EUROPEAN DEFENCE AGENCY

EUROPEAN DEFENCE AGENCY FOR ERA/ENISA

ALPARSLAN Hannes,
Single European Sky, Aviation Cyber
2022-12-01

INSTITUTIONAL SETTING

JOSEP BORRELL
Head of EDA

+ Vice-President of the European Commission

+ High Representative of the Union for **Foreign Affairs** and **Security Policy**

Jiří Šedivý
EDA CHIEF EXECUTIVE

EDA STEERING BOARD
26 Defence Ministers

EUROPEAN DEFENCE AGENCY

GUIDELINES
REPORTS

FOREIGN AFFAIRS COUNCIL
Foreign /Defence Ministers

PSC
Ambassador level

CHODs

EUMC

EEAS
EUMS - CMPD

CONSULTATION & COOPERATION

REINFORCED MISSION

In May 2017, after EDA's LONG TERM REVIEW,
Defence ministers agreed to reinforce the Agency's role and mission

- as the **main instrument**
  for intergovernmental capability planning & prioritisation in Europe
- as the **prime forum and coordinator**
  for the whole lifecycle of capability development
- as Member States' **central interface & gateway**
  towards EU institutions & stakeholders

Overall Activity

- **Support the EDA SES Military Aviation Board** in **implementing the Military Aviation Strategy in a SES context**

Regulation

Ensure coordinated military inputs from the outset:

- At Strategic level (e.g. SES Reform, performance);
- At technical level (EASA);

Aviation Cyber

Ensure appropriate consideration of Cyber Defence aspects from a military perspective in a SES and wider aviation context.

RPAS ATI

Facilitate RPAS Air Traffic Integration as of 2025.

Technical enablers, regulation, support European MALE Programme.

SESAR & Collaborative projects

- Ensure Civil-Military interoperability/collaboration in the technical domain (e.g. SCC10, SDM, SJU R&D, CNS…).
- Exploit all EU funding opportunities.

SUPPORTING A NETWORK COMPRISING OF 120 EXPERTS FROM STATES

AVIATION – A BRIEF INTRODUCTION

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AVIATION – PRESENT AND FUTURE

a more sustainable and resilient system – better use of data and digitalisation

Today airspace is occupied mainly by traditional manned

Traditional piloted airplanes and rotorcrafts with limited connectivity

Tomorrow, Digital Aviation infrastructure to enable all air operations

Connected airplanes and rotorcrafts, drones, urban air mobility and air taxi and services

New technology – New airspace architecture – EU Green Deal – a sustainable and smart mobility – New data / services providers - New entrants (e.g. Drones and HAO)

RAIL – SOME FINDINGS FROM MY RESEARCH 1/2

ERA - “Moving Europe towards a sustainable and safe railway system without frontier”

Mission Statements:

- ”Rail will be an increasingly safe and secure mode of transport for its users and workers”
- “Rail will be resilient and agile in responding to emergency situations”

EU Rail JU

- ”unified operational concept and a functional, safe and secure system architecture, with due consideration of cyber-security aspects”

SESAR

- “To reform ATM in Europe in order to cope with sustained air traffic growth and operations under the safest, most cost- and flight-efficient and environmentally friendly conditions”

SESAR JU

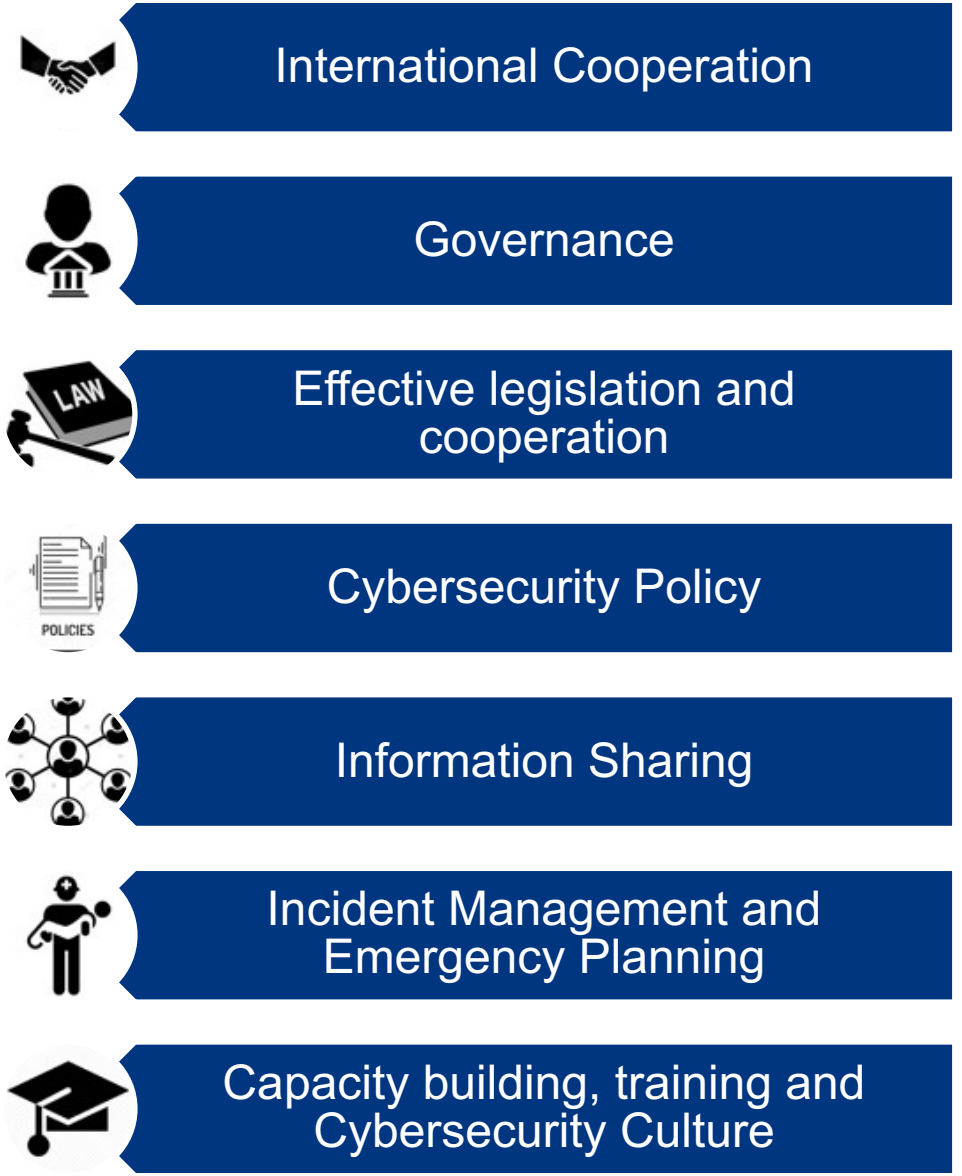
- “Delivering the Digital European Sky”

RAIL – SOME FINDINGS FROM MY RESEARCH 2/2

- Directive 2016/1148 (NIS), transport sector, OES → NIS 2.0
- Non-harmonised regulatory / standards landscape for cybersecurity
- Operational requirements / market competition can be detrimental to cybersecurity
- Varying maturity of cybersecurity within rail supply chain, especially for OT systems
- Legacy systems / geographic distribution a challenge for cybersecurity
- Lack of cybersecurity awareness, security culture and Safety vs. Security
- Adapted risk management / risk assessment for cybersecurity

AVIATION – WHAT ARE WE DOING 1/4

- 2011, ICAO: Aviation Security Manual
  - "Cyber threats to critical aviation information and communication technology systems"
- Introduced new recommended practice in ICAO Annex 17 Aviation Security:
  - "Each Contracting State should develop measures in order to protect information and communication technology systems used for civil aviation purposes from interference that may jeopardize the safety of civil aviation"
- Q4/2022: Establishment of the ICAO Cybersecurity Panel
  - Support the development and implementation of the Cybersecurity Action Plan



AVIATION – WHAT ARE WE DOING 2/4

Amendment of the EASA Basic Regulation to address cyber risks for safety

- 2016, EASA ESCP – European Strategic Coordination Platform for Cybersecurity in Aviation
  - development of a rule for cybersecurity for aviation
  - international coordination from the outset
  - applicable to all aviation organisations / approved organisations (airport, MRO, DAH, etc.)
  - publication of DR Part-IS completed, publication of IR Part-IS expected 2022

- Development of AMC / GM (ongoing)
  - Requirements for Competent Authorities / Organisations
  - Topics: **ISMS** including Risk Assessment, Risk Treatment, Incident Management, Personnel Requirements, Continuous Improvement

AVIATION – WHAT ARE WE DOING 3/4

Collaborative standards development with EUROCA WG-72 / RTCA SC-216

- WG-72 – Aeronautical Information System Security

ER-013A	Glossary	ED-201A	AISS Framework Doc.
ED-202A/DO-326A	Airworthiness Secuirty Process Specification	ED-203A/DO-356A	Airworthiness Security Methods/Considerations
ED-204A/DO-355A	InfoSec Guidance for CAW	ED-205A/DO393	ATM/ANS Ground Systems
ED-206/DO-392	ISEM	ED-ISMS	ISMS
ED-DSEC	Aviation Data Security		

Members include representatives from

National Aviation Authorities	Regulators (EU, US, CA)	Cybersecurity entities
Aerospace industry	Military	Airlines, airports, ATM/ANS

AVIATION – WHAT ARE WE DOING 4/4

ECSCG – European Cybersecurity for aviation Standards Coordination Group

- Joint coordination and advisory group to coordinate standardisation activities across Europe
- Established in 2018
- Advises EC and EASA on cyber security standardisation matters
- Develops, monitors and maintains Rolling Development Plan (RDP) identifying all relevant standards
- Identifies gaps and avoids overlaps between SDOs

SOME CONCLUSIONS / RECOMMENDATIONS / SUGGESTIONS

No doubt: Rail has their specific needs and requirement but …

- … understand that aviation and rail are similar in the context of cybersecurity
- … look if others with very similar needs and requirements are facing similar challenges and join forces
- … consider cooperation and collaboration on cybersecurity from the outset, within and beyond EU to support an international approach and solutions to regulation, standardisation and information sharing
- … develop programmes to improve cybersecurity awareness and education at all levels
- … support organisations to have appropriate resources in place to address cybersecurity
- … consider that entities of the railway stakeholder system have different needs, capabilities and means when it comes to cybersecurity
- ... consider that coordination and cooperation with other stakeholders from transport will be essential, for example in case of a large-scale cyber crisis

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Q&A

ECCSA
European Centre for Cyber Security in Aviation
Supported by EASA

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TLP:CLEAR
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ALERT
Date: 14/09/2022

Cyber-attack forces Albanian Government to shut down border control systems at airports

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TLP:CLEAR
Information may be distributed without restriction

ALERT
Date: 15/09/2022

Chinese government hackers using 'diverse' toolset to target Asian Government-owned aerospace and defense companies

AVIATION CYBERSECURITY NEWS

North Korean HIDDEN COBRA Hackers used 'Torisma' spyware against aerospace sector
From The Hacker News (11.05.2020)
Ravie Lakshmanan

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ALERT
Date: 05/09/2

China says US hacked aeronautics, space research university

he United States

Colonial Pipeline blames ransomware for network shutdown

Colonial Pipeline says it transports 45 percent of East Coast fuel supply.

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ALERT
Date: 29/09/2022

American Airlines Data Breach Linked to a Phishing Campaign Exposed Sensitive Customer and Employee Personal Information