The Silicon Nitride Si₃N₄ line of HHI provides passive structures (ring resonators, MMIs, AWGs, gratings) and thermo-optical elements (phase shifters, VOAs, tunable gratings).

**Features**
- Low-loss
- Cost-efficient
- Highly integrable
- VIS to NIR wavelength
- Efficient coupling to other materials such as InP, GaAs, PolyBoard etc.
- Short production times
- Versatile applications possibilities in telecom / datacom, sensing, quantum technologies

**Services**
- Building blocks available for 400nm-thick waveguides for telecom- and non-telecom wavelengths
- Photonic sensors: diagnostics, environmental/water analysis, life science and food analytics
Applications

- Telecom / datacom
- Sensing and analytics
- Quantum technology
- Medical and life sciences

Technical Background

Low loss structures such as ring resonators, MMLs and AWGs, gratings as well as thermo-optical elements like phase shifters VOAs and tunable gratings are fabricated on wafer scale. Customized designs are available.

Switches

Gratings

InP-SiN integration

Ring resonators for sensing and analytics

Delay line interferometer