**FRAUNHOFER HEINRICH HERTZ INSTITUTE**

PRESS RELEASE

Fraunhofer HHI at ECOC in Düsseldorf, Germany, September 19.-21., 2016

At this year's ECOC, the Fraunhofer Heinrich Hertz Institute HHI presents its latest solutions in the area of photonic components and photonic networks and systems.

You find the following highlights at our Booth 350 in Hall 3:

InP Foundry Services – Photonic Integration Toolbox

Fraunhofer HHI enables an own design of InP-based Photonic Integrated Circuit (PIC) containing passive and active devices on one substrate. It is possible to choose from a range of proven building blocks, such as 40 GHz receivers, 20 GHz transmitters, 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.
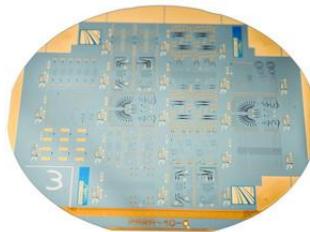
InP Lasers for Integration into Silicon Photonics – Optical Sources for Si-Photonics

Fraunhofer HHI provides DFB lasers, gain chips and SOAs with flip chip capability for hybrid integration on Si-Platforms. Single devices and arrays are offered for lateral and vertical coupling schemes. InGaAsP and InGaAlAs are used as active MQW layer and operating wavelengths range from 1270 nm to 1650 nm.
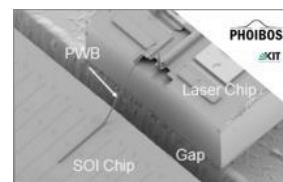
PolyBoard Foundry Services

The PolyBoard integration platform allows for rapid prototyping, short iteration cycles and low upfront development effort. Fraunhofer HHI's technology allows the integration of on-chip free space ele-

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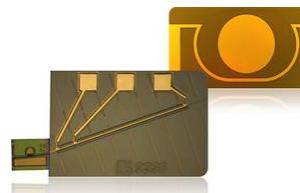
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ments, 3D structures, graphene electro-absorption modulators, as well as other optical functionalities such as switches, variable optical attenuators, and tunable lasers.

LED based Optical Wireless Backhaul Link

The robust, low latency infrared LED link is well suited for mobile backhaul. The technology is also well suited for wireless point-to-point communication in industrial environments.

Optical Wireless Links for industrial M2M applications

The robust, mobile data links based on illumination LEDs are insensitive to EM-interference and well-suited for wireless, secure communication in industrial environments.

Real-time Digital Signal Processing Platform for Terabit Transmission

The Fraunhofer HHI presents innovative solutions for real-time signal processing in optical terabit-class transmission systems. This includes a compact coherent optical receiver (> 70 GHz bandwidth) and a sophisticated processing platform based on 56 GSa/s ADCs and Xilinx Ultrascale® FPGAs. In addition, Fraunhofer HHI portfolio provides a variety of high-performance software algorithms for real-time signal processing and for digital non-linear pre-distortion.

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

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