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EPIC Quantum Computing Platforms

Devin H. Smith

d.smith@quixquantum.com

Mission statement

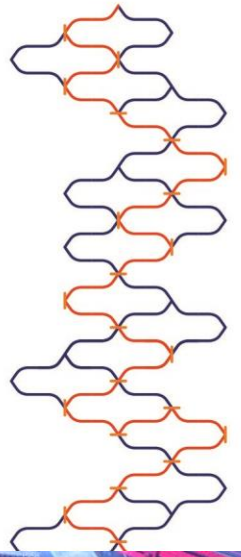
Make the world's best quantum photonic hardware

Who are we

- Young company (founded Jan 2019), 13 people
- Spinout of University of Twente, located on campus
- 2020 seed funding round Forward One, OOST NL

QuiX Quantum – D. Smith, Senior Quantum Engineer – EPIC meeting

Photonics leads Quantum

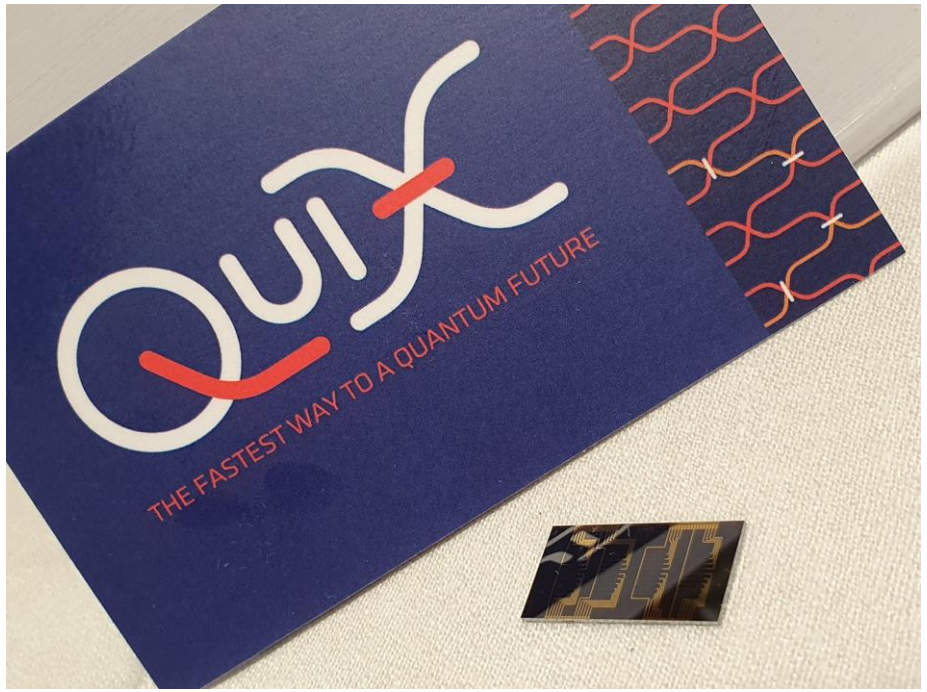


- Photonics is one of two architectures that has a quantum advantage
- Advantages of photonics:
  - Scalable
  - Highly integrated with classical tech
  - Operates at room temperature

QuiX Quantum – D. Smith, Senior Quantum Engineer – EPIC meeting

QuiX leads Quantum Photonics tech

- We have the world's largest, best quantum photonic hardware (more on this in a minute)
- We have delivered on our tech milestones in a market filled with hype

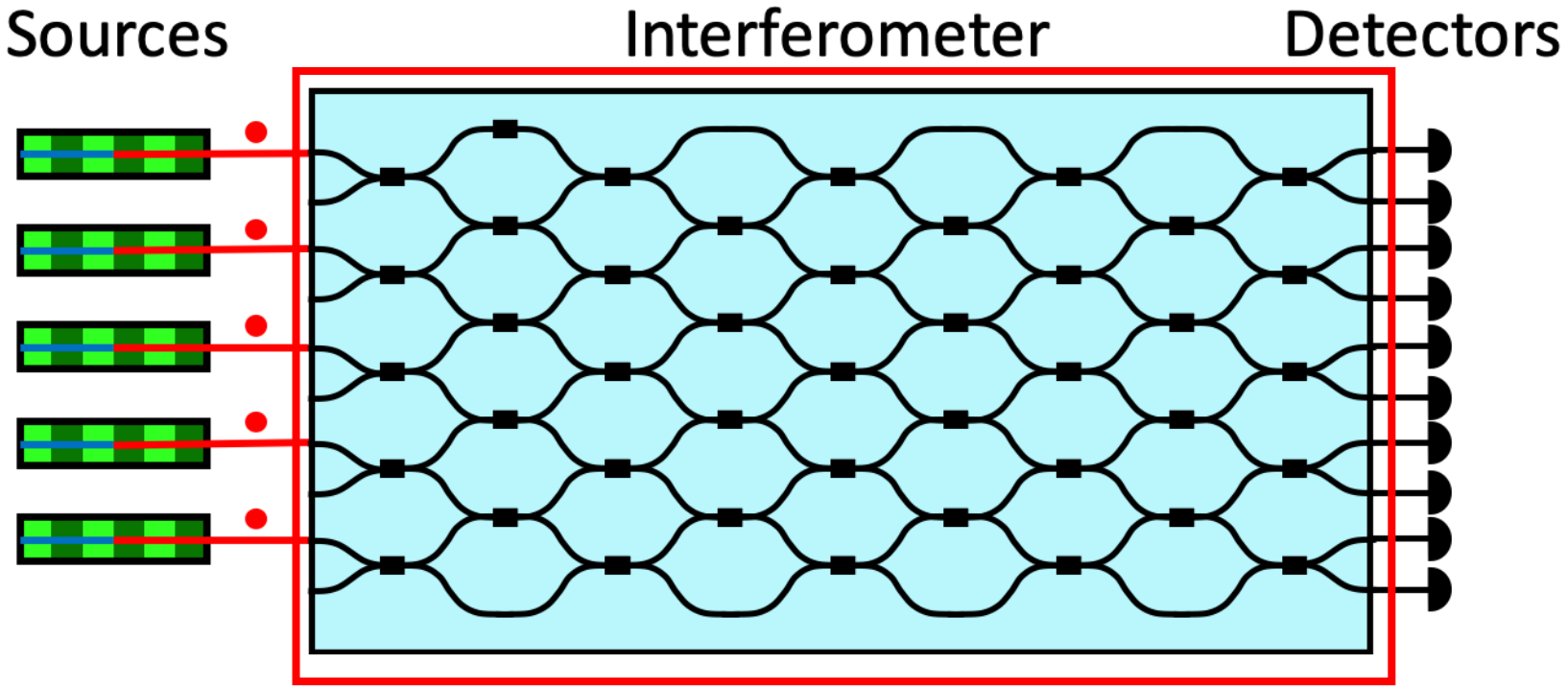


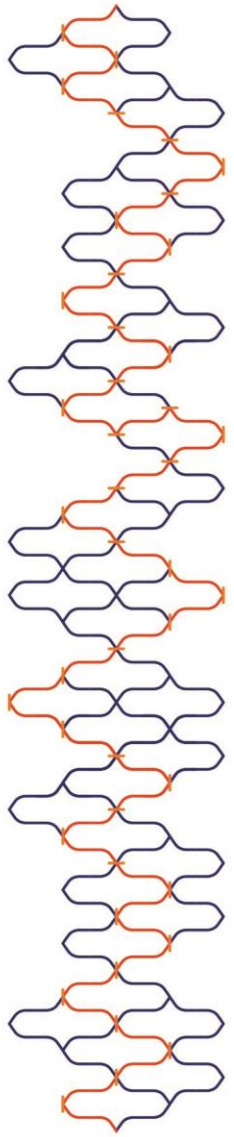
QuiX is market leader in Quantum Photonics

- 4 sales to major academic / startup players
- Collaborations with major universities

The product

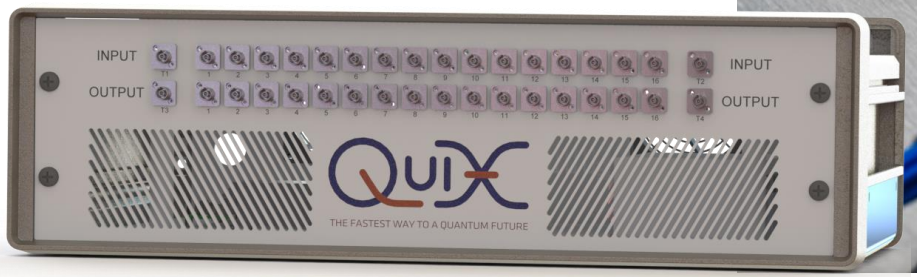
- Quantum photonic processor ➔large scale, tunable linear interferometer
- Heart of a NISQ photonic quantum computer



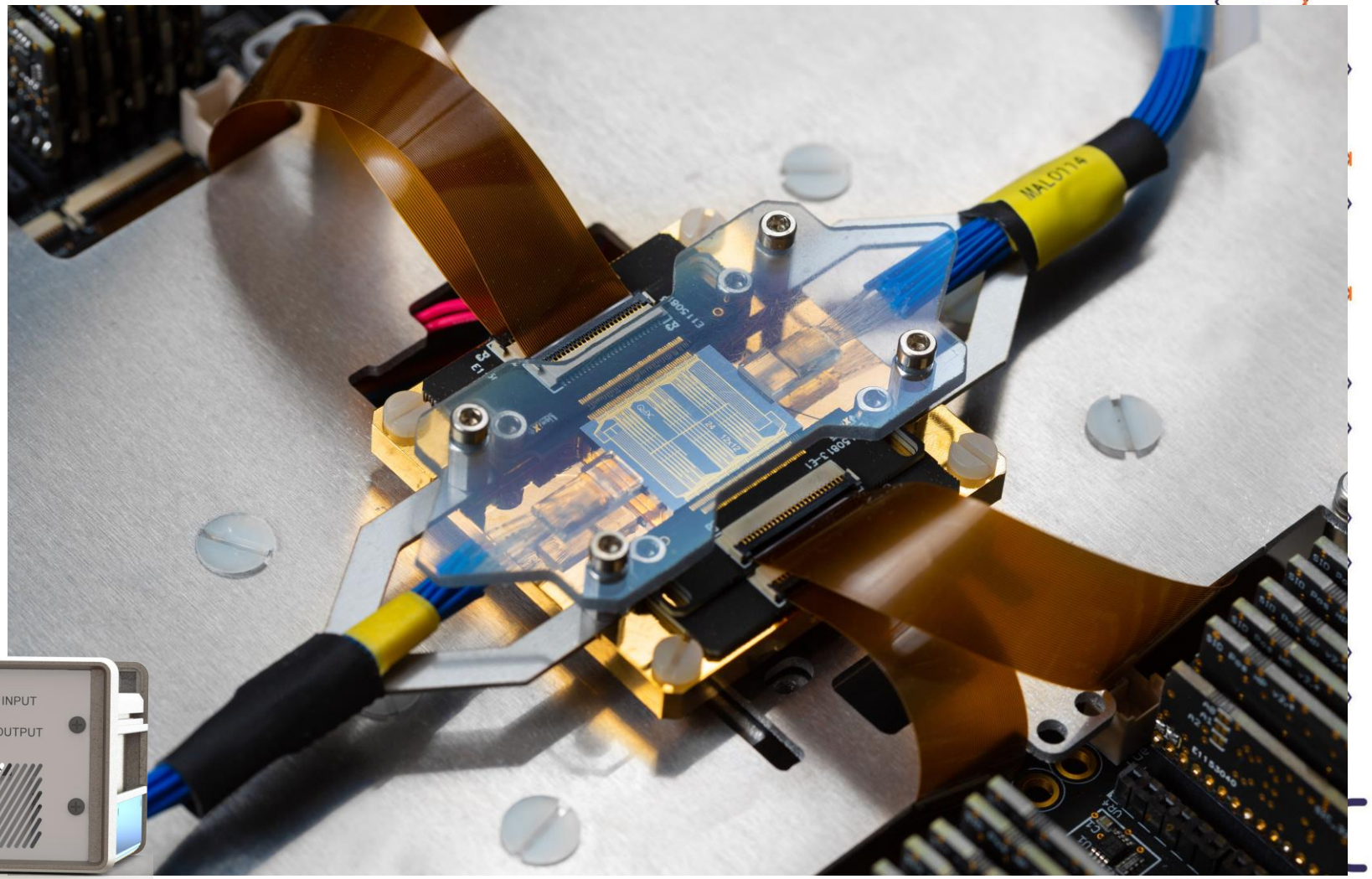


Our product: 12 mode photonic processor

- 12 qumodes -> record size
- 2.5 dB optical loss -> record low losses
- 99% transformation fidelity -> record F
- Plug-and-play, ready to go



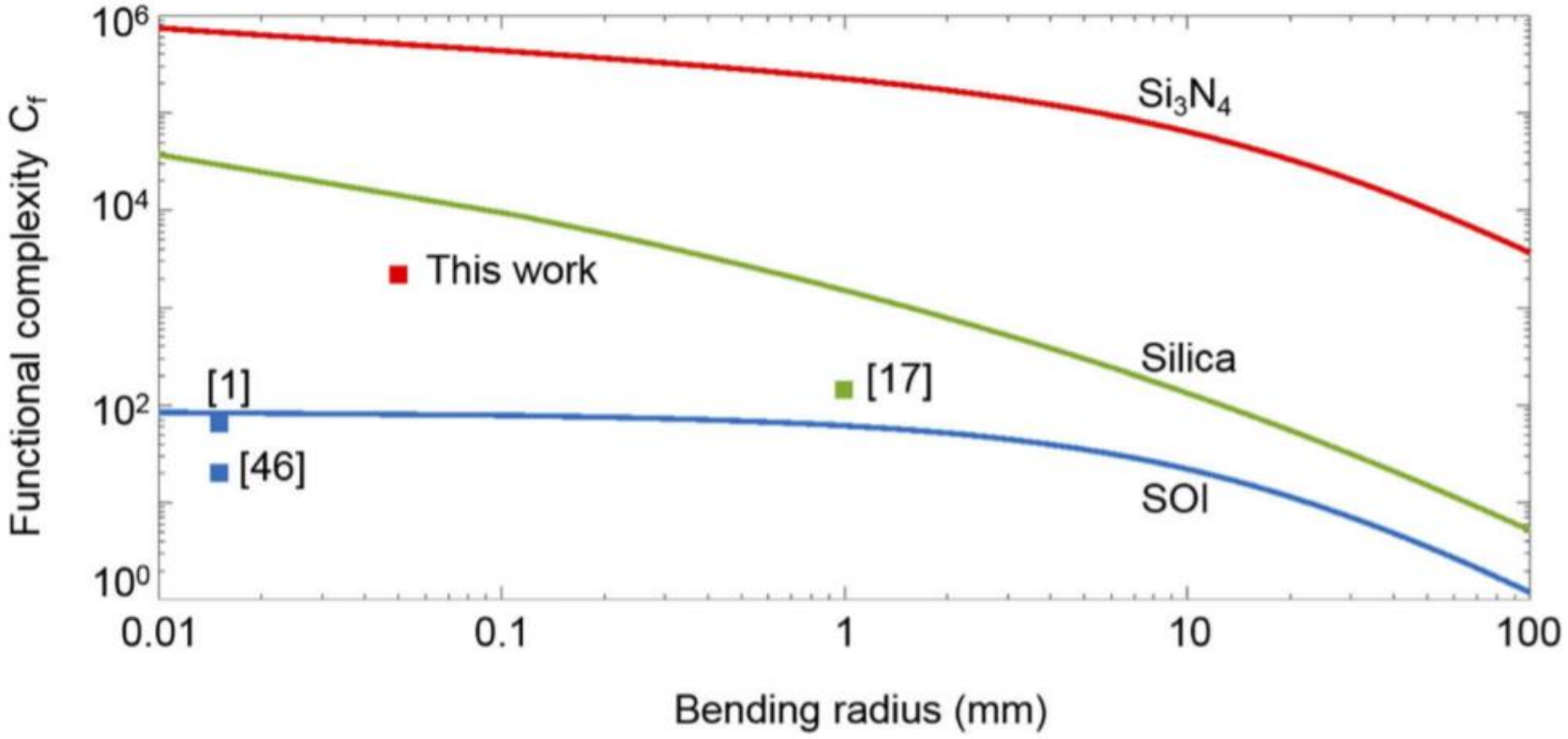
QuiX Quantum – D. Smith, Senior Quantum Engineer

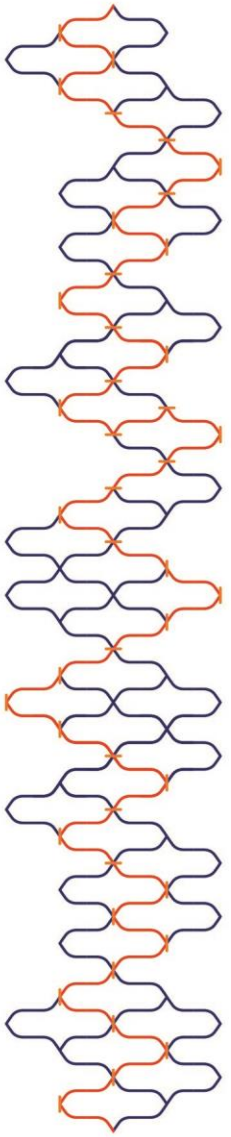


Taballione et al, Materials for Quantum Technology 1 (3), 035002 (2021)

Scalability

- SiN is the only technology capable of scaling to useful system sizes





C Taballione *et al*, Optics Express 2019

QUIX QUANTUM

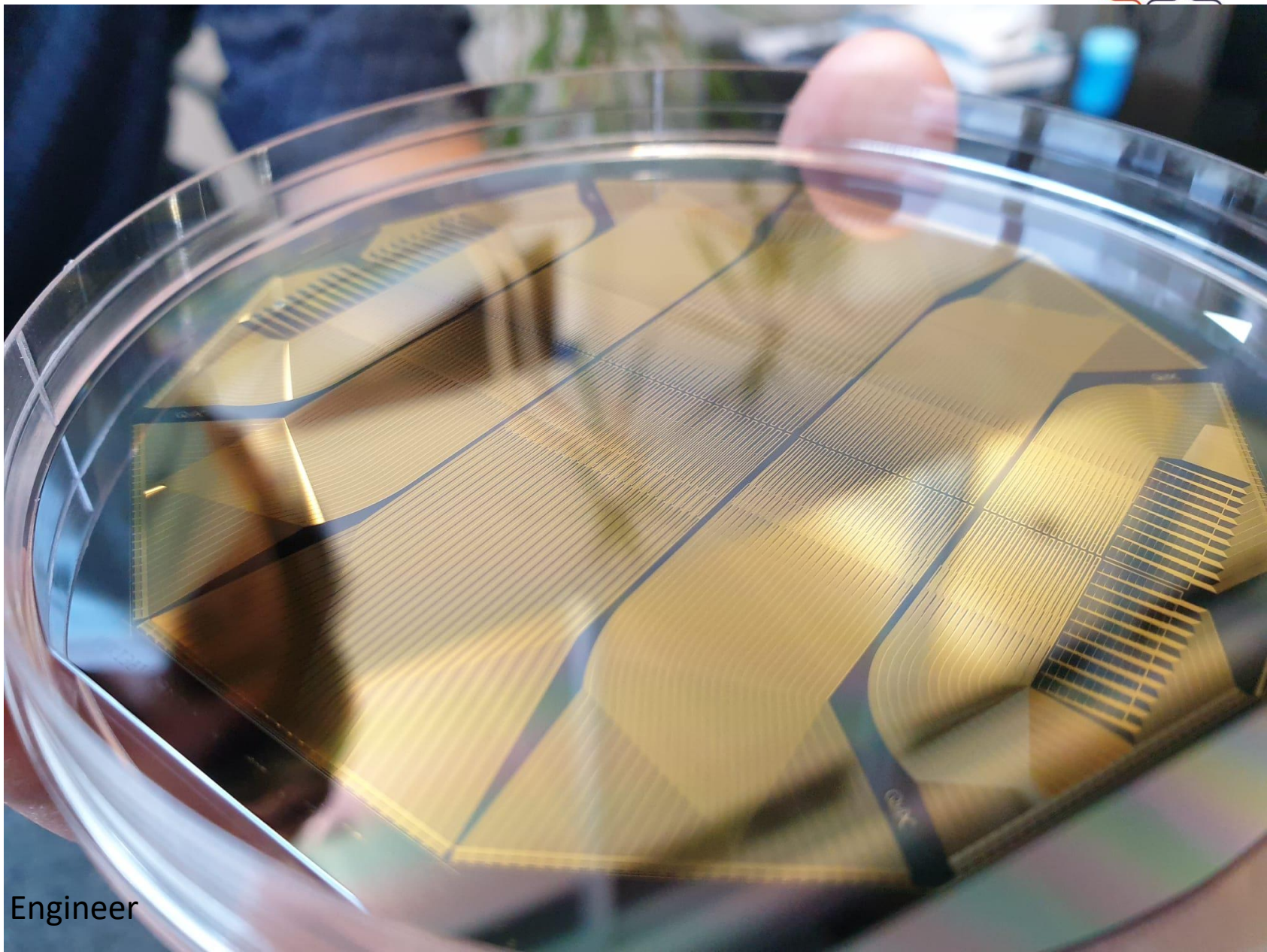
WEBINAR

20-mode quantum photonic processor

March 3, 15.00 CET

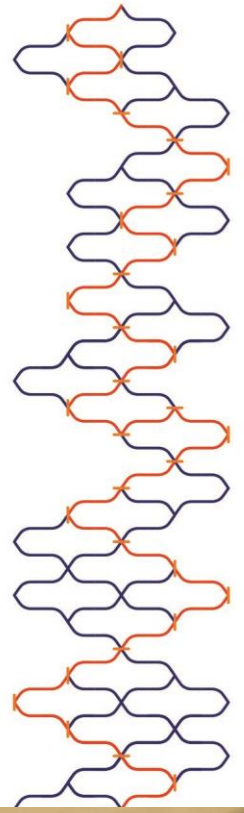
Teaser for the future

- Wafer-sized photonic circuits

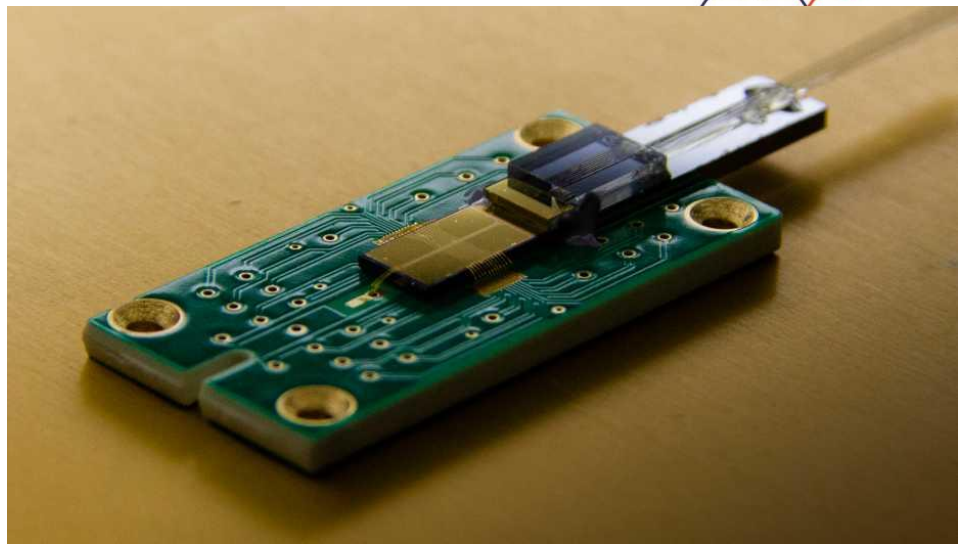


QuiX Quantum – D. Smith, Senior Quantum Engineer

QuiX believes in open-access model



- Looking for:
  - Electronic packaging with more than 2000 connections
  - Quantum software partners
  - Hardware ecosystem collaborators
- Offering:
  - NISQ Photonic quantum computing as a product
  - Alternate applications of steering light in complex patterns (e.g. ion trap / cold atom / diamond / atomic clock control)



Afsluiter presentatie

QR Code for webinar: