



Industry Connect

# Smart connectivity in the factory



**ERICSSON**

# Improve the way your connected devices connect

Ericsson Industry Connect is a private cellular network for industrial environments. It enables high device density, predictable latency and reliable coverage throughout the factory.

## How much smarter could your factory be with better connectivity?

One thing is certain: smart factories bring a new and complex set of requirements. As the number of automated devices, autonomous robots and automated guided vehicles (AGVs) on the factory floor increase, they will depend more and more on reliable connectivity.

Moreover, manufacturing is evolving to adaptive production to optimize workflows and increase production line efficiency. Cabling is a barrier to creating agile processes; installing new cables or moving existing ones is both expensive and time-consuming. Removing the cables enables flexibility and can shave days or even weeks off of the time it takes to reconfigure a production line.

Many existing connectivity solutions come with constraints, forcing enterprises to:

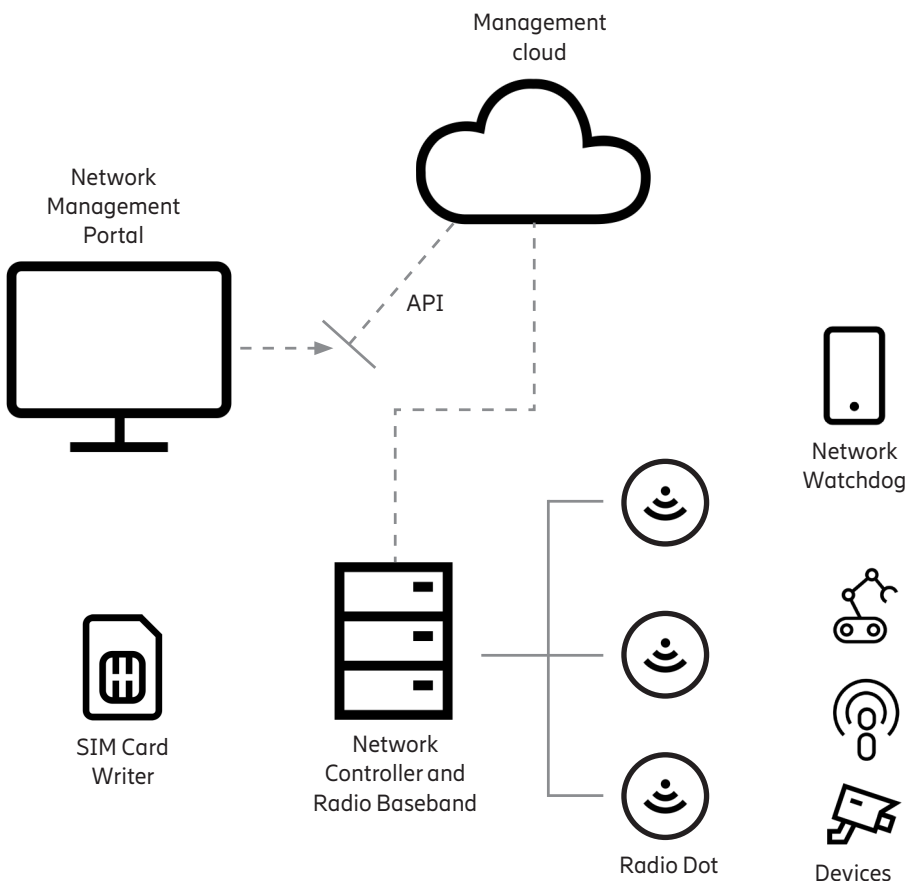
- Keep machinery in a fixed spot or incur expensive cabling costs and extensive downtime to move them
- Work around dead spots in a wireless network
- Work within bandwidth constraints, e.g., using still images instead of streaming video – or no images at all
- Accept latency fluctuations that limit the applications that can be run wirelessly
- Find security workarounds such as having a separate network for external suppliers to keep the corporate network secure

With existing wireless connectivity solutions, there is often a limit to the number of devices that can be on the network before reliability is compromised, and there are often challenges with handover between access points. These constraints became ingrained and enterprises grew used to working with them. These problems will become more apparent because the network today serves far fewer devices than what will be needed for Industry 4.0. As long as the available communications technology worked—or as long as users could work around the weaknesses—manufacturers were satisfied. That's no longer true.

Another consideration is device density. The number of devices per square foot or per square meter in the factory environment is multiplying dramatically. We're moving from proof of concept to the reality of dozens of workers using connected devices all at once in bustling factory areas. The network must be able to handle this surge of demand without hesitation or bottlenecks.

## Not just wireless. Your own dedicated cellular network.

Ericsson Industry Connect, a private cellular network designed specifically for the industrial environment, provides fast, secure wireless capability that not only enables Industry 4.0 today, it also readies your operations for all the promised benefits of 5G.



# What could you do with additional bandwidth and lower latency?

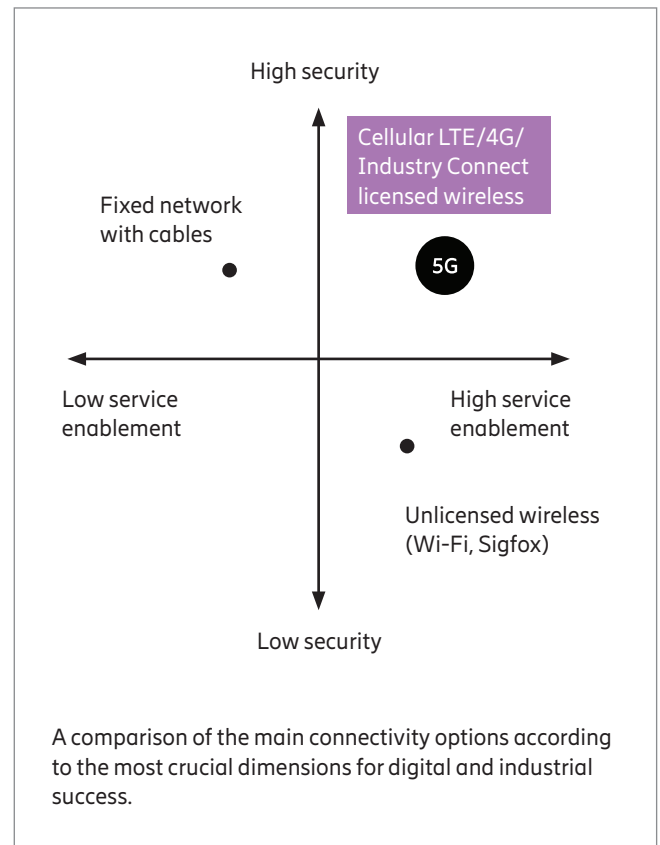
Smarter connectivity enables:

- **More accurate robots.** High throughput will allow greater use of video throughout the factory, enabling mobile robots to see where they are going and what they are doing.
- **Human-robot communications.** Low, predictable latency will enable greater cooperation between people and robots as well as greater use of virtual reality or augmented reality to increase efficiency, accuracy and safety. It will also help improve areas such as process and security monitoring.
- **Telematics.** High throughput will also allow faster wireless transfer of large datasets, such as enabling the wireless download of telematics data from a delivery truck in the 10 minutes that it is parked at the dock – without incurring data costs per gigabyte.
- **Centralized control.** Predictable latency will enable faster reaction time so that processing can move from individual robots to the cloud. This not only reduces the cost of each individual robot, but also makes it possible to introduce centralized control and coordination of the robots.




## Minimize interference, enhance security

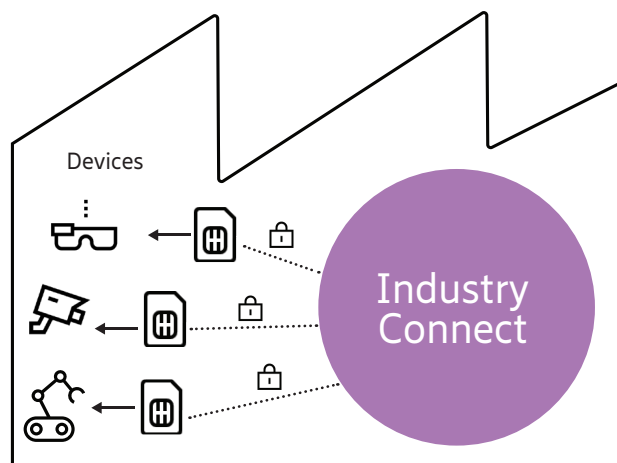
Cellular technology uses interference management to mitigate network disturbances and provide reliable coverage throughout the factory. Because there is no handoff between access points, cellular connectivity eliminates dead spots and provides reliable connectivity throughout the factory.



Data security also poses challenges. With the cellular technology of Ericsson Industry Connect, each trusted device has a unique SIM card to access the network, and with a private cellular network, the network owner has complete control over the SIM cards and therefore complete control over which devices can connect.



## Security: Completely controlled by enterprise

- Access control via SIM card 
- Encryption is per device 
- Only the enterprise can provision 



-  Data protection—all data stays on-premise
-  Wireless data encrypted end-to-end

Based on proven security architecture and protocols of cellular networks

# Small footprint. Huge improvement.

- Reliable high-speed data. Up to 600 Mb/s downlink and 100 Mb/s uplink
- Deterministic latency. Roughly 20-50 milliseconds
- Large number of devices. Up to 1,000 devices connected simultaneously
- Increased network control. Factories can now easily self-provision connected devices
- Data stays on premise. Factory has control of where data goes
- Path to 5G. Start now with 4G/LTE and upgrade to 5G

## Industry 4.0 is complex.

### Upgrading to 5G-ready Industry Connect is easy

Ericsson Industry Connect makes Industry 4.0 innovation possible. It is a robust and reliable solution for providing cellular connectivity at industrial sites. It enables predictable latency, high device density and broad, reliable coverage throughout the factory.

What does it take to move to Industry Connect? Just a couple of units of rack space and a few Ericsson Radio Dots installed on the ceiling of your facility. Once the Radio Dots are in place, you'll be up and running in 2 hours or less.

For all its power and utility, Industry Connect is easy to install and easy to run by information technology (IT) and operational

technology (OT) professionals. A user-friendly, intuitive network management portal lets you manage your entire network from a single pane of glass.

## Features

- Quick deployment. Easy to set up
- Device, network and data management. IT-centric orchestration and customization
- Scalable. OPEX delivery, ability to grow with demand
- Guaranteed quality of service. Continuous support of real-time applications
- Robust reliability. Eliminate dead spots
- Industrial-level security. Resistance to hacking

## Benefits

- Higher productivity gains. Enables automation
- Facility optimization. Use every inch of space in the factory effectively
- Downtime reduction. Enable predictive maintenance with always-on connectivity
- Increased safety. Low latency connectivity for faster reaction times
- More agility. Wireless connectivity enables rapid configuration or re-configuration of your facility

## Your connection to all the value of Industry 4.0 — and a path to 5G

Next-generation connectivity. Robust security. No weak areas or dead spots. Ericsson Industry Connect steps you up to Industry 4.0 with amazing simplicity.

5G will enable a slew of new use cases and release the full potential of smart manufacturing. Industry Connect is ready for 5G, which means you will be too.

Let us show you how Ericsson Industry Connect can lay the foundation for higher productivity and greater agility in your factory.



**About Ericsson**

Ericsson is one of the leading providers of Information and Communication Technology (ICT) to service providers, with about 40% of the world's mobile traffic carried through our networks. We enable the full value of connectivity by creating game-changing technology and services that are easy to use, adopt and scale, making our customers successful in a fully connected world. For more than 140 years, our ideas, technology and people have changed the world: real turning points that have transformed lives, industries and society as a whole.