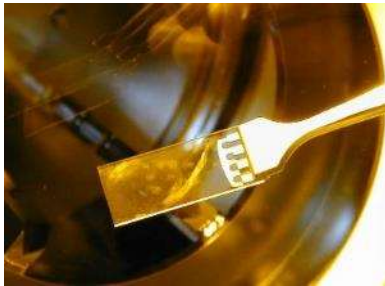


## ioNext PIC OFFER



Teem Photonics offers **customized passive Photonic Integrated Circuits (PIC)** based on its reliable, versatile and cost effective ioNext platform. The PICs are realized via the ion-exchange process on bulk glass substrates and are based on standardized building blocks available through a specific **Process Design Kit** (see below). Because the ioNext process flow contains only a limited number of steps, Teem

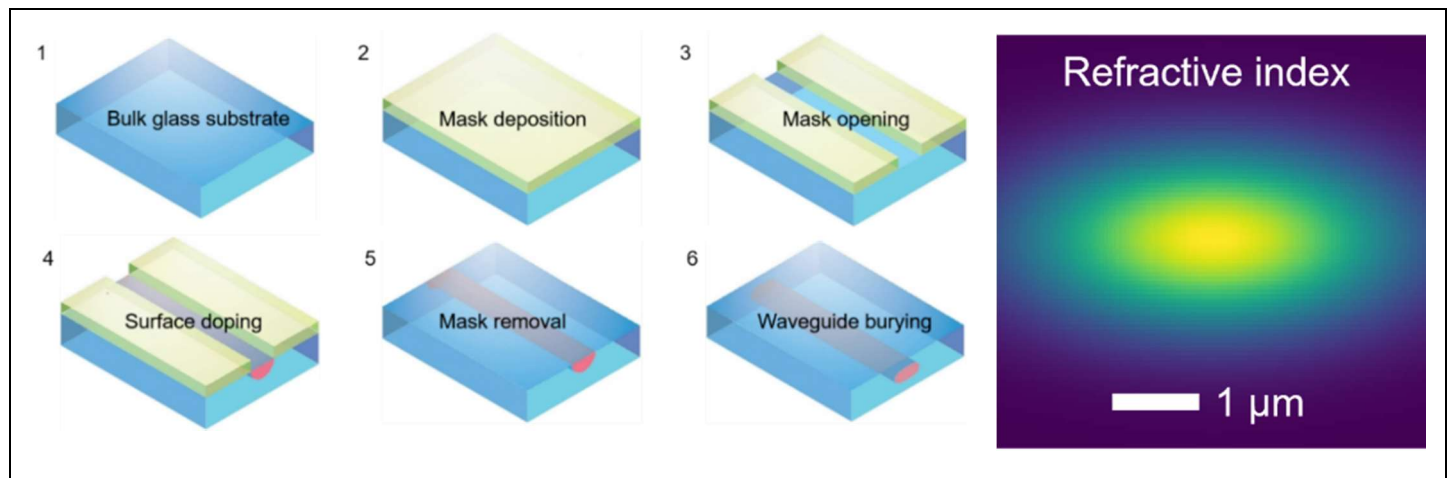
Photonics guarantees a **short turnaround time** (one month from GDS to chip) and an **optimal responsivity** to the PIC designers' demands.

On top of the PIC design and foundry services, Teem Photonics also proposes a chip pigtailed and packaging service in order to offer laboratory-ready integrated optical components.

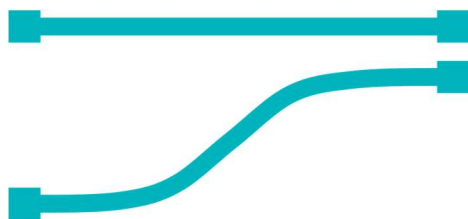


## ioNext PROCESS FLOW

The ioNext waveguides are patterned onto a proprietary glass substrate via masking and photolithography, thanks to selective doping where the mask has been etched. It results in gradient-index waveguides featuring a precisely controlled MFD and effective index.



## BUILDING BLOCKS



### Straight waveguide

- Loss 0.15 dB/cm (O and C-band)
- $n_{eff}$  1.52 at 1550 nm
- MFD 4x3 µm at 1550 nm

### S-bend and arc-bend

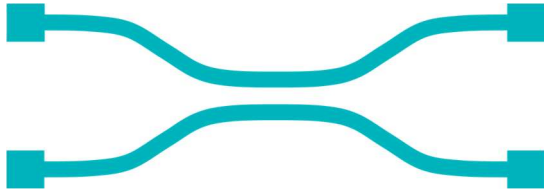
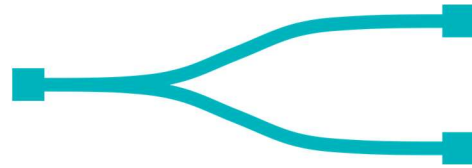
- radius 800 µm

### Y-junction

- broadband (O and C-band)
- low extra-loss

### 1xN splitter

- up to N=512

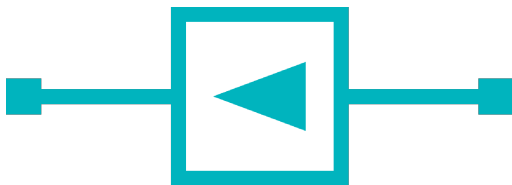
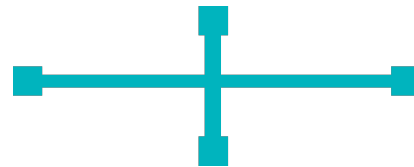


### Evanescent coupler

- 50/50 in C-band by default
- custom ratio on request
- custom spectral band on request
- very low extra-loss

### Waveguide crossing

- low extra-loss
- no crosstalk

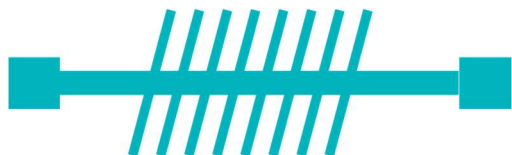


### Spot size converter

- on PIC facet
- 10  $\mu\text{m}$  to 4x3  $\mu\text{m}$  MFD conversion
- low loss

### MUX and DEMUX

- AWG
- Broadband evanescent coupler



### Volume Bragg grating

- operating band and spectral characteristics on request

## COMMECRIAL OFFERING

- **Design service**, from concept to GDS file
- **Process Design Kit** available to customers, with accurate waveguide modelling
- **Pigtailing and testing service** for lab-ready components
- **Short turnaround time**: 1 month from GDS to chip
- **Erbium-doped platform** available for laser and amplifier designs

