Novinky v oblastech grantových projektů s účastí IMA

Jiří Havlík
Michal Kašpárek

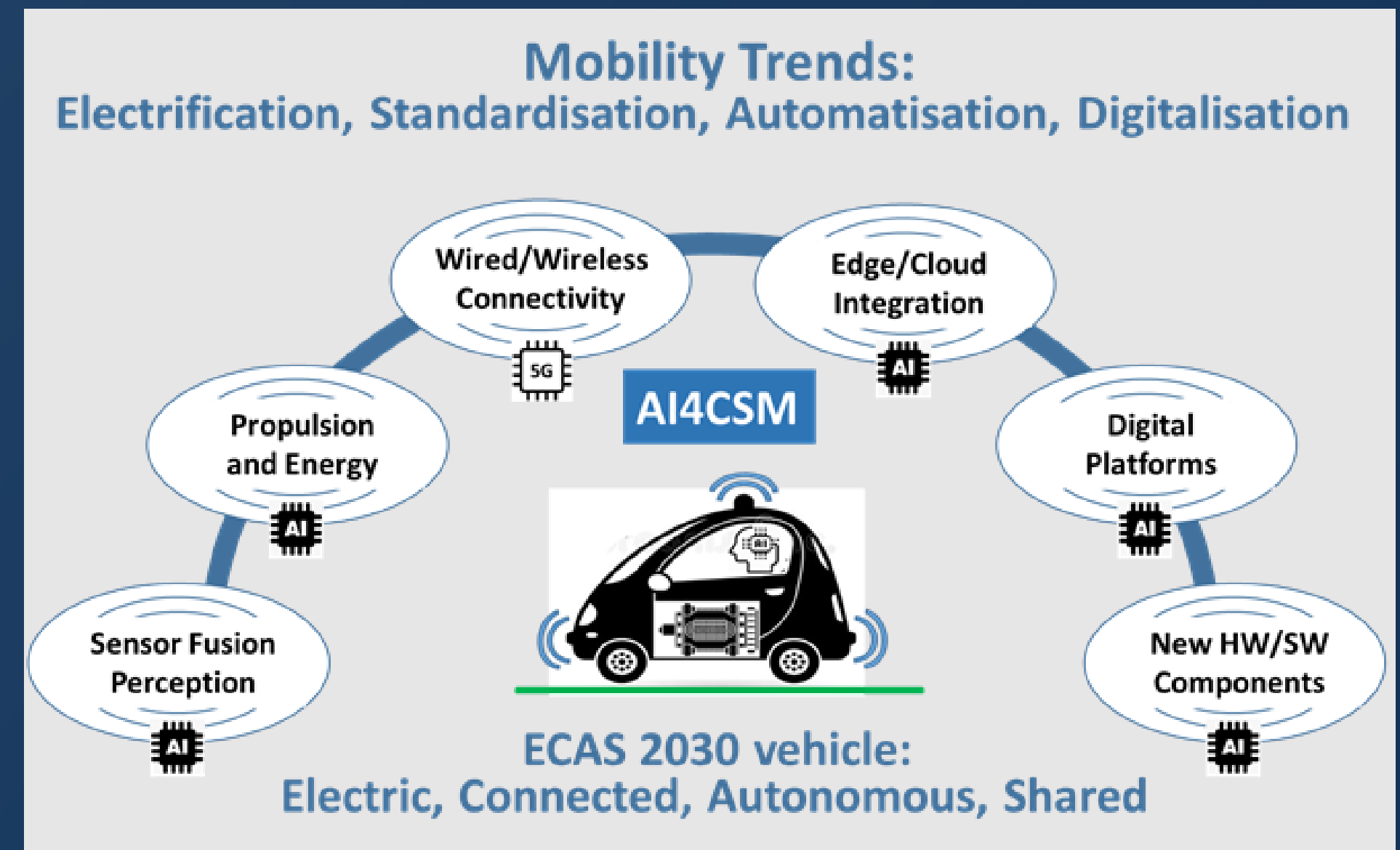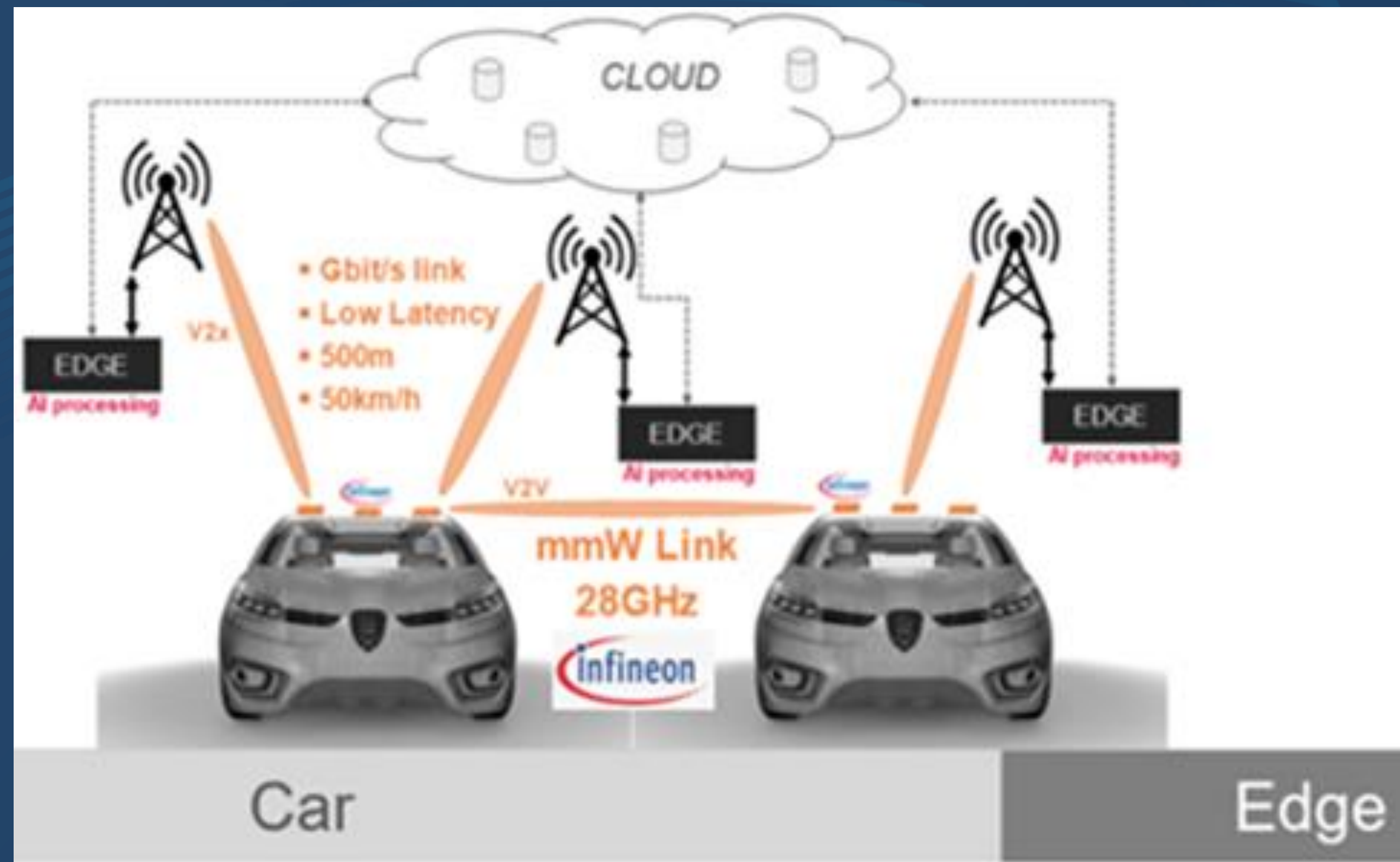11.11.2021, Praha

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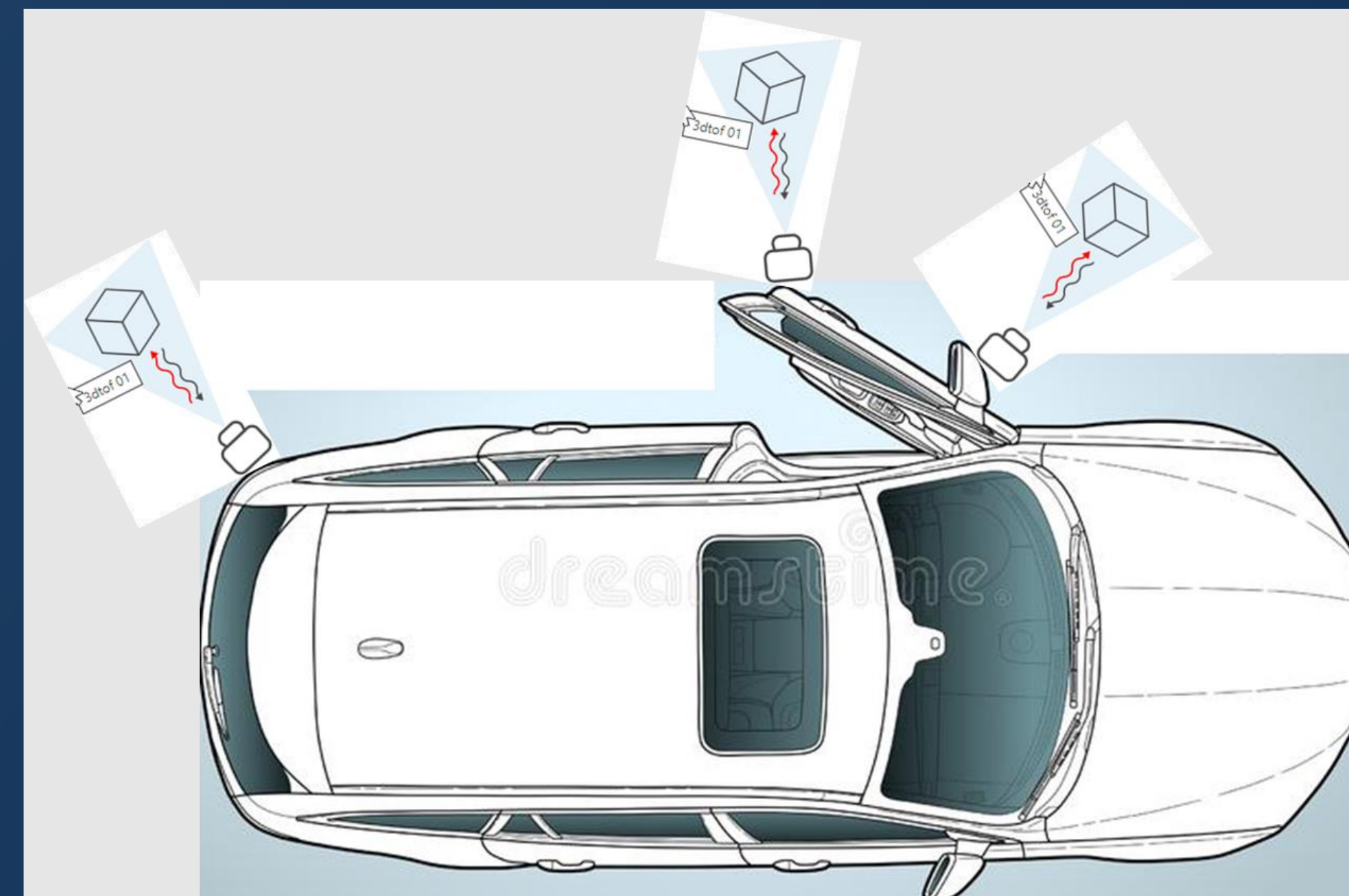
AI4CSM
Automotive Intelligence for Connected Shared Mobility

- **Connectivity & Communication**

Mobility Trends:
Electrification, Standardisation, Automatisation, Digitalisation

Wired/Wireless Connectivity
Edge/Cloud Integration
AI4CSM
Propulsion and Energy
Digital Platforms
Sensor Fusion Perception
New HW/SW Components

ECAS 2030 vehicle:
Electric, Connected, Autonomous, Shared

- **Perception, Sensor Fusion**

ArchitectECA2030

ARCHITECT ECA 2030

Trustable ECS Value Chain for L3, L4, L5 vehicle

➢ Robust mission-validated traceable design of electronic components and systems (ECS)
➢ Quantification of an accepted residual risk of ECS for ECA vehicles to enable type approval, and
➢ Increased end-user acceptance due to more reliable and robust ECS.

IMA challenges w.r.t. standards

- How to collect Req on the test code (TC) & code review
- (CR)
- How to set up methodology and criteria for TC development and CR
- How to apply CR methodology
- How to perform validation test
- How to evaluate test results

ISO/PAS 21448
ISO 26262

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NewControl

Integrated, Fail-Operational, Cognitive Perception, Planning and Control Systems for Highly Automated Vehicles

- **IMA CAS development**

Car Access System based on contactless door handle unlocking with online+ofline autentication
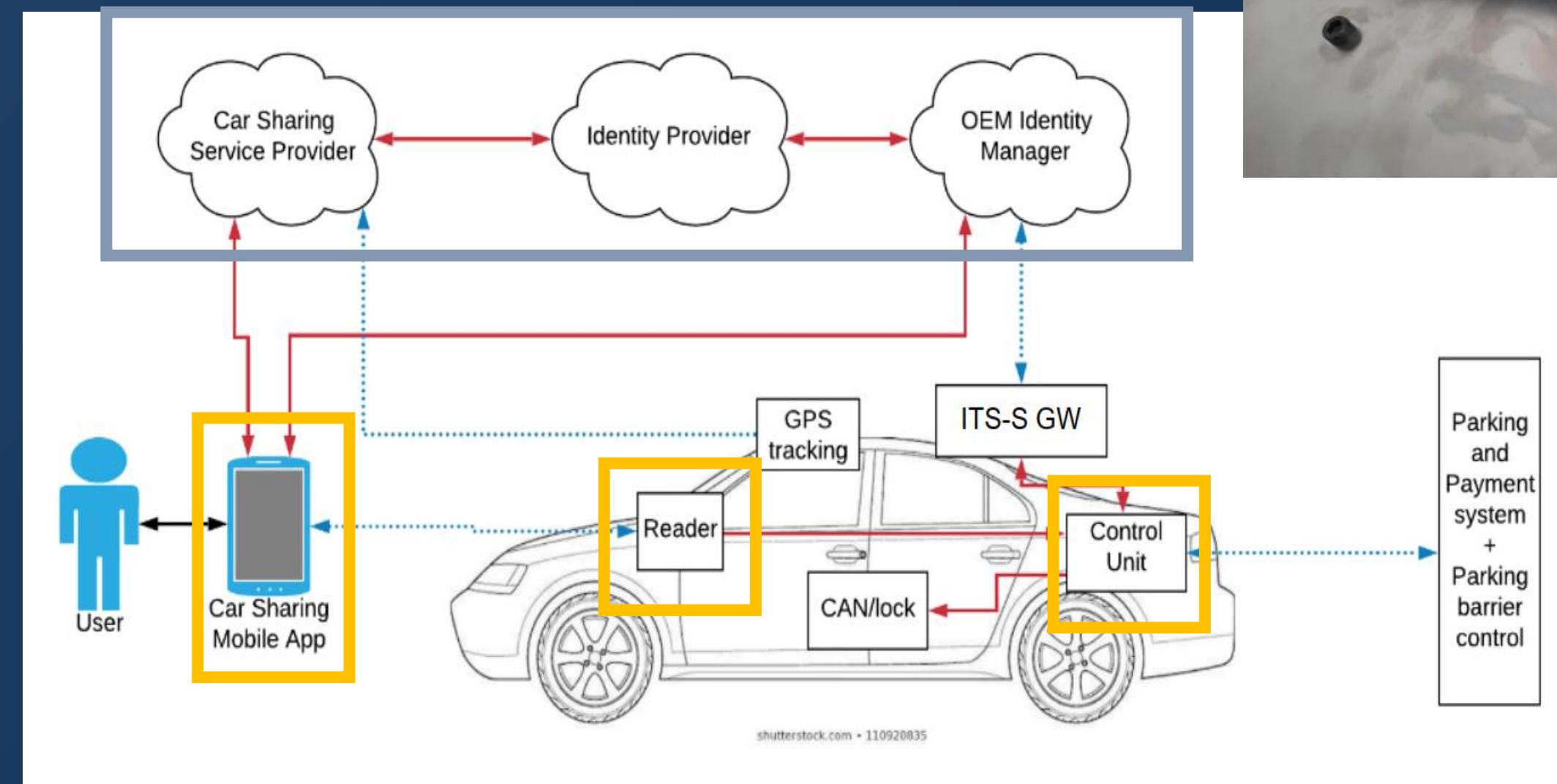
- **Door handle reader / sensor development**
  - Form factor - **completed**
  - Antenna optimisation – **in progress**
  - Functional integration (NFC, BT, MC, Secure element) – **in progress**
- **Server authentication** functionality – **in progress**
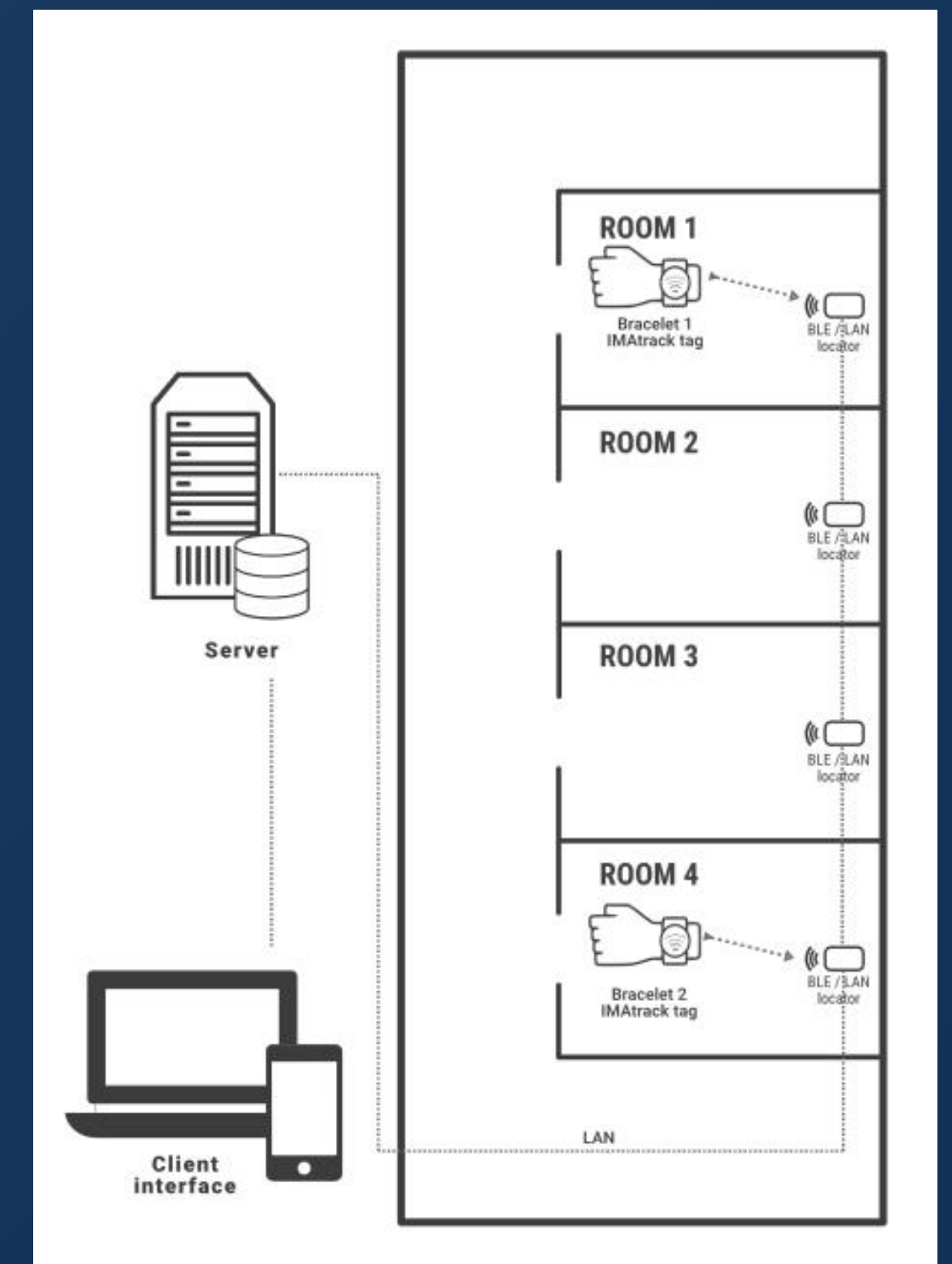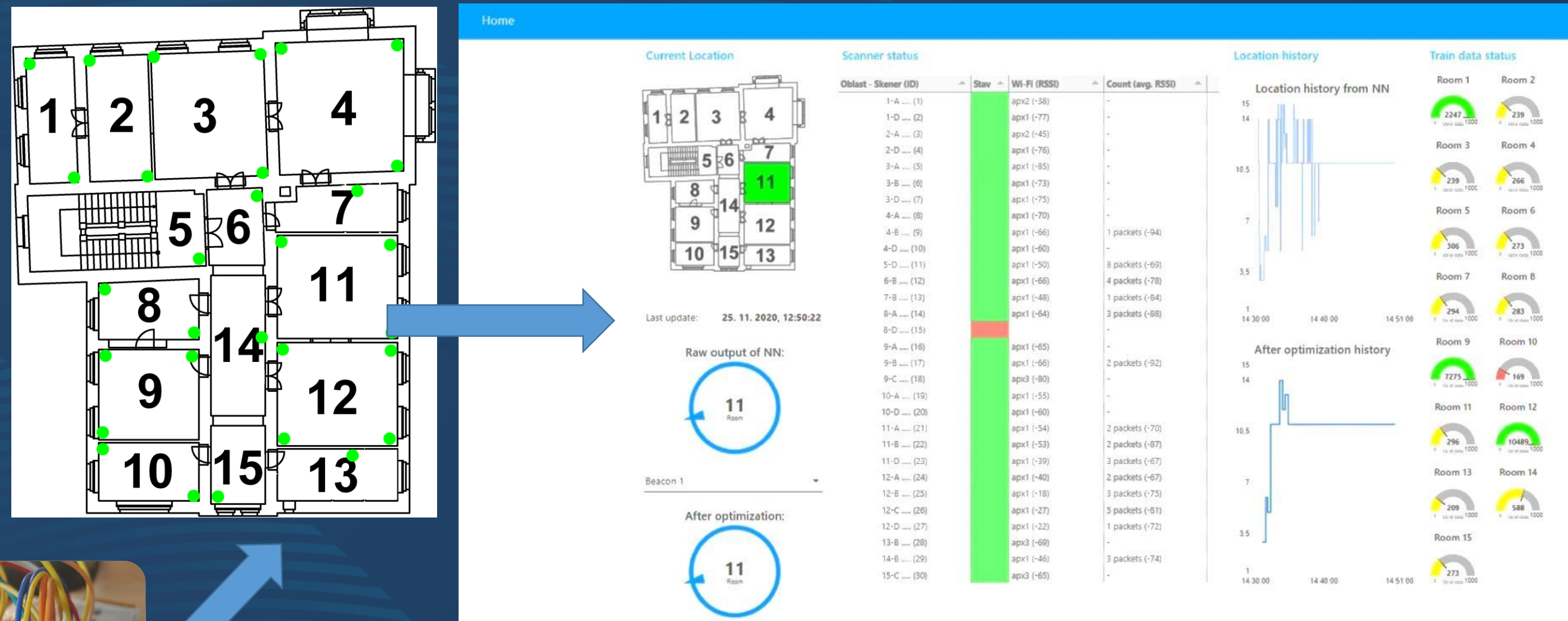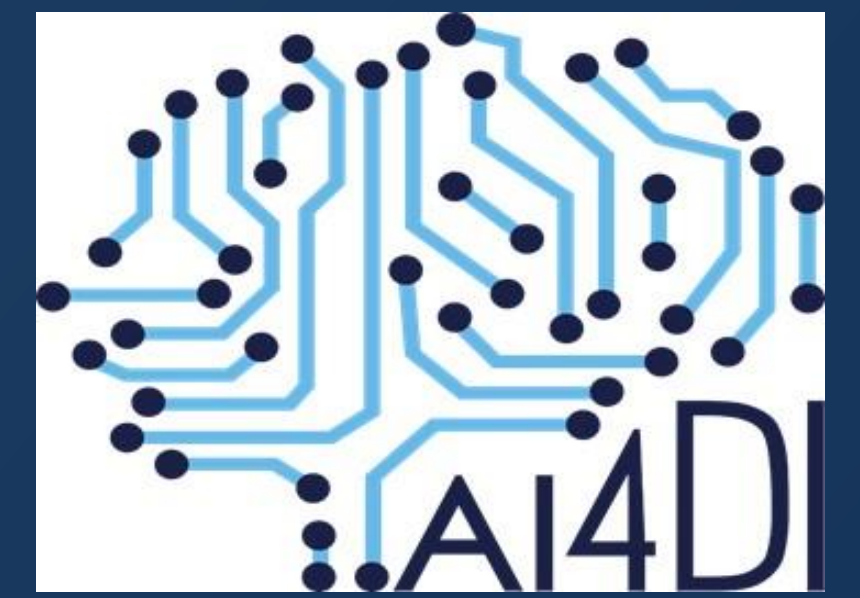- **Communication gateway** - **completed**
- **Android app** - **not started**

AI4DI
Artificial Intelligence for Digitalizing Industry

Development of an Indoor asset tracking system based on BlueTooth Low Energy devices with AI based positioning engine.
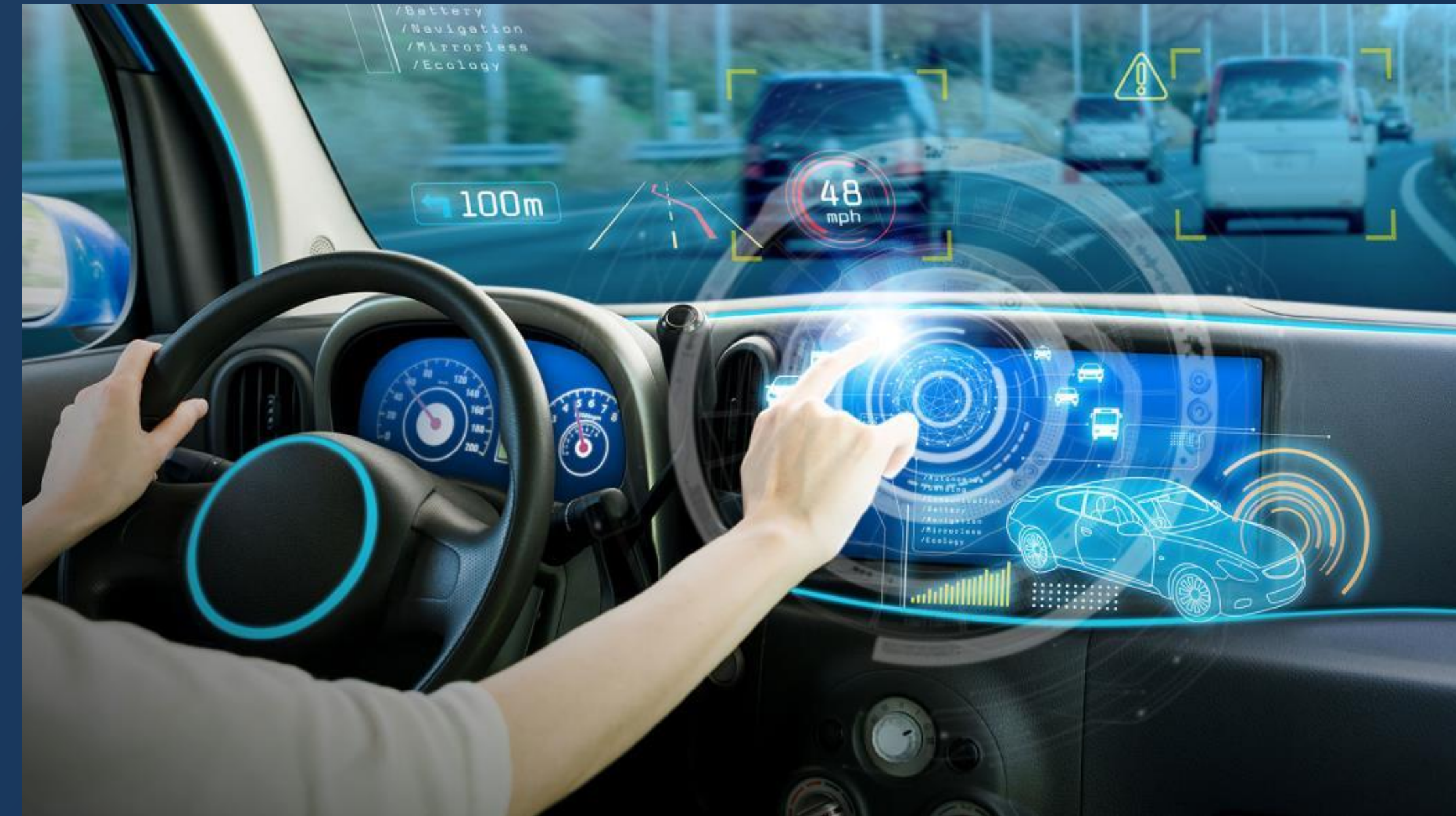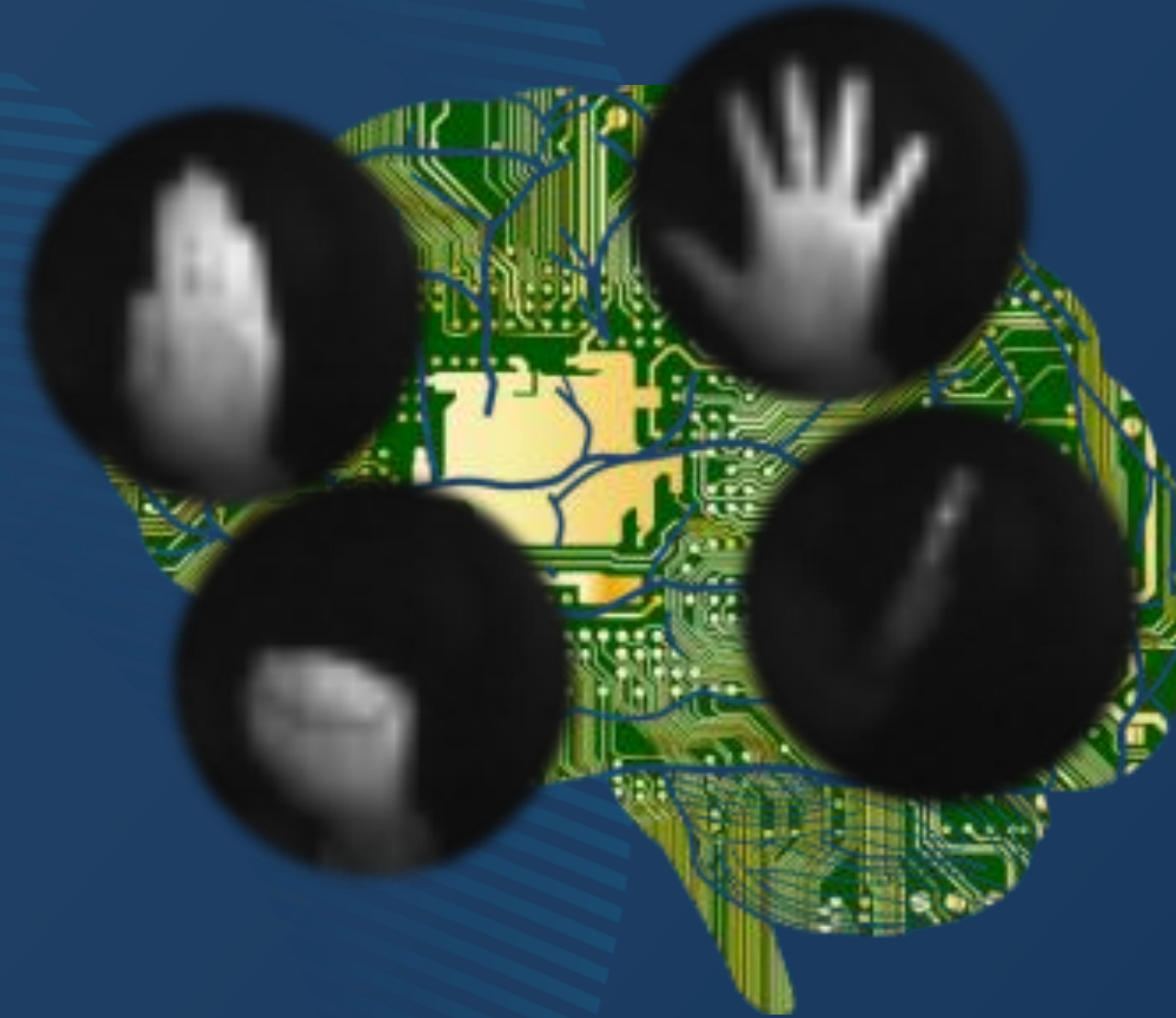
STORAIGE

Embedded storage elements on next MCU
generation ready for AI on the edge

Low resolution Time of Flight sensor matrix gesture recognition

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