Digital Transport and Logistics
with support of EU funds

DIGITAL TRANSFORMATION IN ROAD-RAIL COMBINED TRANSPORT
Brussels | 13 April 2018

Petr Kroca
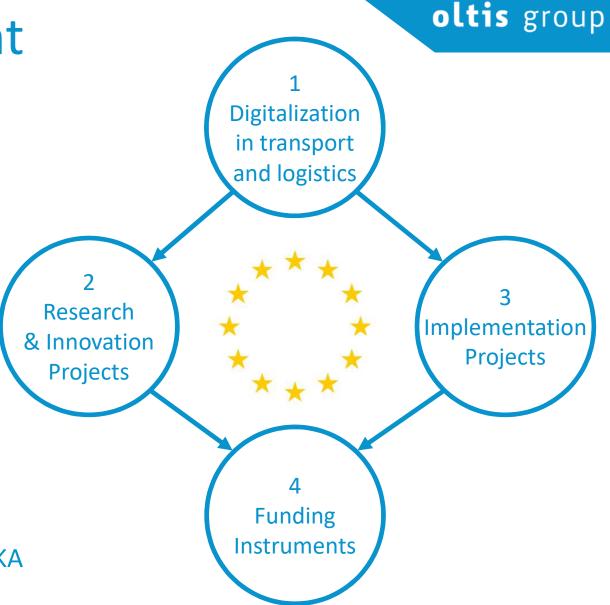Director Research and Innovation

Presentation content

oltis group

1
Digitalization
in transport
and logistics

2
Research
& Innovation
Projects

3
Implementation
Projects

4
Funding
Instruments

1 | OLTIS Group Profile

OLTIS Group Profile

- Strong IT group in the Central Europe

- Innovative software solutions

- European projects of research and innovation

- Implementation of railway interoperability in Europe

- International activities: UNIFE, Shift2Rail, DTLF, IRFC…

- Active in EU with focus on **Digitalization**

Products and Customers

Software solutions for…

- Transport & Logistics
- Railway operators and Infra-Managers
- Freight forwarders and carriers
- Wagon keepers
- Passengers

Customers

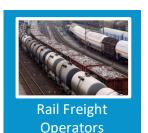- More than **1000** users in **25** countries

Rail Infrastructure Managers

Rail Freight Operators

Rail Passenger Operators

Road Transport

Container Terminals

In-House Transport

Forwarding

Warehouses

Mobile Technology

International Activities, Membership

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Activities at EU level ('in Brussels')

Member of UNIFE (EU Rail Industry Association) and active within Committees and Working Groups (SME, Freight, **Digital Platform**)

Representation of UNIFE at TSI Change Management (EUAR)

TAF/TAP TSI Czech National Contact Point

Support of EP Resolution on competitiveness of EU rail supply industry

Active involvement in S2R JTI preparatory phase (2013–2014)

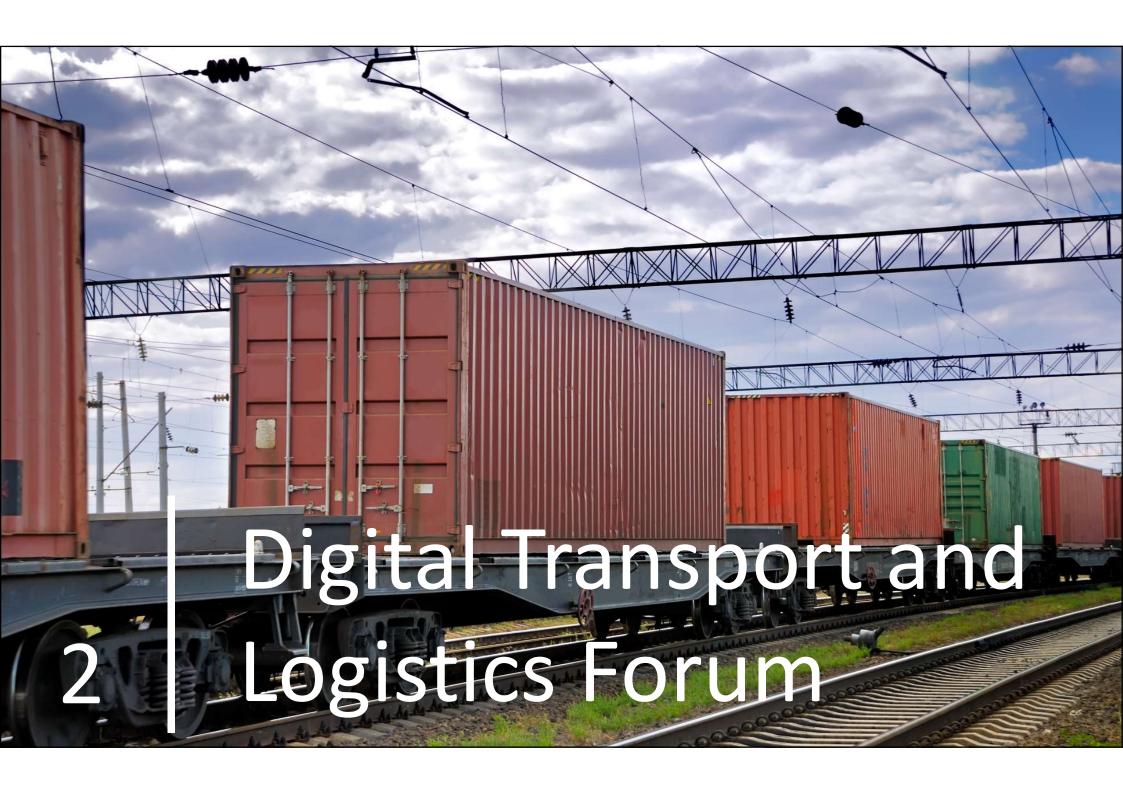Participation in S2R JU Open Calls projects (5+3)

Membership in IBS (International Rail Freight Business Association)

Membership in OSJD (Organization for cooperation of railways) in Working Groups on Freight and Infrastructure

Membership in DTLF (Commission's advisory body for **Digital** TL)

Digital Transport and Logistics Forum

2

Digitalisation in Focus of the EC

Presentation of Lia Potec, DG MOVE

DIGITAL TRANSPORT & LOGISTICS FORUM

EU R & I Projects on Digitalization

3

Projects Funding

Results / Advantages of International cooperation

- Participation at the newest EU research and development
- New technologies...

- Gaining financial sources for own innovations

- Leading & coordination of international working groups
- Creation of new partnerships
- Work in international teams
- International experience

Funding instrument	Success rate %
EU FP / Horizon 2020	14
Shift2Rail | Open Calls	10–30
CEF	33–50
Fast Track Innovation	5
SME Instrument	6–11
EUROSTARS	22
EUREKA	50–100

4 | EU Framework Programme & Shift2Rail

Shift2Rail since 2013

First EU JTI in railway research & innovation

- Cutting the life-cycle cost of rail transport by as much as **50%**

- **Doubling** railway capacity

- Increasing reliability and punctuality by as much as **50%**

- **25** partners in **2013–2014** preparatory phase ➡

- Budget **920** MEur (**450** MEur from the Commission)

- **12** Founders

- **28** Members (**21** companies and **7** consortia)

- Call for proposals both for members and open calls

- **3** Open calls | **100%** coverage of costs in open calls

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acciona   ALSTOM
aMaDEUS   AnsaldoBreda
Ansaldo STS   BOMBARDIER
AŽD PRAHA   CAF
DB   Faiveley TRANSPORT
FERROVIE DELLO STATO ITALIANE   HaCon
indra   KNORR-BREMSE
mermec group   Network Rail
oltis group   Selex ES
SIEMENS   SNCF
Strukton Rail   Talgo
THALES   TRAFIKVERKET
vossloh

Shift2Rail Open Call 2016

Shift2Rail

Digitalization in Shift2Rail **1st** Open Call

GOF4R – Governance of the Interoperability Framework for Rail and Intermodal Mobility

GoF4R
Governance of the Interoperability Framework for Rail and Intermodal Mobility

IP4 – Passenger transport | **2016–2018** | **2** MEur | **16** partners | Leader: unife THE EUROPEAN RAIL INDUSTRY

ST4RT – Semantic Transformations for Rail Transportation

ST4RT
Semantic Transformations for Rail Transportation

IP4 – Passenger transport | **2016–2018** | **1** MEur | **8** partners | Leader: unife THE EUROPEAN RAIL INDUSTRY

VITE – Virtualisation of Testing Environment

VITE

IP2 – Signalling | **2016–2018** | **1** MEur | **11** partners | Leader: ineco
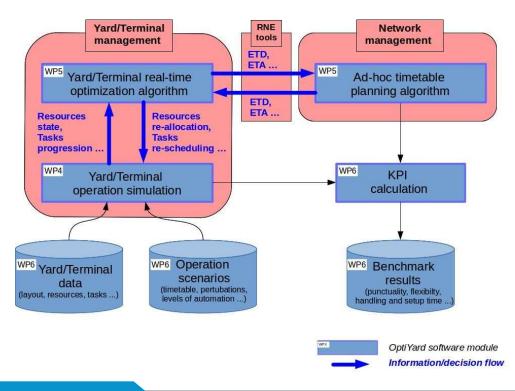
Project OptiYard (S2R-OC-IP5-01-2017)

Shift2Rail

Optimized Real-Time Yard and Network Management

(2017–2019) | Budget: 1.5 MEur

- The main objective is to **improve capacity and service reliability** by focusing on Yard **Operations**, namely by providing an **optimized decision support system** for Yard Managers

Coordinator:

uic

Partners:

UIRR
INTERNATIONAL UNION
FOR ROAD-RAIL
COMBINED TRANSPORT

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...and 10 more

Shift2Rail Weaknesses and Strengths

– Too many consortia partners

– Insignificant connection between EU and National level

– Results restricted to pilot demonstration till now

– Complicated transfer from projects results to concrete implementation on specific customers

+ Shift2Rail plans on EU Railway level

+ Shift2Rail projects facilitate international cooperation (international consortia helps with creation of Single European Area)

+ Brings Industrial participation and integration to the table

+ Big opportunity for SMEs in Shift2Rail Open Calls (100% funding)

+ Overall a beneficial activity

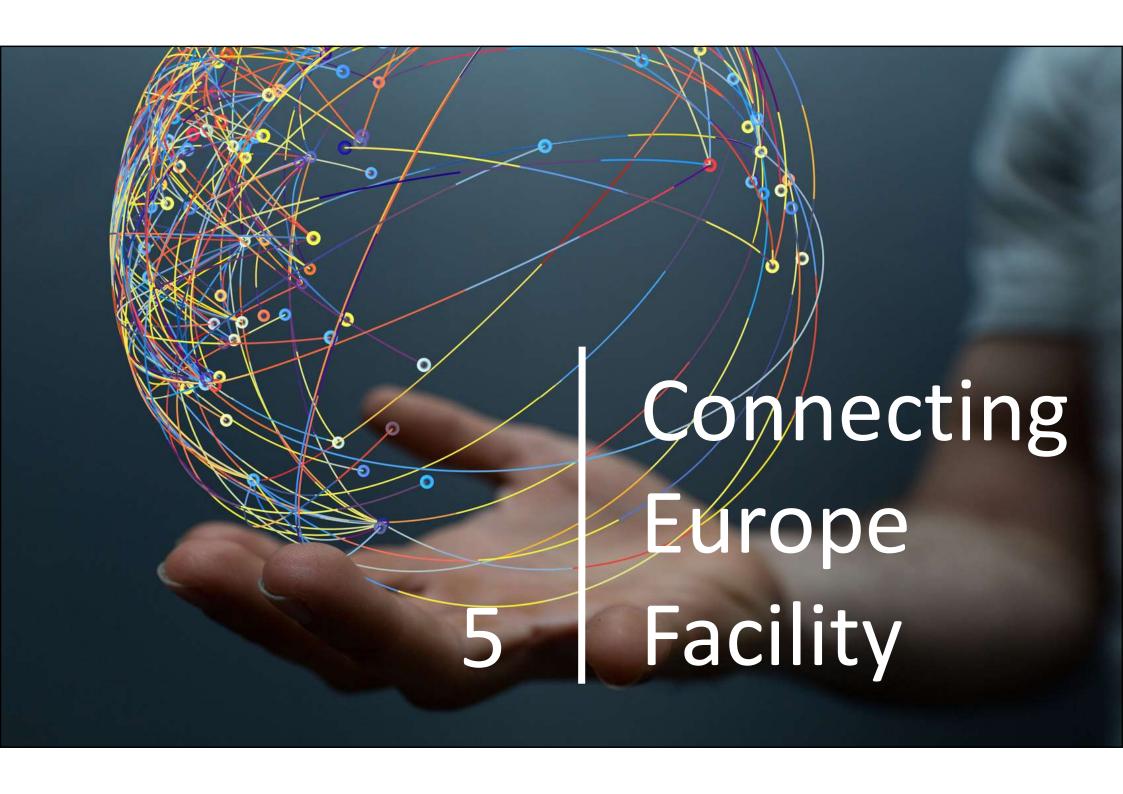+ Preparation of Shift2Rail 2 from 2020

Shift2Rail 2.0

Ideas on the potential key pillars of the Shift2Rail 2

1 Better involvement of CEE countries, and SMEs

2 Freight transport (IP5)
- Rail and **logistics (multi-modality)** must close cooperate
- **Rail** as the backbone
- Focus on freight business / From the freight **customers' point of view**
- Larger involvement of (all) rail freight **operators**

3 **Digitalization**
- Focus not only on...
  - Mobility concept (passenger transport)
  - Safety and cyber-security
  - Automation
  - Traffic management
- But on all aspects and trends of digitalization must be considered...
  - Intelligent vehicle / wagon / container (freight)
  - Internet of things
  - Big data (monitoring of movements | to apply intelligence)

5 | Connecting Europe Facility

UNIFE since 2009

OLTIS Group active involvement in committees / working groups

- SME Committee
  - Chairman & UNIFE Presiding Board Member
- Strategy Committee
- Freight Committee
- Communications Committee
- **Digitalisation platform**
- Research & Innovation Committee
  - Strategy document on Shift2Rail 2.0
- **TAF/TAP TSI change and implementation management**
  - OLTIS Group participates in proposing, development and testing of information standards in rail transport

TAF/TAP TSI

EU Directive 2008/57/EC on the interoperability
of the rail system within the Community

Active involvement of **OLTIS Group** experts in **working groups and committees**

- TAP/TAF Steering Committee
- TAF/TAP Control & Change Management Board & WP
- TAF Implementation & Cooperation Group
- TAP Implementation
- Joint Sector Group
- TAP revision
- TAP/TAF Steering Committee
- UNIFE TAP/TAF TSI Mirror Group

TSI Implementation at

- Infrastructure Managers
- Railway Undertakings (both national and small private)

CEF Transport Calls

The Connecting Europe Facility

- CEF supports trans- European networks and infrastructures in the sectors of transport, telecommunications and energy

- 2017 Cohesion Calls **€1.1 Billion** (General calls **€800 Million**)

- **Priority – Rail interoperability / TSI Implementation**

- **Cohesion Fund** – eligible recipients receives **85%** support

- Our projects will enable to **implement standards for data exchange** between the IT systems of the selected private railway freight operators from Slovakia, Hungary and the Czech Republic in **2017–2020** and systems of infrastructure managers, wagon keepers and other rail (national) operators

- The **total budget** of these projects is **€7 Mil.** to support the implementation of the TSI **in Central and Eastern Europe**

CEF Projects

Implementation of TAF TSI by private railway operators

- **10** RU / **6** CZ + **4** SK
- Number: **015-CZ-TM-0056-W** | Duration: **2017–2019**
- Budget: **€1.1 Mill.** | Rate: **85%** | Grant: **€935,000**
- Motivation: to help smaller private rail freight operators to fulfil **requirements from the Commission**
- They do not use complex systems as large or national operators
- To **enlarge communication** in their IT systems
- To implement and accomplish **full interoperability** with less costs but achieve the same complex solution as big national operators

Implementation of TAF TSI by private railway operators

- **2** RU / HU | Duration: **2018–2020** | Budget: **€1 Mill.** | Rate: **85%**

CEF Projects

Co-financed by the European Union
Connecting Europe Facility

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CEF Transport 2015

- 2015-SK-TM-0080-W (2.7 mil. Eur):
  Implementation of Technical Interoperability for TAF TSI at ZSSK CARGO

- 2015-SK-TM-0321-W (7.3 mil. Eur):
  Implementation of technical interoperability for ZSSK TSI TAP subsystem

CEF Transport 2016

- 2016-CZ-TMC-0127-W (2.7 mil. Eur):
  TAF TSI and TAP TSI Implementation of IT systems of SŽDC – Phase 3

- 2016-CZ-TMC-0215-W (0.7 mil. Eur):
  Implementation TAF TSI at AWT

- 2016-EL-TMC-0232-M (3.0 mil. Eur):
  TAF/TAP-TSI Implementation in Greece: Design and system
  development of TAF/TAP TSI

TSI TAF/TAP Implementation

OLTIS products are verified as TSI Compliant!

- OLTIS products with implemented TAF TSI have been **verified by EUAR** with regard to the compliance with the TAF TSI Regulation No. 1305/2014 and its Technical Documents

Implemented Messages

- Common Interface, Reference Files, Rolling Stock Reference Database
- Consignment Note Data, Wagon Movement, Operating Rolling Stock Data/ WIMO (Wagon and Intermodal Unit Operating Database)
- Path Request, Train Composition Message, Train Running
- Service Disruption Information, Train Ready Message, Shipment ETA (Estimated Time of Arrival) / ETI (Estimated Time of Interchange)

EUROPEAN UNION AGENCY FOR RAILWAYS

5 | EUREKA

EUREKA since 2003

EUREKA & EUROSTARS

- **Market oriented** research and development programmes
- EUREKA: **30** years | in **40** countries
- **5,900** R&D projects | **9,500** SME participants
- Funds from national budgets | **Bottom-up projects**
- In Czechia the grants cover **50%** of costs for SMEs

15 years of OLTIS Group involvement in EUREKA **(2003–2018)**

- **17** projects | Total budget of **5** MEur
- **18** partners (from Germany, Slovakia, Austria, Poland, Hungary, Turkey, Korea)
- Implementation into the **real railway praxis**
- **4** examples of successful EUREKA projects in **digitalization in freight transport**

EUREKA Projects

EUREKA Σ!

E-RAILMAP — Electronic rail map of Europe (2004–2007) (the best EUREKA project in 2009)

NARVIK — European rail cargo portal (2006–2008)

ERWIN — European railway infrastructure network (2008–2011)

EIMIS — European inter-modal information system (2010–2012)

LOGI-GATE — RFID reader gate for railway rolling stock, road vehicles and storage mechanisms (2010–2012)

REAL-Bridge — Railway Euro-Asian Land Bridge Data Base System (2012–2015)

LOADFIX — Development of the web application for loading and fixing goods in railway freight wagons (2013–2016)

INNOLOGI — Innovative Logistics (2013–2016)

TABLOG — Use of mobile devices for data collection, data processing & operational process management (2013–2016)

TREX — Development of it support for exceptional railway transports (2014–2017)

MONET — Central system for monitoring and evaluating of transport movements (2015–2017)

EDMOND — Electronic transport data services for monitoring of dangerous goods (2015–2017)

ERIC Mobile — European rail information centre in freight transport for end-users on mobile platforms (2017–2020)
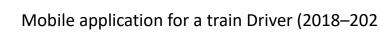
OPTILOAD — Optimisation of loading of oversized goods and special equipment on open railway wagons (2017–2020)

EPLOS — European Portal of LOgistics Services (2017–2020)

RailCOp — Rail wagon Consignments Operator (2018–2021)

MobiDriver — Mobile application for a train Driver (2018–202
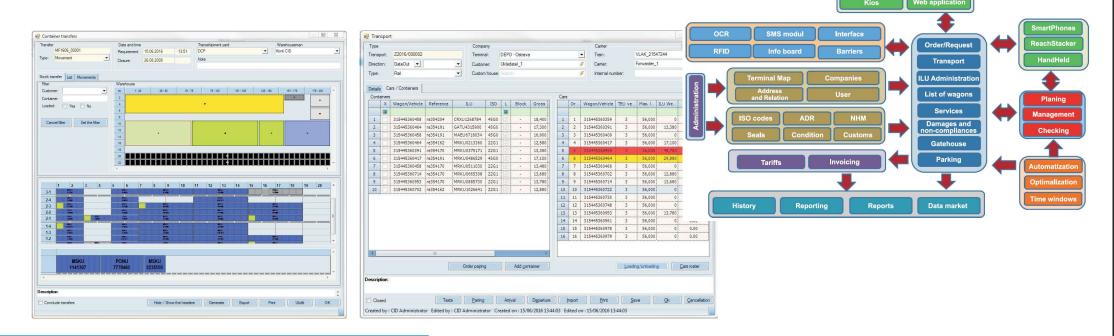
EUREKA Digital Projects

E! **4509 EIMIS** – European Inter-modal Information System (2010–2012)

The result – IT system for managing the intermodal terminals – **KONTI**
- A comprehensive solution for a logistic centre of intermodal transport
- The functional scope can be adjusted up to customers processes…

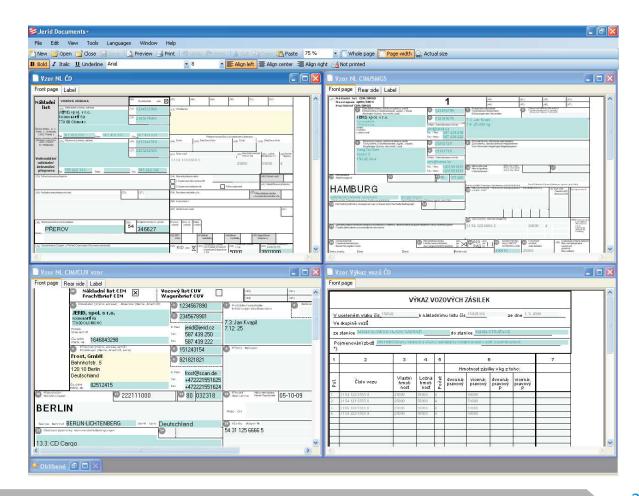Σ! E! **6725 REAL-Bridge** – Railway Euro-Asian Land Bridge data base system (information support of CIM/SMGS transports) (2012–2015)

The result – Application for management the transport documents – DOC+

- A user friendly interface and text editing as in the standard text editor
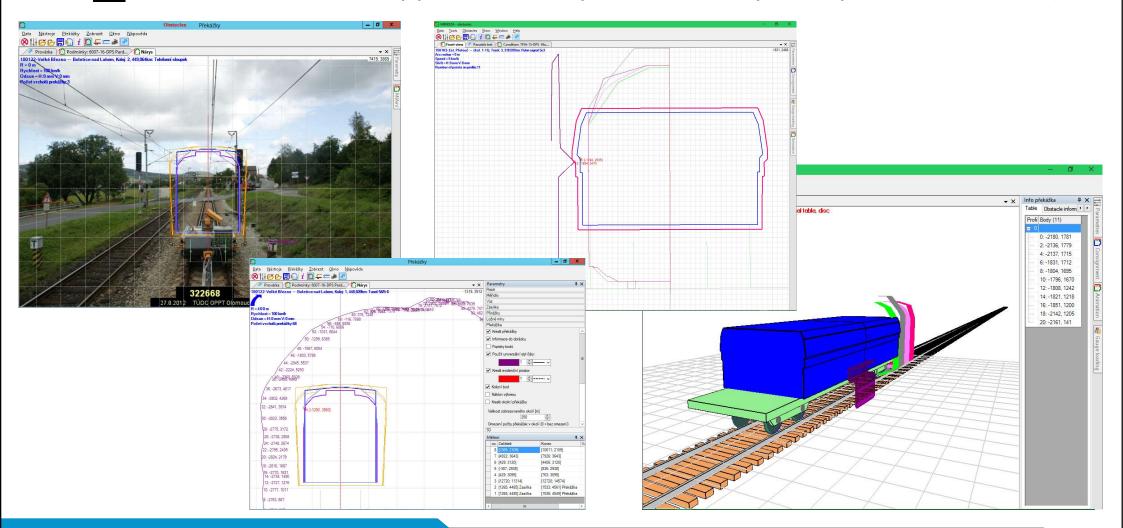- International and domestic forms of consignment notes

EUREKA Digital Projects

E! **9173 EDMOND** – Electronic transport data services for monitoring of dangerous goods (2015–2017)

- Development of missing electronic transport documents
- Defining of dedicated services for monitoring, improvement of safety and security
- Prevention and reaction in case of accidents/incidents
- Analysis and proposal of regulatory framework in transportation of dangerous goods

Σ! E! **7624 TREX** – IT support for exceptional railway transport (2014–2017)

Summary

- EU leader of **implementation** rail data exchange standards **(TAF TSI)**

- **Implementation** of real results of research, development and innovation projects into real **praxis**

- Hopefully **Shift2Rail 2** will overlap the gaps and 'catch the train'

- **Funding** instruments accessible for **everyone**

- We stand on the **edge** of the **digital world...**

- ...Challenge / **optimistic future** for railway & **intermodal transport**