

Highlights on EU cybersecurity & rail Policy

08.11.23 | ERA-ENISA Conference, Athens



EUROPEAN
UNION
AGENCY
FOR RAILWAYS

EU Transport Policy for Railways

Improve competitiveness

Bigger market share for rail in order to increase one of the most environment-friendly mode of transport

Efficient public money

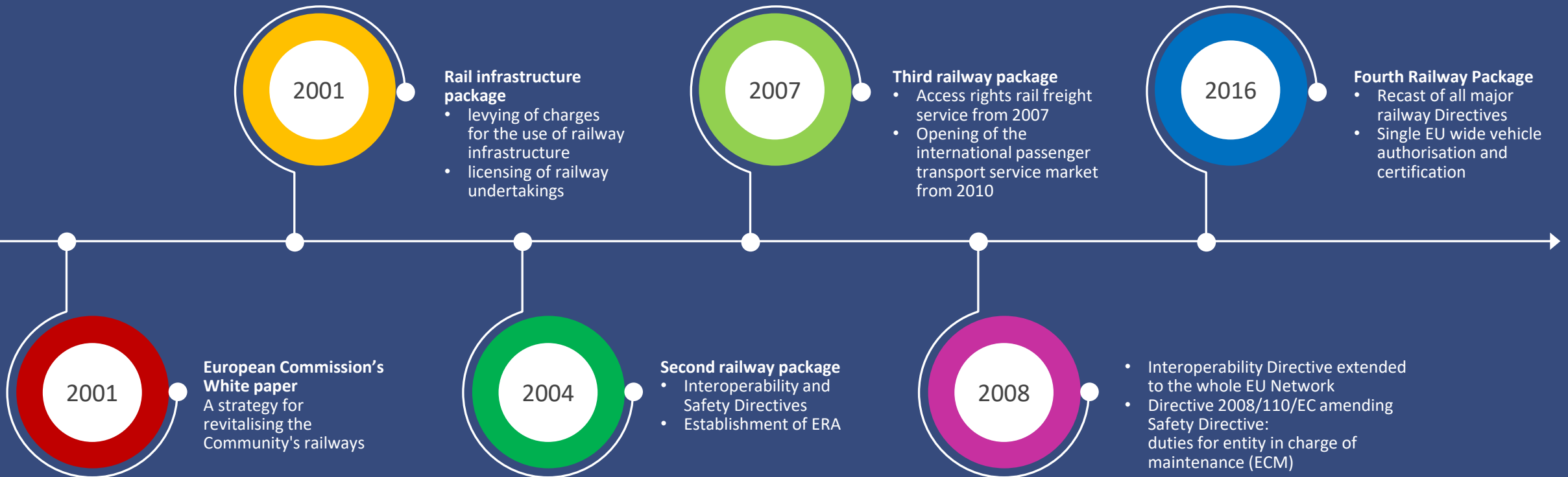
- Reducing administrative and technical barriers
- Ensuring non-discrimination through a better governance of the infrastructure

Open

Competition on domestic rail passenger transport



A timeline of EU Railway Regulation



European Union Agency for Railways

Main tasks

"4th Railway Package" → ERA = Authority for

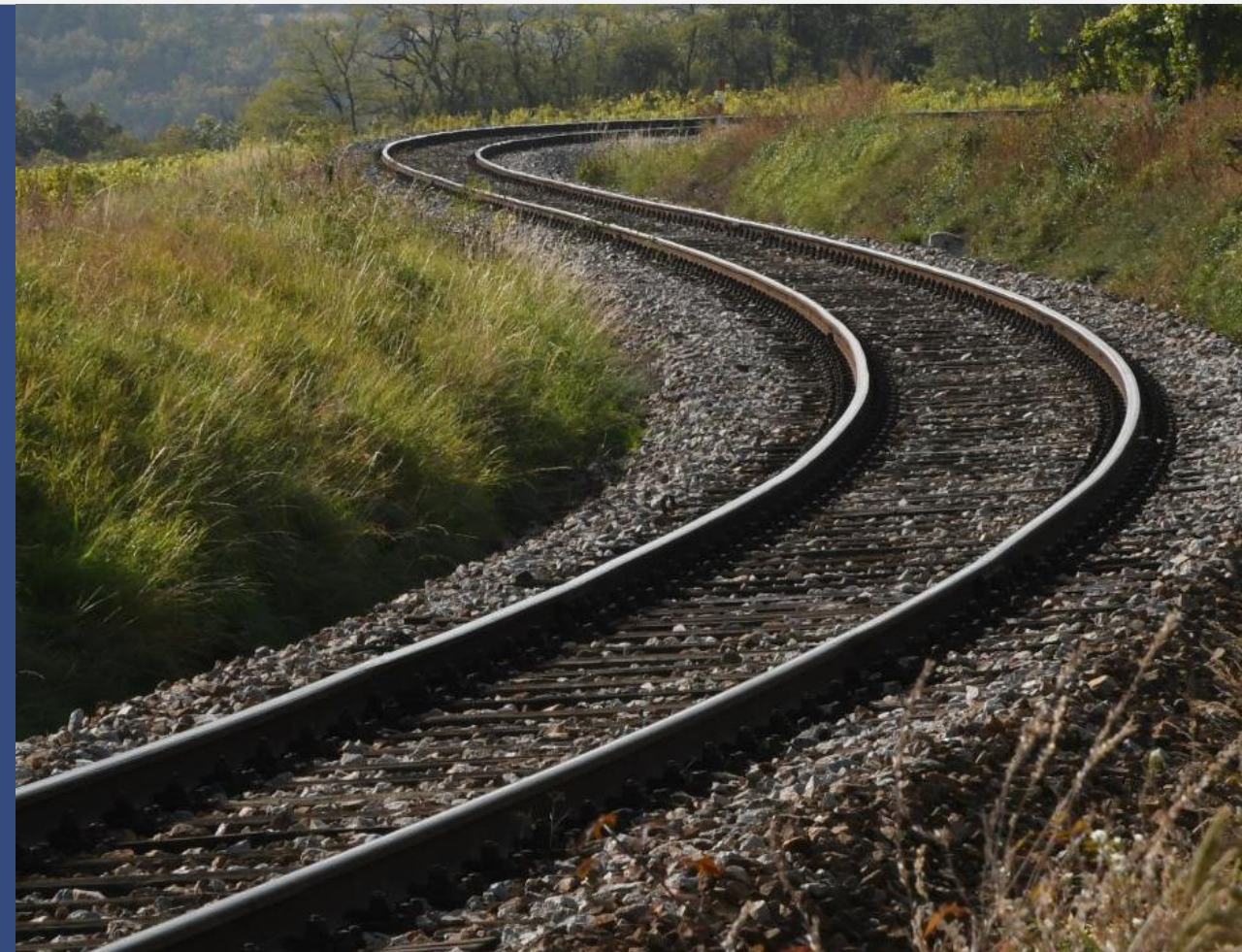
- Single Safety Certificates
- Vehicle (type) Authorisations valid in multiple European countries
- ERTMS Trackside approval

Technical contribution to the EU railway legislation

- Enhancing the level of interoperability of railway systems
→ [Technical Specifications for Interoperability](#)
- Developing a common approach to safety on the EU railway system
→ [Common Safety Methods](#)
- Single European Railway Area without frontiers

Monitoring

- National Safety Authorities, against a compliance scheme or a maturity model
- Notified Bodies



Cybersecurity @ERA

Regulation considerations

- Monitor relevant activities related to **cybersecurity in the railway context**
- Cover safety requirements of the rail system, e.g. the assessment of **safety consequences originated by security threats**
- Reflect the above in **Technical Specifications for Interoperability and Common Safety Methods**

Cooperation building

- Close relationship with **ENISA** and **European Commission**
- Cross-fertilisation with **EASA** and **EMSA** to develop a transport cybersecurity policy
- Dialogue with **National Safety Agencies** (e.g. EPSF, EBA)
- Support **sector-led Information Sharing initiatives**

Ongoing initiatives

IEC/CLC TC9(X)

IEC and CENELEC Standards for risk analysis methodology and recommendations for cybersecurity within the railway sector

LANDSEC RAILSEC

EC Committee on security policy for land transport; Permanent A.I. on Cybersecurity

EU-Rail SP

Draft set of cybersecurity specifications for the system pillar scope; Input for TSIs

UIC CSSP

Cyber Security Solutions Platform
Practical solutions focusing on critical elements of the railway system

ETSI

TC CYBER
Guidance on incident notification; best practices in cyber security risk management

ER-ISAC

IMs/RUs forum for sharing best practices, discuss common vulnerabilities, influence regulation and standardisation

CISO FORUM

Strategic direction to the cyber related activities within EU railway sector

Cybersecurity risk assessment

To cover safety requirements of the rail system, including the assessment of safety consequences originated by security threats

- Security threats based on physical access to assets outside of scope
- ERTMS inherent threats considered
- Safety AND Security Management Systems



Process oriented

Acknowledgement of cybersecurity issues that might influence safety



Rail Standards

Reference to IEC/CENELEC Standards with provisions on cybersecurity: 63452 / 50126, 50129, 50159, 50701



CSM-RA application guide

Reference in the CSM for Risk Assessment Application Guide to Cybersecurity risk assessment



Cybersecurity in CCS TSI

- Currently

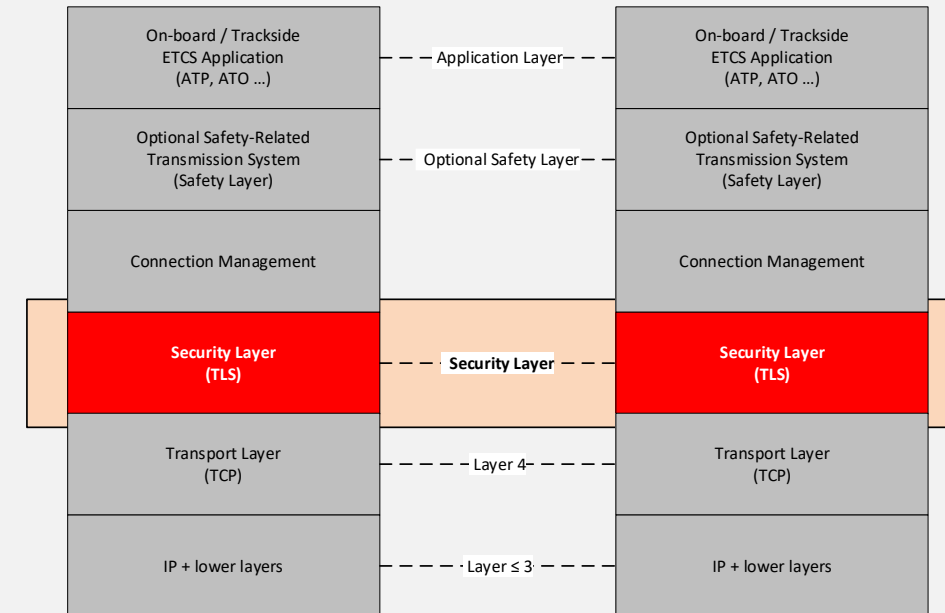
Integrity and authenticity of ETCS messages / Distribution of secret keys between on-board (EVC) & trackside (RBC)

Remote management of keys possible (Subset-137)

New E2E security layer (TLS) for ETCS and ATO (Subset-146)

- Subsequent evolution

EU-Rail input on “Shared Security Services”, “Secure Component” and “Secure Communication”



Cybersecurity in other TSI

Scope of application

Relevance of cybersecurity not pertinent for all TSIs (e.g. Noise)

Guiding principles

High level design requirement versus specific/component requirement

Thorough review needed

Support from rail stakeholders and ENISA

Energy TSI

Infrastructure TSI

Rolling Stock - Locomotives and Passengers TSI

Noise TSI

Rolling Stock - Freight Wagons TSI

Safety in Railway Tunnels TSI

Control Command and Signalling TSI

Persons with Disabilities and with Reduced Mobility TSI

Operation and Traffic Management TSI

Telematics Applications for Passenger service TSI

Telematics Applications for Freight service TSI

ERA-ENISA collaboration





October 2023

Memorandum of Understanding

on increasing cooperation

between

the European Union Agency for Railways (ERA)

and

the European Union Agency for Cybersecurity (ENISA)

I. Preamble

1. The railway sector is currently undergoing a digital evolution that changes its exposure to cyber risks. ENISA and ERA, with their specific competences and mandates in the respective areas, are key actors to provide guidance, methods and information to strengthen the railway sector's resilience and to increase its maturity in this evolving threat landscape.

2. This document is a Memorandum of Understanding ("MoU" or "Memorandum") setting out the objectives and principles for increased cooperation between:

- **ERA**, established by Regulation (EU) 2016/796 of the European Parliament and of the Council¹, represented for the purposes of signature of this Memorandum of Understanding by its Executive Director, Mr Josef Doppelbauer; and
- **ENISA**, established by Regulation (EU) 2019/881 of the European Parliament and of the Council², represented for the purposes of signature of this Memorandum of Understanding by its Executive Director, Mr Juhan Lepassaar;

Hereinafter collectively referred to as "**the Parties**", or individually as "**the Party**".

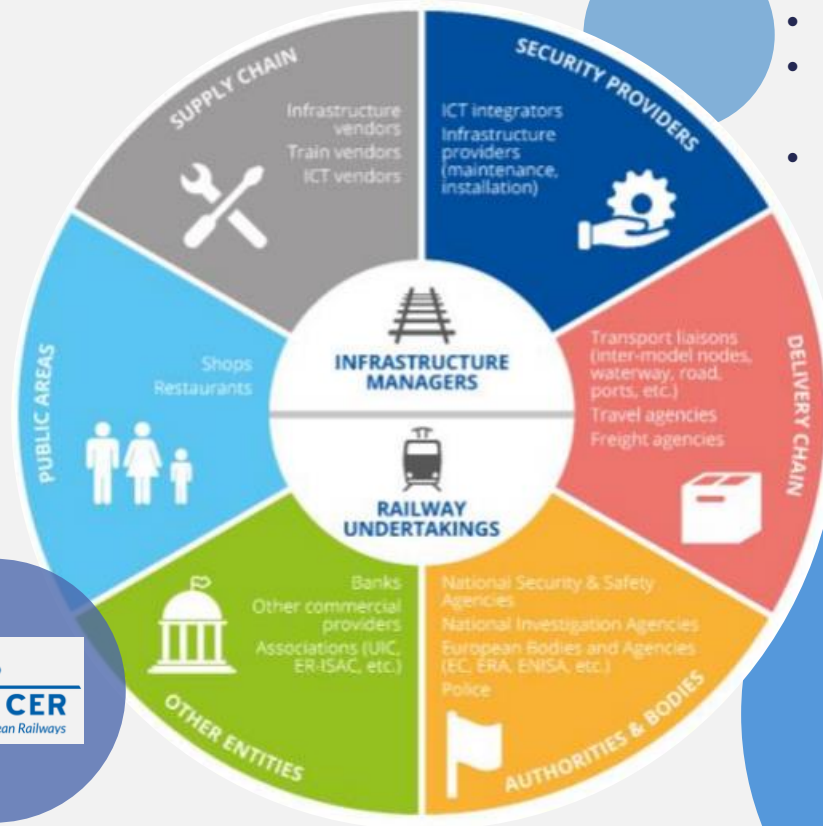
3. This Memorandum of Understanding has been agreed in recognition of the objective of ERA as described in Article 2 of Regulation (EU) 2016/796, and in recognition of the objectives of ENISA as described in Article 4 of Regulation (EU) 2019/881.



Cybersecurity Challenges for Railway

To be considered

- Particularities of railway sector
- Cyber regulation integrated in the existing European rail regulation (CRA mapping)
- Collaboration is key




unife
THE EUROPEAN RAIL INDUSTRY

Financial impact on the European rail supply industry?

Subject to Analysis

ETCS-OB

Euroloop

Eurobalise

RIU

RBC

PKI

KMC



ERTMS
USERS GROUP

To be addressed

- ERTMS security migration roadmap
- Include Guideline to TSI CCS application guide
- Transfer guideline requirements into TSI CCS subsets

Cyber Risk Management

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



CER
The Voice of European Railways



THANK YOU

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

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