IMA - looking back on the past year & to the future

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IMA Infoday, Prague, 28th November 2023

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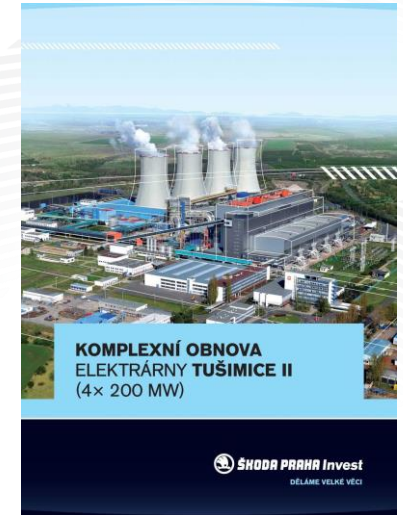
Deployments – biggest clients

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ŠKODA AUTO
- readers for mobile terminals in production operation
- readers for terminals in manufacturing (Advent)

ČEZ - Tušimice II
- reconstruction & ACS expansion by 200 access points

ČEZ – Severočeské doly
- upgrade of 2nd generation control units (PC Masters)

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Other deployments

- ČZU
  - migration of installed ACS to readers accepting credentials stored in Google and Apple Wallet

- Hospital of the Pardubice Region

- Rakovník Hospital

- More and more

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Other deployments

Foxconn

- cooperation on modernisation of turnstiles

Panasonic Plzeň

- modernisation after 30 years of operation

Seven Energy (Infotea)

- comeback of IMA-ACS in Chvaletice power plant

Škoda Transportation

- ACS expansion

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Other deployments

Velux
- New ACS installation

Waterworks Plzeň
- ACS modernisation

RETIA
- ACS expansion

SWOBODA Jihlava
- ACS expansion – biometry systems as 2-factor-authorization (2FA)

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IMA Case lockers

First installation in IMA headquarters 5 months ago.

Employees use these lockers every day.

- For personal things in the office
- 42 Lockers + reservation terminal
- Indoor lighting

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Custom metal lockers

First lockers made for our customer.

New features: USB charger, front status color LED

- Customer request
- Partner designed custom lockers
- IMA assembled Locks + RSW.05
- Lockers shipped to a customer
- IMAporter Cloud or K4 server
- IMA provides maintenance

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New user-friendly SW design

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IMAporter MobileAccess

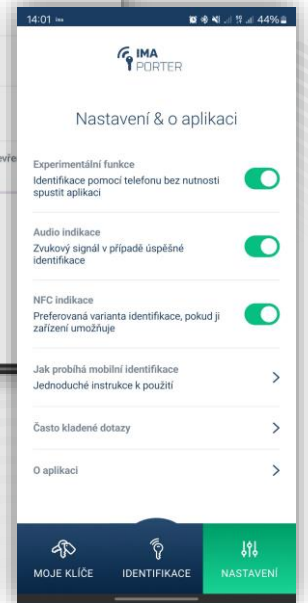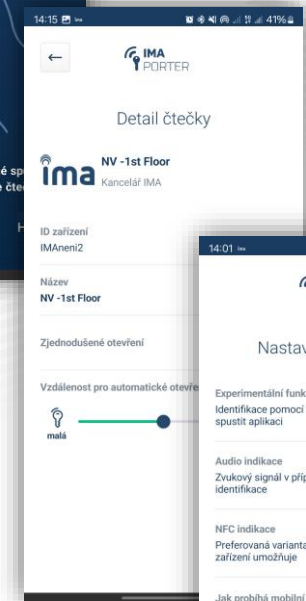**‹‹** Complete redesign of IMAporter Mobile Key app (Android / iOS)
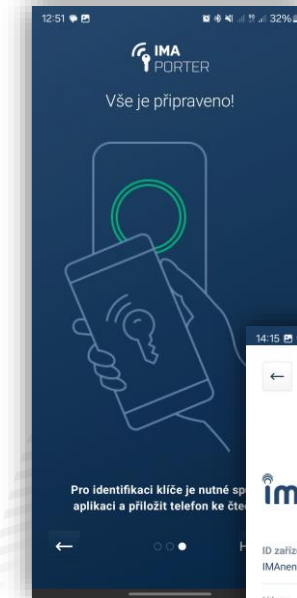
- More comfortable GUI
- Enhanced security features
- Remotely manageable custom settings

‹‹ Megatrend – migration from physical to mobile credentials

- Ecological (less plastic cards)
- Cheaper
- More flexible & more secure

‹‹ Fully integrated with IMAporter Pro (K4)

- Unification of IMA systems to a common platform
- Comfortable issuance of mobile credentials

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K6 – system architecture
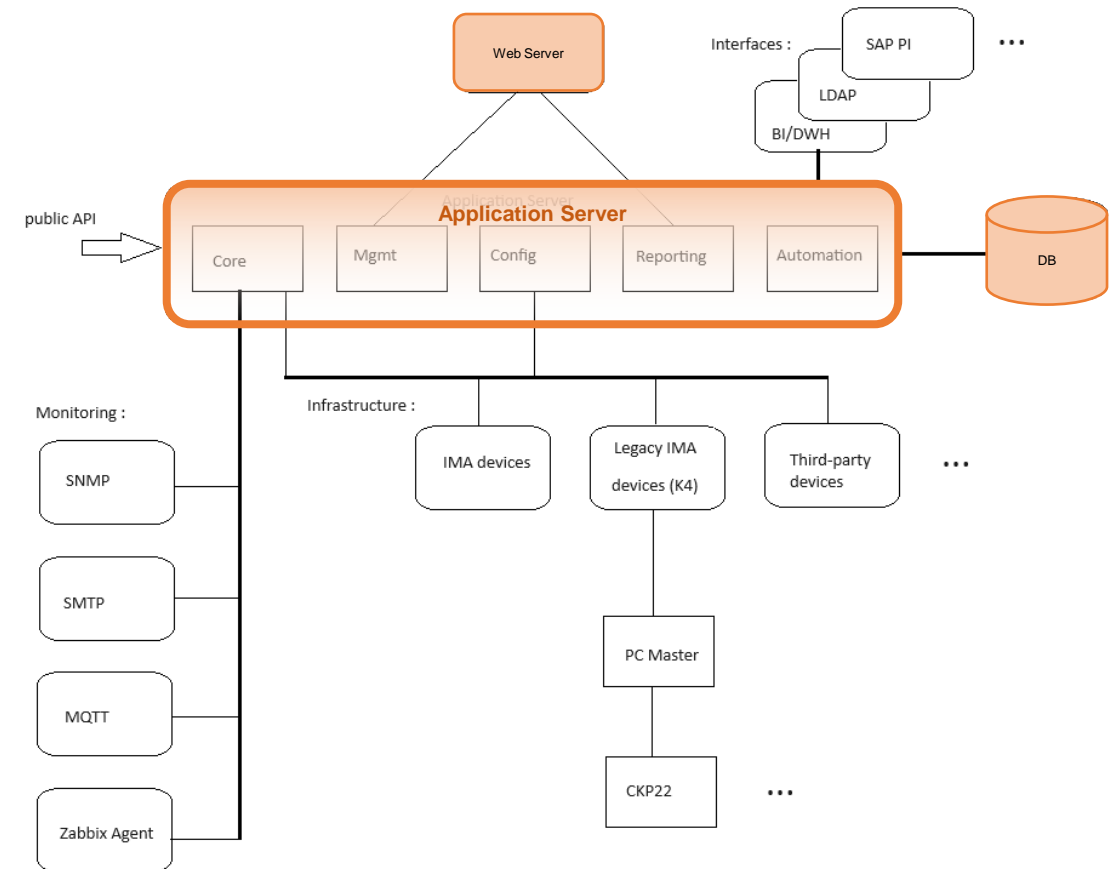
Three-level architecture:

◖ Database

　● At the database level, transactional and master data are logically separated so that individual site or company data can be managed separately.

　● Each authorized user can be allowed access to one or more sites and different access rights.

　● Rights are evaluated
　　• When a user accesses through a web application,
　　• and when calling the public APIs of individual application server components.

◖ Application server

　● Component-based
　　• Easy horizontal scalability.
　　• Possibility of running individual components on separate servers or containers.

◖ Web server

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Automatized reception

))) Fast guest check-in

))) Connection to the access control system

))) Direct connection to hotel systems

))) Interior designQR and OCR code reader

))) Payment terminal option

))) Fast printing

))) Compact design

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A5 – Vending machines

In numbers…

- Development of the A5 system since 2017
- Nowadays
  - 832 devices in operation
  - 161 installation at customers
- New customers in 2023
  - Amazon Kojetín
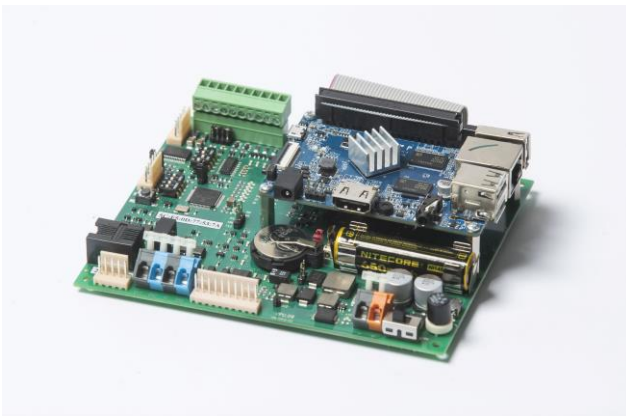 - Brose Kopřivnice
  - Česká Televize
  - Philip Morris Kutná Hora
  - Fibertex Svitavy
  - …

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A5 – Variability of the system

Vending machines

Dispensing cabinets or refrigerators

- Foodstuffs credit system
- Foodstuffs debit system
  - Credit top-up with cash on machine
  - Credit top-up from an EMV card
- Payment by EMV card
- Ordered food
- PPE or tools and aids

- Issuance of PPE by weight
- Issuance of food by weight
- Dispensing of ordered goods
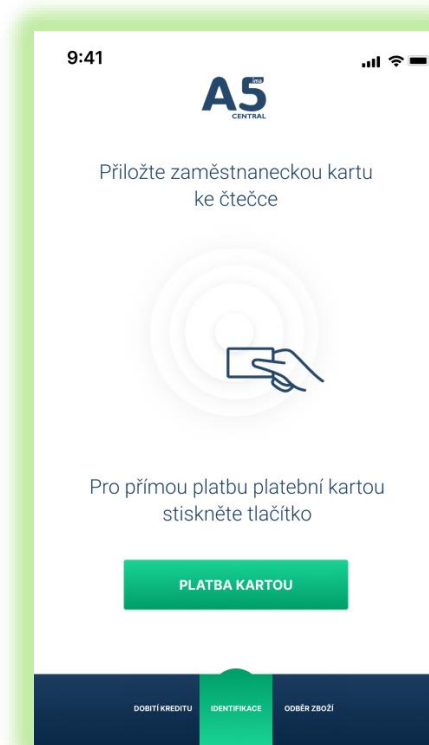
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A5 – Variability of the system

Other applications

- Issuance of PPE from the warehouse
- Vending machines for golf balls
- Recording of the dispensing of anything after presenting the card

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A5 – News for 2023/2024

POS terminal

- Unattended terminal Nexgo UN20
- With our own MDB driver
- New A5 Android App
- Fully compatible with the A5 system
- Acceptance of Mifare/Desfire cards through the terminal
- Connection of any external card reader (Legic, EM,...)
- Bank payments via GPE or MonetPlus

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Industrial solutions

- 1993 - opened the first Panasonic factory in Central Europe, equipped with ACS from IMA

- 1994 - equipping production lines with IMA operating terminals - monitoring attendance and assigning employees to operations

- 2017 – first installation of control of dispensing machines for work and protective equipment in the BROSE production hall in Kopřivnice

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ScanPoint

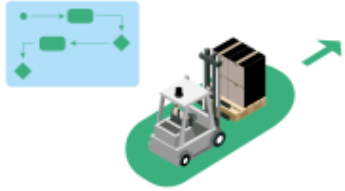- Multipurpose industrial terminal
  - Manufacturing digitalization and automatization made easy
  - Designed with WITTE - developed by IMA
  - Proven in real life industrial conditions at WITTE Nejdek
  - Universal I/O and SW connections
  - 3 month Return On Investment

- Major features
  - Integrated RFID reader, QR code scanner
  - Large 10,1" touchscreen display
  - Wide variety of digital outputs/inputs
  - Advanced power management, battery backed
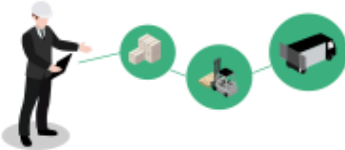 - Heavy duty casing
  - Data encryption

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IMAtrack

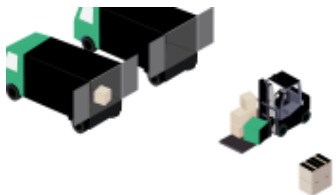## RTLS Solution for Indoor Asset Tracking

- Real-time Asset tracking of: People, Goods, Material, Instruments, Trolleys, Carts, ...

- Fast ROI (typically in order of Months)

- Optimise processes, increase efficiency of workflows and logistics by tens of percent

- Increase daily revenue

- More efficient workforce utilization

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Where are IMA systems headed?

- New products and services
- Redesign of current solutions
- New generation of SW and HW
  - Reverse compatibility
  - Enhanced security
- Industrial solutions
  - Terminals
  - Services
  - Localisation
- Process automation
  - Automatized reception
  - Employee lockers
  - Vending machines

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Context of today
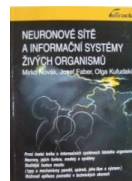## … or appearances are deceiving

- **Hydrostatic paradox**

- **Free fall**

- **Von Neumann (†1956)**

- **Heredity**

- **Quantum physics**

- **AI / ML / NN**

The transfer from research to practice is a challenge

- Blaise Pascal (half of the 17th century)
  + *cca 50 calculators -> Pascal language*

- v = √(2*g*h)

- Automatic computer
  ? How does the "production of a certain cell" start when it contains all the information?

- Horizontal gene transfer - genetic internet between all organisms

- Nobel Price 2022-quantum state (photon vs. Info)

- 10 nano m vs. 10-200 μm in the human body

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