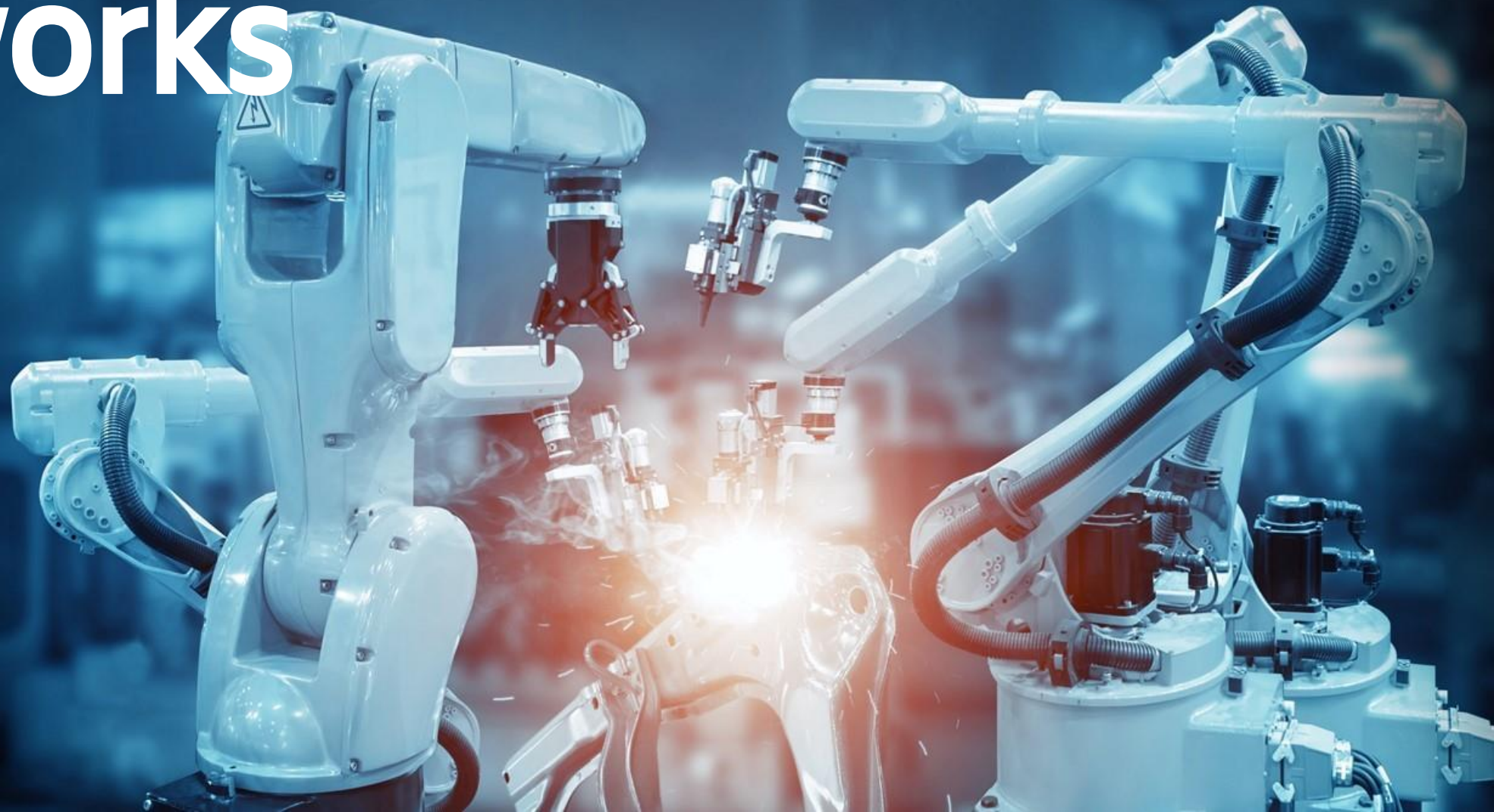


Ericsson Private Networks

KKTS Plzeň 2022

Miroslav Fiala



Evolving enterprises and industry trends

Drives the need for robust connectivity



Enterprise connectivity challenges

Multiple separate networks for communication



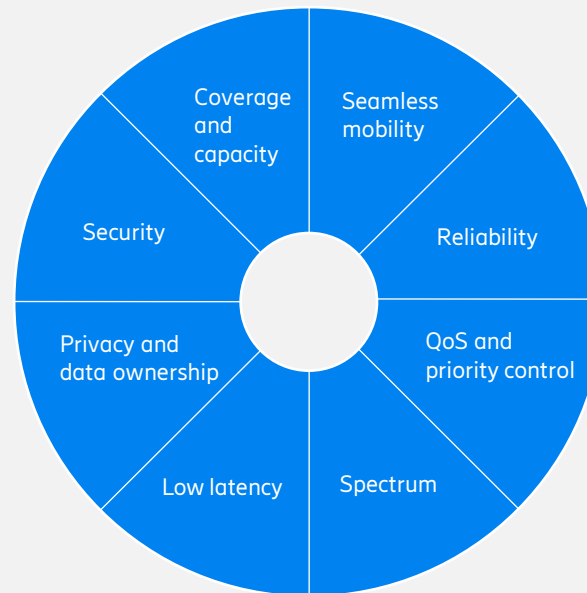
High cost of ownership



Performance limitations:
Reliability, coverage,
security, mobility



Data speeds:
Throughput, latency



Dedicated 5G network

Industry trends

Innovation shifts from core applications to the edge



Growing demand for high-speed secure data applications



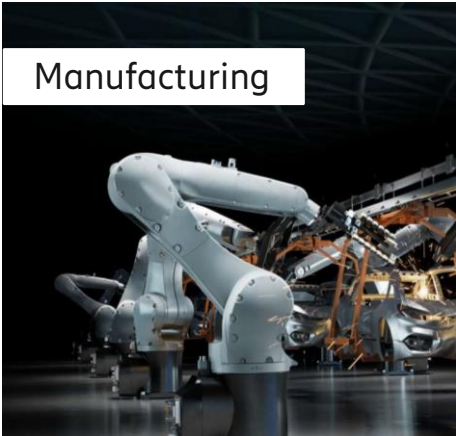
Industry 4.0 transformation C&M



Industry needs



Manufacturing



- Easy integration with IT/OT systems
- Easy installation and management
- High reliability and availability
- Easy operation and maintenance
- Additional use cases like positioning, voice

Mining



Ports



Offshore and
process industries

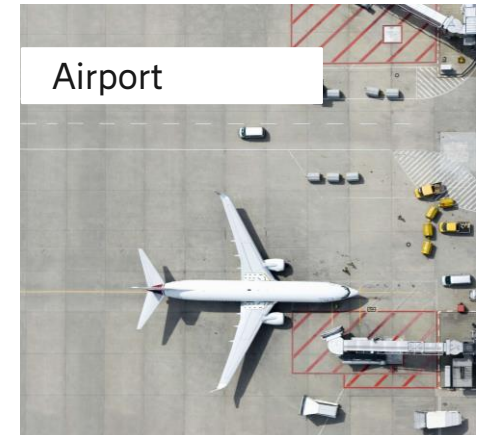


Power utilities

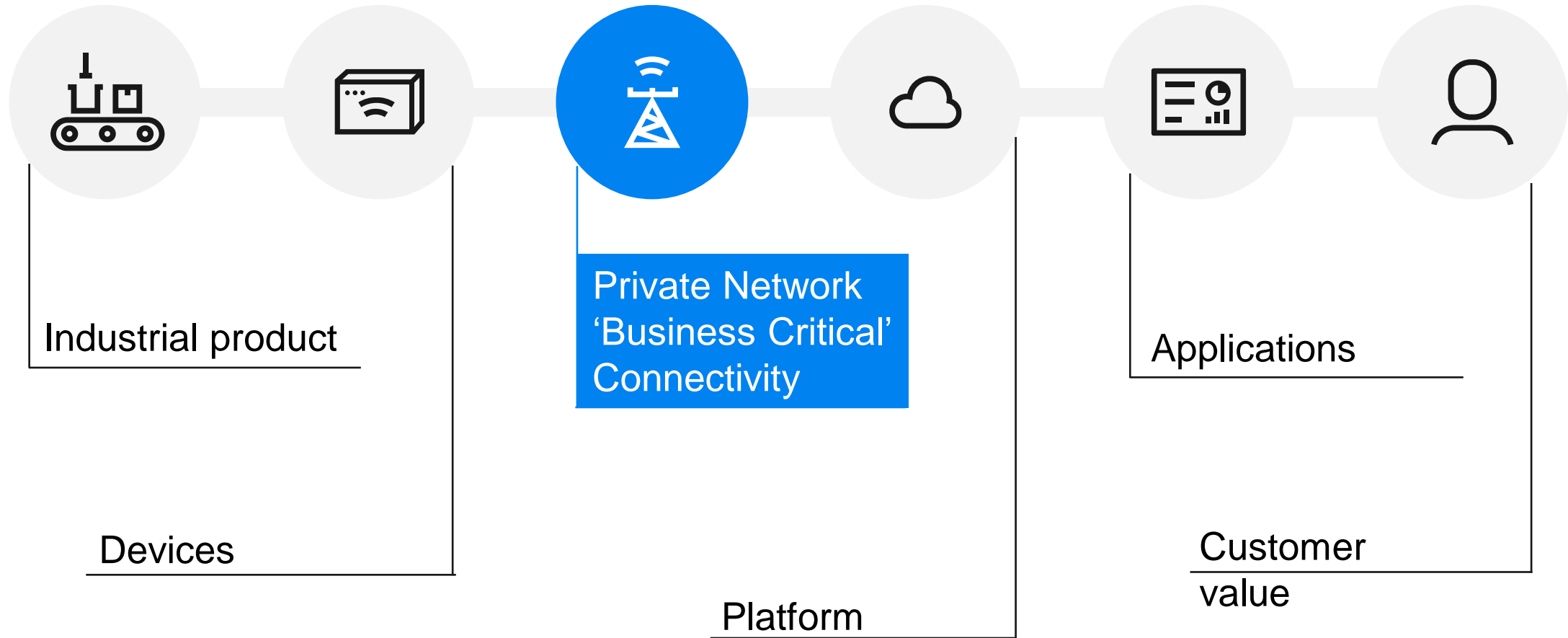


- Coverage at multiple sites
- Local survivability
- High security and privacy
- Data stays local
- Low latency

Airport



Cellular connectivity for industries



Cellular connectivity is fundamental to new use cases



Digitalization

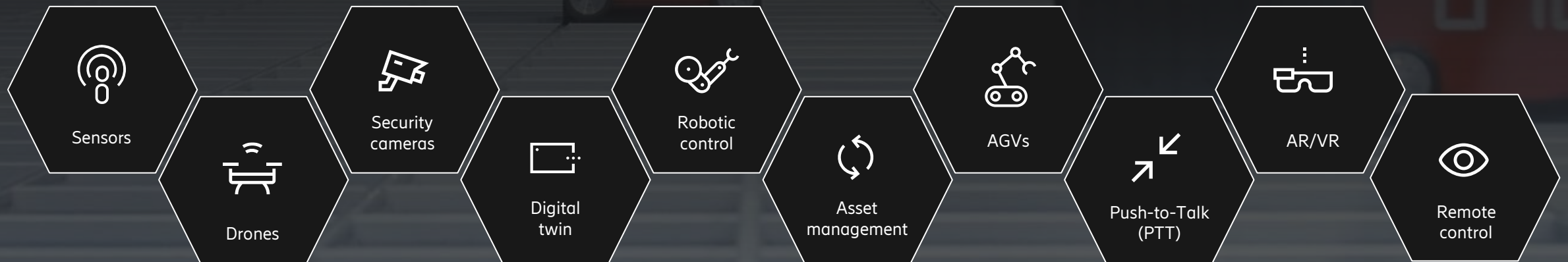
Implement new use cases by integrating wireless sensors, cameras, and drones, as input to digital models and AI analytics

Automation

Take full advantage of industrial control, automation, and remote control throughout the production process

Connected workers

Boost worker capabilities with XR immersive reality, location awareness for safety and machine interaction



Cellular brings a new dimension of mobility



LTE/5G

- Built for mobility
- Built-in security from start
- High and predictable performance (QoS) under load
- Low and predictable latency
- High reliability
- Trustworthy system
- Spectrum and efficiency

Land mobile radio

- Voice + data + video
- 9.6K data
- Systems getting old with high costs to operate
- Device ecosystem not as developed

Cables

- High speed and predictability
- Less flexibility when you need to do changes in your operations
- No mobility for moving devices, for example, combined indoor and outdoor use cases
- Breakages or erosion can occur
- Harder to scale and to deploy devices that were not planned for
- Some places are hard to reach for cables

Wi-Fi/Wi-Fi 6

- Less stable performance and latency under load
- Unlicensed spectrum only
- Not so good in combined indoor/outdoor use cases
- Harder to build good outdoor coverage

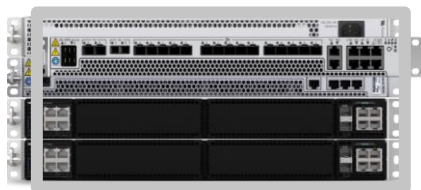


Ericsson Private 5G product offering

5G sized for industry. Fast to deploy. Easy to operate. Lifecycle assured.

A fully automated cellular network offering that addresses the need and the future business models of Enterprises and CSPs

Network controller



Small
Up to 1k Users, 1 Gbps traffic
Dell VEP4600



Large
Up to 20k Users, 10 Gbps traffic
Dell R640

Radio portfolio



Baseband



Macro radio



Micro radio



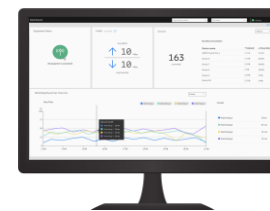
Radio dot



AIR



Cloud based management



Enterprise friendly management

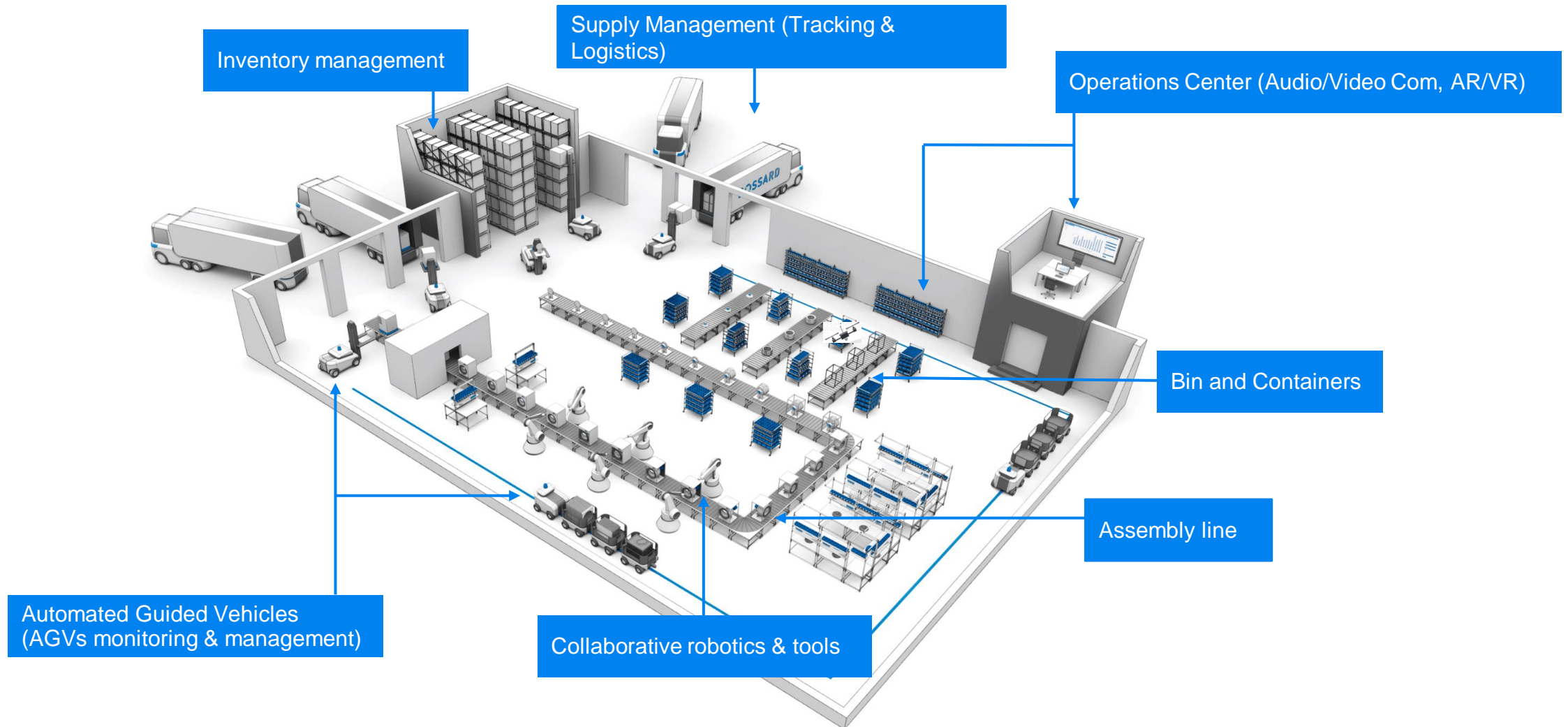


Sim card provisioning

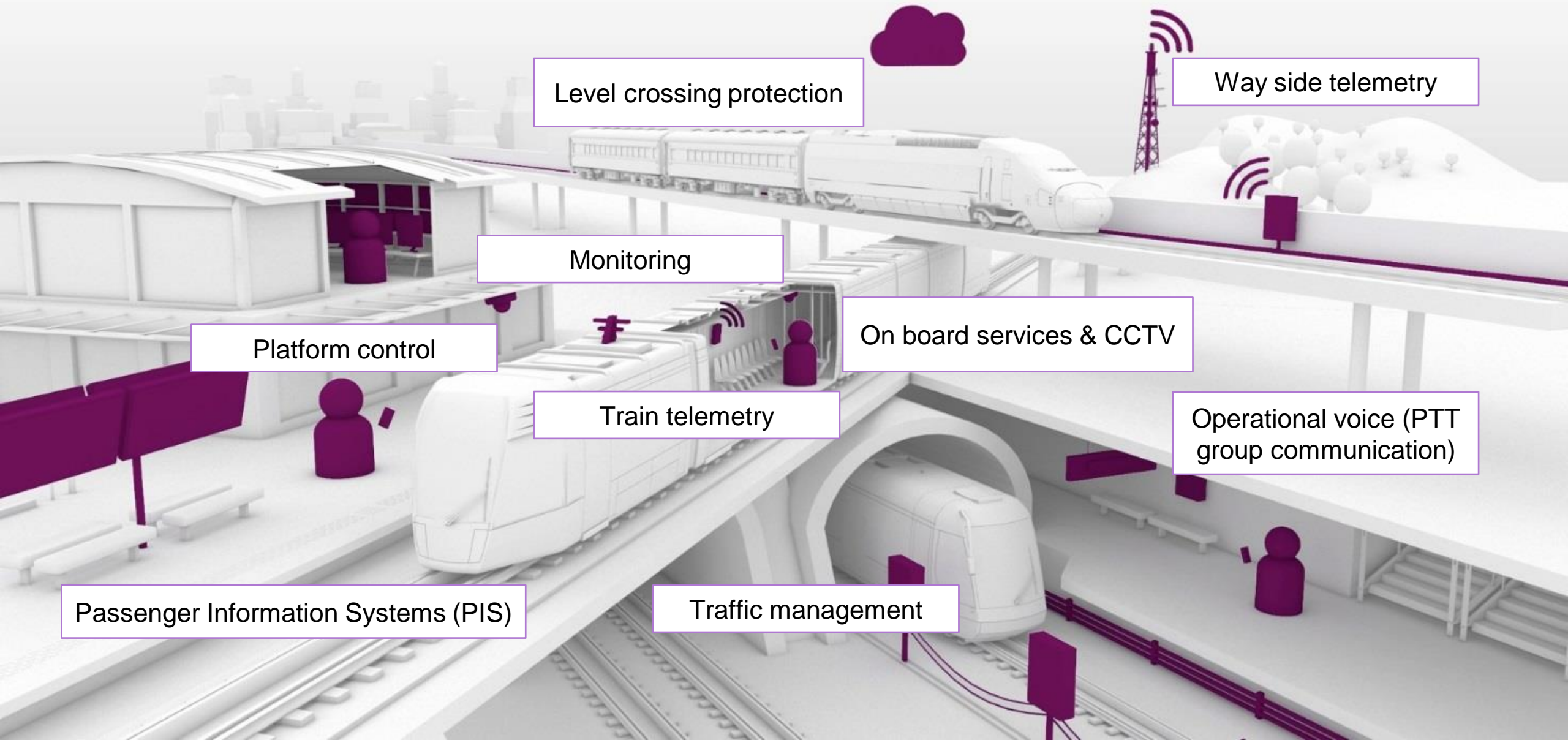


Performance monitoring

Manufacturing use cases



Rail transport use cases



Level crossing protection

Way side telemetry

Monitoring

On board services & CCTV

Platform control

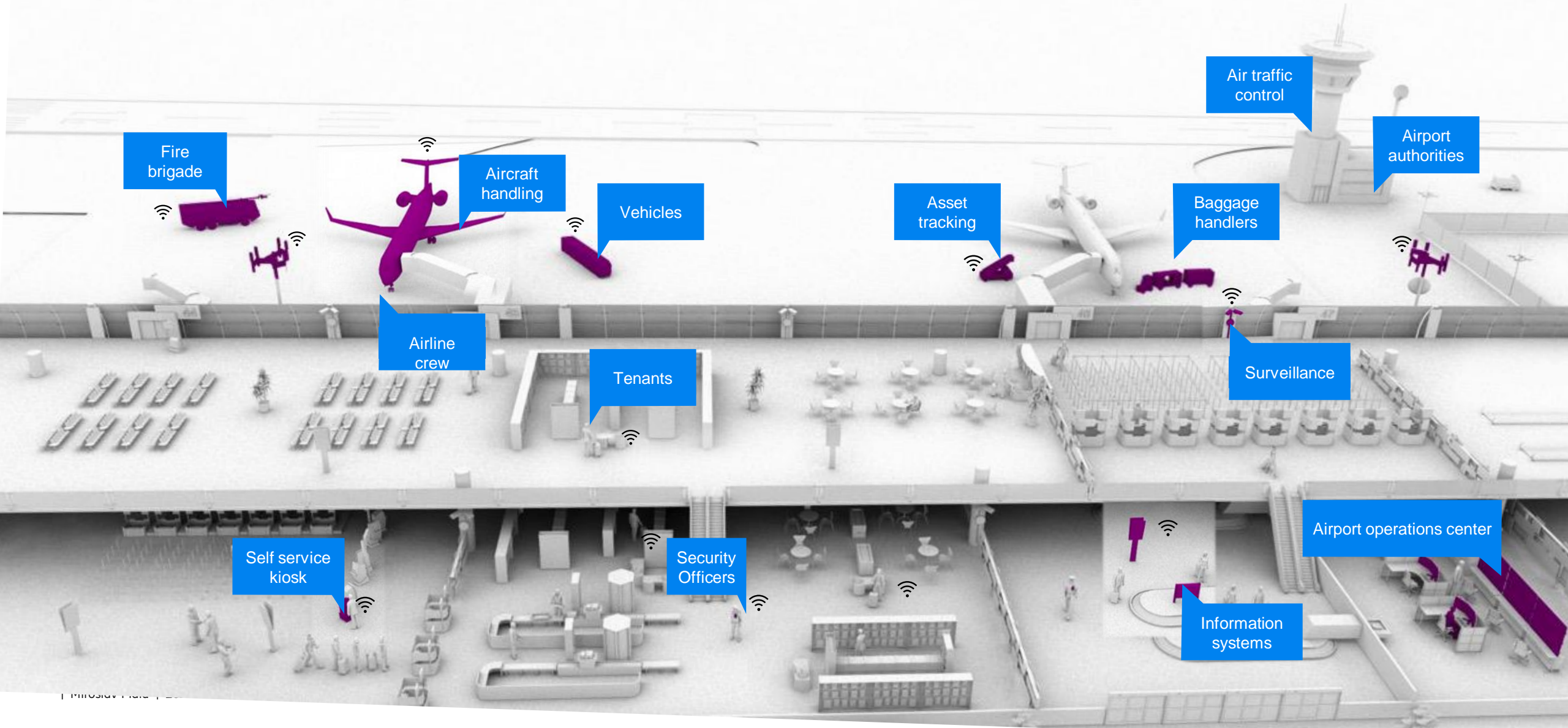
Operational voice (PTT
group communication)

Train telemetry

Traffic management

Passenger Information Systems (PIS)

Airports enterprise communications



Selected references



Industry 4.0 Reference Factory Smart Manufacturing

- Reference Factory in Aachen connected to Ericsson's 5G E2E Trial network
- Dedicated environment to explore Industrie 4.0 use cases, e.g. leveraging
 - Ultra low latency radio and wireless
 - Connected Sensors in the factory
 - Automated SLA assurance
 - Production process modelling



YPSOMED & Swisscom Smart Manufacturing

- Real-time evaluation of machine data
- Moving industrial PC's from the shop floor to local factory cloud and replacing wires
- Quality inspection by means of AR
- «5G will be the next major step»
Simon Michel, CEO of Ypsomed



FirstNet with AT&T Public Safety

- Independent Agency to deploy Public Safety MBB network in US
- All 50 states, 5 US territories & Washington D.C. joining FirstNet
- Network built by AT&T
- 2 x 10 MHz dedicated to Public Safety in 700 MHz (B14)

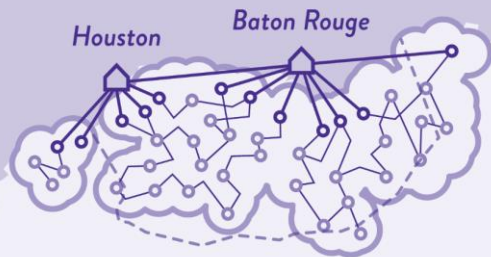


Selected references



Tampnet, Gulf of Mexico Oil & Gas

- MBB services to the offshore oil & gas industry
- Plans to have 60+ base stations operational by the end of 2018 covering 98% of all manned offshore assets in the Gulf area
- Transport based on microwave and redundant fiber



Roy Hill Mine, Telstra Mining

- Ericsson & Telstra deploy an LTE/5G network in an Australian mine
- Enable smart mining-related tasks for open pits or underground areas
- Flexible and efficient coverage
- Health & ambient monitoring, remote operation of mining machinery

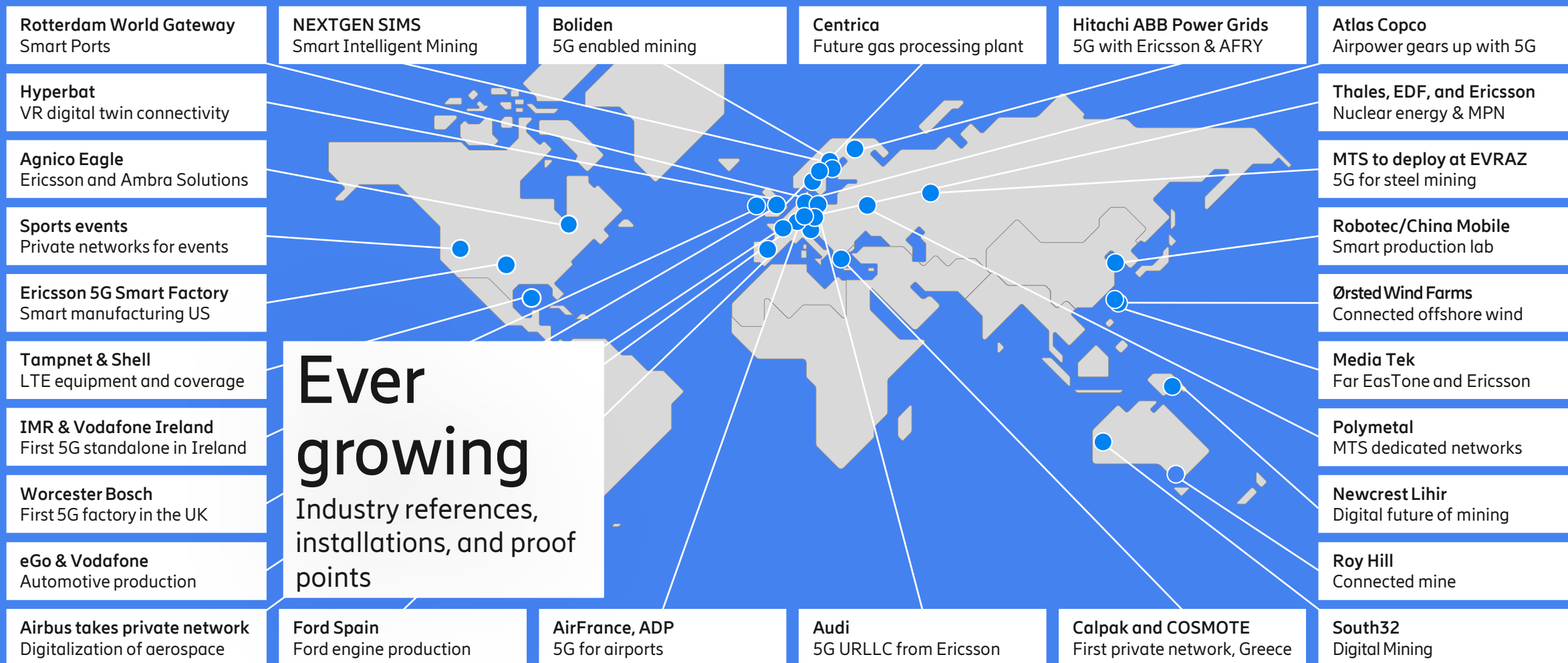


Southern Linc Wireless Utilities

- Regional carrier in Southeastern USA providing reliable wireless communications service
- Complete substitution of existing LMR (iDEN) network by LTE/5G
- Delivery of eMBMS for MCPTT (Mission Critical Push-To-Talk)



Private Networks industry reference cases





ericsson.com/dedicated-networks