TC9X: Electrical and electronic application for railways

WG 26 Status: Railway Applications – Cybersecurity
IT Security in Railway?

- Directive 2016/797 concerning Railway Interoperability
- Directive 2016/1148 concerning measures for a high common level of security of Network and Information Systems across the Union (NIS-Directive)
- NIS is increasingly important to European economy and society.
- NIS is an important precondition to create a reliable environment for Europe wide trade in services.
- Security incidents are becoming bigger, more frequent, and more complex.

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Challenges

• Train-specific challenges need to be addressed
  • Attackers have fairly easy physical access
  • The train is only one part of a diverse eco-system
  • There are safety-critical and non-safety-critical systems on board

• Commercially viable methods for operators, manufacturers and vendors are needed
Regulation context

White Paper

Safety 2016/798

Interoperability 2016/797

Netw and Info Syst 2016/1148

Directive

TSI

LOC&PAS
CCS
INF
ENE
OPE
SRT
TAF
TAP
PRM
NOI

CYBERSECURITY

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Top 5 Critical Societal/Business functions

- According to ENISA
  - Passengers safety and security
  - Transportation safety and security
  - Data protection and privacy
  - Traffic and vehicle management
  - Sustainable urban mobility
Coordination at European level with

Sector Forum Rail (JPC Rail)

Cybersecurity is one of the 4 priority topics of the sector

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Cooperation with standardisation bodies

Not re-invent the wheel but adapt to Rail context

ETSI TC Cyber

IEC TC 65 : IEC 62443-X-Y
ACSEC Guide

ISO/IEC JTC1 : ISO/IEC 27000,
ISO/IEC 15408

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Coordination

- Exchange of information with TD2.11
- Use of IEC Framework
- EUAR : observer
- ENISA : observer
Cybersecurity in TC9X

- May 2014: SC9XA Survey group (SGA16)
- Sep 2016: SC9XA/SGA16 report
- June 2016: Creation of a TC9X – SG24 to investigate and identify the various, varying and intended approaches
- July 2017: Creation of TC9X – WG 26 to produce a Technical specification
  - 60 people registered,
  - 30 people participating
  - Regular meetings and conference calls

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On-going work in WG 26

• Creation of 13 sub-groups including terms and definition, lifecycle, cybersecurity risk assessment, security requirements, acceptance process, operational and maintenance requirements

• Analysis of gaps and parts of IEC 62443 which are not applicable. Keep compliant to the parts 4-1 and 4-2 in order to enable the usage of COTS without having to do new certifications

• Analysis of IEC Guide 120 Security aspects – Guidelines for their inclusion in standards

• Security lifecycle under preparation

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Next steps

• Security requirements
• Acceptance process
• Operational and maintenance requirements
• ...

• Next Meeting 26-27 of September 2018
Thank you for your attention

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