Cybersecurity at UITP

Miryam Hernandez

- About UITP
- The road towards a Committee
- Reports
- Coming up: Priority topics 2023-2025
- Continue the conversation… join us in Barcelona

WHO WE ARE

We are the only **worldwide network** to bring together all public transport **stakeholders** and all sustainable transport **modes**.

+1,900
MEMBER COMPANIES

FROM
100
COUNTRIES

13
OFFICES

WHAT WE DO

ADVOCACY

We engage with **decision makers** and key **international organisations** to promote sustainable mobility solutions.

KNOWLEDGE

We inspire **excellence** and innovation by generating cutting-edge **knowledge** and expertise.

NETWORKING

We bring people together to **exchange** ideas, find solutions and forge **partnerships**.

CONCRETELY…

We release **publications** & **statistics**

We lead **knowledge** and **innovation** via Committees and projects

We organise **events**, bringing together the public transport community

We deliver **training sessions**

We safeguard and promote our sector and the **benefits of public transport**

We **advocate** with and for our members
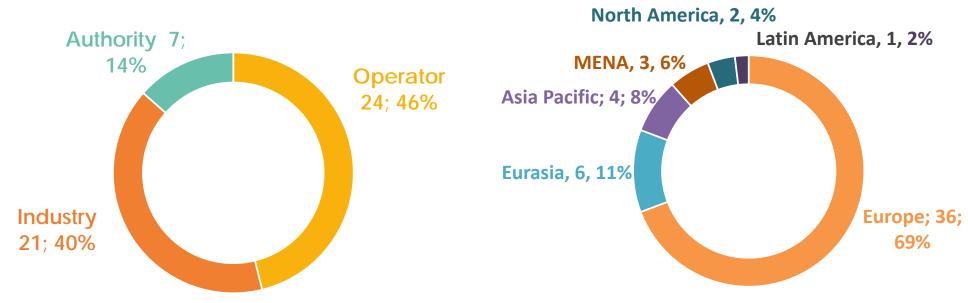
…and much more!

THE WORKING BODIES

The UITP working bodies are organised by Divisions and Committees.

REGIONS
DIVISIONS

- Africa
- Asia-Pacific
- Eurasia
- Europe
- Latin America
- MENA
- North America

STAKEHOLDERS
DIVISIONS

- Bus
  - Bus *committee*
  - Trolley Bus *committee*
- Industry
  - Exhibitions *committee*
  - IT & Telecommunications *committee*
  - Vehicles & Equipment *committee*
- Light Rail
- Metro
- Organising Authorities
- Regional & Suburban Railways
- Taxi & Ride-hailing
- Waterborne

THEMES
COMMITTEES

- Automated Mobility *Working Group*
- Business & HR
- Combined Mobility
- Cybersecurity
- Design & Culture
- IT & Innovation
- Informal Transport *Working Group*
- Marketing
- Research in Mobility
- Security
- Sustainable Development
- Transport Economics
- Transport & Urban Life

THE CYBERSECURITY COMMITTEE

A Transversal Committee: Operators, Authorities and Industry

- 37 member companies; constituting a network of 52 experts
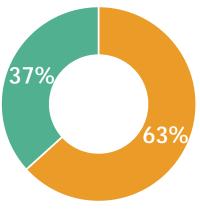- Metro, light rail, rail and bus networks & industry players represented
- 20 countries

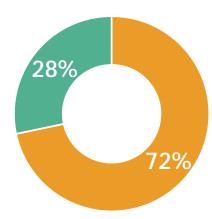# Cybersecurity within UITP - Road towards a Committee

TOP PRIORITIES FOR METROS (SURVEY 2016)

Together, they represent

The UITP
Metro Division is

93

METRO
OPERATING
COMPANIES

37%

63%

2/3

WORLD's METRO
INFRASTRUCTURE*

358 LINES
7150 KM
6160 STATIONS

28%

72%

3/4

WORLD's METRO
PASSENGERS *

35 850 BILLION
PASSENGERS / YEAR

* Reference data: 2015 Metro Statistics Brief

UITP

TOP PRIORITIES FOR METROS (SURVEY 2016)
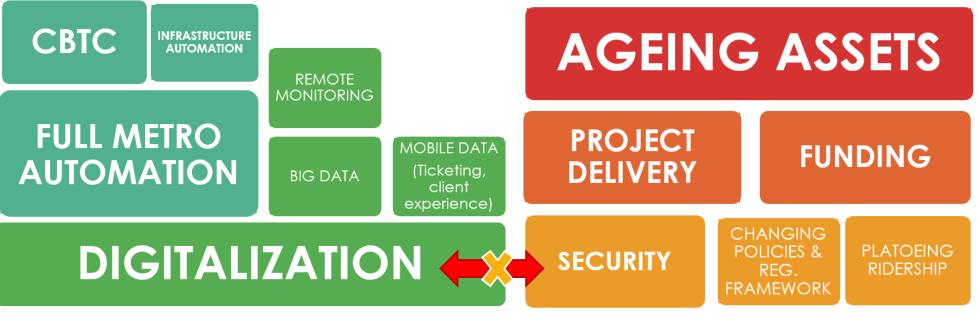
INNOVATIONS – GREATEST POTENTIAL IMPACT

CBTC

INFRASTRUCTURE AUTOMATION

REMOTE MONITORING

FULL METRO AUTOMATION

BIG DATA

MOBILE DATA (Ticketing, client experience)

DIGITALIZATION

TOP 5 TRHEATS & CHALLENGES

AGEING ASSETS

PROJECT DELIVERY

FUNDING

SECURITY

CHANGING POLICIES & REG. FRAMEWORK

PLATOEING RIDERSHIP

UITP

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UITP

SINCE 2016…

KNOWLEDGE BRIEF

DIGITALISATION IN PUBLIC TRANSPORT: IMPLEMENTING PREDICTIVE ASSET MAINTENANCE

MARCH | 2020

REPORT

LARGE SCALE BUS ELECTRIFICATION NEW CHALLENGES FOR IT SYSTEMS

JULY | 2022

REPORT

ARTIFICIAL INTELLIGENCE IN MASS PUBLIC TRANSPORT

MOVING FORWA ARTIFICIAL INTE IN PUBLIC TR

THE INTERNET OF IN PUBLIC TRA

REPORT

DISTRIBUTED LEDGER TECHNOLOGY IN PUBLIC TRANSPORT: USE CASES FOR BLOCKCHAIN

MARCH | 2022

SINCE 2016…

Intelligent PT related interactions in terms of data exchange between stakeholders
ENISA Cyber Security for Smart Cities

"What public transport needs is not just digital tools, but a digital transformation. That may have impacts on the provision of services, the business model, on the way we manage people and the relationship with passengers."
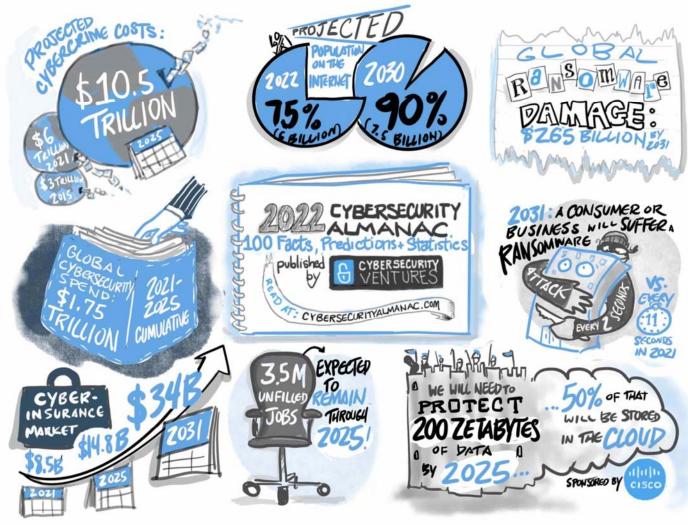
Mohamed Mezghani
UITP Secretary General*

SINCE 2016…
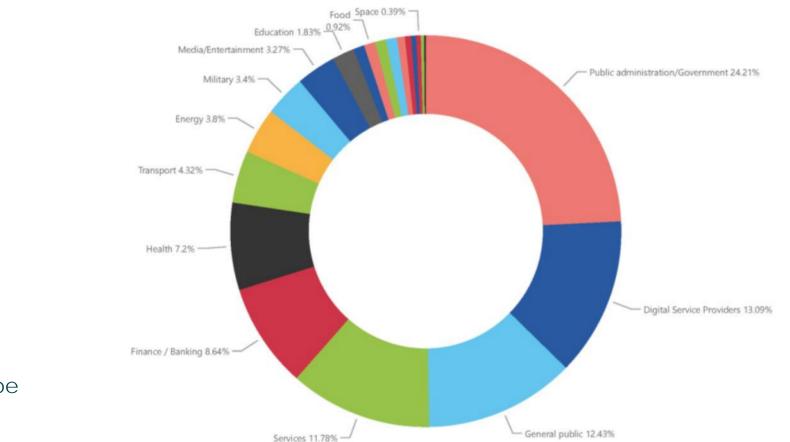
Source: Cybersecurity Almanac
2022 Infographic
Cybersecurity Ventures

CYBERSECURITY & THE TRANSPORT SECTOR
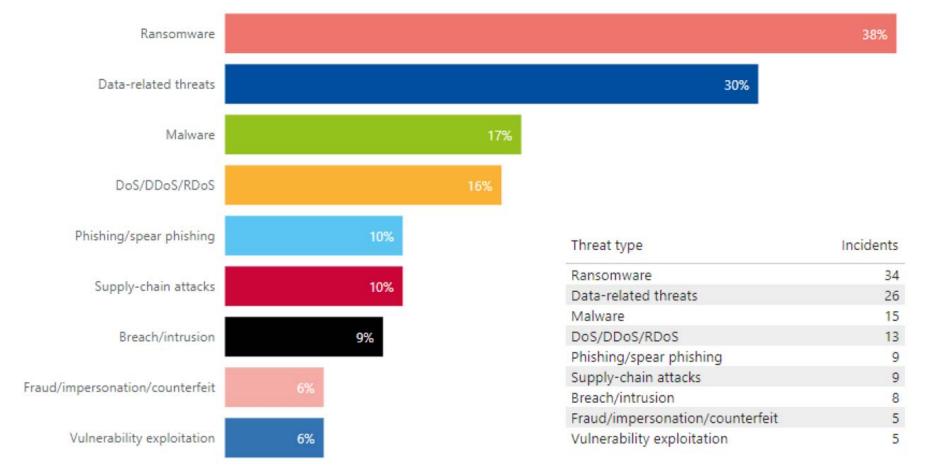
Figure 4: Targeted sectors per number of incidents (July 2021-June 2022)
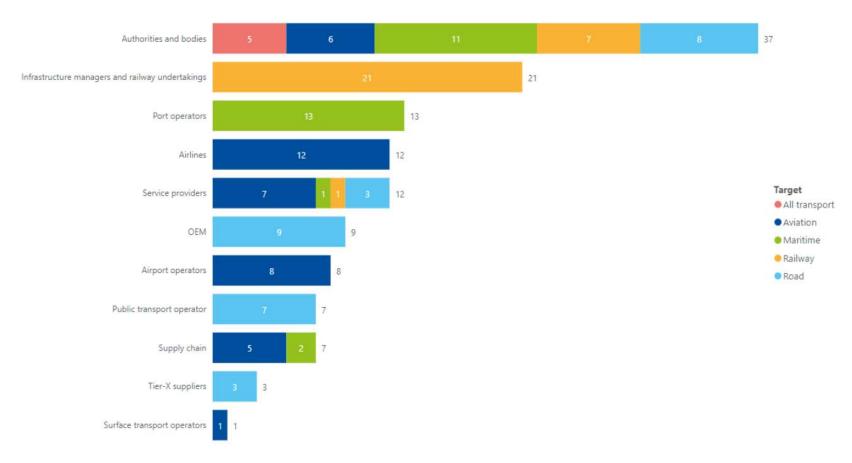
- Food 0.92%
- Space 0.39%
- Education 1.83%
- Media/Entertainment 3.27%
- Military 3.4%
- Energy 3.8%
- Transport 4.32%
- Health 7.2%
- Finance / Banking 8.64%
- Services 11.78%
- General public 12.43%
- Digital Service Providers 13.09%
- Public administration/Government 24.21%

ENISA – Threat landscape 2022

CYBERSECURITY & THE TRANSPORT SECTOR

ENISA – Threat landscape transport sector March 2023

Threat type	Incidents
Ransomware	34
Data-related threats	26
Malware	15
DoS/DDoS/RDoS	13
Phishing/spear phishing	9
Supply-chain attacks	9
Breach/intrusion	8
Fraud/impersonation/counterfeit	5
Vulnerability exploitation	5

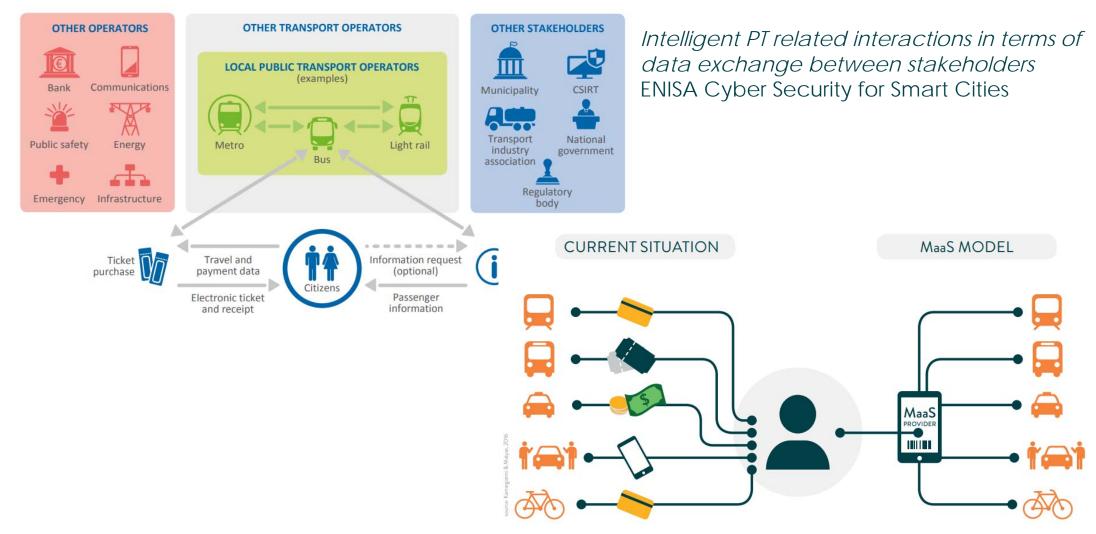# CYBERSECURITY & THE TRANSPORT SECTOR

ENISA – Threat landscape transport sector March 2023

"What public transport needs is not just digital tools, but a digital transformation. That may have impacts on the provision of services, the business model, on the way we manage people and the relationship with passengers."


Mohamed Mezghani
UITP Secretary General*

" *We need to invest in Cybersecurity. When we only put the money in the nice things in digitalization but not on security, we are only making ourselves weaker*"

TOWARDS A CYBER SECURITY COMMITTEE

- Originally task given to ITSI/ITI to investigate and report on Cyber Security, then asked for a paper

- In 2017 Action Points on Cyber Security – paper published

- Policy Board asks ITSI to form Cyber Security WG

- 2018 Cyber Security WG formed

- 2019 WG moved SecCom

- 2020 Established 7 technical groups

- 2021 added 3 new WG

- 2022 Upgraded to Committee

IMPORTANCE & RELEVANCE OF CYBERSECURITY

1. **Digital transformation of PT and Cybersecurity**

   - Managing cybersecurity is key for a successful digital transformation of the sector

   - Cyber attacks will not stop and will become an increasing threat in the future

2. **Cybersecurity is critical topic for all committees of UITP:**

   - interest of members was assessed through participation and presentation of the working group to other committee meetings

3. **Cybersecurity in UITP**

   - A dedicated Committee to Cybersecurity:

     ✓ signals that UITP recognizes the importance of the topic for the sector

     ✓ increases awareness of members

     ✓ allows a long-term focus and attracts top level expertise

     ✓ avoids duplication of efforts and increases efficiency

Cybersecurity within UITP - Reports

COMPLETED UITP REPORTS - CYBERSECURITY

	Action points: Cybersecurity in Public Transport First UITP "call for attention & action" on the topic. It's a general 7 page document, raising awareness on risks, calling on Cybersecurity to become a board-level issue, and issuing a list of recommendations. *An Action Points report provides recommended actions for the sector on a specific topic. Action Points are approved by UITP policy board & is publicly available.* Available to UITP members in MyLibrary (here ; requires login)	2017
	Obsolescence on operational environment and cybersecurity Guidelines for practical solutions to handle the cybersecurity vulnerabilities arising from the obsolescence of commercial software considering the specificities of the public transport sector Available to UITP members in MyLibrary (here; requires login)	2020

COMPLETED REPORTS - CYBERSECURITY

Wireless networks and cybersecurity Study of cybersecurity vulnerabilities (including jamming) in wireless networks used and to be deployed, (for example: configuration, separation of the systems, standards used, devices) and mitigation models and techniques. This applies to the transportation network as well as to the companies' operations. Available for UITP members on MyLibrary (here; requires login)	2021
Guidelines for operators and authorities, with a comprehensive set of tools and good practices that can be adopted in procurement process to ensure that cybersecurity objectives are met. Available publicly at UITP website (requires providing contact information) and to UITP members on MyLibrary (here)	2023

WORK PROGRAMME 2022-23

Cybersecurity requirements for operators and authorities in public transport tenders

Guidelines for operators and authorities, with a comprehensive set of tools and good practices that can be adopted in procurement process to ensure that cybersecurity objectives are met. Covers:

- Analysis of gaps in understanding between PTOs and suppliers
- Classification of systems – OT and IT
- Regulation and Legal Frameworks
- Procurement and Specification Framework
- Information Security System Specification
- Cybersecurity Technology Specification
- References and Examples – bus and rail

Status: Published January 2023
- Side event presentation @ UITP Summit
- Development of training session(s) to integrate UITP Training portfolio

WORK PROGRAMME 2022-23

- **Preparing Current Mobility Systems (OT) against Cyber Threats** –

  UITP Cybersecurity Guide for small to medium public transport operators – designed for companies to understand, take action and increase resilience against cyber-security threats.

  Status: Ongoing

- **Risk Assessment Tools** –

  UITP Cybersecurity Guide for Public Transport Operators covering tools and good practices for Risk Assessment of cybersecurity threats. Two separate methodologies: Small / Large operators

  Status: Ongoing

- **Insurance policies** –

  UITP Cybersecurity Guide to provide a best proactive methodology to guide PTOs in assessing and procuring cyber-insurance

  - Status: On pause – Expected reopening Q3 2023 (awaiting completion of Risk Assessment report)

Cybersecurity within UITP - Coming up…

Future priorities 2023-2025

PRIORITIES & WORK TOPICS 2023-25

PROPOSAL – Tbc at June 2023 Cybersecurity Committee meeting:

➢ **Development of strategic partnerships**
  ➢ Identification & development of MoU with key stakeholder organizations in the sector
  ➢ in alignment with the mission, vision of the Committee & with linked to priorities of the 2023-25 work programme

➢ **Review 2017 Action points: Cybersecurity in Public Transport**
  Define a Cybersecurity structural approach covering the Four pillars of Cs:
  ➢ Governance risk and compliance
  ➢ Operational Cs
  ➢ Network security
  ➢ Training

➢ **Risk governance: how to manage cybersecurity risks**
  ➢ Risk appetite
  ➢ Insurance policies
  ➢ Vulnerability management
  ➢ Business continuity & recovery crisis management – cyber safety
  ➢ The role of the CISO

UITP

PRIORITIES & WORK TOPICS 2023-25

- **Understanding the impact of Cybersecurity legislation on the PT Sector**
  - EU: NIS2 & Cyber Resilience Act
    - Briefings, monitoring & lobbying (if needed) in cooperation with UITP EU Department
    - Cooperation/MoU with ENISA
  - North America
    - Cooperation with APTA
  - Other world regions
    - Liaising with national PT Associations (when relevant/existing)

- **Development of cybersecurity standards for the PT Sector**
  - Monitoring; contribution of expertise
  - IEC & ENISA (TS50701 - adaptation to all PT modes)
  - ITxPT
  - …

PRIORITIES & WORK TOPICS 2023-25

➤ **Training portfolio: Cybersecurity awareness & capacity building**
  - ➤ Survey to identify members' cyber training gaps & needs
  - ➤ Creation of a WG to build further, more specialised trainings
  - ➤ Cybersecurity Committee reports as a basis for the UITP Training portfolio on Cybersecurity

➤ **Contribution to UITP's KEY TOPIC for 2023-24 (identified by UITP Boards in Jan'23): WORKFORCE CHALLENGES**
  - ➤ How to involve more people into cybersecurity in PT?
    - ➤ Cooperation with BHRMC
    - ➤ Workshop session: challenges of building up cybersecurity workforce

LET'S CONTINUE THE CONVERSATION…

LET'S CONTINUE THE CONVERSATION…

➢ Security of critical infrastructure and public transport: A strategic cooperation (Monday 5 June; 13h00)

➢ Innovation Spotlight Session (Expo): Cybersecurity Guidelines in Tendering Public Transport systems (Monday 5 June; 15h30)

➢ How to build better resilience in order to protect our OT systems (Monday 5 June; 16h30)

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