# COMMUNICATIONS MARKET OVERVIEW

# **Markets Day**

September 19, 2023

Paul Silverstein Vice President, Investor Relations & Corporate Communications



## HOST





## **SPEAKERS**



Paul Silverstein
Vice President,
Investor Relations &
Corporate Communications



Dr. Sanjai Parthasarathi Chief Marketing Officer



**Dr. Lee Xu**Executive Vice President,
Datacom Transceivers



**Dr. Beck Mason**Executive Vice President,
Telecommunications





#### **FORWARD-LOOKING STATEMENTS**

This presentation contains forward-looking statements relating to future events and expectations, including our expectations (i) for our future financial and operational results (including expectations for future growth); (ii) regarding capital expenditures and the results of investments in research and design; (iii) regarding growth in the markets we serve including industrial, communications, electronics, and instrumentation; (iv) regarding the growth and opportunity in the datacom transceiver global market; (v) regarding our leadership position in the next five years for 800G/1.6T; and (vi) regarding Al preparedness and growth. The forward-looking statements are made pursuant to the safe harbor provisions of the U.S. Private Securities Litigation Reform Act of 1995 and relate to the Company's performance on a going-forward basis. The forward-looking statements in this investor presentation involve risks and uncertainties, which could cause actual results, performance or trends to differ materially from those expressed in the forward-looking statements herein or in previous disclosures.

The Company believes that all forward-looking statements made by it in this presentation have a reasonable basis, but there can be no assurance that management's expectations, beliefs, or projections as expressed in the forward-looking statements will actually occur or prove to be correct. In addition to general industry and global economic conditions, factors that could cause actual results to differ materially from those discussed in the forward-looking statements in this presentation include but are not limited to: (i) the failure of any one or more of the assumptions stated herein to prove to be correct; (ii) the risks relating to forward-looking statements and other "Risk Factors" discussed in the Company's Annual Report on Form 10-K for the fiscal year ended June 30, 2023 and additional risk factors that may be identified from time to time in filings of the Company; (iii) the substantial indebtedness the Company incurred in connection with its acquisition of Coherent, Inc. (the "Transaction"), the need to generate sufficient cash flows to service and repay such debt and the Company's ability to generate sufficient funds to meet its anticipated debt reduction goals; (iv) the possibility that the Company may not be able to continue its integration progress on and/or take other restructuring actions, or otherwise be able to achieve expected synergies, operating efficiencies, including greater scale, focus, resiliency, and lower operating costs, and other benefits within the expected time-frames or at all and ultimately to successfully fully integrate the operations of Coherent, Inc. ("Coherent") with those of the Company; (v) the possibility that such integration and/or the restructuring actions may be more difficult, time-consuming or costly than expected or that operating costs and business disruption (including, without limitation, disruptions in relationships with employees, customers or suppliers) may be greater than expected in connection with the Transaction and/or the restructuring actions; (vi) any unexpected costs, charges or expenses resulting from the Transaction and/or the restructuring actions; (vii) the risk that disruption from the Transaction and/or the restructuring actions materially and adversely affects the respective businesses and operations of the Company and Coherent; (viii) potential adverse reactions or changes to business relationships resulting from the completion of the Transaction and/or the restructuring actions; (ix) the ability of the Company to retain and hire key employees; (x) the purchasing patterns of customers and end users; (xi) the timely release of new products, and acceptance of such new products by the market; (xii) the introduction of new products by competitors and other competitive responses; (xiii) the Company's ability to assimilate other recently acquired businesses, and realize synergies, cost savings, and opportunities for growth in connection therewith, together with the risks, costs, and uncertainties associated with such acquisitions; (xiv) the Company's ability to devise and execute strategies to respond to market conditions; (xv) the risks to realizing the benefits of investments in R&D and commercialization of innovations; (xvi) the risks that the Company's stock price will not trade in line with industrial technology leaders; and/or (xvii) the risks of business and economic disruption related to the currently ongoing COVID-19 outbreak and any other worldwide health epidemics or outbreaks that may arise. The Company disclaims any obligation to update information contained in these forward-looking statements, whether as a result of new information, future events or developments, or otherwise.

Unless otherwise indicated in this presentation, all information in this presentation is as of September 18, 2023.



# OUR MARKETS, COMMUNICATIONS MARKET

Dr. Sanjai Parthasarathi, Chief Marketing Officer



#### ALL OUR MARKETS ARE HEALTHY AND GROWING OVER THE LONG TERM



TAM: **\$22B** CAGR: 9%

# Communications



TAM: **\$23B CAGR: 16%** 

#### **Electronics**



TAM: **\$14B CAGR: 20%** 

# Instrumentation

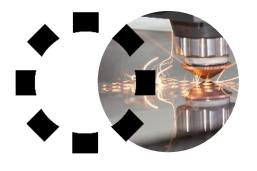


TAM: **\$5B** CAGR: 8%

Combined CY23 TAM of \$64B growing to \$124B within five years

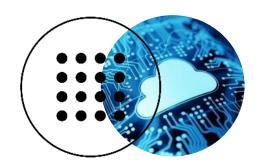


#### **OUR MARKET GROUPS AND VERTICALS**



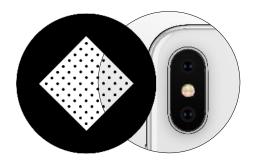
#### **Industrial**

- Precision Manufacturing
   Components, Lasers and Systems
- Semiconductor Capital Equipment Optics, Materials, and Lasers
- Display Capital Equipment
   Optics, Materials and Lasers
- Aerospace & Defense
   Optics, Materials and Lasers



#### **Communications**

- Datacom
   Lasers and Transceivers
- TelecomFrom Materials to Systems



#### **Electronics**

- Consumer Electronics
   Lasers, Optics, and Materials for Devices
- Automotive
   SiC Devices, Lasers and Materials
- Wireless
   SiC Substrates for RF devices



#### Instrumentation

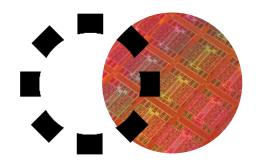
- Life Sciences
   Optics, Lasers, TEC and Subsystems
- Scientific Instrumentation Lasers for Research



#### **FY23: A YEAR OF RECORDS**

FY 2023 Revenue

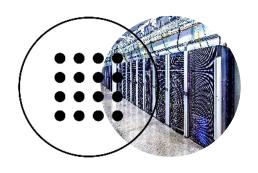
\$5,160M (+7% YOY)



#### Industrial

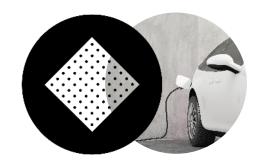
\$502M (+11% YOY)
Semiconductor
Capital Equipment





**\$1,299M (+4% YOY)**Datacom

**\$995M (+9% YOY)**Telecom



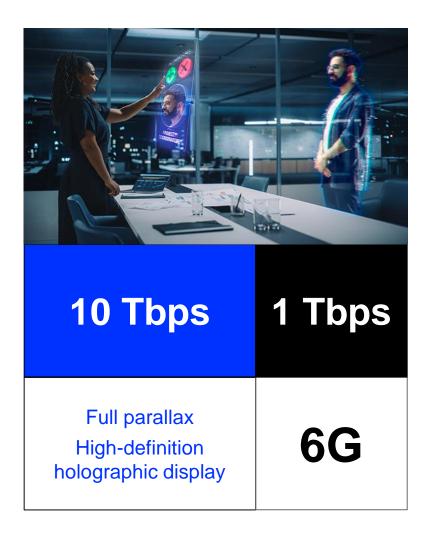
#### **Electronics**

\$457M (+99% YOY)
Consumer Electronics

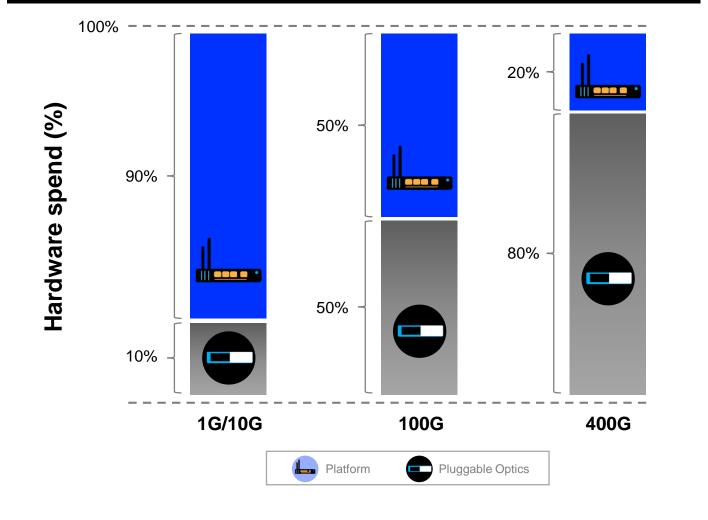
\$168M (+111% YoY)
Automotive & Other



#### **COMMUNICATIONS MARKET DRIVERS AND DYNAMICS**



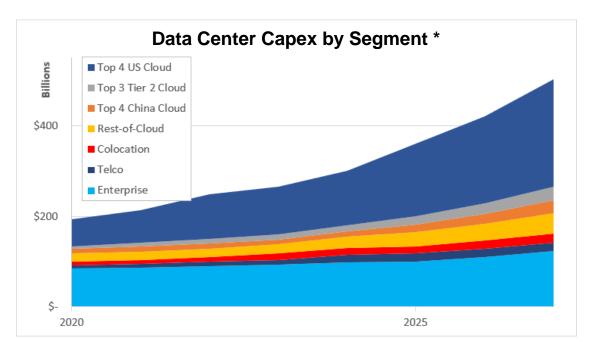
#### Optics contribution to hardware spend increases with data rate

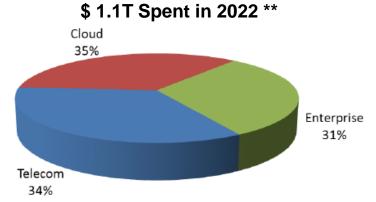




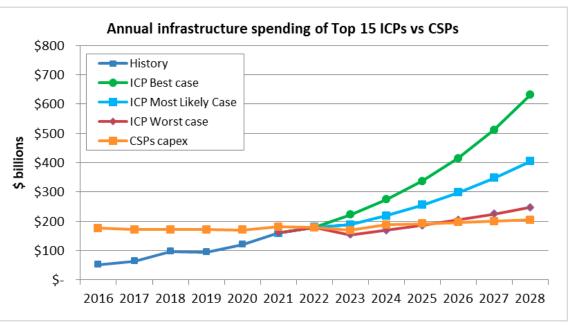
#### **INFRASTRUCTURE SPEND**

Our SAM	2023	2028	CAGR
Datacom	\$9B	\$16B	12%
Telecom	\$8B	\$15B	13%





Infrastructure Spending

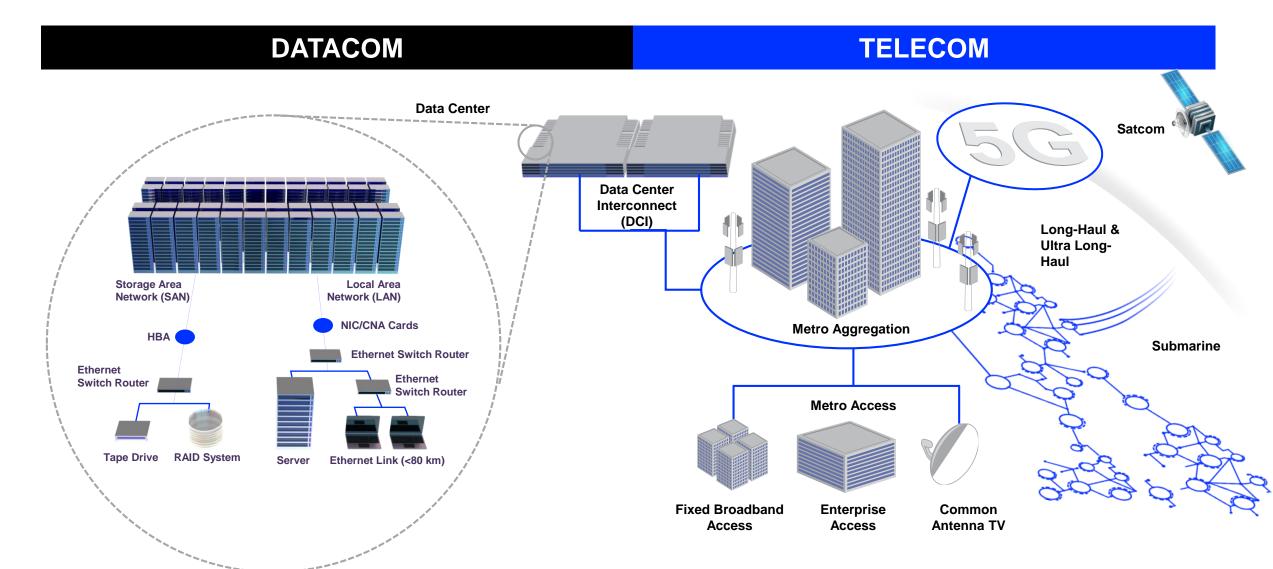


Source: \* Dell'Oro – Data Center Capex forecast report-Jul 2023, \*\* LightCounting – Mega DataCenter report – Jul 2023,



## **DATACOM AND TELECOM VERTICALS DEFINED**

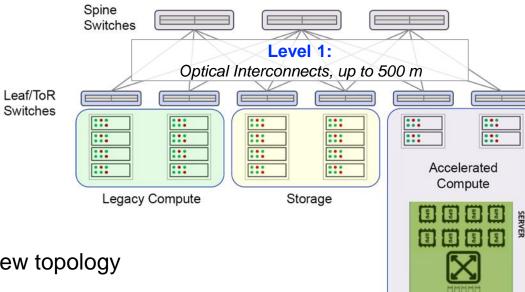
**C** HERENT



#### AI CONNECTIVITY - DATACOM OPPORTUNITY



#### Al systems integrated into data centers



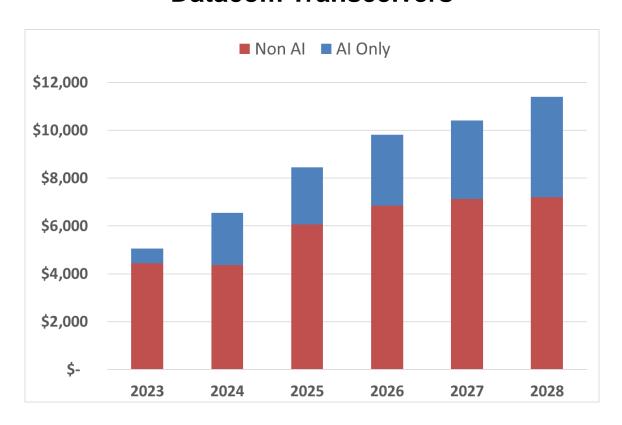
- Mainstream networking topology is giving way to a new topology to accommodate AI systems
- Both Level 0 and Level 1 connectivity will drive optics growth
- AI/ML networks add to compute and storage networks
- AI/ML applications drive transceiver growth

Level 0: Back end. GPU Fabric. Up to 50 meters.



#### AI HAS RAPIDLY EMERGED AS A KEY CATALYST OF OUR LONG TERM GROWTH

#### **Datacom Transceivers**



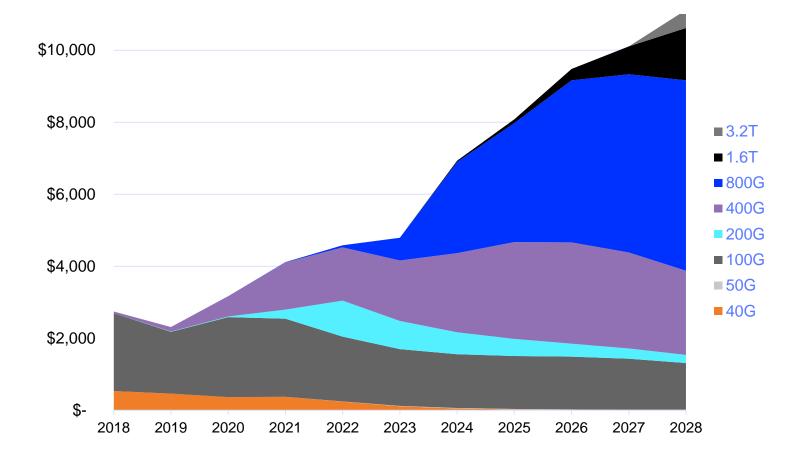
- Generative Al trend
- Datacom Transceivers for Al Only: 47% CAGR ('23 - '28)
- All Datacom Transceivers: 18% CAGR
- Driven primarily by 800G, 1.6T and 3.2T

Source: LightCounting July '23 and internal estimates



#### **DATACOM TRANSCEIVER GLOBAL MARKET**

#### **\$M**



Source: LightCounting, Internal Estimates

#### **C**HERENT

# \$1.3 billion

Coherent Corp. sales in datacom in FY23

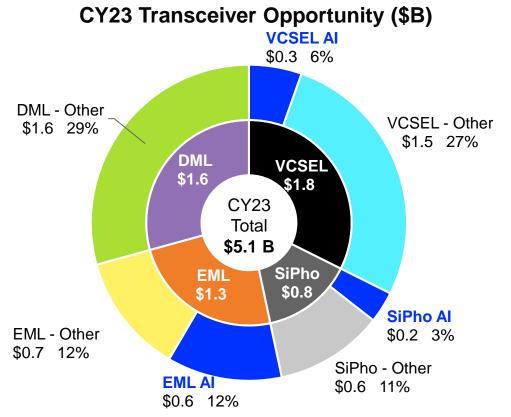
# 200G

and higher data-rate transceivers represent >65% of Coherent Corp. total transceiver revenue in Q4 FY23

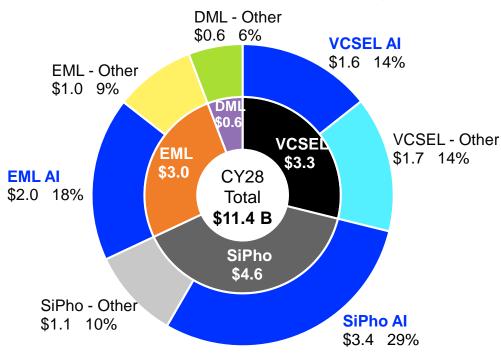
# 800G

and higher data-rate transceivers will represent more than 50% of the total available market by 2027

## **OUR DATACOM TRANSCEIVER MARKET OPPORTUNITY (AI AND TRADITIONAL)**





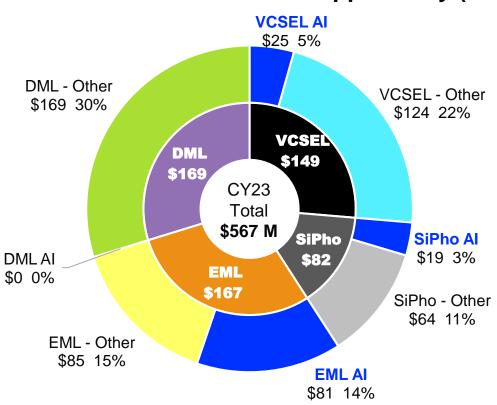


- Lasers are Critical to Transceivers
- VCSELs are important for AI (short links to connect GPUs)
- First leap will be 800G transceivers driven by our 100G VCSELs & EMLs
- Second leap will be on 1.6T driven by our award winning 200G EML and DFB-MZ, and later 200G VCSELs



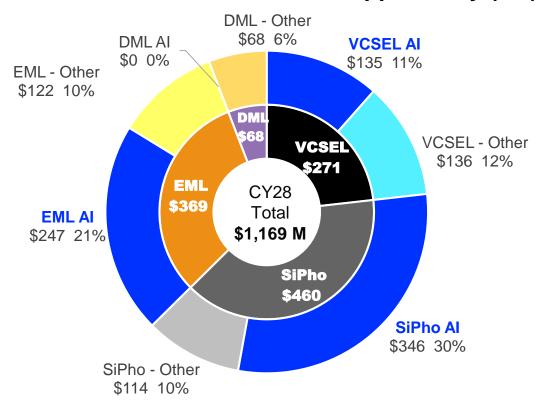
# **OUR DATACOM LASER MARKET OPPORTUNITY (AI AND TRADITIONAL)**

#### CY23 Datacom Laser Opportunity (\$M)



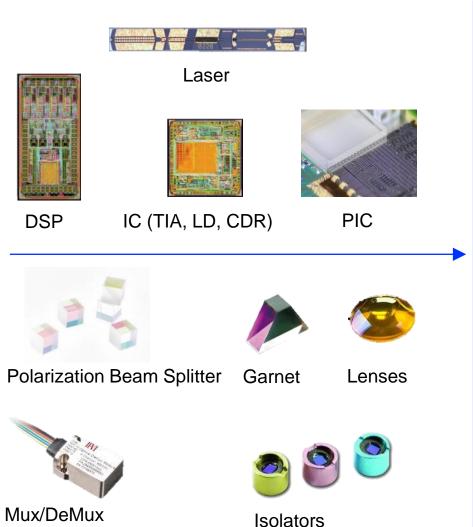
- Al applications will require various laser types
- Lasers for AI will increase from 22% today to 62% in CY 28

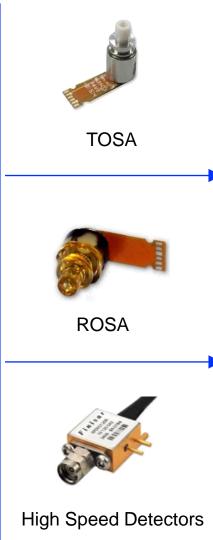
#### CY28 Datacom Laser Opportunity (\$M)

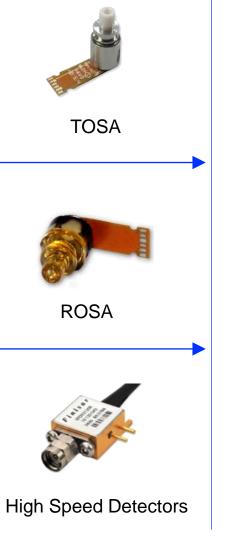




## **VERTICAL INTEGRATION: TRANSCEIVER**





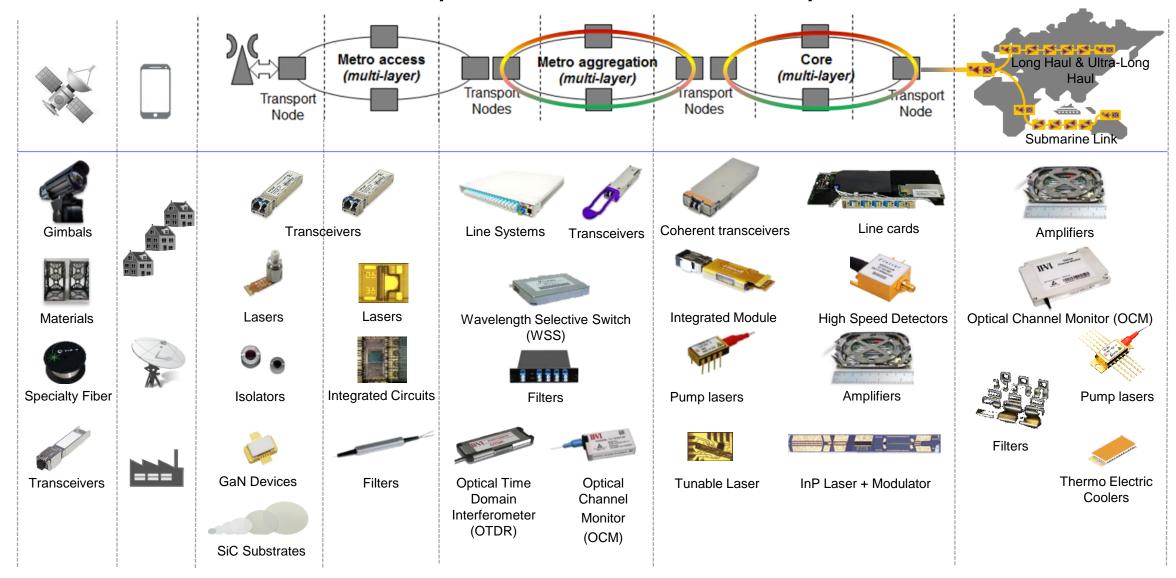


**Optical Assembly** 





# **COMMUNICATIONS: BROADEST, VERTICALLY INTEGRATED, END TO END PORTFOLIO**

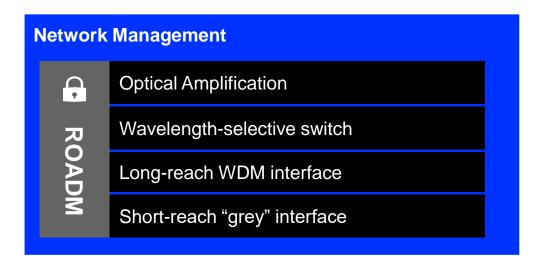




#### TRADITIONAL NETWORKS VS. DISAGGREGATED NETWORKS

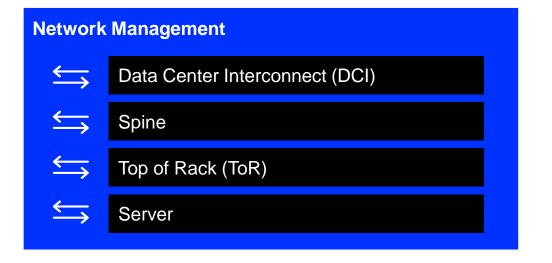
# Traditional Networks Integrated Equipment

- Network management developed by equipment vendor
- ROADM vendors assigned network regions
- ROADM connects to 3<sup>rd</sup> party equipment through short-reach interfaces



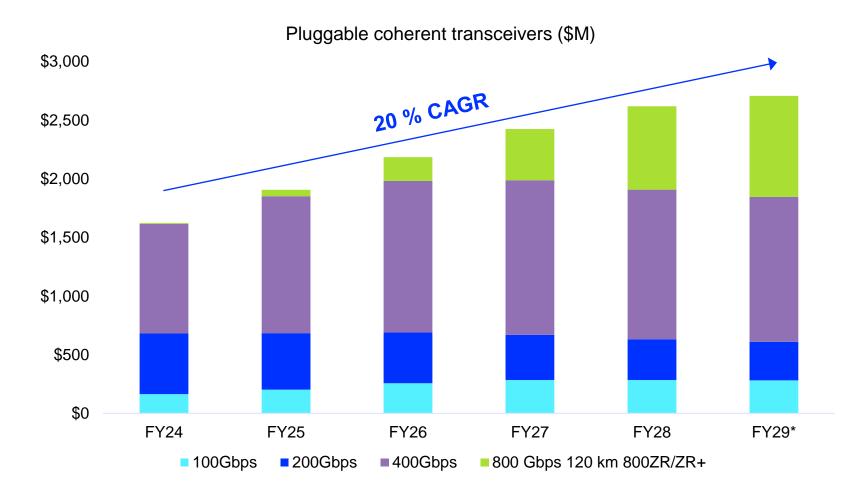
# Disaggregated Networks Disaggregated Equipment

- Network management developed by cloud providers
- Standard interfaces enable interoperability between any mix of equipment suppliers





#### MARKET GROWTH OF PLUGGABLE COHERENT TRANSCEIVERS

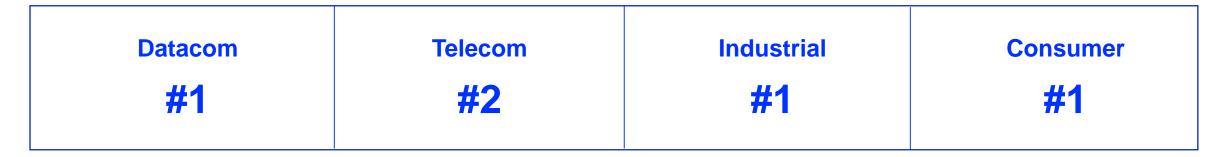


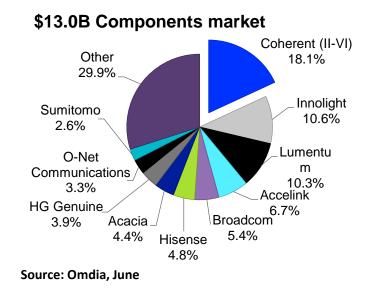
Source: LightCounting, Cignal AI, Internal Estimates

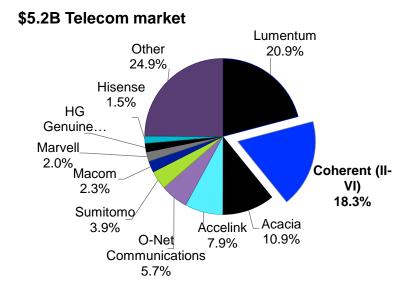


#### COHERENT MARKET SHARE AND MIND SHARE LEADERSHIP

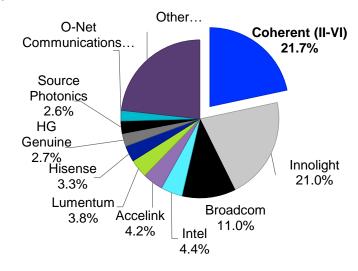
#### **Recognition Of Leadership Across Multiple Verticals\***







#### \$5.9B Datacom market



<sup>\*</sup> Cignal Al Optical Components, Revenue Leaderboard 1Q23, Lightcounting, The Optical Vendor Landscape: 2023



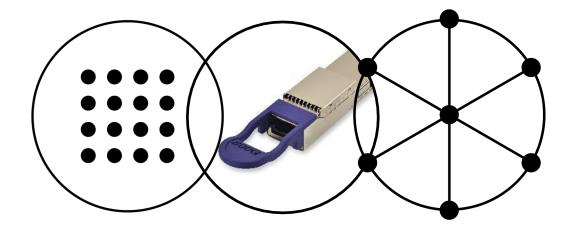
# **OUR DATACOM BUSINESS**

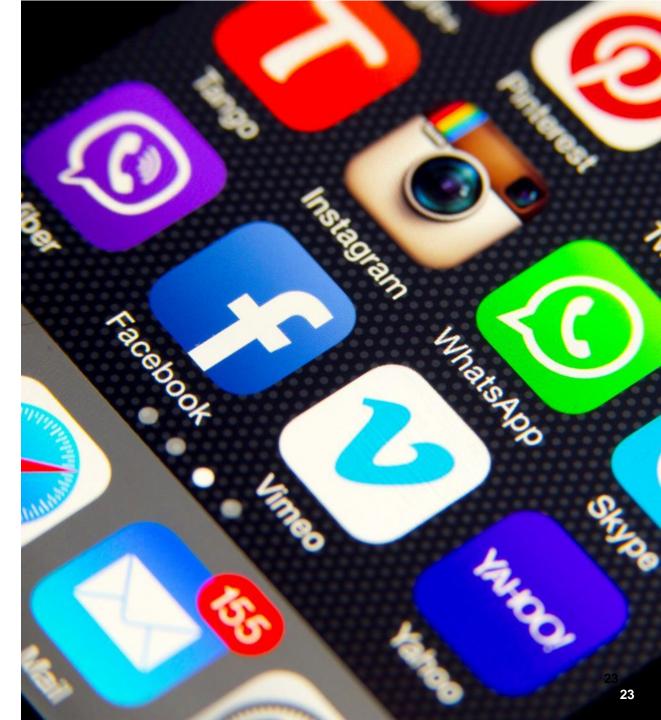
Dr. Lee Xu, Executive Vice President, Datacom Transceivers



# **DATACOM**

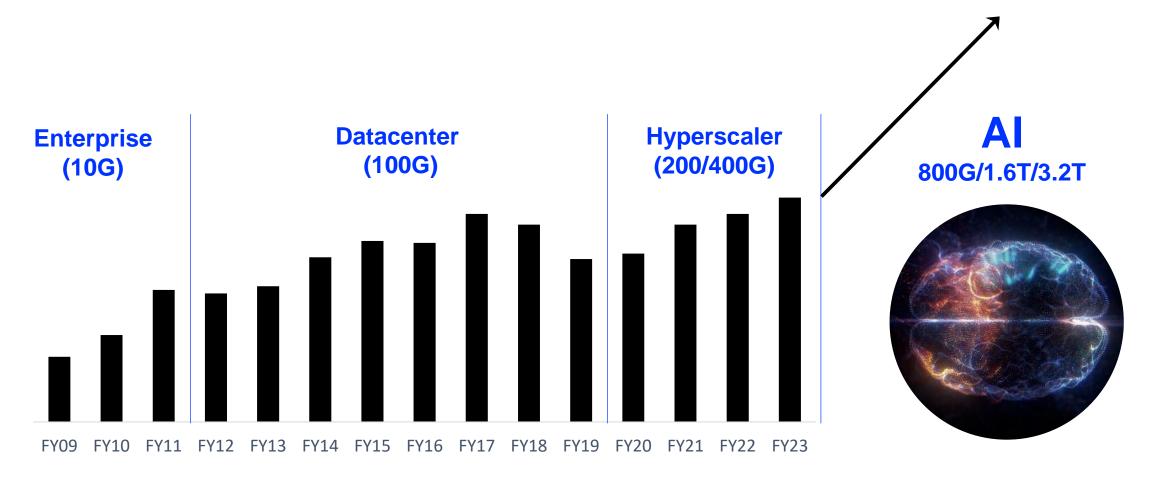
- Our business history, status and strengths
- Al-related products, differentiation, and growth







# DATACOM TRANSCEIVER REVENUE GROWTH



**Fiscal Years** 



#### COHERENT'S DATACOM TRANSCEIVER BUSINESS STRENGTHS AND ECO-SYSTEM



























































#### **Representative Customers\***

#### **Our Main Competition**

#### **Our Key Suppliers**

\* Many of our customers (including many of our largest customers) require us to maintain confidentiality of our business relationship, in part by not disclosing their names.

# Our core competencies & sustained values

- Scale: #1 leader for 15 years
- Broad portfolio and customer base
- Time to market—advanced R&D
- Vertical integration
- Diversified, high quality, scalable manufacturing



#### **BROADEST TRANSCEIVER PORTFOLIO IN THE INDUSTRY**

#### Some Representative Transceiver BU Products



- All major protocols:
   Ethernet, Fiber Channel,
   Infiniband, and SONET
- All speeds: 100M to 800G (1.6T coming soon)
- All major form-factors:
   SFF to OSFP and everything in between



# HIGH-VOLUME, HIGHLY SOPHISTICATED MANUFACTURING

#### **Wuxi, China**

1,530K sq. ft manufacturing space 5,000 employees

#### Ipoh, Malaysia

640K sq. ft manufacturing space 3,500 employees

**Geographic diversity** of high volume transceiver assembly manufacturing improves assurances of supply

Transceiver volume assembly manufacturing facility in Ipoh, Malaysia





## **OUR AUTOMATION, TEST DEVELOPMENT, AND PROCESS DEVELOPMENT**

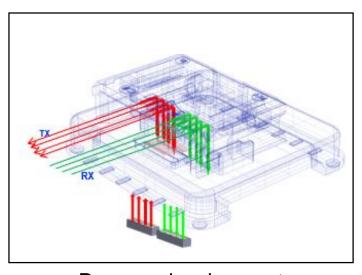
- Strong process development capabilities to realize advanced optical designs (many technologies are industry first)
- In-house automation stations for Coherent specific technologies and processes (1000+ stations developed)
- In-house developed testers and burn-in systems (~900 testers and 200+ burn-in systems developed)



In-house automation



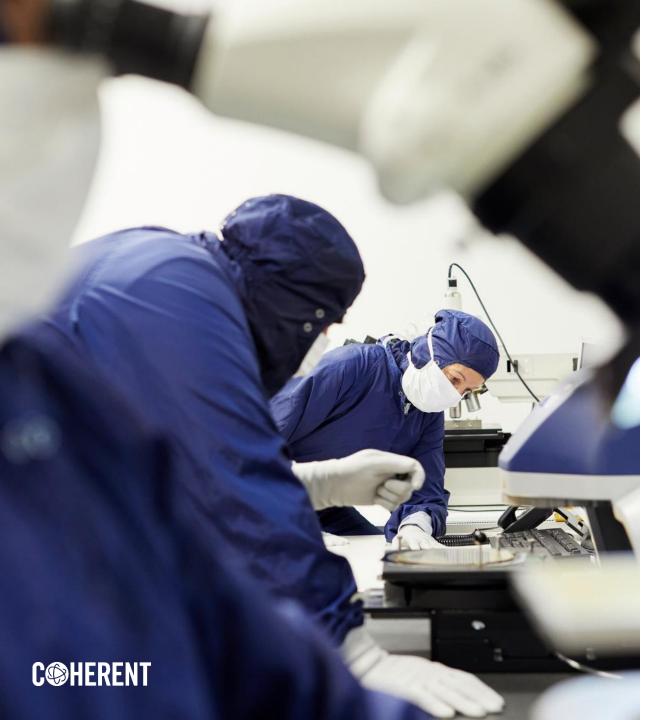
In-house burn-in & tester



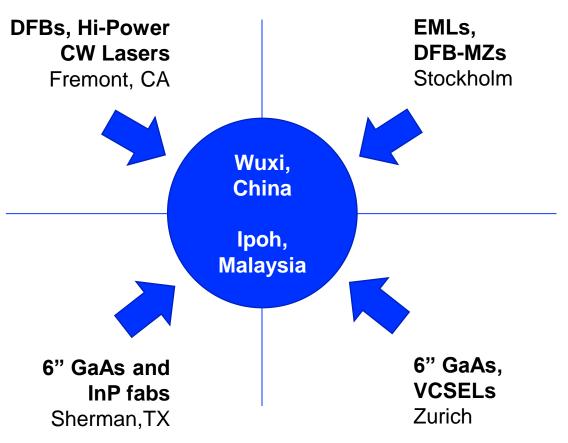
Process development

Higher efficiency, better flexibility, less operator dependent, lower cost, and higher quality





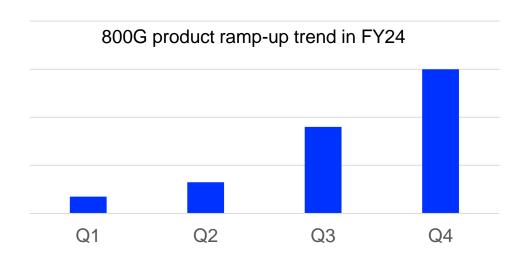
## LASER CHIP FABS IN ZURICH; STOCKHOLM; SHERMAN, TX; FREMONT, CA



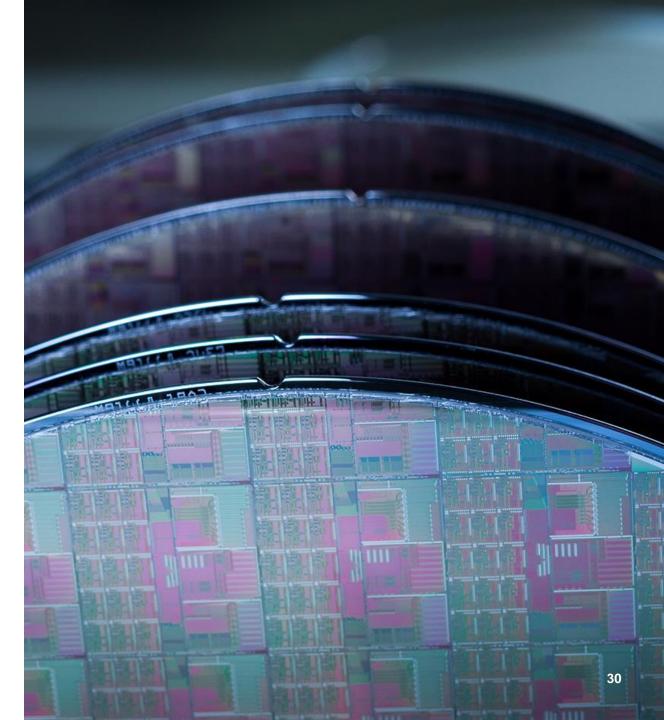
**Coherent's vertical integration** 

#### **800G PRODUCTS FOR AI IN FY24**

- FY1Q23: First shipments
- FY4Q23: Design wins for every flavor of 800G products with all major volume customers
- FY24: Substantial orders on hand; steep production and shipment ramp



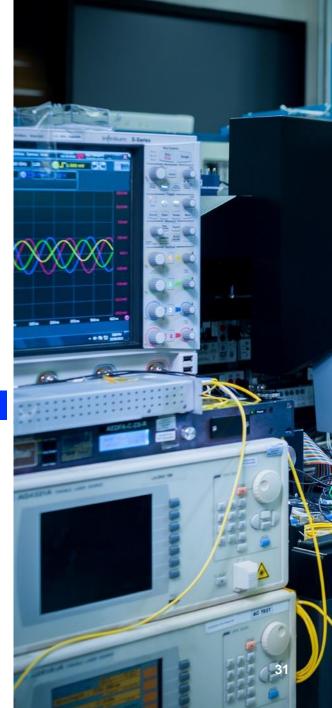




# **DATACOM TRANSCEIVER HIGH LEVEL ROADMAP**

	CY2023	CY2024	CY2025	CY2026	CY2027
800G Transceivers	50Tb/s Switch				
100G/lane Electrical & Optical	High Volume Production				
100G/lane Electrical, 200G/lane Optical					
Linear Pluggable Optics (Direct Drive)			1	1	

1.6T & 3.2T Transceivers	100Tb/s Switch 200Tb/s Switch
1.6T (8x200G/lane Electrical & Optical)	High Volume Production
Linear Pluggable Optics (Direct Drive)	
3.2T (16x200G/lane Electrical & Optical)	
Co-Packaged Optics (CPO)	



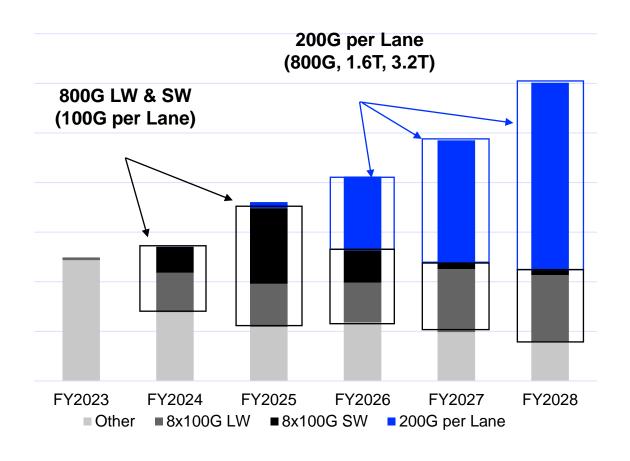




# DEVELOPMENT OF 1.6T/3.2T LASER/MODULATOR OPTIONS

- EML is the technology choice for most customers
- DFB-MZ (in development) is needed for 2-6 km
- Silicon Photonics (SiPh) could address shorter distances (up to 500 m).
   Coherent's internally-designed SiPh has demonstrated good performance for 200G/lane
- A potential game-changer: 200G/lane
   VCSELs in development at Coherent

#### **OUR LEADERSHIP POSITION IN THE NEXT FIVE YEARS**



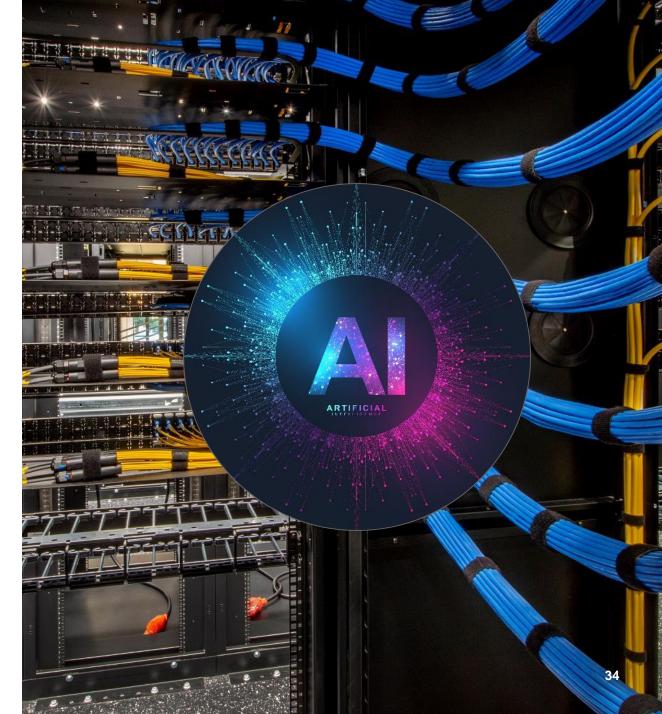
- Will lead with new products for 800G/1.6T
- Will differentiate leveraging our laser technologies and transceiver designs

Better than industry average gross margins, despite bargaining power of hyperscalers.



# **SUMMARY**

- Al is an extraordinary opportunity for which we are well-prepared
  - Products: We have a broad portfolio of 800G products and a strong technology roadmap
  - Opportunity: Demand is already several hundreds of millions dollars and growing
  - Production: Ramping throughout FY24
- We expect AI to drive over 100% growth in our datacom transceiver revenue by FY28



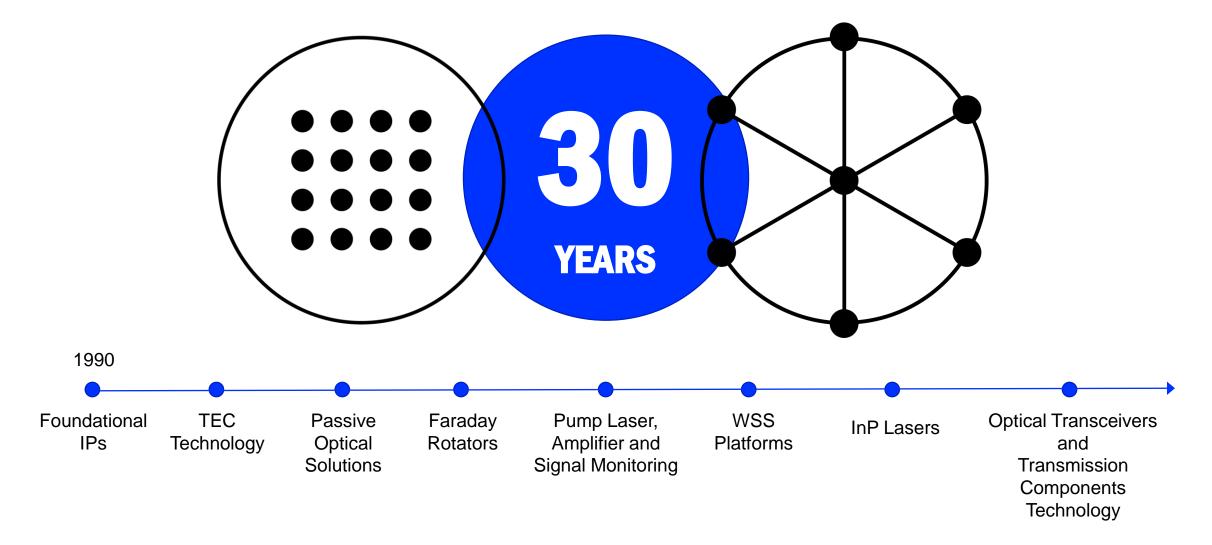


# **OUR TELECOM BUSINESS**

Dr. Beck Mason, Executive Vice President, Telecommunications

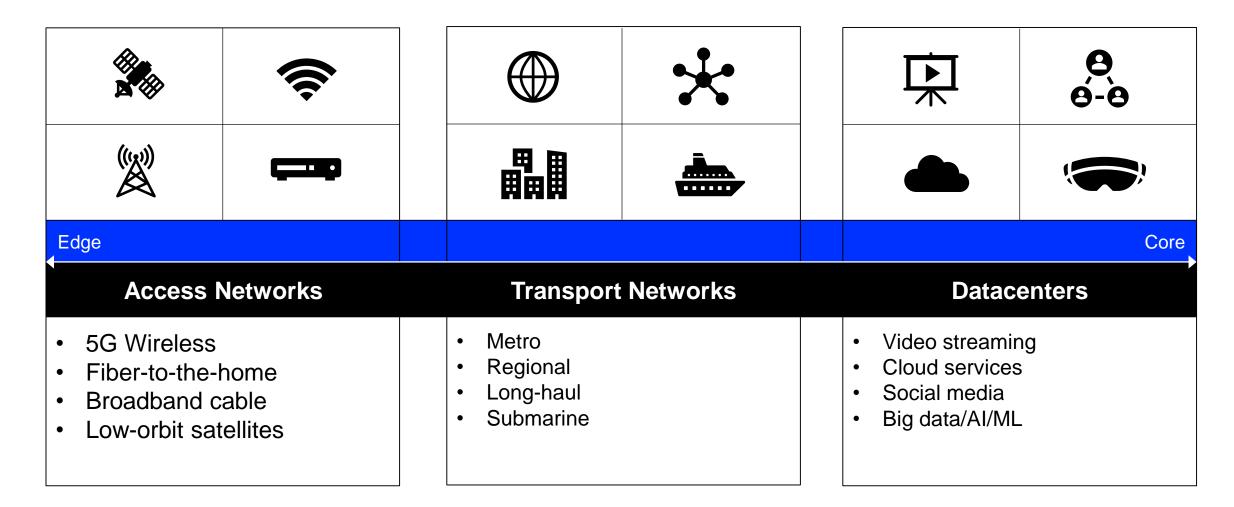


## **OUR HERITAGE**





#### **COMMUNICATIONS NETWORKS**





#### **BROAD PORTFOLIO OF TELECOM PRODUCTS**

#### We have the broadest portfolio of optical components and modules for transport applications

- Subsystems are more differentiated and enable us to sell on features and capability
- Our focus is on subsystem and system level solutions that maximize our share of the total value stream

	Systems		
	Subsystems		
IN THE STATE OF TH	Modules-Amps, WSS, OCM,		
• •	Optical components		

#### We are leaders in the fundamental enabling technologies for optical transmission

- IC and photonic chip technology enables us to differentiate our solutions, increase gross margins and gain better control over time to market
- Our focus is on go to market at the module and component level to maximize revenue and profit opportunity

Transceiver modules		
Optical components		
High speed IC and Coherent DSP		
Photonic chips InP and SiP		



#### **TELECOM MARKET**

29.3 Billion

Networked devices

5.3 Billion
Internet users

Internet traffic growth

24%

per year

Telecom market growth

14%

per year for the next 5 years

Source: Cisco Annual Internet Report (2018-2023) White Paper







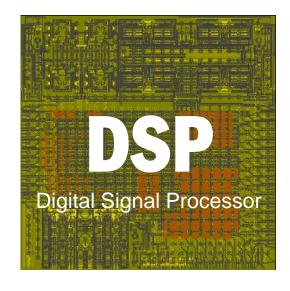
#### **COHERENT TRANSCEIVER TECHNOLOGY**

- Fully automated high volume manufacturing
- Module design including embedded FW development
- Optical subassembly design and manufacturing
- High speed IC and coherent DSP development
- Photonic chip design in InP and SiP and high volume manufacturing



InP fab in Järfälla, Sweden

## DSPs: KEY BUILDING BLOCKS IN COHERENT TRANSCEIVERS



- DSP converts digital data from a switch or router into the complex analog modulation signals
- Converts the received signal at the other end of the link back into digital data and compensates for any signal impairments

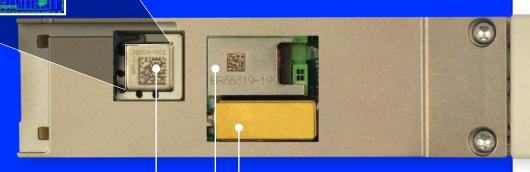


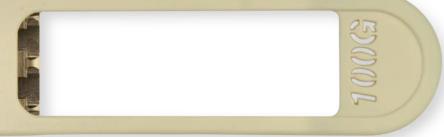


#### **100G COHERENT TRANSCEIVERS**

## **100ZR QSFP28 DC0**







Steelerton™ DSP purpose-built for small size and low power consumption

Purpose-built poweroptimized tunable laser

Highly integrated silicon photonics PIC

- World's first Digital Coherent Optics (DCO) module in QSFP28 form factor
- 100G capacity, 300 km reach
- Based on Coherent 7 nm digital signal processor (DSP), silicon photonics transmitter/receiver, and tunable laser
- Serves metro-edge and high-volume edge access markets

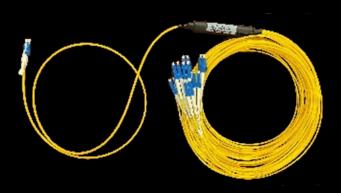


#### **INTEGRATED SUBSYSTEMS**

Capabilities	Solutions						
Module Integration, Algorithms & Firmware		4	9	.00	Talling 1		
	ROADM Linecards	Optical Channel Monitor	Wavelength Selective Switch	Optical Amplifier	Mux/Demux Modules	OTDR Modules	
Device Packaging				Pri Pri		~	
	980nm & 14xx Pum	np Lasers Isola	tors & Mux/Demux	Tunable Filters	Variable	Optical Attenuator	
Semiconductors, Polishing & Coatings	-00			<b>A</b>	MANITAL		
	Lenses & Filters	Ga As, Si and InP Wafers	Laser Chips	LCOS	ASIC	Gratings	
Pagianal/Lang		Optical Line Systems		Access Network	(S IIII	IY Node	
Regional/Long- Haul Network	Optical Transport Nodes	Metro Network	Rou	Data Ce	enter Interconne	_	







Mux/Demux cable assembly

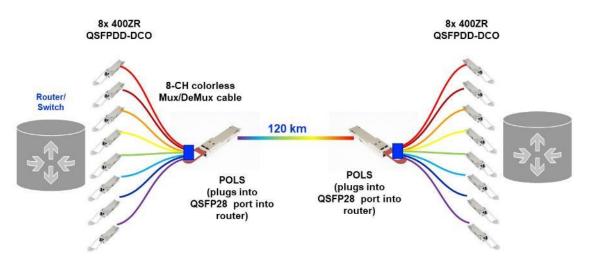
**C**HERENT

## PLUGGABLE OPTICAL LINE SUBSYSTEM (POLS)

- Bi-directional, dual erbium-doped fiber amplifier (EDFA) in QSFP pluggable module
  - Booster amplifier for transmit direction
  - Pre-amplifier for receive direction
- External DWDM Mux/Demux cable assembly.

#### **Applications**

- IP-over-DWDM point-to-point
- Access networks



#### **TELECOM TECHNOLOGY EVOLUTION**



#### Wavelength Selective Switch

2x C&L bands channels



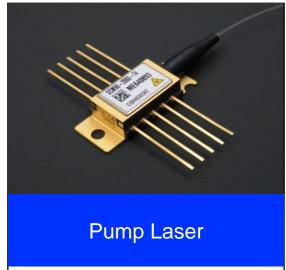
#### **Amplifier**

Higher power pump capability to deliver more efficient amplifiers



**Optical Channel Monitoring** 

Enables a single device to cover both C&L bands together



The highest power per

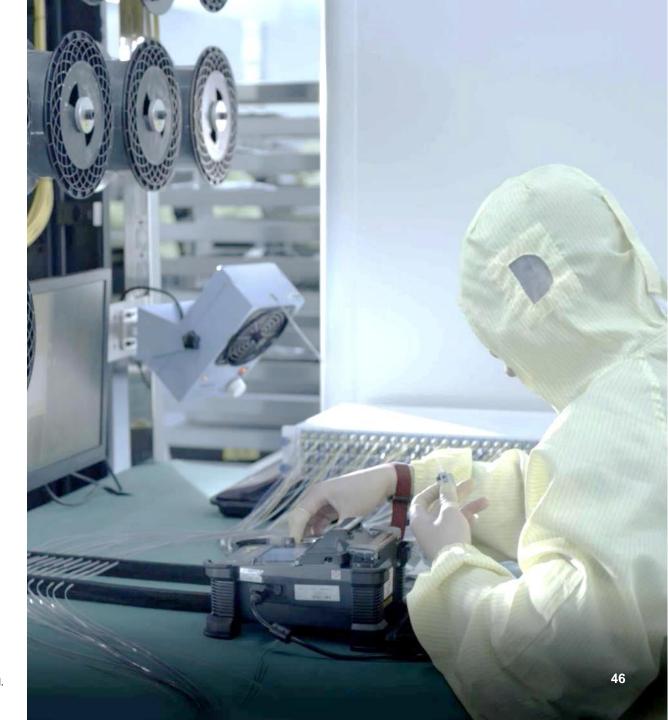
pump emitter

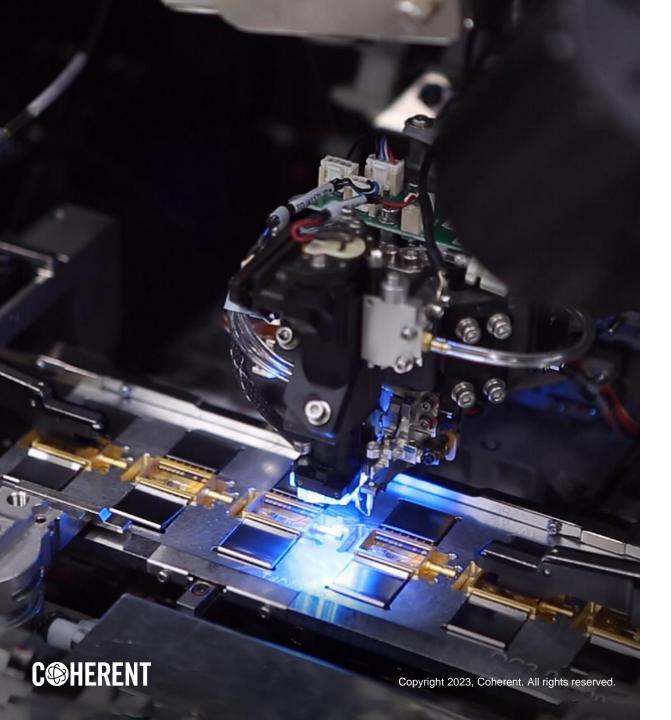


#### **MANUFACTURING ADVANTAGE**

Shenzhen Fuzhou Wuxi China China China Geographic lpoh Philippines Malaysia **Diversity** Vietnam Thailand Others Pump Laser Photonic components Transceiver Amplifiers line cards Passive optics Other subsystem







## ASSEMBLY OPERATIONS AND AUTOMATION

- Internally developed automation
- Assembly and test automation
- Consistent product quality
- Better manufacturing efficiency and cost

Reliability Example

Liquid crystal WSS platform

A mean time to failure

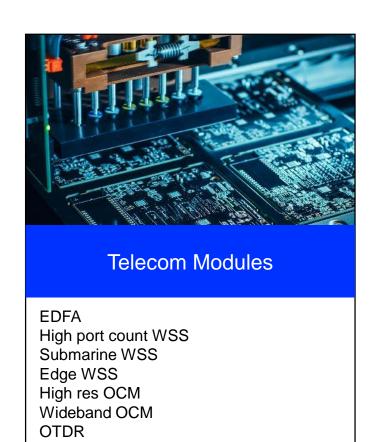
+4000 years

Based on 8 billion cumulative hours of device operation.

#### **HOW WE WIN**



Terrestrial pump lasers
Submarine pump lasers
Submarine components
Specialty fiber
Thermoelectric coolers
Ultracompact components
Isolators







## **ENABLING TECHNOLOGIES**

Dr. Julie Sheridan Eng, Chief Technology Officer



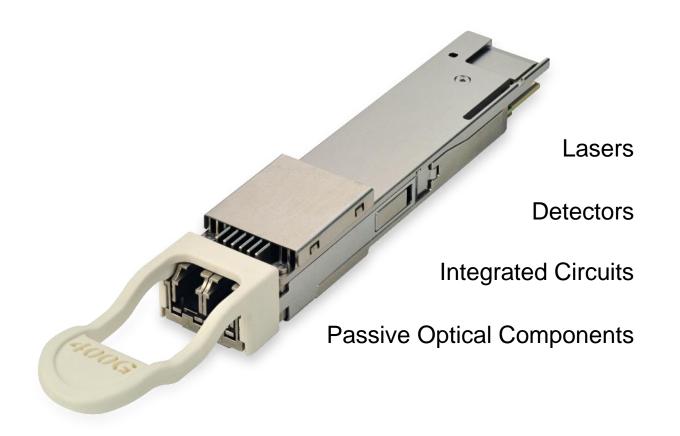
## COMPONENTS FOR AI/ML

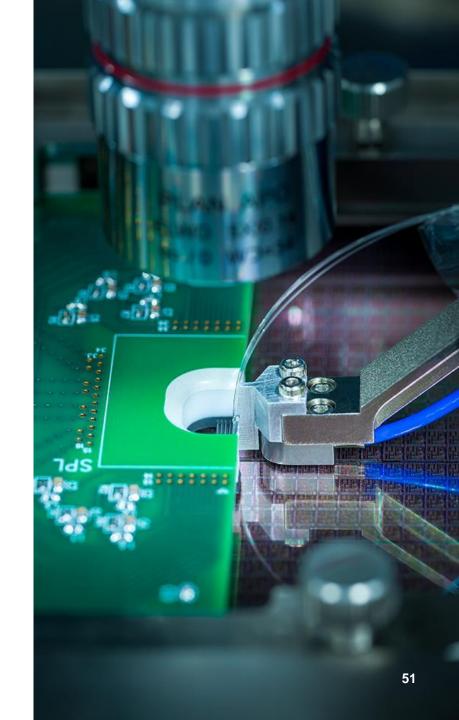
Artificial Intelligence and Machine Learning is accelerating the pace of innovation in optical components





# OUR VERTICAL INTEGRATION IN LASERS, DETECTORS, INTEGRATED CIRCUITS, AND PASSIVE OPTICS IS A DIFFERENTIATOR







#### LASERS FOR 100G AND 200G/LANE

## Short-Reach < 100 m

8x100G for 800G 16x100G for 1.6T 8x200G for 1.6T

Gallium Arsenide

VCSEL

## Mid-Reach 500 m to 2 km

8x100G for 800G 4x200G for 800G 8x200G for 1.6T

Indium Phosphide, Silicon Photonics

- · EML
- CW Laser with Silicon Photonics modulator

#### Up to 10 km

8x100G for 800G 4x200G for 800G 8x200G for 1.6T

Indium Phosphide

- EML
- DFB-MZ

VCSEL: Vertical Cavity Surface-Emitting Laser EML: Electro-Absorption Modulated Laser

**CW: Continuous Wave** 

DFB-MZ: Distributed Feedback Laser with Mach-Zehnder Modulator

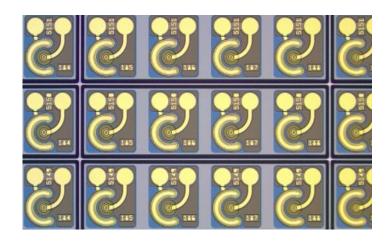
Datacom transceiver R&D in Fremont, CA







## GALLIUM ARSENIDE PLATFORM FOR SHORT-REACH TRANSCEIVERS

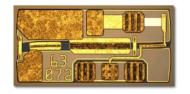


Feb. 2023 - Coherent introduces our 100G per lane VCSELs to support 400G and 800G transceivers

Aug. 2023 – Coherent announces shipment of 200B VCSEL emitters

Vertically integrated 6" GaAs platform Sherman, TX

# INDIUM PHOSPHIDE TECHNOLOGY PLATFORM FOR LONG-REACH TRANSCEIVERS



Electro-Absorption
Modulated Laser (EML)



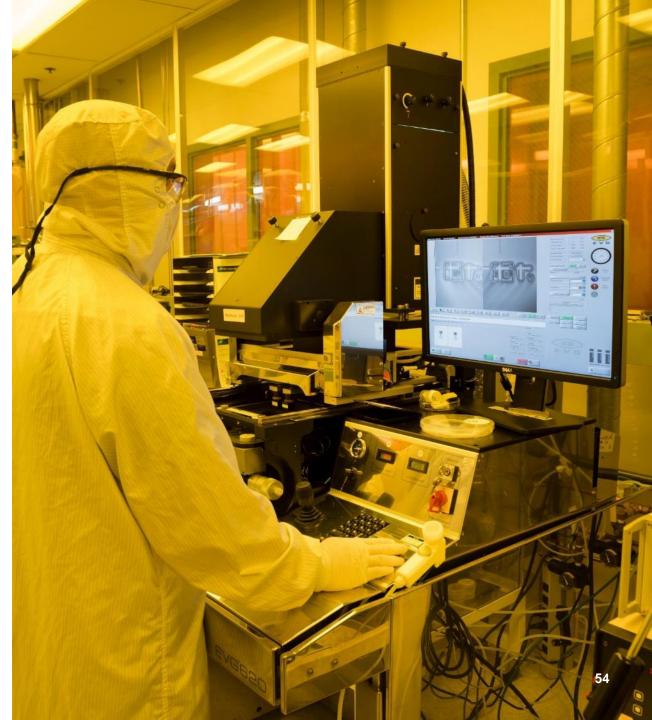
Continuous Wave Laser (CW Laser)

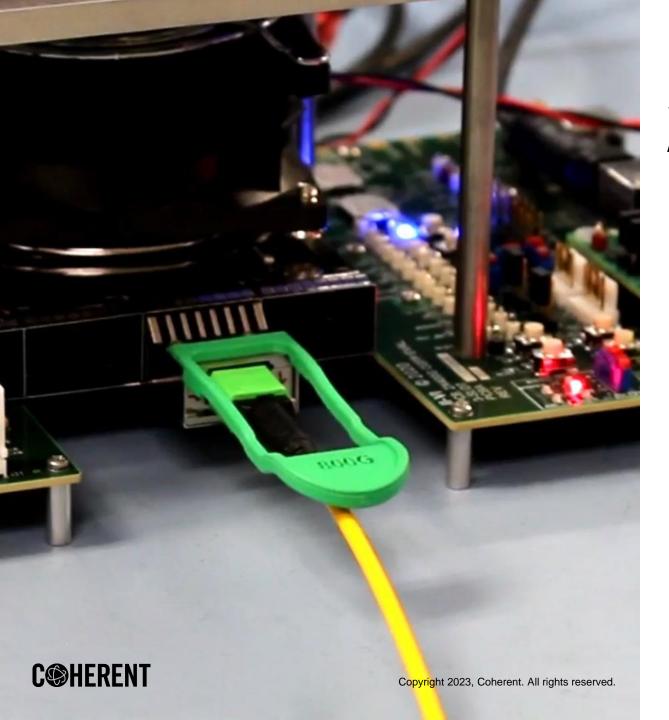


InP-based Photodetectors

Indium phosphide wafer fab in Fremont, CA







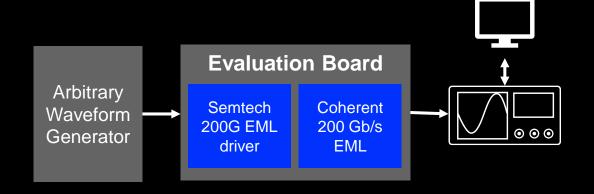
# INTEROPERATION BETWEEN SILICON PHOTONICS-BASED 800G DR8 AND EML-BASED 800G DR8

- Interoperation between EML-based DR8 and SiPhbased DR8 demonstrated in ECOC2022
- Silicon Photonics-based DR8
  - Coherent-designed highly integrated Silicon Photonics chip, manufactured at Tier 1 silicon foundry
  - Coherent designed and manufactured CW laser
- EML-based DR8
  - Coherent designed and manufactured EML and photodetector

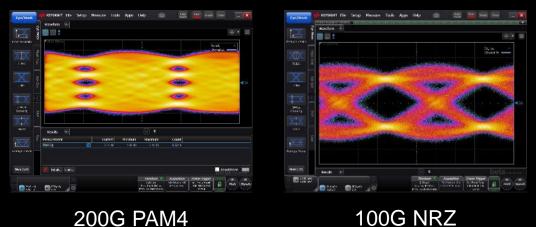
#### **EMLs: 200G TRANSMISSION**

- **Electro-Absorption Modulated Lasers (EMLs)** are used for 100G/lane today
- Extension to 200G/lane demonstrated at **ECOC2022** 
  - Monolithically integrated O-band DFB laser and an electro-absorption modulator
  - Supporting 112 GBd PAM4 modulation
  - Optical power 7 dBm, ER 5 dB, low noise 147 dB/Hz
  - Compatible with cost-effective non-hermetic packaging
  - Integrated on-chip RF termination for improved signal integrity

#### Demonstrated at ECOC2022



#### Optical Eye

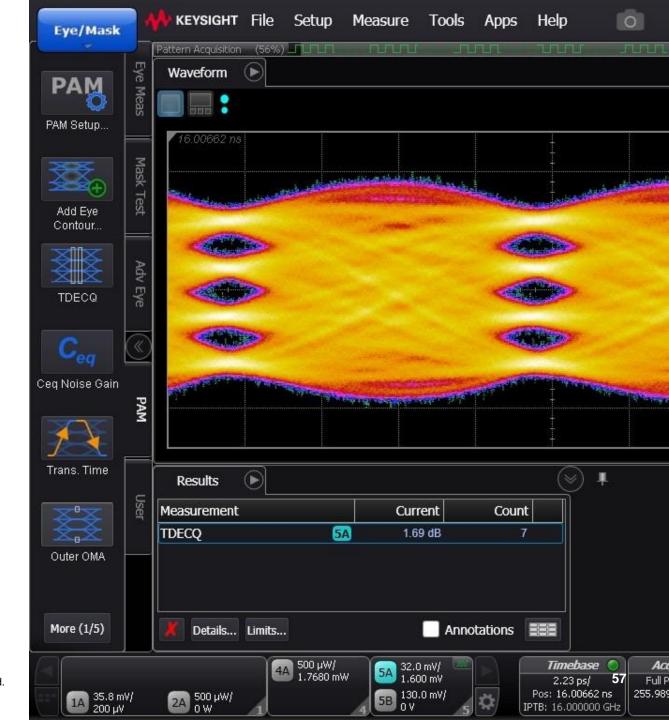




**100G NRZ** 

## 200G PAM4 MACH-ZEHNDER MODULATED LASER TECHNOLOGY

- Supports 1.6T 10 km transceivers
- Uncooled operation for shorter links
- 200G PAM4 per wavelength
  - LAN-WDM, CWDM channel plans
- High performance:
  - High speed 112 Gbaud
  - High output power: 8.5 dBm
  - Extinction ratio: 7dB OMA
  - Low noise: -147 dB/Hz
  - Low TDECQ

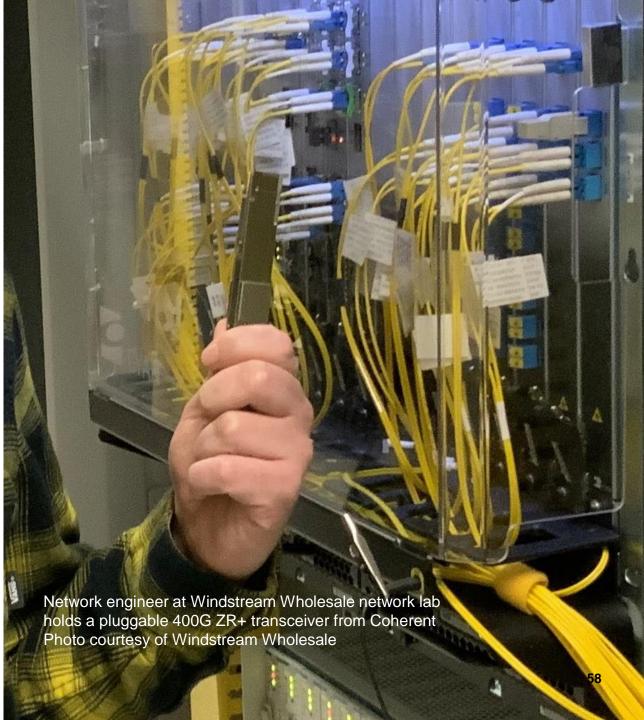




## FEB. 2022: THE INDUSTRY'S FIRST 400G ZR+ IN QSFP-DD FORM FACTOR

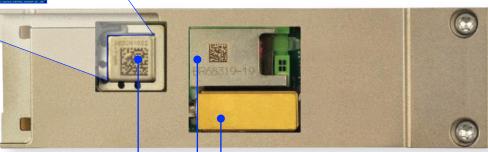






## COHERENT TRANSCEIVER TECHNOLOGY FOR ACCESS NETWORKS





Steelerton™ DSP purpose-built for small size and low power consumption

Purpose-built poweroptimized tunable laser

Highly integrated silicon photonics PIC

## **100ZR QSFP-28 DCO**

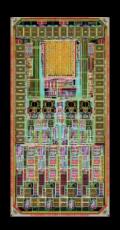


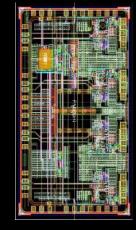


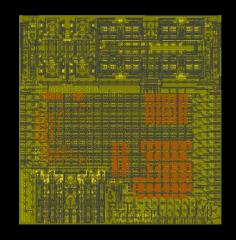


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## INTEGRATED CIRCUITS







Trans-impedance amplifier (TIA)

ance Laser driver

Digital Signal Processor (DSP)

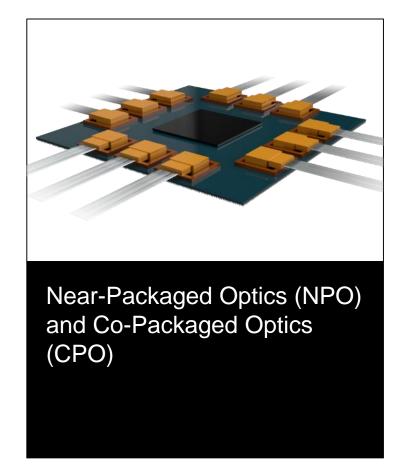
- In-house integrated circuit design team for laser drivers, TIAs, and DSPs
- ICs manufactured in tier 1 silicon foundries

#### INTERNAL COMPONENTS SUPPORT ALL ARCHITECTURES

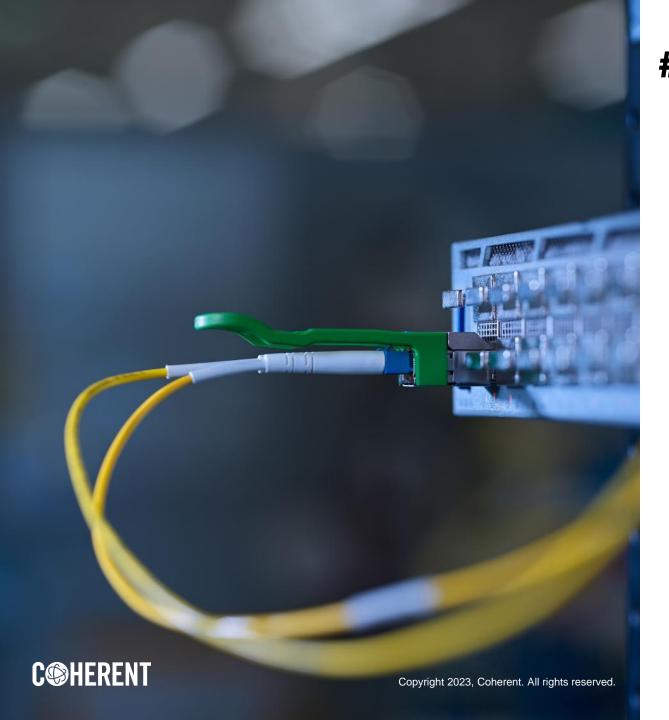


Traditional retimed pluggable optics, including Ethernet, Infiniband, and proprietary links such as NVIDIA's NVLink







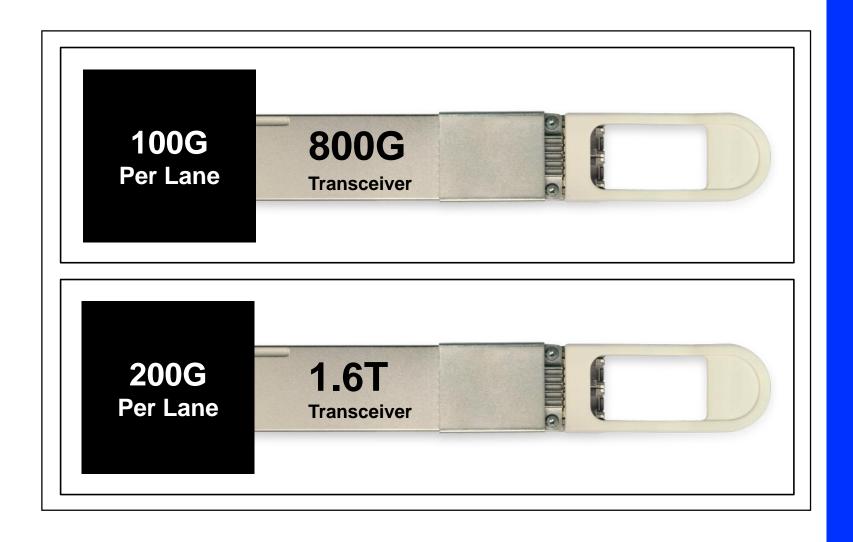


#### **#1 IN TRANSCEIVERS FOR TWO DECADES**

#### Deep expertise in internal components including

- Gallium Arsenide and Indium Phosphide semiconductor lasers
- Silicon Photonics
- IC's
- Passive Optical Components

#### TRANSFORMATIONS IN THE OPTICAL NETWORK

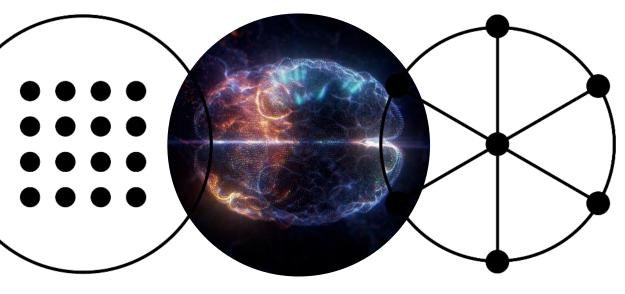


#### Protocol agnostic

- Ethernet
- Infiniband
- NVLink



# A LEADER AND INNOVATOR IN TRANSCEIVERS HELPING TO BRING FORTH THE POWER OF AI AND ML







#### Q&A



Paul Silverstein
Vice President,
Investor Relations &
Corporate Communications



Dr. Sanjai Parthasarathi Chief Marketing Officer



**Dr. Lee Xu**Executive Vice President,
Datacom Transceivers



**Dr. Beck Mason**Executive Vice President,
Telecommunications





# COHERENT