



LIGHTWAVELOGIC™

Faster by Design

Using polymer modulators to upgrade your PIC

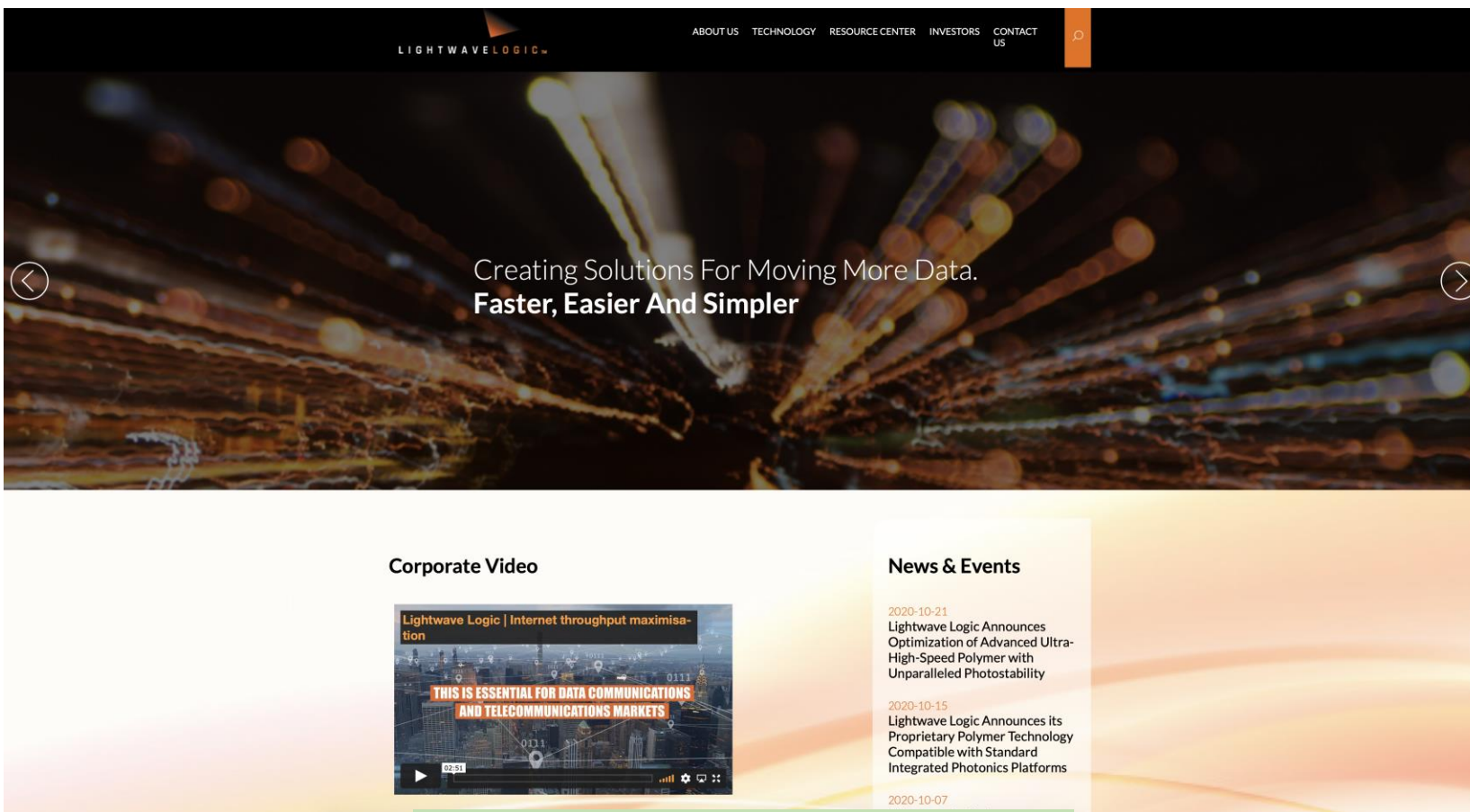
Michael Leby, CEO, Lightwave Logic Inc.

4th November 2020

The information in this presentation may contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. You can identify these statements by use of the words "may," "will," "should," "plans," "explores," "expects," "anticipates," "continue," "estimate," "project," "intend," and similar expressions. Forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from those projected or anticipated. These risks and uncertainties include, but are not limited to, general economic and business conditions, effects of continued geopolitical unrest and regional conflicts, competition, changes in technology and methods of marketing, delays in completing various engineering and manufacturing programs, changes in customer order patterns, changes in product mix, continued success in technological advances and delivering technological innovations, shortages in components, production delays due to performance quality issues with outsourced components, and various other factors beyond the Company's control.

This grey bar is the takeaway summary from each slide...

Slides will be posted at our website



www.lightwavelogic.com

Screen shot of Lightwave Logic web page

Sit back...relax (no need to take notes!)

Marketing positioning in a dynamic environment

Our Technology Suite Addresses Major Pain Points Facing Network Operators

ENGINEERING ADVANTAGE



Technology Platform Flexibility

Full control from materials science to device & package design allows greater flexibility to adapt performance and cost to each individual application.

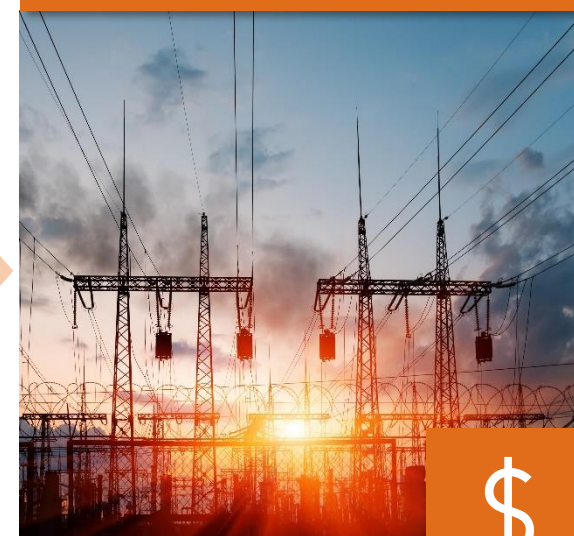
FASTER NETWORKS



We enable faster networks.

Our robust, stable chromophore family of materials allows network architects to squeeze more performance from existing network infrastructure at 70GHz and beyond.

ENERGY SAVINGS

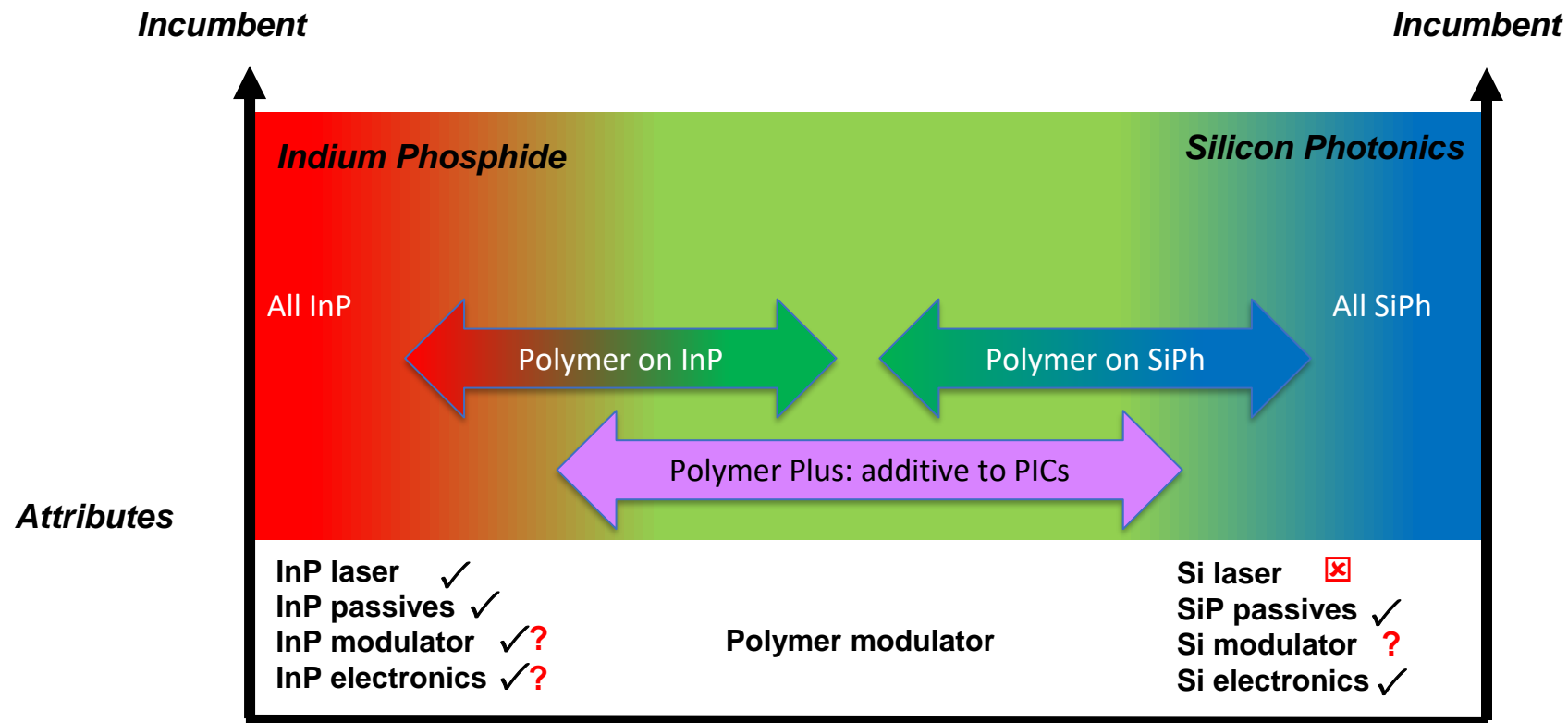


We reduce network energy costs.

Our low-cost, easy to fabricate modulators operate at a low voltage, saving network operators on energy costs as compared to competing solutions.

Flexible and custom chemistry, very fast modulators, very low power, and easy to integrate

Hybrid Photonic Integrated Circuits (PICs)

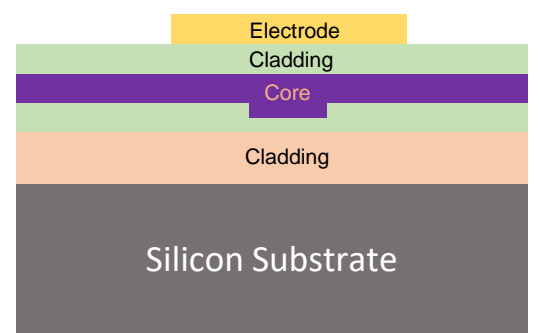


Upgrading your integrated photonics platform with polymer modulators

Adding polymer modulators to your platforms...

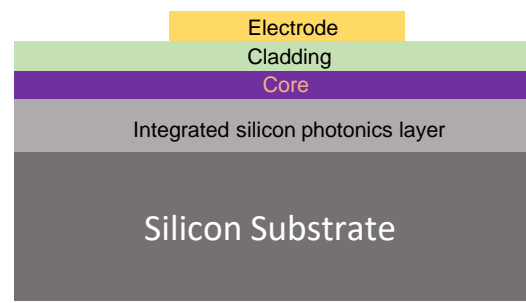
Our polymer modulators addresses different semiconductor platforms

Polymer Stack



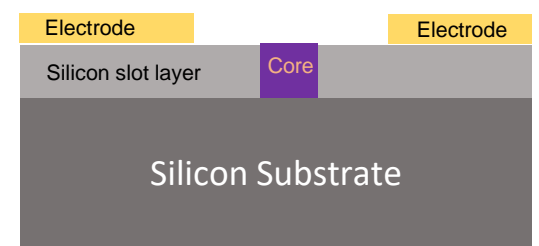
Traditional polymer stack modulator
3-layer stack with excellent high-speed performance, low voltage, and high stability. Polymer layers are added onto silicon substrates in a traditional semiconductor fab.

Polymer Plus



Innovative polymer plus modulator
Minimizing polymer layers for a more-simpler, easy to integrate, high performance, low voltage device. Fabrication is using spin on polymers in standard fabs.

Polymer Slot



Advancing polymer slot modulators
Our super miniaturized slot modulator is the smallest form factor for integrated silicon photonics solutions using our proprietary chromophore and polymer materials.

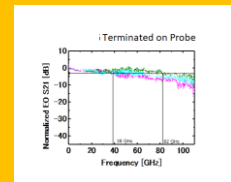
Polymer modulators...easy to fab, low power, fast, and flexible in performance

Polymers *can* deliver radical innovation...

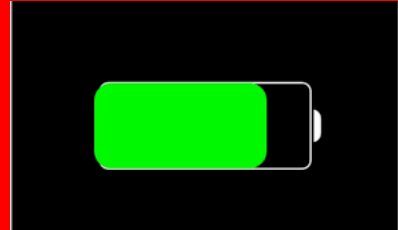
Faster devices
(100GHz+)



70GHz



Lower Power
(Low voltage)



~1V



Lower cost
(Easy fab)



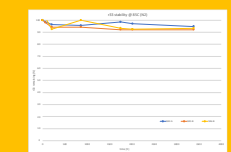
Std fab



Robust
(Stable)



4kHrs+



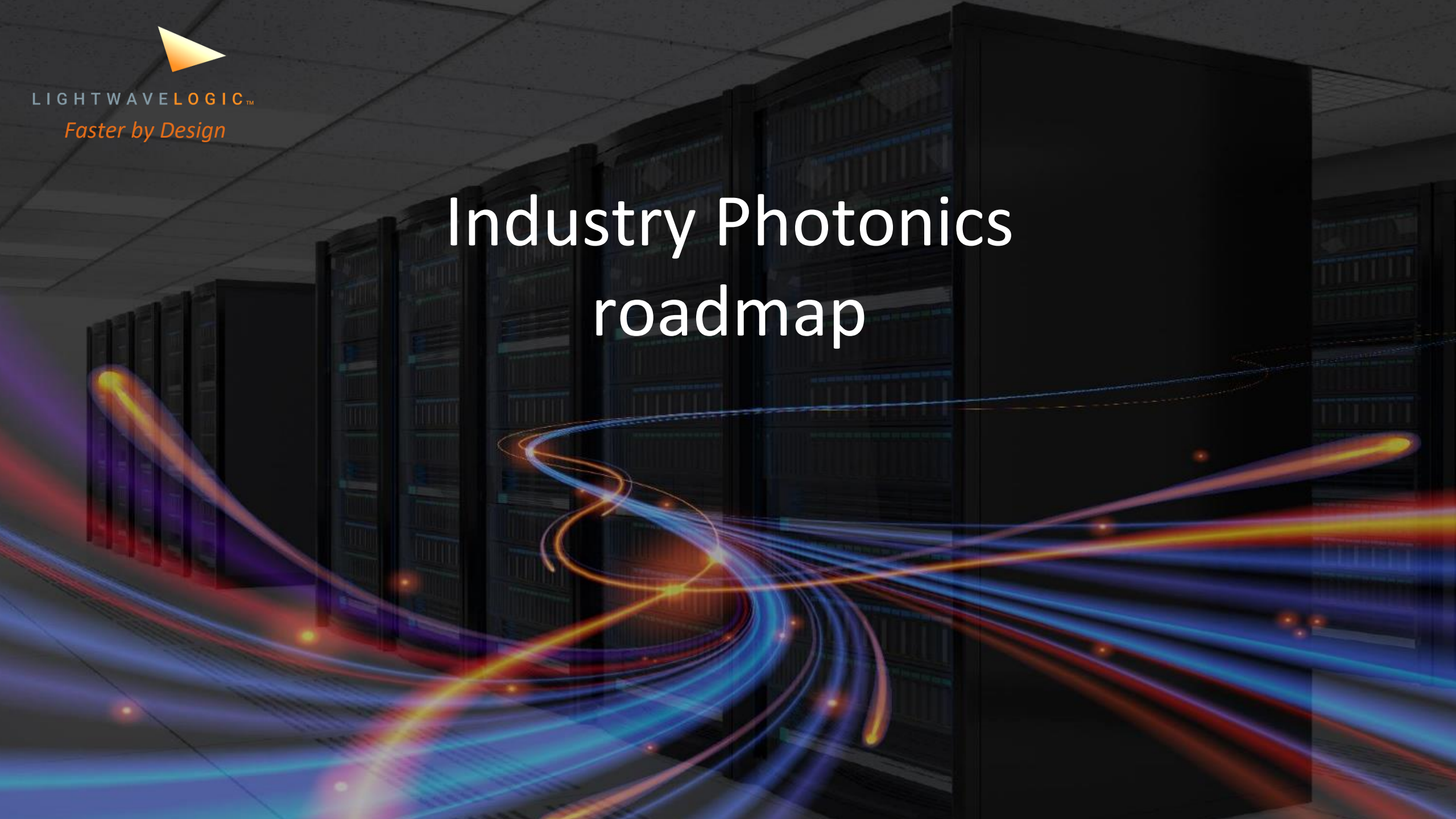
Enabling lower power, faster, unique and differentiated solutions



LIGHTWAVELOGIC™

Faster by Design

Industry Photonics roadmap



Roadmaps: What did we predict in 2016 for 2020?

Purple Brick Wall

= Technology cost barrier

2016 Roadmap

	2017	2018	2020	2022	2024	2026
Modules/TxRx	100Gbps	400Gbps	25Tbps/1U	100Tbps/1U	400Tbps/1U	1000Gbps
Data rate density	10 Tbps/1U		25Tbps/1U	100Tbps/1U	400Tbps/1U	1000Tbps/1U
Form factor	QSFP	microQSFP	DSFP	SFP+ (new)	Micro-SFP	
Typical link reach	<10km	<10km	<2km	<2km	<2km	<2km
Ind wish (@400Gbps)	\$5/Gbps	\$2/Gbps	\$1/Gbps	\$1/Gbps	<\$0.5/Gbps	\$0.5/Gbps
Industry plan	>\$10/Gbps (<2km)	<\$5/Gbps		\$1/Gbps		\$0.5/Gbps
Typical link reach	10-100m	5-50m	1-25m	1-25m		
Ind wish (@400Gbps)	<\$1/Gbps	<\$0.5/Gbps	<\$0.25/Gbps	\$0.25/Gbps	<\$0.05/Gbps	<\$0.15/Gbps
Industry plan		\$1/Gbps				
InP Monolithic	100 devices 25Gbps	50Gbps	1000 devices 100Gbps	10,000 devices 400Gbps	100,000 devices 1000Gbps (serial)	100,000 devices OEIC ASIC 50Gbps
	PIC WDM Tx & Rx	OEIC Int driver/TIA 50Gbps	OEIC Int driver/TIA 100Gbps	OEIC Int driver/TIA 100Gbps (serial)	OEIC Int driver/TIA 100Gbps (serial)	OEIC Int driver/TIA 100Gbps (serial)
	NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	NRZ/PAM4-16	Coherent client-side	Coherent client-side	Coherent client-side
	3" Wafer/fab	4" Wafer/fab	4 & 6" Wafer/fab	8" Wafer/fab?	8" Wafer/fab?	8" Wafer/fab?
SiP & InP/SiGe hybrid	10 devices 25Gbps	100 devices 50Gbps	1000 devices 100Gbps	10,000 devices 400Gbps	100,000 devices 1000Gbps (serial)	100,000 devices OEIC ASIC 50Gbps
	PIC WDM Tx & Rx	OEIC Int driver/TIA 50Gbps	OEIC Int driver/TIA 100Gbps (serial)	OEIC Int driver/TIA 100Gbps (serial)	OEIC Int driver/TIA 100Gbps (serial)	OEIC Int driver/TIA 100Gbps (serial)
	NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	NRZ/PAM4-16	Coherent client-side	Coherent client-side	Coherent client-side
	6" Wafer/fab	8" Wafer/fab	8 & 12" Wafer/fab	15" Wafer/fab?	15" Wafer/fab?	15" Wafer/fab?
Polymer Photonics	10 devices 25Gbps	100 devices 50Gbps (Laser-Mod)	1000 devices 100Gbps (laser-Mod)	10,000 devices 400Gbps	100,000 devices 1000Gbps (serial)	100,000 devices OEIC ASIC 50Gbps
	PIC WDM/MZ Mod Tx & Rx	OEIC Int driver/TIA (SiP/InP) 50Gbps	OEIC Int driver/TIA (SiP/InP) 100Gbps (serial)	OEIC Int driver/TIA (SiP/InP) 100Gbps (serial)	OEIC Int driver/TIA (SiP/InP) 100Gbps (serial)	OEIC Int driver/TIA (SiP/InP) 100Gbps (serial)
	NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	NRZ/PAM4-16	Coherent client-side	Coherent client-side	Coherent client-side
	3-4" Wafer/fab	4" Wafer/fab	4 & 6" Wafer/fab	8" Wafer/fab	8" Wafer/fab	8" Wafer/fab
Dielectric Photonics	100 devices 25Gbps	50Gbps	1000 devices 100Gbps	10,000 devices 400Gbps	100,000 devices 1000Gbps (serial)	100,000 devices OEIC Int driver/TIA 100Gbps (serial)
	PIC Tx & Rx	OEIC Int driver/TIA 50Gbps	OEIC Int driver/TIA 100Gbps	OEIC Int driver/TIA 100Gbps (serial)	OEIC Int driver/TIA 100Gbps (serial)	OEIC Int driver/TIA 100Gbps (serial)
	NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	NRZ/PAM4-16	Coherent client-side	Coherent client-side	Coherent client-side
	6" Wafer/fab	8" Wafer/fab	8 & 12" Wafer/fab	15" Wafer/fab	15" Wafer/fab	15" Wafer/fab
GaAs (VCSEL)	10 devices 25Gbps	100 devices 50Gbps	1000 devices 100Gbps (VCSEL-Mod)	10,000 devices 400Gbps (VCSEL-Mod)	100,000 devices 1000Gbps (VCSEL-Mod)	100,000 devices 400Gbps (VCSEL-Mod)
	VCSEL PIC 25Gbps	VCSEL PIC 50Gbps	VCSEL PIC 100Gbps (serial)	VCSEL PIC 100Gbps (serial)	VCSEL PIC 100Gbps (serial)	VCSEL PIC 100Gbps (serial)
	NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	NRZ/PAM4-16	Coherent client-side	Coherent client-side	Coherent client-side
	3-4" Wafer/fab	6" Wafer/fab	8" Wafer/fab	8" Wafer/fab	8" Wafer/fab	8" Wafer/fab

Slanted Red Font: Major industry efforts are required for commercialization

Source: Lightwave Logic

Result: Assessment in 2020 → Accurate !!!

Purple Brick Wall = Technology cost barrier

2016 Roadmap

	2017	2018	2020	2022	2024	2026
Modules/TxRx	100Gbps	400Gbps	400Gbps	100Tbps/1U	1000Gbps	
Data rate density	10 Tbps/1U		25Tbps/1U	100Tbps/1U	400Tbps/1U	
Form factor	QSFP	mitcoQSFP	DSEFP	SFP+ (new)	Micro-SFP	
Typical link reach	<10km	<10km	<2km	<2km	<2km	<2km
Ind wish (@400Gbps)	\$5/Gbps	\$2/Gbps	\$1/Gbps	\$1/Gbps	<\$0.5/Gbps	\$0.5/Gbps
Industry plan	>\$10/Gbps (<2km)	<\$5/Gbps				
Typical link reach	10-100m	5-50m	1-25m	1-25m		
Ind wish (@400Gbps)	<\$1/Gbps	<\$0.5/Gbps	<\$0.25/Gbps	\$0.25/Gbps	<\$0.05/Gbps	<\$0.15/Gbps
Industry plan		\$1/Gbps				
InP Monolithic	100 devices	1000 devices	10,000 devices	100,000 devices		
25Gbps	50Gbps	100Gbps	400Gbps	1000Gbps		
PIC WDM Tx & Rx	OEIC Int driver/TIA 50Gbps	OEIC Int driver/TIA 100Gbps (serial)	OEIC Int driver/TIA 100Gbps (serial)	OEIC Int driver/TIA 100Gbps (serial)	OEIC ASIC 50Gbps	
NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	NRZ/PAM4-16	Coherent client-side	Coherent client-side		
3" Wafer/fab	4" Wafer/fab	4 & 6" Wafer/fab	8" Wafer/fab?			
SiP & InP/SiGe hybrid	10 devices	100 devices	1000 devices	10,000 devices		
25Gbps	50Gbps	100Gbps	400Gbps	1000Gbps		
PIC WDM Tx & Rx	OEIC Int driver/TIA 50Gbps	OEIC Int driver/TIA 100Gbps (serial)	OEIC Int driver/TIA 100Gbps (serial)	OEIC Int driver/TIA 100Gbps (serial)	OEIC ASIC 50Gbps	
NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	NRZ/PAM4-16	Coherent client-side	Coherent client-side		
6" Wafer/fab	8" Wafer/fab	8 & 12" Wafer/fab	15" Wafer/fab?			
Polymer Photonics	10 devices	100 devices	1000 devices	10,000 devices		
25Gbps	50Gbps (Laser-Mod)	100Gbps (laser-Mod)	400Gbps	1000Gbps		
PIC WDM/MZ Mod Tx & Rx	OEIC Int driver/TIA (SiP/InP) 50Gbps	OEIC Int driver/TIA (SiP/InP) 100Gbps (serial)	OEIC Int driver/TIA (SiP/InP) 100Gbps (serial)	OEIC Int driver/TIA (SiP/InP) 100Gbps (serial)	OEIC ASIC 50Gbps	
NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	NRZ/PAM4-16	Coherent client-side	Coherent client-side		
3-4" Wafer/fab	4" Wafer/fab	4 & 6" Wafer/fab	8" Wafer/fab			
Dielectric Photonics	100 devices	1000 devices	10,000 devices	100,000 devices		
25Gbps	50Gbps	100Gbps	400Gbps	1000Gbps		
PIC Tx & Rx	OEIC Int driver/TIA 50Gbps	OEIC Int driver/TIA 100Gbps (serial)	OEIC Int driver/TIA 100Gbps (serial)	OEIC Int driver/TIA 100Gbps (serial)	OEIC ASIC 50Gbps	
NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	NRZ/PAM4-16	Coherent client-side	Coherent client-side		
6" Wafer/fab	8" Wafer/fab	8 & 12" Wafer/fab	15" Wafer/fab			
GaAs (VCSEL)	10 devices	100 devices	1000 devices	10,000 devices		
25Gbps	50Gbps	100Gbps (VCSEL-Mod)	400Gbps (VCSEL-Mod)	1000Gbps (VCSEL-Mod)		
VCSEL PIC 25Gbps	VCSEL PIC 50Gbps	VCSEL PIC 100Gbps (serial)	VCSEL PIC 100Gbps (serial)	VCSEL PIC 100Gbps (serial)		
NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	NRZ/PAM4-16	Coherent client-side	Coherent client-side		
3-4" Wafer/fab	6" Wafer/fab	8" Wafer/fab				

TxRx 400bps

<\$5/Gbps

50Gbps+ devices

New for 2020 → Where are we going?

Purple Brick Wall

= Technology cost barrier

2020 Roadmap

	2019	2020	2022	2024	2026	2028
Modules/TxRx	400Gbps	800Gbps	1600Gbps	3200Gbps		
Data rate density	25 Tbps/1U		100Tbps/1U	400Tbps/1U	1600Tbps/1U	
Form factor	Q/OSFP	OSFP/OBO/CP	OBO/CP	Co-Pkg/CoB	Micro-Co-Pkg/CoB	
Typical link reach	<10km	<10km	<2km	<2km	<2km	<2km
Ind wish (@400Gbps)	\$2/Gbps	\$1/Gbps	\$0.5/Gbps	\$0.5/Gbps	<\$0.2/Gbps	\$0.2/Gbps
Industry plan	>\$5/Gbps (<2km)	<\$2/Gbps				
Typical link reach	10-100m	5-50m	1-25m	1-25m		
Ind wish (@400Gbps)	<\$1/Gbps	<\$0.5/Gbps	<\$0.25/Gbps	\$0.25/Gbps	<\$0.05/Gbps	<\$0.15/Gbps
Industry plan		\$1/Gbps				
InP Monolithic	100 devices 25GHz, 50GHz	1000 devices 70GHz	10000 devices 90GHz	100000 devices 100GHz		
	PIC WDM Tx & Rx (30GHz)	OEIC Int driver/TIA	OEIC Int driver/TIA 50Gbps (50GHz)	OEIC Int driver/TIA 100Gbps (70GHz)		OEIC ASIC 50Gbps (50GHz)
	NRZ/PAM4	NRZ/PAM4-8	NRZ/PAM4-16	Coherent client-side		
	3" Wafer/fab	4" Wafer/fab	4 & 6" Wafer/fab	8" Wafer/fab?		
SiP & InP/SiGe hybrid	10 devices 25GHz, 50GHz	100 devices 70GHz	1000 devices 70GHz (100Gbps)	10,000 devices 70GHz (400Gbps)		
	PIC WDM Tx & Rx (30GHz)	OEIC Int driver/TIA	OEIC Int driver/TIA 50Gbps (50GHz)	OEIC Int driver/TIA 100Gbps (serial)		
	NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	Coherent client-side	Coherent DSP-less		
	6" Wafer/fab	8" Wafer/fab	8 & 12" Wafer/fab	15" Wafer/fab?		
Polymer Photonics	10 devices 25GHz, 50GHz (Laser-Mod)	100 devices 70GHz (laser-Mod)	1000 devices 100GHz (100Gbps serial)	10,000 devices 100GHz (400Gbps)		10,000 devices
	PIC WDM/MZ Mod Tx & Rx	OEIC Int driver/TIA (SiP/InP)	OEIC Int driver/TIA 50GHz	OEIC Int driver/TIA (SiP/InP) 70GHz (se		OEIC ASIC 70GHz
	NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	Coherent client-side	Coherent client-side		
	3-4" Wafer/fab	4" Wafer/fab	4 & 6" Wafer/fab	8" Wafer/fab		
Dielectric Photonics	100 devices 25GHz, 50GHz	1000 devices 70GHz	10,000 devices 70GHz	100,000 devices 70GHz (400Gbps)		
	PIC Tx & Rx	OEIC Int driver/TIA 50GHz	OEIC Int driver/TIA 50GHz	OEIC Int driver/TIA 70GHz		
	NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	Coherent client-side	Coherent client-side		
	6" Wafer/fab	8" Wafer/fab	8 & 12" Wafer/fab	15" Wafer/fab		
GaAs (VCSEL)	100 devices 25GHz, 50GHz	1000 devices 70GHz	10000 devices 70GHz	100,000 devices 70GHz (VCSEL-Mod)		
	VCSEL PIC 25GHz	VCSEL PIC 50GHz	VCSEL PIC 70GHz (100Gbps)	VCSEL PIC 70GHz (100Gbps)		
	NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	Coherent client-side	Coherent client-side		
	6" Wafer/fab	8" Wafer/fab	8" Wafer/fab	8" Wafer/fab		

Slanted Red Font: Major industry efforts are required for commercialization

Source: Lightwave Logic

Roadmap for 2023 → Low power, hybrid PIC, faster devices

Purple Brick Wall = Technology cost barrier

2020 Roadmap

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
Modules/TxRx	400Gbps	800Gbps	1600Gbps	3200Gbps	6400Gbps	12800Gbps	25600Gbps	51200Gbps	102400Gbps	204800Gbps	TxRx 8 & 16 Gbps
Data rate density	25 Tbps/1U	50 Tbps/1U	100 Tbps/1U	200 Tbps/1U	400 Tbps/1U	800 Tbps/1U	1600 Tbps/1U	3200 Tbps/1U	6400 Tbps/1U	12800 Tbps/1U	<\$1/Gbps
Form factor	Q/OSFP	OSFP/OBO/CP	OBO/CP	Co-Pkg/CoB	Micro-Co-Pkg/CoB						
Typical link reach	<10km	<10km	<2km	<2km	<2km	<2km	<2km	<2km	<2km	<2km	
Ind wish (@400Gbps)	\$2/Gbps	\$1/Gbps	\$0.5/Gbps	\$0.25/Gbps	\$0.125/Gbps	\$0.0625/Gbps	\$0.03125/Gbps	\$0.015625/Gbps	\$0.0078125/Gbps	\$0.00390625/Gbps	
Industry plan	>\$5/Gbps (<2km)	<\$2/Gbps	<\$1/Gbps	<\$0.5/Gbps	<\$0.25/Gbps	<\$0.125/Gbps	<\$0.0625/Gbps	<\$0.03125/Gbps	<\$0.015625/Gbps	<\$0.0078125/Gbps	
Typical link reach	10-100m	5-50m	1-25m	1-25m	1-25m	1-25m	1-25m	1-25m	1-25m	1-25m	
Ind wish (@400Gbps)	<\$1/Gbps	<\$0.5/Gbps	<\$0.25/Gbps	<\$0.125/Gbps	<\$0.0625/Gbps	<\$0.03125/Gbps	<\$0.015625/Gbps	<\$0.0078125/Gbps	<\$0.00390625/Gbps	<\$0.001953125/Gbps	
Industry plan	\$1/Gbps	<\$0.5/Gbps	<\$0.25/Gbps	<\$0.125/Gbps	<\$0.0625/Gbps	<\$0.03125/Gbps	<\$0.015625/Gbps	<\$0.0078125/Gbps	<\$0.00390625/Gbps	<\$0.001953125/Gbps	
InP Monolithic	100 devices	1000 devices	10000 devices	100000 devices	1000000 devices	10000000 devices	100000000 devices	1000000000 devices	10000000000 devices	100000000000 devices	100Gbps devices
25GHz, 50GHz	70GHz	90GHz	100GHz	100GHz	100GHz	100GHz	100GHz	100GHz	100GHz	100GHz	
PIC WDM Tx & Rx (30GHz)	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	
NRZ/PAM4	NRZ/PAM4-8	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	
3" Wafer/fab	4" Wafer/fab	4 & 6" Wafer/fab	4 & 6" Wafer/fab	4 & 6" Wafer/fab	4 & 6" Wafer/fab	4 & 6" Wafer/fab	4 & 6" Wafer/fab	4 & 6" Wafer/fab	4 & 6" Wafer/fab	4 & 6" Wafer/fab	
SiP & InP/SiGe hybrid	10 devices	100 devices	1000 devices	10000 devices	100000 devices	1000000 devices	10000000 devices	100000000 devices	1000000000 devices	10000000000 devices	Hybrid PICs
25GHz, 50GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	
PIC WDM Tx & Rx (30GHz)	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	
NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	
6" Wafer/fab	8" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	
Polymer Photonics	10 devices	100 devices	1000 devices	10000 devices	100000 devices	1000000 devices	10000000 devices	100000000 devices	1000000000 devices	10000000000 devices	70GHz device bandwidth
25GHz, 50GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	
PIC WDM/MZ Mod Tx & Rx	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	
NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	
3-4" Wafer/fab	4" Wafer/fab	4 & 6" Wafer/fab	4 & 6" Wafer/fab	4 & 6" Wafer/fab	4 & 6" Wafer/fab	4 & 6" Wafer/fab	4 & 6" Wafer/fab	4 & 6" Wafer/fab	4 & 6" Wafer/fab	4 & 6" Wafer/fab	
Dielectric Photonics	100 devices	1000 devices	10000 devices	100000 devices	1000000 devices	10000000 devices	100000000 devices	1000000000 devices	10000000000 devices	100000000000 devices	Low power
25GHz, 50GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	
PIC Tx & Rx	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	OEIC Int driver/TIA	
NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	
6" Wafer/fab	8" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	
GaAs (VCSEL)	100 devices	1000 devices	10000 devices	100000 devices	1000000 devices	10000000 devices	100000000 devices	1000000000 devices	10000000000 devices	100000000000 devices	Athermal design
25GHz, 50GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	70GHz	
VCSEL PIC 25GHz	VCSEL PIC 50GHz	VCSEL PIC 50GHz	VCSEL PIC 50GHz	VCSEL PIC 50GHz	VCSEL PIC 50GHz	VCSEL PIC 50GHz	VCSEL PIC 50GHz	VCSEL PIC 50GHz	VCSEL PIC 50GHz	VCSEL PIC 50GHz	
NRZ/PAM4 & NRZ/PAM4-8	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	NRZ/PAM4-16	
6" Wafer/fab	8" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	8 & 12" Wafer/fab	

Slanted Red Font: Major industry efforts are required for commercialization
 Source: Lightwave Logic © Lightwave Logic, Inc. (OTCQB: LWLG)



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Faster by Design

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