Managing Cyber Risk in the Railway Ecosystem

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2nd ERA-ENISA Conference on Cybersecurity in Railways
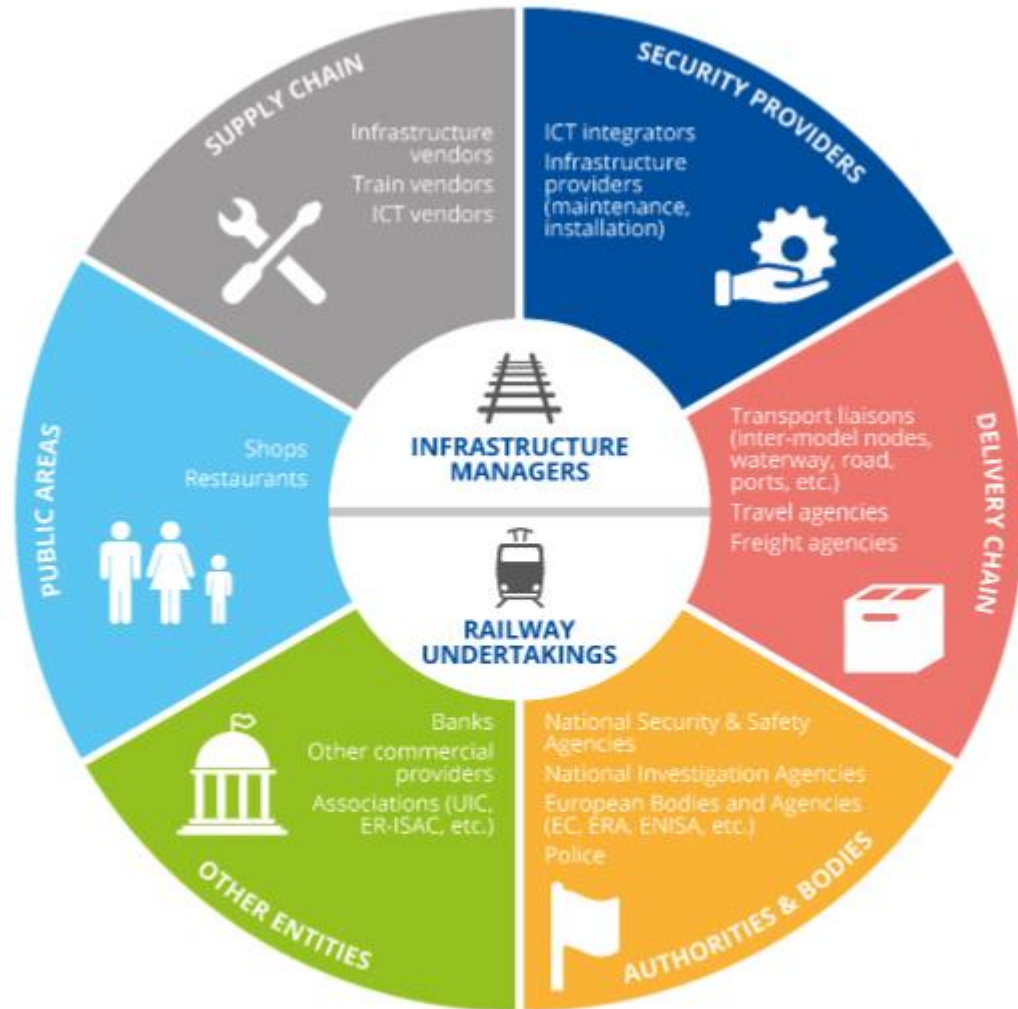
1 December 2022, Lille

Overview

- The railway ecosystem
- Dependencies
- Examples of risks
- European initiatives for cooperation
- Impact of legislation
- Points to be addressed

The Railway Ecosystem

- Railway Undertakings
- Infrastructure Managers
- Manufacturers of rolling stock
- Manufacturers of railway equipment
- ICT service providers
- Manufacturers of ICS/ OT equipment
- Manufacturers of ICT equipment

Source: Enisa report on railway cybersecurity

Depedencies

Network allocation

- Operations planning systems
- Corridors booking systems

Timetable construction

- Staff planning systems
- Resources booking systems

Signaling

- Key Management System
- European Train Control System
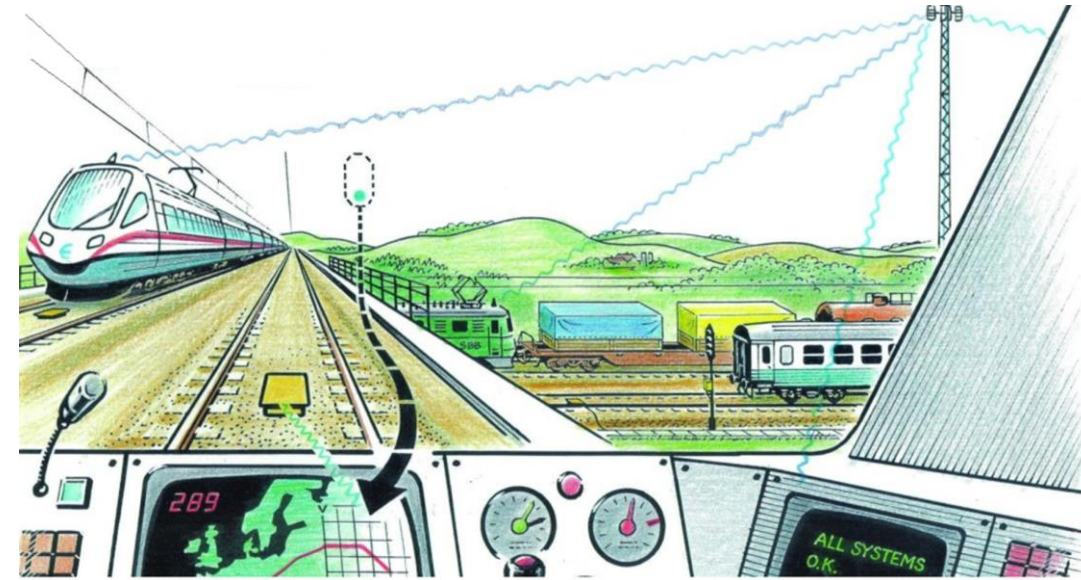- Automatic Train Protection system

Command-Control

- Automatic Train Control system
- Automatic Train Supervision system

Telecom

- Radio Transmission Network
- Wired and Wireless Transmission Network

Source: Enisa report on railway cybersecurity

Risks in the Ecosystem

CER
The Voice of European Railways

Update: Erpresser veröffentlichen erste Dokumente nach Stadler-Rail-Hack

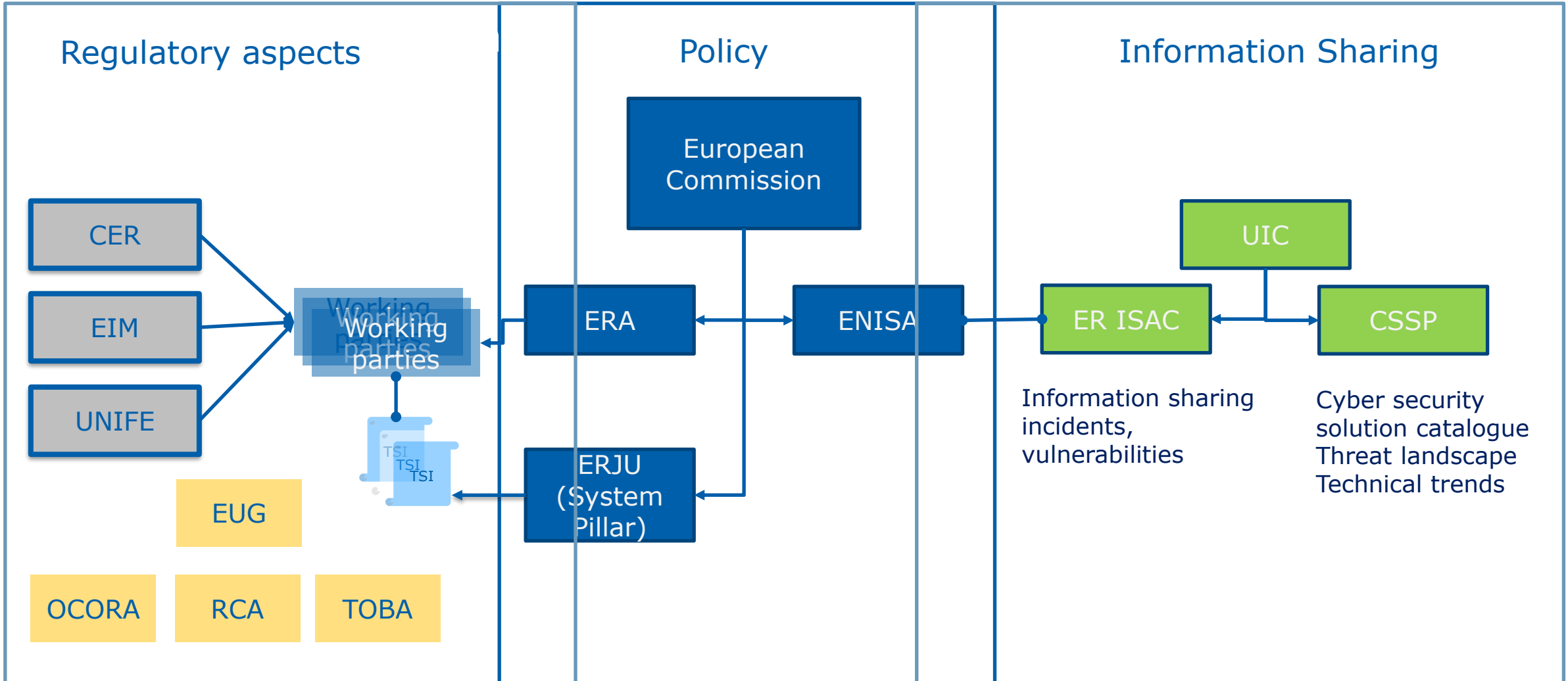Di 02.06.2020 - 11:09 Uhr

Kaseya hack floods hundreds of companies with ransomware

INDLAND

Leverandør lukkede it-system efter sikkerheds-brist, og pludselig stod alle tog i Danmark stille

DSB ser indtil videre ikke tegn på et hackerangreb.

Cooperation at European level

European Legislation

NIS (2)
- Essential entities: Railway Undertakings, Infrastructure Managers, Digital infrastructure, ICT Service Management
- Important entities: Manufacturers of railway locomotives and rolling stock, mechanical and electromechanical signalling, safety and traffic control equipment, computers, electronics, machinery equipment

Cyber Resilience Act: Digital products
- Essential requirements for life cycle and for vulnerability handling
- Critical products (Class I and Class II): stricter conformity assessment
- Conformity: self assessment / certification

Cyber Security Act: Certification Schemes
- EU-CC: Common Criteria
- Cloud Services
- ….

Points to be addressed

- Relation to existing (railway) legislation
- Relation to standardization, including TSIs
- Relation to results of European cooperation
- Classification of products and components

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