Certain information and statistics set out in this section have been extracted from various official government publications, market data providers and a report commissioned by the Company and prepared by an independent third party, China Insights Industry. The information from official government sources has not been independently verified by the Company, the Joint Sponsors, **[REDACTED]** *or any of their respective directors, officers, employees, agents, advisers or representatives or any other parties involved in the* **[REDACTED]**, *and no representation is given as to its accuracy, fairness and completeness.*

OVERVIEW OF GLOBAL INTELLIGENT PV MANUFACTURING EQUIPMENT INDUSTRY

Intelligent PV Manufacturing Equipment

Intelligent PV manufacturing equipment refers to advanced manufacturing devices and systems that leverage advanced information technologies and are integrated throughout the whole process of PV product development, enabling efficient and high throughput production lines. The manufacturing of PV cells, particularly high-efficiency cells, such as TOPCon, HJT and XBC, requires high levels of precision and process control to ensure optimal energy conversion efficiency, yield and long-term reliability.

Many key processes, require precise control at the micron or even submicron scale. Small deviations in alignment, thickness, or patterning can significantly impact cell efficiency and yield. Advanced PV cells involve complex architectures with multiple ultra-thin layers. Uniform deposition and alignment across large-area wafers require intelligent systems capable of real-time monitoring and adaptive control. Furthermore, the shift from silver-based metallization to copper electroplating increases process and material complexity. Amid the global transition toward a lower-carbon energy structure and rising energy demand driven by AI-related computing growth, the PV industry continues to expand.

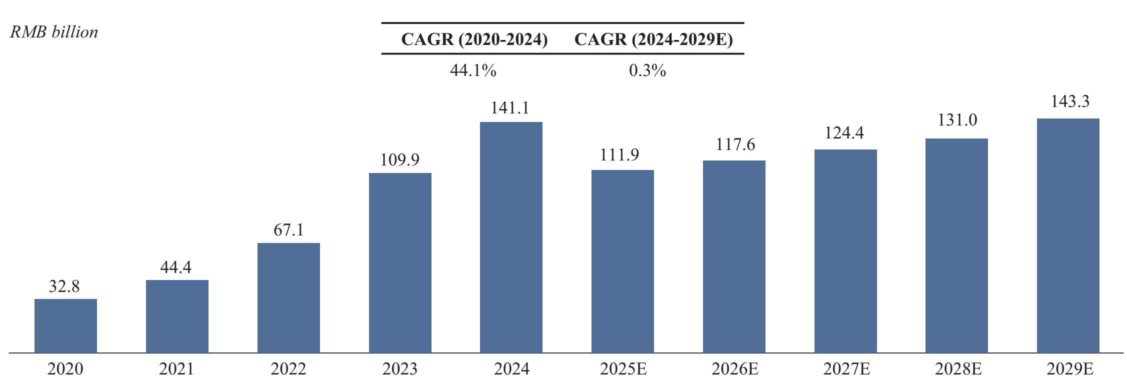
PV Product and Manufacturing Process

The PV products include silicon wafer, cell and module. The manufacturing process is as below. (i) **Silicon Wafer Production.** This stage represents a complete process from raw industrial silicon material to finished, qualified silicon wafers. Its core involves two major sequential steps: silicon material preparation and wafer forming. (ii) **Cell Fabrication.** Manufacturing typically follows surface texturing, high-temperature diffusion, etching etc. The cells ultimately undergo testing and sorting to meet required efficiency and electrical performance standards. (iii) **Module Assembly.** In this stage, individual cells are interconnected by a stringer to form cell strings. The finished product is packaged as a ready-to-deploy PV module.

Market Size of Global Intelligent PV Manufacturing Equipment Industry

The global market size for intelligent PV manufacturing equipment grew from RMB32.8 billion in 2020 to RMB141.1 billion in 2024, with a CAGR of 44.1%. Rapid growth in the PV manufacturing equipment industry between 2020 and 2024 was primarily driven by accelerated investment in the PV sector since around 2020. However, this aggressive capacity expansion led to severe supply-demand imbalances across the industry. Subsequently, the industry entered a capacity adjustment cycle. It is projected that the global market for intelligent PV manufacturing equipment will temporarily decline in 2025 before gradually recovering in subsequent years as supply-demand dynamics rebalance and long-term structural demand from the energy transition resumes. The project CAGR is 0.3% from 2024 to 2029 and the market will reach RMB143.3 billion by 2029.

Market Size of Global Intelligent PV Manufacturing Equipment Industry by Revenue



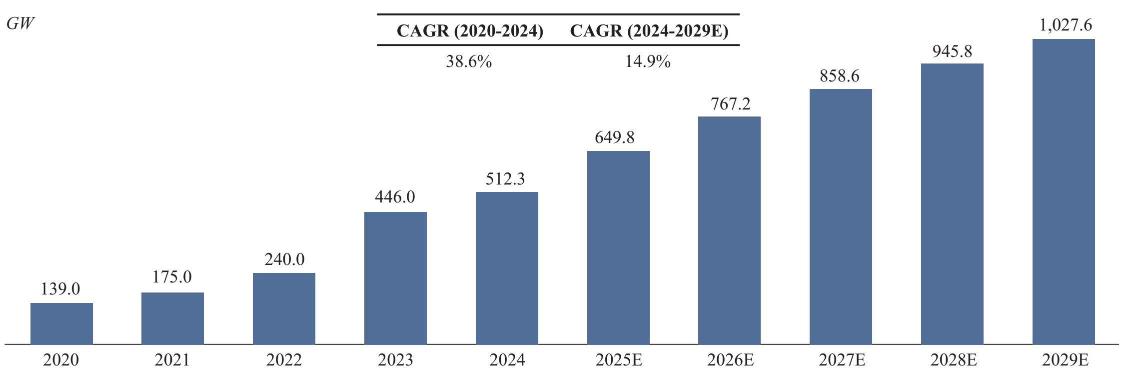
Source: China Photovoltaic Industry Association, SolarPower Europe, CIC

Besides, relevant PRC government policies aimed at stabilizing the PV industry cycle include: the National Energy Administration's 2025 Energy Work Guidelines (February 2025), which mandates reasonable wind and PV utilization rates; the Ministry of Industry and Information Technology's (MIIT) July 2025 symposium directives to curb disorderly low-price competition and facilitate the exit of outdated capacity; and the joint MIIT-SAMR Action Plan for Stable Growth in Electronic Information Manufacturing (2025-2026) (September 2025), which legally regulates price wars and guides orderly local capacity layout.

Market Size of Global Intelligent PV Manufacturing Equipment Industry Downstream Applications

The global market size for intelligent PV manufacturing equipment, segmented by downstream application and measured in terms of annual newly installed PV capacity, grew from 139.0 GW in 2020 to 512.3 GW in 2024, representing a CAGR of 38.6%. By 2029, it is expected to reach 1,027.6 GW, with a CAGR of 14.9% from 2024 to 2029.

The Global Market Size of Intelligent PV Manufacturing Equipment by Downstream Application, in terms of Newly Installed Capacity



Source: China Photovoltaic Industry Association, SolarPower Europe, CIC

Key Drivers and Future Trends in Intelligent PV Manufacturing Equipment Industry

The key drivers and future trends of the industry include: (1) Despite short-term demand fluctuations from overcapacity, the PV industry faces sustained pressure to reduce costs and improve efficiency. Ongoing technological shifts demand greater equipment precision and process stability. Meanwhile, downstream manufacturers are raising requirements for conversion efficiency and throughput, driving demand for highprecision, high-speed equipment; (2) Amid capacity expansion in emerging markets and growing PV installation demand in Europe and the US, downstream manufacturers are imposing higher requirements on equipment suppliers for delivery timeliness, compliance with regional technical standards and operational stability. This trend is compelling PV equipment manufacturers to strengthen their global sales and service networks, to support cross-regional large-capacity production and adapt to the increasingly globalized supply chain landscape; and (3) As countries worldwide pursue long-term carbon neutrality goals, rapid AI development has driven a sharp rise in global electricity consumption, particularly from data centers. To meet this growing demand while advancing climate targets, renewable energy sources like PV have become increasingly critical.

COMPETITIVE LANDSCAPE OF GLOBAL INTELLIGENT PV MANUFACTURING EQUIPMENT INDUSTRY

Competitive Landscape of Intelligent PV Manufacturing Equipment Market by Revenue in 2024

The global market for intelligent PV manufacturing equipment industry is highly competitive and fragmented, with Chinese companies dominating the leading positions. The intelligent PV manufacturing equipment encompasses various types, including process equipment and automation equipment, which do not compete with each other. Among these, intelligent PV cell automation manufacturing equipment accounts for approximately 10% of the overall intelligent PV manufacturing equipment market. In 2024, the company ranked fourth in the industry of intelligent PV cell automation equipment with revenue of RMB1.1 billion, capturing approximately 0.7% of the overall intelligent PV manufacturing equipment market.

Competitive Landscape of Intelligent PV Cell Automation Manufacturing Equipment Market in 2024, in terms of Revenue

Ranking	Company	PV cell automation manufacturing equipment revenue in 2024	Market share(1) in terms of revenue in 2024
		(in RMB billion)	(%)
1	Company E(2)	~5.0	~3.5%
2	Company F(3)	~2.0	~1.4%
3	Company G(4)	~1.9	~1.3%
4	The Company	~1.1	~0.7%
5	Company H(5)	~0.9	~0.6%

Source: Annual Reports, Expert Interviews, CIC

Notes:

(1) Market share in terms of revenue in the intelligent PV manufacturing equipment market.

(2) Company E is dedicated to providing core process solutions for PV and pan-semiconductor fields. The company was founded in 2016 and is a listed enterprise headquartered in China. It is listed on the Shanghai Stock Exchange.

(3) Company F is dedicated to manufacturing PV equipment and green energy industry-specific equipment. The company was founded in 2003 and is a listed enterprise headquartered in China. It is listed on the Shenzhen Stock Exchange.

(4) Company G is dedicated to R&D, production and sales of high-efficiency PV cell intelligent automation equipment. The company was founded in 2007 and is a private enterprise headquartered in China.

(5) Company H is dedicated to providing intelligent manufacturing solutions for lithium battery, PV and 3C industries. The company was founded in 1999 and is a listed enterprise headquartered in China. It is listed on the Shenzhen Stock Exchange.

Entry Barriers and Key Success Factors for Intelligent PV Manufacturing Equipment Suppliers

Entry barriers and key success factors for intelligent PV manufacturing equipment suppliers include scale and capital barriers along with supply chain and cost control; and strategic alignment with global PV-related policies.

OVERVIEW OF GLOBAL INTELLIGENT PHOTONICS MANUFACTURING EQUIPMENT INDUSTRY

Industry Background

AI is driving significant growth in demand for high-performance computing and high-speed data transmission across data centers and networks. Applications such as generative AI ("**GenAI**"), industrial automation and autonomous systems require substantially increased computing resources. As AI models expand to hundreds of billions or even trillions of parameters, compute and memory requirements exceed the capability of single processing units, necessitating distributed scaling strategies, including scale-up, scale-out and scale-across architectures. These scaling approaches rely on high-speed, low-latency network connectivity to enable rapid data exchange and synchronization across chips, racks and data centers. As AI clusters expand beyond 256 nodes with data transfer speeds reaching 800Gbps per link and above, the physical limitations of traditional copper-based electrical interconnects are becoming increasingly evident. In parallel, the deployment of 5G networks, edge computing and bandwidth-intensive applications is further increasing network traffic. Together, these trends are accelerating the transition from traditional electrical interconnects to high-speed optical interconnects across data center and network infrastructure.

Photonics Power Data Transmission for the AI Era

Photonics is a technology that uses light to transmit and process data and forms the foundation of fiber-optic communications, sensing and imaging systems. SiPh represents an advancement in photonics by integrating photonic components onto silicon substrates using mature semiconductor manufacturing processes. This enables the creation of PICs, which transmit data using photons rather than electrons. By combining light-based communication with electronic processing on a single chip, PICs deliver significantly higher bandwidth, improved energy efficiency and enhanced production capability. The adoption of SiPh enables chip-to-chip optical interconnects to evolve from bulky, discrete optical components to compact, highly integrated solutions with lower production costs and smaller form factors, making them critical enablers of sustainable AI and data-intensive computing.

Among SiPh-based solutions, CPO and OCS have emerged as key solutions addressing data center interconnect requirements. CPO is a chip-to-chip optical interconnect architecture that integrates SiPh devices and ASICs within a single package, reducing the need for power-consuming retimes and optical signal processing, while meeting the ultra-high bandwidth, low-latency and energy efficiency requirements of data center interconnects. OCS is a networking approach that connects computing systems using light signals throughout the switching process, without first converting them into electrical signals. By establishing dedicated optical paths through all-optical switching, OCS significantly reduces power consumption and latency while improving cost efficiency, particularly in high-performance computing environments such as GPU clusters.

SiPh evolved from pilot validation (pre-2024) to a 2025 commercial inflection, positioning 2026 as a pivotal year for accelerated adoption. This transition is underscored by Meta's multi-billion dollar supply agreement with GLW and NVIDIA's strategic integration of SiPh and CPO, marking the onset of large-scale commercialization.

Growing Technical and Market Demands for Intelligent Manufacturing Equipment

Manufacturing SiPh devices is a sophisticated process that involves wafer, die, chip and module-level assembly and testing. Following wafer fabrication, the production flow proceeds through wafer-level test (including trimming and cleaning), wafer-level hybridization, singulation and sort, die-level test, chiplet hybridization, fiber preparation and end-of-line test. The process requires high-precision, high throughput assembly and testing equipment. Manufacturing SiPh devices demands nanometer-level accuracy. In the SiPh manufacturing equipment industry, certain companies are considered more intelligent because they integrate advanced motion control, machine vision, algorithms, and software systems into their equipment, enabling automated optimization, enhanced process control, and improved yield beyond traditional automation levels.

Unlike EICs, reworking during the assembly of a complex SiPh device layout is extremely difficult, and when possible, typically requires costly manual intervention. This is primarily due to the precision alignment required for optical components and the sensitivity of photonic structures. For example, even microscopic particles or slight misalignments can block or scatter light signals in a PIC, severely degrading performance or causing complete signal loss. Furthermore, photonic devices often combine both optical and electrical functionalities, increasing assembly and testing complexity. Even the smallest misalignment can result in signal degradation, power loss or inaccurate measurements, complicating test processes. As a result, the yield rates of PICs are significantly lower than EICs, and therefore testing is essential both during and after assembly at each of the wafer, die, chip and module levels.

	IC	EICs	PICs	SiPh devices
Description	An electronic chip that integrates transistors and other components on a single semiconductor substrate, using electrons for signal processing and transmission.	Essentially the same as IC, emphasizing operation in the electronic domain, often used to distinguish from photonic circuits.	A chip that integrates photonic components	A chip that integrates both photonic and electronic functions on a silicon substrate, using photons + electrons to combine optical communication with electronic processing on a single chip.
Signal type	Electrons	Electrons	Photons	Photons and Electrons
Primary function	Logic operations, memory, amplification, signal processing	Same as IC; emphasizes electronic functionality	Optical routing, filtering, modulation, multiplexing, switching	Co-integrate optical I/O and electronic control/processing on a single chip

The growing demand for SiPh devices is driving the need for high throughput and high yield production solutions that combine the nanometer-level precision required for such devices with automated manufacturing processes. Traditional optical devices often suffer from inconsistent quality and reliability, largely due to the reliance on manual assembly and testing processes that remain prevalent across the industry. The shift in expectations is creating demand for intelligent manufacturing equipment purpose-built for SiPh device production. Given the technical complexity, the stringent quality standards, and requirements for high-volume production, barriers to enter into the intelligent SiPh manufacturing equipment market are significant, spanning proprietary process know-how, intelligent software control capabilities and advanced hardware design.

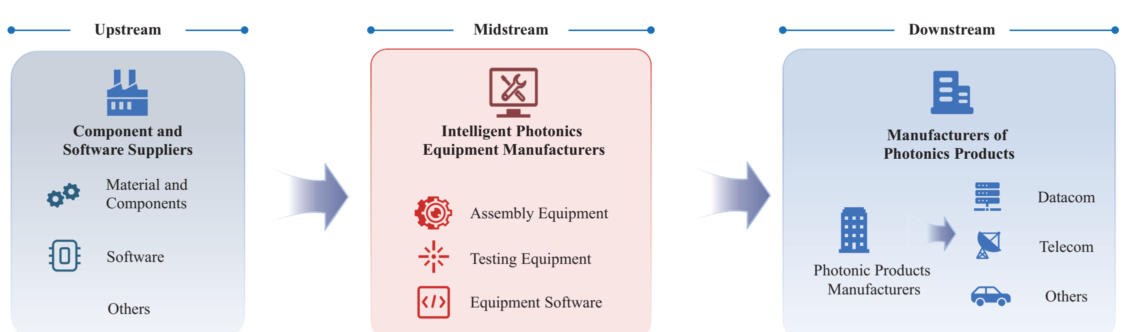
Intelligent Photonics Manufacturing Equipment

Intelligent photonics manufacturing equipment refers to photonic device-specific assembly and testing equipment, excluding wafer fabrication equipment not tailored to photonic devices' optical characteristics, integrating optical, electronic and intelligent software capabilities with micrometer-level or higher precision, smart sensing and control and automated processes to meet the stringent manufacturing requirements of photonic devices. As its core subcategory, high-precision intelligent SiPh manufacturing equipment builds on this foundation with SiPh-specific technologies, achieves nanometer-scale processing accuracy, and is optimized for SiPh devices' tighter defect tolerances, optical alignment requirements and electrical-optical co-packaging complexities. As the core enabler for high-volume SiPh device production, this equipment addresses the industry's challenge across optics, electronics and precision automation, delivers the production capability, quality and performance required for SiPh technology deployment, and covers the full SiPh device production workflow from wafer-level testing, PICs and SiPh device assembly to final qualification.

Value Chain of Intelligent Photonics Manufacturing Equipment Industry

The intelligent photonics manufacturing equipment industry value chain relies on close collaboration among upstream component and software suppliers, midstream equipment manufacturers, and downstream manufacturers of photonics devices.

Value Chain of Intelligent Photonics Manufacturing Equipment Industry



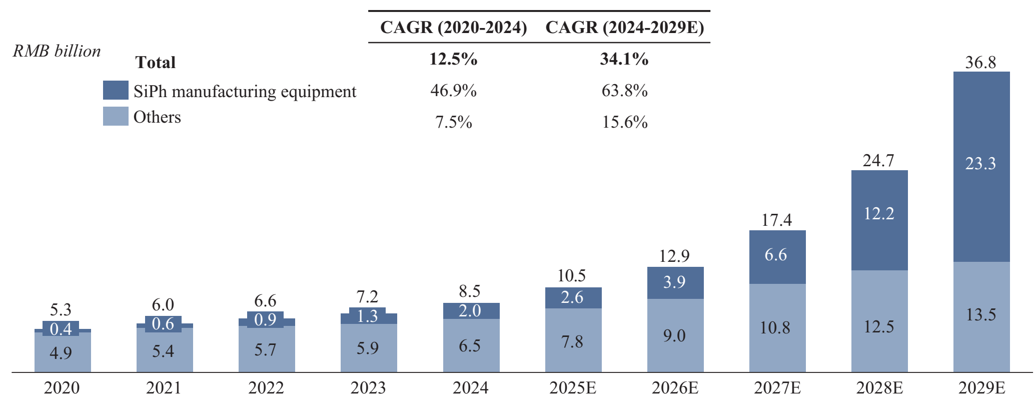
Source: CIC

The industry value chain has three segments: upstream covers key components and software suppliers for equipment production, with components including mechanical parts, sensors, electronic components, optical elements and instruments; midstream integrates upstream resources, general software and self-developed control systems and algorithms to produce high-precision intelligent flexible manufacturing equipment, acting as the upstream-downstream link for technology industrialization and supplying core assembly and testing equipment to downstream; downstream is dominated by photonics device manufacturers serving datacom, telecom and other emerging application scenarios.

Market Size of the Global Intelligent Photonics Manufacturing Equipment Industry

The global market size for intelligent photonics manufacturing equipment grew from RMB5.3 billion in 2020 to RMB8.5 billion in 2024, with a CAGR of 12.5%. It is projected that the global market for intelligent photonics manufacturing equipment will continue to grow at a CAGR of 34.1% from 2024 to 2029, reaching RMB36.8 billion by 2029. By 2029, intelligent SiPh manufacturing equipment is expected to account for 63.4% of the total market.

The Global Market Size of Intelligent Photonics Manufacturing Equipment Industry by Revenue



Source: Semiconductor Equipment and Materials International, World Semiconductor Trade Statistics, Yole Group, Light Counting, CIC

The photonics manufacturing equipment market encompasses diverse material platforms beyond Silicon Photonics (SiPh), including Indium Phosphide (InP), Gallium Arsenide (GaAs), bulk Lithium Niobate (LiNbO3), Thin-Film Lithium Niobate (TFLN), and other emerging technologies. Within this landscape, Intelligent SiPh manufacturing has emerged as a distinct segment, driven by demand from AI and high-speed communication systems.

The intelligent SiPh manufacturing equipment industry is experiencing rapid market growth. The market size expanded from RMB0.4 billion in 2020 to RMB2.0 billion in 2024, with a CAGR of 46.9%. By 2029, the overall market is projected to reach RMB23.3 billion, with a projected CAGR of 63.8%. The current market remains small because it is still early in a much larger technological shift. CPO and OCS technologies are expected to enter large-scale application between 2027 and 2028, driving accelerated growth in the corresponding equipment market.

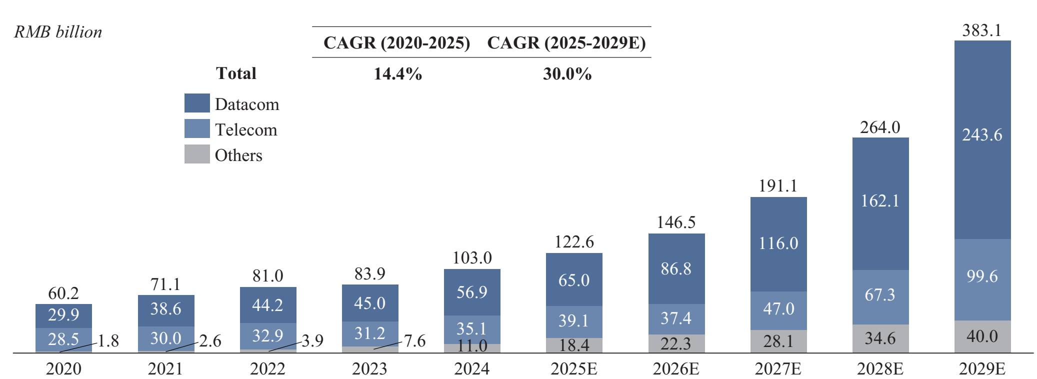
A generational shift is already underway. As AI models grow exponentially in size and complexity, the limitations of traditional electrical interconnects are becoming a bottleneck, driving a global transition toward optical interconnect architectures. SiPh devices lie at the core of this shift, enabling ultra-high-bandwidth, low-latency and energy-efficient data transmission, capabilities that are essential for scaling AI compute to the next level.

Market Size of Global Intelligent Photonics Manufacturing Equipment Industry Downstream Applications

Intelligent photonics manufacturing integrates photonics technology with semiconductor process capabilities, combining high bandwidth density and low latency with mature, scalable manufacturing process. This forms core support for datacom, telecom and other application: (i) Datacom: AI model training/inference computational intensity and data traffic growth drive the shift from electrical to high-speed photonic interconnects, with core applications in 800G/1.6T/3.2T data center optical modules; SiPh modules deliver higher integration, address electronic interconnects' power and speed constraints, and support low-latency high-speed transmission for AI computing clusters. (ii) Telecom: Covering 5G/6G and satellite communications, with ongoing 5G deployment and bandwidth-intensive applications driving metro and long-haul network capacity expansion; photonics technologies are evolving toward higher speeds such as 1.6T and beyond, supporting LEO satellite links and laser positioning with high-speed, anti-interference and low-power inter-satellite optical interconnects. (iii) Other Applications: Including LiDAR, consumer electronics and biomedical fields, where photonics' miniaturization and high sensitivity enable intelligent driving environmental perception, sensing and high-performance bio-optical sensing chips.

The global market size of intelligent photonics manufacturing equipment by downstream application grew from RMB60.2 billion in 2020 to RMB103.0 billion in 2024, with a CAGR of 14.4%. It is projected to reach RMB383.1 billion by 2029, with a CAGR of 30.0%.

The Global Market Size of Intelligent Photonics Manufacturing Equipment by Downstream Application, in terms of Revenue

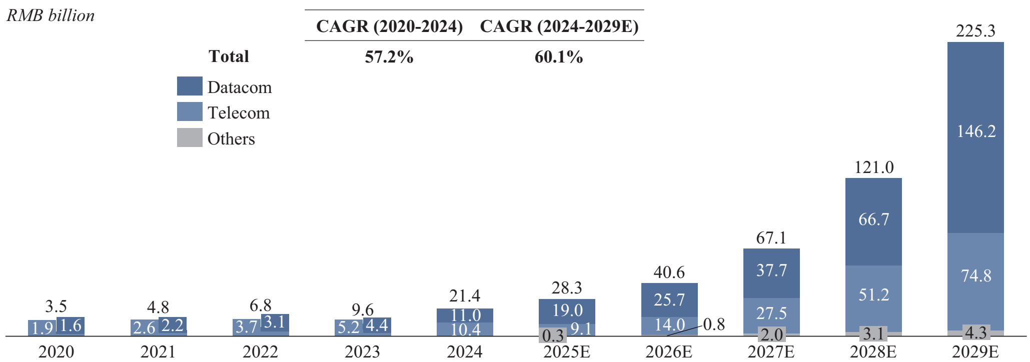


Source: Yole Group, International Organization of Motor Vehicle Manufacturer, CIC

Notes: The "Datacom" and "Telecom" segments presented in the chart represent the specific market size of phtonics products.

The global market size of intelligent SiPh manufacturing equipment by downstream application grew from RMB3.5 billion in 2020 to RMB21.4 billion in 2024, with a CAGR of 57.2%. It is projected to reach RMB225.3 billion by 2029, with a CAGR of 60.1%.

The Global Market Size of Intelligent SiPh Manufacturing Equipment by Downstream Application, in terms of Revenue



Source: Yole Group, CIC

Notes: The "Datacom" and "Telecom" segments presented in the chart represent the specific market size of SiPh products.

Key Drivers and Trends of Intelligent Photonics Manufacturing Equipment

The key drivers and future trends of the industry include: (1) Rising demand for AI model training and inference is driving the expansion of AI computing infrastructure. As traditional electrical signal transmission faces physical and power efficiency bottlenecks at higher data rates, photonic solutions are seeing increasing adoption for high-speed interconnect applications; (2) CPO technology has advanced toward commercialization and higher integration since 2023, addressing the core power constraint in data center scaling by co-packaging optical engines and compute chips to shorten electrical interconnects and reduce drive power requirements. Broadcom's 2025 data indicates that its CPO solution reduces total system power consumption by up to 70% compared with pluggable devices, while Nvidia has disclosed that its CPO solution cuts the power consumption of 1.6 Tb/s ports to one-fifth that of pluggable module solutions, with packaging technology evolving from CoWoS (Chip-on-Wafer-on-Substrate) to COUPE (Compact Universal Photonic Engine) to enable direct optical coupling and further power reduction. Primarily targeting CPU, GPU and TPU applications in AI clusters and high-performance computing systems, the global CPO optical engine market is projected by Yole Group to grow from RMB0.3 billion in 2024 to RMB38.6 billion in 2029, representing a CAGR of 160.5%, which in turn drives demand for advanced manufacturing equipment; (3) OCS technology improves system efficiency by dynamically reconfiguring optical signal paths and bypassing the repeated optical-electrical-optical conversion of traditional electrical switches, enabling higher bandwidth density, lower latency and reduced energy consumption. Google LLC has confirmed that its OCS solution reduces total system power consumption by 41.0% while delivering higher throughput and lower overall cost. Driven by robust demand from AI cluster and HPC applications, the OCS market maintains strong growth momentum, with LightCounting projecting global OCS switch shipments to rise from approximately 13.5 thousand units in 2024 to over 50.0 thousand units in 2029, representing a CAGR of around 30.0%; (4) Emerging downstream application fields including satellite communication and LiDAR impose higher requirements on transmission distance, precision and device miniaturization, driving demand for higher-performance and more reliable photonics devices, which in turn raises the bar for higher-precision and more advanced manufacturing equipment; and (5) The increasing complexity of photonics devices also requires upgraded manufacturing capabilities, including high-precision motion control, enhanced machine vision and integrated process control systems.

COMPETITIVE LANDSCAPE OF GLOBAL INTELLIGENT SIPH MANUFACTURING EQUIPMENT INDUSTRY

Globally, there are few suppliers capable of providing intelligent photonics manufacturing. The Company is a leading provider of intelligent SiPh manufacturing equipment with market share and technology among the foremost globally. As of the Latest Practicable Date, the Company is the only supplier capable of providing solutions that cover the entire manufacturing process for SiPh devices. This makes the Company a critical enabler in this fast-growing market, shaping a generational shift in AI infrastructure to empower the sustainable advancement of AI.

Leading semiconductor equipment enterprises are actively extending into the photonics field in response to application needs. Since 2025, they have pursued photonics equipment initiatives through acquisitions, strategic cooperation and technical partnerships. The specific commercialization timelines for these enterprises have not yet been determined.

Competitive Landscape of Global Intelligent SiPh Manufacturing Equipment Market by Revenue in 2024

Taking into account the revenue of ficonTEC which the Company initially invested in 2020 and acquired in 2025, in 2024, the Company ranked first in the industry, capturing approximately 25.5% of the market, demonstrating strong customer recognition of its products and technological capabilities.

Competitive Landscape of Global Intelligent SiPh Manufacturing Equipment Market in 2024, in terms of Revenue

Ranking	Company	Intelligent SiPh manufacturing revenue in 2024	Market share in terms of revenue in 2024	Self-developed software features
		(in RMB billion)	(%)	
1	The Company[(1)]	~0.5	~25.5%	Full product line control system
2	Company A[(2)]	~0.4	~21.2%	Probe testing system
3	Company B[(3)]	~0.4	~19.3%	Attachment control system
4	Company C[(4)]	~0.2	~12.4%	Probe testing system
5	Company D[(5)]	~0.2	~9.2%	Attachment control system

Source: Expert Interviews, CIC

Notes:

(1) The Company's revenue takes into account the revenue of ficonTEC which the Company initially invested in 2020 and acquired in 2025.

(2) Company A is a provider of essential test and measurement technologies along the full IC life cycle. The company was founded in 1993 and is a listed enterprise headquartered in the United States. It is listed on the NASDAQ.

(3) Company B specializes in providing critical manufacturing equipment for SiPh, including wafer bonding systems and precision alignment solutions. The company was founded in 1984 and is a private enterprise headquartered in the United States.

(4) Company C is a test solution designer and manufacturer specializing in probe card testing, automated testing of optoelectronic components, and advanced semiconductor testing. The company was founded in 1995 and is a listed enterprise headquartered in Taiwan, China. It is listed on the Taipei Exchange.

(5) Company D is a manufacturer for semiconductor and electronics, offering products and services for advanced packaging, automotive, and IoTech. The company was founded in 1975 and is a listed enterprise headquartered in Singapore. It is listed on the Hong Kong Stock Exchange.

At the ultra-high precision level of within 10 nanometers, the Company is the only provider of ultra-high-precision SiPh assembly and testing equipment for volume manufacturing environments globally, with linear motion resolution of up to 5nm. The Company's intelligent SiPh manufacturing holds a globally leading advantage in terms of product line completeness, equipment precision, and software R&D. The Company is the only supplier offering a full product line that spans wafer-level testing, assembly of photonics devices, and final device qualification. Its self-developed, full product line control software underpins this breadth. In terms of performance, the Company's systems achieve linear motion resolution is up to 5nm, compared to approximately 100nm by our peers. The Company's AOI system detects defects as small as 0.5μm, compared to the industry range of 0.7 to 2μm.

Entry Barriers and Key Success Factors for Intelligent SiPh Manufacturing Equipment Suppliers

The entry barriers and key success factors for intelligent SiPh manufacturing equipment suppliers include long-term technological accumulation and iterative capabilities; the ability to build cooperations with key clients; and globalization capability.

COST ANALYSIS OF RAW MATERIALS

The costs for PV manufacturing equipment primarily comprise customized structural parts and general electrical components, correlating closely with commodity prices. Over the past year, commodity prices and industrial memory chips have risen sharply, leading to widespread price increases for electrical components. Going forward, constrained base metal supply and AI-driven chip demand will keep costs high, while domestic substitution is gradually mitigating volatility in electrical component costs. In the photonics manufacturing equipment sector, costs are heavily concentrated in high-precision electronic and mechanical components. This segment exhibits limited cost flexibility due to high technical barriers, a concentrated supplier base, and exposure to exchange rate fluctuations and export controls, exacerbated by surging demand for advanced optical components.

Source

We commissioned the independent market research and consulting firm CIC to conduct a detailed study and analysis of the intelligent manufacturing equipment industry. CIC was established in Hong Kong and provides professional services such as industry consulting, commercial due diligence, and strategic consulting. We have agreed to pay a fee of RMB477,000 for the preparation of the CIC report. We believe that this payment will not affect the impartiality of the conclusions drawn in the CIC report. We have extracted certain information from the CIC report in this section, as well as in the "Summary," "Risk Factors," "Business," "Financial Information," and other sections of this document, to provide potential investors with a more comprehensive introduction to the industry in which our operations are situated. In the preparation of the CIC report, CIC conducted both primary and secondary research to obtain knowledge, statistics, information, and industry insights related to the intelligent manufacturing equipment industry. Primary research involved interviews with key industry experts and leading industry participants. Secondary research involved analyzing data from various publicly available sources. The preparation of the CIC report is based on the following assumptions: (1) the overall social, economic, and political environment globally is expected to remain stable during the forecast period; (2) during the entire forecast period, relevant key driving factors may propel continued growth of the global intelligent manufacturing equipment industry; and (3) there are no extreme, unforeseeable, or force majeure industry regulations that could have a substantial or fundamental impact on the industry. All market size-related forecasts are based on the overall economic conditions as of the most recent practical date. Our Directors have confirmed that there has been no adverse change in the market information since the date of publication of the CIC report, which may qualify, contradict or impact the information in this Industry Overview section. Each of our Directors and the Joint Sponsors has exercised reasonable care in selecting and identifying the named information sources, compiling, extracting and reproducing the information and ensuring that there has been no material omission of the information in this Industry Overview section.