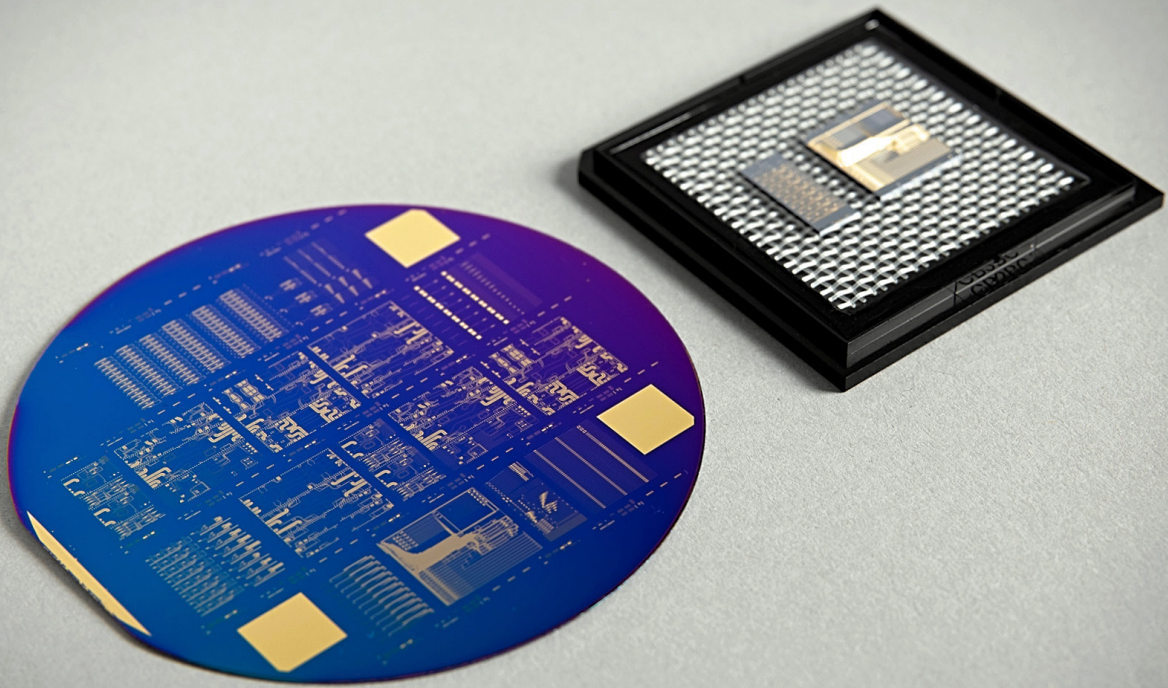


# FOUNDRIY SERVICES FOR PHOTONIC INTEGRATED CIRCUITS IN InP



## AT A GLANCE

Generic InP technology for large scale monolithic integration, DFB/DBR lasers and SOAs, detectors, full polarization handling



### Features

- Our technology enables your design
- Choose from a range of proprietary building blocks or create your own
- Tape out every 3 months
- Design kits available for established software tools
- Packaging services offered by our partners
- Low-cost MPW participation or customer-specific run available

### Applications

- Optical communications
- Optical filters
- Sensing
- Advanced optical sources

### Photonic InP Foundry

We offer foundry services to fabricate InP-based Photonic-Integrated Circuits (PICs) for any particular application. The designer can choose from a list of fixed photonic devices offered by Fraunhofer HHI, called building blocks (BBs), to add to his PIC design. The designer can optically route the BBs together using our low-loss waveguide technology. Since the technology is generic and application agnostic, multi-project wafer (MPW) runs are offered to allow ultra-low cost prototyping.

## Specifications

- C-band
- Passive waveguides (Loss < 2 dB/cm)
- DBR laser (50 nm tuning range)
- SOA (gain > 15 dB)
- 40 GHz (balanced) detectors
- 20 GHz directly modulated DFB laser
- 25 GHz modulator (EAM and MZM)
- phase shifters, MMIs, AWGs
- < 2 dB fiber-to-chip coupling
- polarization converter and splitter (PER > 15 dB)
- semi-insulating substrate

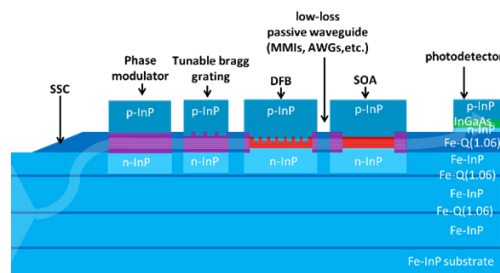



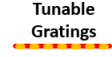





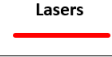




Klemens Janiak  
InP and RF department

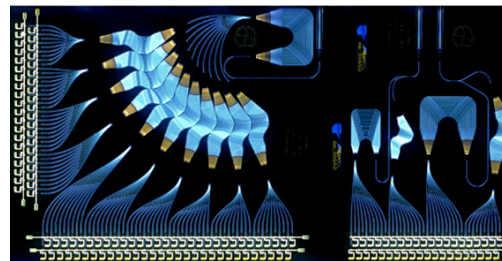
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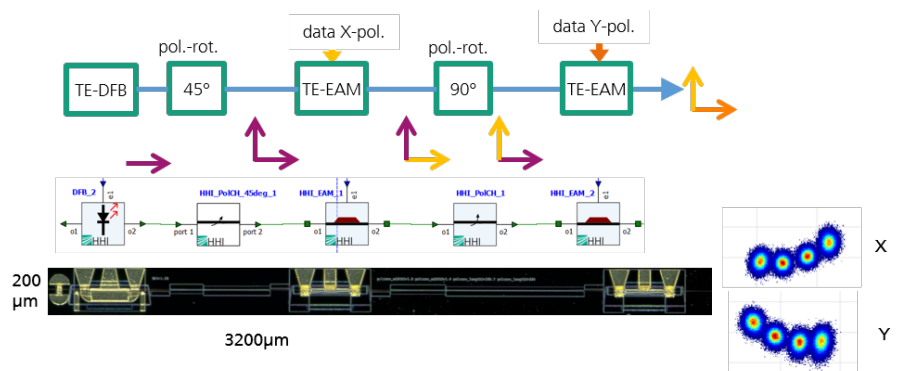
[www.hhi.fraunhofer.de/pc](http://www.hhi.fraunhofer.de/pc)



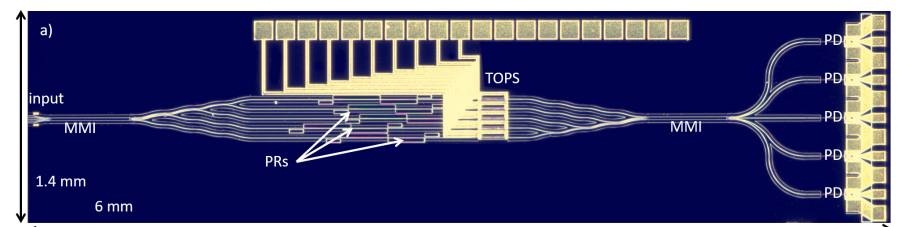
 Bends	 Tunable Gratings	 Photodiodes
 Couplers	 Amplifiers, Phase Sections	 Balanced Diodes
 Pol. Elements	 Lasers	 Balanced Diodes
 TO MZIs	 EA/EQ Modulators	 RF tracks, crossings



Bragg Interrogator for 100 sensors on one chip.



Dual-Pol. transmitter including laser source, designed using compact-model library.



Integrated High-Speed Stokes Rx / Polarimeter.

