

# PRESS RELEASE

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**PRESS RELEASE**February 19, 2018 || Page 1 | 2

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## Fraunhofer IIS demonstrates 5G solutions for Industrial IoT at Mobile World Congress 2018

**Erlangen, Germany/Barcelona, Spain: Fraunhofer Institute for Integrated Circuits IIS will present its latest mobile communication developments towards 5G at the Mobile World Congress, February 26 to March 1, 2018, in Barcelona, Spain. Live demonstrations will show how advancements in positioning and low-latency communication are accelerating industrial processes.**

Wireless low-latency communication and high-precision positioning will enhance flexibility in industrial production processes. Moreover, industrial and especially production environments pose demanding requirements on reliability, latency, and positioning accuracy needed for seamless interaction between machines. The upcoming mobile communication standard 5G addresses these enhanced requirements.

Fraunhofer IIS is currently prototyping low-latency and high-precision positioning systems for legacy LTE and future 5G New Radio (NR). Two selected Industrial IoT live demonstrations can be seen at Mobile World Congress 2018, hall 7, booth 7G31:

### Low-latency communication

Ultra-Reliable and Low-Latency Communication (URLLC) is a key enabler for seamless wireless interaction between machines in time-critical applications.

At the Mobile World Congress 2018 Fraunhofer IIS shows a low-latency demo for a visual inspection use case. The transmission system, which triggers the inspection cameras, is realized twofold: via a low-latency connection using the new LTE technology with shortened Transmission Time Intervals (LTE sTTI) and via a standard Wi-Fi connection for direct comparison. Visitors will experience a visual inspection scenario in a production process and the benefits of LTE sTTI for industrial use cases. The technology is able to provide reduced end-to-end latencies and a low variance in latency (jitter).

### High-precision positioning

5G positioning will enhance the prevalent 4G positioning performance by introducing new technologies and features to overcome current limitations. This includes measures such as utilizing larger bandwidth to improve time resolution, taking advantage of dense deployments and introducing new advanced processing techniques.

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#### Head of Corporate Communications

**Thoralf Dietz** | Phone +49 9131 776-1630 | [thoralf.dietz@iis.fraunhofer.de](mailto:thoralf.dietz@iis.fraunhofer.de) | Fraunhofer Institute for Integrated Circuits IIS | Am Wolfsmantel 33 | 91058 Erlangen, Germany | [www.iis.fraunhofer.de](http://www.iis.fraunhofer.de)

#### Editorial notes

**Claudia Wutz** | Phone +49 9131 776-4071 | [claudia.wutz@iis.fraunhofer.de](mailto:claudia.wutz@iis.fraunhofer.de) | Fraunhofer Institute for Integrated Circuits IIS | [www.iis.fraunhofer.de](http://www.iis.fraunhofer.de)

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**PRESS RELEASE**February 19, 2018 || Page 2 | 2

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At the Mobile World Congress Fraunhofer IIS demonstrates the achievable performance by exploiting these features in an Uplink TDOA architecture set-up as a dense indoor deployment. Visitors will be able to experience a logistics scenario via live stream from the Test and Application Center L.I.N.K. in Nürnberg, Germany, where an automated guided vehicle (AGV) and logistic workers are equipped with user equipment (UE). While the AGV is delivering the parts to assembly stations, the high-precision positioning output is shown as an overlay on the video stream from the factory floor.

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The Fraunhofer-Gesellschaft is the leading organization for applied research in Europe. Its research activities are conducted by 69 institutes and research units at locations throughout Germany. The Fraunhofer-Gesellschaft employs a staff of 24,500, who work with an annual research budget totaling more than 2.1 billion euros.

The **Fraunhofer Institute for Integrated Circuits IIS** is one of the world's leading application-oriented research institutions for microelectronic and IT system solutions and services. It is the largest of all Fraunhofer Institutes. Research at Fraunhofer IIS revolves around two guiding topics: In the area of **"Audio and Media Technologies"**, the institute has been shaping the digitalization of media for more than 30 years now. Fraunhofer IIS was instrumental in the development of mp3 and AAC and played a significant role in the digitalization of the cinema. Current developments are opening up whole new sound worlds and are being used in virtual reality, automotive sound systems, mobile telephony, streaming and broadcasting.

In the context of **"cognitive sensor technologies"**, the institute researches technologies for sensor technology, data transmission technology, data analysis methods and the exploitation of data as part of data-driven services and their accompanying business models. This adds a cognitive component to the function of the conventional "smart" sensor.

More than 900 employees conduct contract research for industry, the service sector and public authorities. Founded in 1985 in Erlangen, Fraunhofer IIS has now 13 locations in 10 cities: Erlangen (headquarters), Nuremberg, Fürth, Dresden, further in Bamberg, Waischenfeld, Coburg, Würzburg, Ilmenau and Deggendorf. The budget of 150 million euros is mainly financed by projects. 24 percent of the budget is subsidized by federal and state funds.

Detailed information on: [www.iis.fraunhofer.de/en](http://www.iis.fraunhofer.de/en)