.00 – 12.15 Conclusions
UIC & CFL Combined Transport Seminar

Panel 3: Combined Transport in a new legislative and political context

ONLINE
12 October 2023
Jacques DIRAND
Head of Rail Freight Services
Weights & Dimensions
Legislative Proposal

### For ROAD-ONLY transport...

<table>
<thead>
<tr>
<th>Current Rule</th>
<th>Proposed NEW Rule: 2 tons extra <strong>Weight</strong> + 90cm extra <strong>Length</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="40t / 42t ZEV" /></td>
<td><img src="image2" alt="40t / 44t ZEV" /></td>
</tr>
</tbody>
</table>

### For COMBINED Transport...

<table>
<thead>
<tr>
<th>Current Rule</th>
<th>Proposed NEW Rule: 2 tons extra <strong>Weight</strong> + 30cm extra <strong>Height</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image4" alt="44t / 46t ZEV" /></td>
<td><img src="image5" alt="44t / 48t ZEV" /></td>
</tr>
</tbody>
</table>

**WARNING:** The 2-tons extra weight for batteries may be used for payload if, over time, technological developments allow to reduce batteries’ weights!
### Cross-border acceptance of Gigaliners & 44 tons – COUNTERPRODUCTIVE!

<table>
<thead>
<tr>
<th>GIGALINERS</th>
<th>COUNTER ARGUMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>▪ Cross-border acceptance of longer/heavier trucks will, de facto, <strong>increase their long-distance use</strong></td>
</tr>
<tr>
<td></td>
<td>▪ at the expense of “7-times more energy-efficient” RAIL!</td>
</tr>
<tr>
<td></td>
<td>▪ <strong>REVERSE MODAL SHIFT:</strong></td>
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<tr>
<td></td>
<td>- <strong>38%</strong> Single Wagonload / -<strong>13%</strong> Combined Transport</td>
</tr>
<tr>
<td></td>
<td>▪ at the expense of the environment and of Europe’s energy independence → <strong>More cargo on road</strong> = big overall increase of energy consumption – modest energy saving per ton</td>
</tr>
<tr>
<td>44-TONS TRUCKS</td>
<td>▪ It is also <strong>counterproductive</strong>, as extending the use of overweight and oversized combustion vehicles will reduce the incentive to move to “electric” traction.</td>
</tr>
<tr>
<td></td>
<td><strong>TRADE OFF: 4 tons</strong>... For <strong>Goods</strong>? Or for <strong>Batteries</strong>?</td>
</tr>
</tbody>
</table>
CER analysis (2)

2-Tons extra Weight for Batteries? NOT NEEDED AT ALL

<table>
<thead>
<tr>
<th>ROAD-ONLY Transport</th>
<th>COMBINED Transport</th>
<th>COUNTER ARGUMENTS</th>
</tr>
</thead>
</table>
| 40t / 42t ZEV       | 44t / 46t ZEV      | ▪ Extra allowance of 2 tons has already been granted in the 2015 revision.  
  ▪ This is sufficient for short distances  
  ▪ e.g. for the road legs of Combined Transport |
| 40t / 44t ZEV       | 44t / 48t ZEV      | ▪ Push extra allowance to 4 tons will only serve long-distance road transport  
  ▪ at the expense of “7-times more energy-efficient” RAIL!  
  ▪ at the expense of the environment (use of more rare metals – more extraction and processing) |
CER analysis (3)

- **Reverse modal shit** from rail back to road.
- 30 cm more height may be incompatible with most rail loading gauges
- Limit truck use to short distances **preserves drivers work-life balance**
- **... + addresses drivers’ shortage** *(1 train drivers = 40 truck drivers)*
- Continuous enforcement monitoring (via onboard sensors linked to tachograph)
- **Proposal does not address rail-road interoperability!** *(e.g. cranability, resistance to rail aerodynamic forces, protruding devices...)*
- **Rail 7 times more energy-efficient** than road!

Need to **revise W&DD in combination with CTD**!
Boost multimodality... via a coordinated and simultaneous revision of CTD and W&DD

Combine Transport AND road vehicles Weights & Dimensions, the 2 sides of the same coin...

10 GUIDING PRINCIPLES for the Revision of the Multimodal Regulatory Framework

Promote a full life-cycle approach to assess performance of transport chains:

- **Short term** - 2 criteria: “Energy Consumption” and “CO2 Emissions” based on a “well-to-wheel” approach (“CountEmissions”)

Promote combinations of road units that optimise multimodal chains: Cross-border acceptance of gigaliners Would de facto allow their circulation on long distances, hence cannibilising rail freight. Gigaliners should only be allowed on the road leg of multimodal chains where rail (IWW SSS) is used on the main leg.

Promote road-rail compatibility and interoperability to ensure that multimodal chains work. Rail-road interoperability can be enhanced via intelligent adaptations of road vehicles’ type approval characteristics: weights, sizes, shapes, cranability, resistance to on-rail air forces, retractability & foldability of protruding devices (type approval regulations: e.g.: Reg 1230/2012...).
Thank you

For more information:
Jacques Dirand
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+32.2.213.08.78
Program

Debate
Combined transport in the new Eastern Europe reality

Andrius Sinkevicius, „LTG Cargo“ Business Development
Content

1. THE NEW REALITY
2. NEED FOR CHANGE
3. OUR SERVICES TODAY
4. FUTURE VISION
The situation in Lithuania 2020

1. THE NEW REALITY

LT ranks first in the EU for rail freight (68%)

LT is almost last in the ranking with only 3% of intermodal freight carried by rail
The change is needed

LTG Cargo's expansion into foreign (Western) markets is vital for the development of intermodal transport, as there is a lack of capacity in Lithuania to ensure sufficient organic growth of this mode of freight.

INTERMODAL POLAND

Cargo distribution (%)

- Intermodal freight: 10%
- Other freight: 90%

LTG CARGO INTERMODAL FREIGHT SHARE

- Total LTG Cargo freight volume 2020: 53.4 mln. t
- LTG Cargo holds 2.4% share of intermodal freight: 1.3 mln. t

INSIGHTS

- Intermodal transport is not fully developed in the country.
- The orientation of the country's businesses towards sustainability and greener logistics is low.
- EU forecasts significant growth in intermodal freight.
2. NEED FOR CHANGE

To the West: how and where to?

"Know how"  Market specifics  Infrastructure  Technology  Change management
LTG Cargo solution

**Lithuania:** International company providing railway transportation services in Europe on 1435 and 1520 gauges

**Poland:** development in Poland with "LTG Cargo Polska" – connecting Lithuania with Western and Southern Europe

**Ukraine:** "LTG Cargo Ukraine" is an operator of transports between Ukraine and Lithuania
FIRST regular direct train Kaunas-Tilburg

- Transfers started in July 2021. The Kaunas Intermodal Terminal was connected to the European standard gauge.
- The shipments were transported directly terminal to terminal.
- Target: 1,700 km in 50 hours, 2 roundtrips per week from Kaunas to Tilburg.
- One train has a capacity of 1800 t, 36 semi-trailers or 72 TEU.
Lessons learned and solutions

ACHIEVEMENTS

• Amount of freight transported – 1000 TEU.
• ~1500 t less CO2 emissions.
• Increased train occupancy from 20% to 90%.

CHALLENGES

• Partners adapting to change.
• Keeping to the timetable.
• Timely communication.
• Crossing 3 countries.

SOLUTIONS

• Developing in-house capacity in other countries.
• Additional train departures.
• Agreements with partners on additional capacity and other connections.
Route development to Duisburg, Germany

5 330 TEU of intermodal freight to/from Duisburg in 2022.

We made a test shipment to Trieste, Italy.

We started going to Duisburg, Germany, 4 times a week.

Testing a stopover in Poznan, Poland.

3. OUR SERVICES TODAY

• From April 2021;
• 36 semi-trailers or containers;
• 1520 km, in 3 days;
• 4 times a week.
3. OUR SERVICES TODAY

2020 – 2022 (+25%)

Kaunas–Prushkow–Sławków–Kaunas

- 44 containers;
- 740 km;
- Faster than 2 days;
- 2 times a week.

Baltic Gates train (Vilnius/Kaunas–Klaipėda)

- 20 semi-trailers and 15 containers;
- The service is being developed with a partner;
- LTG Cargo developed equipment;
- 350 km in 12 hours;
- 6 times a week.

Amber train (Kaunas–Muuga)

- Test trains 2022 09 and 2023 03;
- 20 semi-trailers and 15 containers;
- Project between LT, EE, LV;
- Equipment developed by LTG Cargo;
- 671 km in 1 day.
3. OUR SERVICES TODAY

Routes from Ukraine through Poland to Lithuania

- LTG Cargo Ukraine is developing **2 routes**:
  - Yahodyn - Dorohusk
  - Mostyska II - Medyka
- Since June 2022, **full container trains** (40, 44 or 60 TEU) have been transported to Klaipeda port terminals and back;
- **Cargo types**: corn, sunflower oil, rapeseed, wheat, Back cardboard, pet granules, fertilizers, fuel, metal products.
- **Projects**: wagon and rails transportation, fuel transfer.
The importance of CO2 reduction

GREENT KILOMETRES CERTIFICATE 2022

155 Certificates were given to customers

67 500 tonnes of CO2e saved by transporting intermodal freight

940 000 tonnes of CO2e saved by transporting a wide range of goods by rail

LTG Cargo’s intermodal customers collectively saved 67,5K tonnes of CO2e by transporting goods with LTG Cargo in 2022.
Future challenges for intermodal transport

1. Provide reliable services.
2. Lack of flexibility in transport chain.
3. Infrastructure limitations.
4. Profitability of projects.
5. New customer tendencies: smaller volumes with shorter notice.
Terminals in 2050 and Rail Baltica

4. FUTURE VISION

Via the Port of Klaipeda Connection
West - LTU/East ≈120 thousand TEU's in 2050

Multimodal terminal Rail Baltica North-South Connector
≈120K TEU's in 2050

1435/1520 transhipment point
Alternative transhipment solutions
≈120 thousand TEU's in 2050

Industrial center West-East Connector
≈700 thousand TEU's in 2050

Multimodal terminal
Industrial center
≈560 thousand TEU's in 2050
Positive expectations

From **2024 road tolls** in Lithuania will increase, which will promote intermodal railway transportations.

From **2027** the EU will **tax carbon emissions** from transport and heating, which aims for a climate-neutral economy by 2050.

Newly adopted **EU ESG requirements** (Environmental, Social & Governance), which are already mandatory from **2023**:

- SFDR (Sustainable Finance Disclosure Regulation)
- CSRD (Corporate Sustainability Reporting Directive)
- The EU Taxonomy.
Why it matters...

The European Green Deal: 30by2030

- 2018: 18% Cargo transported by non-hazardous transport
- 2030: 30% Cargo transported by non-hazardous transport

Policies and action plans of LT Government

- 2030: +5% Cargo transported by combined modes
- 2050: ≥50% Cargo transported by non-hazardous transport

Cargo CO2e in Lithuania exceeds 8.2 million tonnes in 2021

- Achieving 30% rail transport would result in CO2e of 7.3 mln. t
- Achieving 50% rail transport would result in CO2e of 5.4 mln. t

Achieving 30% rail transport would result in 900 000 tonnes less than the current CO2e.

Achieving 50% rail transport would result in 1.9 mln. t less CO2e.
Thank you for your attention.
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CONCLUSIONS
OCTOBER 12TH, 2023
Stay in touch with UIC!

www.uic.org

#UICrail

Thank you for your kind attention.