knowledge4innovation

K4I Forum of the European Parliament

Towards a Single and Innovative European Transport System

In cooperation with the SINTRAS Consortium

K4I Forum Dinner Debate: "Towards a Single and Innovative European Transport System"

Philippe Citroën – UNIFE Director General
Brussels, 27 September 2016

- **UNIFE represents the European Rail Supply Industry (rolling stock, infrastructure, sub-systems and signalling)**

- **UNIFE is a trusted partner of European and international institutions in all matters related to rail transport**

- **Over 85 full members of the largest and small and medium-sized companies in the rail supply sector and 17 associated members including 14 National Associations, representing almost 1000 suppliers of railway equipment**
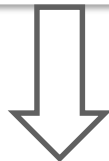
World leaders:

UNIFE members have a 84% market share in Europe and supply 46% of the worldwide rail production

- ➢ **Increased demand for mobility and safety**

- ➢ **Need to reduce transport emissions**

- ➢ **Increasing urbanisation = increasing congestion**
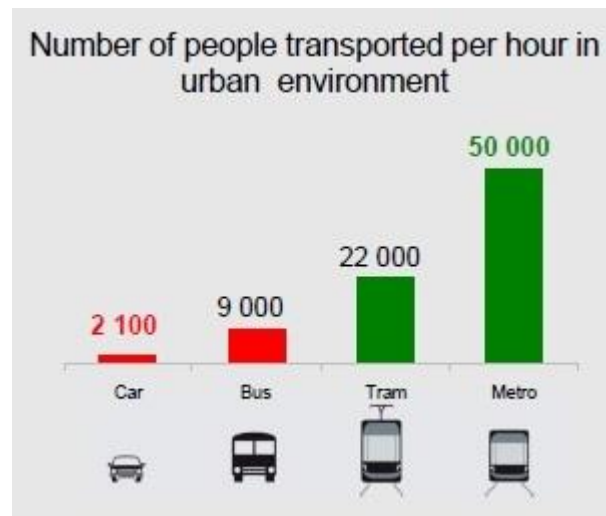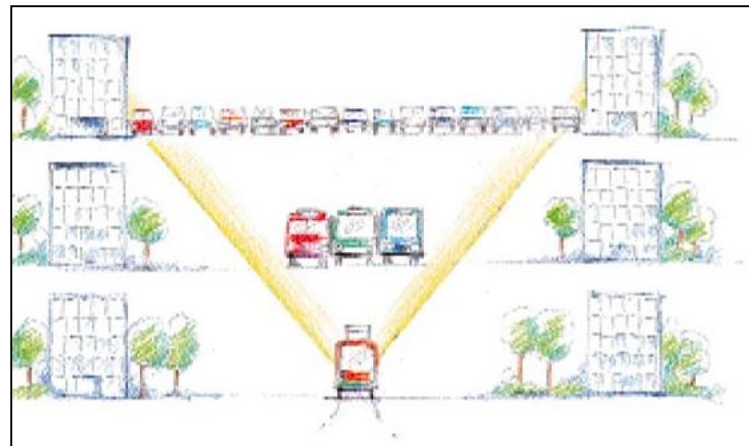
- ➢ **Need of an efficient multimodal transport system**

Rail is the backbone of a future efficient digitalised multi-modal transport system.

- **Rail uses considerably less land and carries higher numbers of passengers**

- **Rail has the least CO_2 emissions of all modes of transport**

- **Rail consumes dramatically less energy than other modes of transport**

- **Wider economic and social impacts**

Number of people transported per hour in urban environment

Car	Bus	Tram	Metro
2 100	9 000	22 000	50 000

Research and Innovation

Rail Transport Challenges

How to get a better railway transport system and improve the passenger experience for rail travellers?

Need of new and advanced technologies → Research and Innovation are key

- To cut the life-cycle cost of railway transport by as much as 50 %;
- To double railway capacity;
- To increase reliability and punctuality by as much as 50 %.

Rail R&I: IT2Rail – A promising Shift2Rail lighthouse project

- Horizon 2020 research and innovation program under grant agreement No: 636078
- Total Budget: €12 million
- Partners: 27
- Coordinator: UNIFE
- Project Start Date: 1 May 2015
- Project End Date: 31 October 2017
- Duration: 30 months
- http://www.it2rail.eu/

Creating a new seamless travel experience!

Rail R&I: IT2Rail – A promising Shift2Rail lighthouse project

- **New seamless travel experience**

- **Complete multimodal travel offer connecting the first and last mile to long distance journeys**

- **Traveller at the heart of innovative solutions, accessing all multimodal travel services (shopping, ticketing, and tracking) through its travel-companion**

- **Build an open published framework providing full interoperability whilst limiting impacts on existing systems, without prerequisites for centralised standardisation.**

Across Europe

Across Modes

Door-to-Door

Across Services

Planning

Shopping

Ticketing

Navigating

Tracking

Rail R&I: IT2Rail – A promising Shift2Rail lighthouse project

Jane is provided with a personalized, customizable and secure digital "Travel Companion" (TC) environment
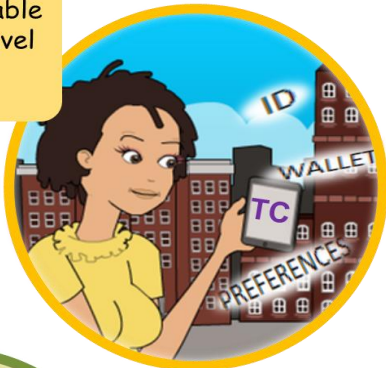
Jane plans her trip to attend her fashion show

Jane builds her multimodal travel solutions, manages her booking and shopping through her prefered one-stop shop

**Jane** uses TC's wallet to validate entitlements

Assistance to navigate at interchanges, taking into account **Jane's** mobility constraints (luggage, reduced mobility)

Business Analytics provide relevant feedback of traveler data to operators and service providers, to ensure more robust and responsive operations

Jane receives notification of significant event affecting her itinerary. She is offered some options for re-routing and re-accomodation
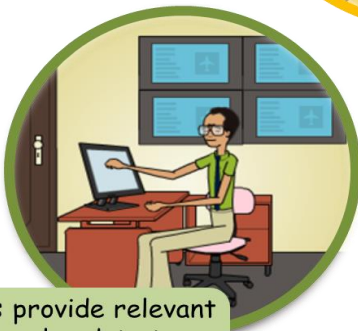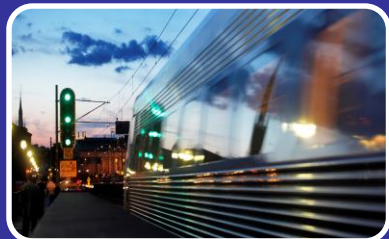
Digitalisation

Towards a digitalised rail transport system

- **Several disruptive trends that the transport sector will have to master can be identified, for instance:**
  - **Transport of goods and passengers will become more user-centred**. This will affect the planning and operation of the transport systems, which will have to respond to users' choices and priorities. The real-time information about the transport networks will become personal. The interface with customers will be key in making travel/transport of goods more convenient and flexible, as well as personal
  - **Automation and safety will benefit from the increased capacity to anticipate risks**. Automation will impact significantly infrastructure capacity;
  - **Pricing and payments will be transformed thanks to the rapid changes in the financial sector, with digitalisation of tickets and payments becoming the norm**;
  - **Cyber-security issues will become one of the main challenges stemming from this digital transformation**, as the intensive usage of digital data and communication links will increase the cyber-vulnerability of the systems.

- Digitalisation technologies in the transport sector (including rail) have the potential to create **new growth, more efficient transport networks, more efficient logistics and better use of the existing infrastructure**.

- UNIFE believes that to reach the digitalisation of the railway sector in Europe **a cooperative approach by all stakeholders is essential: agree on common priorities, fix common and individual objectives, establish a sector roadmap and a shared deployment plan are the only way to achieve the digital transformation that the sector needs**.
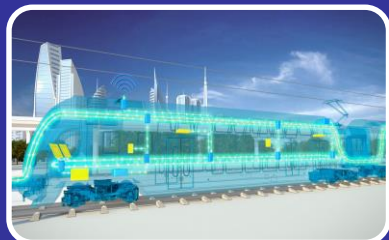
The rail sector needs a stronger support of EU Institutions

R&I

- Shift2Rail is a first important milestone to improve the rail transport system
- However a stronger support for rail R&I is expected within H2020 (outside of Shift2Rail) and after Shift2Rail (Shift2Rail n°2).

Digitalisation

- The Rail Industry calls on the European Institutions to set-up a rail sector digitalisation platform.
- This platform shall cooperate with others modes of transports and sectors on key topics like cyber-security

Competitiveness of the European Rail Industry

- Resolution on the Competitiveness of the European Rail Supply Industry
- To foster a level playing field on the global market for rail equipment
- The EU Industry needs supports from EU institutions to remain the worldwide leader (e.g. R&I, Investment…) and the creation of a structural dialogue for the European Rail Industry.

UNIFE – Promoting rail market growth for sustainable mobility

Identify barriers and opportunities for innovation

THE POLICY CONTEXT:

Energy Union; Digital Single Market; Agenda for Jobs, Growth, Fairness and Democratic Change

White Paper on Transport

Strategic Transport Research and Innovation Agenda (STRIA)

EP preparatory action
Towards a single and innovative European transport system

Lot 1: Analysis of barriers and action plans

Lot 2: International assessment and action plans of the focus areas

Mobility and Transport

CONNECTING EUROPE

Energy Union Research Innovation & Competitiveness Strategy

Energy Union's forward-Looking Integrated Research, Innovation, and Competitiveness Strategy:

1. Integrated Strategic Energy Technology Plan

2. **Strategic Transport Research and Innovation Agenda (STRIA).**

3. Global Technology and Innovation Leadership

Communication end 2016

➔ **Development and deployment of innovative low-carbon technologies and solutions for transport and mobility**

➔ **Vehicle-related technologies, energy efficiency, transport as a system, digitalisation**

➔ **Better link of longer-term objectives with policy options**

➔ **Roadmap towards 2050**

Energy Union – public consultation results

- **Transport technology is first priority for EU industrial research and innovation towards a low-carbon economy**

- **Citizens consider innovative clean urban transport as the single most important way of contributing**

Mobility and Transport

CONNECTING EUROPE

STRIA focus areas

1. Connectivity and automation of transport;
2. Electrification
3. Alternative fuels (e.g. biofuels, synthetic fuels, LNG)
4. Vehicle design & manufacturing
5. Transport infrastructure
6. Network and traffic management systems
7. Smart transport and mobility services (incl. urban)

Objectives: State of Play

Provide an in-depth analysis of the technological, regulatory and legal barriers, gaps and weaknesses, but also the strengths and opportunities, which impede or support the development and deployment of innovative technological solutions enhancing the integration of the transport system, in each of the identified focus areas, for the selected EU Member States.

Objectives: Evidence base

- Build a solid evidence base for each of the focus areas, also by interacting with the sector stakeholders and identifying their opinions, needs and expectations.

Objectives: Action Plans

Assess, define and elaborate roadmaps in the form of action plans in each focus area, with the aim of supporting the development and deployment of innovative solutions enhancing a single European transport system, with a view to support and enhance the Commission's transport research and innovation policy.

Focus Areas

Smart Mobility

Connected Transport

Standardisation Interoperabilty

Infrastructure

Covering 23 Member States

Overall approach

- Desk research, interviews, workshops, survey..
- Strong stakeholder involvement
- Centered around barriers and fragmentation

Identify → Validate → Prioritise → Cluster → Action