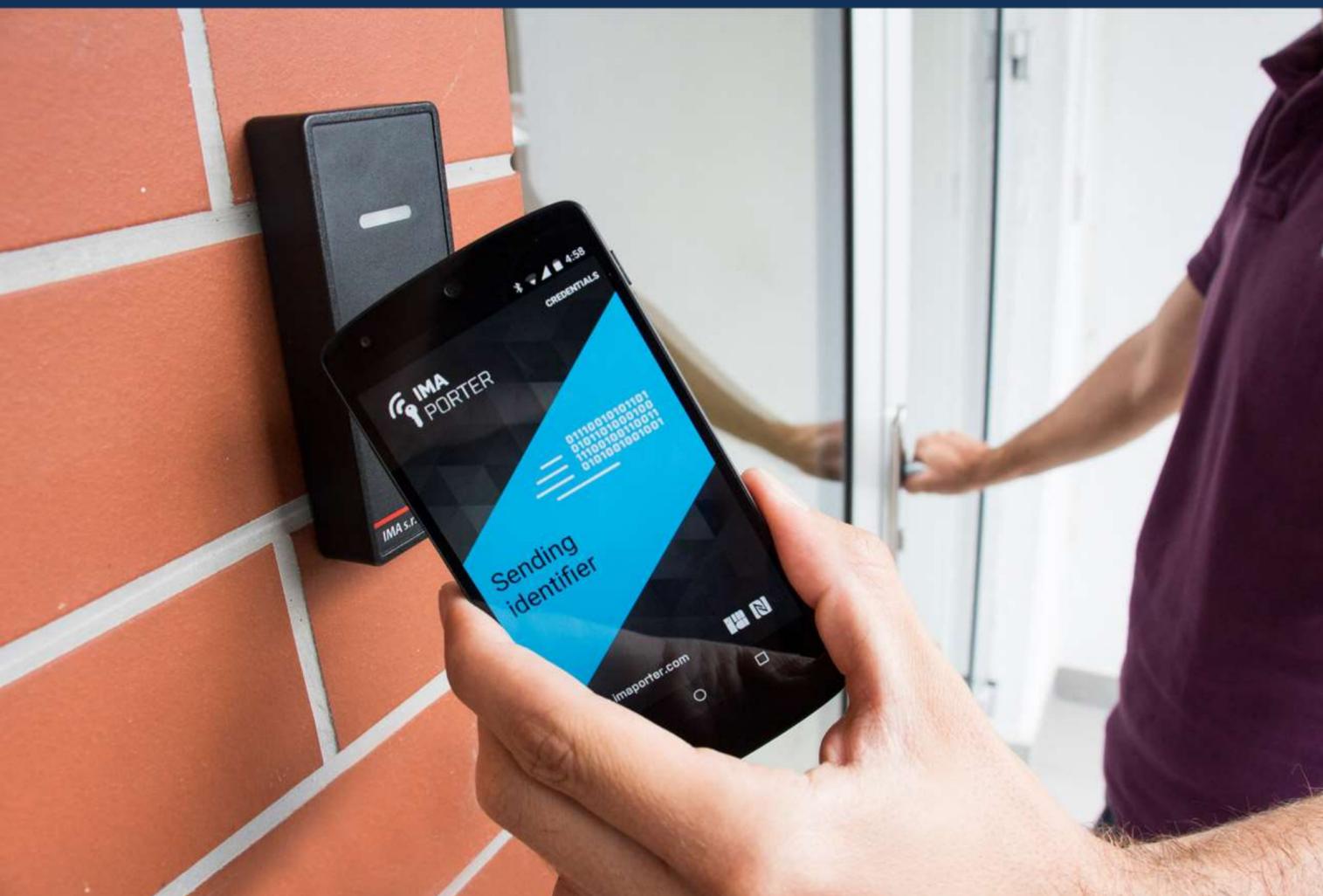


IMA – TECHNOLOGY PARTNER OF EU PROJECTS



Jiří Havlík
Vedoucí střediska
telematických aplikací

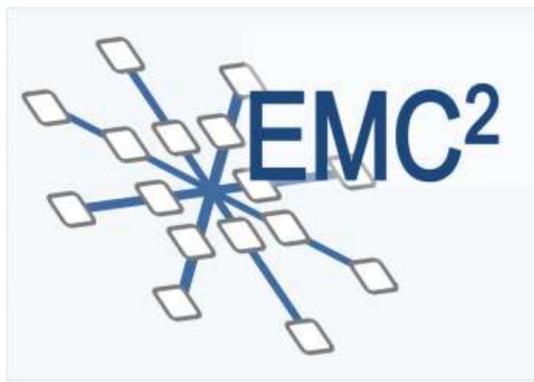
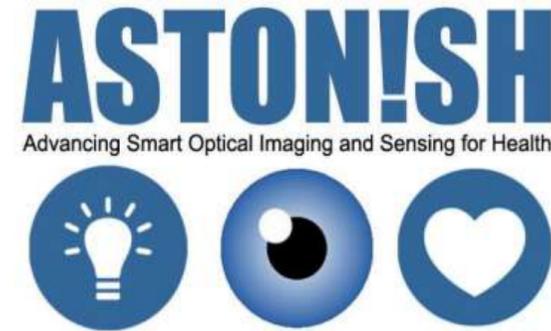




MINISTRY OF EDUCATION,
YOUTH AND SPORTS



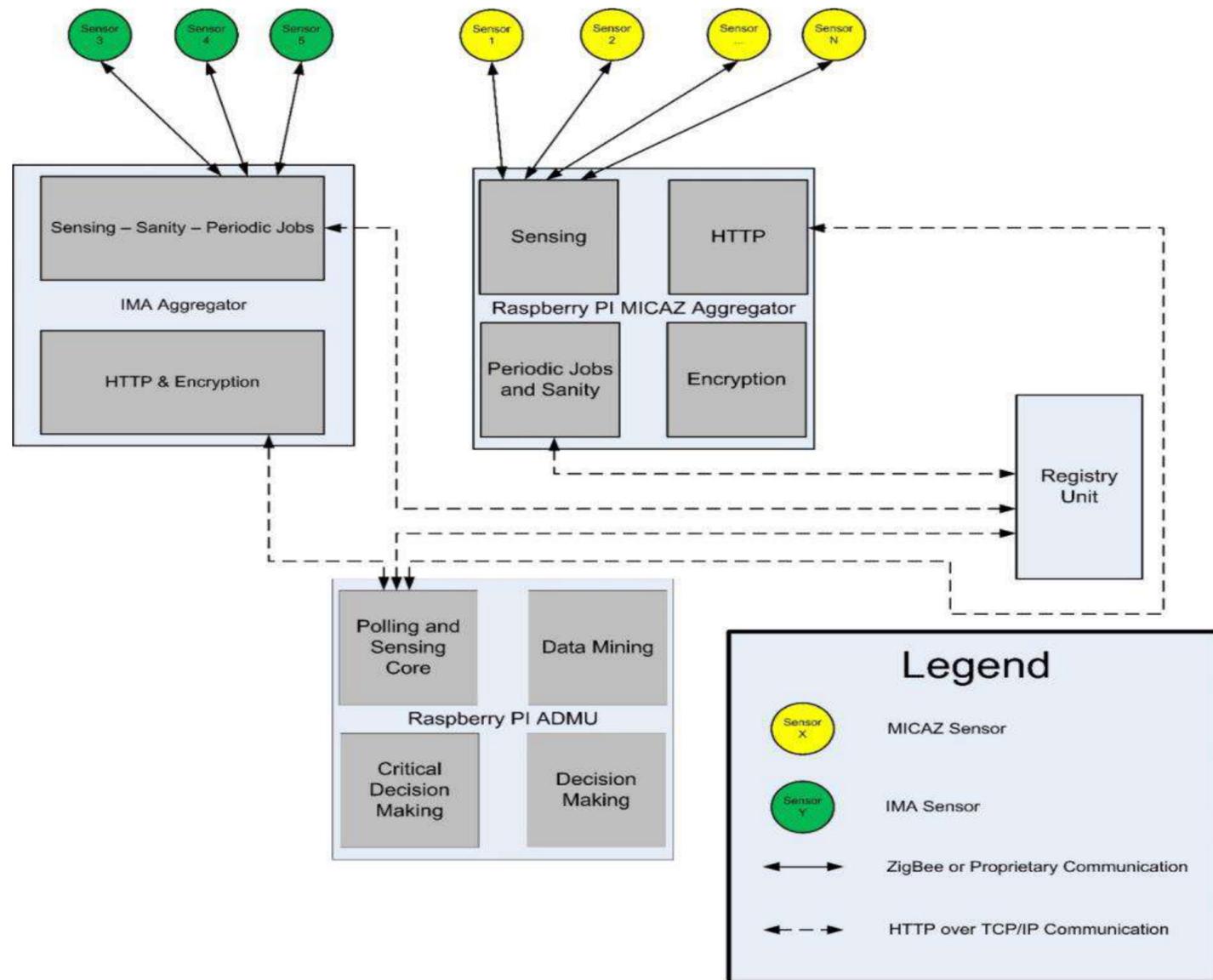
ECSEL Joint Undertaking
Electronic Components and Systems for European Leadership



H2O – HUMAN TO OBJECTS
“EASY INTERACTIONS IN THE SMART CITY”

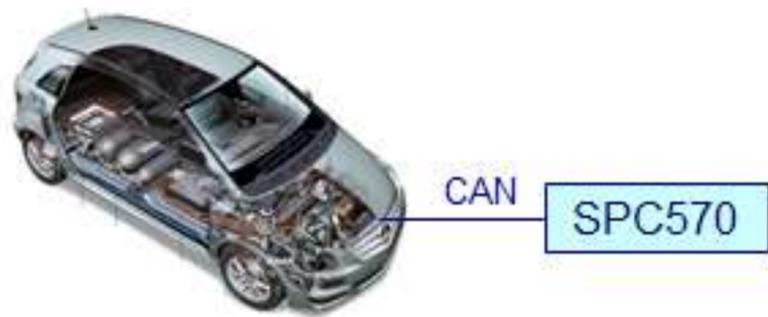


EMC2



- “Embedded multi-core systems for mixed criticality applications” = zabudovaných vícejádrových systémech pro kritické aplikace a jejich vylepšení
- IMA upravuje svá dosavadní softwarová řešení sensorických sítí tak, aby splňovala požadavky na architektury systémů orientovaných na služby
- Nová platforma ODROID + LinuxRT pro časově kritické služby v rozsáhlých IoT sítích

PANACHE

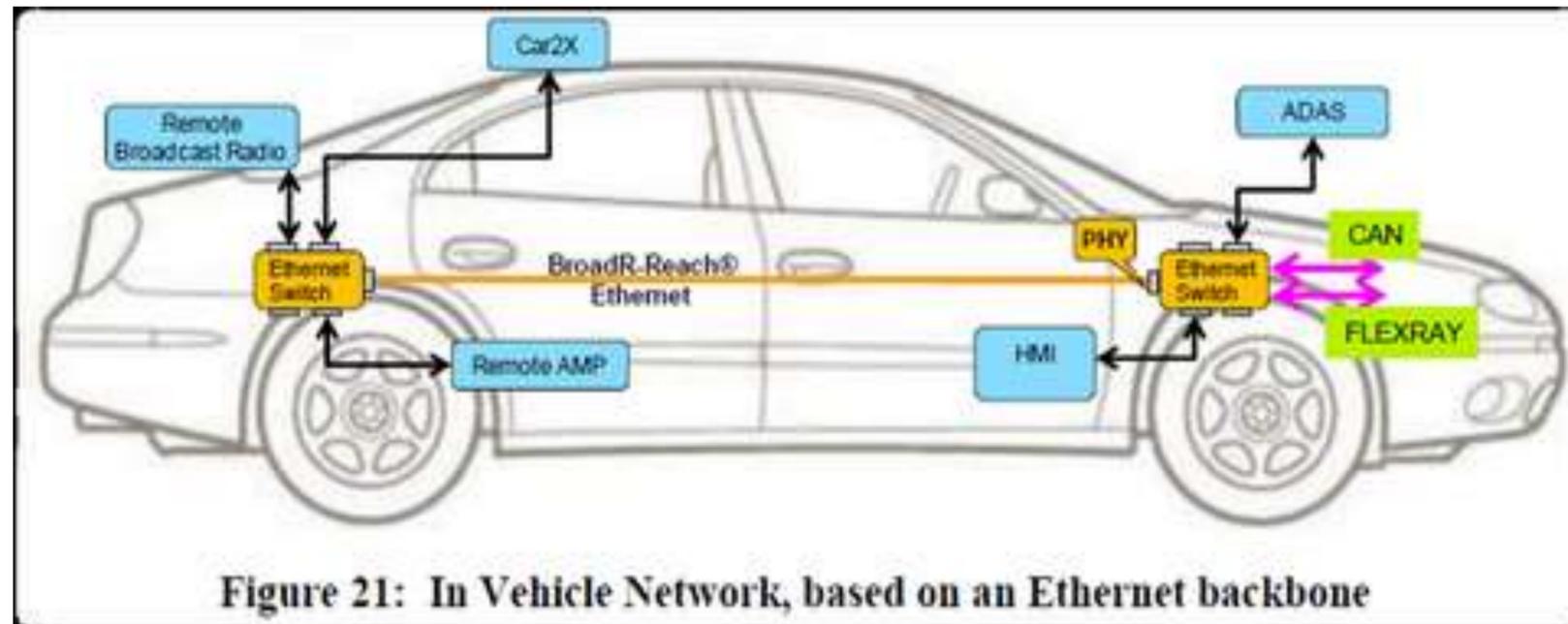


- Car2Infrastructure application concepts, development on all system components, data acquisition, processing, communication with C2I server, secure communication



● Scroll ending data ● Without ending scrolling ● Graph locked

3CCAR

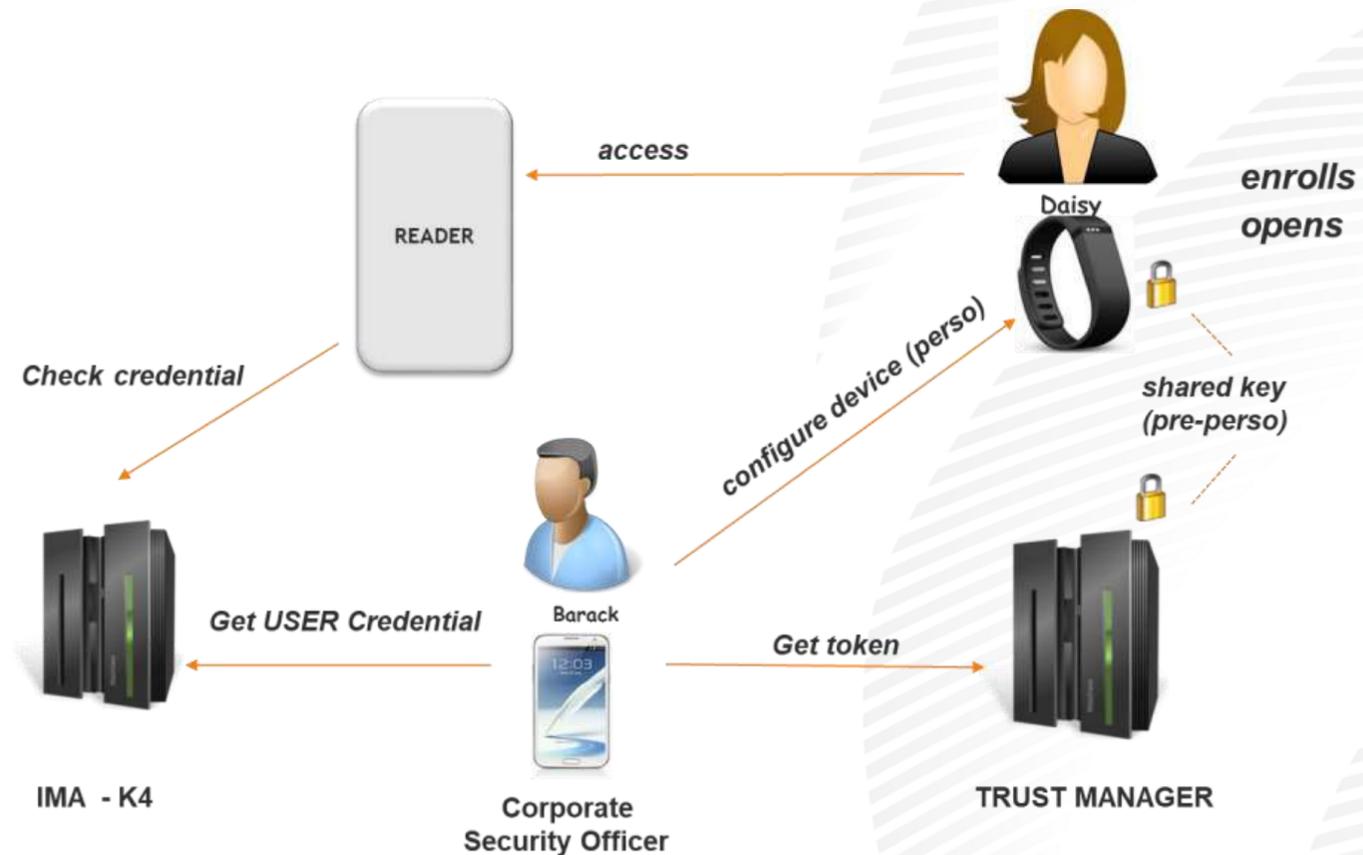


- ⌚ Vývoj technologií pro vylepšení komfortu, řízení, optimalizace nákladů v elektrických vozidlech
- ⌚ Využití nových polovodičů a integračních technologií pro elektrická vozidla
- ⌚ Pro IMA pokračování BBCU (IDEAS) s cílem vylepšení vysokorychlostních komunikačních technologií - 3G, LTE, V2X, eCALL

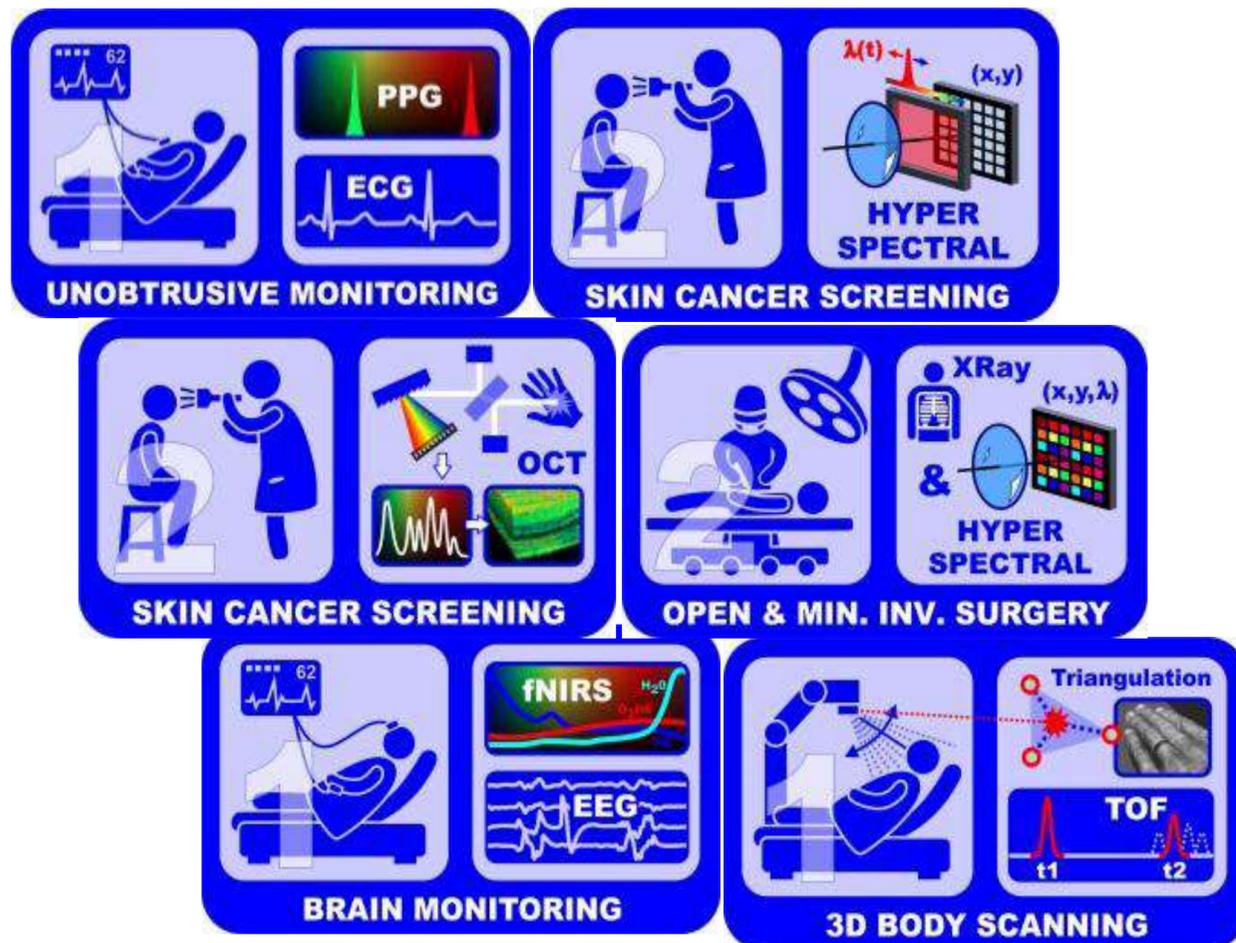
H2O HUMAN TO OBJECTS

- ☺ Wearable technologies to ensure secure interaction human – objects within IoT environment and smart cities.
- ☺ New technologies for e-Health, e-Mobility and e-Commerce domains.
- ☺ New IMAporter applications integrating wearable eGo device (Gemalto) for enhanced access security.

IDSIMA4-eG

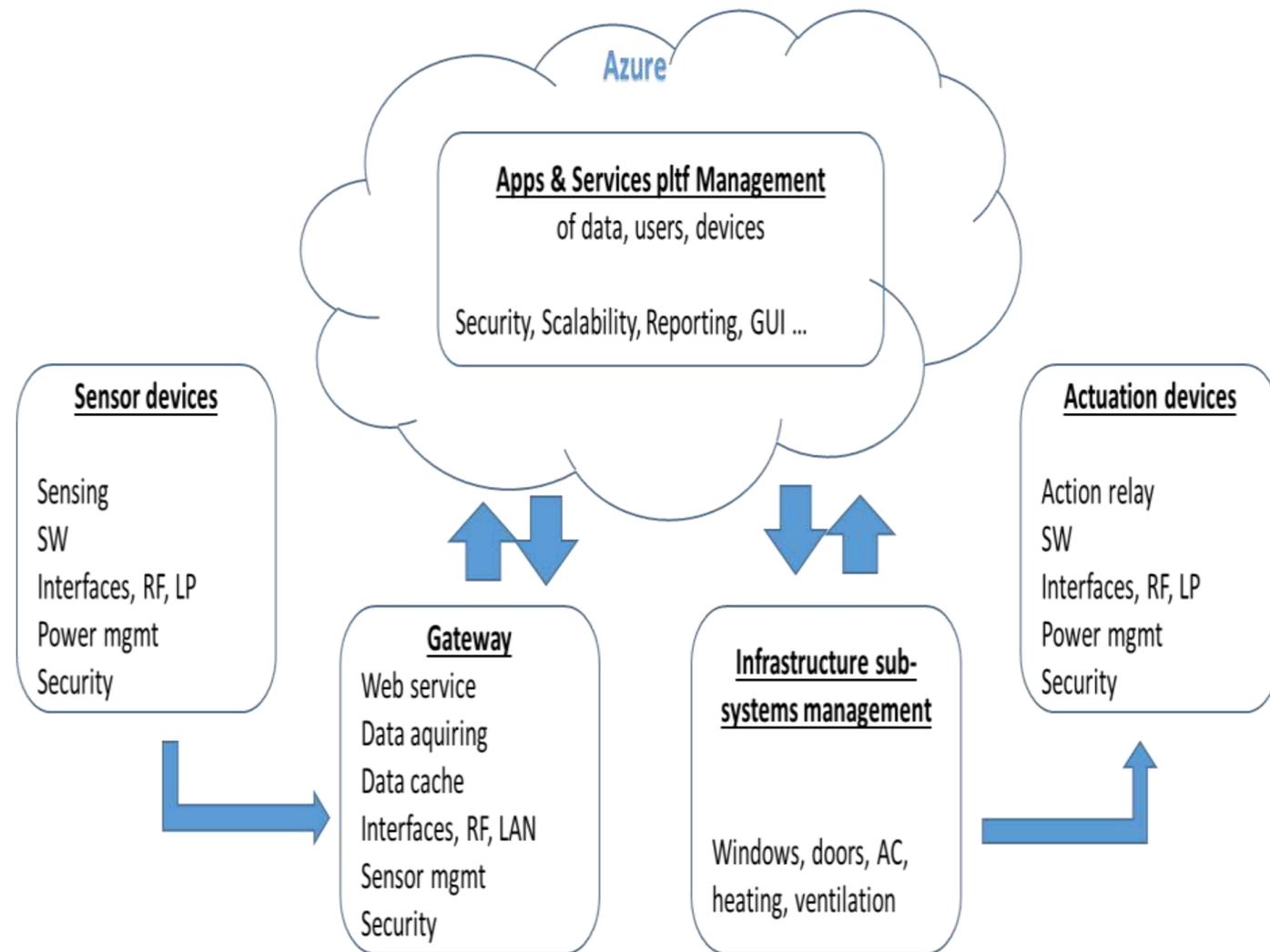


ASTONISH

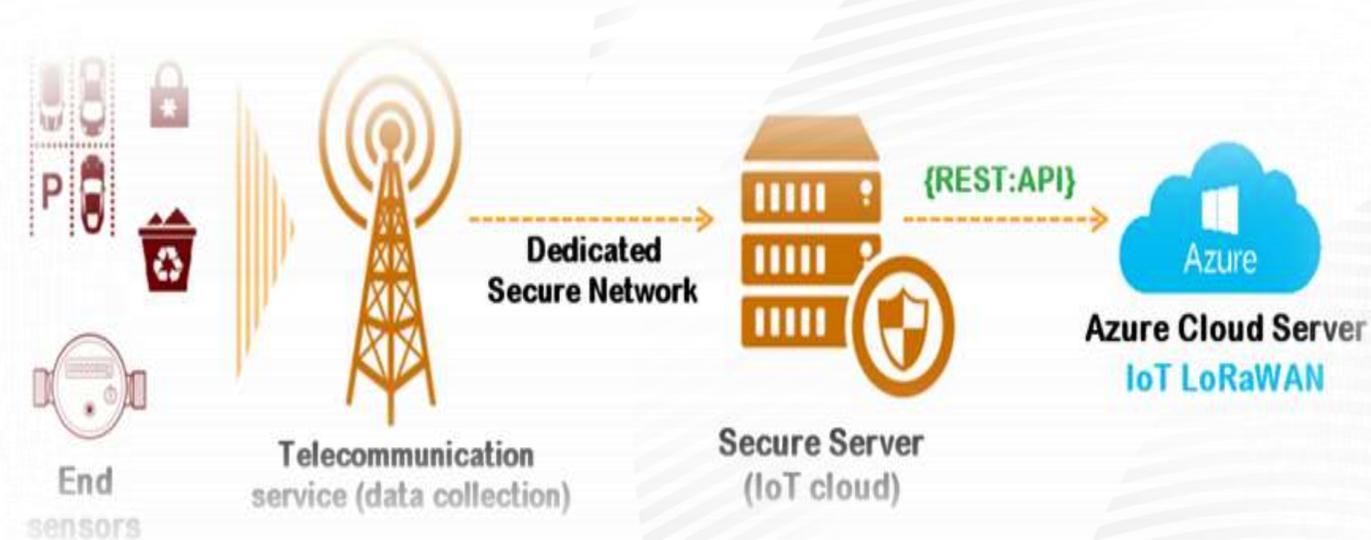


- Ⓒ Embedded system for bolometer data processing, parallel A/D conversion, communication interface
- Ⓒ Remote control device for manual navigation of 3Dscan robotic arm, HW and SW requirements, interfaces, casing, data commands

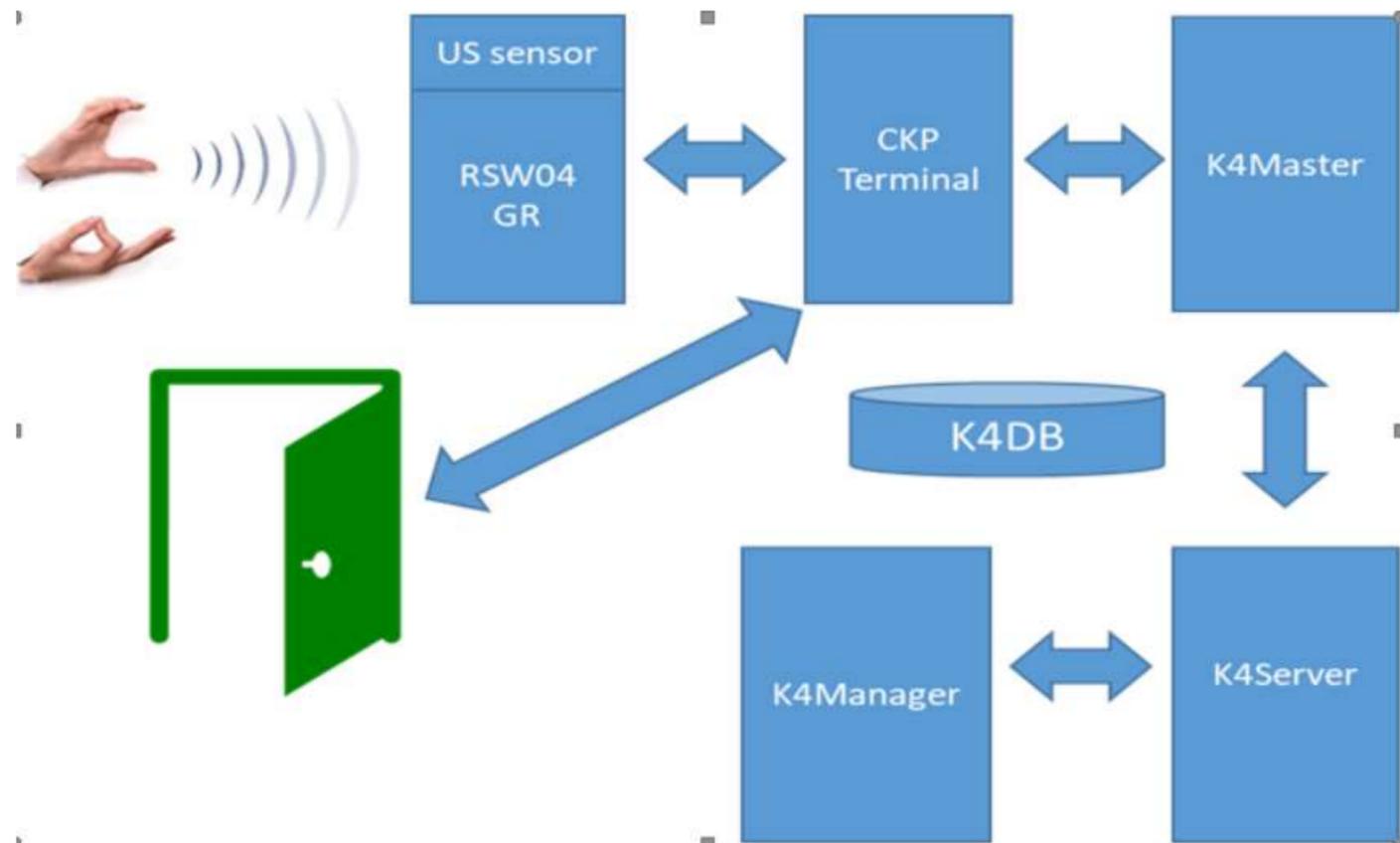
ESTABLISH



- ☉ To solve the problem:
 - „How to increase the indoor air quality in the recently retrofitted buildings and how to adjust cost effectively the future retrofits to avoid indoor air quality problems without compromising the energy efficiency.“
- ☉ How:
 - ...using data from interconnected sensors and by presenting actionable information to the humans, while enabling the automated systems present in the building to make use of these data as well...
- ☉ IMA:
 - HW/SW design, Sensors, data integration/aggregation

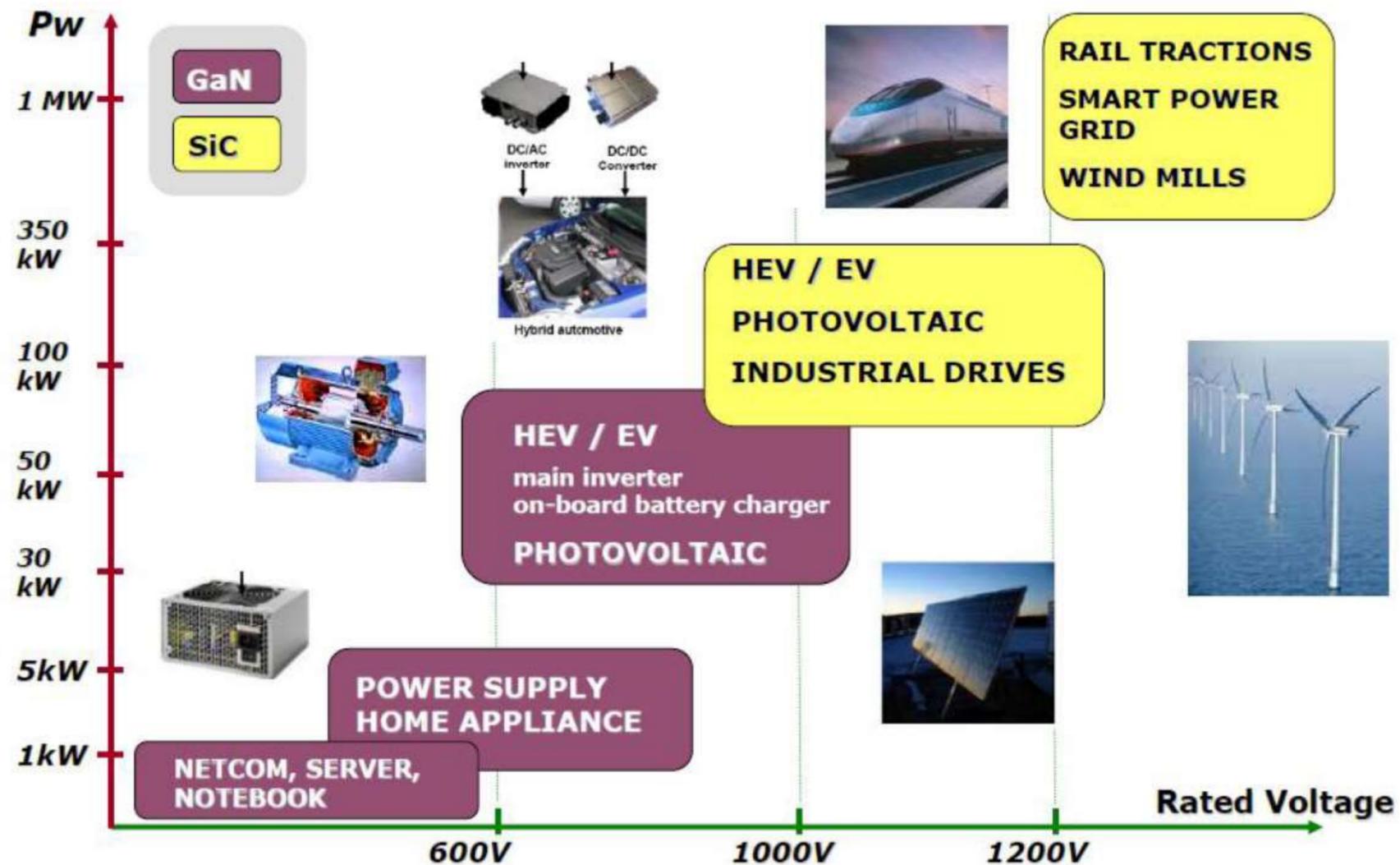


SILENSE



- ☺ Gesture plug-in for IMAporter Pro (identification and access control platform) - IMAporter-Ges component (formerly IDSIMA4).
- ☺ New functionalities and services definition. Specification and development of Gesture Reader hardware and software as well as IMAporter-Ges application & interface software.
- ☺ Running prototype of IMAporter-Ges will extend IMA access control system.

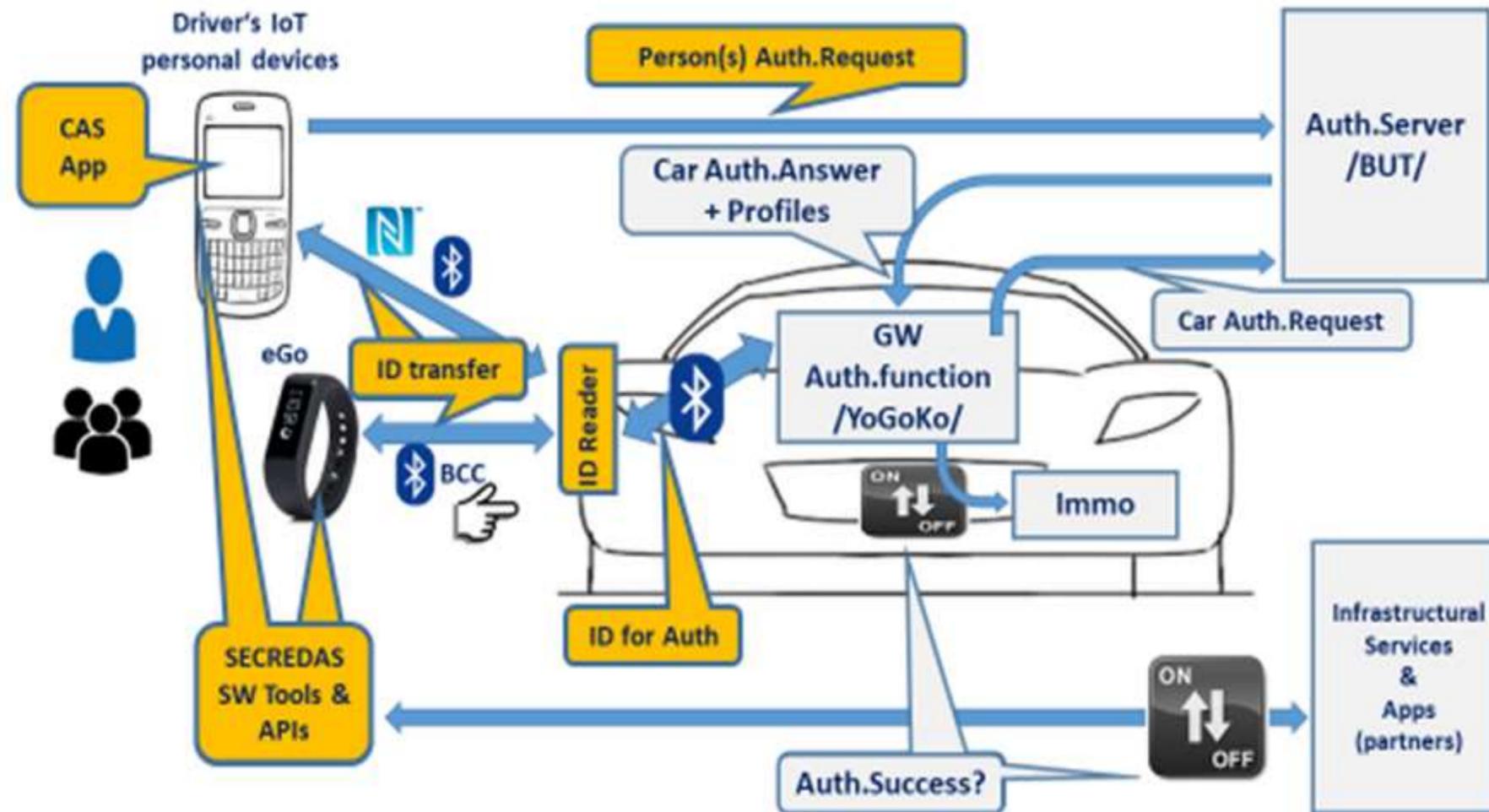
WINSIC4AP- WIDE BAND GAP INNOVATIVE SIC FOR ADVANCED POWER



- © New SiC power components in a smart actuator for industry system automation
- © Low Power WAN will be a building block for smart industry architectures addressing remote energy controlling

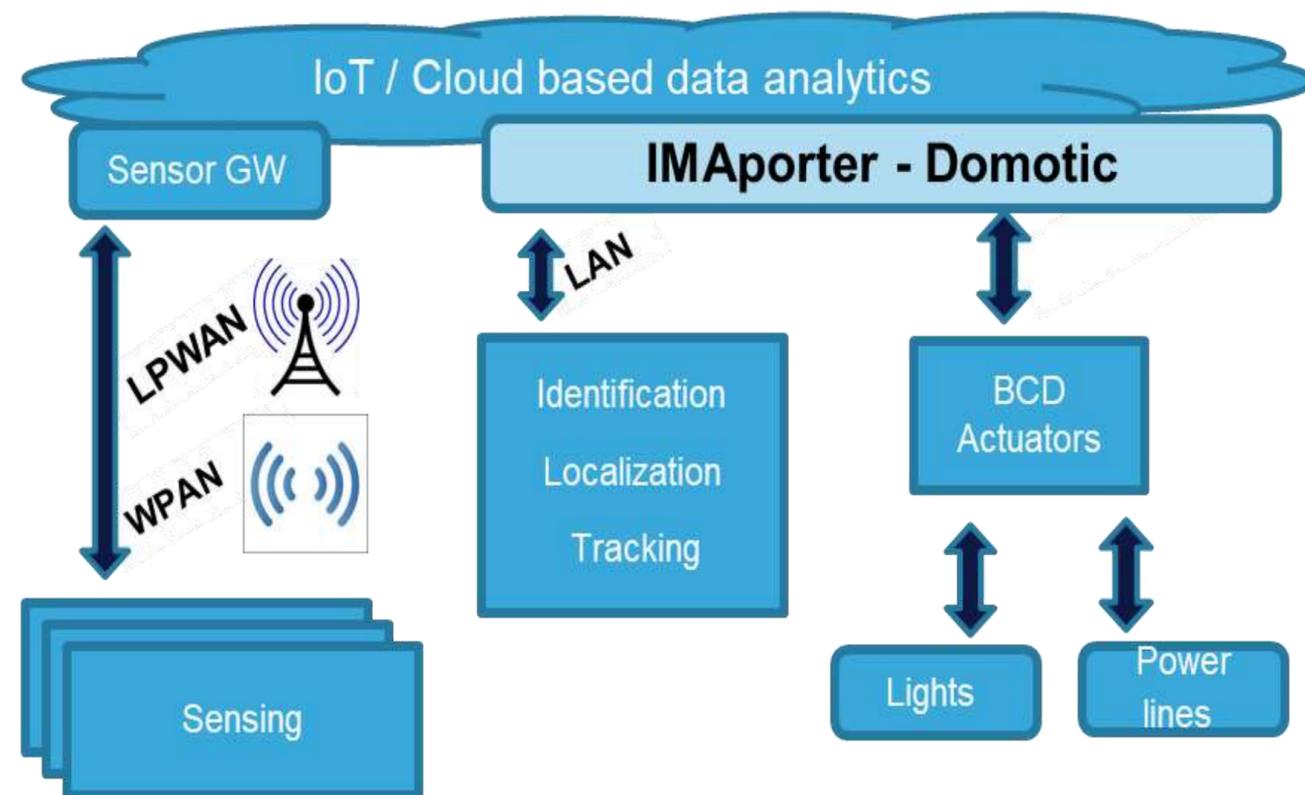
SECREDas

CAS Use Case within SECREDas ecosystem



- Ⓒ Robust dynamic car access system (CAS) based mixture of recent smart enablers
- Ⓒ Various identifiers both driver and car, access right cross-check, dynamic on line authentication and profiling using BUT authentication server and BUT
- Ⓒ V2X or internet communication, use of standard SECREDas tools including API to the external services robust supplicant code
- Ⓒ Exploitation > WITTE

R3 POWER UP



- Smart power actuator for outdoor or indoor lighting and access points. Scalable for switching up to max 500W power to cover the light management from smart buildings up to smart outdoor public areas.
- Long-range LPWAN connectivity (LoRa) for remote control of outdoor actuator.
- Short-range (BLE) link for local light management via mobile applications or global management through smart building gateways.

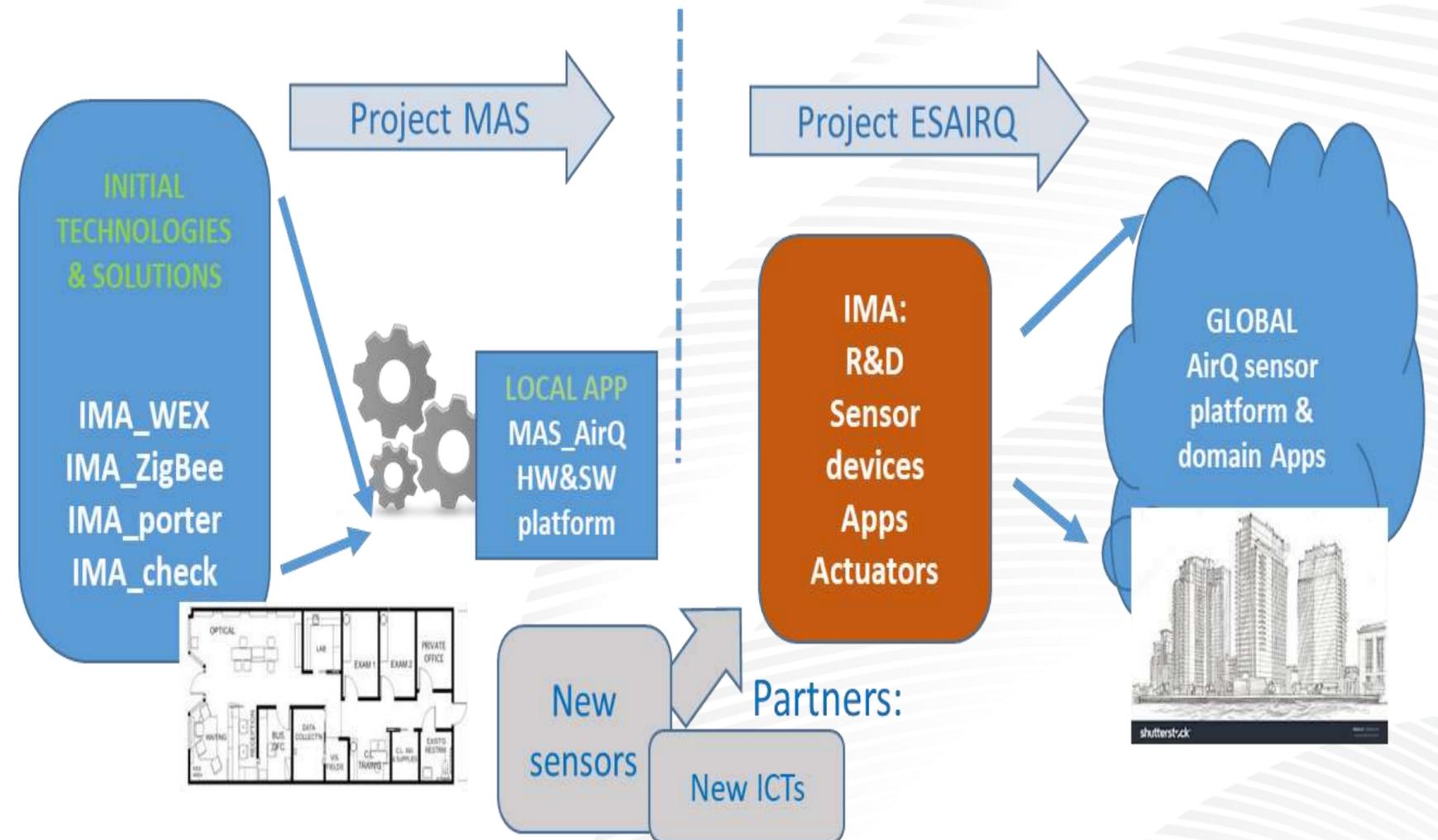
PRODUCTIVE4.0



- Management of various type of identifiers for different objects
- Implementation of tracking and sensing services for industrial environment
- Demonstration the operation mixture of recent sensors and actuators (remotely managed) equipped with proper wireless connectivity (LPWAN)
- Aggregation of identification and localization data will be used for further localization based analysis
- To create CPS-IoT extension of its branded IDSIMA access control system ready to be deployed within I4.0

ESAIRQ

- ☉ Integration of new sensor technologies **within IMA systems**
- ☉ Global market with new low cost AirQ solutions > Offices, schools, housing, health
- ☉ AirQ controlling within „insulated-building-trends“ with neglected ventilation > New sensors for controlled ventilation > CO2, radon, humidity concentration as insulation contraindication
- ☉ New solutions impacting health of population > Increasing ratio of respiratory difficulties in last two decades
- ☉ Huge market of personalized mobile applications

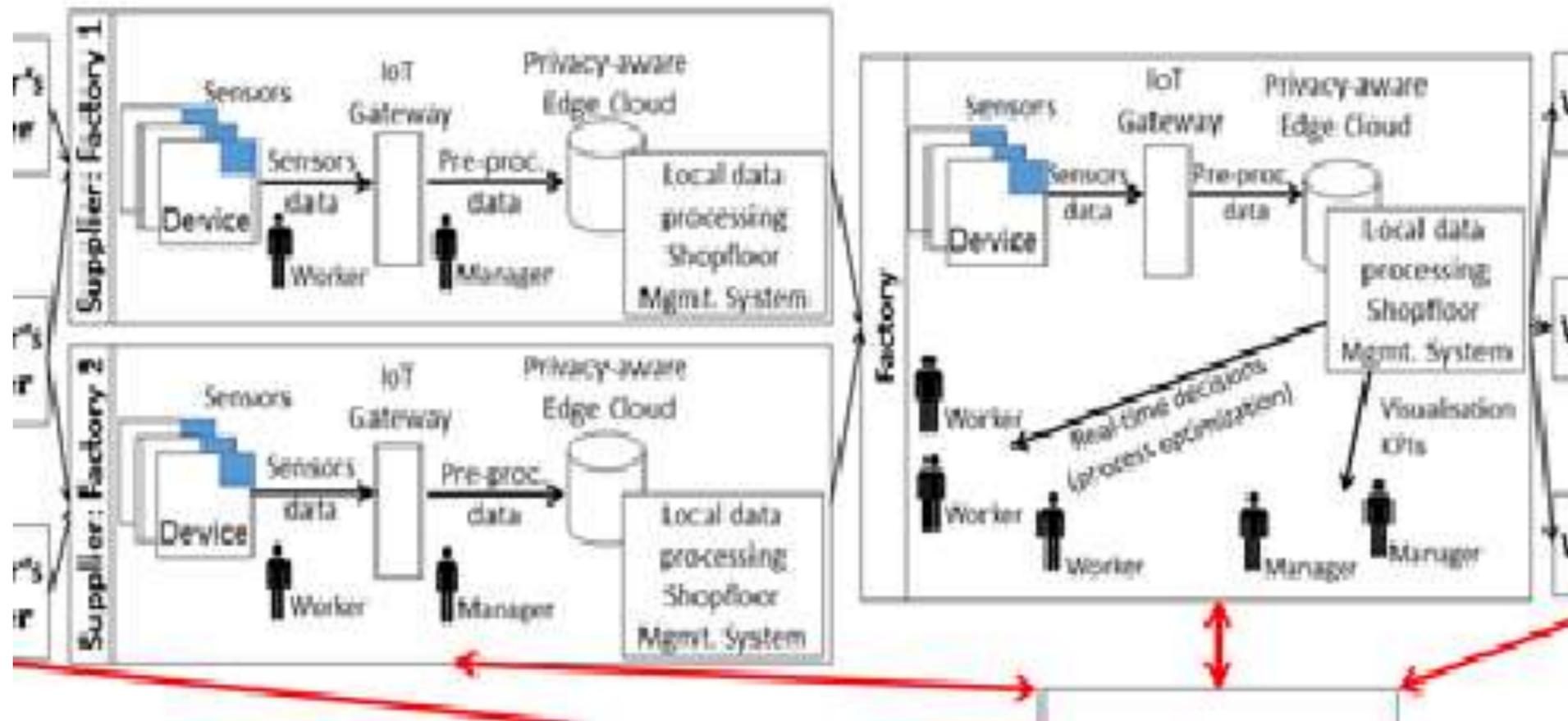


VÝVOJ OS A APLIKAČNÍ VRSTVY PRO 2. GENERACI KOMUNIKAČNÍ JEDNOTKY PRO AUTOMOTIVE



- © OP PIK APLIKACE III. výzva
- © Inovace jednotky a vývoj nového operačního systému pro druhou generaci jednotky BBCU s ohledem na specifické potřeby stávajících i nově vyvíjených automotive technologií.
- © Projekt je pokračováním vývoje v rámci úspěšných projektů E3Car (7H09006) a IDEAS (7H12003).

TRUST4.0



- ☺ Privacy-aware sensor gateway
- ☺ Specifying data gathering, treatment, and storage needs coming from sensors, machines, pre-processed in IoT Gateways, and stored in edge-cloud
- ☺ approaches to model privacy-aware ad-hoc collaboration in Industry 4.0
- ☺ specific role- and organization-based data sharing needs and how to trade them off with privacy and trust aspects



IMA s.r.o.

Na Valentince 1, 150 00 Praha 5

Tel.: (+ 420) 251 081 097 | E-mail: ima@ima.cz

www.ima.cz

Prezentaci pro Vás připravil Jiri Havlik

E-mail: havlik@ima.cz