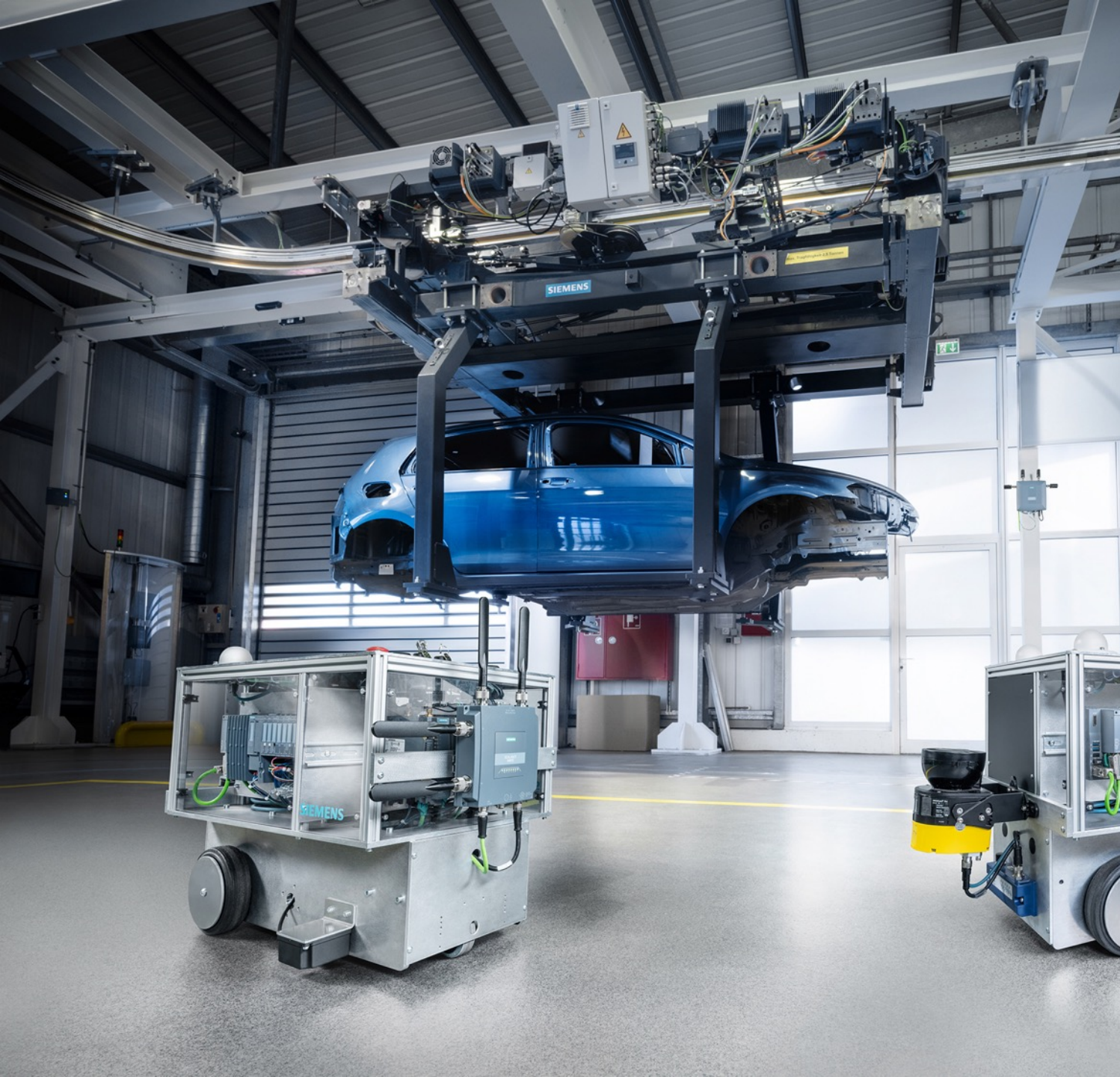




De-Mystifying Industrial 5G

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The future of industrial manufacturing will undoubtedly involve cutting-edge technologies including Industry 4.0, smart factories and the Industrial Internet of Things (IIoT).



Making this future a reality will require new concepts, technologies and applications that would quickly push today's cellular networks to their limits and beyond.



This is where Industrial 5G comes into the picture.

The unprecedented reliability, extremely low latency, and comprehensive IIoT connectivity of industrial 5G will open the door to these and other industrial applications.


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Industrial 5G is cellular communication that meets the demands of industrial applications.

It runs on hardware that's designed specifically for industrial environments.



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An aerial photograph of a rural landscape featuring fields, forests, and a small village. Overlaid on the image is a complex network of white lines and nodes, representing a 5G network. The network starts from a central point in the lower right, branching out to various locations. Some nodes are marked with green padlock icons, indicating security or specific data points. In the upper right, a box contains a line graph with a dollar sign, suggesting economic or financial data. The background shows a sunset or sunrise over distant hills.

Industrial 5G offers extremely high reliability, ultra-low latency, and comprehensive IIoT connectivity.



Industrial 5G is the decisive step to enabling a complete wireless network for industrial manufacturers, distributors, and related organizations.

It will change the way decisions are made, products are manufactured and factories are maintained in the future.

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A wide range of Industry 4.0 applications will benefit from industrial 5G, including:

- Autonomous logistics for automated guided vehicle systems (AGVs) in intralogistics
- Augmented Reality applications in an industrial setting
- Mobile equipment such as industrial tablets, field PGs and RFID scanners
- Industrial edge, or smooth data exchange between edge devices and the cloud





Industrial 5G offers three major benefits to users:

- Enhanced Mobile Broadband (eMBB) speeds that are up to 20 times faster than with 4G
- The highest reliability with the lowest guaranteed latencies
- The ability to connect up to one million devices per square mile



There are a few common misconceptions about industrial 5G right now. One of the biggest is that there's no difference between industrial 5G and consumer 5G.



The consumer 5G currently offered by major telecoms is based on Release 15, or R15, of the wireless standard generated by the 3rd Generation Partnership Project, or 3GPP.

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A close-up photograph of a person's hands holding a silver smartphone. The phone's screen displays a colorful bar chart. Overlaid on the image are digital effects: a grid of binary code (0s and 1s) in the upper left, and glowing blue lines and dots that appear to be data or network connections. The background is dark and out of focus, with some light flares.

However, 5G technology based on R15 doesn't need to support industrial production related 5G applications.

Industrial 5G is based on R16 & R17 of the wireless standard, both more robust than R15.

Siemens is deeply involved in the development and future deployments of these releases





In Siemens search for long-term, sustainable communication solutions the company is driving the development of industrial 5G by actively supporting the implementation of the R16 and R17 standards.



Siemens is an active and contributing member of the 5G Alliance for Connected Industries and Automation, a global initiative established to help ensure that the manufacturing and process industries can consistently benefit from 5G.

Siemens has developed the first mobile industrial 5G router: SCALANCE MUM856-1, which was developed specifically for applications in demanding industrial environments.



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Importantly, Siemens has established its own private standalone 5G network in an industrial environment at the company's Automated Showroom and Test Center in Nuremberg, Germany.

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Driving the Industrial 5G Revolution.

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