 COSMOS Final Conference

Agenda

Time	Topic / Contributor
14:00	Intermodal equipment, services and good practices Uwe Sondermann, KombiConsult, Liubomir Garchev, CEO, DB Schenker Rail Bulgaria, Ivan Petrov, CEO, Trans Express, Niklas Galonske, project manager, HaCon
15:00	Competition of the corridors in South-East Europe Statements and discussion moderated by Uwe Sondermann with Armin Riedl, CEO, Lokomotion, Janez Merlak, Chief Operations and IT Manager, Adria Kombi, Gábor Márta, Sales and Marketing Director, GYSEV Cargo, Kurt Pimperl, Sales Manager, Schenker & Co AG
16:00-17:00	Networking reception

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 **COSMOS** Final conference

**Intermodal equipment,
services and good practices**

Uwe Sondermann
KombiConsult GmbH

Wien, 12 June 2014

COSMOS Intermodal equipment, services and good practices

Intermodal Loading Units – Semi-trailers



13.6 m long
4 m external height
3 m internal height
Flexible to use
For different cargo
Required loading profile „P400“

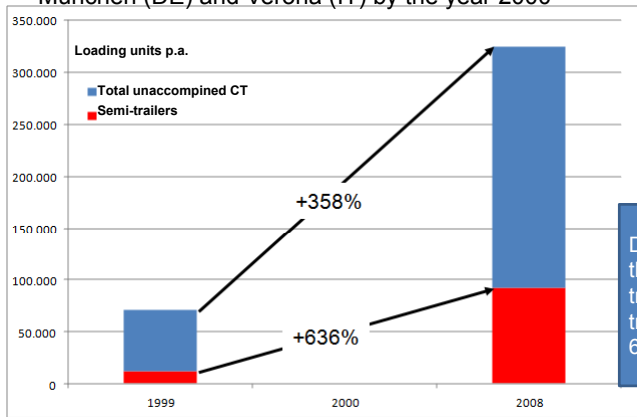
Semi-trailers became standard equipment in international road transport and thus intermodal operation

page 39 Source: KombiConsult analysis

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Impact of „P400“ profile on intermodal development

- The „P400“ loading gauge became effective on Brenner line München (DE) and Verona (IT) by the year 2000



Year	Total unaccompanied CT	Semi-trailers
1999	~60,000	~10,000
2008	~230,000	~90,000

Due to enlargement the number of transported semi-trailers increased by 600% in eight years.

page 40 Source: KombiConsult analysis

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Intermodal pocket wagon



page 41 Source: Kombiverkehr

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Good practice - Example of a mega-trailer pocket wagon

- Recent years have shown an increasing trend to using semi-trailers in European road and thus also intermodal transport. The type of mega-semi-trailers providing an internal height of 3m has become the „standard“ equipment.
- Kombiverkehr has therefore launched a technical development and demonstration project* in the scope of which a new articulated pocket wagon for mega-semi-trailers was improved, implemented and rolled out to the market.
- The loading length of 104' allows not only two semi-trailers but also 4 swap bodies of up to 7.82 m, at a loading weight of 85 tons.
- The large pocket and safety features provide for an efficient handling in the terminals and during rail haulage, in addition.
- The pocket of the Hupac T5 and Mega II are designed similarly, but Hupac opt for single wagon, while AAE's TWIN wagon is made of similar design.

page 42 Source: KombiConsult analysis *www.bravo-project.com

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Good practice - Intermodal wagon for container transport



Metrans
80' single wagon
Improved use of
loading length

page 43 Source: Petr Kaderavek

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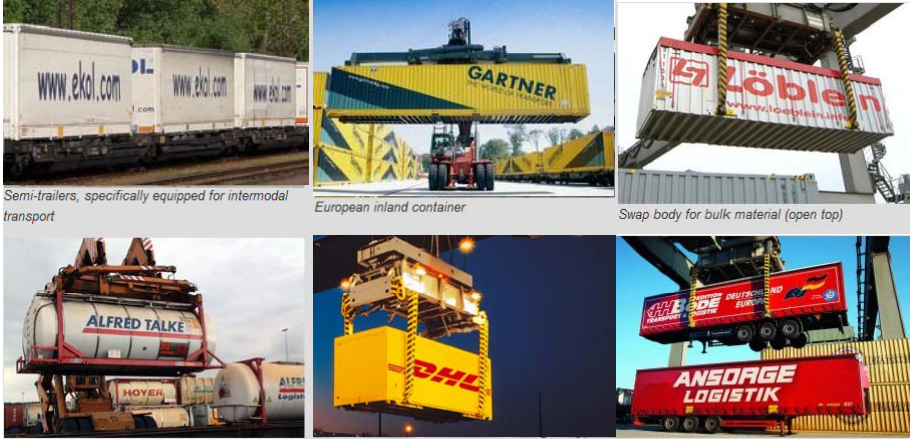
Good practice - Intermodal wagon for container transport

- Maritime – or container hinterland traffic – is characterized by a comparably large homogeneity of loading units (basically all are fitting into the 20'/40' grid). The challenge is the mix of short and long and even more empty or light and heavy containers.
- After several year of experiences with 60' and articulated 80' and 90' wagon the intermodal operator METRANS has obviously learned that the average weight of containers is decreasing and consequently (re-)launched the design of a 80' wagon with only 4 instead of 6 axles. The wagon is generally suited for 4 x 20' or 2 x 40' thus 4 TEU. In the variant of the VEL wagon* also a variety of 7.45 m swap bodies, 30' or 45' units can be transported.
- Even that the loading capacity is reduced from 107.5 to 68.5 tons (or 26.8 t/TEU) to 17 t/TEU) the remaining advantages are:
Less wheel-sets, brakes, noise and thus maintenance costs

page 44 Source: KombiConsult analysis based on Metrans, Tatravagonka *www.vel-project.eu

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Continental intermodal services – Loading units



Semi-trailers, specifically equipped for intermodal transport

European inland container

Swap body for bulk material (open top)

Tank container

Swap Body

Semi-trailers, specifically equipped for intermodal transport

Type of loading units for almost all types of goods

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