
# Corporate Update Call

**January 9, 2025**

# Forward Looking Statements

LIGHTWAVELOGIC®

This slide presentation contains “forward-looking statements” and “forward-looking information” within the meaning of the Private Securities Litigation Reform Act of 1995. This information and these statements, which can be identified by the fact that they do not relate strictly to historical or current facts, are made as of the date of this presentation or as of the date of the effective date of information described in this presentation, as applicable. The forward-looking statements herein relate to predictions, expectations, beliefs, plans, projections, objectives, assumptions or future events or performance (often, but not always, using words or phrases such as “expects”, “anticipates”, “plans”, “projects”, “estimates”, “envisages”, “assumes”, “intends”, “strategy”, “goals”, “objectives” or variations thereof or stating that certain actions, events or results “may”, “can”, “could”, “would”, “might” or “will” be taken, occur or be achieved, or the negative of any of these terms and similar expressions) and include, without limitation, statements with respect to projected financial targets that the company is looking to achieve.

All forward-looking statements are based on current beliefs as well as various assumptions made by, and information currently available to the company’s management team. A more detailed description of the risks presented by those assumptions and other risks are more fully described by the company under the caption “Risk Factors” included in our SEC filings and other risks to which our company is subject, and various other factors beyond the company’s control.

By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific, and risks exist that estimates, forecasts, projections and other forward-looking statements will not be achieved or that assumptions do not reflect future experience. We caution any person reviewing this presentation not to place undue reliance on these forward-looking statements as a number of important factors could cause the actual outcomes to differ materially from the beliefs, plans, objectives, expectations, anticipations, estimates assumptions and intentions expressed in such forward-looking statements.

The company does not undertake to update any forward-looking statement, whether written or oral, that may be made from time to time by company or on behalf of the company except as may be required by law.

# LWLG's New Leadership for Next Phase

LIGHTWAVELOGIC®

## Yves LeMaitre
## CEO

- **Photonics industry veteran with critical global relationships**
- 25+ yrs. experience in Optical Network and AI/Data Center industry
- Proven track record, trusted business advisor + transformational growth CEO
- LWLG Board member since Aug. ’24

## Thomas Zelibor
## President

- **Accomplished operational + strategic leader with strong technical background**
- Scaled companies to rapid growth in technology, space, telecom, software, systems, and services
- Former CEO, Flatirons Solutions + not-for-profit U.S. Space Foundation
- Navy Rear Admiral (Ret.) and Naval Aviator with over 35 years significant leadership experience
- LWLG CEO (2011-17); Board Chair (2011-22)

# LWLG At A Glance

LIGHTWAVELOGIC®

## Strong platform + favorable market dynamics to enable utilization of electro-optic polymers for high speed, low power AI and data center applications.

### Unprecedented Accelerating Demand

- Market expected to grow to ~$100B by 2030
- Driven by CapEx to address AI, quantum, datacomm & space comm requirements

### Innovative EO Polymer Technology

- Disruptive technology enabler for future speed upgrades in data bandwidth
- Relieves key bottlenecks in AI infrastructure

### Strong Patent Portfolio

- Protected by broad IP portfolio with over 70 patents
- Numerous patents pending

### Deeply Experienced Leadership

- Management, Board of Directors, Advisory Board have 200+ years conceiving and launching products

### Robust Balance Sheet

- Critical for execution
- $27M+ cash position provides significant optionality and execution runway *(as of 9/30/24)*

# Entering a New Stage for Lightwave Logic

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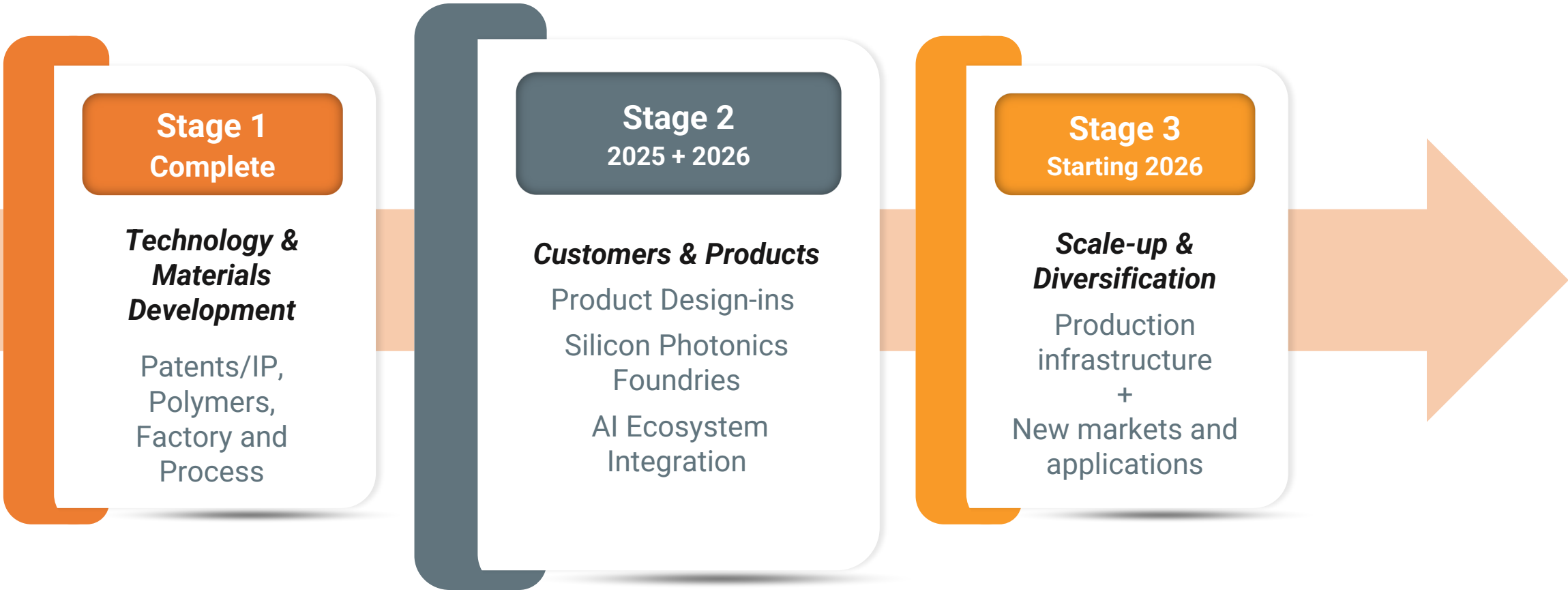
## Seizing growth opportunities presented by AI



# AI Infrastructure Presents Large Opportunity


- Substantially higher number of interconnections in AI data center architecture
- 10X vs traditional data center front-end
- Power consumption becoming #1 challenge
- Increasing bandwidth + reducing latency limited by legacy optical materials

# AI & Data Center Market Opportunity

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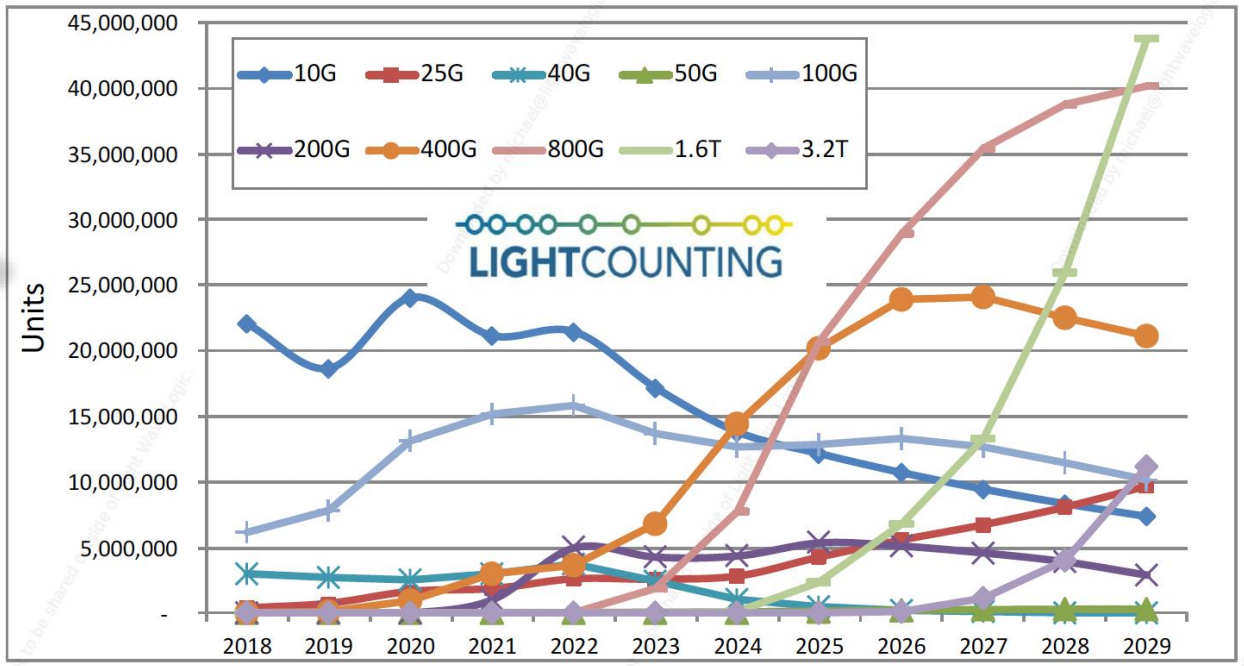
## Unprecedented Growth + Opportunity from Global AI Demands and Adoption

**>10X**

Growth in 800G since 2022

**>20X**

Forecast growth for 1.6T since 2023




*Source: LightCounting*

1.6T

800G

3.2T

**800G**

**1.6T & 3.2T**

***Largest opportunity for LWLG***

# Polymers Overcome Current Technological Limitations

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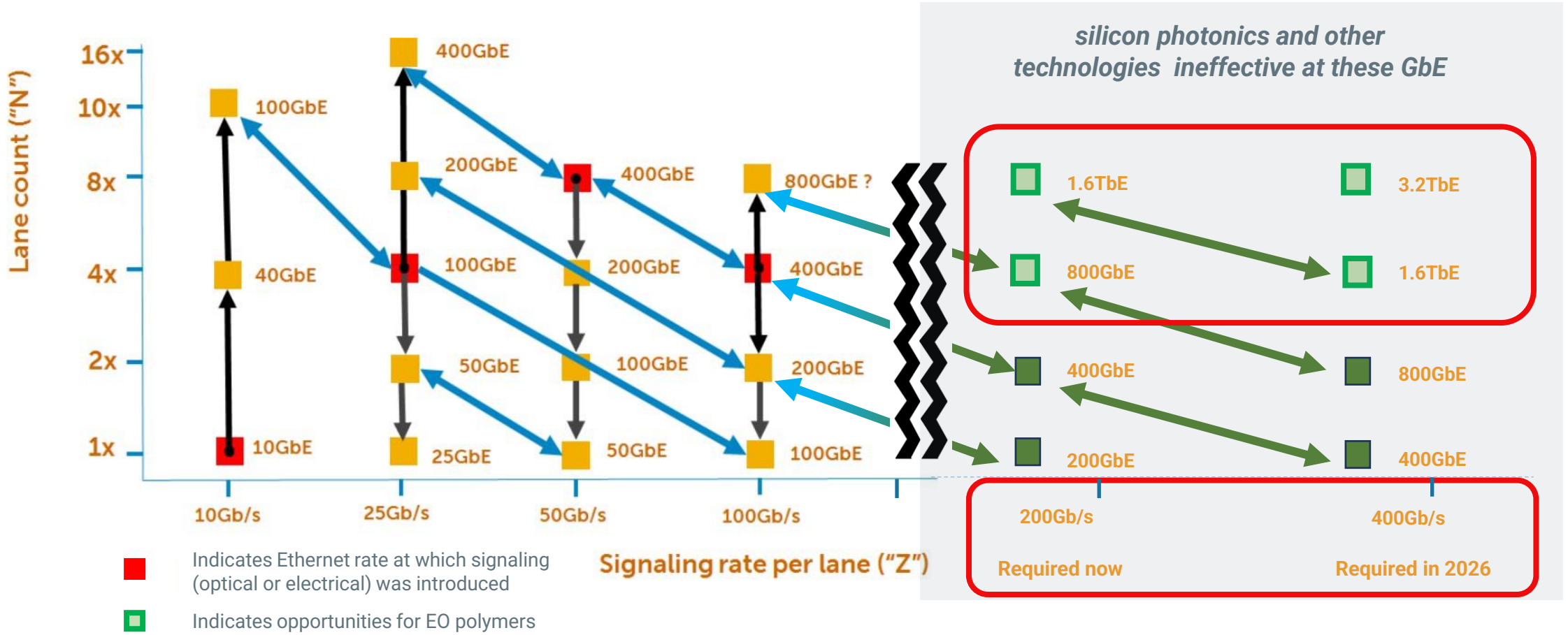
## Incumbent technologies no longer adequate for higher speed modulation (200G+)

### AI/Datacomm Speed Adoption "Waterfall"




*Sources: Modified from John D.Ambrosia, Ethernet Alliance*

# Technical Factors Favoring Adoption of Polymers

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## Comparison of Modulator Material by Leading Photonic Vendor

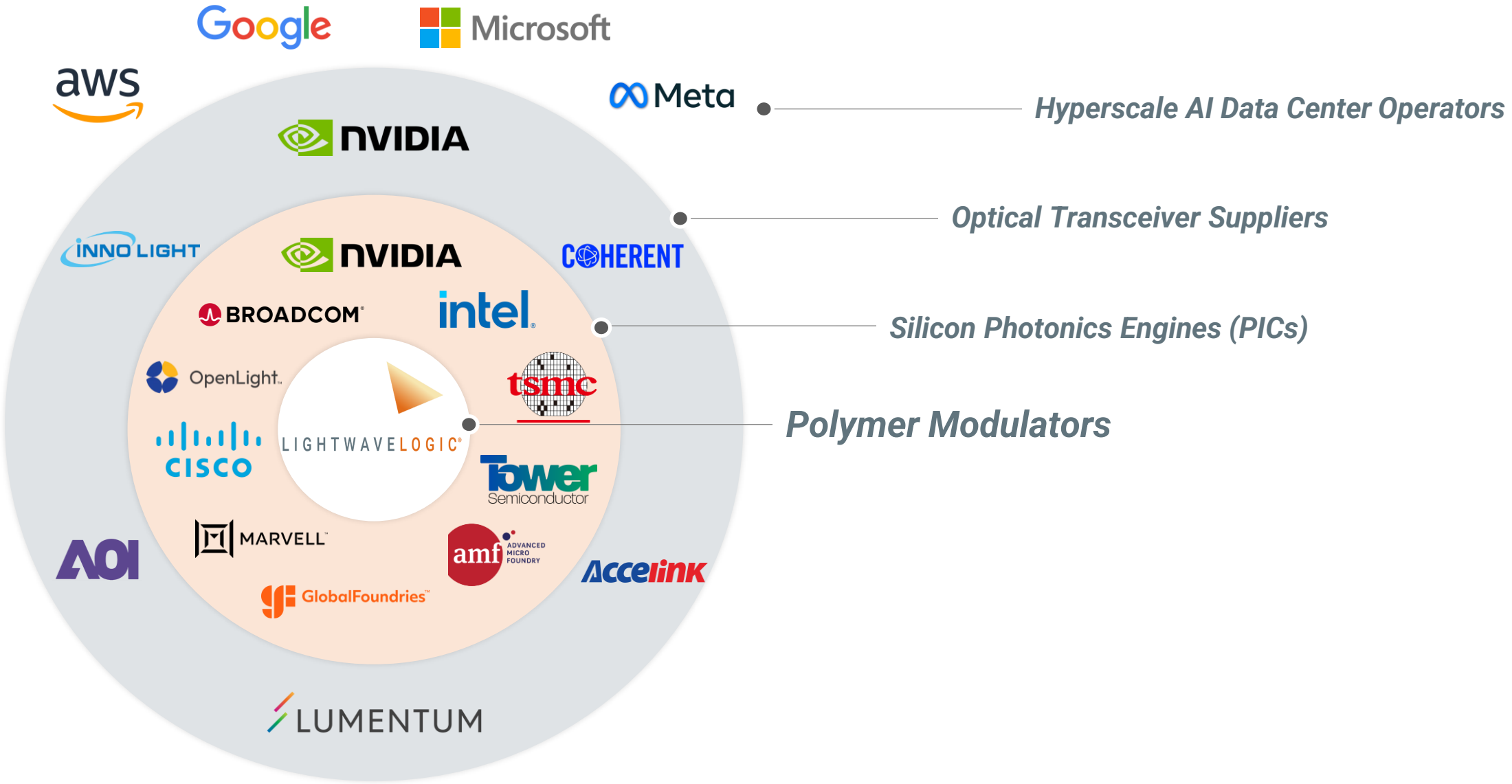
| Modulator Material | Modulator Type | Reported BW | Voltage |
|---|---|---|---|
| TFLN | MZM | 110 GHz | Sub-1 Vpp |
| InP | MZM IQ | 100 GHz | 1.1Vppd |
| BTO | MZM | 110 GHz | 1.9V |
| SOH | MZM | - | 0.92V |
| Silicon | Microring | 67 GHz | 0.8 |
| Silicon | Slow light modulator | 110GHz | 4V |
| **Plasmonic/EO Polymer** | **MZM, IQ** | **500GHz** | **0.8V** |

Source: Advances in Electro Optical Components For Data Communications, Anna Tatarczak, Coherent

**Superior Speed + Lower Power Consumption of Optical Polymers**

**Additional Advantage: Polymer Materials Compatible with Silicon Foundry Processes**

# Uniquely Enabling AI Connectivity Ecosystem




*Note: Companies represent examples of established entities per segment only.*

# Enhance Operational Excellence to Benefit Tier 1s and Foundries

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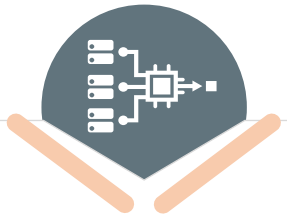
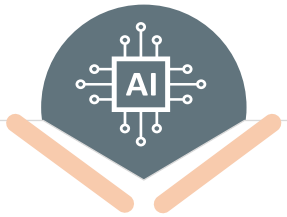
## Key Areas of Focus:

**Materials Production**



**Backend Semiconductor Process**

**Reliability + Qualification Toolkit**




**High-Speed RF Electronics Expertise**

**Internal Business Processes**

Add rigor to our disruptive technology commercialization

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