

Mega-Trucks versus Rail Freight ?





Content

- 1 . Mega-Trucks are back on the agenda. Will they soon be allowed on European roads?
- 2 . The legislative and regulatory framework.
- 3 . One main argument in favour of Mega-Trucks: capacity increase.
- 4 . The reality? A first drawback: the cost of infrastructure enhancements.
- 5 . A second effect: a major impact on transport safety.
- 6 . A third effect: creating more imbalance between transport modes in the freight market.
- 7 . A contradiction with current objectives of transport policy and sustainable mobility.
- 8 . Rail stakeholders are all committed to offer attractive and competitive services in the field of combined transport and rail-freight.

Mega-Trucks are back on the agenda. 1

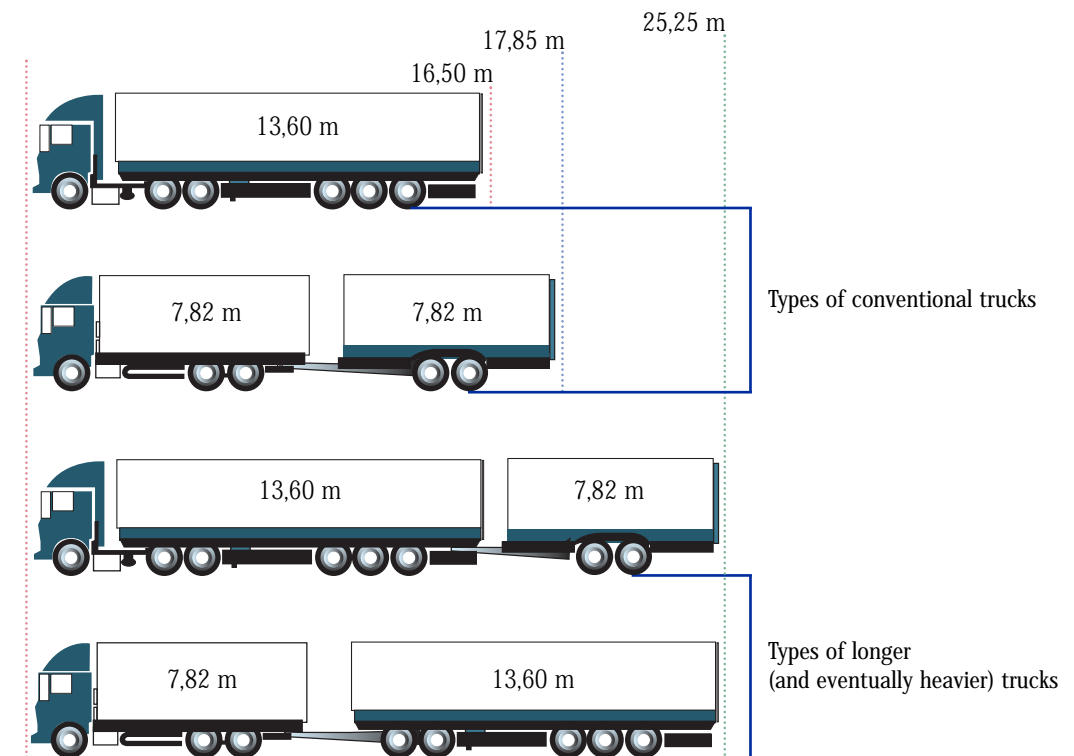
Will they soon be allowed on European roads?

The debate over the possible admission on the European road network of Mega-Trucks exceeding the length and weight standards currently in force is reopening.

More specifically the central issue is whether longer and heavier road vehicles (be they labelled “Monster- Trucks”, “Mega-Trucks”, “Gigaliners”, or again “Ecocombis” by their promoters) measuring 25.25m in length and weighing up to 60 tonnes should be allowed to operate on European road infrastructure.

Ongoing deliberations surrounding the introduction of new standards for trucks are fully consistent with road-transport expansion strategies sponsored by manufacturers and road hauliers alike, in order to devise new ways of meeting freight-transport demand across Europe.

This prospect obviously raises serious question marks, some relating to the workings of the road freight-transport market in Europe, others to the possible impact of Mega-Trucks on transport policies and on sustainable development (at the very moment when the question of climate change and of road-transport responsibility is becoming the most challenging issue of the day).



The rail sector cannot be indifferent to this discussion. One of the sector's primary political concerns is a level playing field and fair competition between all modes of transport. Today, competition is distorted by a lack of transparency, regarding the costs to society generated by each transport mode, such as pollution, noise, congestion or accidents.

The rail sector therefore asks the responsible authorities to take into account the external costs aspect and the impact on the transport system as a whole when considering the introduction of Mega-Trucks.



The legislative and regulatory framework 2

According to European law (Directive 96 / 53), Member States are entitled to allow longer and heavier trucks (the ‘modular concept’) circulating in their country. This Directive does not allow international transit.

However, one possible measure envisaged “*to absorb the foreseen growth of freight transport in Europe over the next years*” is “*to study the added value of allowing cross-border movements of vehicle combinations that are longer than is currently the case while respecting the individual modules prescribed in the Directive*” (cf agenda in view of DG TREN’s Logistics conference, May 2007).

National standards for road transport vehicles (length and weight) in Europe

COUNTRY	PERMISSIBLE MAXIMUM			
	DIMENSIONS		WEIGHTS (in tonnes)	
	LENGTH			
	Road Train	Articulated Vehicle	Road Train 5 axles and +	Articulated Vehicle 5 axles and +
Albania	18.35 m	16.50 m	44	38
Austria	18.75 m	16.50 m	38 (4)	38 (4)
Azerbaijan	20 m	-	37	37
Belarus	20 m	20 m	38	38
Belgium	18,75 m	16,50 m	44	44
Bosnia-Herzegovina	18 m	17 m	40	40
Bulgaria	18.75 m	16.50 m	40	40
Croatia	18.35 m	16.50 m	40	40
Czech Republic	18.75 m	16.50 m	44 (3)	42/48
Denmark	18.75 m	16.50 m	42/48	42/48
Estonia	18.75 m	16.50 m	40	40
Finland (1)	25.25 m	16.50 m	44	42/48
France	18.75 m	16.50 m	40	40
FYR Macdonia	18 m	16.50 m	40	40
Georgia	-	20 m	44	44
Germany	18.75 m	16.50 m	40	40
Greece	18.75 m	16.50 m	40	40
Hungary	18.75 m	16.50 m	40	40
Iceland	22 m	18 m	40	40
Ireland	18.35 m	16.50 m	40	44
Italy (2)	18.75 m	16.50 m	44	44
Latvia	18.75 m	16.50 m	40	40
Lietchtenstein	18.75 m	16.50 m	40	40
Lithuania	18.75 m	16.50 m	40	40
Luxembourg	18.75 m	16.50 m	44	44
Malta	18.75 m	16.50 m	40	40
Moldova	20 m	16.50 m	40	40
Netherlands	18.75 m	16.50 m	50	50
Norway	18.75 m	16.50 m	46	44
Poland	19.50 m	16.50 m	40	40
Portugal (2)	18.75 m	16.50 m	40	40
Romania	18.75 m	16.50 m	40	40
Russia	18.75 m	16.50 m	38	38
Serbia	20 m	20 m	40	40
Slovakia	18 m	16.50 m	40	40
Slovenia	18.75 m	16.50 m	40	40
Spain (2)	18.75 m	16.50 m	40	40
Sweden	24 m	25.25m	60	60
Switzerland	18.75 m	16.50 m	40	40
Turkey	18.75 m	16.50 m	40	40
Ukraine	22 m	22m	38	38
United KIngdom	18.75 m	16.50 m	40	40/44

The standards which road vehicles (in terms of maximum length and weight) must observe currently fall within the competence of the States for domestic transport (see tables).

(1) For vehicles registered in an EEA member country.

(2) Increased values are applicable for certain types of transport (i.e. containers, motocars, etc.).

(3) With air suspension or similar.

(4) These values are increased by 5% for vehicles registered in an EU member country.

Longer, heavier road vehicles in operation or on tests

What are currently the reality and outlooks in Europe?

- In Sweden and Finland, 25.25 m length and 60 t weight limits are presently authorised for road vehicles.
- In Germany, trials are under way in the 'Länder' Niedersachsen, Nordrhein-Westphalen, Baden-Württemberg, Sachs- Anhalt and Bremen. Trials in Thüringen have been discontinued.
- In The Netherlands two pilot projects and a trial phase have been running for several years. Under an agreement with road infrastructure managers, Mega Trucks can run until November 2007.
- In Denmark a trial scheme will start in January 2008.
- In France the introduction of a 44 tonnes weight limit was blocked in June 2004.

Surprisingly, trials recently carried out in Europe and several reports commissioned by the public authorities have produced findings that seemingly contribute very little of consequence to the decision-making process in this regard.

Outside Europe, various higher weight and length specifications have been allowed, though in very specific geographical and demographic contexts. Mega trucks or what could be better called 'Monster' Trucks', already have become reality in a series of large countries as Australia (genuine 'road trains' with multiple trailers), New Zealand. All these road transport concepts serving trans-continental long distance routes, generally use low traffic highway infrastructures and run through sparsely populated regions. They would be unthinkable on European road systems and can hardly be used for comparisons or decisions at European scale.



One main argument in favour of Mega-Trucks: capacity increase 3

Following a number of tests and reports on the introduction of longer, heavier road vehicles, transport stakeholders and authorities currently do not share unanimous views on the advantages or negative effects to be expected from a change in trucks standards.

One part of road-sector stakeholders –in particular truck manufacturers and hauliers- readily point to a series of advantages made possible by Mega-Trucks, whenever and wherever they are allowed to operate. Actually one single argument -capacity increase- would lead according to them to a number of improvements for the road-sector.

They rest their case in particular on:

- increased transport capacities (payloads) made available for a minimal extra financial outlay;
- a more rational use of road and motorway capacities (asserting that each Mega-Truck offers roughly one-third extra payload capacity), hence a reduction or stabilisation of the number of conventional trucks on the roads (though this would only be true at constant traffic levels, an unlikely scenario);
- road unit costs (cost per tonne-kilometre) reduced by 20-25% over long-haul runs, according to the UIRR survey. This, however, would only be true if these outsized trucks were to always, carry their maximum load;
- a further claim is that the same freight volumes can be moved using fewer road vehicles. This would, nonetheless, require more logistics centres to distribute the goods brought in by these trucks (deflating the second argument above).



Many motorways, parking areas would have to be enlarged as they already have reached the point saturation.

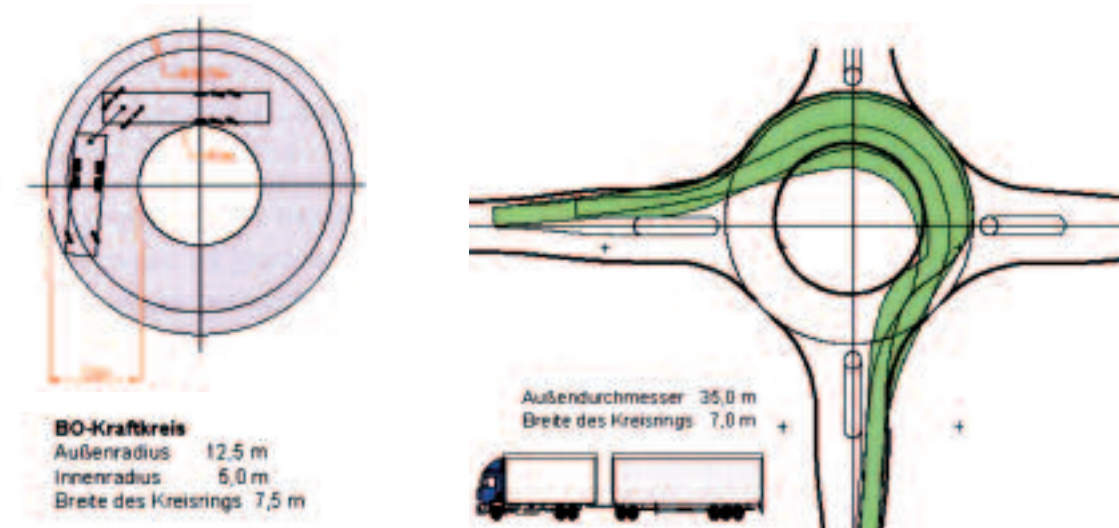
The reality? A first drawback: the cost of infrastructure enhancements 4

The introduction of longer Mega-Trucks and their proliferation necessarily imply enhancements to the existing road infrastructure:

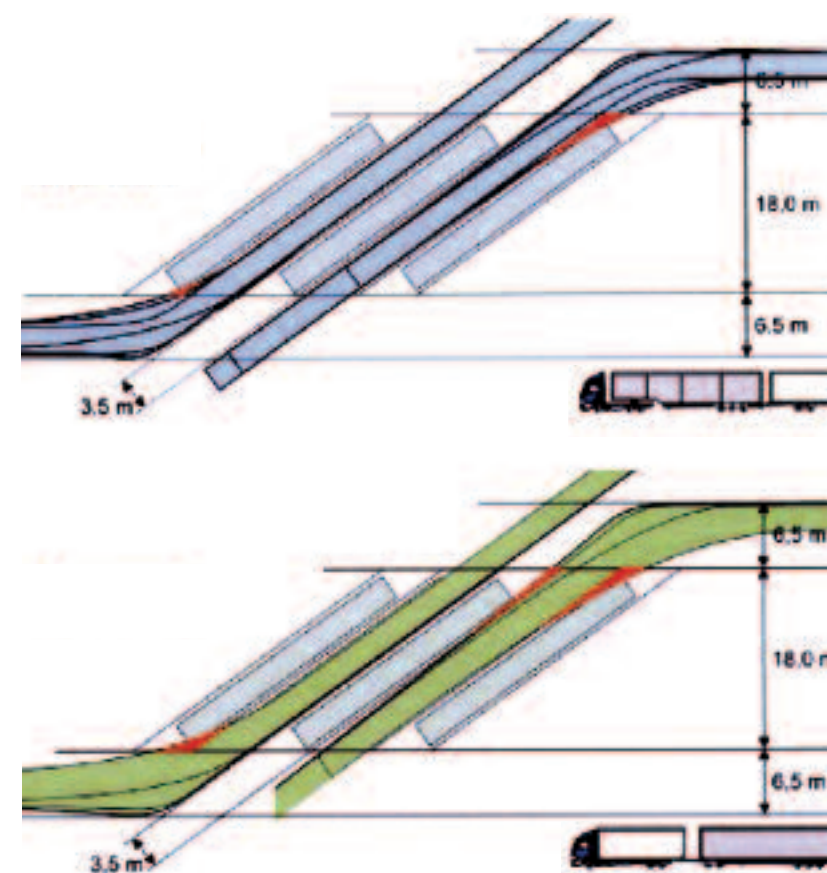
- new roads have to be constructed to a different, more costly specifications,
- eventually, a dedicated extra lane for Mega-Trucks will have to be provided for on the busiest motorways,
- the widening of roundabouts, access lanes, etc., would be required,
- at the road / rail interfaces: upgrading of level-crossings (design, dimensions, safety equipments), road-over-rail bridges,
- many motorways, parking areas would have to be enlarged (in Germany, for example, they already have reached the point of saturation in many places),
- most terminals and logistics platforms on the outskirts of population centres would have to be restructured, not to mention all the work needed on the access roadways.

The admission of heavier trucks (up to 60 tonnes) would additionally imply

- the costly upgrading of many civil engineering structures (experts have mentioned the risks posed by bridges built in the 70s and 80s, based on extremely different load scenarios).



Design of roundabouts for longer trucks
(study by bast, Bundesanstalt für Strassenwesen, November 2006)



Compatibility of Mega-Trucks with
parking areas of motorways (study
by bast, Bundesanstalt für
Strassenwesen, November 2006)



A second effect: a major impact on transport safety 5

Introducing Mega-Trucks onto congested road and motorway networks (particularly in major production and consumer areas, / port regions, etc.) poses new types of risks in terms of road safety:

The main risks in road traffic are

- the co-existence of long, heavy road vehicles and private-car traffic (with a strong speed differential),
- necessity to dedicate slow lanes to Mega-Trucks (which virtually implies depriving slower cars, of one lane),
- overtaking risks (overtaking between 'conventional' trucks and Mega-Trucks, cars and other truck types, etc.),
- risks intrinsic to the behaviour of these Mega-Trucks in road traffic: sensitivity to cross winds when moving, handling difficulties (even with specific assistance systems), braking distances, visibility problems, generally and specifically in terminals or parking zones,
- safety at level-crossings and more generally at all road / rail interfaces (road-over-rail bridges, etc.),
- increased gravity rate (fatalities) of road accidents involving longer and/or heavier trucks.



In addition to the considerable wear and tear on highway infrastructure and the resulting maintenance or repair costs, these operations would impose heavy expenditure on the public authorities (the European States, regions, local governments). Corresponding investments will be undertaken, further to choices with limited budgets, to the detriment of other, transport-infrastructure projects (such as rail-based, more environment friendly and sustainable urban and suburban public transit systems).

Limited public budgets are more and more solicited by increasing political demands (such as pension, health care, education, etc.). As a consequence, the EU Member States which invested on average 1.5 % of the Gross Domestic Product in transport infrastructure during the 1980s, today spend less than 1 % for these investments. The financial impact of modifying road infrastructure to accommodate Mega-Trucks must be taken into account and the question of where the necessary funds should come from needs to be answered.

A third effect : creating more imbalance between transport modes in the freight market 6

Introducing road vehicles 25.25 m in length and weighing up to 60 tonnes would deal a very severe blow to the competitive situation between rail and road transport, to the detriment of rail transport, and this at the very time when all political decision-makers are pleading for a reshuffling of the pack, for a level playing field and a more sustainable mix in the use of transport modes (intermodality, co-modality).

According to the UIRR / TIM Consult / Kombiverkehr survey (2006) the advent of Mega-Trucks would have a major negative impact on combined transport in Europe. In Germany alone (cf. study of 'K+P Consultants'), it would translate into some 7 billion tonnes-kilometres being switched from rail to road, so generating an extra 400 000 truck journeys in this country. This development, by taking us back to the road-rail modal split of the 90s, would be tantamount to cancelling all the efforts deployed over the past two decades to bring the transport market back into balance and promote a sustainable transport policy in Europe. This argument is strongly underlined in the letter sent by CER, UIP, UIRR and UNIFE to Jacques Barrot, the Vice-President of the European Commission in charge of Transport.

The study conducted by TIM Consult / UIRR / Kombiverkehr in 2006 estimates the consequences for combined transport in the event of longer, heavier trucks being introduced in Germany, with a predicted shift of more than 55% of combined transport volumes back to the roads! And these two surveys do not incorporate the impact on the wagonload business which would be negatively affected just as severely.

Any initiative that contributes to making road transport more attractive for shippers (despite foreseeable negative consequences in terms of infrastructure consolidation and maintenance costs, road safety, and overall environmental balance) can only add to existing imbalances in the European freight transport market.

The true costs of transport increasing even more

The costs of infrastructure modifications, increased road safety risks and more goods transported by road instead of rail would have a negative impact on what the taxpayer has to pay for transport, if one includes the external costs to the bill.

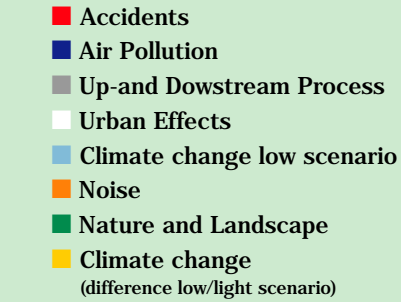
It should be remembered that today the price of transport does not reflect the true costs it generates, in particular the external costs. These are the costs that transport users impose on society and which are financed by the society as a whole. They mainly involve climate change, air pollution and accidents, but also take into account congestion and noise. A study by INFRAS / IWW (October 2004) estimated the total external costs for 17 European countries at 650 billion euro in 2000, or a massive 7.3% of GDP (not including congestion).

Most of these costs are attributable to the road sector (80%). In view of this situation, any moves to encourage the introduction of Mega-Trucks would simply add to the financial burden to be borne by society, financed by the taxpayer and benefiting only a few transport companies.

It is crucial today to move towards sustainable mobility, promoting the use of transport modes that are kinder to the environment, such as railways (with external costs equivalent to only 2% of GDP).

The European rail sector currently deploys hudge efforts in order to improve attractivity and competitiveness of its products, particularly in freight, and contribute to more sustainable transport activities. In this context, encouraging the admission and proliferation of Mega-Trucks on European roads is certainly not compatible with the vision of a more sustainable transport market.

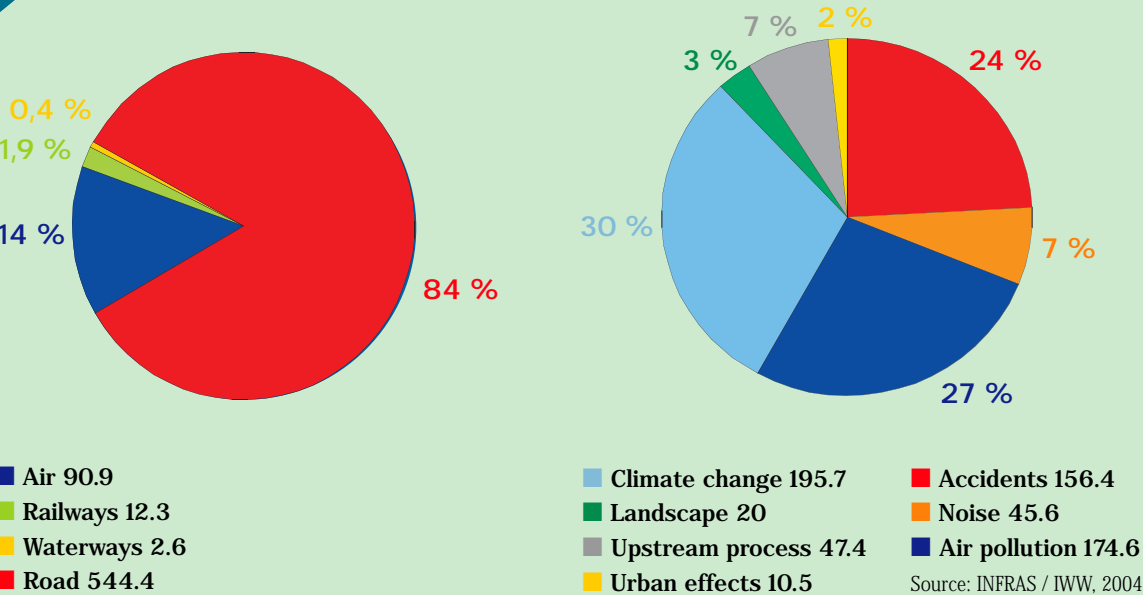
Average external costs: freight (2000)
Euros per 1000 Km



Source : INFRAS / IWW, 2004

By taking total external costs in relation to traffic volumes we can calculate average costs and compare transport modes. Thus, 1000 tkm going by lorry costs society 88 euros, or 4 times more than if the same goods were carried by train (18 euros).

Total external costs of transport in Western Europe (2000)
650 billion euros (7,3% of GDP) without congestion costs



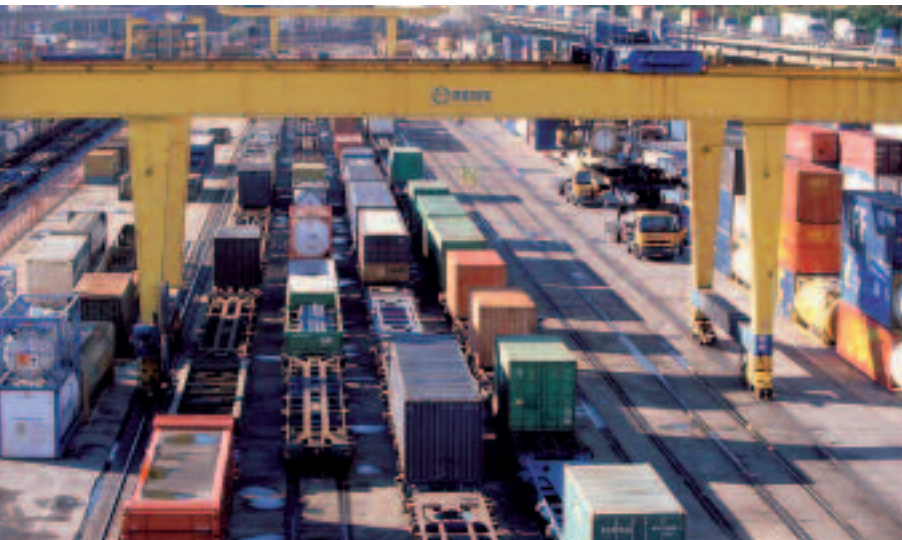
Source: INFRAS / IWW, 2004



A contradiction with current objectives of transport policy and sustainable mobility 7

Actually, inciting shippers to move even larger freight volumes by road (as a substitute for rail combined transport) would run counter to the conclusions of the European Council on 8-9 March last, during which the European Heads of States and Governments pledged to reduce greenhouse-gas emissions by 20% between 1990 and 2020. Allowing Mega-Trucks and increasing road transport's attractiveness would also be inconsistent with the efforts undertaken by the European Union and national governments to promote intermodality, co-modality and the development of combined transport (to capitalise on best possible synergies between modes).

On a more general note, it would lead to a direct contradiction with sustained efforts made by international organisations and governmental authorities in favour of the development of rail by virtue of its attributes as a « clean » transport mode (in terms of the Kyoto Protocol and of all sustainable-development targets).



Rail stakeholders are all committed to offer attractive and competitive services in the field of combined transport and rail-freight 8

As a result of the efforts made to improve product competitiveness, quality and reliability, rail-based combined transport is currently enjoying significant growth annually averaging 6.8% in Europe. This surge is encouraged by the European Union bodies, and opportunities for further progress are being explored through:

- the definition of a priority freight network,
- the development of corridors, and capacity improvements (ex. the UIC Diomis project),
- the implementation of interoperability (operation with ERTMS train control and communication system, etc.),
- the rationalisation of wagon-fleet management in Europe,
- harmonisation in freight telematics (European technical specifications for interoperability in freight telematics – 'TAF-TSI'),
- a large number of further projects related to optimisation of efficiency and quality in international rail freight business.

In this context, promoting introduction –across Europe– of new and, seemingly, especially attractive, but outsized road transport units would, today, most assuredly send the wrong message to the freight market. Worse, the introduction of Mega-Trucks would constitute a negation of the measures initiated by numerous key leaders to create a European transport landscape more attuned to customer expectations.

Generally speaking there can be no question of allowing road vehicles such as Mega-Trucks on the road network before rail freight has first been freed of its infrastructure constraints. And prior to that, a number of issues must be resolved, including:

- the introduction of a genuine infrastructure 'user fee', set at a suitable level for road transport,
- more globally: the internalisation of external costs,
- the harmonisation of working conditions, such as between transport modes, and the effective monitoring of their application by road transport operators,
- the technical preparation (in terms of capacity, authorised train lengths and loads, interoperability, path-allocation and train-working priorities) of a freight-prioritising European railway infrastructure.

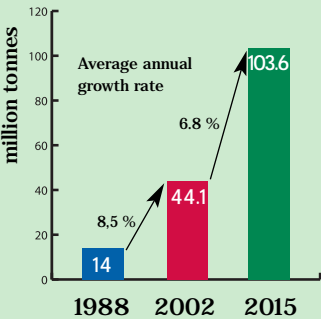
Keeping rail freight inside its present straightjacket while at the same time allowing further lowering of road standards, can only be seen as a threat for freight railways' future. Allowing such measures would bring to a grinding halt all attempts to achieve a balanced and responsible transport policy.

Growth of domestic combined transport by country 2005/2015

COUNTRY	MILLION GROSS TONNES		CHANGE
	2005	2015	
Austria	3.12	4.85	55,4 %
Belgium	6.40	13.20	106,3 %
France	4.63	10.26	121,6 %
Germany	19.11	4.71	118,3 %
Italy	12.83	26.65	107,7 %
Switzerland	4.47	6.16	37,8 %

Source: UIC DIOMIS Study, 2006

Perspectives for combined transport by rail
Growth projections



Source: UIC Combined transport group, Study on Infrastructure capacity reserves 2015

APPENDIX / BIBLIOGRAPHY

- Competitive impact of the implementation of Gigaliners on Combined Transport in Europe', TIM Consult for UIRR / Kombiverkehr, *September 2006.*
- Verkehrswirtschaftliche Auswirkungen von innovativen Nutzfahrzeugkonzepten', K+P Transport Consultants in Zusammenarbeit mit der Studiengesellschaft für den kombinierten Verkehr e.V., *September 2006.*
- Longer and heavier lorries and the environment' – policy paper, T&E – Transport and Environment, *April 2007.*
- Auswirkungen von neuen Fahrzeugkonzepten auf die Infrastruktur des Bundesfernstraßennetzes', Bundesanstalt für Straßenwesen (Bast), *November 2006.*
- Keine Monstertrucks Resolution aller Mitgliedsverbände der Allianz pro Schiene', Allianz pro Schiene, *Marz 2007.*
- External costs of Transport' – up date study, INFRAS / IWW, *October 2004*
- Groupe de travail Véhicules plus longs et plus lourds: une approche multidisciplinaire de la question, Centre de recherches routières (CRR), Brussels, *Feb.-March 2007*
- Longer, Heavier Road Vehicles Study' by TRL/Heriot-Watt University - A response by English Welsh & Scottish Railway, UK, *May 2007.*