

FRAUNHOFER HEINRICH HERTZ INSTITUTE

PRESS RELEASE

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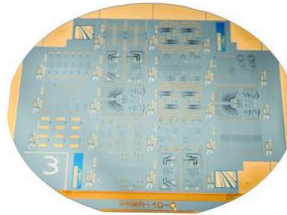
Fraunhofer HHI at Photonics West 2017, January 28 to February 2, San Francisco

At this year's Photonics West Fraunhofer Heinrich Hertz Institute HHI presents its latest developments in the area of photonic components and photonic networks and systems.

You find the following highlights at the Fraunhofer booth 4629-28:

InP Foundry Services – Photonic Integration Toolbox

Fraunhofer HHI enables self-configuration of InP-Based Photonic-Integrated Circuit (PIC) containing passive- and active devices on one substrate with a quick turn-around time of 3 months. Choose from a range of proven building blocks, such as 40 GHz receivers, 20 GHz DMLs and EAMs, and 1 dB/cm passive waveguides. Low-cost multi-project wafer-run-based PICs are already commercially available through Jeppix and customer-specific private runs can be realized on demand. Dedicated design and layout software is provided, and several packaging partners are available.



Terahertz sensing – Non-destructive, contact free measurements with Terahertz

Terahertz radiation is increasingly being used in the industrial environment for purposes of material investigation. Layer thicknesses of coatings, the geometry of polymer components or imperfections in non-conductive materials can be investigated. Another field of application is the spectroscopic investigation of gases.



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PolyBoard Foundry Services – The integration platform for your ideas

The PolyBoard integration platform allows for rapid prototyping, short iteration cycles and low upfront development effort. The technology allows the integration of on-chip free space elements, 3D structures, graphene electro-absorption modulators, as well as other optical functionalities such as switches, variable optical attenuators, tunable lasers, and flexible high frequency and optical interconnects. Come to the Fraunhofer booth to learn about the services including simulation, CAD, technology development, device manufacturing, characterization, and qualification.



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High-Speed Real-time Digital Signal Processing Platform

Highly flexible FPGA-based development and demonstration platform for signal processing algorithms and real-time data transmission. The platform includes 65GSa/s DACs, 56GSa/s ADCs, 100GbE-class optical interfaces and Virtex Ultrascale/Ultrascale+ FPGA processing capabilities in a robust, 19"-housing.



Visible Light Communication up to 1 Gbit/s

LED-lamps, normally used for lighting purposes, securely transmit data at high speed and low latency even in environments where radio encounters difficulties. The standard RJ45 interface enables the fast integration into existing networks and the use for different applications like distribution of high-definition video streaming as well as two-way communication.



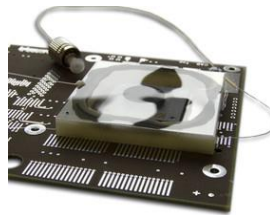
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Optical Ultra-thin Glass Seal – Planar ultra thin glass seals with optical fiber interface for monitoring tamper attacks on security eminent components

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Physical Protection of sensible, security eminent electronics is very important and increasingly challenging for many private companies or public institutions. The financial damage or the consequences (e. g., data manipulation or data recordings) of an unrecognized attack can be huge. Hence, together with OHB systems AG, Fraunhofer HHI has developed an optical seal of ultrathin glass, covering central electronic chips on boards, which for example are responsible for the encoding of data. The state of optical seals, by meaning the signature of the seal, can be proofed simply via glass fiber connector and tamper attacks are recognized immediately.



Innovations for the digital society of the future are the focus of research and development work at the **Fraunhofer Heinrich Hertz Institute HHI**. In this area, Fraunhofer HHI is a world leader in the development for mobile and optical communication networks and systems as well as processing and coding of video signals. Together with international partners from research and industry, Fraunhofer HHI works in the whole spectrum of digital infrastructure – from fundamental research to the development of prototypes and solutions. www.hhi.fraunhofer.de

The Fraunhofer-Gesellschaft is the leading organization for applied research in Europe. Its research activities are conducted by 67 institutes and research units at locations throughout Germany. The Fraunhofer-Gesellschaft employs a staff of 24,000, who work with an annual research budget totaling more than 2.1 billion euros. Of this sum, more than 1.8 billion euros is generated through contract research. More than 70 percent of the Fraunhofer-Gesellschaft's contract research revenue is derived from contracts with industry and from publicly financed research projects. Branches in Europe, the Americas and Asia serve to promote international cooperation.

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