

# The SHIFT2RAIL Joint Technology Initiative

**Presentation to the Rail Forum Europe  
15 November 2011**

# Mobility Challenges

Was this your view this morning (and all those mornings before..) ?



# The White Paper

## Roadmap to a Single European Transport Area

### – Towards a competitive and resource efficient transport system

44. Technological innovation can achieve a faster and cheaper transition to a more efficient and sustainable European transport system by acting on three main factors: vehicles' efficiency through new engines, materials and design; cleaner energy use through new fuels and propulsion systems; better use of network and safer and more secure operations through information and communication systems. The synergies with other sustainability objectives such as the reduction of oil dependence, the competitiveness of Europe's automotive industry as well as health benefits, especially improved air quality in cities, make a compelling case for the EU to step up its efforts to accelerate the development and early deployment of clean vehicles.

# Teaming up

**The European Rail Industry is teaming up to strengthen & support the objectives of the White Paper**




# Build on the leadership of the European Rail Industry Team in Global Markets with Competitive and Efficient Solutions

- This high-level objective is supported by three Research themes arranged into seven branches:
  - A More Attractive Mode: Increasing the Attraction of Rail Freight; Increasing the Attraction and Efficiency of Urban Transit; Increasing the Attraction of the Rail Mode for Passengers (Interoperable, e-Ticketing and Multi-modal access);
  - A High Performance Rail System: Energy & Mass Efficient RST; Line Capacity; Infrastructure Asset Management;
  - A Dependable Integrated Rail System.

*The results will be continuously compared with White Paper Capacity and Modal Shift Targets*

# The Contribution to High-Level Objectives & Key Rail Markets being made by each of the Research Branches

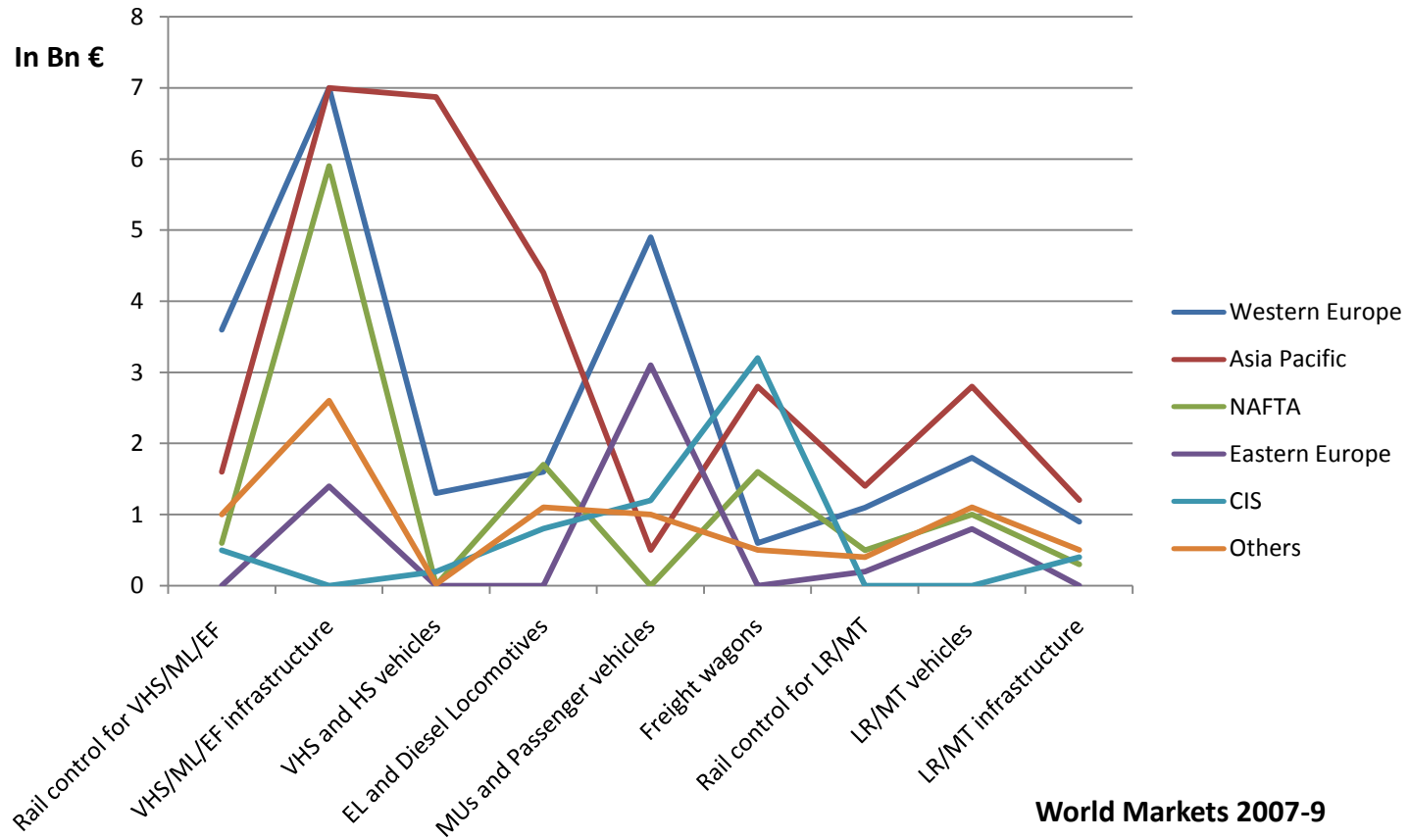
1. Energy & Mass Efficient Passenger Trains	2. Improve Main Line Capacity	3. Improve Longevity of Infrastructure Products	4. Improve Attraction of Rail Freight	5. Improve the Attraction and Efficiency of Urban Transit	6. Improve Attraction of the Rail Mode for Passengers	7. Safety & Integrity of the Rail System
<b>High Level Objective INCREASE RAIL CAPACITY</b>			<b>High Level Objective ATTRACT BUSINESS TO THE RAIL MODE</b>			<b>High Level Obj PROVIDE NETWORK SECURITY</b>
VHS & Mainline Rolling Stock Key Markets	VHS & Mainline Infrastructure Key Markets	VHS & Mainline Infrastructure Key Markets	VHS & Mainline Rolling Stock Key Markets	Urban Transit Metro & LRV Key Markets	Additional E-Ticketing Markets	
VHS & Mainline Rolling Stock Security	VHS & Mainline Infrastructure Security	VHS & Mainline Infrastructure Security	VHS & Mainline Rolling Stock Security	Urban Transit Security	N/A	

# Scope of the JTI Research and Innovation

- Based on the Product and Geographical Opportunities presented by the Global Rail Market
- Will give appropriate emphasis to the Infrastructure, Energy and Control Command and Signalling Sectors as well as Advanced Vehicle Technologies



# Boston Consulting Group Market Research 2010



# SHIFT2RAIL – The JTI Partners and Scale



**This Joint Technology Initiative represents a total financial commitment of around € 800m (depending on scope) over its 6-7 years duration based on the EU FP7 for R&I**

It will initiate new forms of collaboration & technology implementation among the European rail manufacturing industry's key players

# SHIFT2RAIL - Governance

**SHIFT<sup>2</sup>RAIL R&D performers**

**JU members**

## Board of Directors

### TID members

(Companies representing more than 50% of the budget, committing to perform and complete SHIFT<sup>2</sup>RAIL programme)

**European Commission representatives**

### Associated members

Private or public organisations contributing at lower level, involved in one or several innovation programmes, having applied for and been accepted as members of the JU

**JTI Partners**

### Subcontractors

Answering and winning tenders awarded by first rank members

### Partners

Answering and winning open calls for proposal

**External partners only participating in consultative bodies**























# SHIFT2RAIL - The JTI Deliverables

- **Independent technology demonstrators** allowing the integration of innovative solutions (also those from other industries)
- **Test platforms** (existing trains and laboratory test rigs) on which these solutions can be intensively tested
- Full-scale integrated **system demonstrators** (e.g. new generation of control command systems)
- **Agreed standard architectures** and **interface standards** allowing a high degree of compatibility and easy innovation integration

# SHIFT2RAIL - The JTI Stakeholders

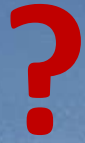
- ERRAC
- EU Member States
- Railway Undertakings and Rail Operators
- Fleet Owners
- Infrastructure Managers
- Urban Transit Operators
- Academia and Research Centres
- EU Institutions

# SHIFT2RAIL - Quantifiable Benefits

	1. Energy & Mass Efficient Passenger Trains	2. Improve Main Line Capacity	3. Improve Longevity of Infrastructure Products	4. Improve Attraction of Rail Freight	5. Improve the Attraction and Efficiency of Urban Transit	6. Improve Attraction of the Rail Mode for Passengers	7. Safety & Integrity of the Rail System
Cost Reduction							
Time Savings							
Environmental Benefits							
Safety & Reliability Benefits							

# SHIFT2RAIL - Summary

- The JTI Consortium is coming together;
- it is gaining wider support from the Industry;
- it is adding precision to its innovatory content in order to gain the maximum benefit for a major European industry....



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# Boston Consulting Group Market Research 2010

1. World market for rail control for VHS/ML/EF 2007-9	Bn €
West Europe	3.6
Asia Pacific	1.6
NAFTA	0.6
CIS	0.5
Others	1
	<u>7.3</u>

2. World market for VHS/ML/EF rail infrastructure 2007-9	Bn €
West Europe	7
Asia Pacific	7
NAFTA	5.9
Eastern Europe	1.4
Others	2.6
	<u>23.9</u>

3. World market for VHS and HS vehicles 2007-9	Bn €
Asia Pacific	6.87
West Europe	1.3
CIS	0.2
NAFTA	0.01
Others	0.02
	<u>8.4</u>

4. World market for EL and Diesel Locomotives 2007-9	Bn €
Asia Pacific	4.4
NAFTA	1.7
Western Europe	1.6
CIS	0.8
Others	1.1
	<u>9.6</u>

5. World market for MUs and Passenger vehicles 2007-9	Bn €
West Europe	4.9
Asia Pacific	3.1
CIS	1.2
Eastern Europe	0.5
Others	1
	<u>10.7</u>

6. World market for freight wagons 2007-9	Bn €
CIS	3.2
Asia Pacific	2.8
NAFTA	1.6
Western Europe	0.6
Others	0.5
	<u>8.7</u>

7. World market for rail control for LR/MT 2007-9	Bn €
Asia Pacific	1.4
West Europe	1.1
NAFTA	0.5
Eastern Europe	0.2
Others	0.4
	<u>3.6</u>

8. World market for LR/MT vehicles 2007-9	Bn €
Asia Pacific	2.8
West Europe	1.8
NAFTA	1
Eastern Europe	0.8
Others	1.1
	<u>7.5</u>

9. World market for LR/MT rail infrastructure 2007-9	Bn €
Asia Pacific	1.2
West Europe	0.9
CIS	0.4
NAFTA	0.3
Others	0.5
	<u>3.3</u>