Anybus Wireless
Chanel sales presentation

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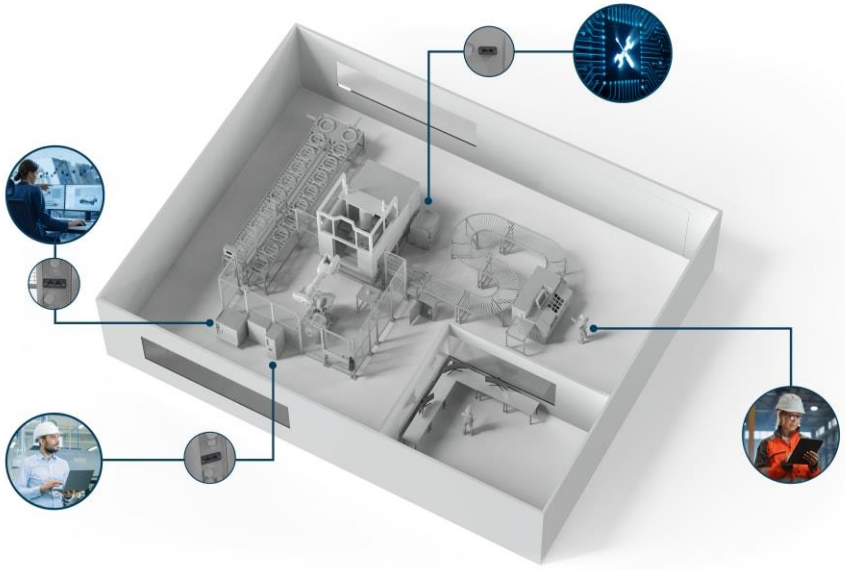
This is Anybus

- Anybus is a world leader in network communication, uptime, and security within industrial automation
- We provide industrial communication products that help companies increase product quality, reliability, and production rates
- We simplify industrial connectivity by providing ready-made products that can connect to any major industrial network or establish wireless connections in tough conditions



Main product categories

Embedded
Communication interfaces that device or machine manufacturers can embed into their products to enable connectivity to all major industrial networks

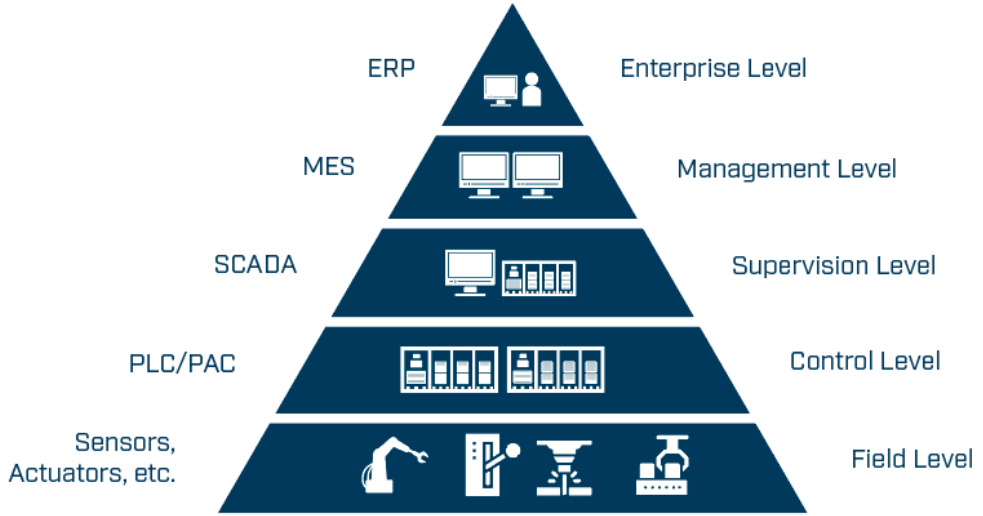
Gateways
Easy-to-use standalone gateways that provide network protocol conversion and enable quick connectivity of machines and devices to control or local IT systems

Wireless
Products to wirelessly connect industrial machines and devices in hard-to-reach locations or wherever cables are not desirable

Why industrial connectivity is needed

The benefits of automation includes:

- Automate repetitive tasks
- Increase flexibility and scalability
- Improve accuracy
- Decrease downtime
- Reduce production errors saving time and money

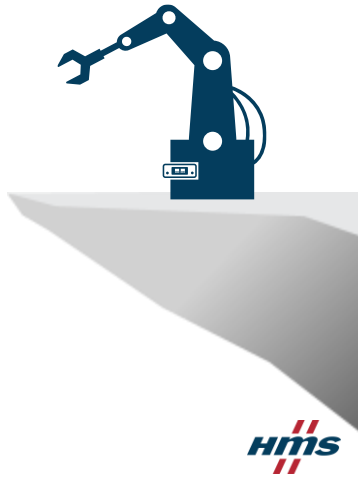


Connecting devices on the field level to the PLC or PAC on the control level enables companies to automate processes and analyze data.

Common limitations for wired connections and wireless alternatives in industrial automation

Mind the gap

- In industrial data communication, situations can arise where the network cable is a limiting factor
- Limitations may depend on whether the device to be connected is in motion, is in a hard-to-reach location, or that it simply becomes too costly or impractical to connect via cable



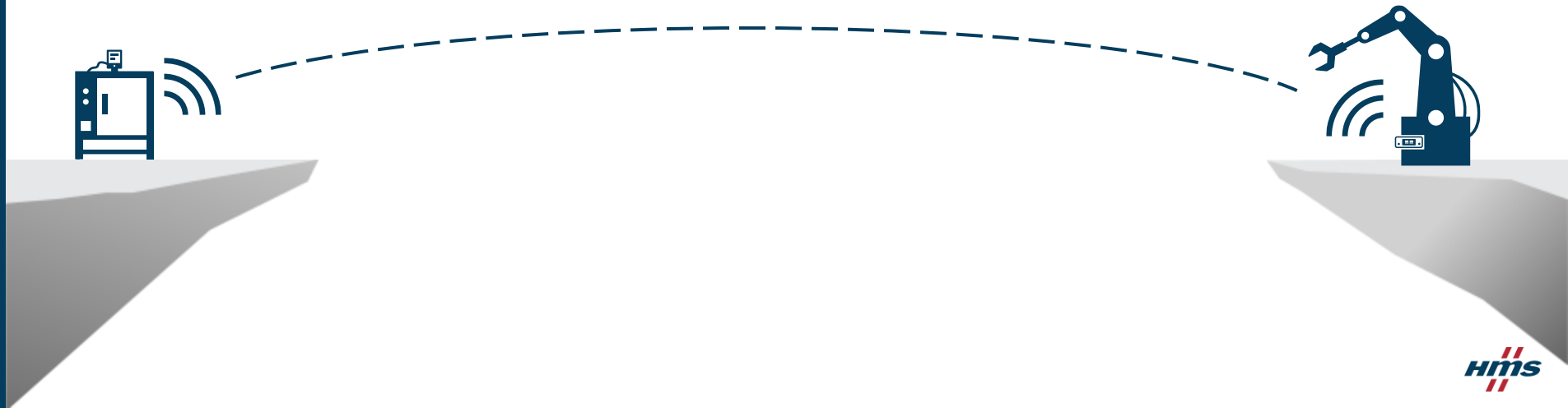
Wireless connections can solve these problems

- In many cases, it is possible to solve these problems by establishing a wireless bridge
- For a wireless connection to be a good alternative, it needs to retain as much as possible of the characteristics of a wired connection:

Easy to install and use

Cost-efficient and reliable

Transparent real-time-communication

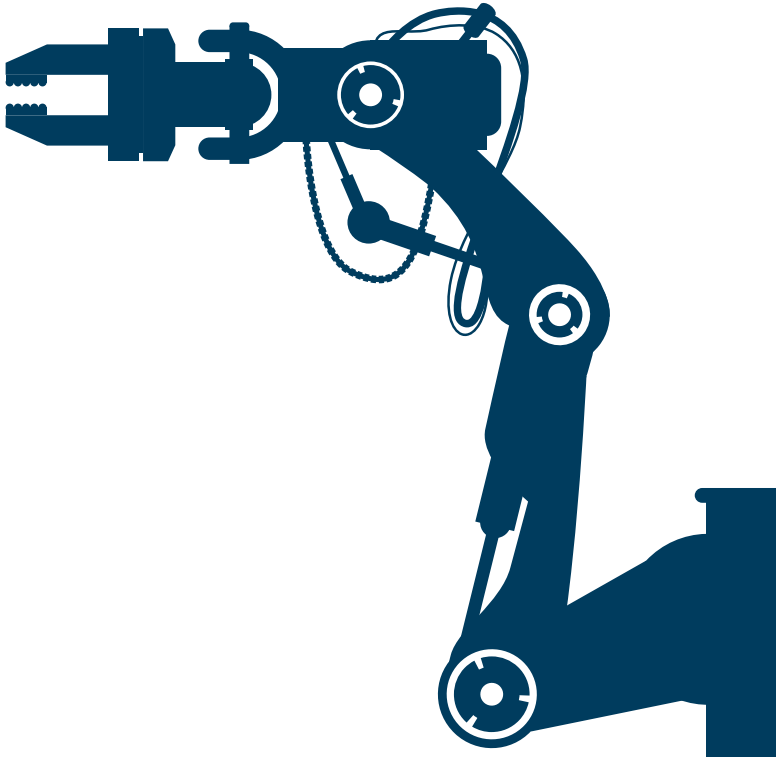


Uptime and reliability

- Cables and connectors can be damaged by the wear and tear of machines in motion or if they are exposed to strong vibrations, shocks and blows

- For example, the cables of an industrial robot will wear out over time and may fail causing downtime and production standstill

- Industrial conveyor belts are another example where constant strong vibrations significantly affect the function of cables and connectors

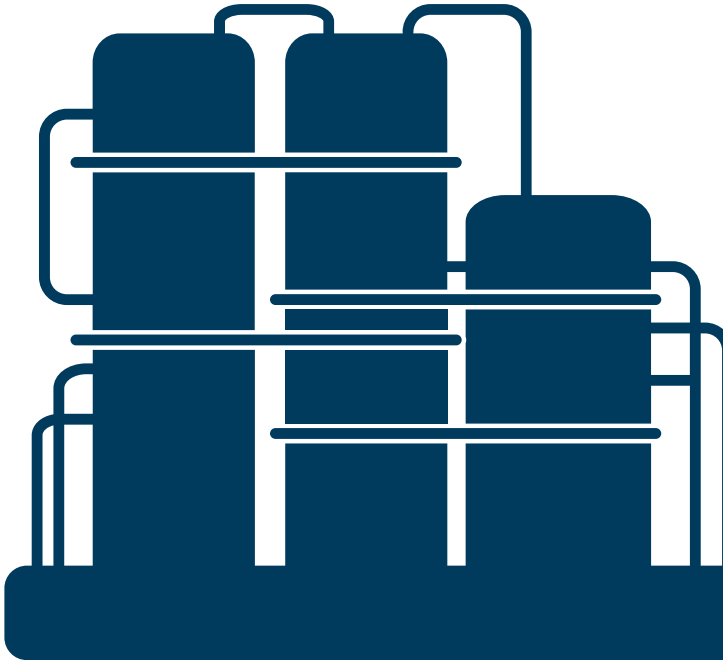


Easy access to data

- Physical access to the device to be connected can be an issue as it may be in motion, it may be in a hard-to-reach or potentially dangerous location, or it needs to be accessible from other mobile devices such as a handheld HMI or a laptop

- For example, industries that handle a lot of raw materials may need to take regular readings of levels, quality, and more. Manual reading can be a safety risk, time-consuming and impractical

- The increase of IIoT where continuous machine data is interpreted for optimized operation, predictive maintenance is driving the need to connect more things, regardless of what the conditions look like

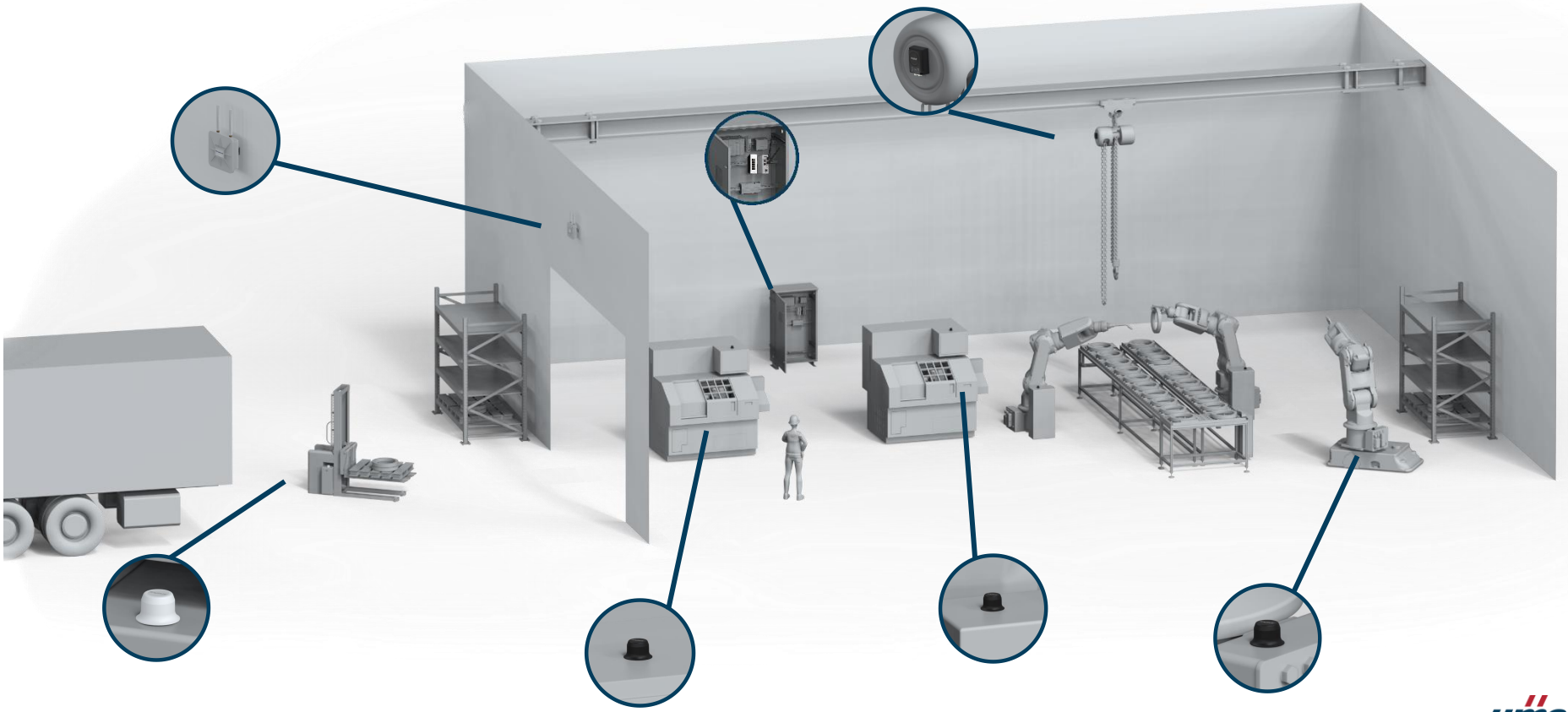


Cost-efficiency

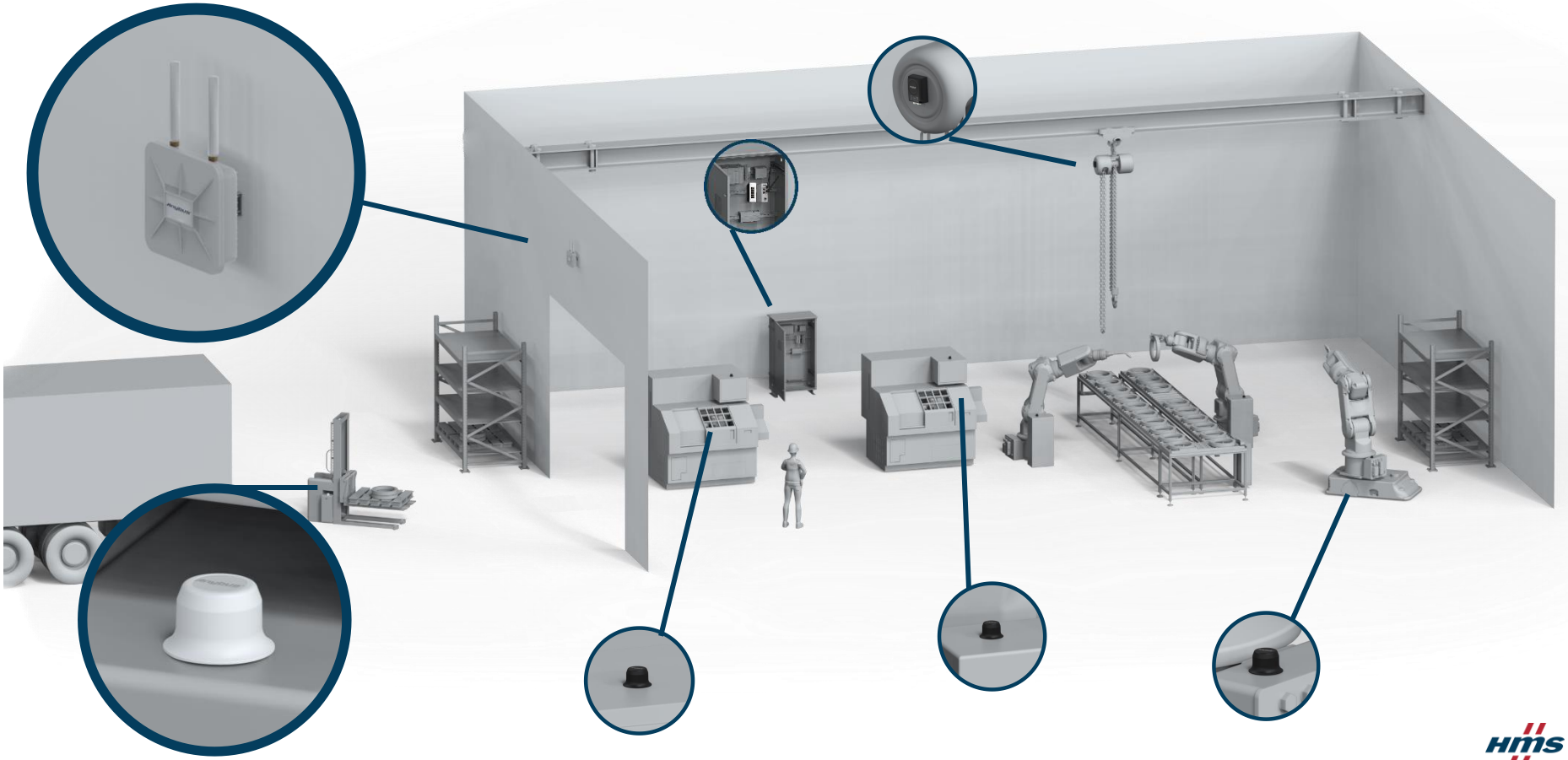
- Installing cable is expensive and may in some cases not even be a feasible option
- Installing new cable is a larger project and takes longer than establishing a wireless connection
- Cost increases with scale where each node will drive additional cost for wiring, associated labor and maintenance

Anybus Wireless portfolio

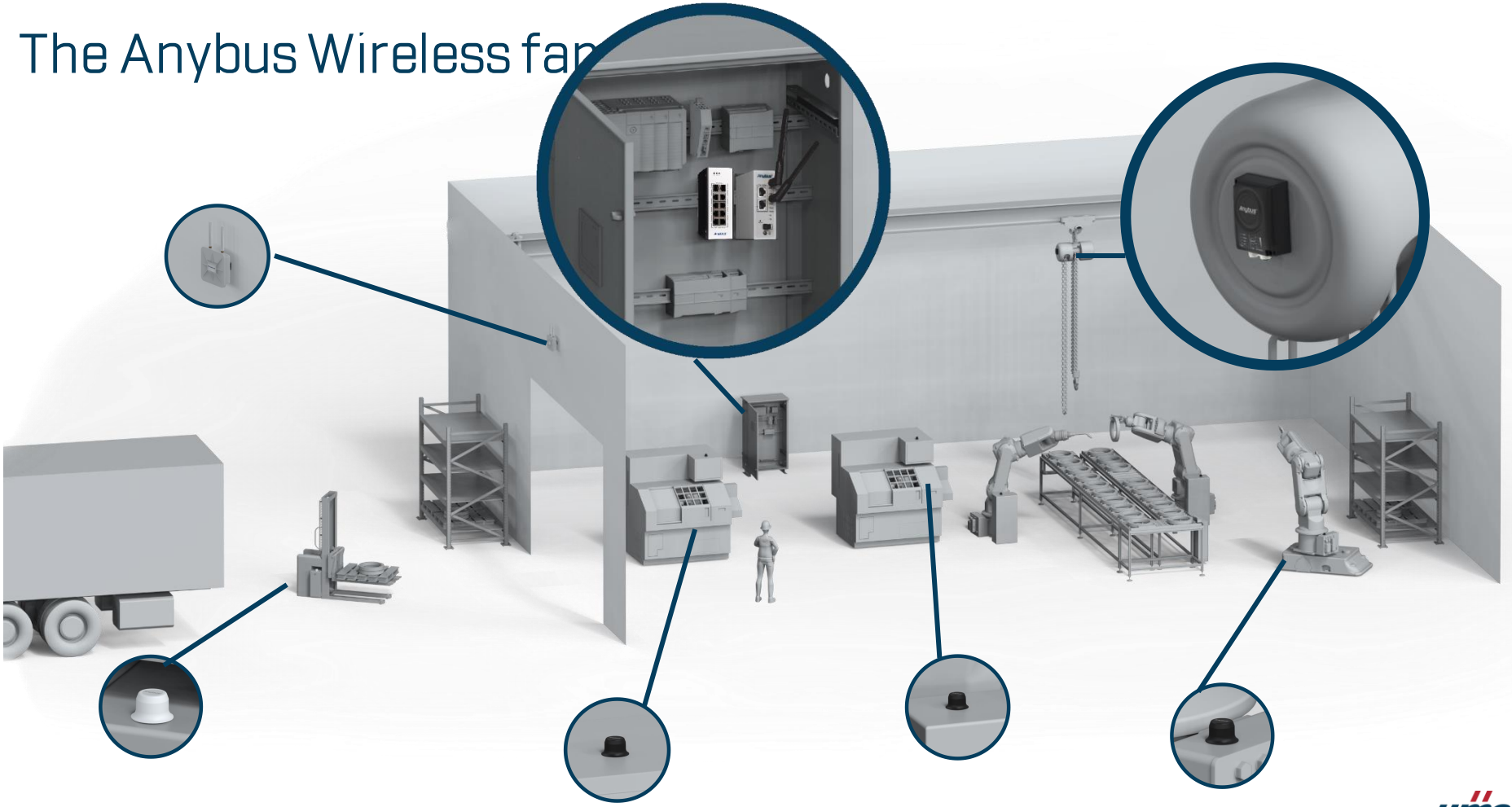
The Anybus Wireless family



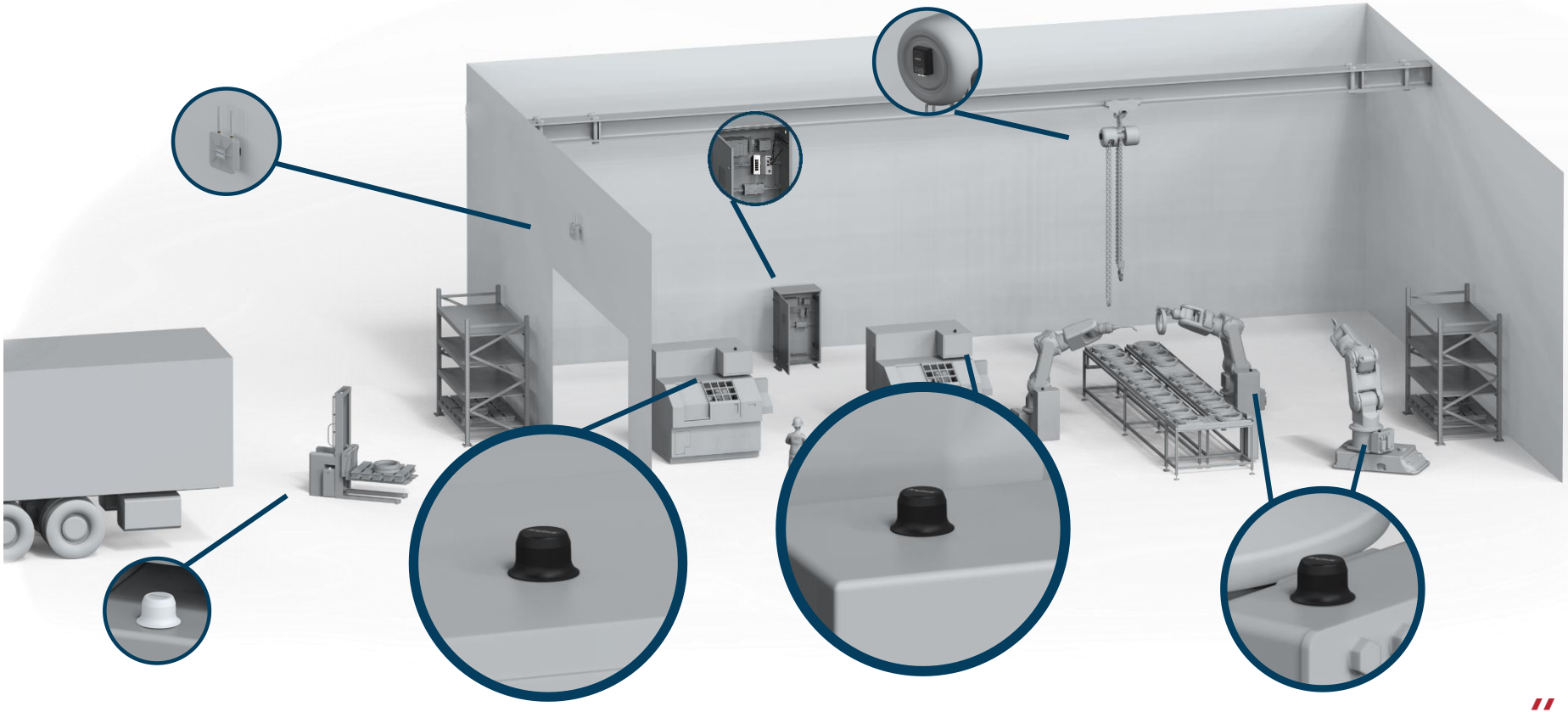
The Anybus Wireless family



The Anybus Wireless fam



The Anybus Wireless family




Anybus
PWR
WLAN
LAN
BT
MODE
Link
Link Quality

The Anybus Wireless Bolt

- **Adds wireless connectivity**
- **Hole mounted (M50)**
- **Unique form factor**
- **IP66/IP67**

Product versions

- **Bolt Ethernet**
  - Ethernet → WiFi/BT
  - RJ45, PoE
- **Bolt CAN**
  - CAN → WiFi/BT
  - 18-pin
- **Bolt Serial**
  - Serial → WiFi/BT
  - 18-pin
- **Bolt IoT**
  - Ethernet → NB IoT/LTE-M
  - RJ45, PoE
- **Bolt LTE**
  - Ethernet → LTE
  - RJ45, PoE

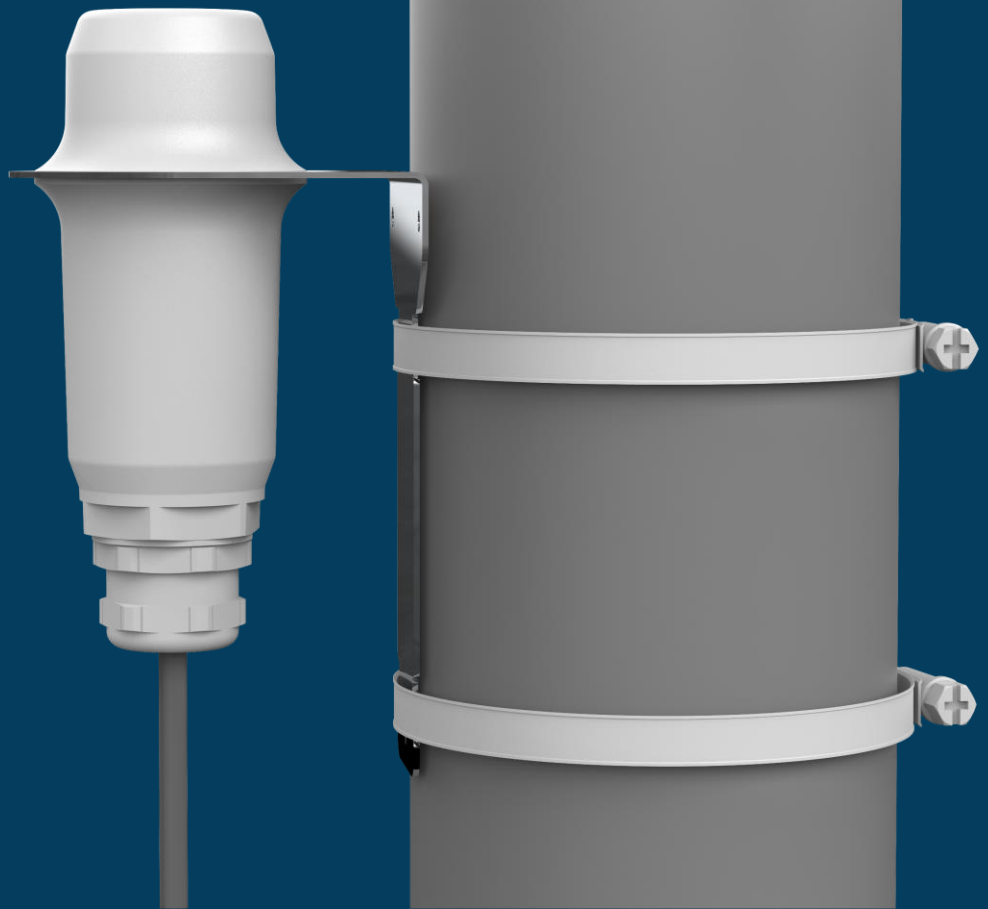
The Anybus Wireless Bridge

- Surface mounted
- Ethernet → WiFi/BT
- M12 connectors
- Physical UI
- Cable replacement

The Anybus Wireless Bolt II

- **Strong wireless platform**
- **Hole mounted (M50)**
- **Unique form factor**
- **IP66**
- **WDS Bridging**
- **WPA3 Enterprise security**

Bolt and Bridge accessories



Infrastructure Products


Anybus
PWR
WLAN
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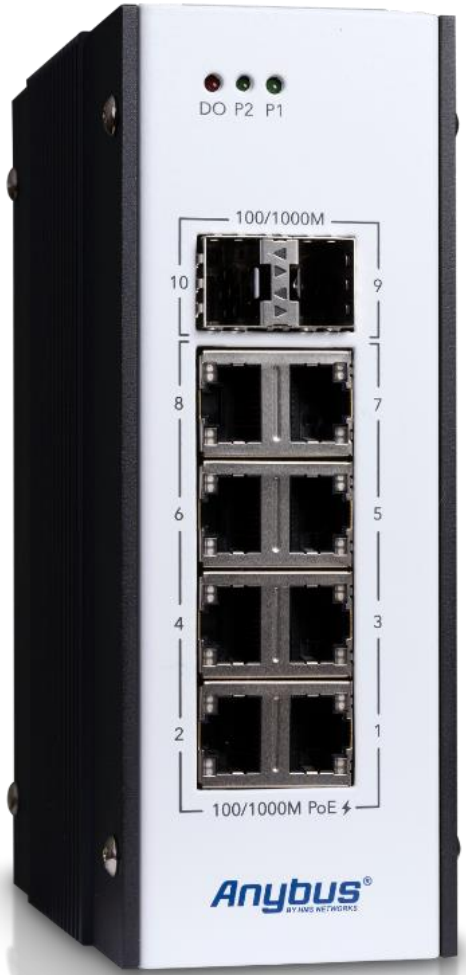
Link Quality

Anybus Switches

- Unmanaged L2 (AWB5001)
- Managed L2 with PoE (AWB5005)
- Managed L3 (AWB5011)

Unmanaged L2 switch

Non-blocking	• Full speed on all ports
Ultra low power	• Reduced environmental impact
Dual PSU support	• Avoid single points of failure
Tagged frame support	• QoS/VLAN compatibility



Managed L2 PoE switch

PoE	•One-cable connection
10 x Gbit ports	•4k video etc.
2 x SFP Ports	•Fiber conversion •Galvanic separation
Port mirroring	•Easy trouble shooting
VLAN	•Network Segmentation

Managed L3 switch

Routing	• Connect multiple LANs
L3 Filtering	• Protection against unwanted traffic
12 x Gbit ports	• 4k video etc.
4 x SFP Ports	• Fiber conversion • Galvanic separation
Port mirroring	• Easy trouble shooting
VLAN	• Network Segmentation

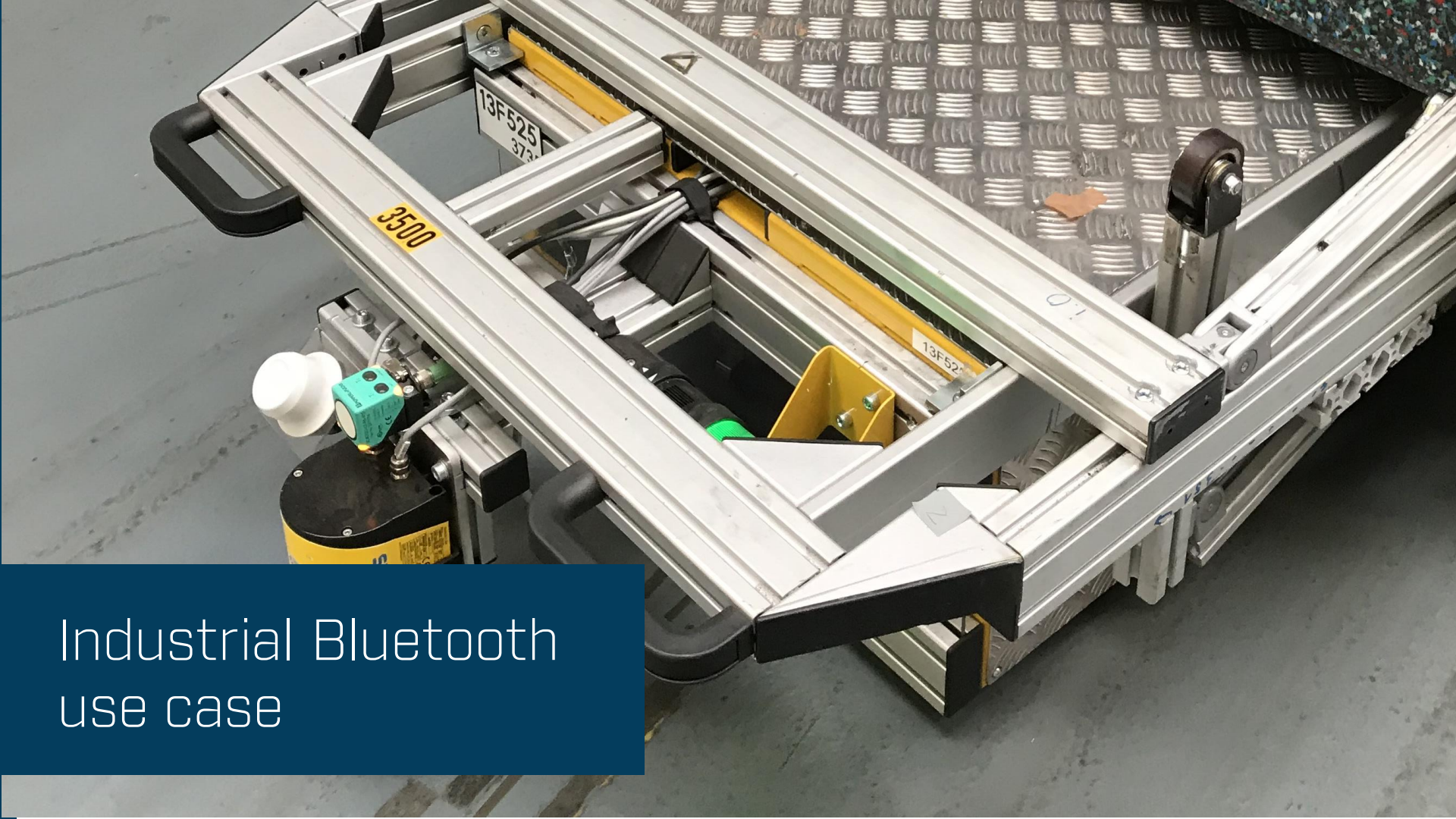
Anybus Routers

- LTE Router (AWB5221)
- Wi-Fi Router (AWB5121)

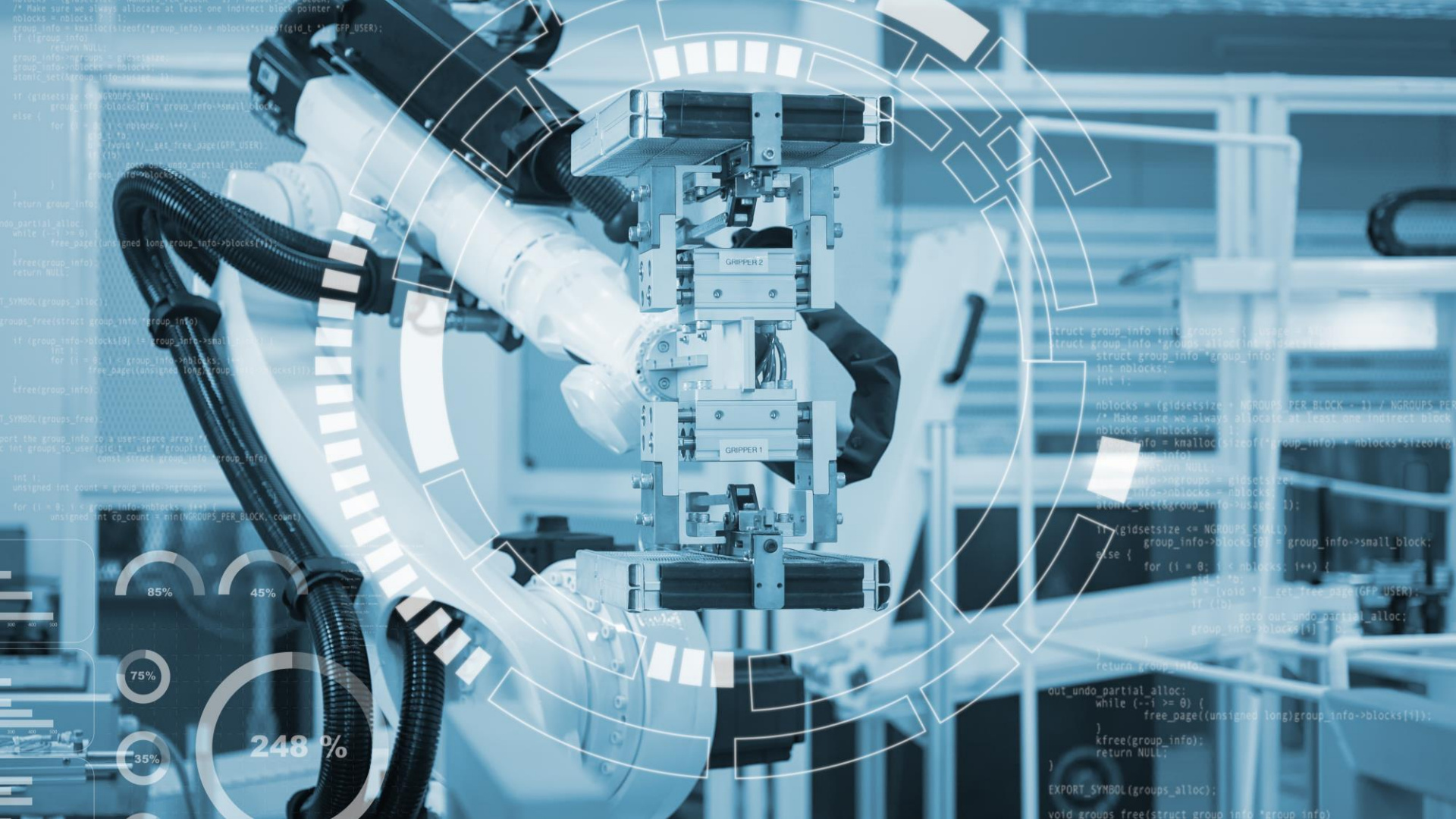
Anybus Access Points

- IP30 (AWB5141)
  - DIN rail
- IP67 (AWB5142)
  - Pole mount

Use cases



Industrial Bluetooth use case


GRIPPER 2
GRIPPER 1
85%
45%
75%
35%
248 %

Industrial Wifi use case

LTE 4G use case

AGVs in greenhouse

Anybus IP67 AP
- PoE powered

Anybus Managed L2 PoE switch
- Fiber connection

Anybus IP30 AP
- PoE powered

IP cam
- PoE powered

Anybus Wireless Bolts
- MAC clone
- AGV control

Industrial desinfection robot using Bolt

INFUSER: Disinfection robot has robust wireless access via Anybus Wireless Bolt

Anybus Wireless Bolt™ gives the STERISAFE™-Pro disinfection robot wireless access. This enables users to control the robot using a tablet.

> *We had communication set up in a matter of minutes.*

Thomas Clapper, Production Responsible
INFUSER

Case Story: www.anybus.com/about-us/case-studies/infuser-disinfection-robot-has-robust-wireless-access-via-anybus-wireless-bolt

Athlete test equipment using Anybus Wireless Bridge II

1080 Motion: Anybus wireless technology used for athlete testing

Anybus Wireless Bridge enables data from 1080 Motion's neuromuscular testing machines to be transferred wirelessly to a computer for immediate display.

> *The Anybus Wireless Bridge works as a cable replacement giving us a sturdy and reliable wireless connection via Bluetooth.*

Christoffer Bergkvist, CTO
1080 Motion

Case Story: https://www.anybus.com/about-us/case-studies/1080-motion-anybus-wireless-technology-used-for-athlete-testing

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