

PRESS RELEASE

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Fraunhofer at the International Manufacturing Technology Show IMTS 2018

MANUFACTURING THE FUTURE: The evolution of Industrie 4.0

The future and prosperity of entire countries depend on the production of goods, just as many jobs in the USA and worldwide. The future of digitalized manufacturing and Industrie 4.0 rests entirely upon the ability to pool expertise and resources. Fraunhofer's interdisciplinary systems expertise sparks the new ideas that meet the challenges of a changing world and helps create customized solutions right along the value chain. Visitors to the joint Fraunhofer booth on this year's International Manufacturing Technology Show IMTS in Chicago can experience how a vibrant mix of new technology in the fields of augmented reality as a service, artificial intelligence, cybersecurity and data sovereignty, sensor and actuator systems, digital engineering, human-machine interaction and smart materials is reshaping the future.

Digitalized production technologies are transforming business models and changing market structures. Concepts like Industrie 4.0 and the Internet of Things represent a paradigm shift in business and society, generated by a growing number of increasingly connected and automated devices, machines and products. Forecasts indicate that by 2020, 32 billion objects will be connected to the Internet. The economic impact of digitalization is staggering: studies show that in six economically important industries alone, Industrie 4.0 will give rise to productivity increases in the tens of millions by 2025. "But from the new opportunities that accompany digitalization grow expectations. As well as being cost-efficient and sustainable, connected production and work processes must be secure, flexible and intuitive", says Fraunhofer President Prof. Reimund Neugebauer. "This has implications for individualized production with batch sizes as small as one to the same extent it does for connected large scale production, logistics and communication."

Digitalized manufacturing: Trends, perspectives and business opportunities

Many jobs in the USA and worldwide depend on the production of goods. How can the pioneering role in economy and the prosperity of the USA be secured in times of increasing global competition and finite resources? How can mechanical and plant engineering continue to function as one of the greatest strengths of many economies? How can production costs be reduced to secure the welfare of local manufacturing

Editorial Notes

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sites? How can new interconnected technologies make production smarter as well as more flexible, individual, efficient and sustainable?

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Fraunhofer offers insight into the latest research results in the fields of production, digitalization, automation and networking, resulting in competitive advantage for businesses. Prof. Neugebauer: "State-of-the-art sensor technology offers a single solution to cover all these bases. It is, in fact, cognitive systems and machine learning that make it possible to have an industrial Internet of Things in the first place. As an established partner to worldwide industry, Fraunhofer is perfectly positioned to support highly customized mass production, developing solutions that are always tailored to customers' practical requirements. Our experts are playing an active role in strengthening the long-term global competitiveness of the companies that make up Germany's and Europe's industrial base, and can do so for US enterprises as well."

Production of the future: Digitization, Industrie 4.0, Internet of Things

The future of Industrie 4.0 rests upon the ability to pool knowledge and resources. Fraunhofer's interdisciplinary systems expertise sparks new ideas that meet the challenges of a changing world, and helps create customized solutions right along the value chain.

To show the changes that will affect manufacturing in the future, Fraunhofer experts for production focus on virtual reality (VR) solutions, new additive manufacturing techniques, digital networks connecting machinery with product and supplier, production of small batches and one-of-a-kind products under mass production process conditions, smart maintenance, new assistance systems and machine-learning methods, as well as 5G wireless standard for real-time transmission of machinery data.

Visitors to the joint Fraunhofer booth at the IMTS 2018 in Chicago can experience how a vibrant mix of new technology in the fields of smart production, additive manufacturing, augmented reality, digital engineering, sensor systems, human-machine interaction and smart materials is reshaping the future. In addition to a variety of demonstrators, Fraunhofer offers a variety of in-depth- lectures, talks and expert sessions by renowned German and US scientific leaders at IMTS.

Interconnectivity is the future of manufacturing: The Exhibition partners:

Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V.

Fraunhofer Institute for Computer Graphics IGD

Fraunhofer Institute for Manufacturing Engineering and Automation IPA

Fraunhofer Institute for Production Systems and Design Technology IPK

Fraunhofer Institute for Material and Beam Technology IWS

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East Building, Level 2
Booth No. 121815



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