Safety in Railways: *Quo Vadis?*

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Is There a Future for Rail?

...I think I saw it still moving...
The importance of railway

- Climate change
- Sustainability & Economic growth
- Congestions
The Mandate of the European Union Agency for Railways

MAKING THE RAILWAY SYSTEM WORK BETTER FOR SOCIETY

The **objective** of the Agency is to contribute, on technical matters, to the implementation of the European Union legislation aimed at improving the **competitive position of the railway sector** by:

- Enhancing the level of **interoperability** of railway systems
- Developing a common approach to **safety** on the European railway system
- Contributing to creating a **Single European Railway Area** without frontiers, guaranteeing a high level of safety

The "4th Railway Package" will transform the Agency from a consultative body to an **Authority** capable of issuing Safety Certifications and Vehicle Authorisations (by 2019)

*) as “European Railway Agency (ERA)” with the 2nd Railway Package

**European Union Agency for Railways**

Founded in 2004*
Valenciennes (FR) approx. 165 staff

“make it work”

* Made in the EU

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“Making the Railway System Work Better for Society”

“Safety First”

Facilitate the completion of the Single European Railway Area - removing the remaining technical barriers
The Single European Railway Area

Make rail more competitive
- Market opening
- International operation
- Interoperability
- Safety

safe :: connected :: affordable
Historic safety development

Figure 4: Railway accidents with five or more fatalities (EU-28, 1980–2015) (†)
Figure 1: Significant accidents and resulting casualties for the EU-28 (2010–2015)

* Not all Member States were reporting EU-27 (2006-2009)
A complex environment

- Fast innovation & digital technologies
- New threats and challenges
- Developing and implementing regulation
- Masters of risk management

RESILIENCE

(Cyber) security
Common Occurrence Reporting Programme

- Improve **risk profiling and modelling** techniques
- Ensure **full visibility** of safety performance in EU Member States
- Enable **identifying and monitoring** low frequency high consequences risks
- Improve **learning, exchange and sharing** of accident/incident data between all EU actors
Safe – but still with catastrophic accidents!

- A decade of SMS and risk management
- Need for **strong safety leadership** and **positive safety culture**
- **Human and Organisational Factors (HOF)** plays a significant role in all catastrophic railway accidents and occurrences
- Security is a rising threat
How to continually Improve Safety? – The Need to Articulate the Two Sides of Safety

Rule based safety: anticipating as much as possible

Safety managed: managing the unexpected

= SAFETY

Expertise
Technical barriers
Rules and procedures

Compliance behaviour

Competence
Learning
Ability
Adaptations

Proactive behaviour
Safety culture refers to the interaction between the requirements of the safety management system, how people make sense of them, based on their attitudes, values and beliefs and what they actually do, as seen in decisions and behaviours.

A positive safety culture is characterised by a collective commitment by leaders and individuals to always act safely, in particular when confronted with competing goals.
Attributes for a Positive Railway Safety Culture

- A shared awareness of the most important risks
- An interrogative culture
- An integrated culture: Everyone is involved
- Management leadership and the involvement of staff
- A transparent and just culture
- Constant attention to technical barriers, SMS, Human and Organisational Factors
- Sensible balance between safety by the rules and safety by taking initiatives

based on icsi-eu.org
Railway **Safety** Culture and **Security** Culture: We All Have a Role to Play!
Resilience - how? Three Pillars of Safety

Safety Performance

Technical Safety

Safety Management System

Human and Organisational Factors

Safety Culture
The Challenge

What can the actors in the railway sector do, in order to protect themselves, their services, and their customers from Cybercrime?
We are Shaping the Future of Rail in Europe!

Single European Railway Area (SERA)

safe :: connected :: affordable
Making the railway system work better for society.

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