

Semiconductor Intellectual Property (IP) Market to Hit US\$ 11.3 Bn by 2033, Asia Pacific Captures 34.6% Share

Semiconductor Intellectual Property (IP) Market is projected to grow from USD 6.8 bn in 2024 to USD 11.3 billion by 2033, with a steady 6.7% CAGR (2024-2033).

NEW YORK, NY, UNITED STATES, January 27, 2025 /EINPresswire.com/ --Based on insights provided by Market.us, The <u>Semiconductor IP</u> <u>market</u> involves the trade and licensing of these pre-designed core units. Companies, ranging from startups to tech giants, partake in this market by either developing IP cores or by



integrating them into their semiconductor solutions. The market's dynamic nature is influenced by the need for rapid advancements in technology and the integration of complex functionalities into chips, which are increasingly found in a variety of electronic devices.

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Asia Pacific region dominates the market with about 34.6% market share and is expected to have a CAGR of 6.97% during the forecast period. " Tajammul Pangarkar The primary driving factors of the Semiconductor IP market include the growing demand for advanced electronics with enhanced functionalities and the continual miniaturization of electronic devices. As devices become smaller and more complex, the integration of reliable and tested IP cores helps in managing design risk and reducing development time and costs. Furthermore, the expansion of sectors like mobile computing, automotive electronics, and IoT devices directly contributes to the growth of this

market.

 Semiconductor IP Market Report Highlights (2023-2032)

The global semiconductor IP market is projected to generate revenues of USD 11.3 billion by 2032, with a CAGR of 6.7% over the forecast period (2023-2032).

Processor IP is the most valuable segment, driven by its increasing integration into laptops, smartphones, and tablets.

Memory IP is expected to grow at the fastest pace due to the expanding adoption of storage devices, meeting the growing data needs of consumers and enterprises alike.

The hard IP core segment dominates the market because of its superior reliability and timing predictability, making it the preferred choice for critical devices such as smartphones, personal computers, and laptops.



 Global Semiconductor Intellectual Property (IP) Market

 Regional Analysis in 2020

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 Orth America

 Latin America

 Asia Pacific is expected to hold the largest

 Global Semiconductor IP Market share

Semiconductor Intellectual Property (IP) Market Share

The royalty segment holds the largest market share, fueled by the widespread acquisition of semiconductor IP by leading electronics manufacturers.

Regional Analysis

Consumer electronics leads all industries, capturing the highest market share. This segment is anticipated to grow at a CAGR of 7.2%, driven by the increasing demand for wireless devices and advanced home technologies.

Market growth is propelled by rising demand for system-on-chip (SoC) designs, consumer electronics, automotive systems, and telecom & data center applications. Additionally, reductions in design and manufacturing costs are contributing to this expansion.

Asia-Pacific is the largest regional market, supported by technological advancements and highvolume electronic manufacturing in countries such as China, South Korea, and Taiwan.

North America and Europe also remain key players, contributing significantly to innovation and market growth due to their advanced semiconductor industries and R&D capabilities.

Analysts' Viewpoint regarding Semiconductor Intellectual Property (IP)

Investment Opportunities and Risks

Investment opportunities within the Semiconductor IP sector are plentiful, especially for service providers who innovate and develop solutions catering to evolving market needs, such as enhanced security features and support for digital transformation across various industries. However, the market also faces significant risks, including the high costs associated with developing advanced semiconductor IPs and the complexities of intellectual property laws, which can pose challenges for new and existing players. Additionally, the semiconductor supply chain faces its own set of vulnerabilities, such as raw material shortages and capacity constraints, which could impact the production and cost-effectiveness of IP cores.

Regulatory Environment

The regulatory landscape for Semiconductor IP is complex and varies significantly across different regions. Navigating this environment requires substantial resources and expertise, particularly in protecting intellectual property rights and handling licensing disputes. Companies must remain vigilant and adaptable to comply with international IP laws and regulations, which can influence market strategies and operations.

Market Trends

A significant trend in the Semiconductor IP market is the rising prominence of open-source IP cores, which encourage innovation and reduce costs. Additionally, there is a move towards developing and licensing more specialized IP cores, like those for AI and machine learning applications, to cater to emerging technological needs. This specialization is coupled with an increase in system-on-chip (SoC) designs, where multiple functions are integrated onto a single chip, requiring diverse IP cores.

Key Benefits for Stakeholders

For stakeholders, the primary benefits of engaging with the Semiconductor IP market include reduced time-to-market for new products, lower R&D costs, and access to a broad range of tested and verified technological components. Licensing existing IP cores also allows companies to focus on customization and innovation rather than basic design, providing them with a competitive edge in fast-paced technology markets.

Parent Market Analysis

The analysis of the parent market of Semiconductor Intellectual Property (IP) primarily revolves around the broader semiconductor industry, which encompasses the manufacturing and design of semiconductor devices and components. Here's how the Semiconductor IP market fits into and interacts with its parent market:

Integration with Semiconductor Manufacturing: Semiconductor IP is integral to the design phase of semiconductor manufacturing, providing essential building blocks for creating complex integrated circuits (ICs) and system-on-chips (SoCs). The health and dynamics of the semiconductor manufacturing sector directly influence the demand for semiconductor IPs. As the demand for more advanced semiconductor products increases, so does the need for new IPs that can support enhanced functionality and performance.

Impact of Technological Shifts: The semiconductor industry is highly driven by technological advancements. Key shifts such as the transition to new fabrication technologies (e.g., from 10nm to 7nm process nodes) require corresponding advancements in IP design. This synchronization ensures that IPs can effectively leverage the potential of newer, more efficient manufacturing processes.

Market Drivers from Related Sectors: The growth of sectors such as AI, IoT, automotive electronics, and 5G technology acts as a catalyst for the expansion of the semiconductor industry at large, and by extension, the Semiconductor IP market. These sectors demand semiconductors that are optimized for power, performance, and area (PPA), which in turn drives innovation and development within the IP market.

Global Supply Chain and Regulatory Influence: Semiconductor IP providers are also affected by the global supply chain dynamics and regulatory policies that impact the semiconductor industry. Issues such as trade policies, intellectual property rights protections, and regulatory compliance across different regions are crucial considerations that can affect market growth and operational strategies.

Economic Cycles and Market Sentiment: The semiconductor industry is known for its cyclical nature, with periods of high demand followed by oversupply and downturns. These cycles can affect investment in R&D and impact the growth prospects of the Semiconductor IP market.

Report Segmentation

In 2023, the Semiconductor Intellectual Property (IP) industry witnessed significant developments across various segments, each playing a crucial role in shaping the landscape of technological advancements. A closer look at these segments reveals intricate details about their market positions and contributions.

Processor IP Analysis: The Processor IP segment emerged as a powerhouse within the

Semiconductor IP industry. Dominating the market, this segment's prominence is largely attributed to its critical role in enhancing processing capabilities across multiple platforms. As the backbone of computational technology, processor IPs, such as CPUs and GPUs, are integral for driving innovations in sectors ranging from automotive to AI technologies. The demand for faster, more efficient processing units has catalyzed the growth of this segment, ensuring its leading position in the market.

IP Core Analysis: Similarly, the Hard Core segment held a robust position in the market in 2023. Known for their fixed and optimized configurations, hard cores provide a reliable foundation for semiconductor manufacturing. These cores are preferred for their high performance and stability, essential in applications requiring rigorous operational conditions. The durability and reliability of hard cores make them invaluable in high-stakes environments like aerospace and medical devices, contributing to their significant market share.

IP Source Analysis: On the revenue front, the Royalty segment held sway over the market dynamics within the Semiconductor IP sector. This model benefits creators by offering continuous revenue streams from their intellectual properties. As companies license their designs and technologies, they secure a financial inflow that supports sustained development and innovation. This model not only incentivizes creators but also ensures that they are compensated for ongoing use of their IPs, making it a preferred choice among IP creators.

Vertical Analysis: In the vertical market analysis, consumer electronics stood out with a dominant share in 2023. The surge in demand for consumer electronics - ranging from smartphones and tablets to wearables and home automation systems - has driven this segment's growth. Continuous innovation and consumer demand for more integrated and user-friendly devices have fueled the expansion of the consumer electronics market. This segment's success is a direct result of its ability to consistently integrate the latest technologies and cater to evolving consumer preferences.

Market Dynamics

Market Driver: Increasing Demand for Advanced Semiconductor Components

The semiconductor intellectual property (IP) market is currently experiencing a surge in growth primarily fueled by the escalating demand for advanced semiconductor components across various industries including automotive and telecommunications. This growth is further augmented by the integration of sophisticated technologies such as Internet of Things (IoT) devices and 5G telecommunications, which require high-performance semiconductor components to operate efficiently.

Innovations aimed at enhancing the processing capabilities and reducing power consumption of semiconductor IPs are key to meeting the evolving demands of both consumer electronics and industrial applications. The push towards more advanced System on Chip (SoC) designs and

multicore technologies in consumer electronics is a significant driver of this market. Companies are leveraging these advancements to stay competitive and meet the increased performance expectations of modern electronic devices.

Market Restraint: Technological Complexity and Rapid Changes

One of the primary challenges facing the semiconductor IP market is the rapid pace of technological change, which imposes substantial pressures on R&D budgets. The industry's quick evolution often leads to increased expenditures as companies strive to stay ahead of technological advancements and continuously update their semiconductor IP offerings.

Additionally, the complexity of modern semiconductor designs can escalate costs and extend development timelines, impacting the overall profitability and efficiency of IP providers. Concerns related to Moore's Law, which predicts the regular doubling of transistors on a microchip and its perceived end, also add to the market's uncertainties, influencing strategic decisions within the industry.

Market Opportunity: Expansion in DSP and Automotive Sectors

The market for semiconductor IPs is poised for expansion, particularly in the digital signal processors (DSP) and automotive sectors. The increasing implementation of embedded and programmable DSP IPs is driven by their crucial role in processing complex algorithms used in audio, video, and data communication applications.

Furthermore, the automotive sector presents a substantial opportunity for growth, driven by the rising demand for advanced semiconductor components that support vehicle automation, electrification, and connectivity solutions. The convergence of telecommunications, automotive, and data center technologies is creating new avenues for semiconductor IPs, particularly those offering high performance and enhanced connectivity features.

Market Challenge: IP Security and Counterfeiting

Intellectual property theft and counterfeiting remain significant challenges in the semiconductor IP market. As the value of semiconductor IPs continues to rise, so does the incentive for IP theft and counterfeit activities, which can result in substantial financial losses and reputational damage for IP providers.

Ensuring the security of intellectual property is crucial, necessitating robust protective measures and legal frameworks. This challenge is compounded by the global nature of the semiconductor industry, where IPs are often developed in one region and manufactured in another, increasing the risk of unauthorized use and duplication of IP.

Key Updates in the Semiconductor Intellectual Property (IP) Market

June 2024 – Clarivate Plc launched its IP Collaboration Hub, a game-changer for patent and trademark filing processes. By automating communication with local agents and integrating the hub with IP management systems, this tool boosts efficiency and minimizes errors. This innovation reflects Clarivate's commitment to enhancing the IP lifecycle, providing significant benefits to industries like Semiconductor IP, where precision and collaboration are critical.

March 2024 – Synopsys acquired Intrinsic ID, a leader in Physical Unclonable Function (PUF) IP for system-on-chips (SoCs). This acquisition bolsters Synopsys' semiconductor IP portfolio, allowing for highly secure SoC designs with unique identifiers. By integrating Intrinsic ID's PUF technology, Synopsys strengthens its position in enabling secure, innovative solutions for smart and connected devices.

September 2023 – VeriSilicon announced that Inuitive, a leading U.S.-based vision-on-chip processor company, has adopted VeriSilicon's dual-channel Image Signal Processor (ISP) IP for its mass-produced NU4100 vision AI processor. This ISP IP, known for low latency and power efficiency, enhances imaging quality and supports advanced applications in robots, AR, VR, MR, drones, and more.

March 2023 – eMemory Technology Inc. and United Microelectronics Corporation (UMC) achieved a milestone with the qualification of Resistive Random Access Memory (RRAM) IPs on UMC's 22nm ultra-low-power process. This collaboration expands UMC's embedded memory offerings for IoT and mobile applications, while both companies are also developing advanced RRAM solutions tailored for the automotive sector.

Top Key Players in The Market

Arm Holdings Ltd. **Fujitsu Limited** Synopsys Inc. Cadence Design Systems, Inc. Imagination Technologies CEVA Inc. eMemory Technology Inc. Lattice Semiconductor Corp. **Open-Silicon Inc.** Mentor Graphics Corporation Achronix Semiconductor Corporation Rambus Inc. Faraday Technology Corporation Verisilicon Holdings Co. Multicore Technology Other Key Players

Visual Effects (VFX) Market- https://market.us/report/visual-effects-vfx-market/

Printed Electronics Market- https://market.us/report/printed-electronics-market/

Hardware in The Loop (HIL) Market- https://market.us/report/hardware-in-the-loop-hil-market/

Insurance Agency Software Market- <u>https://market.us/report/insurance-agency-software-market/</u>

Virtual Data Room Market- https://market.us/report/virtual-data-room-market/

Pushbutton Industrial Wireless Remote Control Market- <u>https://market.us/report/pushbutton-industrial-wireless-remote-control-market/</u>

Airline Industry Market- <u>https://market.us/report/airline-industry-market/</u>

DAO-as-a-Service (DAOaaS) Market- <u>https://market.us/report/dao-as-a-service-daoaas-market/</u>

Al In Digital Transformation Market- <u>https://market.us/report/ai-in-digital-transformation-</u> <u>market/</u>

Enterprise Data Management Market- <u>https://market.us/report/enterprise-data-management-</u> <u>market/</u>

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