

Silicon photonics for next-gen datacom

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3E8 – a Silicon Photonics Startup

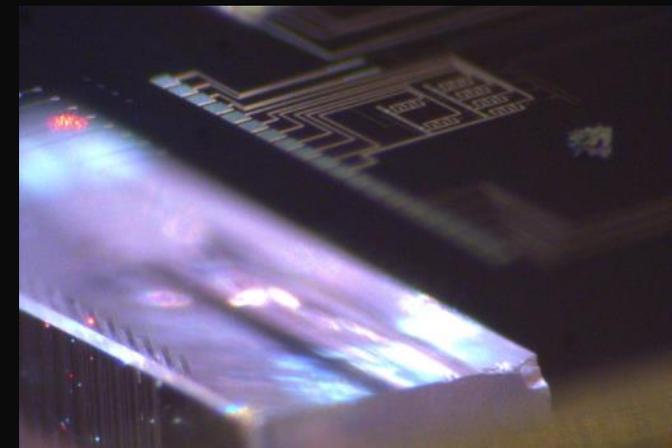
- Founded 2020 in Montreal
- TandemLaunch backed
- Pre-seed
- Silicon Photonics for optics computing and datacom
- Looking for strategic partners and investors
- Photonic and elec. chip design + test expertise
- Strong local research partnerships
 - McGill University (photonic IP development)
 - Concordia University (electro-optical codesign: driver, TIA, integration)
 - Polytechnique (photonic memory IP)



TandemLaunch is a Montreal VC fund and start-up foundry.



Foundation IP licensed from one decade of research at GW



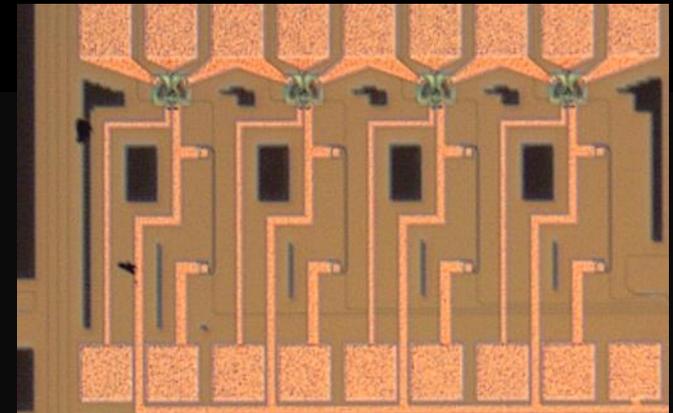
Problem and Opportunity

Datacom: Exponential Growth of Bandwidth Needs

- Optical transceivers need to support **more bandwidth** at **smaller footprint** and with **lower energy consumption**.

Silicon Photonic Ring-based Transceivers

- Very small footprint
- Low power, target 1 pJ/bit
- High-speed, runway to 50-100 GBd+
- Efficient wavelength multiplexing
- SiPh reduces costs and improves reliability



SiPh test chip designed by 3E8

3E8 Vision, a Low-Power transceiver

Opportunities:

- Specialized fiber links up to 100 m: High-order modulation (PAM8 or PAM16) increases data bandwidth. Applications: cars/ aerospace/ chip-to-chip.
- Datacenter links up to 2 km: improved PAM4 and/or coherent solutions to achieve next-gen bandwidth requirements. Existing solutions consume too much power; 3E8 addresses this problem.

DAC-less

Considerable power saving

DSP-less

Enabled by linear + dispersion free
O-band operation

Only basic analog circuitry

Sufficient to drive 3E8 modulators

Small driving voltage

CMOS compatible 2-3 V_{pp} saves power

