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VISION CHIP INDUSTRY OVERVIEW

Definition and Classification of Vision Chips

Vision Systems are the primary means by which machines and devices acquire external information, and are widely applied across fields such as consumer electronics, smart IoT, intelligent manufacturing, embodied intelligence, and intelligent automotives.

Vision chips constitute the core chip ecosystem that supports the full processing chain of visual information, including image and video acquisition, processing, transmission, storage, and display. In a broad sense, vision chips cover multiple categories, including image sensors, vision processing SoCs, video transmission chips, back-end main controllers, as well as supporting components such as memory and power management chips.

Within a vision system, multiple functional chips operate in a coordinated manner to enable the full processing chain from image acquisition and enhancement to transmission, reception, and output:

- Image sensors convert external optical signals into processable digital image data;
- Vision processing chips perform comprehensive visual data processing and optimization on standardized signals and complete data compression to reduce the burden of subsequent transmission and storage;
- Video transmission chips convert compressed video streams into wireless transmission signals to enable long-distance and stable data transmission;
- Back-end main controllers receive and decode transmitted image signals while controlling video display or writing data into storage devices.

Vision Chips Continue to Evolve Toward Greater Intelligence

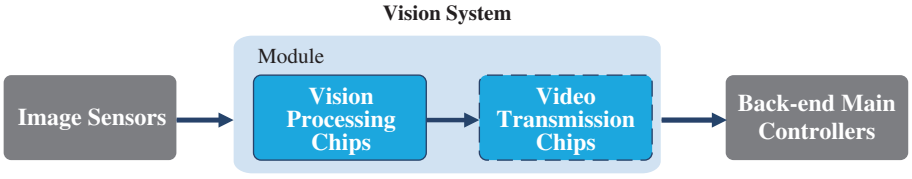
The global artificial intelligence industry has entered a phase of broader application adoption, with ongoing advances in model architectures, multimodal technologies, and open-source ecosystems supporting continued deployment across multiple industries.

In this context, vision chips and related solutions are increasingly integrating AI capabilities. While traditional vision solutions mainly perform basic image processing functions such as noise reduction and format conversion, vision AI chips, supported by heterogeneous computing architectures, enable more advanced functions, including object detection, feature extraction, and scene analysis. Improvements in image quality, resolution, and processing efficiency have been achieved concurrently. As vision chips continue to evolve toward higher levels of intelligence, closer coordination among different chips has become increasingly important to ensure efficient, real-time, and reliable system-level performance. In addition, the incorporation of visual interaction capabilities, such as gesture recognition and visual feedback, is expanding the application scope of vision solutions across different use cases.

VISUAL PROCESSING AI SOC PRODUCT AND SOLUTION MARKET OVERVIEW

Definition of Visual Processing AI SoC Product and Solution

A visual processing AI SoC product and solution is an integrated hardware-software solution dedicated to intelligent visual data processing, which mainly comprises an AI SoC, associated modules and professional technical services. It acts as the core computing and control platform in vision systems. It processes raw image data captured by cameras through image enhancement functions such as noise reduction, color calibration, and dynamic range optimization, and outputs high-quality video streams for stable transmission to back-end devices. The solution aims to achieve high image quality, low-latency, low power consumption, and reliable performance.



Visual Processing AI SoC Product and Solution

Source: Expert Interview, Frost & Sullivan Report

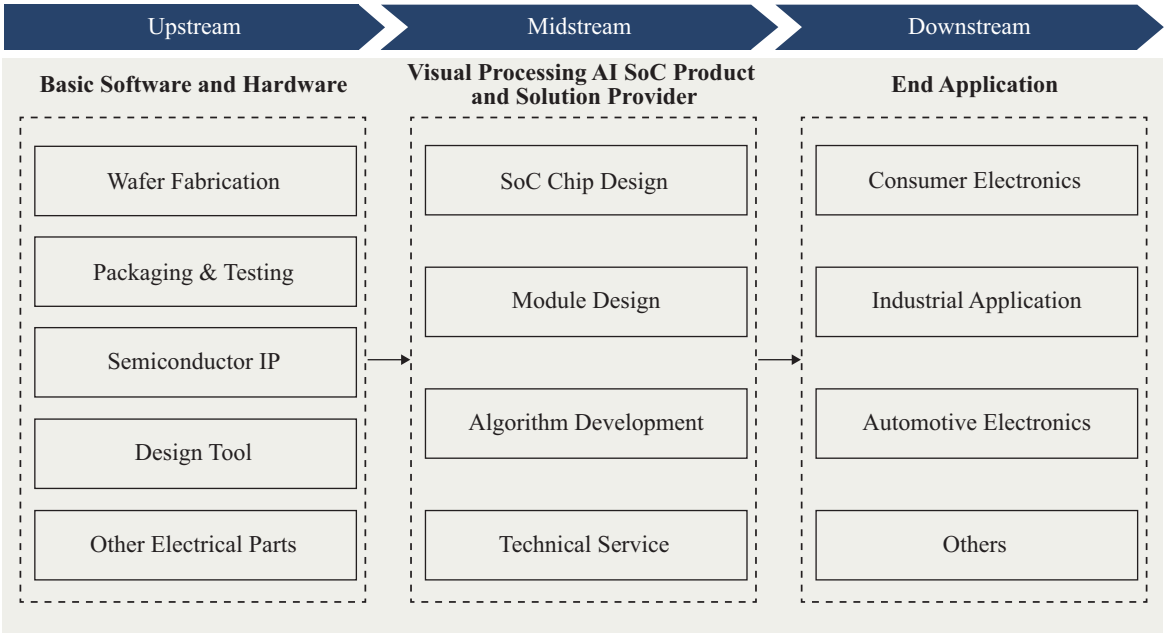
Visual AI SoCs, together with complementary video transmission chips, form the core foundation of visual processing AI SoC product and solution. A visual processing AI SoC is purpose-built for visual data processing and integrates functional units such as CPU, GPU, ISP (Image Signal Processor), NPU and video codecs through a heterogeneous architecture to enable coordinated computing.

Within the SoC, the ISP serves as a dedicated image-processing unit, using hardware acceleration optimized for visual signals to perform preprocessing tasks including noise reduction, color calibration, and dynamic range enhancement, thereby generating high-quality standardized signals that support subsequent intelligent functions such as object recognition, visual perception, and interaction. Compared with traditional ISPs based on fixed algorithms, AI ISPs integrate deep learning models and leverage NPU computing capabilities to enable adaptive image optimization under complex conditions such as low-light or motion-intensive scenes.

The NPU, as the dedicated AI computing unit within the AI SoC, acts as the primary computing engine for deep learning inference, supporting efficient parallel processing with high energy efficiency. Through close coordination between the AI ISP and the NPU, visual AI SoCs are able to achieve real-time intelligent processing under power constraints, while supporting cost-effective deployment at the edge.

Complementing the visual AI SoC, the video transmission chip is responsible for encoding, modulation, and stable transmission of image and video data, enabling long-distance, low-latency, anti-interference and reliable communication through protocol encapsulation and interference mitigation. As system integration continues to advance, video transmission capabilities are increasingly implemented as integrated functional modules within visual AI SoCs, enhancing coordination between visual processing and transmission while improving overall system efficiency.

Visual Processing AI SoC Product and Solution Industry Chain



Source: Expert Interview, Frost & Sullivan Report

The visual processing AI SoC product and solution industry chain is structured across upstream, midstream, and downstream segments, with each layer playing a distinct role in enabling the development, integration, and application of visual processing AI SoC product and solutions.

The upstream segment comprises basic software and hardware providers, including wafer fabrication, packaging and testing services, semiconductor IP vendors, design tools, and other electronic component suppliers, which together provide the manufacturing capabilities, design infrastructure, and foundational technologies required for visual processing chip development. The midstream segment centers on visual processing AI SoC product and solution providers, with the AI SoC serving as the core of the overall solution, covering SoC chip design, module design, algorithm development, and related technical services, through which upstream technologies are integrated into complete, application-ready visual processing solutions. The downstream segment consists of end application markets such as

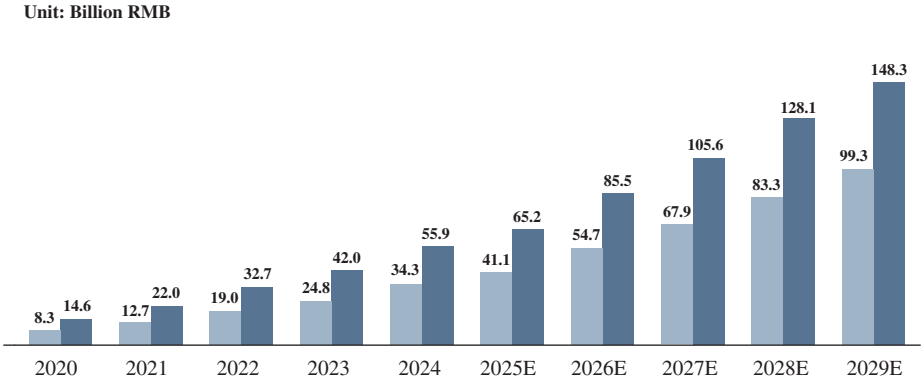
consumer electronics, industrial applications, automotive electronics, and other emerging use cases, where visual processing AI SoCs product and solutions are embedded into end products to support intelligent perception, visual analysis, and related functions.

Market Size of Global and China Visual Processing AI SoC Product and Solution

The visual processing AI SoC product and solution market has recorded significant growth in both China and global markets, supported by broader adoption of high-performance visual computing in multiple application scenarios. In China, the visual processing AI SoC product and solution market grew from RMB8.3 billion in 2020 to RMB34.3 billion in 2024, representing a CAGR of 42.4%, driven by increasing adoption in downstream applications including UAVs (unmanned aerial vehicles), smart wearables, security analysis, AIoT terminals, as well as new energy vehicles. Supported by continued expansion of application scenarios and improvements in industry supply capabilities, the China market is projected to reach RMB99.3 billion by 2029, with a CAGR of 24.7% between 2025 and 2029. Globally, the visual processing AI SoC product and solution market increased from RMB14.6 billion in 2020 to RMB55.9 billion in 2024, achieving a CAGR of 39.8%, and is expected to further expand to RMB148.3 billion by 2029, with a CAGR of 22.8% over the forecast period, as visual processing AI SoC product and solutions continue to penetrate a wide range of end-use markets.

Global and China Visual Processing AI SoC Product and Solution Market Size, 2020–2029E

CAGR	2020-2024	2025-2029E
China	42.4%	24.7%
Global	39.8%	22.8%



Source: Semiconductor Equipment and Materials International, Expert Interview, Frost & Sullivan Report

Market Drivers and Trends of Visual Processing AI SoC Product and Solution Industry

- ***Upgrading demand and expanding application scenarios continue to support market growth***

As AI technologies advance, demand for AI visual processing continues to deepen. Established sectors such as consumer electronics and industrial manufacturing are accelerating intelligent transformation, while emerging scenarios including smart wearables, embodied intelligence, and intelligent driving are creating diversified application needs. Market demand is evolving from standalone chips toward integrated solutions combining hardware adaptation, algorithm optimization, and scenario customization, providing sustained momentum for market expansion.

- ***Advances in AI SoC technologies and architectures further address application requirements***

Ongoing iteration of AI SoCs enables closer alignment with key market needs, including high-definition video processing, low-power operation, high integration, and cost efficiency. Highly integrated heterogeneous architectures reduce system size and deployment costs, facilitating adoption across diverse end-device scenarios. In parallel, emerging architectures such as compute-in-memory are expected to improve data-processing efficiency and energy performance, helping to address the trade-off between computing capability and power consumption at the edge.

- ***Deepening industry-chain collaboration supports a healthy ecosystem***

Closer coordination across the value chain enables upstream component suppliers and midstream product and solution providers to optimize hardware-algorithm compatibility, while downstream customers provide application-level feedback to guide solution refinement. This collaborative dynamic accelerates the transition from development to commercialization and supports the scaled deployment of vision processing AI SoC product and solutions.

UAV VISUAL PROCESSING AI SOC PRODUCT AND SOLUTION MARKET OVERVIEW

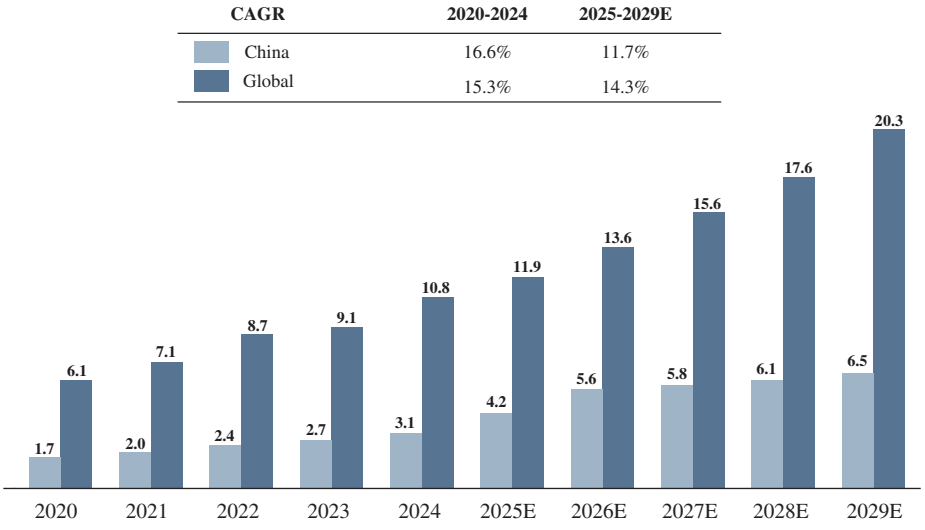
Definition of UAV Visual Processing AI SoC Product and Solution

UAV (Unmanned Aerial Vehicles) visual processing AI SoC product and solution provides core technical support for UAVs by leveraging a heterogeneous visual AI SoC architecture incorporating integrated NPUs with high energy efficiency. These solutions enable autonomous obstacle avoidance, precise target tracking, and defect identification in inspection scenarios, while supporting low-latency and high-stability video transmission. As a result, they facilitate efficient visual data output across application scenarios such as professional aerial photography, power infrastructure inspection, agricultural operations, and geographic surveying.

Global and China UAV Shipment

UAV shipments in China and globally expanded quickly during the initial phase of market development and are now moving toward a more mature stage. In China, UAV shipments increased from 1.7 million units in 2020 to 3.1 million units in 2024, driven by the continuous expansion of application scenarios. Shipments are expected to further increase to 6.5 million units by 2029, supported by rising demand across industrial, consumer electronics, and emerging low-altitude economy applications. Globally, UAV shipments grew from 6.1 million units in 2020 to 10.8 million units in 2024 and are projected to reach 20.3 million units by 2029. While major markets are moving toward higher penetration levels, overall demand continues to expand as UAV use cases broaden and deepen, with growth increasingly supported by application diversification, replacement demand, and performance-driven upgrades.

Global and China UAV Shipment (in million), 2020–2029E



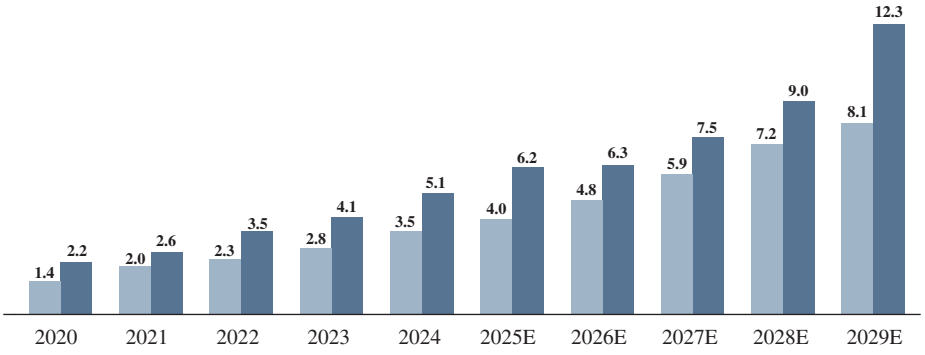
Source: Federal Aviation Administration, Expert Interview, Frost & Sullivan Report

Market Size of Global and China UAV Visual Processing AI SoC Product and Solution

The UAV visual processing AI SoC product and solution market has experienced rapid growth in both China and globally in recent years. Serving as the major manufacturing base of UAVs, China's market expanded from RMB1.4 billion in 2020 to RMB3.5 billion in 2024, representing a CAGR of 26.0%, driven by the expanding adoption of UAVs in aerial imaging, industrial inspection, agriculture, security, and surveying applications; the market is expected to further grow to RMB8.7 billion by 2029 at a CAGR of 21.2%. At the global level, the market grew rapidly from RMB2.2 billion in 2020 to RMB5.1 billion in 2024, and is expected to continue expanding to RMB12.3 billion by 2029 with a CAGR of 18.8% from 2025 to 2029, supported by ongoing adoption across multiple application scenarios and rising demand for high performance products.

Global and China UAV Visual Processing AI SoC Product and Solution Market Size, 2020–2029E

CAGR	2020-2024	2025-2029E
China	26.0%	21.2%
Global	23.4%	18.8%



Source: Semiconductor Equipment and Materials International, Expert Interview, Frost & Sullivan Report

Market Drivers and Trends of UAV Visual Processing AI SoC Product and Solution Industry

- ***Expansion of the low-altitude economy drives UAV AI visual processing demand***

The accelerated development of the low-altitude economy, which reached a global market size of RMB1.6 trillion in 2024, is expanding UAV applications across aerial imaging, inspection, agriculture, surveying, and public services. As UAVs become a core enabling platform within this ecosystem, demand for AI visual processing continues to increase. Enabled by visual processing AI SoCs, UAVs support autonomous obstacle avoidance, target tracking, anomaly detection, and low-latency video transmission. In parallel, multi-camera fusion, edge intelligence, and high-resolution imaging are driving visual architectures toward higher integration and stronger real-time performance.

- ***FPV drones raise performance and integration requirements***

The growth of FPV (First Person View) drones, spanning both consumer and emerging low-altitude applications, is increasing requirements for AI visual processing and core SoCs, including accurate recognition in high-speed and complex environments, low-latency transmission, and lightweight system design. SoCs must balance real-time AI computing performance with power efficiency, while higher integration supports diverse device configurations. The continued expansion of the FPV drone segment is expected to further stimulate demand for AI visual processing solutions and accelerate technology iteration.

- ***UAV intelligence upgrade accelerates adoption of AI visual processing solutions***

UAVs are evolving from remotely controlled platforms toward higher levels of autonomy and intelligence, with increasing reliance on onboard perception, decision-making, and real-time response capabilities. The shift toward intelligent flight control, autonomous navigation, and scenario-aware operations significantly increases the demand for advanced visual perception and edge AI computing. Visual processing AI SoCs enable UAVs to perform real-time visual analysis, environment

understanding, and adaptive decision-making at the front end, reducing dependence on remote computing and enhancing operational safety and efficiency. This trend toward UAV intelligence continues to drive the penetration of AI visual processing solutions.

AIOT VISUAL PROCESSING AI SOC PRODUCT AND SOLUTION MARKET OVERVIEW

Definition of AIoT Visual Processing AI SoC product and Solution

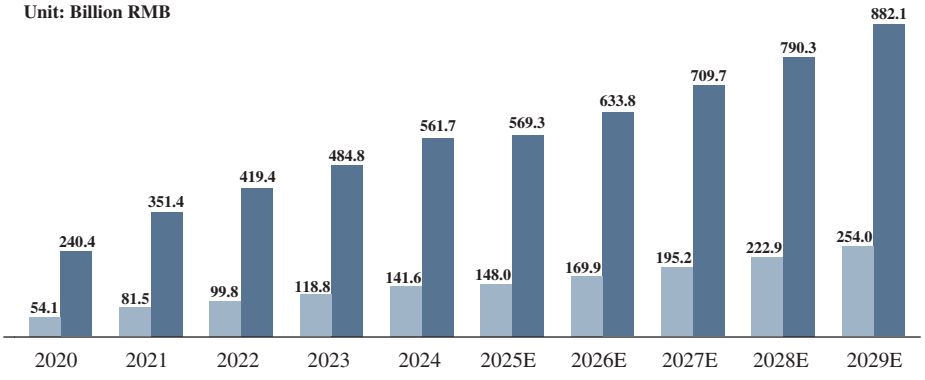
AIoT (Artificial Intelligence of Things) refers to the integration of AI capabilities with IoT systems to enable intelligent perception, analysis, and decision-making at the edge and across connected devices. In AIoT scenarios, visual processing AI SoCs serve as a core perception enabler by leveraging their capability to handle complex workloads and support continuous monitoring. Across use cases including residential living, industrial production, campus security, and environmental supervision, AIoT systems can accurately identify equipment abnormalities, non-compliant human behaviors, and changes in environmental conditions.

Market Size of Global and China AIoT

The global and China AIoT markets have expanded steadily since 2020. In China, the market size increased from RMB54.1 billion in 2020 to RMB141.6 billion in 2024, representing a CAGR of 27.2%, and is projected to further grow to RMB254.0 billion by 2029, implying a CAGR of 14.5% from 2025 to 2029. In parallel, the global market grew from RMB240.4 billion in 2020 to RMB561.7 billion in 2024, representing a CAGR of 23.6%, and is expected to reach RMB882.1 billion by 2029, implying a CAGR of 11.6% from 2025 to 2029. Growth is supported by continued rollout of smart home, smart security, industrial internet, and environmental monitoring applications, with AIoT endpoints penetrating households, public spaces, and production environments and increasingly serving as a key terminal layer underpinning the digital economy.

Global and China AIoT Market Size, 2020–2029E

CAGR	2020-2024	2025-2029E
China	27.2%	14.5%
Global	23.6%	11.6%



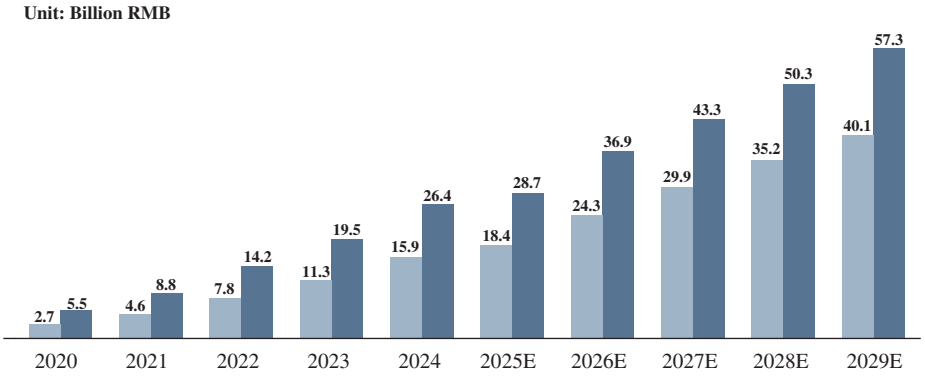
Source: China Academy of Information and Communications Technology, Expert Interview, Frost & Sullivan Report

Market Size of Global and China AIoT Visual Processing AI SoC Product and Solution

The global and China AIoT visual processing AI SoC product and solution market are entering an accelerated growth stage. In China, the market size increased from RMB2.7 billion in 2020 to RMB15.9 billion in 2024, representing a CAGR of 55.3%, and is projected to reach RMB40.1 billion by 2029, implying a CAGR of 21.5% from 2025 to 2029. In parallel, the global market grew from RMB5.5 billion in 2020 to RMB26.4 billion in 2024, representing a CAGR of 48.4%, and is expected to expand to RMB57.3 billion by 2029, implying a CAGR of 18.8% from 2025 to 2029. Growth is primarily driven by the increasing connection of endpoints and the shift of visual AI algorithms toward on-device execution; as demand for real-time video analytics strengthens across more scenarios, AIoT endpoints are increasingly adopting solutions that integrate camera modules with visual processing AI SoCs, thereby accelerating market penetration and demand release.

Global and China AIoT Visual Processing AI SoC Product and Solution Market Size, 2020–2029E

CAGR	2020-2024	2025-2029E
China	55.3%	21.5%
Global	48.4%	18.8%



Source: China Academy of Information and Communications Technology, Expert Interview, Frost & Sullivan Report

Market Drivers and Trends of AIoT Visual Processing AI SoC Product and Solution Industry

- ***Consumer AIoT visual applications are gaining momentum, driving comprehensive upgrades of smart home endpoints.***

In consumer use cases, IoT devices equipped with cameras and AI capabilities are being adopted at an accelerating pace, improving safety and wellness in home settings. Smart home endpoints are increasingly deploying on-device intelligence and completing image recognition and behavior analysis locally through visual processing AI SoCs, rather than relying on cloud processing. As the smart home ecosystem matures, visual processing AI SoCs are becoming a standard configuration for household IoT devices, providing a key growth engine for the AIoT consumer market. Beyond smart home, camera-enabled consumer electronics are also expanding into emerging mobile accessory categories such as handheld gimbals and thumb-sized cameras, further broadening the addressable applications for visual processing AI SoCs.

- ***Intelligent upgrades in security analysis are stimulating demand for visual AI-enabled devices.***

Security analysis is shifting from passive recording to proactive, intelligent analytics, with cameras playing a central role in capturing and structuring visual data. Urban safe-city programs and enterprise security upgrades are driving substantial demand for embedded AI security analysis devices; camera systems integrated with visual processing AI SoCs can perform complex tasks such as real-time license-plate recognition and behavior analysis at the edge. In addition, multispectral fusion that combines thermal imaging and visible light is increasingly adopted in patrol and fire-prevention early-warning scenarios, enhancing recognition and alerting capabilities under low-light and foggy conditions. Under this trend, rising demand for intelligent front-end security devices is injecting incremental momentum into the visual processing AI SoC product and solution market.

- ***Industrial AIoT adoption is accelerating, driving demand for real-time visual analytics on-device.***

In industrial production, factories and industrial parks increasingly deploy cameras and vision sensors for process monitoring, defect detection, safety compliance, and asset protection. Industrial endpoints equipped with visual processing AI SoCs can execute inspection and anomaly detection on-device, reducing latency and bandwidth consumption while improving reliability in complex on-site environments. This trend also extends to industrial robots and mobile platforms, where on-device visual perception supports navigation, inspection, and human-machine collaboration. As industrial digitalization deepens, on-device visual intelligence is becoming a key infrastructure layer for industrial AIoT, further expanding the addressable market for visual processing AI SoCs.

SMART WEARABLE DEVICES VISUAL PROCESSING AI SOC PRODUCT AND SOLUTION MARKET OVERVIEW

Definition of Smart Wearable Devices Visual Processing AI SoC Product and Solution

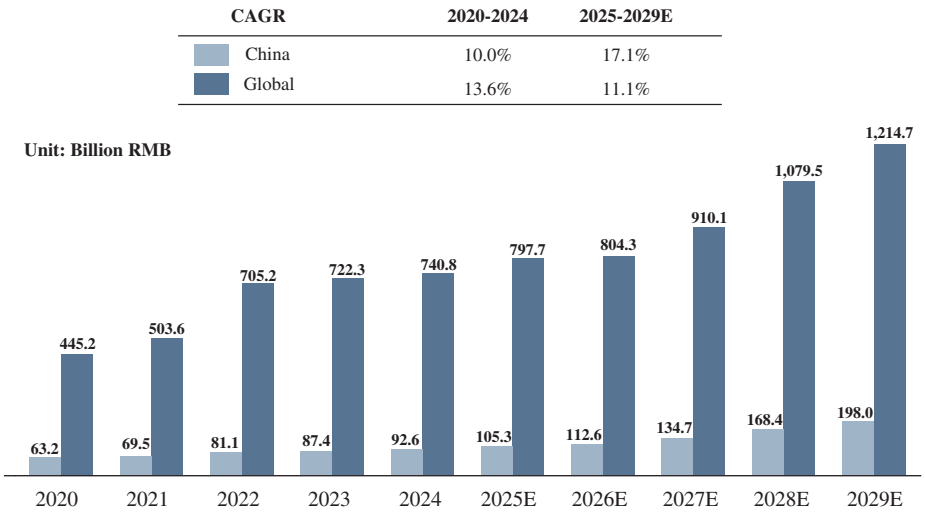
Smart Wearable Devices implement lightweight on-device intelligence through visual processing AI SoCs, which integrate and coordinate multiple functional modules to support real-time environmental understanding, image enhancement, and object recognition. In applications such as AR/AI glasses, smartwatches, and health-focused wearables, Smart Wearable Devices leverage visual processing AI SoCs to deliver scenario-based intelligent services under constraints of low power consumption and compact form factor, thereby enhancing the human-machine interaction experience.

Market Size of Global and China Smart Wearable Devices

The global and China Smart Wearable Devices markets have maintained a steady expansion trend since 2020. In China, the market size increased from RMB63.2 billion in 2020 to RMB92.6 billion in 2024, representing a CAGR of 10.0% from 2020 to 2024, and is projected to further expand to RMB198.0 billion by 2029, implying a CAGR of 17.1% from 2025 to 2029. In parallel, the global market grew from RMB445.2 billion in 2020 to RMB740.8 billion in 2024, representing a CAGR of 13.6% from 2020 to 2024, and is expected to reach RMB1,214.7 billion by 2029, implying a CAGR of 11.1% from 2025 to 2029. Growth is primarily driven by the rising demand for multi-sensory, context-aware interactions in smart wearables, with visual perception increasingly becoming a core enabler. Wearable devices are also evolving rapidly, with continued upgrades across smartwatches, wristbands, smart earphones, and smart glasses. In parallel, emerging form factors such as AI assistants and AI

glasses are seeing increasing shipments. Market expansion is further supported by deeper penetration into professional use cases, including medical health, sports, and fitness, collectively sustaining relatively rapid growth.

Global and China Smart Wearable Devices Market Size, 2020–2029E



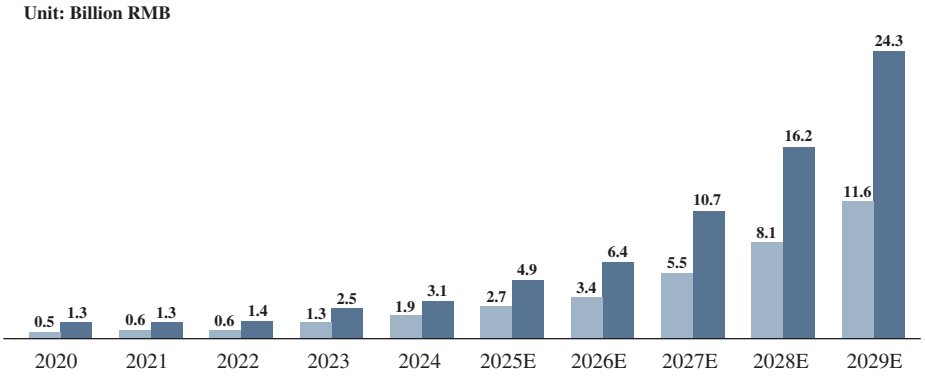
Source: IDC, Expert Interview, Frost & Sullivan Report

Market Size of Global and China Smart Wearable Devices Visual Processing AI SoC Product and Solution

The global and China Smart Wearable Devices visual processing AI SoC product and solution markets have exhibited rapid growth in recent years. In China, the market expanded from RMB0.5 billion in 2020 to RMB1.9 billion in 2024, representing a CAGR of 39.0% from 2020 to 2024, and is projected to further increase to RMB11.6 billion by 2029, implying a CAGR of 44.2% from 2025 to 2029. In parallel, the global market grew from RMB1.3 billion in 2020 to RMB3.1 billion in 2024, representing a CAGR of 25.6% from 2020 to 2024, and is expected to reach RMB24.3 billion by 2029, implying a CAGR of 49.2% from 2025 to 2029. The expansion is primarily driven by accelerating adoption of AI glasses and AR glasses equipped with cameras and visual perception capabilities, alongside broader application penetration, continued performance improvements, and further cost reductions, positioning smart wearables as a key incremental demand driver for visual processing AI SoCs.

Global and China Smart Wearable Devices Visual Processing AI SoC Product and Solution Market Size, 2020–2029E

CAGR	2020-2024	2025-2029E
China	39.0%	44.2%
Global	25.6%	49.2%



Source: IDC, Expert Interview, Frost & Sullivan Report

Market Drivers and Trends of Smart Wearable Devices Visual Processing AI SoC Product and Solution Industry

- ***Rising demand for on-device visual perception is pushing visual compute from the cloud to wearable SoCs.***

Smart Wearable Devices such as smart glasses, selected smartwatches, and smart rings are increasingly integrating cameras and other imaging sensors, resulting in rapidly growing image/video data volumes. As more visual workloads migrate from the cloud to on-device execution, Smart Wearable Devices are accelerating adoption of visual processing AI SoCs. This shift is also driven by the need for lower latency, improved privacy protection, and more reliable user experiences in weak-network or offline environments. In turn, Smart Wearable Devices require tighter hardware-software co-optimization to sustain real-time performance within strict power budgets.

- ***Rapid growth of AR glasses is driving iteration toward highly integrated, low-power visual processing AI SoCs.***

AR glasses represent an evolutionary step beyond AI glasses, with substantially higher requirements on visual capability. Compared with AI glasses that typically focus on basic audio/video capture and processing, AR glasses require continuous perception, spatial understanding, and real-time visual interaction and rendering. AR/AI glasses must continuously perform capture, recognition, and spatial localization under stringent constraints on form factor and battery capacity, raising requirements for performance-per-watt and system-level integration. Accordingly, AR/AI glasses are driving visual processing AI SoCs to evolve toward higher integration, more advanced process nodes, and heterogeneous architectures.

AR glasses are expected to enter a rapid shipment ramp-up phase from 2024 onward. In China, AR glasses shipments are projected to increase from 0.29 million units in 2024 to 44.92 million units in 2029. Meanwhile, global AR glasses shipments are expected to rise from 0.48 million units in 2024 to 81.67 million units in 2029. This accelerating shipment momentum is expected to contribute materially to the growth of AR glasses visual processing AI SoC product and solution, with the China market projected to expand from RMB0.9 billion in 2024 to RMB8.1 billion in 2029, and the global market expected to grow from RMB2.2 billion to RMB17.0 billion over the same period.

- ***On-device deployment of generative AI and multimodal foundation models is catalyzing higher level local intelligence use cases.***

With ongoing progress in model compression and inference acceleration, large-model capabilities are increasingly shifting from the cloud to the device, enabling Smart Wearable Devices to target AI-Agent level assistant scenarios. To support on-device large models and multimodal inference, Smart Wearable Devices require visual processing AI SoCs to provision higher compute and memory/storage resources. At the application level, this enables more natural interaction paradigms such as context-aware assistance and real-time visual Q&A. It also raises requirements for runtime frameworks, model scheduling, and efficient memory management to balance capability and battery life.

COMPETITIVE LANDSCAPE OF VISUAL PROCESSING AI SOC PRODUCT AND SOLUTION MARKET

Ranking in Visual Processing AI SoC Product and Solution Market

The China visual processing AI SoC product and solution market remains broad-based and application-diversified, with demand distributed across a wide range of end scenarios. As a result, the overall competitive landscape is relatively fragmented, and vendors tend to demonstrate differentiated strengths and positioning in specific application segments and customer groups. Our Company ranked 8th in the market with revenue of RMB0.4 billion and a market share of 1.3%. The table below presents the ranking of companies in China's visual processing AI SoC product and solution market, as measured by revenue in 2024.

Ranking	Company	2024 Revenue *(Billion RMB)*	Market Share
1	Company A[1]	2.8	8.2%
2	Company B[2]	2.3	6.6%
3	Company C[3]	1.5	4.4%
4	Company D[4]	1.4	4.1%
5	Company E[5]	1.4	4.1%
6	Company F[6]	1.0	3.0%
7	Company G[7]	1.0	2.9%
8	**Our Company**	**0.4**	**1.3%**

Source: Expert Interview, Frost & Sullivan Report

Ranking in China UAV Visual Processing AI SoC Product and Solution Market

The China UAV visual processing AI SoC product and solution market is characterized by relatively high concentration, with leading participants capturing major market share. In 2024, China UAV visual processing AI SoC product and solution market reached RMB3.5 billion. Our Company ranked 3rd in the market, with a market share of 8.0%. The following table presents the ranking of companies in China UAV visual processing AI SoC product and solution market, as measured by revenue in 2024.

Ranking	Company	2024 Revenue *(Billion RMB)*	Market Share
1	Company A	0.7	20.1%
2	Company B	0.3	8.6%
3	**Our Company**	**0.3**	**8.0%**

Source: Expert Interview, Frost & Sullivan Report

1 A private company founded in 2004, headquartered in China, primarily focuses on the design and development of SoC solutions

2 A publicly listed semiconductor company founded in 1985, headquartered in the United States, primarily engaged in the development of wireless communication technologies and SoC solutions

3 A publicly listed semiconductor company founded in 2017, headquartered in China, primarily focuses on the design and development of AI vision SoC solutions for smart security and IoT applications.

4 A publicly listed semiconductor company founded in 1997, headquartered in Taiwan, primarily focuses on the design and development of mobile, connectivity and multimedia SoC solutions for smartphones, smart devices and IoT applications.

5 A publicly listed semiconductor company founded in 2001, headquartered in China, primarily focuses on the design and development of application processor and AIoT SoC solutions for smart devices, industrial and automotive applications.

6 A publicly listed semiconductor company founded in 2004, headquartered in China, primarily focuses on the design and development of video security analysis SoC and ISP solutions for smart security and IoT applications.

7 A publicly listed fabless semiconductor company founded in 2007, headquartered in China, primarily focuses on the design and development of application processor SoC, high-performance analog IC and wireless connectivity solutions for smart devices and IoT applications.

ENTRY BARRIERS

Customer barriers: Leading customers impose stringent requirements on solution stability, delivery capability, and long-term technology-iteration support. They tend to engage core suppliers in joint defining and co-development around frontier needs, shifting requirements upstream to the chip architecture and algorithm/solution design stage. New entrants typically must undergo lengthy validation cycles before being admitted into core customer supply systems and achieving sustained orders.

Technology barriers: Visual processing AI SoCs are required to deliver high compute performance and high reliability under constraints of low power consumption and compact form factor. This sets a high bar for chip-architecture design, algorithm optimization, and end-to-end hardware-software co-design capabilities. In addition, competitiveness typically depends on comprehensive system-level capabilities, such as sensing, on-device processing, and data transmission, rather than isolated breakthroughs in visual processing alone. Sustained R&D investment and patent deployment further reinforce the technological threshold.

Talent barriers: The industry relies heavily on interdisciplinary engineering teams with expertise spanning algorithms, chips, systems, and application scenarios. Scarcity of senior R&D and productization talent creates a meaningful time gap for latecomers in team building and know-how accumulation.

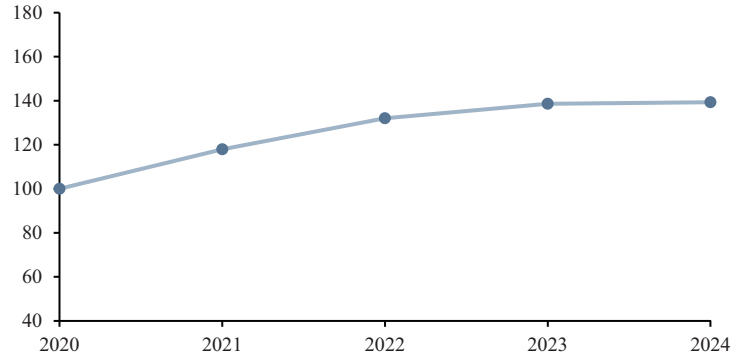
Supply chain barriers: Visual processing AI SoCs and related modules depend on foundry, packaging and testing, components, and manufacturing partners, with complex capacity, yield, and delivery-cycle management. Only companies with strong supply chain management capabilities and stable partner networks can build advantages in scaled shipments and cost control.

Capital barriers: Chip design, tape-out validation, and early-stage solution development require substantial upfront investment and entail long payback periods. Adequate and stable funding is essential for sustained R&D, securing large customer programs, and navigating industry cycles, resulting in a high barrier to entry.

Cost Analysis of Visual Processing AI SoC product and Solution

Wafer accounts for the largest proportion in the cost structure of a visual processing AI SoC, reaching approximately 60% to 70%, with packaging and testing constituting the major portion of the remaining costs. The 12-inch silicon wafers serve as a mainstream manufacturing platform for Visual Processing AI SoC production. During 2020 to 2022, the semiconductor industry maintained a relatively high level of prosperity, with robust downstream demand, and wafer prices showed a clear upward trend. In 2023 and 2024, as supply-demand dynamics normalized, the pace of wafer price increases narrowed significantly and prices stabilized. Looking forward, wafer prices are expected to broadly follow the 2023 and 2024 pattern and continue to fluctuate within a narrow range over the next few years. The chart below illustrates the 12-inch wafer price trend over the past five years.

Price Index of 12-Inch Wafers (2020–2024)



Source: Desk Research, Frost & Sullivan

SOURCES OF INFORMATION AND RESEARCH METHODOLOGY

We engaged Frost & Sullivan for preparing an independent industry report in respect of the **[REDACTED]**. The information from Frost & Sullivan disclosed in the Document is extracted from the Frost & Sullivan Report, a report commissioned by us for a fee of RMB600,000, and is disclosed with the consent of Frost & Sullivan. The Frost & Sullivan Report has been prepared by Frost & Sullivan independently without any influence from us or other interested parties. Frost & Sullivan is an independent global consulting firm founded in 1961 in New York. Its services include, among others, industry consulting, market strategic consulting and corporate training. Frost & Sullivan conducted (i) primary research, which involved discussing the status of the industry with certain leading industry participants, and interviews with industry experts on a best-effort basis to collect information in aiding in-depth analysis; and (ii) secondary research, which involved reviewing government statistics, industry association publication, company reports, independent research reports and data based on its own research database.