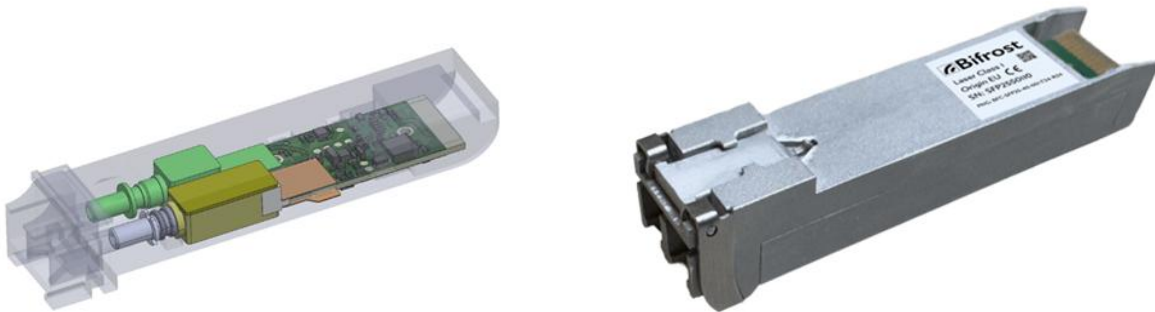


## **Bifrost offers fixed and tunable complete transceiver solutions for 25 Gbps 40 km reach and 50 Gbps 20 km reach**



- **Facilitates upgrade of existing networks from 10 Gbps to 25 Gbps (C-band / DWDM)**
- **Meets the MOPA requirements for 6G mobile networks with 50 Gbps**

With our quasi-coherent technology, we are targeting the deeper fiber access network at speeds of 10/25/50/100 Gbps, but with lower power, lower cost and more flexibility such as DWDM capability.

The 25 Gbps solution provides an easy upgrade of existing Access networks from 10 Gbps to 25 Gbps. The 50 Gbps enables 20 km reach in the C-band targeting requirements for 6G fronthaul set by MOPA (The Mobile Optical Pluggables Alliance). The 50 Gbps solution utilizes Bifrost's 50 Gbps PAM4 Silicon Photonics Transceiver PIC and together with Semtech's Tri-Edge™ CDR IC.

Quasi Coherent fully addresses operator needs both today and in the future in fiber access networks while avoiding the power, cost, complexity, and latency of full Coherent, Coherent Lite, or even XR optics.

### **Our QC technology provides a long list of distinct advantages**

- Lower cost, power consumption and compact footprint (SFP 28/56 compatible)
- PIC based optical solution
- Tunable
- Wavelength selective receiver for filter less DWDM
- Enables single-fiber bi-directional operation
- Near-zero latency and longer reach due to DSP-free analog dispersion compensation
- 10, 25, 50 Gbps solutions today – 100 Gbps in development
- European R&D based in Denmark
- Aligned with key standards, including Mobile Operator Pluggables Alliance (MOPA)

## Examples of Bifrost Quasi-Coherent (QC) Applications

### Bifrost QC – Tunable Pluggable Broadband Access

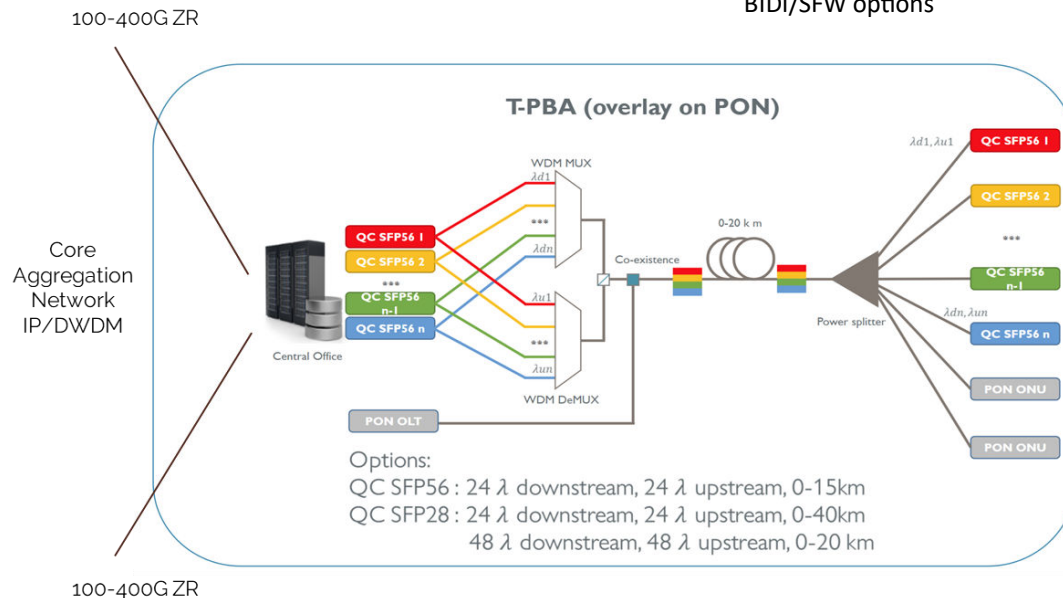
Simple & reliable low cost & power gridless WDM for temperature uncontrolled access networks

#### Temperature controlled environment

- Central Office Converged Packet Core/Edge
- 100 Gbps ZR, 400 Gbps ZR - Coherent

#### Temperature uncontrolled environment

- Street cabinets, RF Antenna, and User Premises
- Fixed/Tunable Pluggable Broadband Access Quasi Coherent 10, 25, 50...100 Gbps with BIDI/SFW options



- Co-exist with TDM PON services such as XGS PON
- Can be built as standalone Multi-Channel Terabit Passive Broadband Access
- Supports Mobile Fronthaul for C-RAN over PON @ 25 and 50 Gbps
- Could also be designed to support 2 x 50 Gbps lambda to a customer premises located router for 100 Gbps uncontented packet service via ECMP or LACP
- Low-cost power splitter at remote node enabled by wavelength selective QC receiver
- C-Temp or I-Temp for mobile remote customer premises or Radio Units
- Supporting IP over DWDM

### Summary

The unique advantages of increased reach and dispersion tolerance of Bifrost's Quasi-Coherent receiver technology allows for new opportunities of 10/25/50 Gbps bidirectional lambda services over single fiber broadband access networks. Maintaining a low cost/power form factor that can be easily integrated in standard pluggable transceiver packages such as SFP-28/56 or QSFP.