

Integrated Circuits Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The Integrated Circuits Market is the core of the Information Technology (IT) industry; it is a basic, strategic, and leading industry supporting economic and social development. With market demand, the integrated circuit industry has been experiencing rapid growth and improved general competency in recent years. The integrated circuit design and manufacturing industry have been keeping pace with global development.

Key Highlights

The Global Integrated Circuits industry is undergoing an important phase of transformation and adjustment. The global market order has been going through an accelerated adjustment period, investment volumes are substantially increasing, and market share is becoming concentrated among dominant companies.

New trends such as the Internet of Things (IoT), cloud computing, and big data are progressing rapidly, which is expected to lead integrated circuit technology in new directions.

Regional governments are extending their support to develop their national IC industry ecosystem. For instance, China has been aggressively building new fab capacities, accelerated by the introduction of the China Integrated Circuit Investment Fund.

According to SEMI China, these investments are paying off, as China's wafer fab capacity market share surged from 9% in 2010 to 17% in 2020.

The surge in demand for high-tech products was further accelerated by working from home, lockdown, and a shift to e-commerce. IC market players didn't expect this tremendous demand in the last few years. Building new fabs cost billions of dollars and took years to operational; the unexpected surge caused a global shortage of ICs due to limited manufacturing capacity. The market is expected to normalize not until 2023.

The COVID-19 pandemic has impacted multiple sectors of the Integrated Circuits industry. The global supply chain was disrupted owing to transport stoppages, border closures, and general uncertainty leading to challenges in IC production. COVID-19 exposed

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many vulnerabilities in the supply chain.

Integrated Circuits Market Trends

Increasing Fab Capacities to meet Surging Demands

According to a fab survey released in May 2021 by the industry group SEMI, Global chip manufacturers are forecasted to produce a record 6.6 million wafers every month by 2024. That forecast reflected substantial investments in 200-mm fab equipment, which is expected to approach USD 4 billion in 2021, nearly doubling since hovering above USD 2 billion between 2012 and 2019. For instance, in August 2021, SiEn (Qingdao) Integrated Circuits Co, a foundry, started production of 8-inch silicon wafers in Qingdao and tested a new 12-inch production line. Moreover, in September 2021, Semiconductor Manufacturing International Corp (SMIC) announced an investment of USD 8.87 billion in building a chip manufacturing plant in Shanghai. The company's plan has been focused on integrated circuit foundry and technology services on process nodes for 28 nanometers and above. Similarly, Intel also laid out ambitious CapEx plans. In March 2021, Intel announced plans to invest USD 20 billion in two new fabs in Arizona, United States.

Various new market players are also focussing on adding manufacturing capacities. For instance, in October 2021, PragmatlIC Semiconductor secured USD 80 million of Series C investment. This funding was aimed to build a second FlexLogIC fab in the North East of England, which intends to meet the growing demand for ultra-low-cost flexible integrated circuits (FlexICs).

Asia Pacific is Expected to Grow with the Highest CAGR

The growth of the Integrated Circuits Market in the Asia Pacific correlates with the end-user growth across the region, being one of the main markets for smartphones, and is witnessing rising investments in renewable, automotive (particularly EVs), among various others.

The consumption of semiconductor components is rapidly increasing in China, South Korea, and Japan as compared with other countries due to the continuing transfer of diverse electronic equipment to China. Moreover, IC design, the largest sector of China's Integrated Circuits industry, has progressed from low-margin consumer applications focus to encompass advanced computing and communication semiconductors across growth markets in automotive, the Internet of Things (IoT), and crypto mining, and artificial intelligence (AI).

The demand for China's integrated circuit market is anticipated to continue increasing with the steady growth of China's economy and driven by new applications such as cloud computing, 5G, Internet of Things, artificial intelligence (AI), and intelligent and connected vehicles.

According to Qiao Yueshan, head of the electronic information department at China's Ministry of Industry and Information Technology, China's Integrated Circuit Industry growth rate was four times the global growth rate during the country's 13th Five-Year Plan period.

Also, other countries such as India in the region are taking significant steps to attract investments in the country and intend to incentivize and attract investments for setting up fabs in India; the government has issued an Expression of Interest (EoI) for setting up/expansion of existing semiconductor wafer/ device fabrication facilities in the country.

Integrated Circuits Market Competitor Analysis

The integrated Circuits Market is highly competitive and consists of several players. The market players adopt various strategies

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such as product innovation, mergers, and acquisitions, among others. In addition, with the advancement in the IC manufacturing process, which provides enhanced applications, new market players are increasing their market presence and expanding their business footprint across the emerging economies.

March 2022 - Micross Components, Inc., a global provider of mission-critical microelectronic components and services for aerospace, defense, medical, and industrial applications, announced its partnership with Apogee Semiconductor, a company providing Radiation-Hardened-by-Design semiconductors. Together, Micross and Apogee Semiconductor now offer products that include interface, logic, and translation ICs, in various form factors.

August 2021 - Analog Devices, Inc. (ADI) announced the completion of its previously announced acquisition of Maxim Integrated Products, Inc. The combination is expected to strengthen other ADI's position as a high-performance analog semiconductor company.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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