



Fraunhofer

# **TOMORROW'S INDUSTRY**

HANNOVER MESSE  
APRIL 1–5, 2019

**70 YEARS  
OF FUTURE**  
*#WHATSNEXT*

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You can also visit us online at  
**[fraunhofer.de/hm2019](https://fraunhofer.de/hm2019)** to learn  
more about Fraunhofer exhibits  
and other trade fair highlights.

# EVENTS

## MONDAY APRIL 1

Fraunhofer-Gesellschaft  
Press tour  
**“Tomorrow’s Industry:  
What’s next?”**

Time

1.30 p.m. – 2.30 p.m.

Location

Hall 2, Booth C22 (joint  
Fraunhofer booth)

Organizer

Fraunhofer-Gesellschaft

## TUESDAY APRIL 2

Fraunhofer-Gesellschaft  
Press breakfast  
**“Digital Solutions and  
New Materials”**

Time

10.00 a.m. – 11.00 a.m.

Location

Hall 6, Booth A30 (joint  
Fraunhofer booth)

Speakers

Dr. Simone Kondruweit  
Fraunhofer IST  
Thomas Bendig  
Fraunhofer ICT Group

Organizer

Fraunhofer-Gesellschaft

### Digital press kit

Our digital press kit includes information about all press events, as well as press releases, images and videos of our exhibits at the HANNOVER MESSE 2019 trade fair.

Our experts will gladly be available for interviews.  
Please get in touch!

### Contact

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<https://s.fhg.de/hm19e>





## **TOMORROW'S INDUSTRY: WHAT'S NEXT?**

The future has always been the force that drives the Fraunhofer-Gesellschaft, Europe's largest applied research organization. Understanding the complex effects of new technologies is vital to the success of entire industries and national economies. Our researchers ask the right questions – and find new answers: solutions that bring companies immediate benefits.

How can we use learning systems and smart machines without losing control over our data? How do quantum effects help us communicate more securely and measure things more accurately? How can we harness nature's ingenuity to develop better and more sustainable technology? How can we transform materials in such a way that they alter their properties on demand? How can we preserve our jobs when the vehicles of the future run on electricity? How do we find a responsible way to ensure that everyone feels safe? And how do we know which idea is the right one?

As researchers, entrepreneurs and visionaries, we see ourselves as pacesetters and innovation drivers for the economy. Not only do we conduct research with excellence, we also identify new topics at an early stage and set things in motion for the future. As a result, we respond quickly and efficiently to market demands and our customers' needs.

Our employees are the key to our success. Just as our namesake did, they strike the right balance between research and entrepreneurship, take responsibility for the future and develop solutions for tomorrow's challenges. With more than 26,600 employees at 72 institutes and research institutions, we work across borders, sectors and disciplines in teams that are precisely tailored to the task at hand. Our customers benefit directly from our unique systems expertise across all fields of research.

Whether the topic is machine learning and artificial intelligence, data sovereignty and sensor technology, digital engineering and human-machine interaction, smart materials and resource efficiency or predictive maintenance and augmented reality: at the HANNOVER MESSE 2019, we will showcase the technologies that will truly shape the production of the future. **What's next?**

70 YEARS OF  
FRAUNHOFER  
**70 YEARS  
OF FUTURE**  
*#WHATSNEXT*

# FOCUS TOPICS IN HALL 2

## HALL 2 | BOOTH C22

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### Customer Exchange and Interaction

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Producing customized products, especially in batch sizes of one, is a central component of today's Industrie 4.0. Agile transformation processes enable companies to implement customer requirements quickly and precisely. However, they must have perfect quality management and secure data transmission systems in place, as this is the only way to ensure that, for instance, complete product tracking with cognitive sensor technology, voice assistants and image-based quality control function reliably. In this regard, the International Data Spaces initiative creates a secure data space that enables companies to independently manage their data assets.

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### Planning and Processes

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5G localization, predictive maintenance, machine learning, planning assistance and resource optimization using data-driven models are key terms for forward-looking digitally connected manufacturing. In the meantime, digital twins help manufacturers evaluate machinery, production plants and processes. Fraunhofer will be presenting "Process documentation in the age of the digital twin."



# FOCUS TOPICS IN HALL 2

## HALL 2 | BOOTH C22

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### Machines and Materials

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Even as digitalization continues its forward march, the key questions in manufacturing remain the same: Which material is most suitable? What machinery do I need? What does the ideal production process look like? Fraunhofer offers a number of answers and will, for instance, present an innovative technological approach to smart and sustainable process design. Status monitoring in industrial applications will also be addressed. Smart acoustic sensor technology facilitates real-time inspection of plants and machinery.

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### Manufacturing and Human-Machine Interaction

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Humans will play a key role in the production of the future. They will retain control even in the age of artificial intelligence, which is why gesture-based human-machine interaction – through speech recognition, for instance – is such a decisive factor. Other important topics, besides the control aspect, are stress monitoring and potential operator fatigue. We will also present information on smart sensors, digitally functionalized automotive components and a novel hybrid drive technology that offers high precision, dynamics and efficiency.



# FOCUS TOPICS IN HALL 2

HALL 2 | BOOTH C22



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## New Jobs and Skills

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Digitalization offers a wealth of opportunities, but also numerous challenges. What kind of technological future can we expect? What qualifications will we need to have in order to succeed in this future? Using augmented reality, we provide a first glance into the crystal ball to identify technological trends and to boldly look beyond our current horizons. We offer information on our extensive training programs, and we invite you to stop and take a look at the multifaceted career opportunities available at Fraunhofer.

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## Logistics and Technologies

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The Internet of Things takes supply chain management to the next level. We are seeing entirely new ways to track and identify goods, for instance using RFID technology. Today, not only do we know where goods are located, we also know exactly what they are composed of. In addition, packaged goods can be screened in real time using millimeter-wave radar. Discover a wide range of new tracking and organization options for revolutionizing your logistics with a view to the future.

# EXHIBITION PARTNERS

## HALL 2 | BOOTH C22

### **1 Fraunhofer Adaptronics Alliance**

Smart structures | Monitoring | Energy harvesting | Active systems | Intelligent materials | Vibration reduction | Sound reduction | Sensor nodes | Actuators | Intelligent light-weight design  
[adaptronik.fraunhofer.de](http://adaptronik.fraunhofer.de)

### **2 Fraunhofer Cluster of Cognitive Internet Technologies (CCIT)**

Cognitive Internet | Machine learning | IoT solutions | Trusted IoT connector | Secure connectivity | Connected manufacturing | Physical safety mechanisms for devices | Data sovereignty | Cyber security | International Data Space | Industrie 4.0  
[cit.fraunhofer.de](http://cit.fraunhofer.de)

### **3 Fraunhofer Institute for Applied Information Technology FIT**

Planning support and resource optimization through data-driven models | Human support – AI-based situational recognition  
[fit.fraunhofer.de](http://fit.fraunhofer.de)

### **4 Fraunhofer Institute for Applied Solid State Physics IAF**

Radar sensors for contactless materials testing and high-precision distance measurement | 100% control in logistics and production | Industrie 4.0 | Human-machine collaboration | High-frequency systems  
[iaf.fraunhofer.de](http://iaf.fraunhofer.de)

### **5 Fraunhofer Institute for Digital Media Technology IDMT**

Acoustic quality and process monitoring | Machine learning |

Acoustic condition monitoring | Acoustic event detection | Signal analysis and processing | Speech recognition and voice control | Speech-to-text | Speech-based documentation | Mobile neurotechnologies to evaluate cognitive load at work (EEG)  
[idmt.fraunhofer.de](http://idmt.fraunhofer.de)

### **6 Fraunhofer Institute for Environmental, Safety and Energy Technology UMSICHT**

Bipolar plate | Redox flow battery | Electrochemical energy storage | Electrically conductive polymers | Bipolar battery systems  
[umsicht.fraunhofer.de](http://umsicht.fraunhofer.de)

### **7 Fraunhofer Institute for Experimental Software Engineering IESE**

Industrie 4.0 | Automated manufacturing | Changeable

manufacturing processes | Digital-twin technology | Virtual engineering | Asset administration shells | BaSys4.0 | RAMI 4.0 | FERAL  
[iese.fraunhofer.de](http://iese.fraunhofer.de)

### **8 Fraunhofer Institute for Factory Operation and Automation IFF**

Process design | Sustainable manufacturing | Energy efficiency | Digital transformation | Sensor-based automation | Technological innovation  
[iff.fraunhofer.de](http://iff.fraunhofer.de)

### **9 Fraunhofer Institute for Integrated Circuits IIS**

Cognitive sensor technologies for assembly, storage and picking | Positioning for production and warehouse applications | RFID motion tracking | Smart object technologies for storage and production | 5G positioning | Man-machine

# EXHIBITION PARTNERS

## HALL 2 | BOOTH C22

interaction for Industrie 4.0  
using positioning | Process  
analysis and control | process  
mining

[iis.fraunhofer.de](https://iis.fraunhofer.de)

### **10 Fraunhofer Institute for Intelligent Analysis and Information Systems IAIS / Fraunhofer Center for Machine Learning**

Artificial intelligence | Informed  
machine learning | Knowledge  
graphs | Dialog systems |  
Question answering | Speech  
assistant | Human-machine  
interaction | Image-assisted  
quality control

[iais.fraunhofer.de](https://iais.fraunhofer.de)

[cit.fraunhofer.de/ml](https://cit.fraunhofer.de/ml)

### **11 Fraunhofer Institute for Machine Tools and Forming Technology IWU**

Smart production system |  
Granule-based high-speed 3D

printing (1 m/s) | Multi-axial 3D  
printing | Resource efficiency  
(recycling material) | Rapid  
prototyping and rapid tooling |  
Online process monitoring

[iwu.fraunhofer.de](https://iwu.fraunhofer.de)

### **12 Fraunhofer Institute for Software and Systems Engineering ISST**

Data ecosystems | International  
Data Space | Data sovereignty |  
Cognitive Internet technologies |  
Digital cleanup | Inventory and  
valuation of data | Digital supply  
chains | Digital company  
networks

[isst.fraunhofer.de](https://isst.fraunhofer.de)

### **13 Fraunhofer Institute for Technological Trend Analysis INT**

Futures studies | Industrie 5.0 |  
Cognitive computing | Tech-  
nology consulting | Technology  
foresight | Innovation manage-

ment | Technology scanning |  
Machine learning | Technology  
scouting | Data mining |  
Data-driven foresight

[int.fraunhofer.de](https://int.fraunhofer.de)

### **14 Fraunhofer Academy**

Part-time training made by  
Fraunhofer | Skill development  
for future jobs | Artificial intelli-  
gence | Experiential learning

[academy.fraunhofer.de](https://academy.fraunhofer.de)

### **15 Fraunhofer-Gesellschaft, Recruiting**

Career | Job offers | Apprentice-  
ships | Internships | Bachelor's  
and master's theses | Doctoral  
programs | Young talent  
programs

[fraunhofer.de/carrier](https://fraunhofer.de/carrier)

### **16 3Dsensation Alliance**

(represented by Fraunhofer  
IOF)  
Human-machine interaction |

Advanced 3D sensing | Secure  
communication

[3d-sensation.de](https://3d-sensation.de)

### **17 Berlin Center for Digital Transformation**

Digital transformation for  
industry | Digitally integrated  
production | Industrial Internet  
of Things (IIoT) | Fog/edge/  
cloud computing infrastruc-  
tures | Machine-to-machine  
communication | 5G commu-  
nication and network | Visible  
light communications | hHrd-  
ware for cyber-physical systems  
(CPS) | Machine learning |  
Digital twin

[digitale-vernetzung.org](https://digitale-vernetzung.org)

### **18 High-Performance Center DYNAFLEX®**

Flexible solutions for the energy  
transition and raw materials  
shift | Sector coupling |  
Integrated energy | Cross-



# EXHIBITION PARTNERS

## HALL 2 | BOOTH C22

industry networking | Energy in production | Power-to-X | Renewable energy | Process dynamics, adaptivity and flexibility | Dynamic development methods | Digitalization  
**dynaflex.de**

**19 Info point**  
**FUTURAS IN RES conference**  
**“What’s the IQ of AI?”**  
November 21–22, 2019,  
Berlin | Trade fair discount for the conference tickets | Artificial Intelligence | Informed Machine Learning | Cognitive phenomena in machines | Bio-inspired and neuromorphic computing | Human-machine interaction | Social robotics  
**s.fhg.de/whats-the-iq-of-ai**

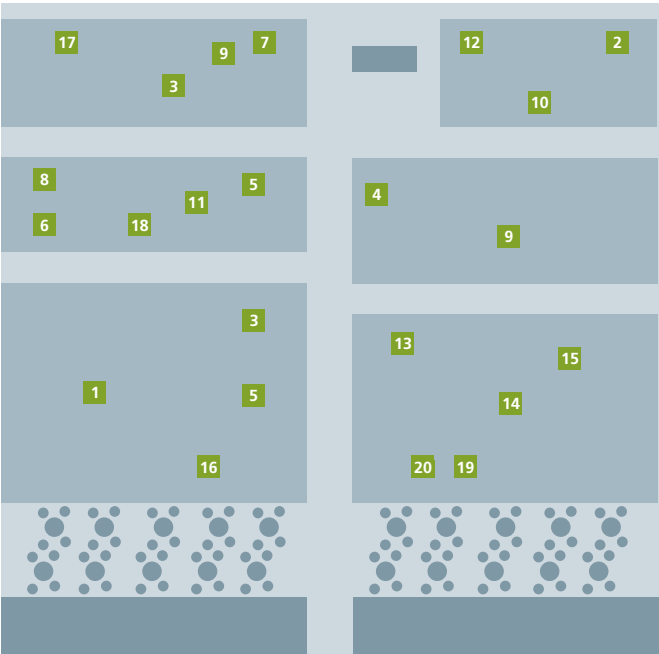
**20 Fraunhofer-Gesellschaft**  
**What’s next?**  
**70 years of Fraunhofer**  
**70 years of future**  
Technologies of the future | Global connectivity | History of the Fraunhofer-Gesellschaft  
**fraunhofer.de**

**7 Other exhibition partners**  
**Otto von Guericke University of Magdeburg Institute of Manufacturing Technology and Quality Management IFQ**  
**ifq.ovgu.de**

**LGL Leichtmetallgießerei**  
**Bad Langensalza GmbH**  
**die-komplettgiesserei.de**

**Promeos GmbH**  
**promeos.com**

## FLOOR PLAN

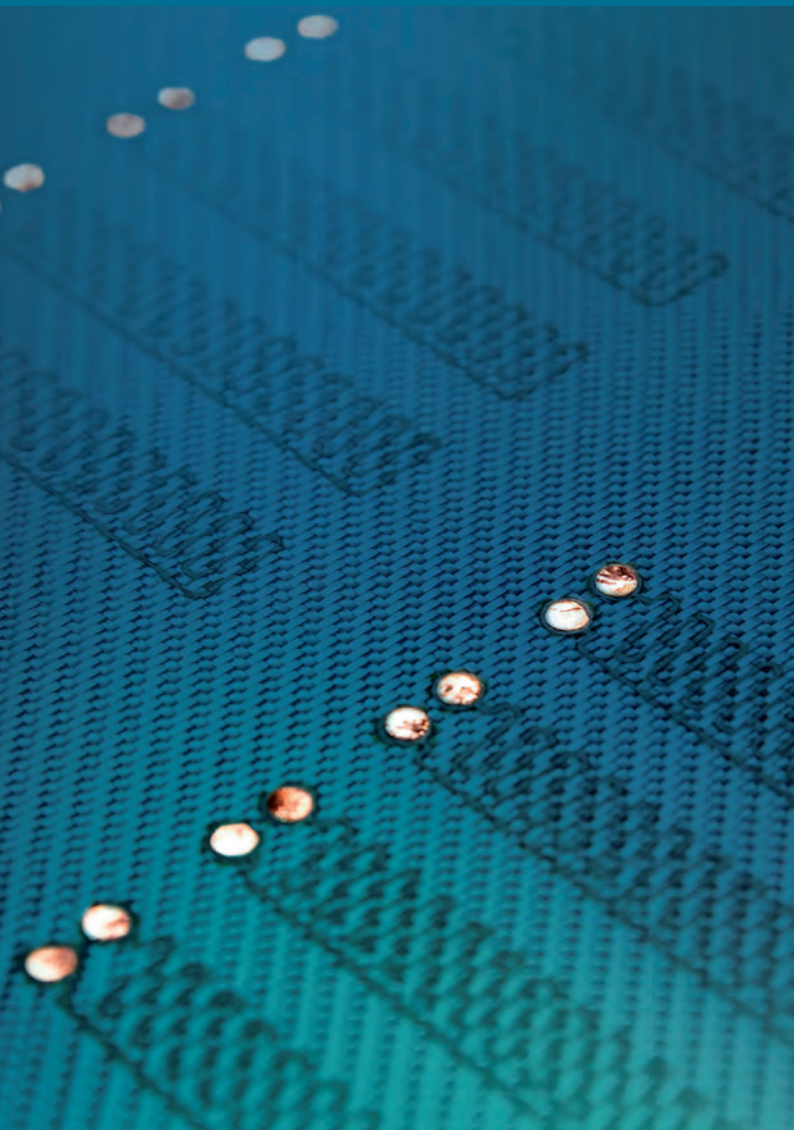


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80686 München | Germany | **fraunhofer.de**

# FOCUS TOPIC IN HALL 6

HALL 6 | BOOTH A30



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## Digital solutions and new materials

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When it comes to the industry of the future, two of the biggest topics are digital solutions and new materials. In Hall 6, Fraunhofer experts will present tailor-made surfaces equipped with a wide array of functions as well as forward-looking solutions in the fields of digitalization and artificial intelligence.

We will show how sensors can be used for adaptive manufacturing and what role 5G already plays today as well as showcasing a variety of sensor manufacturing technologies.

On the promising topic of customized surfaces, we will be presenting an exact simulation of coating processes – as well as a dust particle simulation that says a lot about dust contamination in plasma coating systems. Using such examples as a battery factory, we let visitors experience material simulations along the entire process chain.

# EXHIBITION PARTNERS

HALL 6 | BOOTH A30

## **1 Fraunhofer Blockchain Community**

Blockchain | Data and process integrity | Smart contracts | Machine economy | Automated process chains | Distributed ledgers | Ethereum | Hyperledger Fabric

[fit.fraunhofer.de/blockchain](http://fit.fraunhofer.de/blockchain)

## **2 Fraunhofer-Chalmers Research Centre for Industrial Mathematics FCC**

Engineering industry | Point cloud achievements | Intelligently moving manikin | Design and assembly analysis of flexibles | Virtual paint shop – spray painting and sealing | Automatic path planning and line balancing

[fcc.chalmers.se](http://fcc.chalmers.se)

## **3 Fraunhofer ICT Group**

Manufacturing | Logistics | Mobility | Transportation | Energy | Sustainability | Safety | Security | Cybersecurity | Virtual reality | Augmented reality | Simulation | Big data | Artificial intelligence

[iuk.fraunhofer.de](http://iuk.fraunhofer.de)

## **4 Fraunhofer Group for Light & Surfaces**

Lasers | Optics | Measurement technology | Coating technology | Laser manufacturing | Beam sources | Optical systems and manufacture of optical systems | EUV technology | Process and system simulation | Materials technology | Micro- and nanotechnology | Thin-film technology | Plasma technology | Electron beam technology

[light-and-surfaces.fraunhofer.de](http://light-and-surfaces.fraunhofer.de)

## **5 Fraunhofer Institute for Computer Graphics Research IGD**

Visual Computing as a Service | Additive manufacturing | Interactive multimaterial Modeling and simulation | Geometric modeling | Virtual & augmented reality | Cyber-physical equivalence | Assistance systems in production | Visual control center

[igd.fraunhofer.de](http://igd.fraunhofer.de)

## **6 Fraunhofer Institute for Industrial Mathematics ITWM**

Digital environmental data for ADAS/AD testing | Digital human models | Real-time simulation of flexible components | Real driving emission and consumption | Simulation of materials, products and processes

[itwm.fraunhofer.de](http://itwm.fraunhofer.de)

## **7 Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB**

Affine sensor surfaces for measurement of environmental gases and VOCs | Plasma weathering: rapid testing method for material characterization | Anti-ice coatings | Plasma-functionalized and coated materials | Surface analysis

[igb.fraunhofer.de/en.html](http://igb.fraunhofer.de/en.html)

# EXHIBITION PARTNERS

HALL 6 | BOOTH A30

## **8 Fraunhofer Institute for Laser Technology ILT**

Embedded sensors | Coating technology | Thick-film technology | Thin-film technology | Functional layers for electronic applications | Corrosion protection | Lasers | Laser-based manufacturing processes for battery technology | Measurement technology | Microelectronics | Micro- and nanotechnologies | Process and system simulation | Tribology | Wear protection

[ilt.fraunhofer.de](http://ilt.fraunhofer.de)

## **9 Fraunhofer Institute for Material and Beam Technology IWS**

Additive manufacturing | Laser cladding with powder and wire | Rapid prototyping | Material technology | Joining | Special joining technologies | Thermal direct joining technique of thermoplastics and metals

[iws.fraunhofer.de](http://iws.fraunhofer.de)

## **10 Fraunhofer Institute for Secure Information Tech- nology SIT**

Cyber security | Software-defined networking | Secure remote maintenance channels | Authentication and encryption technologies | Protecting remote maintenance interfaces

[sit.fraunhofer.de](http://sit.fraunhofer.de)

## **11 Fraunhofer Institute for Surface Engineering and Thin Films IST**

Customized surfaces and thin films for Industrie 4.0 | Plasma technology | Thin-film sensors | Intelligent shims | Antifouling | Friction reduction | Wear protection | Cold plasma spraying | Surface functionalization | Modeling and simulation of coating processes, product and production systems | analytics | Test engineering | Battery systems

[ist.fraunhofer.de](http://ist.fraunhofer.de)

## **12 International Center for Networked, Adaptive Production (ICNAP)**

Networked, adaptive production | Technologies for Industrie 4.0 | Digital twin in the product life cycle | Predictive power for adaptive process chains | Big data analytics in complex production environment | Cloud technologies and edge computing | High speed data transmission in production using 5G

[icnap.de](http://icnap.de)

# EXHIBITION PARTNERS

HALL 6 | BOOTH A30

External partner

**13 fleXstructures GmbH**

From concept phase to after-sales | IPS cable simulation – real-time simulation of flexible components (cables, wiring harnesses and hoses) | IPS IMMA – digital human model | Process process and robot path optimization with IPS robotics | Winner of the robotics award at HANNOVER MESSE 2017

[flexstructures.de](http://flexstructures.de)

**Contacts**

**“Digital Solutions”**

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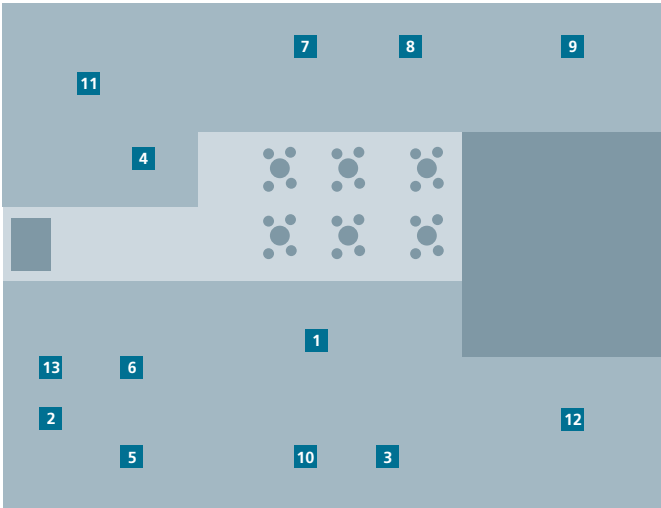
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[ist.fraunhofer.de](http://ist.fraunhofer.de)

FLOOR PLAN



# FOCUS TOPIC IN HALL 17

HALL 17 | BOOTHS C24 AND C83



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## Production and Automation

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The digital transformation is in full swing in the business world. One key factor involved here is the cooperation between machines and humans. In Hall 17, the Fraunhofer Group for Production will present specific application examples, especially from the fields of human-machine interaction, robotics, smart maintenance, additive manufacturing and wireless connectivity.

We will present a novel system for gesture control in heavy-duty robotics, an application for motion assistance and a collaborative robot. Augmented reality is also playing an increasingly important role. Visitors will be able to experience this firsthand on sample applications, such as digital assistance for offshore wind park maintenance or for assembly support. In addition, we will present concrete potential applications for additive component manufacturing.

In the field of smart maintenance, we offer a customized workshop concept for all relevant topics – and we assist our customers in transferring the latest strategies and technologies.

# EXHIBITION PARTNERS

## HALL 17 | BOOTHS C24 AND C83

### **1 Fraunhofer Group for Production**

Smart maintenance | innovation network | Community research and seminars | Maintenance technologies | assistance systems | predictive analytics | Data-based maintenance | Strategies and business models

[produktion.fraunhofer.de](http://produktion.fraunhofer.de)

### **2 Fraunhofer Institute for Integrated Circuits IIS**

Critical machine-type communication | Real-time wireless communication system | Wired fieldbus and TSN compatibility | URLLC

[iis.fraunhofer.de](http://iis.fraunhofer.de)

### **3 Fraunhofer Institute for Machine Tools and Forming Technology IWU**

Human-robot collaboration | Heavy-duty robots | 3D dynamic safety system | Gesture control | Flexible automation | Vision systems | Ergonomics

[iwu.fraunhofer.de](http://iwu.fraunhofer.de)

### **■ Hall 17, Booth C83 Fraunhofer Institute for Manufacturing Engineering and Automation IPA**

Cleanroom to go | Cost efficiency in maintenance and servicing | Flexible, mobile production | Individual solutions | Fast installation | Dimensions on request: XS–XXL | Combinable with existing manufacturing equipment

[ipa.fraunhofer.de](http://ipa.fraunhofer.de)

### **4 Fraunhofer Institute for Mechatronic Systems Design IEM**

Worker assistance system | Production automatization | Batch size one | Human-machine interaction | Robotics | Scientific automation | Systems engineering

[iem.fraunhofer.de](http://iem.fraunhofer.de)

### **5 Fraunhofer Institute for Production Systems and Design Technology IPK**

Ergonomics support | Movement monitoring | Real-time motion analysis | Soft robotics | Wearable robotics | Health and geriatric care | Robotics

[ipk.fraunhofer.de](http://ipk.fraunhofer.de)

### **6 Fraunhofer Research Institution for Casting, Composite and Processing Technology IGCV**

Testing specimens to investigate the effects of cleaning technologies | Investigation of contamination occurring in additive manufacturing | Reproducible cleaning tests | Detection and analysis of contamination | Predictive quality and risk management | Cooperating robotics | Intelligent multi-material solutions | Customer-oriented lightweight design | Casting technology | Additive manufacturing | Laser beam melting (LBM) | Maintenance via augmented reality

[igcv.fraunhofer.de](http://igcv.fraunhofer.de)

# EXHIBITION PARTNERS

HALL 17 | BOOTHS C24 AND C83

**7** **Fraunhofer Research Institution for Large Structures in Production Engineering IGP**  
Mobile assistance systems | Maintenance | Digital life cycle documentation | Manufacturing engineering for large structures | Maritime industry 4.0 | Demand-oriented supply of information  
[igp.fraunhofer.de](http://igp.fraunhofer.de)

Other exhibition partners

**Fraunhofer Institute for Factory Operation and Automation IFF**  
[iff.fraunhofer.de](http://iff.fraunhofer.de)

**Fraunhofer Institute for Material Flow and Logistics IML**  
[iml.fraunhofer.de](http://iml.fraunhofer.de)

**Fraunhofer Institute for Production Technology IPT**  
[ipt.fraunhofer.de](http://ipt.fraunhofer.de)

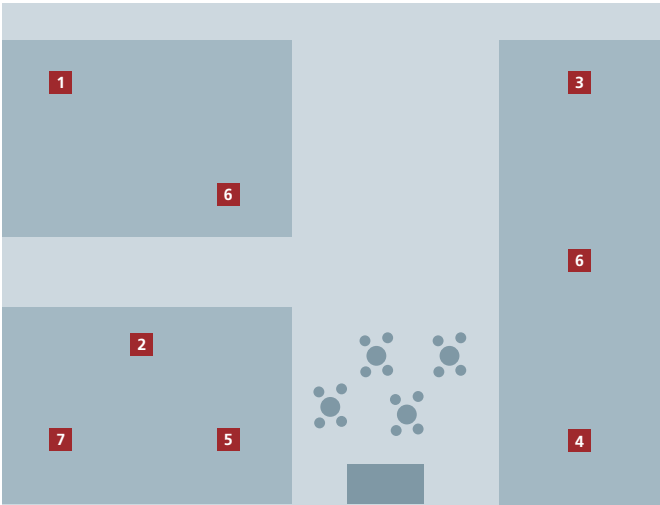
**Fraunhofer Austria Research GmbH**  
[fraunhofer.at](http://fraunhofer.at)

**Fraunhofer Institute for Industrial Engineering IAO**  
[iao.fraunhofer.de](http://iao.fraunhofer.de)

**Fraunhofer Institute for Nondestructive Testing IZFP**  
[izfp.fraunhofer.de](http://izfp.fraunhofer.de)

**Fraunhofer Institute for Structural Durability and System Reliability LBF**  
[lbf.fraunhofer.de](http://lbf.fraunhofer.de)

FLOOR PLAN BOOTH C24



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Sandtorstrasse 22  
39106 Magdeburg  
[produktion.fraunhofer.de](http://produktion.fraunhofer.de)

# FRAUNHOFER ENTITIES

## Fraunhofer Institute for Ceramic Technologies and Systems IKTS

Hall 3, Booth L08  
Hall 27, Booth E45  
[ikts.fraunhofer.de](http://ikts.fraunhofer.de)

## Fraunhofer Institute for Manufacturing Engineering and Automation IPA

Hall 2, Booth C28  
Hall 12, Booth C57  
[ipa.fraunhofer.de](http://ipa.fraunhofer.de)

## Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM

Hall 27, Booth E45  
[ifam.fraunhofer.de](http://ifam.fraunhofer.de)

## Fraunhofer Institute for Material and Beam Technology IWS

Hall 5, Booth A18  
[iws.fraunhofer.de](http://iws.fraunhofer.de)

## Fraunhofer Institute for Mechatronic Systems Design IEM

Hall 16, Booth A04  
[iem.fraunhofer.de](http://iem.fraunhofer.de)

## Fraunhofer Institute for Microengineering and Microsystems IMM

Hall 27, Booth C52  
[imm.fraunhofer.de](http://imm.fraunhofer.de)

## Fraunhofer Institute for Optronics, System Tech- nologies and Image

Exploitation IOSB  
Hall 6, Booth D06  
Hall 8, Booth D23  
[iosb.fraunhofer.de](http://iosb.fraunhofer.de)

## Fraunhofer Institute for Optronics, System Tech- nologies and Image Exploitation IOSB, Industrial Automation branch

Hall 16, Booth A04  
[iosb.fraunhofer.de](http://iosb.fraunhofer.de)

## Fraunhofer Institute for Silicon Technology ISIT

Hall 27, Booth K45  
[isit.fraunhofer.de](http://isit.fraunhofer.de)

## Fraunhofer Institute for Solar Energy Systems ISE

Hall 27, Booth C58  
[www.ise.fraunhofer.de](http://www.ise.fraunhofer.de)

## Fraunhofer Venture

Hall 13, Booth E27  
[fraunhoferventure.de](http://fraunhoferventure.de)

## Communications

Fraunhofer-Gesellschaft  
Janis Eitner, Division Director  
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## Project management

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– Customer Exchange and Interaction

– Planning and Processes

– Machines and materials

– Manufacturing and Human-Machine Interaction

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– Logistics and Technologies
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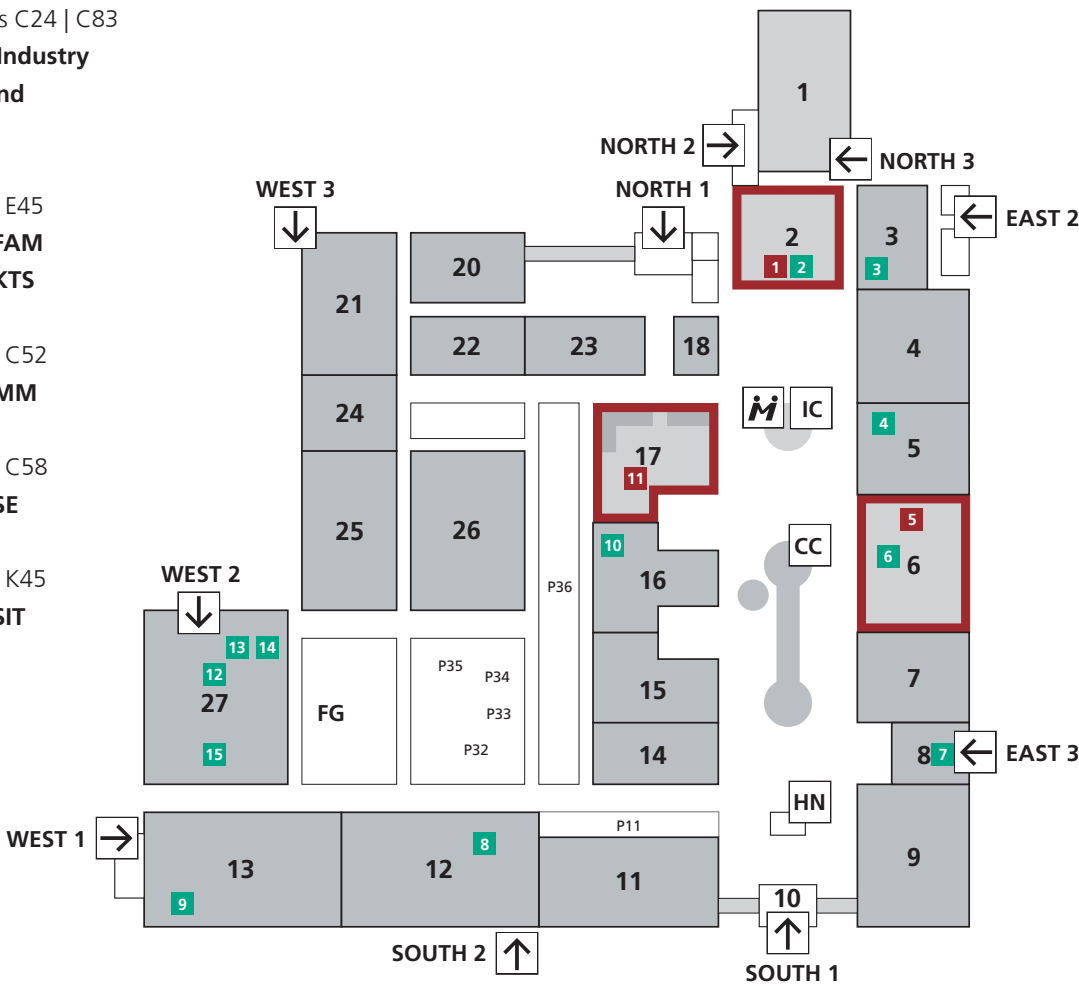
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