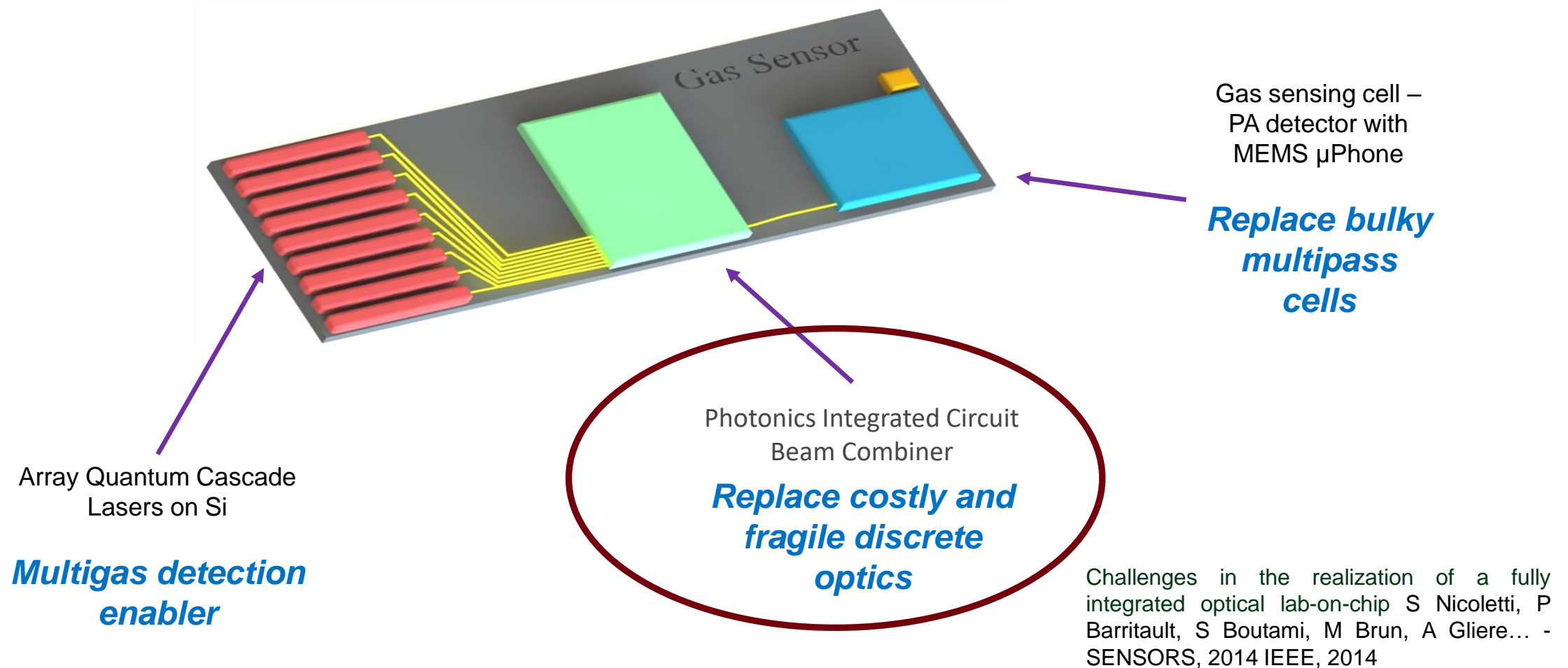


MID-IR PICS

Concept of Integrated Multigas Sensor on Si



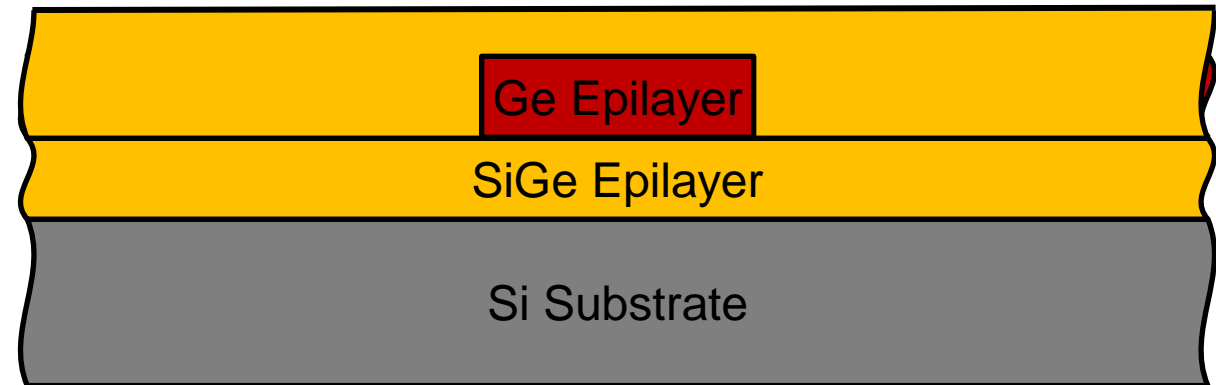
Mid-IR Photonics – key requirements for integration

Full manufacturability in IC/MEMS facilities

- Material compatibility
- Fabrication flow consistency
- Implementation of other on-chip components

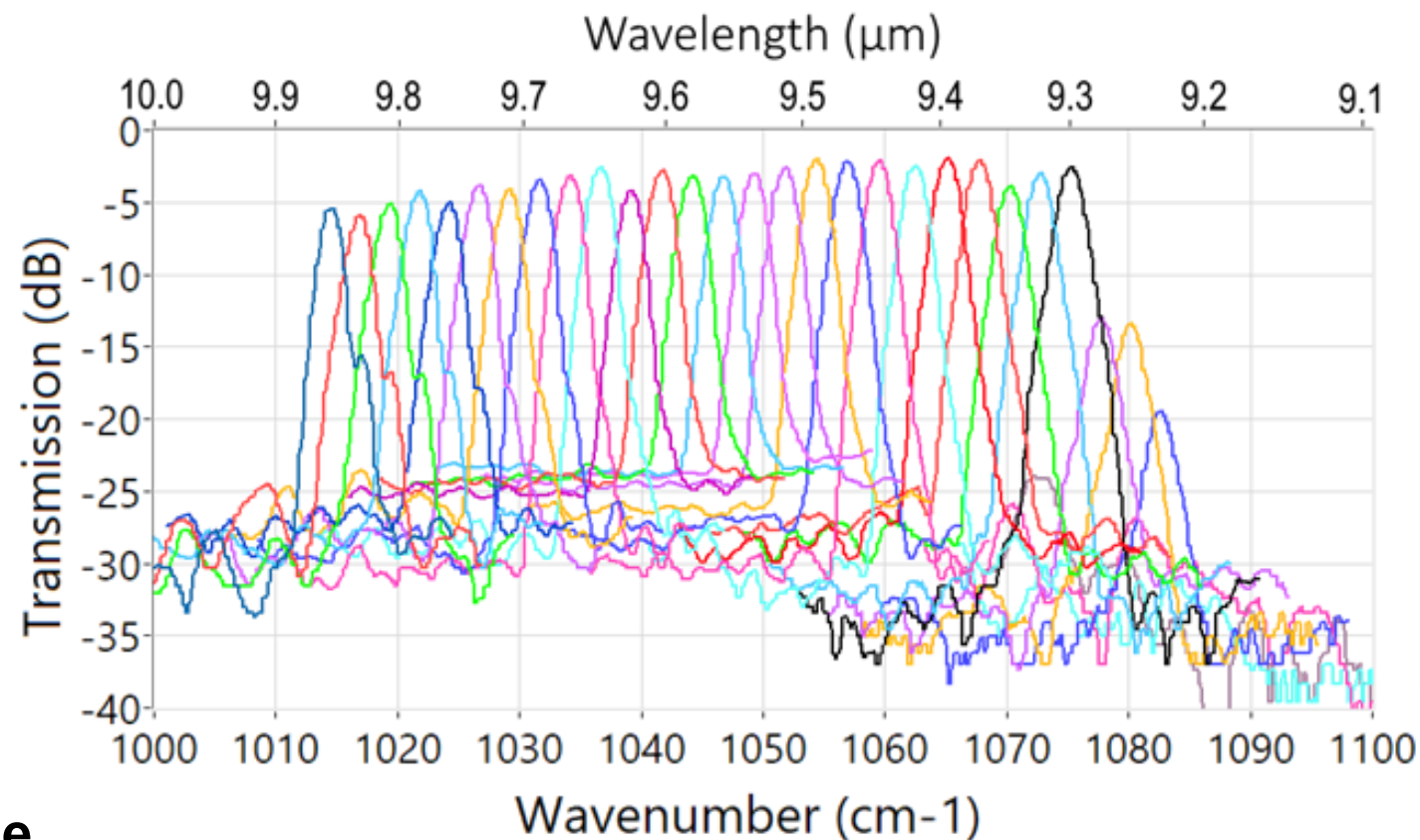
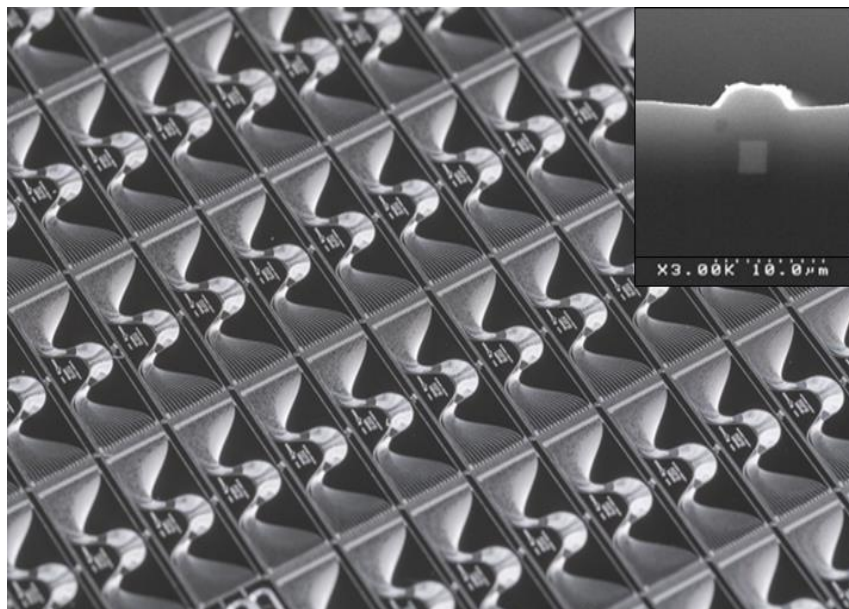
Operation of the PIC in real environment

- Interaction with environment
- Long term stability (Ge)



- **Si/SiGe/Si**
 - **0.3 dB/cm @ 4.5 μm**
- **SiGe/Ge/SiGe**
 - **3 dB/cm @ 8 μm**

Mid-IR PIC – AWG working at 9-10 μm



- **Si/SiGe/Si & SiGe/Ge/SiGe**
- **Wavelength band coverage: 3 to 10 μm**
- **Technical topic: AR coating to reduce the injection losses**

*Thank you
for your
attention*



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