CitySCAPE: City-level Cyber-Secure Multimodal Transport Ecosystem

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Cybersecurity
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Project at a Glance

o **Call identifier**: H2020-SU-DS-2019

o **Topic**: SU-DS05-2018-2019 - Digital security, privacy, data protection and accountability in critical sectors

o **EC Funding:** 4.998.057,88 €

o **Duration**: 36 months

o **Consortium**: 15 partners

o **Coordinator:** Institute of Communication and Computer Systems (ICSS), Greece – Dr. Angelos Amditis (a.amditis@iccs.gr)

o **Learn more**: www. cityscape-project.eu

o **Join us**: @EUCityscape   CitySCAPE Project

Cybersecurity and multimodal transport: The Challenges

o Realization of truly interconnected transport systems

o Need for globally cyber-secure systems

o The mosaic of ICT services integrated over interconnected infrastructures makes it increasingly vulnerable to cyber-attacks

o Personal hand-held devices of users increase the system's attack surface

o Transport services relate to other NIS Directive areas that scale-up relevant cybersecurity and security-assurance challenges.

o Authorities' collaboration is needed

CitySCAPE Objectives

- **Enhance** cybersecurity technologies in the multimodal passenger transportation ecosystem at city-level addressing users and data privacy concerns

- **Introduce** risk analysis tools to identify threats and their propagation mechanism focusing on transport/ digital infrastructure but also relevant in other NIS Directive critical sectors and assess the impact of a potential attack

- **Improve** the proactive approach of handling cybersecurity challenges and actively contribute to the predictability of threats in (regional) multimodal transport systems

- **Enhance** end-user engagement towards the definition and provision of multimodal passenger transport requirements about digital security, privacy and personal data protection

CitySCAPE Objectives

• Further **strengthen** the role of CERTs/CSIRTs by providing them with direct/real-time informative notifications about observed cybersecurity incidents and facilitate the collaborative investigation of incidents in line with the NIS Directive

• Significantly **contribute** to multimodal transport standards and gain experimental evidence on the feasibility of security labelling in city-level multimodal transport

• **Showcase** and **validate** the CitySCAPE solution efficiency in large scale pilot demonstrators involving all relevant entities and digital infrastructure of transport providers, under use cases of interest

• **Analyze** and **outreach** the multimodal transport security market to maximize the CitySCAPE footprint and exploitation.

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CitySCAPE Solution

CitySCAPE introduces innovative risk analysis techniques and orchestrates a number of software solutions to realize an interoperable toolkit that seamlessly integrates to any multimodal transport system.

More specifically, the CitySCAPE software toolkit will:

➢Detect suspicious traffic-data values and identify persistent threats

➢Evaluate an attack's impact in both technical and financial terms

➢Combine external knowledge and internally-observed activities to enhance the predictability of zero-day attacks

➢Instantiate a networked overlay to circulate informative notifications to CERT/CSIRT authorities and support their interplay.

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CytySCAPE Solution

Risk analysis and impact assessment engine

Financial impact assessment engine

Collaborative threat investigation platform

CitySCAPE

Training

IDS/IPS engines

SIEM as a Correlation engine with backlog of markers
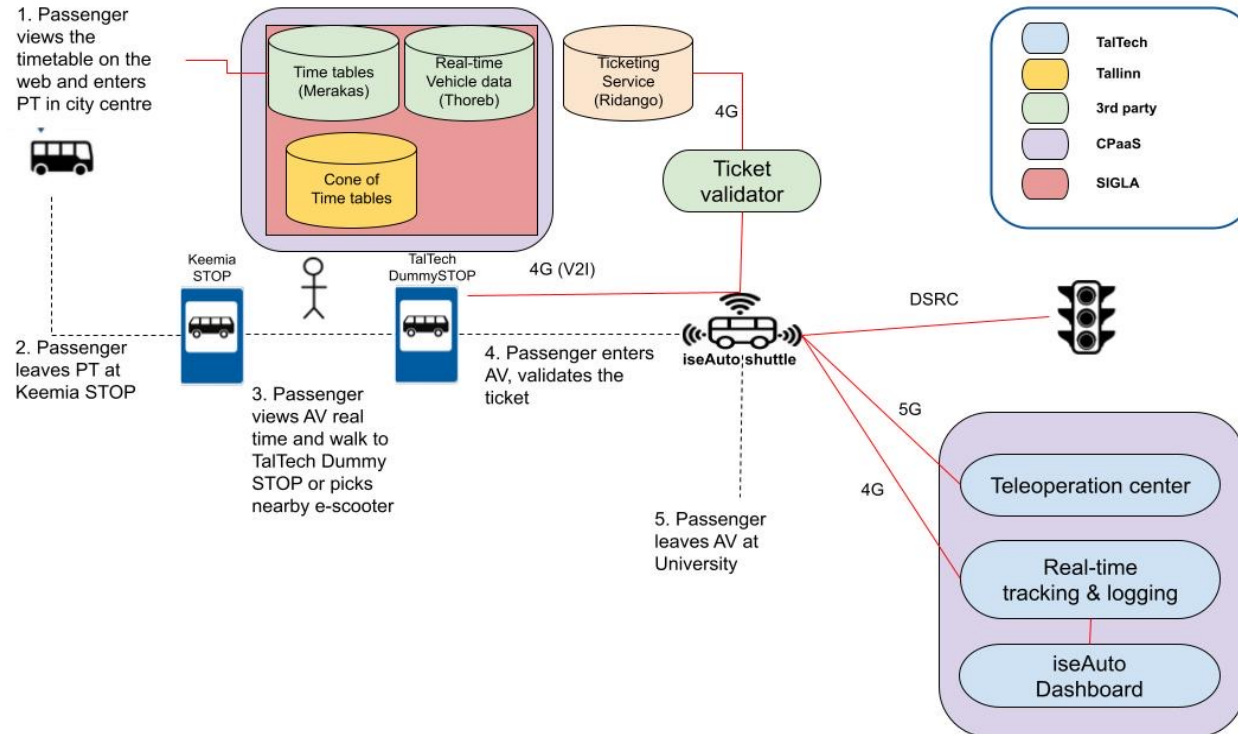
Collaborative security incident response platform

Use Cases-Tallinn

- Last-mile extension/Mobility-as-a-Service (MaaS)
- Journey Planning
- Ticket Validation
- Real-Time Information
- Last-Mile Extension Transitioning

- Adaptive Traffic Management
- Intersection Pass-through
- Intersection Stop

Use Cases-Genova

- Info mobility
- ➤ Waiting time at the stop
- ➤ Service schedule
- ➤ Waiting time to the next train
- ➤ Metro station
- ➤ Notifications to passengers on service update

- Ticketing
- ➤ Ticket from the mobile app
- ➤ CityPass subscription dematerialization
- ➤ Using urban train with CityPass subscription
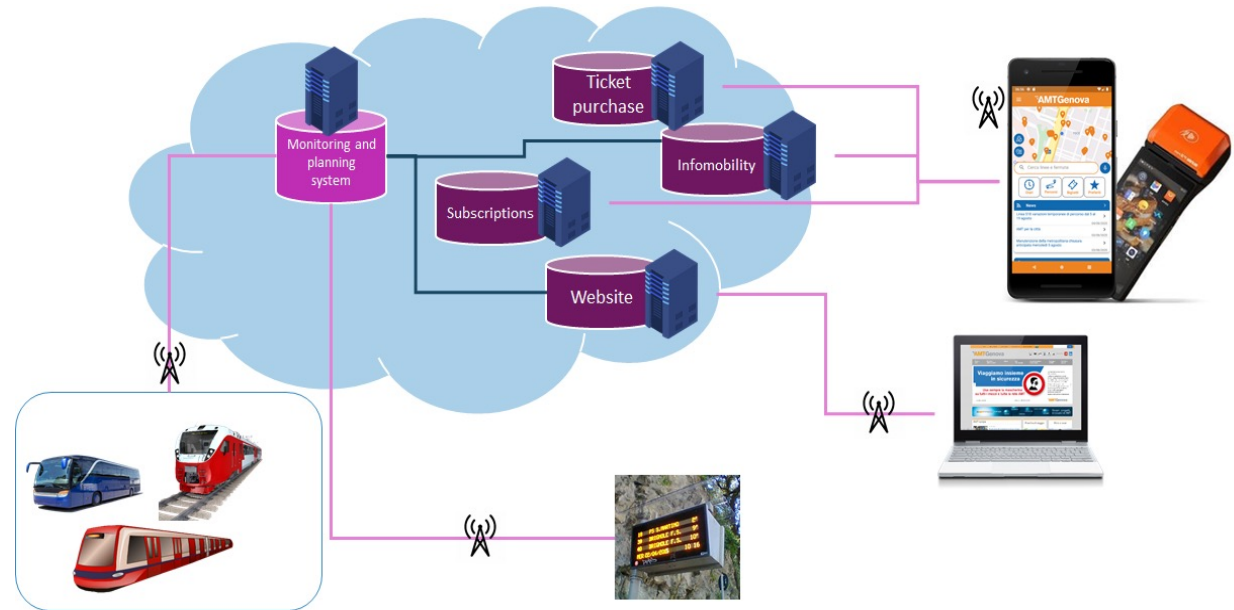
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Any questions?

Thank you!

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