
European Railway Research and Railenergy

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UNIFE



Who and what is UNIFE?

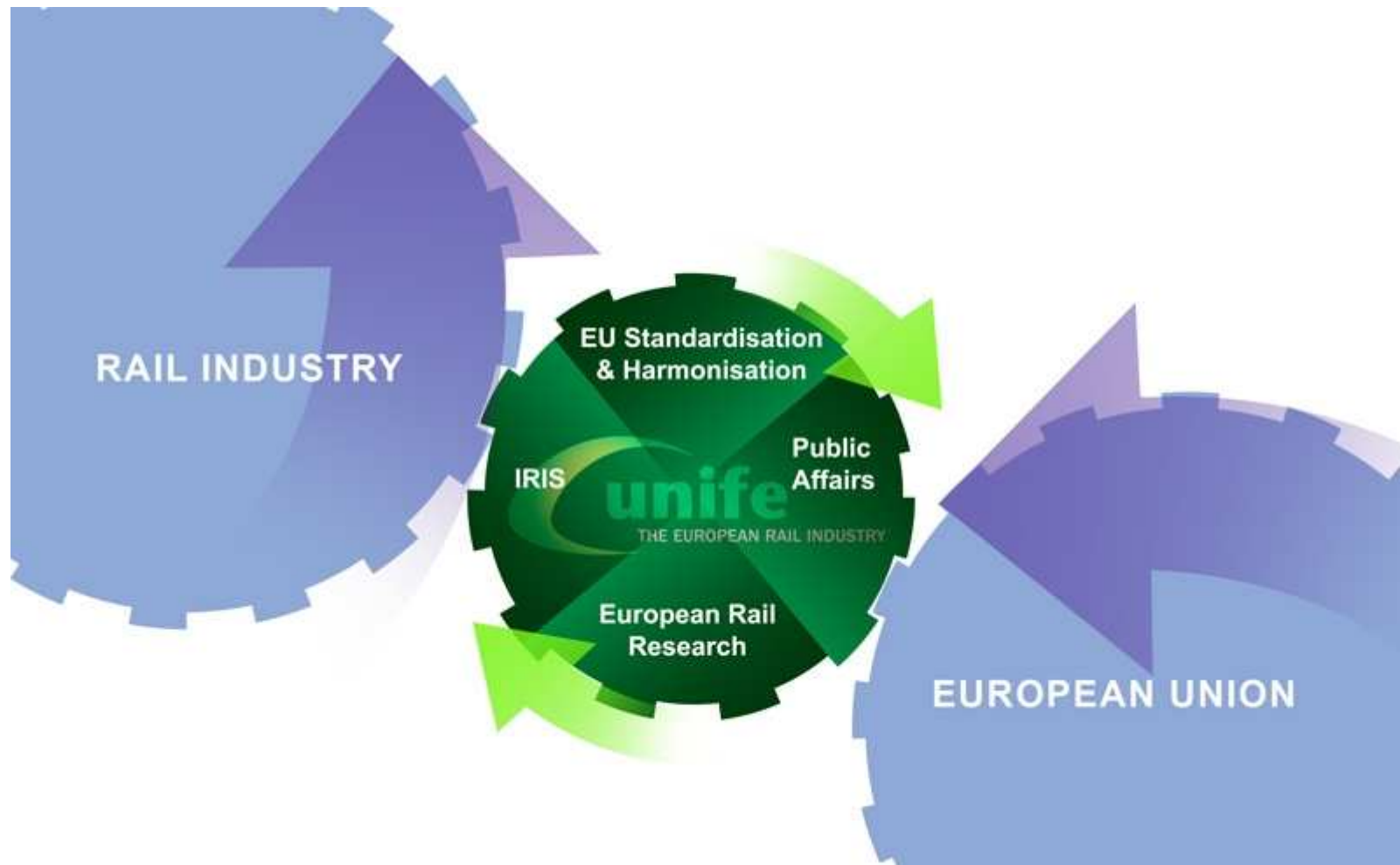


■ 17 Associated Members ■ 66 Full Members

■ UNIFE members have an 80% market share in Europe and supply more than 50% of the worldwide production of rail equipment and services.

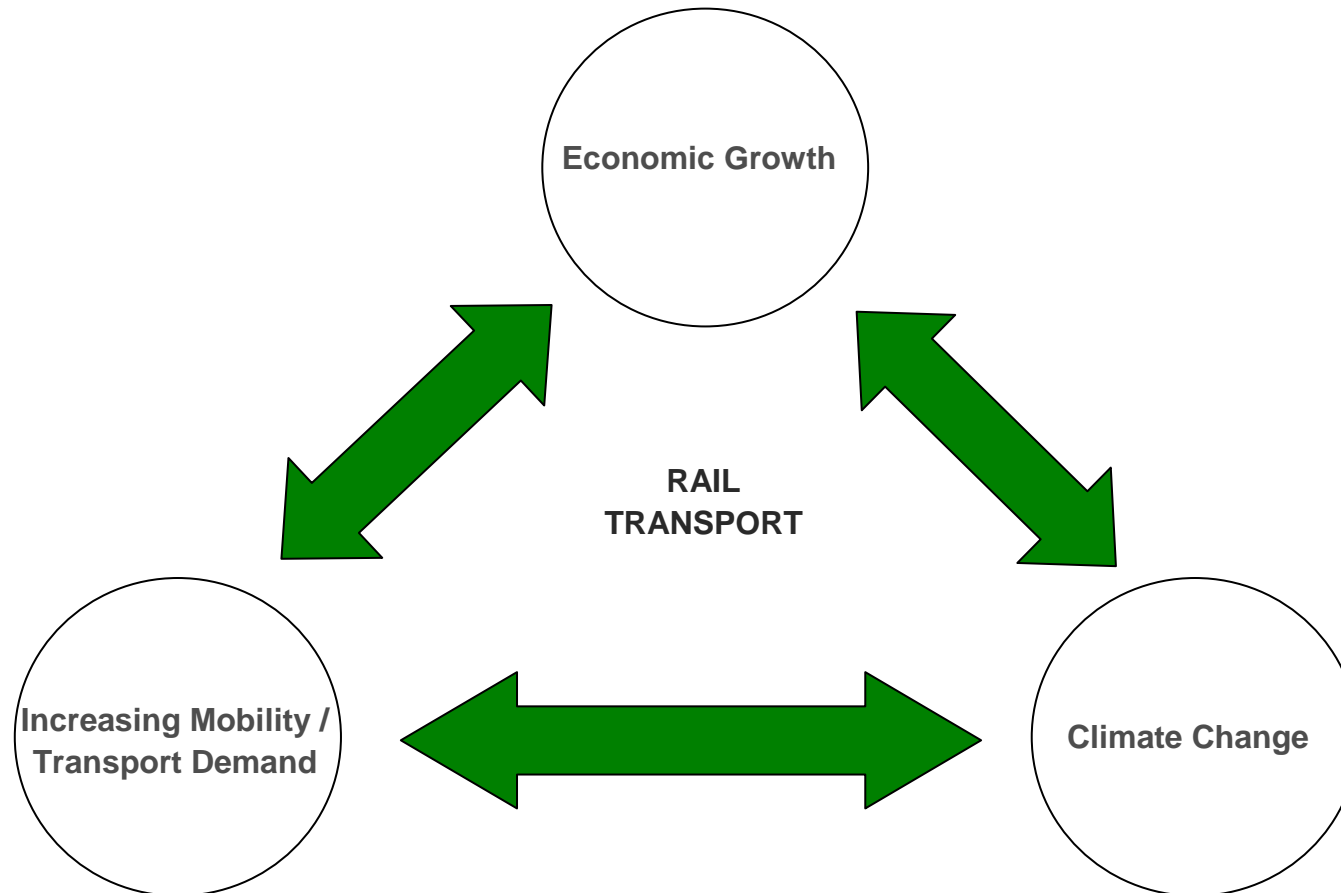


Four key activities





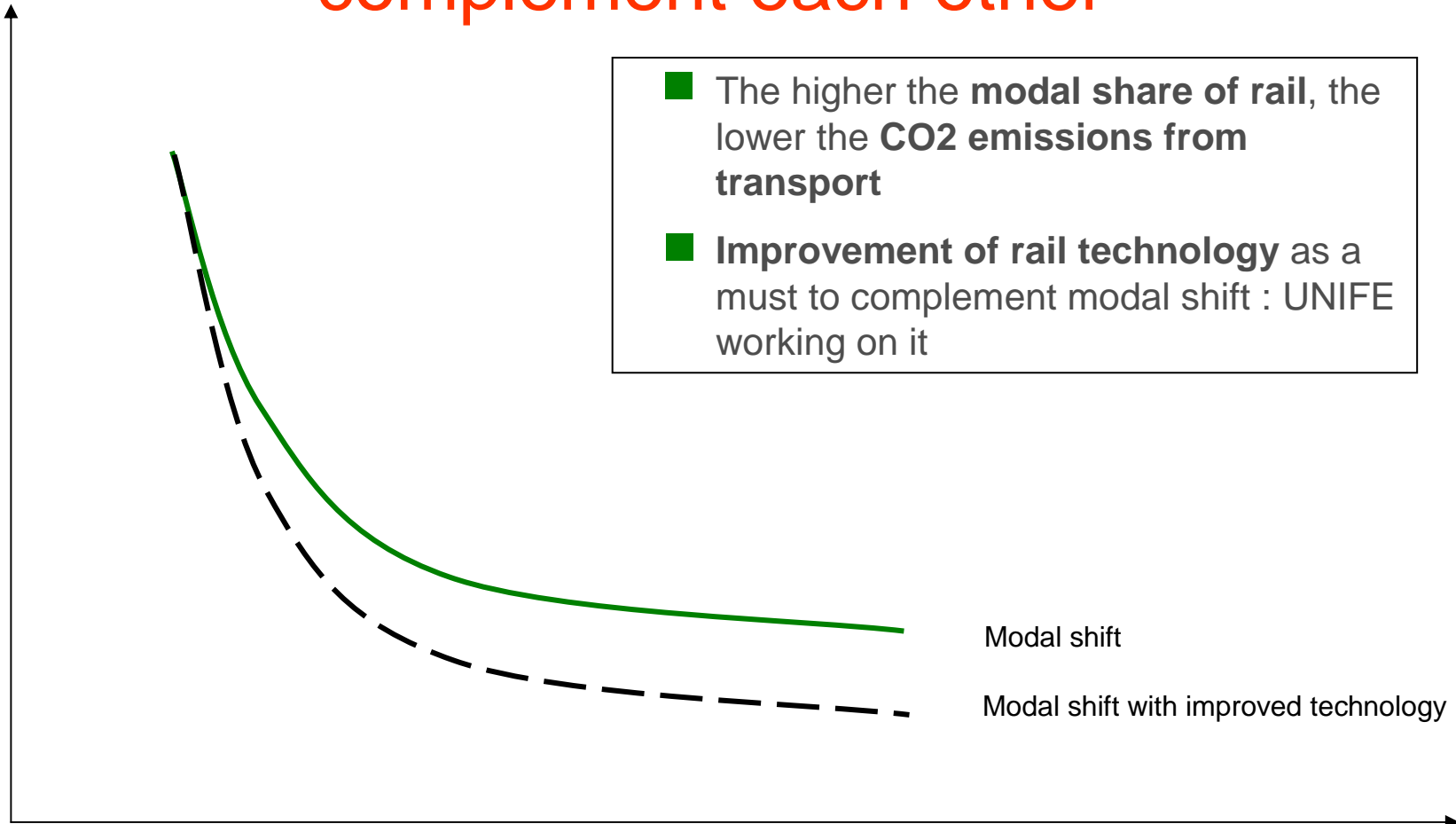
Global Trends





How modal shift and technology should complement each other

CO₂ emissions



Rail modal share

European Railway Research and Railenergy

Additionally...

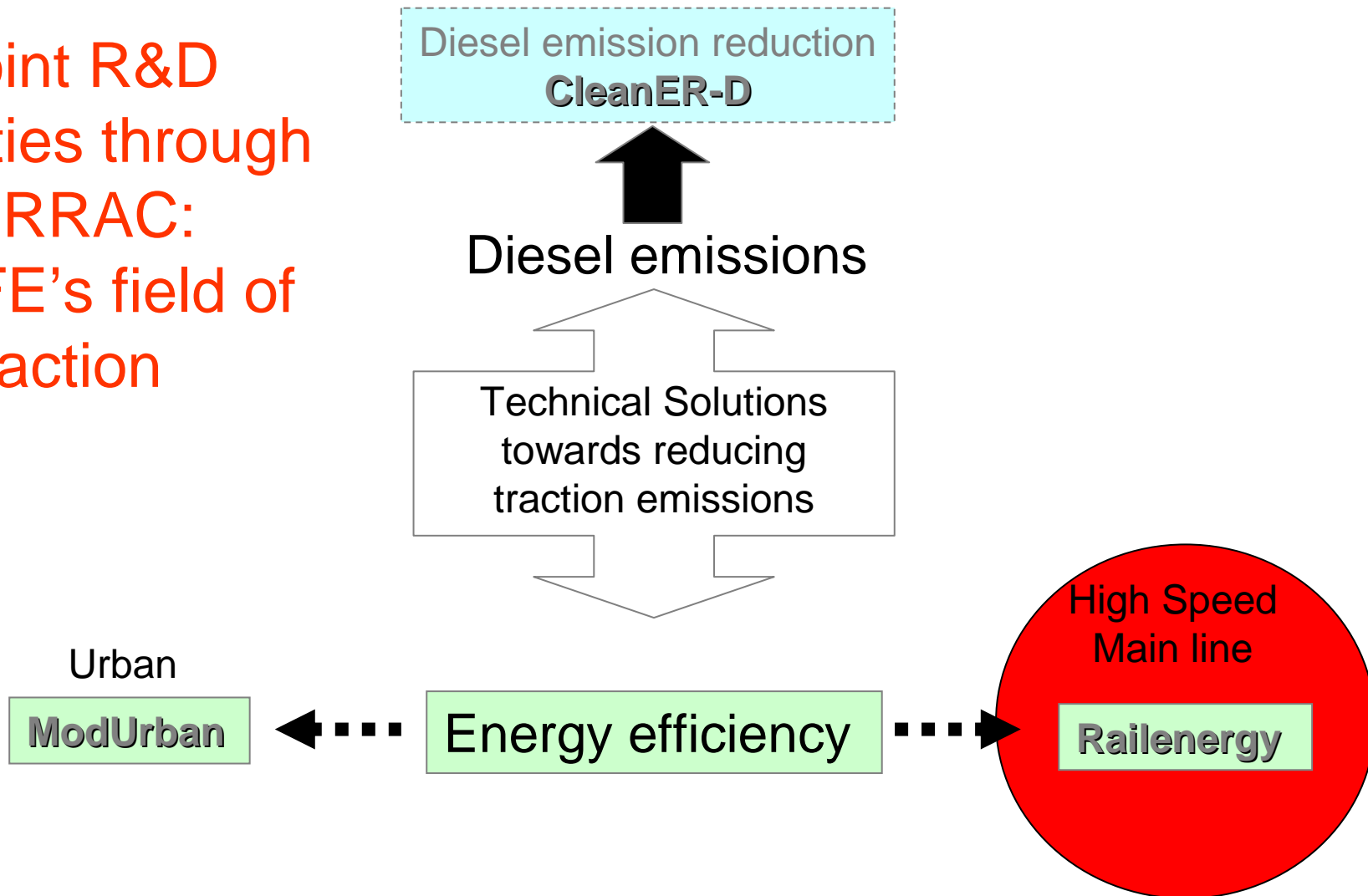
To accompany a **modal shift** and to maintain **rail competitive advantages**, the rail industry is strongly involved in the **development of new technologies**

Railenergy

Energy Efficiency Days 2009



Joint R&D
activities through
ERRAC:
UNIFE's field of
action





Railenergy: Facts & Figures

- Integrated Project co-funded by the EU under the 6th Framework Programme
- Project duration: 01 September 2006 – 31 August 2010
- 27 partners across the EU
- Budget: €14.7M (€8M EC grant)
- Coordinated by UNIFE

Railenergy

Energy Efficiency Days 2009

European wide partnership



TRANSPORT SYSTEMS AND INFRASTRUCTURES GROUP



emkamatik

Engineering – Modeling – Calculation – Real Time Simulation for Railways and Electrical Systems



Importance for the rail sector

- Improved overall system performance & understanding (as opposed to non-linked knowledge of system parts)
- Sector wide consensus for energy efficiency on technical, operational and strategic level
- Investigation, further development, evaluation and validation of new technologies
- Practical and uniform language for interaction between customers, operators, system integrators and system suppliers



New: The holistic system approach

From fragmented research...

Procurement and environment

- PROSPER (UIC project)
- REPID
- RAVEL
- ECORailS

Rolling stock energy efficiency

- EVENT (UIC)

Targeted Research

- Trainer
- Energy billing
- Modenergy (Modurban)
- ...

...to **Railenergy**

first project on EU level investigating solutions and creating common language to improve energy efficiency in the entire railway system

Scope

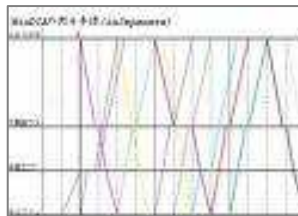
Railenergy will cut the energy consumption in the entire railway system thus contributing to the reduction of life cycle costs of railway operation and of CO₂ emission.

The project target is to achieve a 6% reduction of the specific energy consumption of the rail system by 2020.

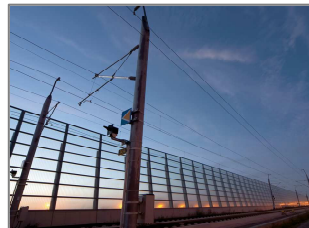


Railenergy Target 2020: 6% reduced specific energy consumption

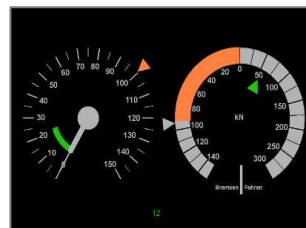
Operation



Infrastructure



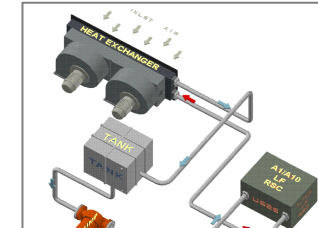
Components



Traction



Topologies



Efficiency potentials for each subsystem up to 30% by Railenergy (baseline 2005)

Railenergy system wide savings: 20-25% (specific energy)

Assumption: 25% deployment in Europe by 2020

**Railenergy target 2020:
6% across Europe**



Railenergy main results

- Global methodology for measurement of energy consumption
- Contribution to new standards / Technical Recommendations (TecRec's)
- Investigation, validation and evaluation of new technologies
- Better management tools
- Reduced costs for operators and infrastructure managers





Thank you

We wish you an interesting day!