

Research Report on Global and China's Integrated Circuit Industries, 2019 to 2023

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Abstracts

DESCRIPTION

In 2018, the revenue of global integrated circuit industry totaled about USD 480 billion, representing a CAGR of less than 10% from 2014 to 2018; the revenue of China's integrated circuit industry was about USD 98.70 billion, representing a CAGR of about 25% from 2014 to 2018. In China, the revenue from integrated circuit designing was about USD 38.07 billion, accounting for 38.60% of the revenue of the integrated circuit industry; the revenue from integrated circuit manufacturing was about USD 27.48 billion, accounting for about 27.80%; the revenue from integrated circuit packaging and testing was about USD 33.15 billion, accounting for 33.60%.

According to CRI, since China joined the WTO, its integrated circuit industry has been developing. However, because of outdated technologies and insufficient talents, China's integrated circuit manufacturing lags behind the international advanced level for one to two generations; integrated circuit designing contains low technological content and is monotonous; integrated circuit packaging and testing have a gap with the international mainstream level. Therefore, China relies heavily on the imports of high-end integrated circuits. In 2018, the import volume of integrated circuits in China was 417.60 billion units, increasing by 10.80% YOY; the import value was USD 312.06 billion, increasing by about 20% YOY; the export volume was 217.10 billion units, increasing by 6.20% YOY; the export value was USD 84,636 million, increasing by 26.60% YOY. China's trade deficit in integrated circuits reached USD 227.40 billion in 2018 and is still growing. China has become an important market for global chip enterprises. In 2018, Chinese enterprises contributed more than half to the sales revenue of major U.S. chip enterprises such as Qualcomm, Broadcom, Micron and Marvell.

According to CRI, the growth of China's integrated circuit market in recent years are mainly driven by automotive electronics, industrial automation, Internet of Things (IoT), communication equipment, etc. Global personal computer production is declining while smart phone production still has space for further expansion. The development of cloud computing, IoT, big data, 5G and other relevant industries boost the demand for integrated circuits. China is the world's largest foundry, automobile producer and consumer and electronics manufacturing base. It is expected that for a long time in the future, China will remain the world's largest integrated circuit consumer, and the market size of integrated circuits in China will continue to grow. In 2018, the production volume of automobiles in China decreased to 27.81 million units by 4.20% YOY while that of new energy vehicles (electric vehicles) increased to 1.27 million units by about 60% YOY. A new energy vehicle has far greater demand for integrated circuits than a fuel vehicle. With the rapidly expanding production of new energy vehicles, the automotive industry has become a major driving force for the growth of China's integrated circuit market. In 2018, the production volumes of smart phones and personal computers in China reached more than 1.30 billion units and about 300 million units respectively, both ranking the first in the world.

As labor costs keep rising in recent years, it is indispensable for China to enhance automation in manufacturing. The growing demand for industrial automation equipment such as CNC machine tools and industrial robots increases the demand for integrated circuits.

In the context of wider IT applications and booming IoT, China has an increasing demand for smart cities, smart logistics and industrial monitoring. According to CRI, the market size of IoT in China exceeded CNY 1 trillion in 2018, which means that the demand for integrated circuits on China's IoT market is also rising rapidly.

According to CRI, as China lags behind in integrated circuit technologies, China's integrated circuit industry and its downstream industries will face huge risks such as production suspension in the Sino-U.S. trade war and other international trade disputes or sanctions. Theoretically, the localization of integrated circuits may take 10 to 20 years with an investment of over USD 200 billion. Actually, it cannot be achieved within 20 years in lack of funds, advanced technologies and talents. It is expected that in the next few years, some Chinese integrated circuit enterprises will improve technologies and production capacity by importing advanced technologies and equipment, introducing high-end talents and even merging with or acquiring overseas integrated circuit enterprises. For global integrated circuit enterprises, the Chinese market is full of

investment enterprises.

Topics covered:

Status of global integrated circuit industry

Chinese government's supportive policies on the integrated circuit industry

Supply of integrated circuits

Market demand for integrated circuits

Major integrated circuit enterprises in China

Analysis on import and export of integrated circuits in China

Threats and challenges to the integrated circuit industry

Prospect of the integrated circuit industry from 2019 to 2023

Impact of the Sino-U.S. trade war on the integrated circuit industry

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