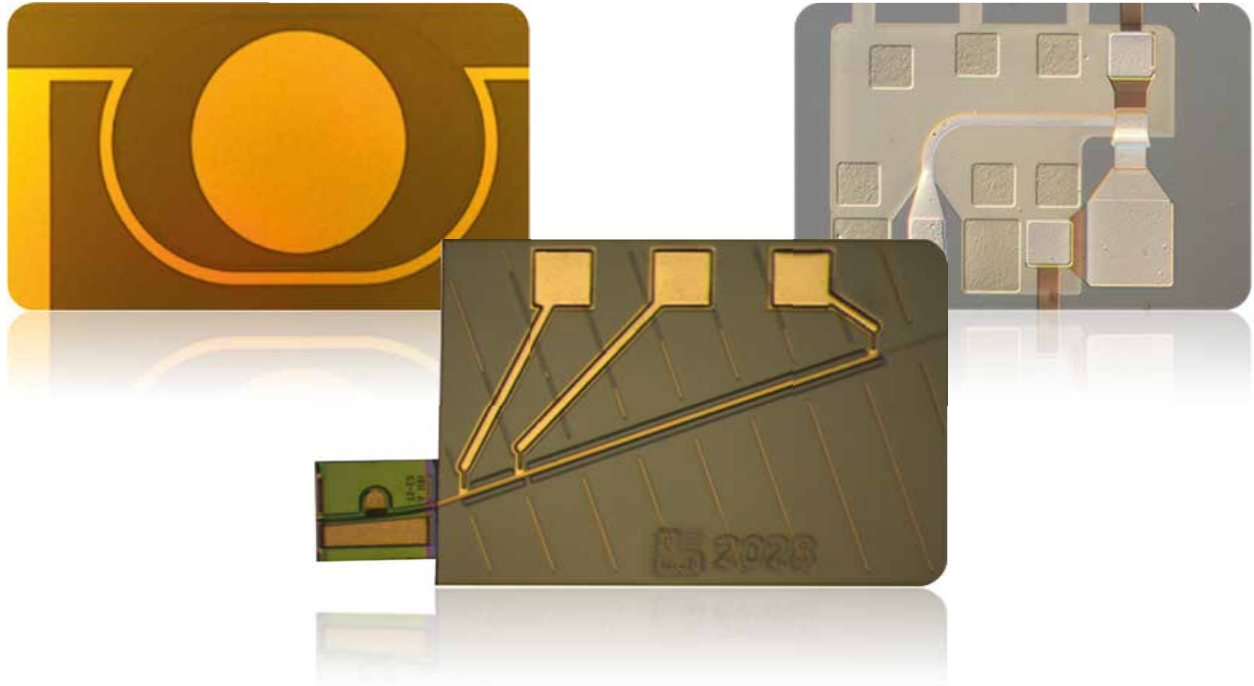


# HYBRID PICs – BEST OF ALL WORLDS



## AT A GLANCE

We enable the hybrid integration of complex photonic components with our PolyBoard and silicon nitride platforms.

### Features

- Modular tool box
- Rapid prototyping
- Short iteration cycles
- Low upfront development effort

### Applications

- Telecom and datacom
- Sensing and spectroscopy
- Microwave photonics and 5G networks
- Quantum technology

### Hybrid PICs

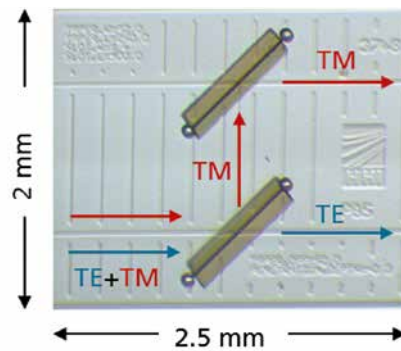
We develop photonic components and integrated circuits based on InP, polymer, graphene, and SiN material systems according to customer needs and specifications. Our PolyBoard technology platform allows for rapid prototyping, short iteration cycles and low upfront development effort.

Contact us with your ideas and make use of our expertise in design and simulation, CAD, technology development, wafer fabrication, device manufacturing, and chip characterisation, incl. qualification tests.

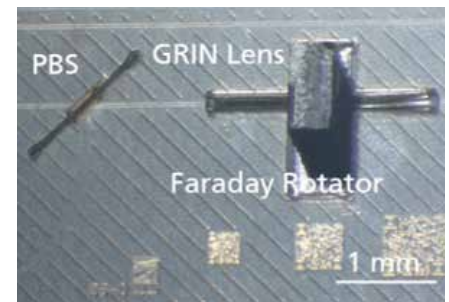


## References

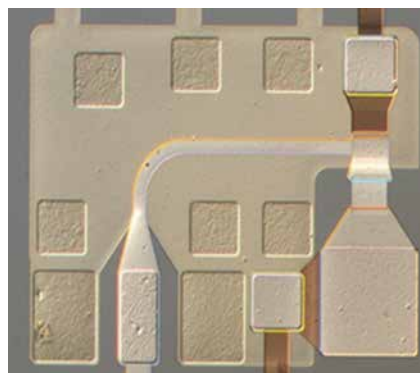
- International R&D projects HAMLET, 3PEAT, UNIQORN, TERIPHIC, ACTPHAST-4R (funded by EU commission)
- Innovative Regional Growth Core POLYPHOTONICS BERLIN and R&D Project PHONOGRAPH (funded by BMBF)



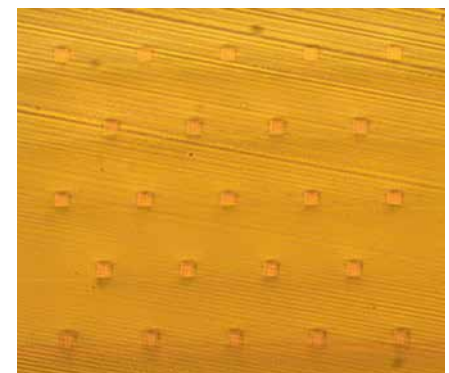
Low footprint thin-film-based elements (for polarization handling and filtering)



Micro-optical bench: optical isolator



Graphene-based Gb/s modulators



3D photonic integration

## Our hybrid integration platform comprises:

- Thin film elements for polarization beam splitting, polarization beam rotation and optical filtering
- U-grooves for adjustment-free fiber-chip and GRIN lens coupling
- Micro-optical bench: wavelength lockers and meters, optical isolators and circulators
- Passive components: splitters, couplers, gratings, MMIs, AWGs, 90° hybrids
- Micro-mechanical structures: mirrors, slots, grooves, trenches
- Efficient thermo-optic functionalities: VOAs, switches, tunable filters, tunable lasers, phase shifters
- InP actives: gain elements, photo diodes /arrays, DFB lasers /arrays
- Graphene-based Gb/s modulators
- Flexible high-frequency and optical interconnects (FlexLines)
- 3D photonic integration: multi-layer waveguides, vertical MMIs
- SiN: grating couplers, MMIs, microring resonators

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