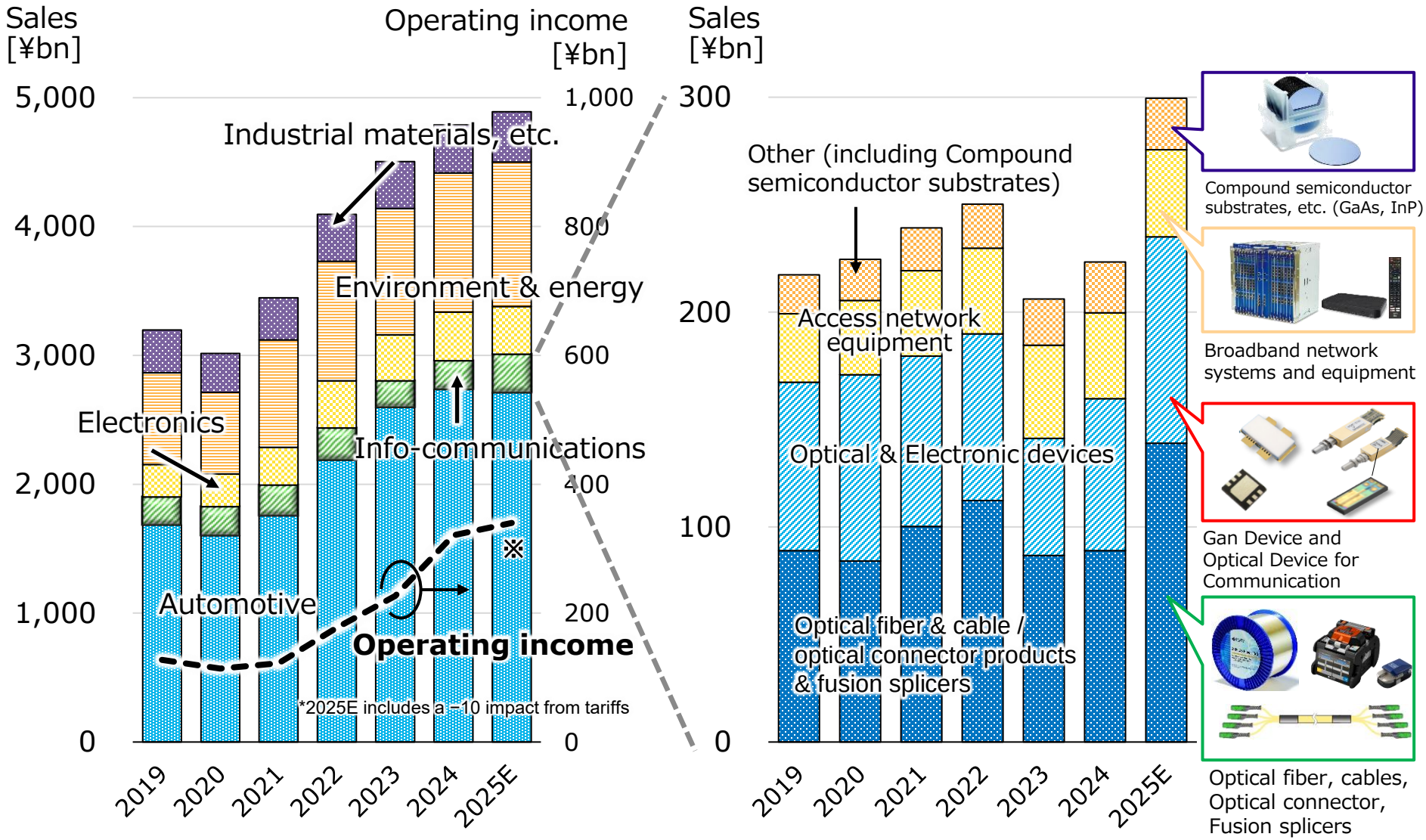
SUMITOMO ELECTRIC
Connect with Innovation

[Info-communications] Growth strategy for data center-related business

Sumitomo Electric Industries, Ltd.
November 13, 2025

SUMITOMO ELECTRIC GROUP

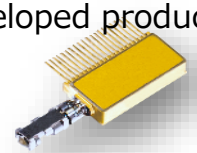
Sales by Business Segment



Source: FACT BOOK FY2025 1st Half Result (October 31, 2025)
https://sumitomoelectric.com/ir/library

Sumitomo Electric Products in the Data Center (DC) Market

Optical device-related products
Optical fiber-related products
Newly-developed products



Tunable LD

Coherent transceiver

InP, GaAs substrate

CW LD (light source for Si-Photonics)

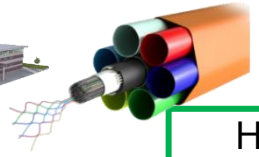
EML chip (modulator-integrated laser)

Submarine cable network (DC intercontinental connection)
Thousands of kilometers

Trunk network / Metro network
80-1,200km

Optical fiber for submarine cables/amplifier

DC interconnect <120km



High fiber density optical cables for air blown installation (DC interconnect)

DC inter building <10km

Ultra-high fiber-count optical cable

Fusion splicer

Intra DC <2km

Small transceiver (electrical-optical conversion)

Switch (switching system)

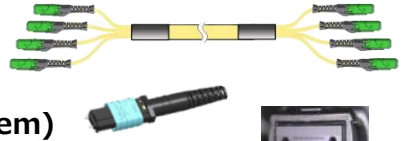
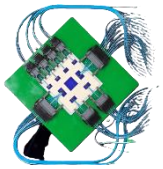


Diagram source: Cisco Systems

CPO-related components



Photoelectric Conversion

High-density optical connector products (intra-DC)

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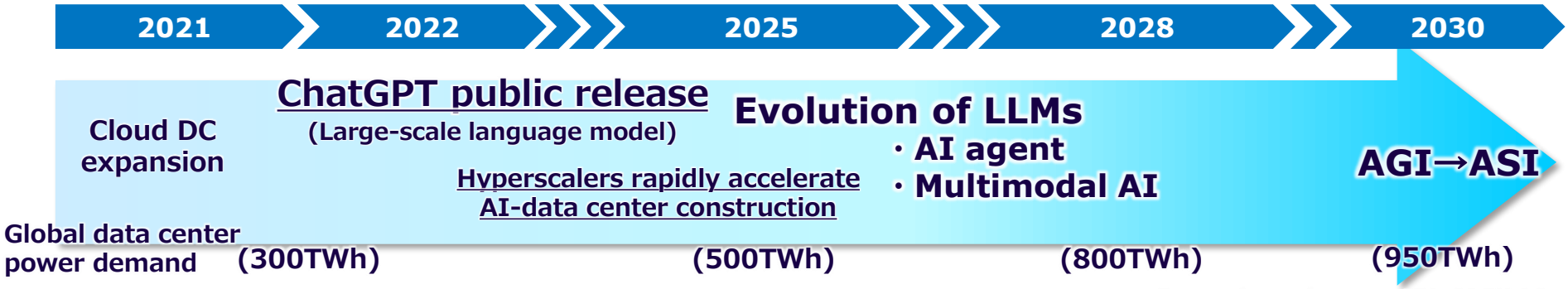
Changes in DC Market Growth Outlook Toward 2030

➢ **Driven by the emergence of generative AI, the dynamic changes in the data center market continue**

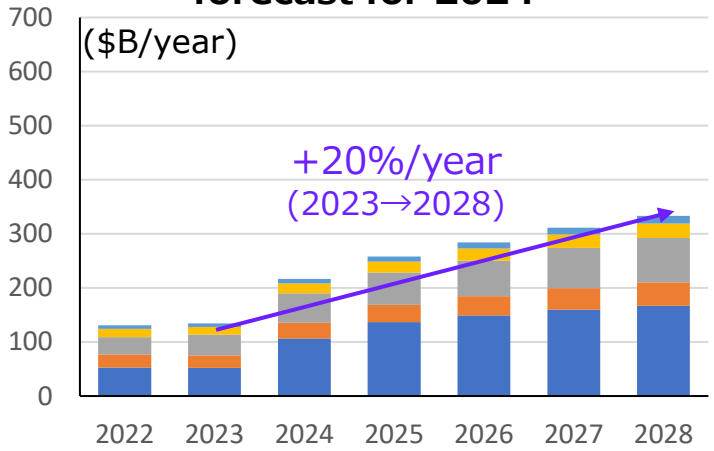


Energy demand source : IEA. CC BY 4.0

➢ **The expanding DC market**

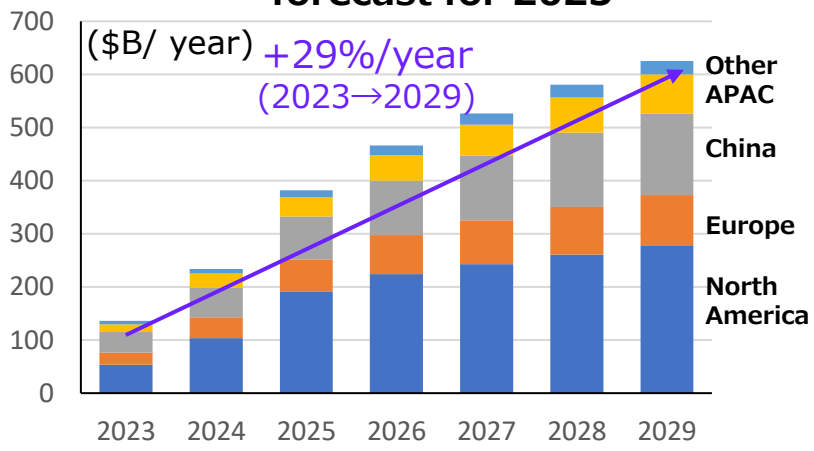
The spread of AI and the accompanying surge in data processing demand are progressing at a pace far exceeding projections. Market growth is expected to continue beyond 2026.

Server purchase amount forecast for 2024



Growth rate since 2023
+20% → +29%

Server purchase amount forecast for 2025



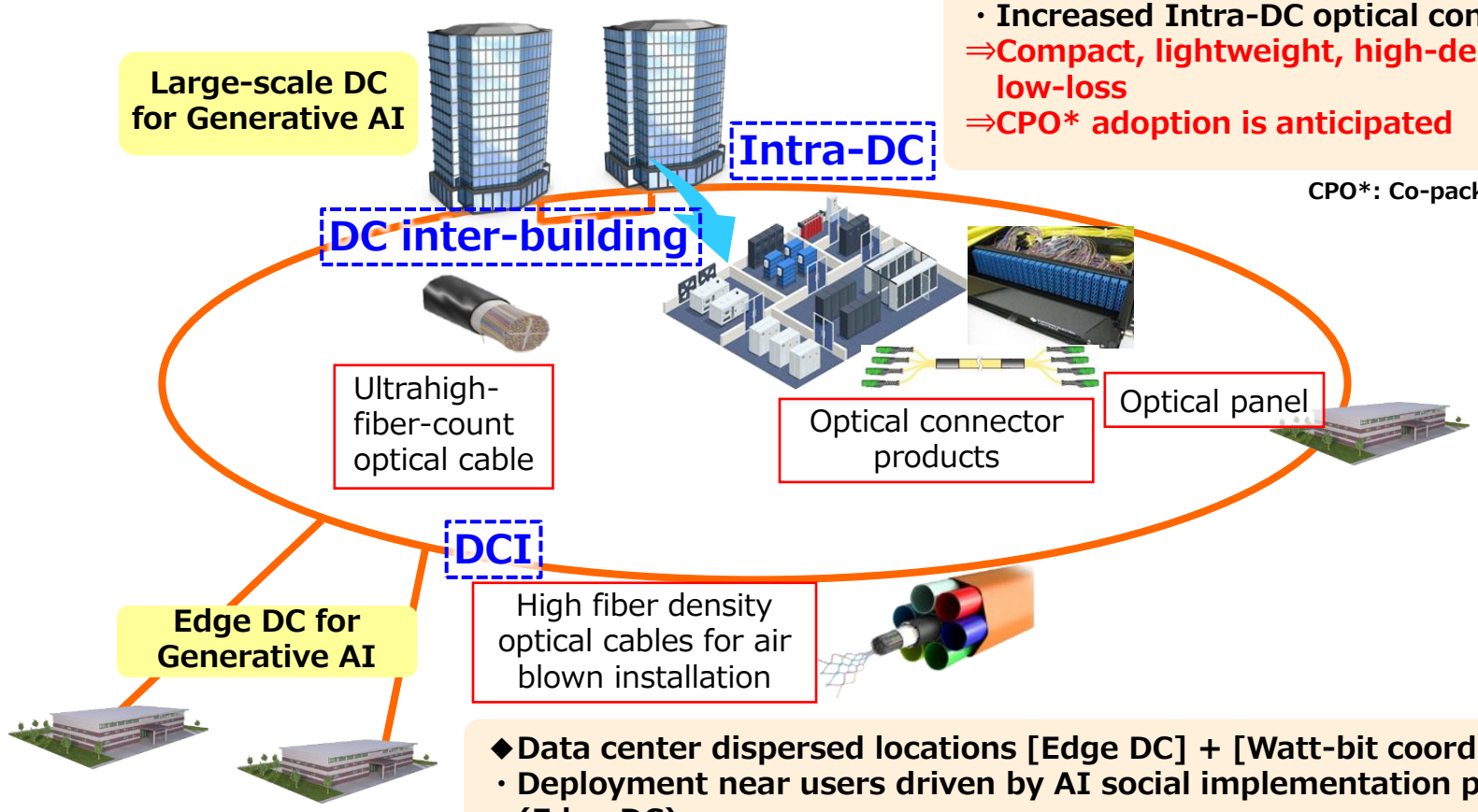
The graph was created by SUMITOMO ELECTRIC Industries based on Gartner research. The figures shown here were calculated by SUMITOMO ELECTRIC Industries.
Source : (Graph on the left : 2024) Gartner®, Forecast: Servers, All Countries, 2022-2028, 3Q24 Update By Adrian O'Connell, et, al. End-User Spending basis
(Graph on the right : 2025) Gartner®, Forecast: Servers, Worldwide, 2023-2029, 3Q25 Update, Adrian O'Connell et al. End-User Spending basis
APAC : Japan + Mature & Emerging Asia/Pacific, Other : Latin America + Middle East and North Africa + Sub Saharan Africa

Trends in Optical Fiber-rerated Products for Data Centers Driven by Advances in Generative AI

■ Changes in demand driven by data centers for generative AI

◆Progress in scale out/up
・Increased Intra-DC optical connections
⇒Compact, lightweight, high-density, low-loss
⇒CPO* adoption is anticipated

CPO*: Co-packaged Optics

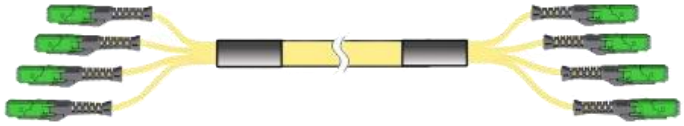


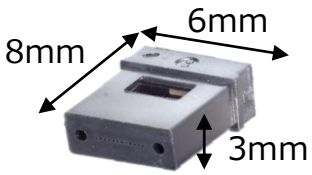
◆Data center dispersed locations [Edge DC] + [Watt-bit coordination]
・Deployment near users driven by AI social implementation progress (Edge DC)
・Avoiding power consumption concentration (Watt-Bit coordination)
⇒Longer distances between DCs (increased demand)
Multi-core/low-loss/low-latency requirements

Optical Connector Products Used for Intra-DC

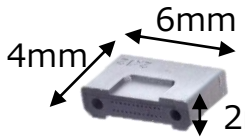
Advancing production capacity expansion plans to capture increased demand for Intra-DC optical connections

■ Connector cable for optical connection

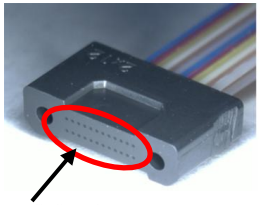




Conventional 12-fiber MPO ferrule

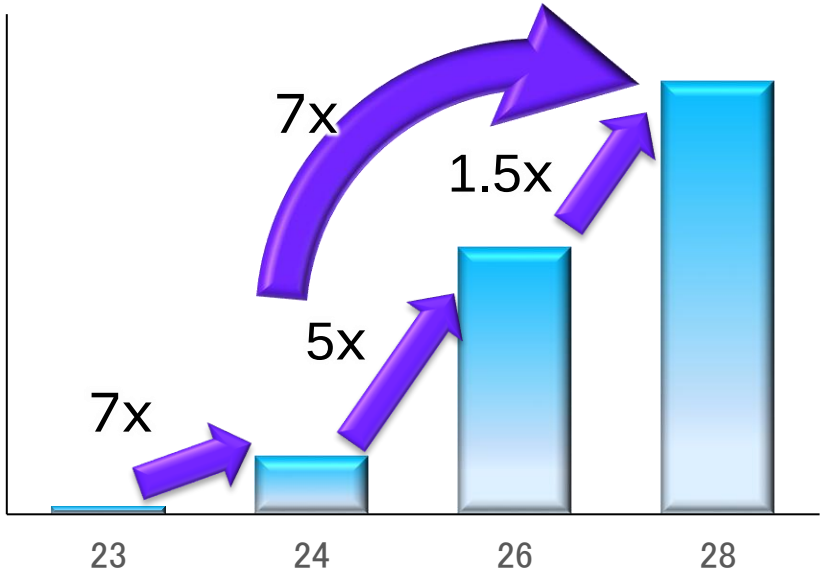


High-density 24-fiber compact MMC(*) ferrule
(*US Conec designed product)



12-fiber × double-layer array configuration

■ Optical connector products production capacity

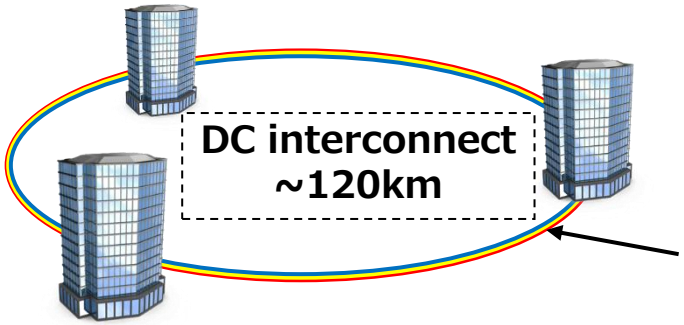


- Double-layer array configuration achieves 6x higher density by multiplying fiber count while reducing size to 1/3
- High-precision molding technology and our proprietary high-precision fiber enable conventional low connection loss

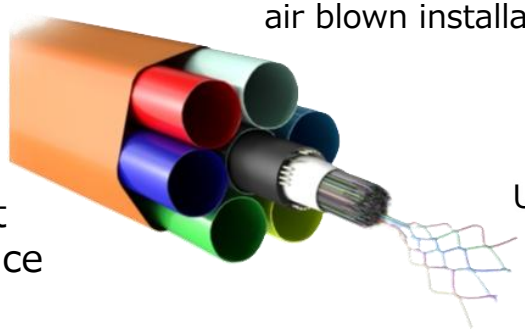
- Production expansion plans significantly accelerated due to surging customer demand(26 planned capacity: 5 times the previously announced target)
- Demand for external component sales also remains robust

Optical Cable Used for DC interconnect

Promoting the development and increased production of optical cables for DC interconnect, as demand expands due to the dispersed locations of DCs (longer distances between data centers) and the increase in mutual data traffic between data centers



Ultra-small diameter 1728-fiber count air blown installation cable



Ultra-small diameter Pliable Freeform Ribbon™

- High fiber count cables for DC interconnect
- Equivalent air blown installation performance using the same diameter duct as before

Example of duct inner diameter	Fiber count
18mm	864f ➡ **1728f**

Laying double fiber count cable in a single construction project utilizing existing ducts
⇒ Significantly shortens the construction period

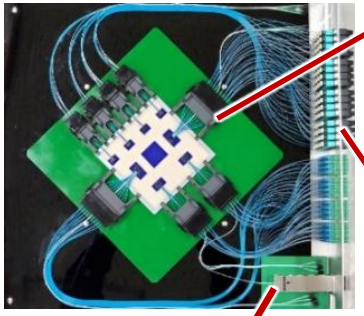
- Cable miniaturization using Ultra-small diameter Pliable Freeform Ribbon™
- High compatibility with existing fibers
- Support for long-distance projects using our low-loss technology

New Product Development for Emerging Demands in the DC Market

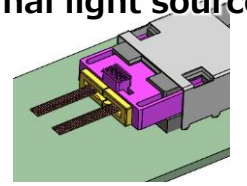
CPO-related products expected to be introduced via GPU/server rack optical connections

Multi-core fiber solutions that transcend the limits of high-fiber-count and high-density integration

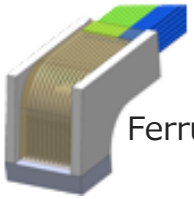
CPO optical connection (example)



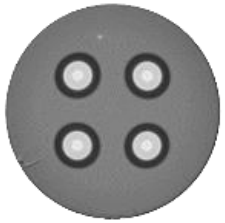
Optical connector for external light source



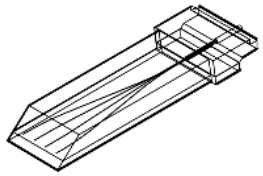
Optical IC connection components



Low-loss high-density high-fiber-count optical connector



Multi-core fiber



3D waveguide

MCF high-fiber-count connector

MCF fusion splicer

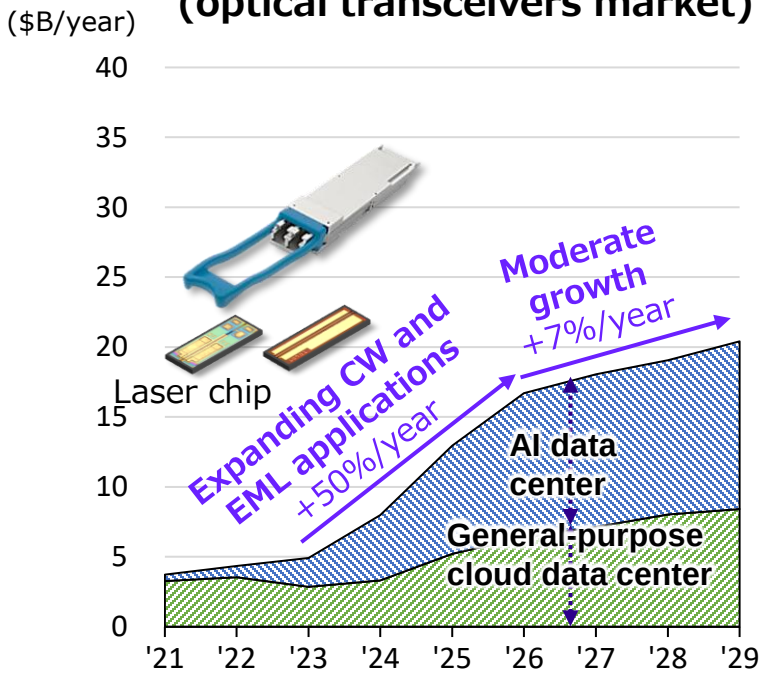
- Currently under development using precision ferrule technology
- Selected as one of Nvidia's SiPh ecosystem partners

- Solutions incorporating key components besides fiber
- In-house development of 3D waveguides for wavelength division capable of integrating transceivers

Changes in Demand for Optical Devices Used for Intra-DC

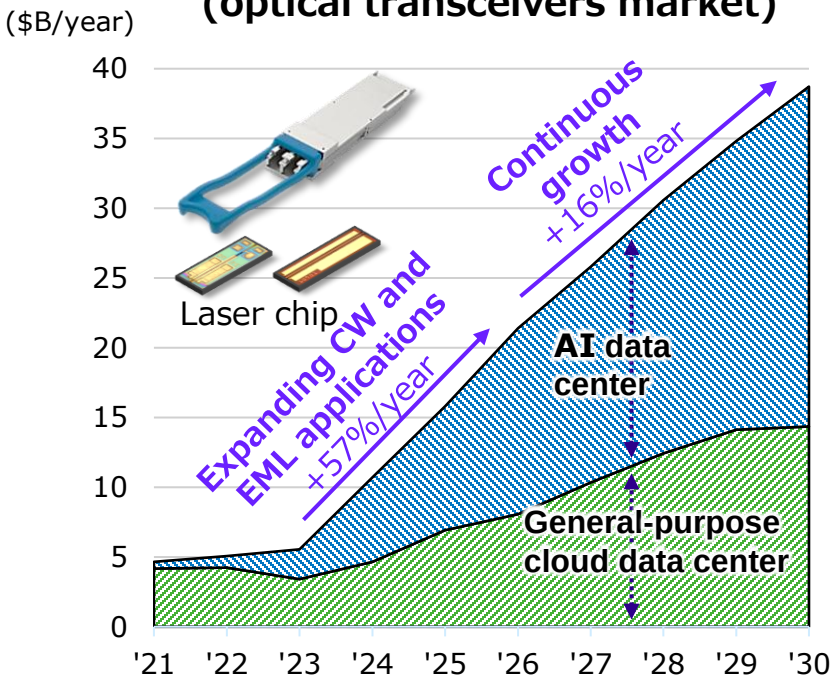
Optical Connection Speed Up for Intra AI-DCs
(400G → 800G → 1.6T → 3.2T)
Cables in servers transitioning from Copper to Optical fiber (Scale-up)

2024 forecast (optical transceivers market)



Source: LightCounting, Jul. 2024

2025 forecast (optical transceivers market)

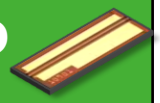
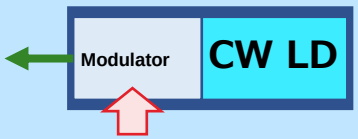
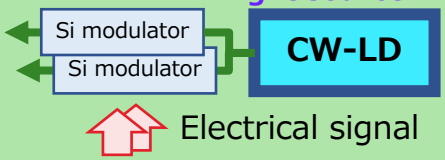


Source: LightCounting, Sept. 2025

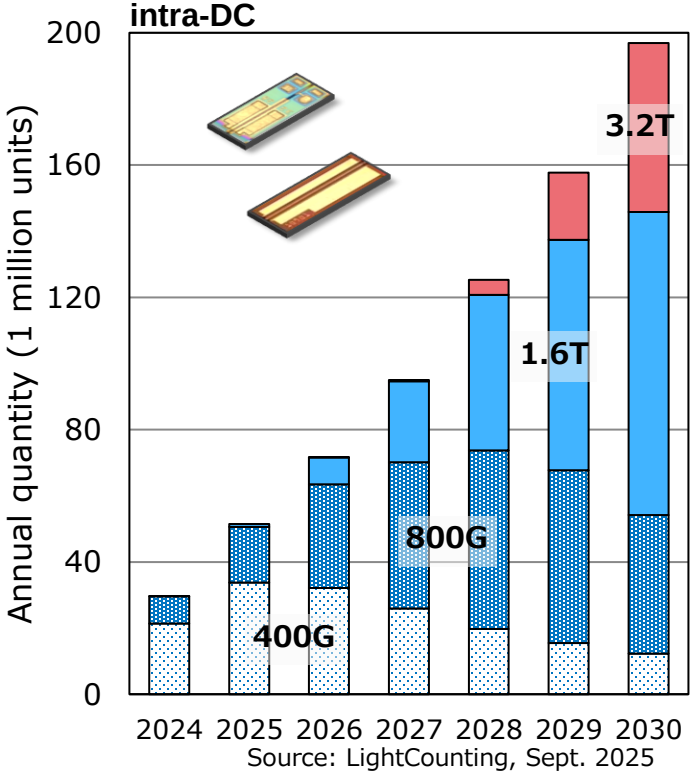
Growth rate after 2026
+7% → +16%

Optical Devices Used for Intra-DC

Optical devices used for the optical network of intra-DC are mainly EML and CW-LD, which are our main products.

	EML 	CW-LD 
Composition	Modulator integrated 	External Modulator / High output light source 
	Operates on its own chip	Consists of a light source and a Si modulator
conditions	Current mainstream Demand is increasing even for 200G/wavelength	Outlook for future growth Mainstream in CPO
Sumitomo Electric Features	**Cost-competitiveness and high production capacity with its Compact design and 4-inch mass production technology**	**Highest output in the market, Cost-competitiveness and high production capacity with 4-inch mass production technology**

Optical transceiver demand for intra-DC



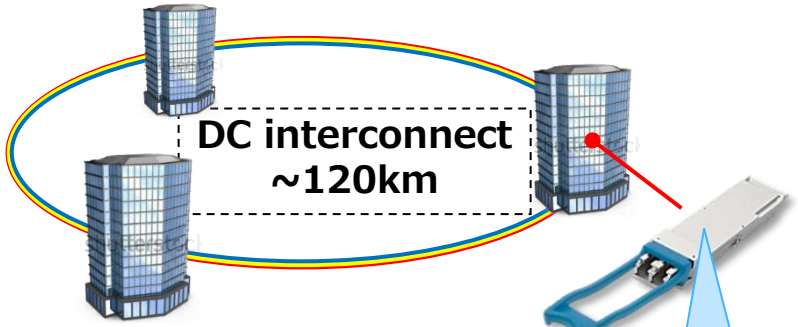
Source: LightCounting, Sept. 2025

Demand ratio for chip quantity
(Sumitomo Electric estimates)

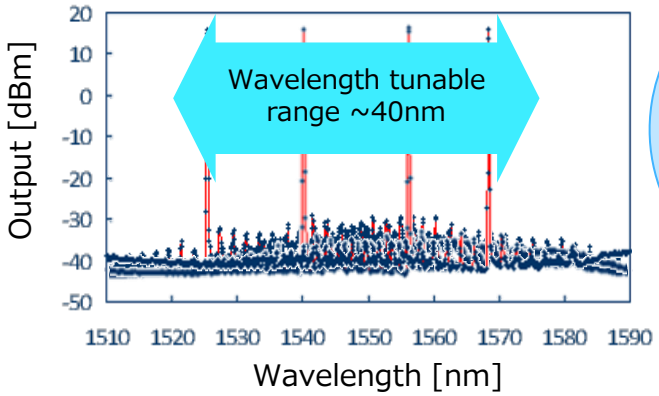
Chip	2024	2026	2028
EML	76%	55%	31%
CW-LD	24%	45%	69%

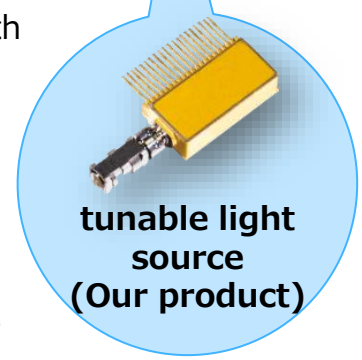
Optical devices used for DC interconnect

Decentralizing DCs in terms of power procurement and site availability requires DC interconnect using wavelength-multiplexed coherent technology with wavelength-tunable light sources.

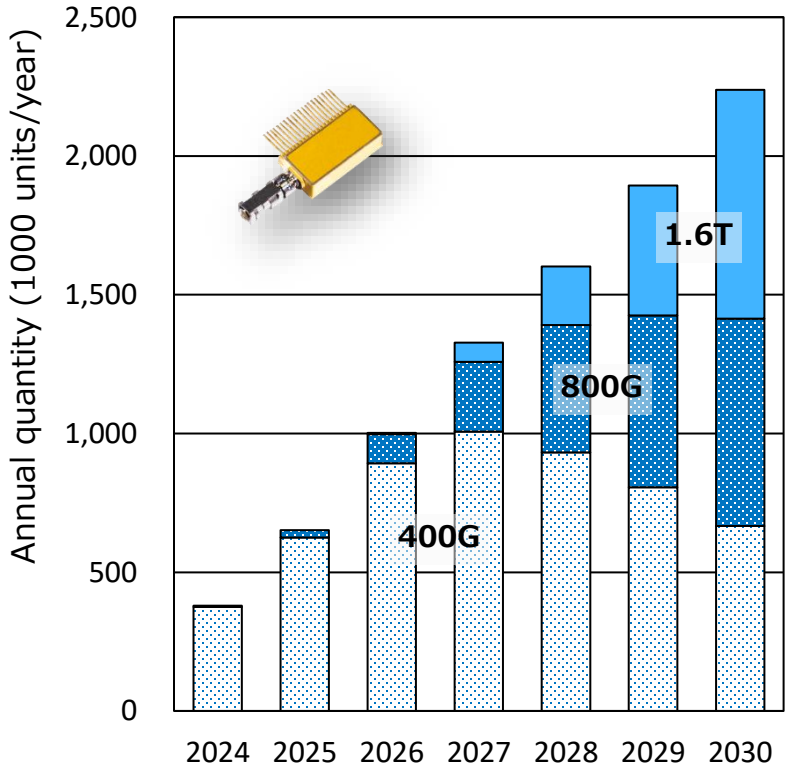


Light output at the selected wavelength





Optical Transceiver demand for DC interconnect



Source: LightCounting, Jul.2025

Features of Sumitomo Electric's product:
High output, low power consumption
Supports the 19dBm (90mW) required for 800G,
Highest output in the industry

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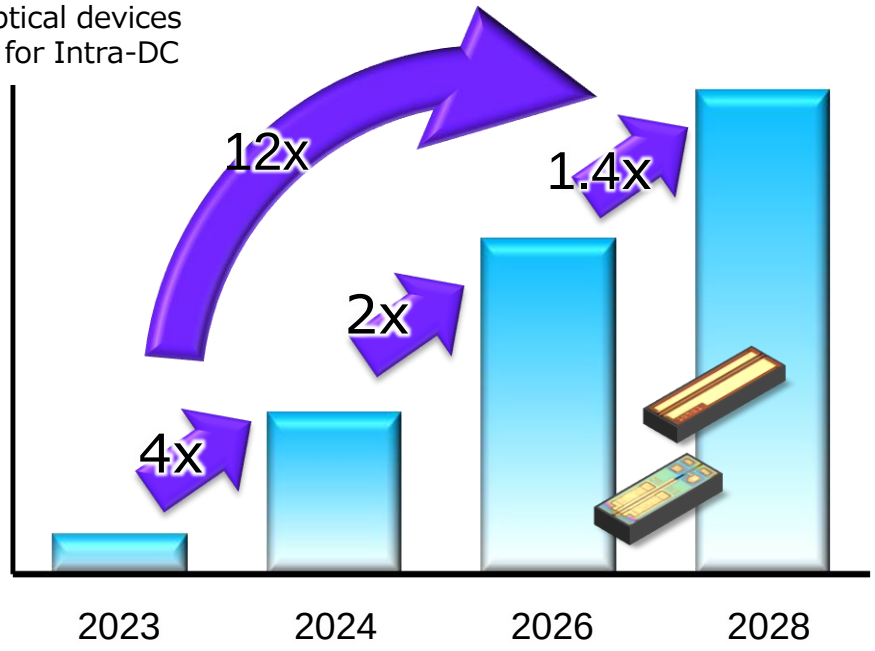
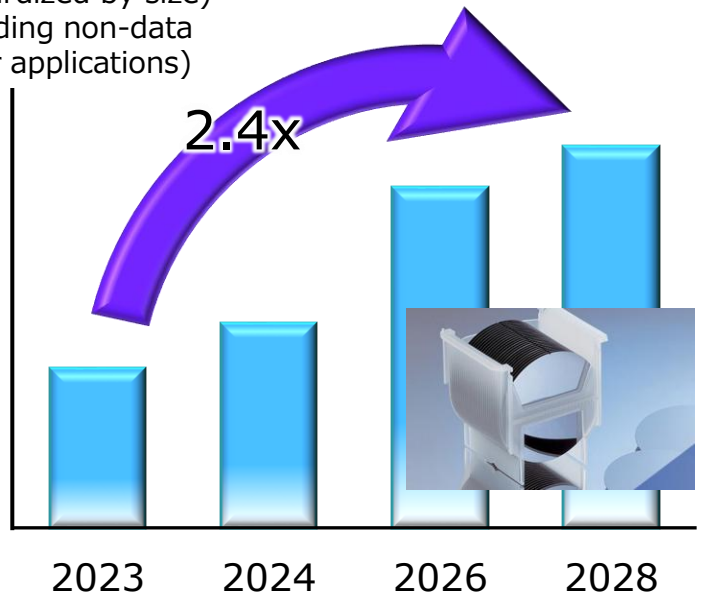
Production Capacity for Optical Devices and InP Substrates

Production capacity expansion accelerated for optical devices used for Intra-DC
Production capacity for InP substrates also expanded

Production capacity for optical devices used for Intra-DC



InP Substrate production capacity (Standardized by size) (Including non-data center applications)



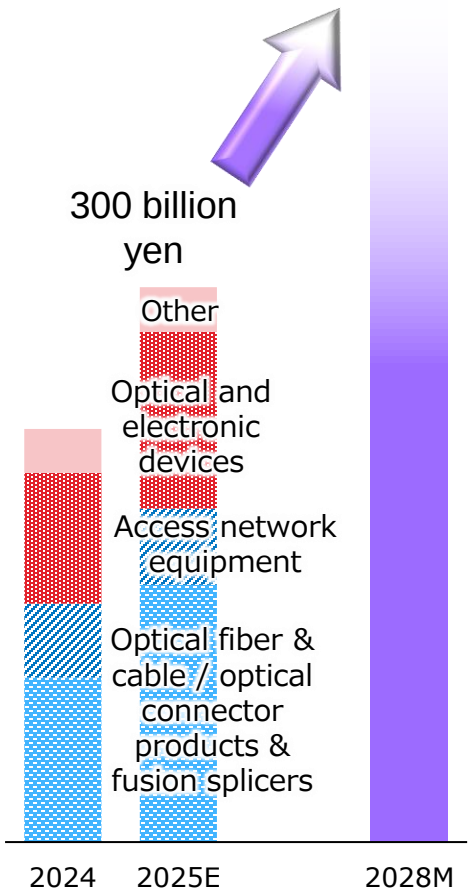
Addressing next-generation technologies
- ✓ **200G/wavelength EML**
- ✓ **High-output (350mW+class) CW-LD**

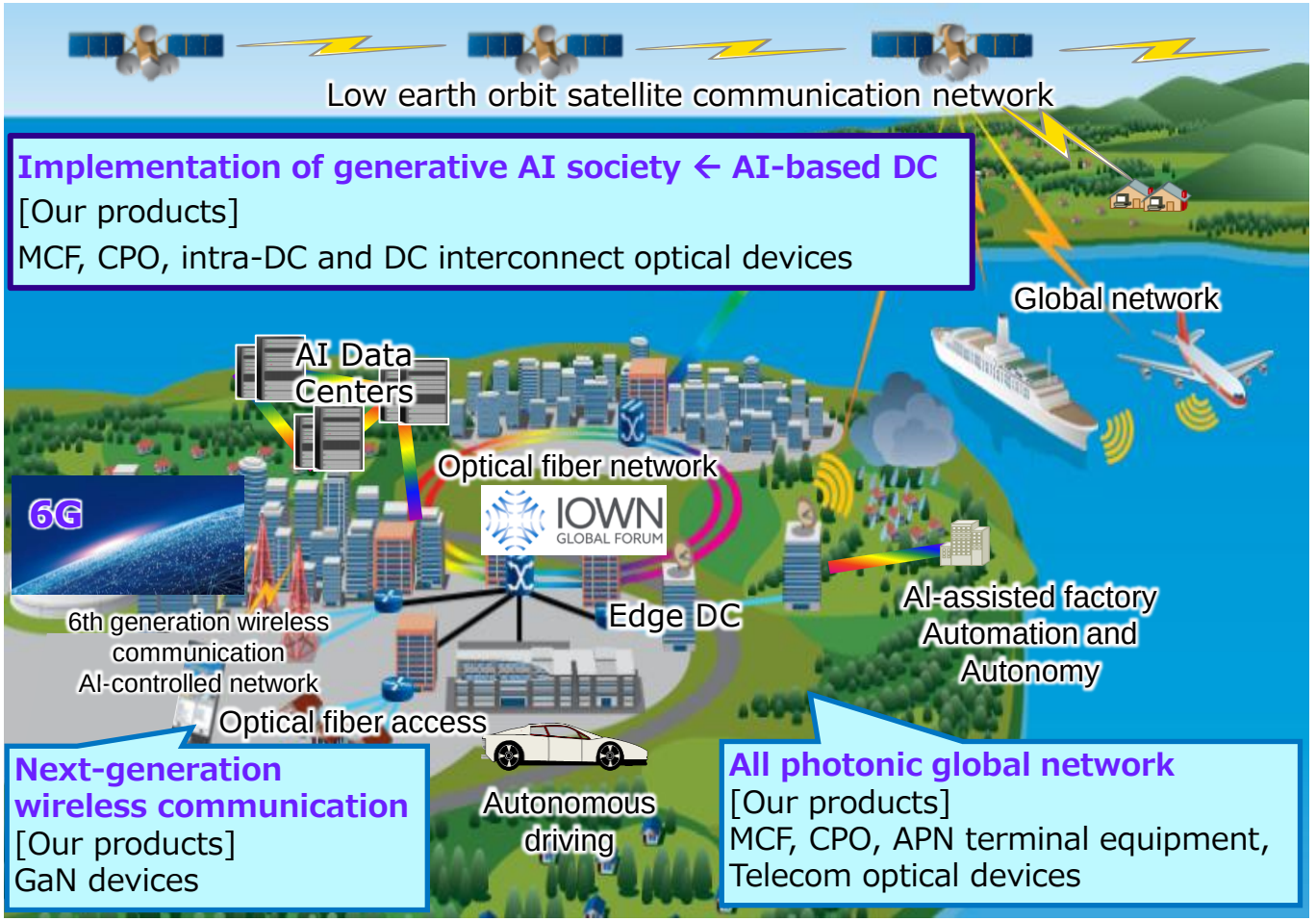
SUMITOMO ELECTRIC features
- ✓ **Large-diameter(4-6 inches)**
- ✓ **High quality**

The Evolving Information Society and Our Approach

We aim to grow by combining our comprehensive strengths with high-level technology and solutions.

Info-communications Sales Plan





IOWN:Innovative Optical and Wireless Network (ALL Photonic NW concept)

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https://sumitomoelectric.com/

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