



MWCTM
Barcelona

5G IoT for Manufacturing at MWC Barcelona 2022

Manufacturing Summit Session 3
Kickstarting 5G for Manufacturing

Industry City Stage,
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INDUSTRY CITY

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INDUSTRY CITY

#MWC22



Smart Factory:

How 5G & Digital Technologies deploying use cases in the real world

MWC2022 – AI of Things



Challenges in the Real World

The background of the slide is a blurred image of an industrial factory floor. In the foreground, two large, white industrial robotic arms are visible. The arm on the left is positioned higher and is reaching towards the center. The arm on the right is lower and is actively welding a metal component, with a bright, glowing light emanating from the welding point. The overall color scheme is a cool blue, with the white of the robots and the bright light of the welding providing contrast.

Uses cases approach


5G & Wireless Factory

Quality & SLA as focus

Design final Technology
Framework

OT vs IT

Change Management



00

Artificial Intelligent

Smart Ports



Use of **artificial vision technology** based on deep learning algorithms, applied to the real-time recognition of the signage of vehicles accessing for **automated access control**.

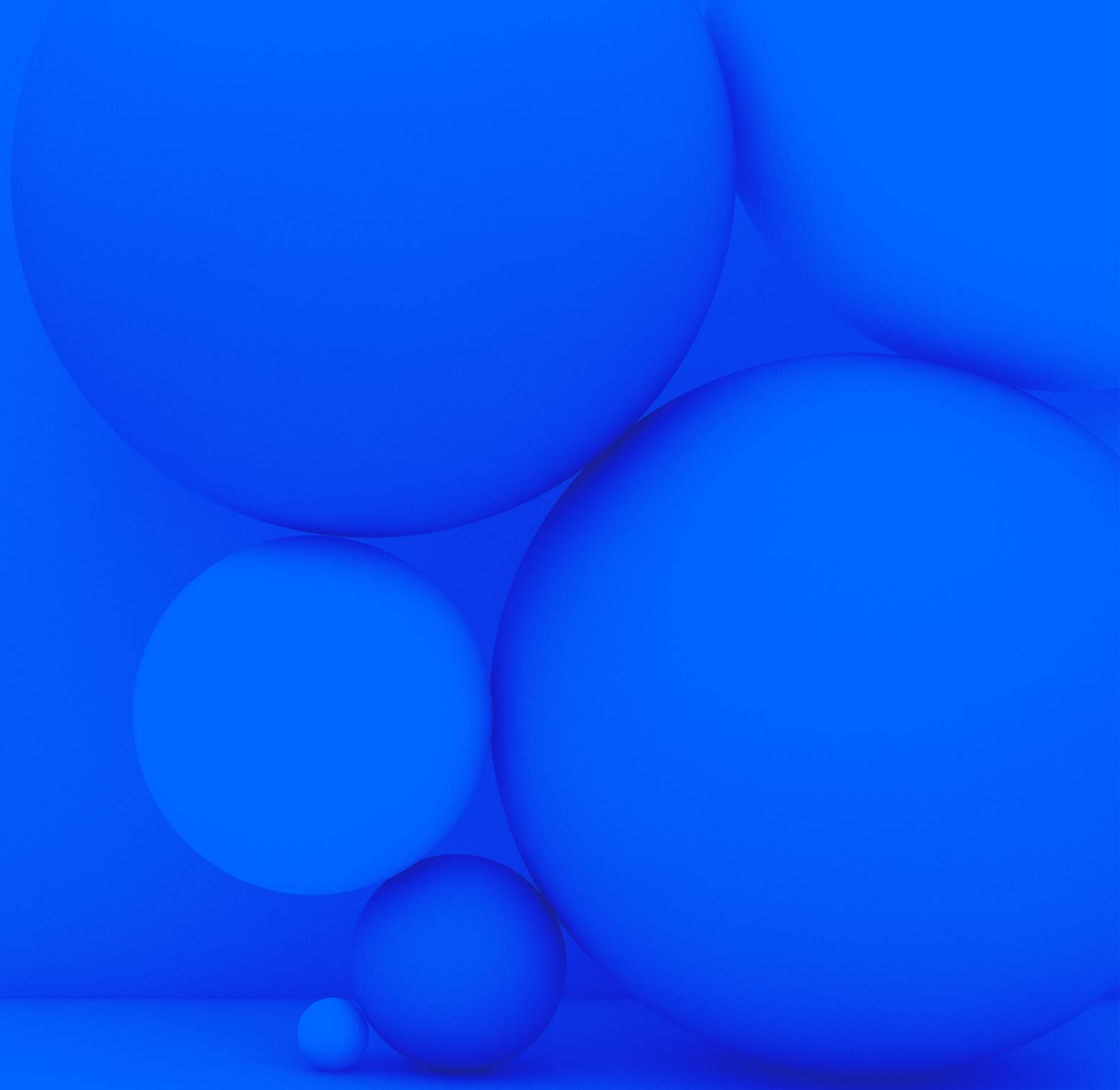
Benefits

Savings of **8,096 hours/year** in vehicle and goods identification time at port access.*

Savings in CO2 emissions generated by land transport of **75,657 kg Co2 /year**.*

01

Digital Twin



Digital Twin Process



Development and custom implementation of a **digital twin** for the **optimization of logistics flows**.

- Acquisition, capture of historical and real-time data from sensors, **AGVs**, **connected employees** and **routes of the MES / SCADA system**.
- **Virtualize and simulate the process** in order to know the logistical impact of incorporating new AGVs or change routing.
- Results and reporting based on different scenarios in order to assess and verify the effectiveness of possible investments.

Benefits

Increase in OEE by **10%**

Reduction of production time by **25%**.



02

5G Integrated Assistant Mobility

5G Integrated Asistant Mobility



Interconnection of cranes, vehicles and employees by merging different advanced communication and localization technologies, with the aim of improving port safety.

- All the agents involved (cranes, vehicles, employee...), register their position with great precision by means of **C-V2X communication units**.
- This information is sent in real time to the **Multi-access Edge Computing (MEC)** thanks to **5G** technology.
- The **Cooperative Intelligent Transportation System (C-ITS)**, hosted on the Edge, processes information and enables the coordination of port traffic among the various stakeholders.

Benefits

The objective is to increase safety in port environments, reaching **vision 0** (0 accidents, 0 fatalities).

03

5G Logistic Center

5G Logistics Center



Deployment of a **Private 5G network** with the aim of realizing the Industry 4.0 concept applied to the world of logistics and optimizing parcel and sorting processes.

- Real-time optimization of **pallet carrier routes** through the use of 5G technology and MEC.
- Elimination of **physical wiring between parcel sorting machines** and the software that controls them, thanks to 5G.

Benefits

Time improvement of about **20%** thanks to the optimization of pallet carrier routes.

The background of the slide is a photograph of an industrial manufacturing environment. It shows a car's metal chassis on an assembly line. Several yellow robotic arms are visible, some of which are welding or grinding parts of the car. Bright sparks are being generated from the welding process. The scene is set in a large factory with a high ceiling and various industrial structures.

Recommendations

Do things differently

Digital Transformation is out there

Technology is a enabler for digital business



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