EUROPEAN UNION AGENCY FOR RAILWAYS

Disclaimer

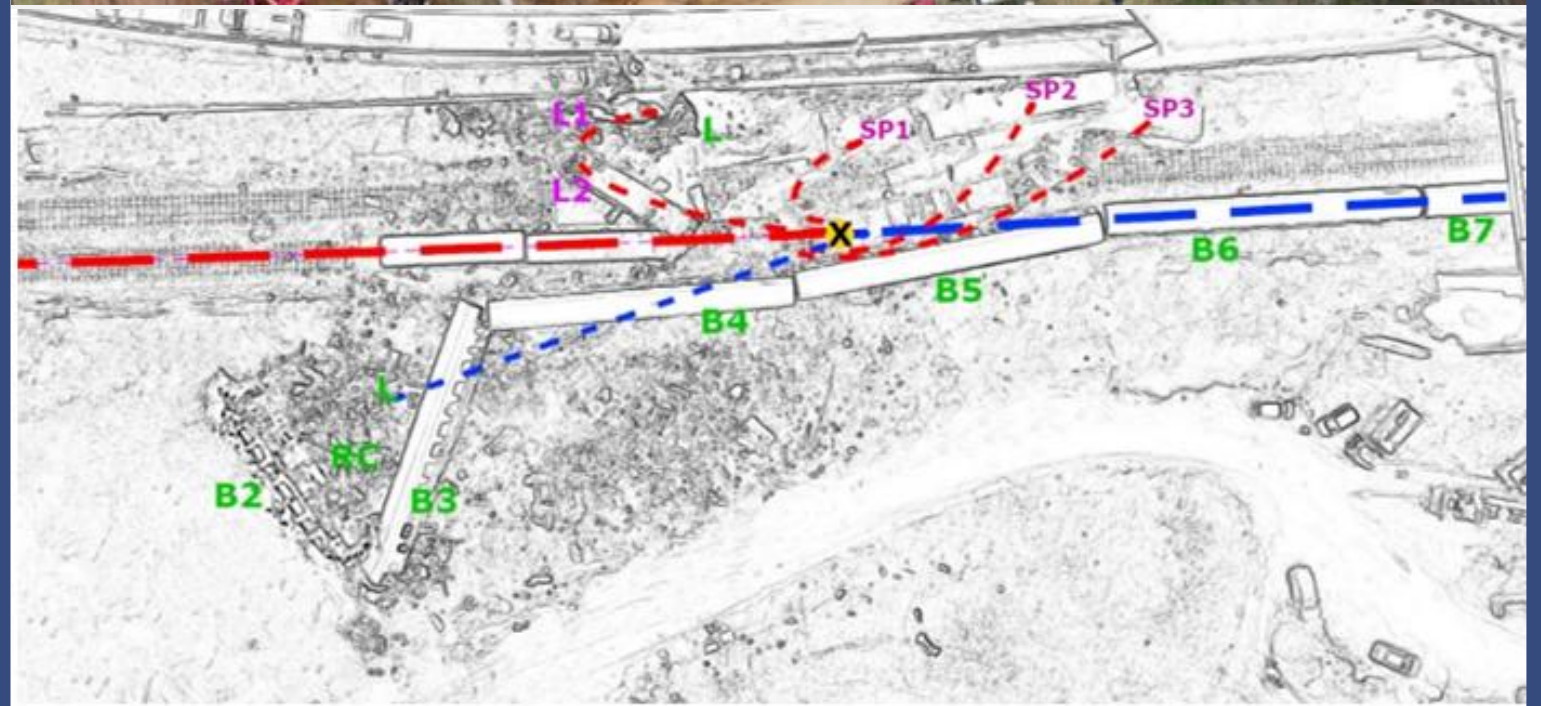
This presentation is for the purpose of information only. A binding interpretation of EU law is the sole competence of the Court of Justice of the European Union.

European Rail Safety Days
Learning from the Tempi accident

B. Accou| 02/10/2025 | Krakow

EUROPEAN UNION AGENCY FOR RAILWAYS


3:09:48


L1
L2
L
SP1
SP2
SP3
X
B4
B5
B6
B7
L
RC
B2
B3

EUROPEAN UNION AGENCY FOR RAILWAYS

Causal factors

Both trains travelling in opposite directions on the same track

- Station Master did not use automated method to set route for train IC-62…
- … and forgot to place switches 118 A/B in the “main” position
- Highly unlikely that Station Master had intention to put train IC-62 on opposite track…
- … but mistake went further unnoticed

EUROPEAN UNION AGENCY FOR RAILWAYS

Causal factors

Actions and decisions of Station Master need to be understood in the difficult operational context he was confronted with

- Control panel for remotely operating switches can lead to confusion for less experienced operators…
- … which was certainly the case for the Station Master on duty
- Normal workload severely strained by a series of aggravating factors:
  - Technical failures creating additional tasks or making existing tasks more difficult
  - Unprecedented high number of communications, many not directly related to task of controlling train traffic
  - Design of working environment did not allow for conversations to be held and at the same time keeping an eye on traffic
  - Attention (cognitive/emotional) occupied by correction of an earlier error he made

EUROPEAN UNION AGENCY FOR RAILWAYS

Causal factors

Was verbally given authorisation to leave understood?

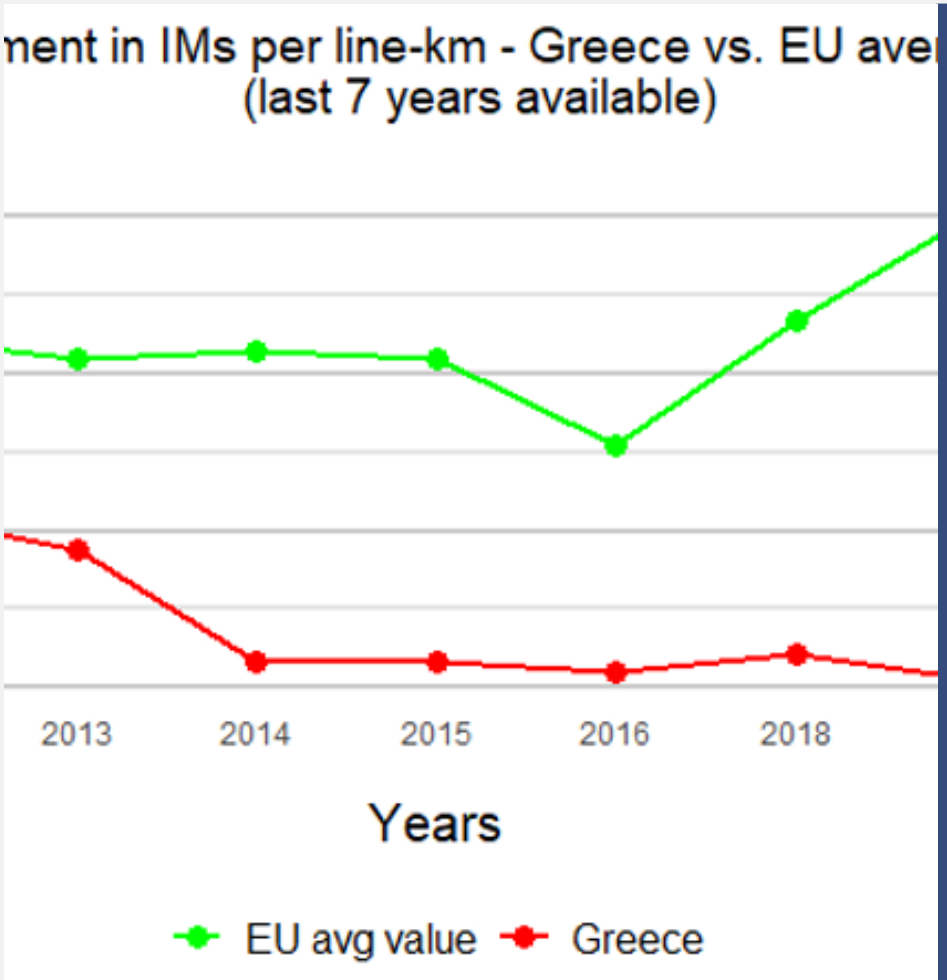
- General lack of strict application of prescribed structured communication
- Greek rules outdated compared to international standards (TSI OPE)
- Use of open radio communication channel

Conflicting information between position of switches and received order missed

- Not unusual to be directed to opposite track

EUROPEAN UNION AGENCY FOR RAILWAYS

Underlying factors



Economic crisis of 2010 resulting in:

- Poorly maintained and increasingly degrading infrastructure
- Structural shortage of staff

Essential SMS processes of IM:

- No preventive maintenance of main assets for CCS…
- … interventions only take place when critical assets fail (even for renewal project partly put in service)
- No arrangements to adapt maximum line speed to conditions of signalling system
- No guarantee that station masters are competent for safety-related tasks, under all conditions
- No structured monitoring of station master's performance…
- … leaving the IM unaware of any deterioration in performance of safety-related tasks and/or assets

EUROPEAN UNION AGENCY FOR RAILWAYS

Underlying factors

No account of interactions between humans and other system elements (technical/ organisational)

- Equipment, tasks, work environment and organisational arrangements stretching limits of operational staff beyond what is acceptable
- Train drivers confronted with changes requiring continuous alertness and high level of resilience

Strong belief that all operational risks can be controlled by strictly applying rules, under all conditions

EUROPEAN UNION AGENCY FOR RAILWAYS

Controlling authorities

No functioning NIB:

- No independent investigation of accidents and incidents
- Capacity to learn from adverse events relying on investigations by operators, as part of SMS…
- … focussing on errors made by individual front line staff, lacking depth to introduce sustainable change
- Situation reinforced by NSA focussing on non-compliance in investigations, analyses and recommendations

NSA:

- Did not identify critical weaknesses in SMS of IM during authorisation
- Later findings did not lead to any noticeable change

ERA/EC:

- Relevant issues identified by ERA (SSC/NSA monitoring) did not lead to necessary improvement quickly enough

EUROPEAN UNION AGENCY FOR RAILWAYS

Safety observations

Additional elements relevant for the safe management of incidents

- No coordination of different services (operational/strategical) at scene of collision
- Poor (coordinated) preparation by IM and emergency services
- Little initiative to learn from the experience of Tempi accident
- Initial collection of evidence for further safety investigation missing
- Prevention and reduction of risks related to Post-Traumatic Stress Disorder missing or inadequate

EUROPEAN UNION AGENCY FOR RAILWAYS

Sustainable progress in safety…

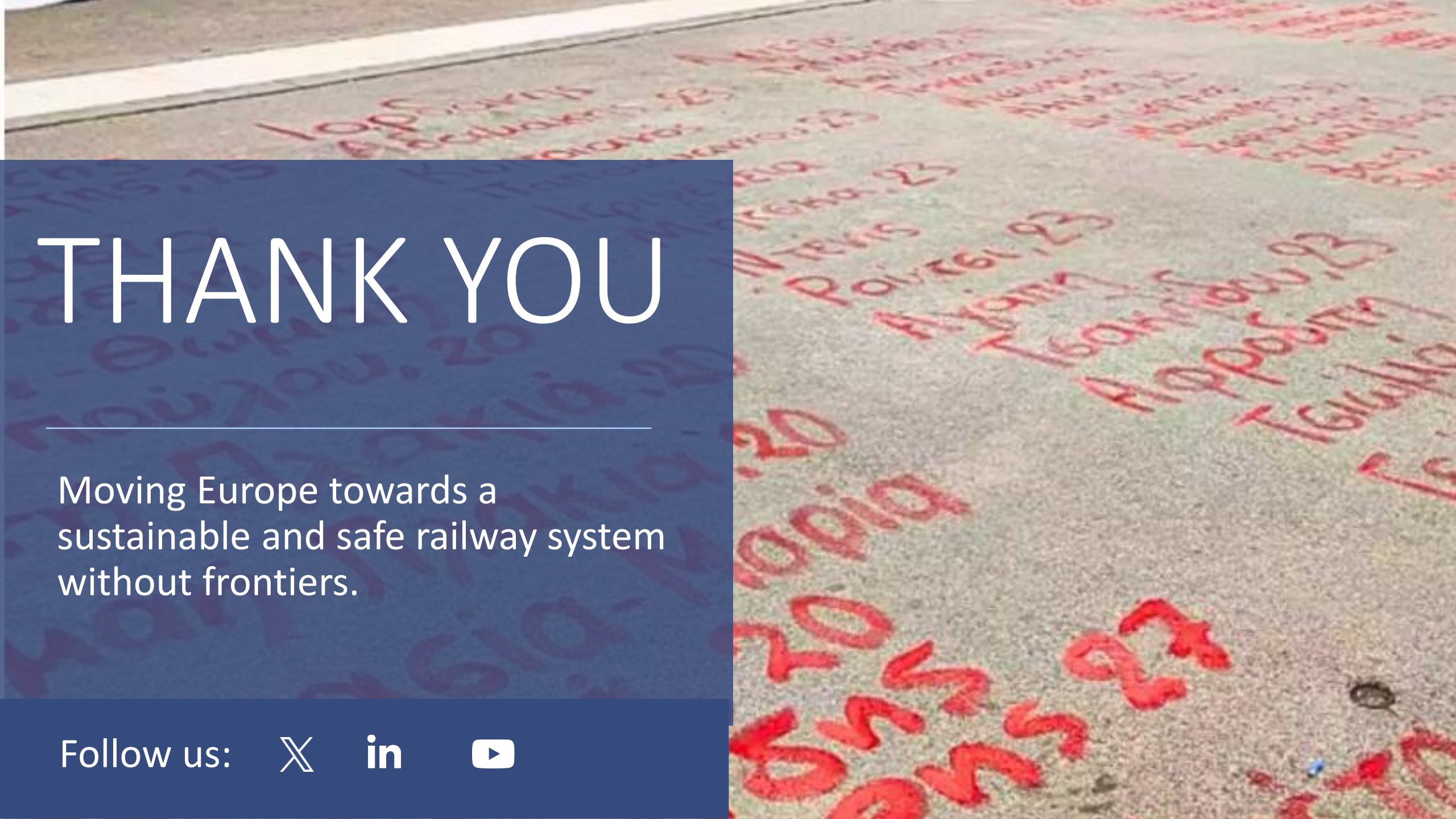
…is only possible if all actors understand and accept their responsibility and correctly implement the existing legal framework. With a central role for Safety Management System (SMS)!

1. control of major risks (i.e. reduction of serious accidents)
2. understanding of workplace reality (incl. local/national diversity)
3. learning from experience (at all levels: operator, sector, MS, EU)
4. integrating safety consistently

All operators understand and accept their responsibility and actively implement a SMS to control the risks of operational activities

Increased performance of and trust in the different safety related control levels in the system

Safety and safety management/ safety performance related data is shared in an open and transparent way



THANK YOU

Moving Europe towards a sustainable and safe railway system without frontiers.

Follow us: