The information and statistics set out in this section and other sections of this document were extracted from the F&S Report, which was commissioned by us and from various official government publications and available resources from public market research. We engaged Frost & Sullivan to prepare the F&S Report in connection with the [**REDACTED**]. *The information from official government sources has not been independently verified by any of the Sole Sponsor, the* [**REDACTED**], *the* [**REDACTED**], *the* [**REDACTED**], *the* [**REDACTED**], *any of their respective directors and advisers, or any other persons or parties involved in the* [**REDACTED**] *(other than Frost & Sullivan), and no representation is given as to its accuracy. For discussion or risks related to the Group's industry, see "Risk Factors — Risks Relating to Our Business and Industry" in this document.*

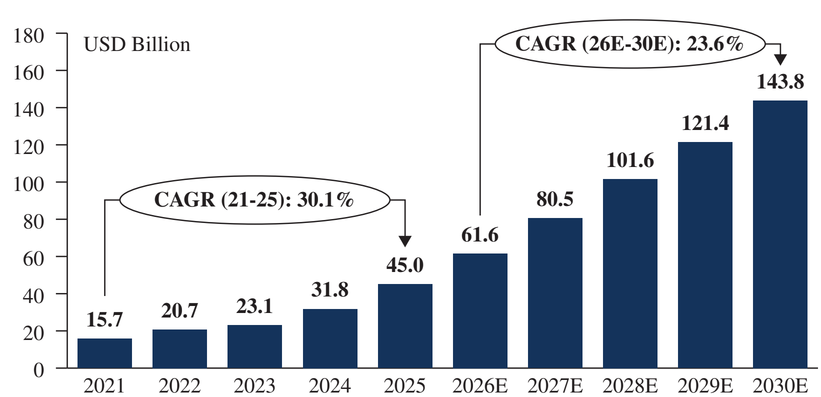
GLOBAL SMART VISION CHIP MARKET ANALYSIS

Global Smart Device AI SoC Market Overview

Smart devices refer to equipment equipped with operating systems, data processing capabilities, and network connectivity, capable of running various applications and interacting with users. Typical examples include smart cameras, smart vehicles, smartphones, smart speakers, tablet computers, and wearable devices. As the core hardware foundation of smart devices, smart device SoCs provide essential computing power to support complex systems and applications, while also determining key performance characteristics such as device performance and energy efficiency.

Amid the rapid advancement of AI algorithms, particularly those represented by large models, the migration of AI models toward device endpoints has accelerated. This trend has significantly increased the demand for edge AI computing on low-power devices. Smart device AI SoCs, by integrating NPUs and optimizing algorithm-hardware collaboration, can effectively enable devices to perform real-time AI inference and decision-making. They serve as vital hardware enablers for AI adoption in smart devices, and their penetration rate in such devices continues to rise.

Global Smart Device AI SoC Market Size (by Revenue), 2021-2030E



Source: expert interviews, Frost & Sullivan

Overview of Smart Vision Chips

Smart vision chips refer to a core chip architecture that enables intelligent operations across the entire visual information chain, including acquisition, processing, transmission, storage, and display, and encompass various types of functional chips. Compared with traditional image processing chips, smart vision chips not only possess image signal processing and video codec capabilities but also increasingly integrate intelligent features such as AI inference and edge computing.

From a functional perspective, smart vision chips mainly include smart vision processing chips, video bridging and signal transmission chips, display control chips, and auxiliary and derivative chips.

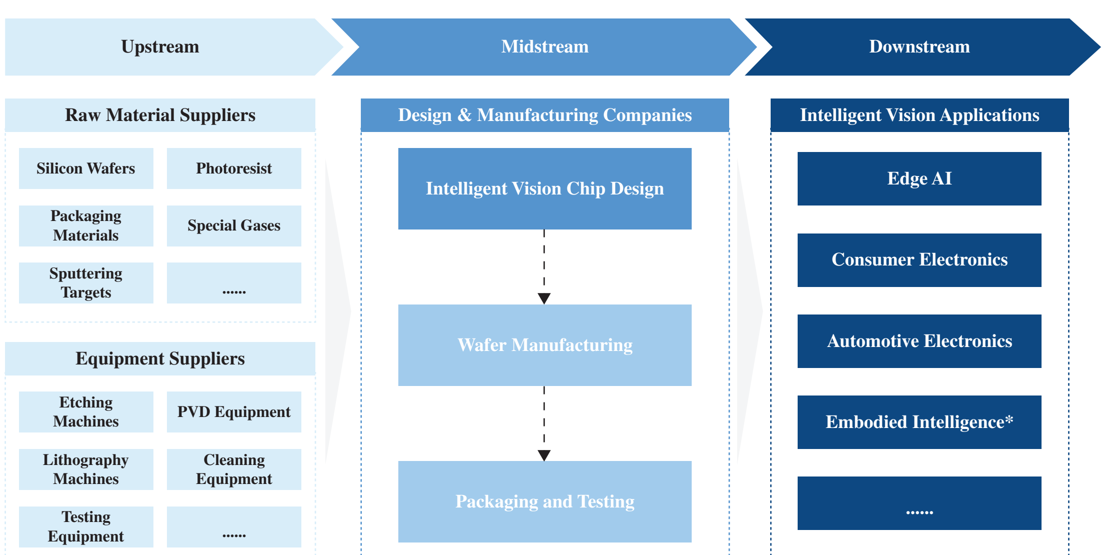
Smart vision processing chips serve as the core of smart vision system applications. Among them, end-side smart vision processing chips are responsible for image acquisition and processing, while edge-side smart vision processing chips handle storage and decoding tasks. **Video bridging and signal transmission chips** enable the conversion and transmission of image signals between different formats or interfaces, ensuring signal integrity throughout the chain. Video bridging chips perform protocol conversion between different video interface standards to ensure compatibility between end-side and edge-side devices, while signal transmission chips support long-distance video data transmission, typically via coaxial cable, electrical cable, or optical fiber, emphasizing low latency and high bandwidth. **Display control chips** are responsible for rendering video signals on terminal display devices. Timing controller ("**TCON**") chips generate timing logic signals that match the resolution and refresh rate of the display panel to ensure orderly frame scheduling, while display driver chips ("**DDICs**") convert digital signals into photoelectric signals to drive pixel illumination and achieve visual output. **Auxiliary and derivative chips** include audio/video codec chips, video enhancement processors, and certain co-processors that integrate AI acceleration units. These chips play a role in collaborative optimization within the system architecture and are often used in conjunction with SoCs to deliver higher computational efficiency or lower power consumption for specific workloads, thereby improving overall system performance.

Through the collaborative operation of multiple chip types, the smart vision chip ecosystem constructs a fully intelligent end-to-end solution covering acquisition, processing, transmission, storage, and display. By 2025, according to IMF and Frost & Sullivan, the global smart vision chip market had exceeded US$10 billion, becoming a key enabler of integrated development across edge AI, consumer electronics, automotive electronics, and robotics, leveraging its full-chain technological synergy.

Smart Vision Chip Industry Chain

The smart vision chip industry chain encompasses the complete value transfer pathway from upstream raw materials and equipment to midstream design and manufacturing, and finally to downstream application deployment, forming a multi-link, collaborative development structure.

Smart Vision Chip Industry Chain



Source: Frost & Sullivan, WSTS

* Embodied Intelligence refers to artificial intelligence systems that possess a physical presence and can interact with their environment in real-time.

Definition and Classification of Smart Vision Processing Chips

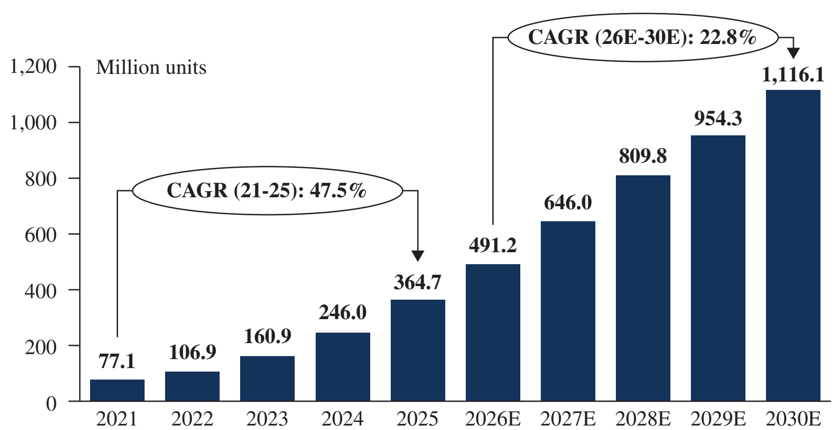
From a product functionality perspective, smart vision processing chips can be divided into end-side and edge-side types.

The end-side smart vision processing chip is mainly used in the data acquisition and preliminary processing stages of smart vision systems. Its core function is to convert the raw optical signals captured by cameras into computable digital information and to perform part of the real-time processing and optimization at the edge. The end-side chip primarily includes the ISP and the IPC SoC. The edge-side smart vision processing chip mainly refers to processors used for video storage, decoding, and management, with core products including the NVR chip and the DVR chip.

Market Size of Vision AI Chips

Measured by shipment volume, the global vision AI SoC market grew from 77.1 million units in 2021 to 364.7 million units in 2025, representing a CAGR of 47.5%. The market is expected to further expand to 1,116.1 million units by 2030, with a projected CAGR of 22.8% from 2026 to 2030.

Global Vision AI SoC Market Size (by shipment volume), 2021-2030E



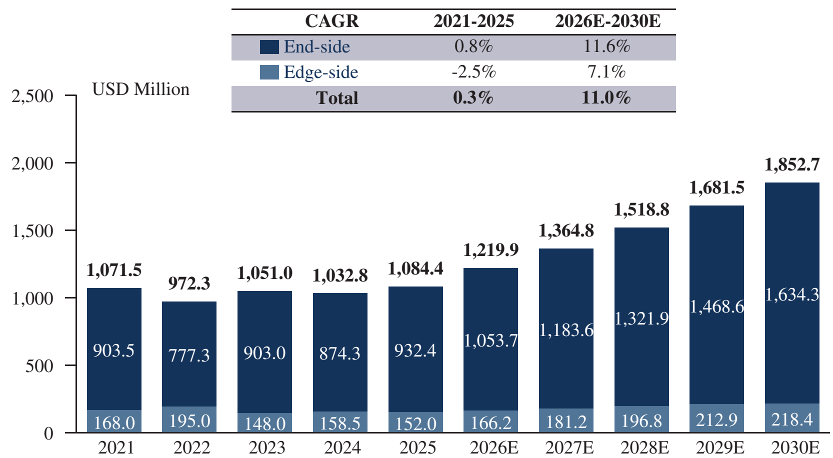
Source: IDC, Omdia, Frost & Sullivan

Market Size of Smart Vision Processing Chips

According to Frost & Sullivan, from 2021 to 2030, the global smart vision processing chip market has shown a trend of continuous and rapid growth. Driven by the expanding demand from downstream application fields such as edge AI, intelligent driving, and embodied intelligence, the market continues to grow steadily. First, the rapid penetration of edge AI devices such as AI glasses and smart terminals will drive surging demand for lightweight, high-efficiency smart vision processing chips that support real-time end-side visual data inference and analysis. Second, the advancement of intelligent driving to higher-level autonomy will fuel the need for automotive-grade vision chips capable of multi-sensor fusion and high-precision environmental perception, as vehicles require more reliable visual processing to ensure driving safety. Third, the expansion of embodied intelligence scenarios like service robots and industrial automation will boost demand for specialized vision chips that can handle complex spatial and semantic visual recognition tasks, aligning with the trend of intelligent transformation across industries. The significant acceleration in growth rate in the latter period fully demonstrates that the market possesses robust growth potential and vast development prospects.

From the perspective of product functions, end-side smart vision processing chips are the core driver of market growth. The market size of edge-side smart vision processing chips has maintained relatively steady growth. As a core component for video storage, decoding, and management, its market size has grown steadily along with the expansion of end-side chips. Although its growth rate is slower than that of end-side chips, it still plays an irreplaceable supporting role in the complete chain of smart vision systems.

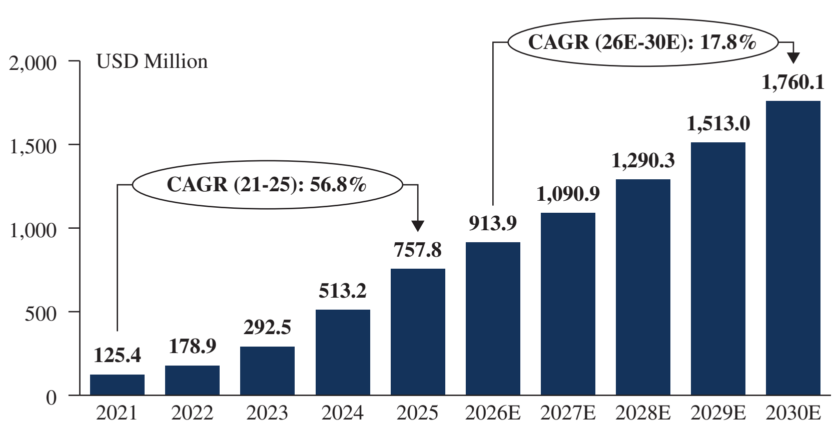
Global Smart Vision Processing Chip Market Size (by Revenue), 2021-2030E



Source: expert interviews, Frost & Sullivan

From the perspective of AI penetration, smart vision AI processing chips have become a key driving force for market growth amid the rapid evolution of AI algorithms represented by large models and the accelerated migration of generative AI inference models toward edge devices. As downstream application scenarios such as intelligent driving and embodied intelligence release surging demand for edge AI vision computing power, this category of chips has entered a phase of explosive growth.

Global Smart Vision AI Processing Chip Market Size (by Revenue), 2021-2030E



Source: expert interviews, Frost & Sullivan

Downstream Application Scenarios and Demand Outlook for Smart Vision Processing Chips

Smart Video

According to IMF and Frost & Sullivan, the shipments of the global IP cameras increased from 211.3 million in 2021 to 322.2 million in 2025, and is projected to reach 471.2 million by 2030, representing a CAGR of 7.9% from 2025 to 2030. In particular, the shipment volume of the global consumer smart camera has shown a faster growth rate, as the global shipment increased from 96.8 million in 2021 to 186.7 million in 2025, and is expected to reach 329.2 million by 2030, with a CAGR of 12.0% from 2025 to 2030. According to IMF and Frost & Sullivan, in 2021, global shipments of AI cameras reached approximately 20.7 million units, rising to 65.0 million units in 2025, and are expected to further increase to 155.3 million units by 2030, with a CAGR of 18.6% from 2026 to 2030.

Smart IoT

According to IMF and Frost & Sullivan, global shipments of AI glasses reached 5.7 million units in 2025 and are projected to surge to 68.8 million units by 2030, achieving a CAGR of 64.7% from 2025 to 2030.

Smart Mobility

According to CPCA and Frost & Sullivan, global shipments of smart vehicles grew from 35.4 million units in 2021 to 57.7 million units in 2025, and are expected to reach 90.5 million units by 2030, reflecting a CAGR of 9.4% from 2025 to 2030, outpacing overall global vehicle sales growth.

Robotics

According to IMF and Frost & Sullivan, in 2021, the global robotics industry market size stood at US$39.7 billion, and it grew to US$80.6 billion by 2025, with a CAGR of 19.3% during this period. In 2026, the market size will continue to expand to US$91.3 billion, and is projected to reach US$136.1 billion by 2030. The CAGR for the period 2026-2030 is expected to reach 10.5%.

Industry Drivers and Development Trends

Rapid Expansion of Downstream Application Demand

Market demand for smart vision chips is growing rapidly alongside the widespread adoption of edge AI. Typical application scenarios such as AI cameras, AI glasses, smart vehicles, and robots are driving continuous improvements in real-time computing, energy efficiency, and integration density. As these terminal devices enter large-scale deployment, the market space for smart vision chips expands significantly. Meanwhile, emerging applications in consumer electronics, industrial inspection, traffic management, and medical diagnostics are further extending market boundaries.

Continuous Evolution of Technical Architecture

With the increasing complexity of visual algorithms and the growing parameter scale of AI models, traditional single-path image processing architectures can no longer meet performance demands. The new generation of chips achieves more efficient collaboration across image acquisition, preprocessing, and recognition inference, demonstrating stronger performance in multi-channel video processing, high-definition imaging, and low-latency applications.

ANALYSIS OF THE COMPETITIVE LANDSCAPE IN GLOBAL SMART VISION CHIP INDUSTRY

Ranking of enterprises and market share analysis in the smart vision processing chip market

In 2025, the global smart vision processing chip market exhibited a relatively concentrated market share. Among these, our Company achieved revenues of US$201.7 million in 2025, ranking second globally.

Global Ranking of Smart Vision Processing Chip Enterprises (by Revenue), 2025

Ranking	Company Name	Revenue from Smart Vision Processing Chips	Market Share
		(USD million)	*(%)*
1.	Company A	285.5	26.3
2.	**Our Company**	**201.7**	**18.6**
3.	Company B	146.2	13.5

Source: expert interview, public filings, Frost & Sullivan

Notes:

(1) Company A is a listed company founded in 2017 and listed on the Shenzhen Stock Exchange, with its headquarters located in Xiamen, China. Its core business focuses on the development and sales of edge-side visual AI SoCs.

(2) Company B is a listed company founded in 1997 and listed on the Taiwan Stock Exchange, with its headquarters located in Taiwan Province, China. It mainly engages in the design, R&D, manufacturing and sales of SoCs, which are widely used in consumer electronic products.

Analysis of enterprise rankings and market share in the end-side and edge-side smart vision processing chip market

In 2025, the global end-side smart vision processing chip market exhibited high concentration. Our Company achieved shipment of 153.5 million units in 2025, ranking first globally in the global end-side smart vision processing chip market. In the China's market for end-side smart vision processing chips, our Company rank first by revenue from China in 2025. By shipment, our Company rank first in the global automotive ISP chip market in 2025. By revenue, our Company rank first in the global edge-side smart vision processing chip market in 2025.

Global Ranking of End-side Smart Vision Processing Chip Companies (by Shipment), 2025

Ranking	Company Name	Shipment of End-side Smart Vision Processing Chips
		(Million Units)
1.	**Our Company**	**153.5**
2.	Company A	143.5
3.	Company C	85.0

Source: expert interview, public filings, Frost & Sullivan

Note:

(1) Company C is a listed company founded in 2005 and listed on the Shenzhen Stock Exchange, with its headquarters located in Beijing, China. Its core business focuses on the design, R&D and sales in the fields of memory, computing and analog chips.

Cost Structure Analysis

The cost structure of smart vision processing chips mainly consists of raw material costs and processing fees. In general, raw material costs account for 70% to 80% of the total cost of smart vision processing chips, while processing fees account for 20% to 30%. The core raw materials procured by fabless smart vision processing chip enterprises are processed wafers provided by wafer foundries.

The prices of processed wafers adopted for smart vision processing chips are affected by multiple factors, including wafer size, manufacturing process nodes, foundry production capacity, and the demand for semiconductor products in downstream end markets at a given stage. Historically, from 2020 to 2024, due to the global short-term shortage of processed wafers, the average price of supporting processed wafers for smart vision processing chips kept rising in 2021 and 2022. With the gradual recovery of the overall production capacity of wafer foundries, the average wafer prices began to decline from 2023 to 2024.

Looking ahead, benefiting from robust demand in downstream applications and the continuous increase in the proportion of processed wafers with advanced process nodes, the average price of processed wafers for smart vision processing chips is expected to remain stable in 2025. Futhermore,the global KGD market generally experienced a state of tight supply-demand balance in the fourth quarter of 2025, primarily driven by a surge in memory prices.

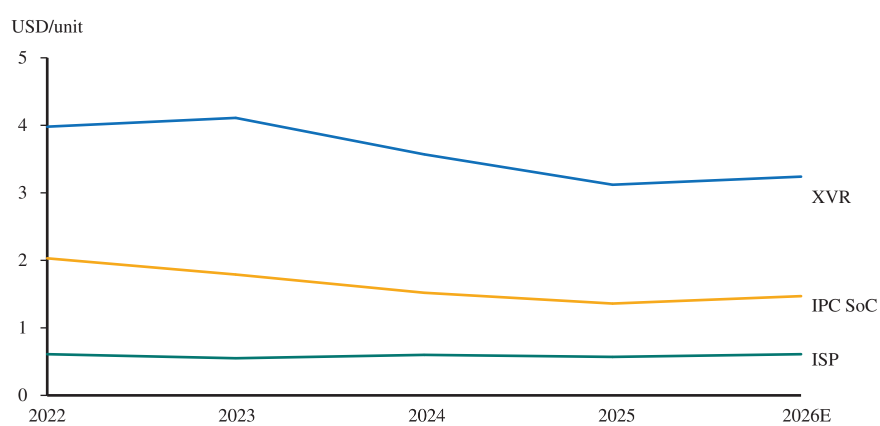
In addition, processing fees mainly refer to packaging and testing expenses paid to semiconductor packaging and testing service providers, covering the whole process of converting processed wafers into final chip products. The pricing of processing fees for smart vision processing chips is primarily determined by wafer size, packaging and testing process capabilities, and downstream end-market demand.

From 2020 to 2024, the overall processing fees for smart vision processing chips in the industry posted a steady upward trend. In 2023, dragged by sluggish downstream demand such as consumer electronics and active inventory adjustments by enterprises, the average processing fees edged down slightly. In 2024, processing fees resumed growth and gradually leveled off. In the long run, as the packaging and testing technologies for smart vision processing chips continue to evolve toward high interconnection density, system integration and high-performance computing, together with technological iteration and process innovation, the average processing fees in the industry will maintain a mild upward trend.

Smart Vision Processing Chip Pricing Analysis

From 2022 to 2026E, the industry-average unit prices of smart vision processing chips (denominated in USD) show distinct but generally stable trajectories across different product categories. Overall, the market exhibits modest price differentiation by product tier, with limited overall volatility.

Prices of Smart Vision Processing Chips, 2022-2026E



Source: Frost & Sullivan

Analysis of Entry Barriers in the Industry

Barriers to R&D Innovation and Product Development Capabilities

The chip design industry is highly technology-intensive, requiring R&D teams to have forward-looking vision and multidisciplinary collaboration capabilities. Chip development features long cycles, high verification costs, and demands continuous technical accumulation. High-reliability sectors like security and industrial control have extremely low error tolerance for chips, raising entry barriers. Enterprises lacking deep expertise struggle to meet stringent technical requirements and enter the market quickly.

Product Portfolio Barriers

Chip design companies need a comprehensive product matrix, covering both end-side and edge-side chips horizontally and high, mid, and low-end tiers vertically. Leading companies have built such portfolios through long-term accumulation, enabling quick response to customer needs. New entrants are limited by insufficient technology, shallow scenario understanding and tight resources. They can hardly build complete portfolios rapidly and often focus on single categories, failing to meet comprehensive customer demands.

Customer and Brand Barriers

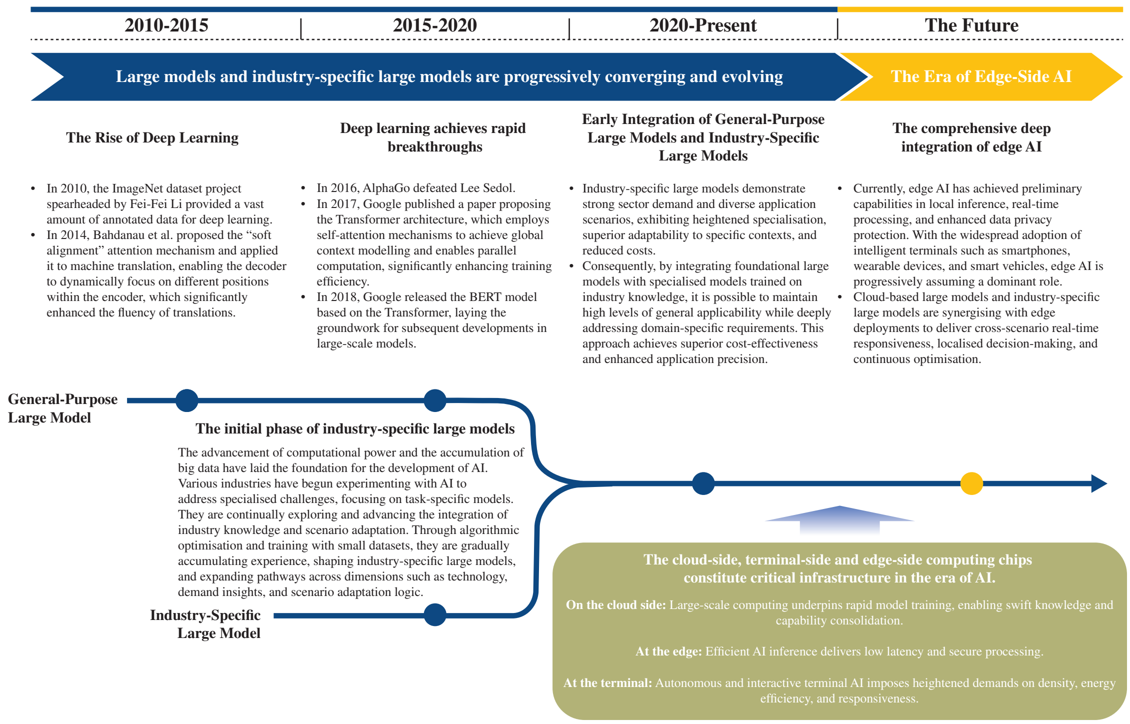
Chips' reliability directly determines end-product performance, so downstream clients tend to maintain long-term stable partnerships with existing suppliers. New entrants must go through lengthy certification, consuming clients' resources to secure orders. Established suppliers have strong brand reputations, making it hard for new entrants to gain trust. Changing chip suppliers involves high adaptation costs and risks, so new companies face huge trust and trial-and-error barriers to penetrate existing ecosystems.

OVERVIEW OF GLOBAL AI INDUSTRY

The Development Journey of the AI Industry

As one of the most transformative technologies of the 21st century, AI leverages advanced algorithms and big data training to endow machine systems with multidimensional capabilities to simulate, extend and augment human intelligence. Its significance has transcended mere technological innovation, evolving into a strategic factor influencing national competitiveness, industrial upgrading and societal transformation. Currently, both global and Chinese AI development have entered a new phase of accelerated penetration.

Schematic Diagram of the Development History of AI



Source: Frost & Sullivan

Development Background of Visual Edge AI

Information acquisition pathways in the era of edge AI:

Vision Emerges as the Core Interface for Human Perception and External Information Gathering

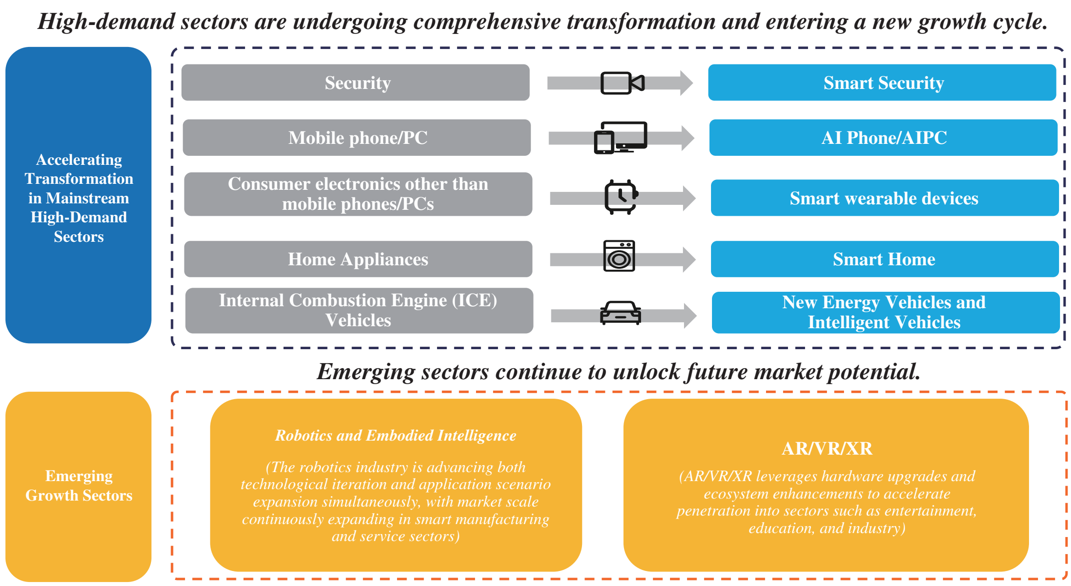
Within AI multimodal perception systems, visual data offers a more comprehensive foundation for subsequent processing compared to the single-dimensional nature of speech or the localized data from sensors. It intuitively captures diverse information such as spatial layouts and object characteristics within images. For edge AI, vision not only fulfils perceptual functions but also enables intelligent recognition, semantic analysis, and dynamic interaction. It seamlessly integrates with other modalities such as speech and touch, forming a closed-loop "perception-analysis-interaction" process. This makes vision the pivotal gateway connecting the physical world with the digital realm.

The future prospects of edge AI empowered by vision:

Vision technology has unlocked entirely new capabilities for edge AI, empowering industries across the board

In the realm of digital twins, visual edge AI employs high-definition cameras and industrial imaging systems to capture real-time status and parameters of physical entities such as factory production lines and urban transport networks. This enables the rapid generation of high-precision digital twin models, facilitating dynamic mapping and remote control of physical environments. Such capabilities enhance operational efficiency in industrial maintenance and urban governance. Within the metaverse domain, visual technologies capture users' body movements and facial expressions. Combined with edge AI's real-time processing capabilities, this creates low-latency, highly immersive virtual-physical interaction experiences, enabling natural motion synchronization and emotional conveyance within metaverse spaces. In other domains such as smart retail, intelligent healthcare, and autonomous driving, visual edge AI similarly plays a pivotal role: identifying merchandise and analyzing consumer behavior in smart retail; assisting portable diagnostics and surgical scene recognition in intelligent healthcare; and enabling real-time road condition perception in autonomous driving. This continues to propel industrial intelligent transformation and shape new paradigms of digital living.

Schematic Diagram of Downstream Demand Transformation for Smart Vision Chips



Source: Frost & Sullivan

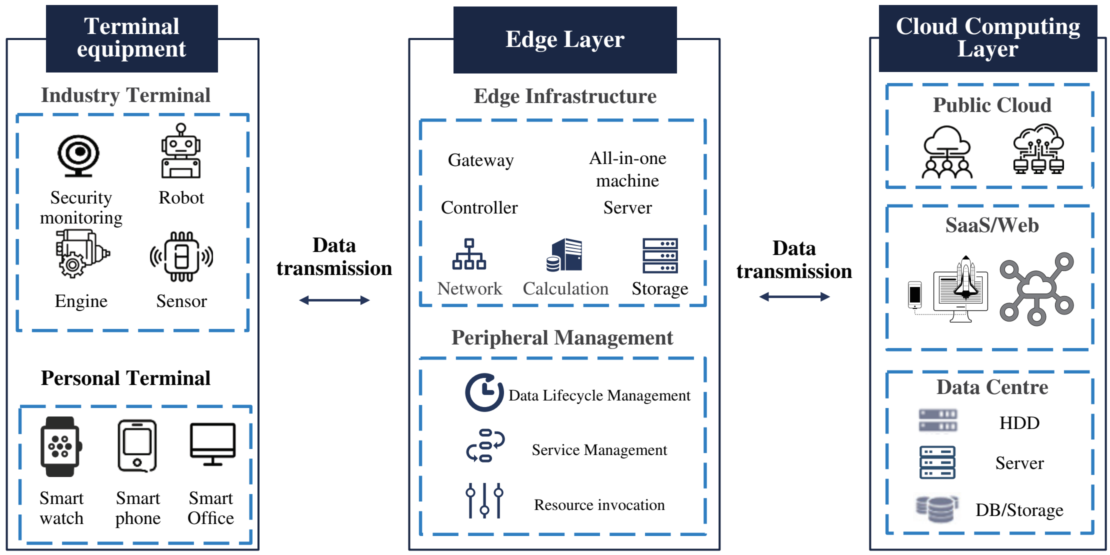
Analysis of AI Inference Chip Market Outlook

Demand analysis for AI inference chips based on cloud-edge-terminal architecture

The cloud-edge-terminal architecture is a distributed model integrating cloud computing, edge computing, and terminal devices. The cloud handles complex computations and big data storage, undertaking large-scale visual model training and global data management. The edge layer performs local real-time analysis, primarily responsible for low-latency preprocessing of visual data and model adaptation. The terminal layer further subdivides into personal terminal products (e.g., smart speakers, smartphones, and smart office devices) and industrial terminal equipment (e.g., security cameras, industrial sensors, robots, and smart medical devices).

Within this cloud-edge-terminal collaborative architecture, edge AI plays a pivotal bridging role, poised to become the core node for future device interconnectivity. Massive data generated by end devices undergoes real-time preprocessing, analysis, and filtering through edge nodes, alleviating cloud strain while ensuring system responsiveness and data security. The trend toward device interconnectivity amplifies computational demands, necessitating more powerful AI inference chips at the edge to support complex computations and safeguard network security. The efficient synergy between edge-side and terminal-side AI not only expands chip application scenarios but also creates significant growth opportunities across the entire industry chain. According to IMF and Frost & Sullivan, as the core enabler of intelligence, AI inference chips have currently reached a market scale of nearly US$10 billion in China, boasting vast market potential and promising development prospects.

The Analysis of Cloud-Edge-Terminal Architecture



Source: Frost & Sullivan

Core infrastructure of cloud-edge-terminal architecture: AI inference chips

AI inference chips form the core of terminal intelligence, playing a pivotal role in the evolution of cloud-edge-terminal architecture. Against the backdrop of intensifying AI integration in traditional devices and deepening functionalities in emerging fields, these chips leverage robust local computing power and real-time processing capabilities to efficiently execute critical tasks such as image recognition and environmental perception. This significantly enhances device responsiveness and energy efficiency. Their substantial computational support underpins the evolution of cloud-edge-terminal architectures. Through continuous performance iterations, they drive innovation across diverse application scenarios, thereby advancing the development of intelligent terminal industry demands.

SOURCE OF INFORMATION

We commissioned Frost & Sullivan to conduct market research on global high-speed interconnecting chip industry and prepare the Frost & Sullivan Report. Frost &Sullivan is an independent global consulting firm founded in 1961 in New York that offers industry research and market strategies. We have contracted to pay RMB450,000 to Frost & Sullivan for compiling the F&S Report. Our Directors confirm, to the best of their knowledge, and after making reasonable enquiries, that there have been no adverse changes in the industry since the date of the F&S Report and up to the Latest Practicable Date which may qualify, contradict or have an impact on the information set out in this section.

In preparing the F&S Report, Frost & Sullivan conducted detailed primary research which involved discussing the status of the industry with certain industry leading participants and conducting interviews with relevant parties. Frost & Sullivan also conducted secondary research which involved reviewing company reports, independent research reports and data based on its own research database. Frost & Sullivan obtained the figures for the estimated total market size from historical data analysis plotted against macroeconomic data and considered the key industry drivers, Its market forecasting methodology integrates several forecasting techniques and relies on the expertise of the analyst team in integrating critical market elements investigated during the research phase of the project. These elements primarily include forecasting methodology based on expert opinions, integration of market drivers and restraints, market challenges, market development trends and econometric variables.

The F&S Report is compiled based on the following assumptions: (i) the social economic and political environment around the globe and within Chinese Mainland is likely to remain stable in the forecast period; and (ii) related key industry drivers are likely to drive the market in the forecast period.