Green Rail!
European Freight
Cleaner & Less Congested
Transport Emissions
The Problem!
EU Greenhouse Gas Emissions

- Energy use excluding transport 59%
- Transport 21%
- Agriculture 9%
- Industrial processes 8%
- Waste 3%

Note:
International aviation and maritime transport are excluded from EU commitments under the Kyoto Protocol (Art. 2.2)

Sources: EEA 2006 / 2001
Can Rail provide the answer?
Two examples:

**Brussels - St. Petersburg**
Carbon dioxide
Greenhouse Gas, climate changes

100 tonnes, average goods
Source: EcoTransIT
[www.ecotransit.org](http://www.ecotransit.org)

**Rotterdam - Genova**
Carbon dioxide
Greenhouse Gas, climate changes

100 tonnes, average goods
Source: EcoTransIT [www.ecotransit.org](http://www.ecotransit.org)
Why Rail Freight?

Green! Transport accounts for 25% of EU CO2 emissions, yet electrified trains can account for near zero CO2 & diesel is twice as fuel efficient as road. Rail is the only fully developed electrified mass transport mode!

Reduced Congestion! Each train can take several hundred trucks of the road.

Efficient: Trains carry large volumes from hub to hub, ideal for bulk transportation and port traffic.
Green?  Freight trains are noisy (accelerate programme to fit composite brake blocks). Many locos are still not electric (cost of replacement, lack of infrastructure).

Reduced Congestion?  Rail freight market growth is slow or decreasing. More expensive?  Does not meet market needs?


Common themes:

- Linking Transport modes, Comodality towards the optimum sustainable solution;
  Expansion of Rail freight (Now 40% central Europe, only 8% in EU)
- Trans European Freight Corridors (smoother cross border, one stop shop etc). Rail freight “freeways”
- Eliminating bottlenecks (e.g. congestion, frontiers)
- Opening markets, interoperability, Charges to encourage efficiency and competition.

3 rail packages: Directives towards interoperability and opening the rail market.

- Rail Industry technology platform (ERRAC: http://www.errac.org)
  Vision for 2020: “tripling the share in volume of rail freight transportation”.

- Regulation concerning “a European Rail network for competitive freight”
Total Emissions = Output * \frac{Energy}{Output} * \frac{Emissions}{Energy}

- Level of activity
- Energy intensity
- GHG intensity

- Demand Management (Virtual) Accessibility
- Land planning

- Exploit strengths of each mode
- Network optimisation
- Efficient vehicles

- Switch to cleaner fuels
How to tackle

- **Freight Corridors:**
  - First Corridor Rotterdam Genoa.
  - Largest Volumes
  - Seamless across borders
  - Priority freight
  - “one stop shop”

- **3 rail package directives**
  - Market Liberalisation
  - Interoperability

- **Research and Innovation supporting interoperability and smarter technological solutions**
FP7 (2007 to 2013)
Budget €51 Bio;
Transport theme (including Aeronautics): 4 Bio
Surface Transport, so far €510M.
Typ 1/4 to 1/3 towards Rail
20th July 2010 New call, €91.25M (Rail €26M).
FP7 2010 Rail freight Research

Topics targeted:

• Carbon footprint of logistic chains and integration within logistic management tools.

• Fast implementation of near market technologies to improve rail freight competitiveness.

• Low density high value freight.

• Heavy Freight, vehicle track systems.
Example Freight Projects under negotiation

- **Cofret: €4M+, 14 partners.** Building upon existing techniques and establishing methodologies that will enable accurate and adaptable measurement of complete supply chain carbon footprints from different modes, including transhipment, cooling etc.

- **SUSTRAIL: €10M project 30 leading industrial, operator and academic partners.** (Includes Petersburg Transport University) towards rail vehicle track systems for heavy freight.

- **Marathon: €4.8 M, 17 partners,** Effective, management and market uptake of longer and heavier trains on faster high-volume Trans European freight corridors. 17 partners including important European operators.

- **VEL-Wagon: €1M project, 4 partners.** Developing a lighter longer wagon that can accommodate a variety of intermodal loading units and also be efficient for non-intermodal traffic.
Non EU organisations are welcome in project teams. (Typ there must be also be at least 3 different country EU member or associated state organisations).

- EU support of 50%, 75% or 100% (Depending on organisation & cost type.)

Topics include:

- Interoperability.
- Reducing freight derailments and impacts.
- Systems operation management for passenger and freight customer needs.
- Cost effective improvement of rail infrastructures (be particularly relevant to networks of central and eastern Europe).
- Urban and Interurban shipments.
- Efficient interfaces between modes.
- Coordination action: Improving and exploiting capacity.
- E freight solutions and supply chain management.
Thank you for your attention!

Further Information

- FP7 Transport Research: http://ec.europa.eu/research/transport/index_en.cfm
- FP7 General: http://cordis.europa.eu/fp7/home_en.html
- FP7 Calls: Participant Portal http://ec.europa.eu/research/participants/portal/appmanager/participant
  s/portal
- Rail Industry research Contact ERRAC: http://www.errac.org/

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