AI ATLAS

NIOPTINET · ONE-PAGER

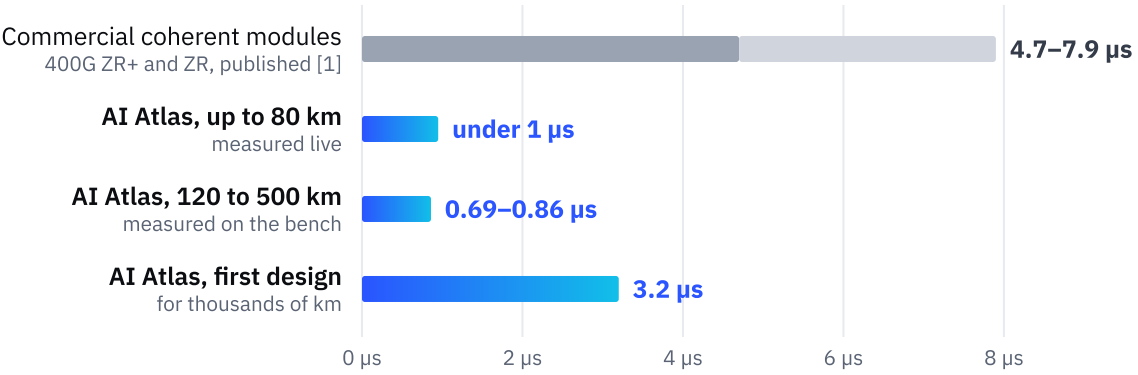
NOW SELECTING PILOT PARTNERS

Take microseconds out of every optical link.

NIOPTINET is the intelligent coherent transceiver with the lowest latency per bit, running live today on off-the-shelf AMD chips. Our 2-in-1 units build the muxponder in, so one box does the job of two.

Trading routes | AI across data centres | DCI and metro | Telecom and 5G

DELAY PER LINK, ONE WAY · LOWER IS BETTER



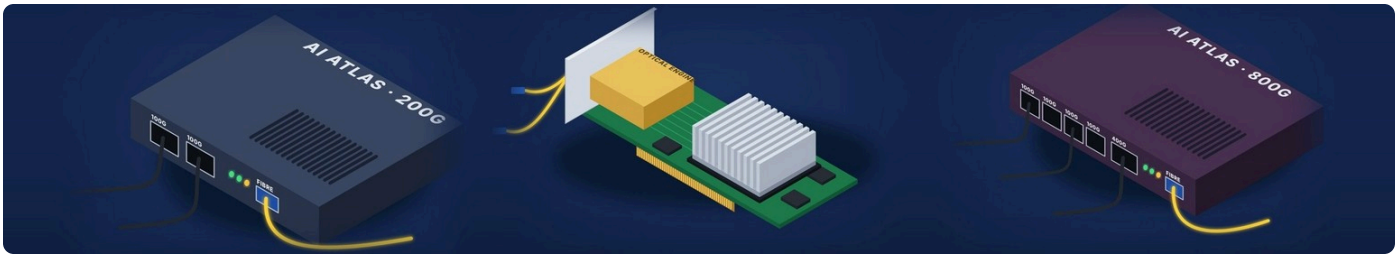
What the transceivers add, the fibre left out (it adds 4.9 µs per km for everyone).

4–8×
less delay than published commercial modules, up to 80 km, measured live

0.7–1.4 km
of fibre delay saved per link: light covers about 200 m per microsecond

16.1 GB in 2.7 s
six 4K movies through the link in the live demo, 6 of 6 files identical

THE UNITS · RENDERS ARE ILLUSTRATIVE, SPEEDS ARE DESIGN TARGETS



Intelligent Transceiver
Muxponder built in
200 Gb/s · 2 × 100G
FROM TODAY'S LIVE DEMO

Coherent Network Card
NIC and coherent optics in one
110 Gb/s · PCIe server slot
FROM TODAY'S LIVE DEMO

Next-Gen Transceiver
Muxponder and mini switch built in
400–800 Gb/s · 4 × 100G + 400G
NEXT: AMD VERSAL RF · 2027

[1] Cisco, 400G Digital Coherent Optics QSFP-DD data sheet: round-trip latency at 400GE of 4.7 µs (400G ZR+) and 7.9 µs (400G ZR). cisco.com, data sheet c78-744377.

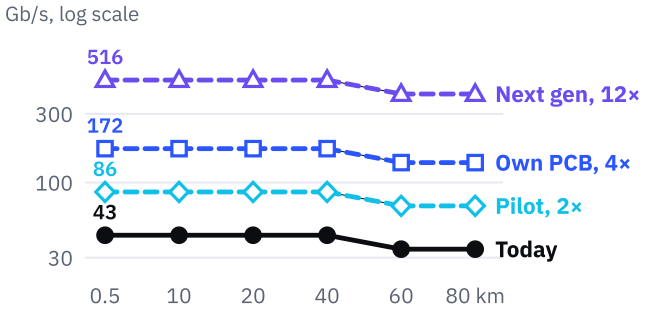
Technical snapshot

Delay per link	Under 1 µs one way up to 80 km, measured live; 0.69 to 0.86 µs from 120 to 500 km on the bench, at lower rates. Our first design reached several thousand km at 3.2 µs
Throughput today	55.3 Gb/s across two links on one AMD RFSoC board
Pilot unit	AMD ZCU208 board (ZU48DR RFSoC)
Next board	AMD Versal RF, 400–800 Gb/s class, in development
Line format	Coherent QAM, PAM4 or NRZ, set in firmware
Link tuning	Our patented Natural Intelligence sets error correction and rate per link in under 100 ns
Software	Managed from Linux; works with Rocky Linux
Test status	Lab bench on short cables (Oct 2026); real fibre spans next, with pilot partners

For telecom networks

- **Fewer boxes.** The muxponder is built into the transceiver.
- **Early cut warning** from the receiver's polarization data.
- **5G fronthaul.** A tower must reach its hub within about 100 µs. Other coherent optics use 5–8 µs of that [1]; ours measured under 1 µs live, so the hub can sit about 1 km farther out.
- **Software upgrades** as firmware, with no site visit.

Data rate per unit, as it scales



Solid: measured live. Dashed: estimates for the same unit.

HOW A PILOT WORKS

1
20-minute call
Your route, your traffic, and what a microsecond is worth to you.

2
Mutual NDA
Before any confidential detail.

3
Short test plan
What we measure and what success looks like.

4
Our bench, then your link
Delay and error rate on your fibre, in about a week, round trip.

Founded by **Prof. M. Jamal Deen** (CEO; Member of the Order of Canada) and **Prof. Shiva Kumar** (President; Fellow of Optica), co-authors of the Wiley textbook *Fiber Optic Communications*, with **Dr. Mahdi Naghshvarianjahromi** (CTO; first-named inventor). Patents: US 2025/0373332 A1, more pending.

TALK TO US
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Watch the demo at aiatlasinc.ca