

# 5G as a platform for Industry Transformation

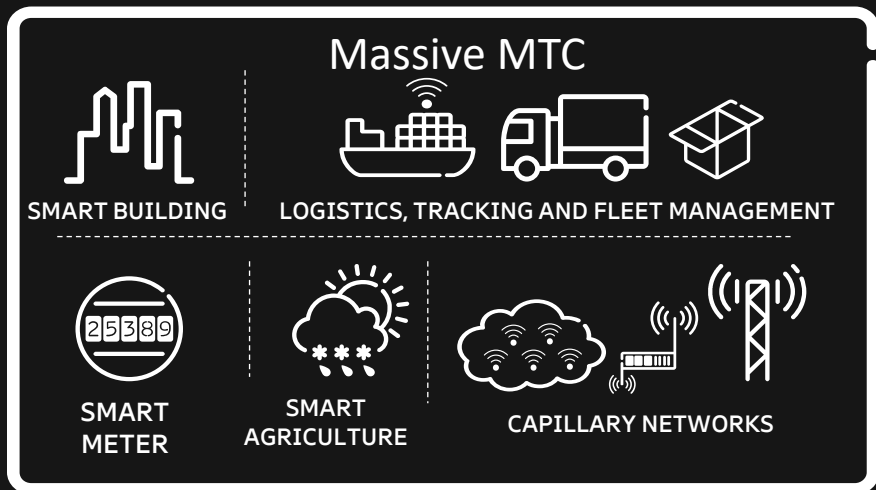
MAINTENANCE TRAINING  
MACHINE NUMBER: S/N 12822351



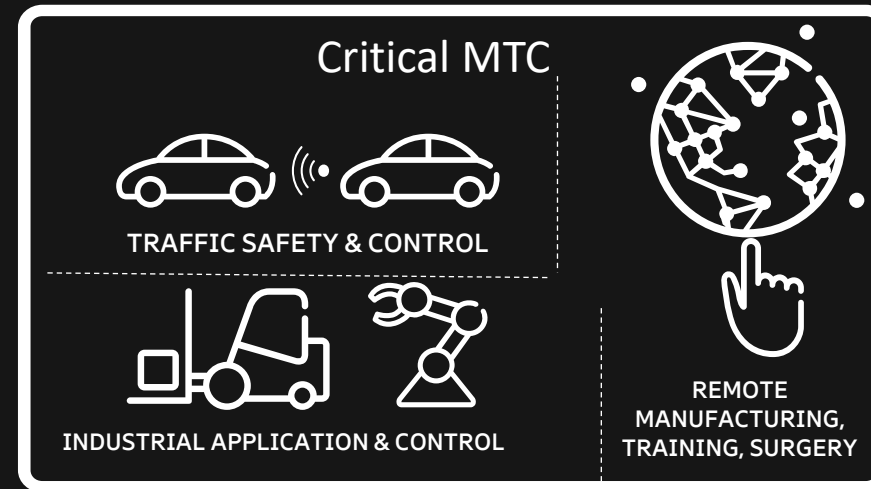
29<sup>th</sup> November 2022



## LTE-M & NB-IoT R13+

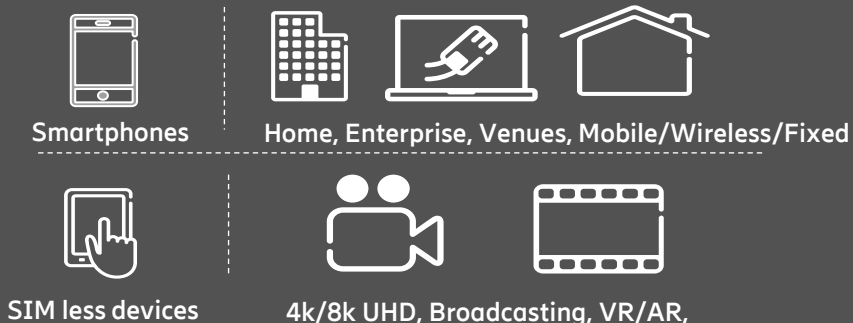


## 5G/NR ULLRC R16+



LOW COST, LOW ENERGY  
SMALL DATA VOLUMES  
MASSIVE NUMBERS

### Enhanced Broadband



ULTRA RELIABLE  
VERY LOW LATENCY  
VERY HIGH AVAILABILITY

LTE R14/15  
5G/NR eMBB R15+

# Industry 4.0 wireless ecosystem <http://ericsson.com/industry4.0>



## Independent software vendors

- Applications ecosystem
- Application enablement Platforms
- Manufacturing Execution Systems (MES)
- Enterprise Resource planning System (ERP)
- Location platforms



## Cellular Network 4G /5G (public, sliced, Private Network)



## Device partners & HW



## Modules

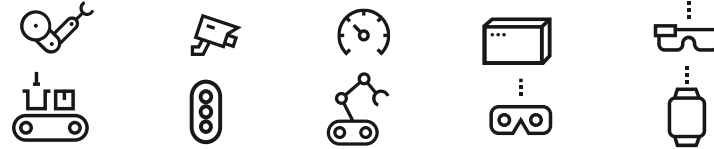


## Cellular Gateways



Current loop  
Ethernet  
RS232  
Analog I/O  
Digital I/O

Machinery  
Sensors  
Actuators  
Handhelds  
Wearables  
Cameras  
Drones



Wired via Gateway or Integrated Module, grid power

Integrated with Cellular Module or Chipset, battery



## Professional services

System Integrators & business advisors



# Mercedes-Benz Factory 56 – flexibility, scale, CO<sub>2</sub> neutral.

## The Challenge

Need for a flexible and connected infrastructure to replace traditional assembly line with driverless transport systems, in order to significantly gain efficiency and flexibility to produce large numbers of very different vehicles

*"With the improved processes, comprehensive data availability and fast decisions based on real-time data, we will increase production efficiency by more than 15 percent by 2022".*

*Jörg Burzer, Member of the Divisional Board of Management of Mercedes-Benz Cars*



## The Solution

Private commercial 5G Network:

- Ericsson Private Network solution with 5G Radio Dot for high performance indoor
- First phase covers 20.000 of the 220.000 m<sup>2</sup> of Factory 56

## The Results

- Maximum flexibility - digital and flexible factory perform all assembly steps for the Mercedes S-class.
- Optimize production processes through data linking and product tracking on the assembly line
- Process optimization, which can be adapted on short notice
- Intelligently linking production systems and machines to support the efficiency and precision of the production process
- Secure data confidentiality with the on-premise cellular network
- Zero carbon factory - CO<sub>2</sub>-neutral with significantly reduced energy requirements

## Partners

- Telefónica Germany
- Mercedes-Benz



# Automated 5G system solutions for warehouses

## The Challenge

Dematic uses an industrial engineering approach focused on operational excellence to develop the ideal system configuration for warehouses, distribution centers, and production facilities.

Process improvements, material flow automation, along with performance optimizing software make up the components of each solution, reduce outage time of the system solution (multi-shuttle).



## The Solution

Ericsson Private 5G provides DEMATIC an 5G-SA Indoor environment based on several Radio Dots in band N78L (3.7-3.8GHz) local spectrum for rapid prototyping of system solutions for warehouses.

## The Result

- Reduce space requirements, operating costs, processing time, transactions, and potential for errors
- Optimize material & information flow, processes, operations management, and activities
- Increase productivity, throughput, inventory & order accuracy, safety, ergonomics, visibility, insight, profits

## Partners

- DEMATIC (KION Group)

# U.S. 5G- Automated Smart Factory

## The Challenge

Ericsson's upcoming U.S. factory will produce Advanced Antenna System\* radios, as well as 5G radios for urban areas.

The facility requires fully automated operations, as well as a modular and flexible production setup, to enable quick ramp up and rollout.

*"We continue to focus on working closely with our customers and supporting them in the buildout of 5G globally and in North America. With today's announcement, we conclude months of preparations and can move into execution also in the U.S. In addition, we are digitalizing our entire global production landscape, including establishing this factory in the U.S. With 5G connectivity we're accelerating Industry 4.0, enabling automated factories for the future."*

**Fredrik Jejdling**, Executive Vice President and Head of Networks at Ericsson



## The Solution

Fast and secure 5G connectivity throughout the factory, which will enable agile operations and flexible production.

This will be achieved through automated warehouses, connected logistics and automated assembly, packing and product handling, and the use of autonomous carts.

## The Result

The latest technology products created in the 5G factory will enable a faster rollout of commercial 5G across the region, with the goal of defining 30 use cases for a full showcase automated factory.

## Partners

– Ericsson 5G Smart Factory, Texas



[ericsson.com/dedicated-networks](https://ericsson.com/dedicated-networks)