

# Research Report on China Integrated Circuit Industry, 2018-2022

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#### **Abstracts**

#### **DESCRIPTION**

The Chinese government strongly supports the integrated circuit industry, which is the foundation and core of the information industry. The central government and a number of local governments have issued encouraging policies to foster the industry in fiscal revenue and infrastructure. As the strategy of Made in China 2025 is carried out, the transformation and upgrading of the industry is accelerating, which drives the demand for integrated circuits. It is expected that in the coming years, the Chinese government will continue to intensify the support for the IC industry.

In 2017, the sales value of local IC companies reached approximately USD 80.15 billion, representing an increase of more than 20% YOY. Among it, that of the IC manufacturing industry reached about USD 21.55 billion, and that of the design industry and the packaging and testing industry were respectively USD 30.71 billion and USD 27.99 billion.

According to CRI's research, China's integrated circuit industry continues to develop after joining the WTO, but still far lags behind the global advanced level. Compared with leading international companies, China's chip manufacturing industry is at least 1 to 2 generations behind in terms of the advanced technologies. The IC design in China still stands at a low level and makes single products. The gap of technologies on packaging and testing between Chinese companies and International mainstreams is to be bridged. Besides, China's high-end IC products heavily rely on imports. In 2017, China imported 377 billion units of integrated circuits, with an increase of 10.1% YOY, and the import value reached USD 260.14 billion, with an increase of 14.6% YOY. In the same year, China exported USD 66.88 billion of integrated circuits, with a deficit of nearly



USD 200 billion. China is already an important market for global chip companies. For example, in 2017, the sales value of several major US chip companies to China exceeded USD 50 billion. Among them, more than half of the sales revenue of Qualcomm, Broadcom, Micron, Marvell and Skyworks came from the Chinese market.

CRI considers that segments such as automotive electronics, industrial automation, internet of things and communications equipment have been the main driving force for China's integrated circuit market in recent years. The global PC production has been on the decline while that of smart phones is likely to increase. At the same time, the development of related industries such as cloud computing, internet of things and big data has propelled the demand for integrated circuits.

In China, the production and sales volumes of consumer electronics and traditional home appliance basically remain stable. Driven by the upgrading of consumption and smart home appliances, the IC market has grown slightly. The main drivers for such growth arise from the increase in smart mobile devices and the rapid growth of emerging consumer electronics products such as drones.

China is the world's largest automotive producer and consumer, as well as the largest electronics manufacturing base and the largest manufacturing outsource base in the world. It is expected that China will remain the world's largest IC consumer market for a long time, and the market size will continue to grow. In recent years, automotive electronics has been a hot area in the global IC market. In 2017, the auto production in China reached 29.02 million units, with an increase of 3.2% YOY, of which new energy vehicles (electric vehicles) were 794,000 units, with an increase of approximately 54% YOY. The demand for integrated circuits of each new energy vehicle far exceeds that of traditional fuel vehicles. With the rapid increase in the production of new energy vehicles in China, the automotive sector has become an important driver for the growth of the IC market.

In recent years, as China's labor costs increase, automation has gradually become the common choice of the manufacturing industry. As the output of industrial automation equipment such as CNC machine tools and industrial robots continues to rise in China, the demand for integrated circuits is rapidly lifting.

With the rising informatization and rapid-developed internet of things in China, the demand for smart cities, smart logistics and industrial monitoring has continued to increase. According to CRI, in 2017, the market size of internet of things exceeded CNY 1 trillion. Subsequently, its development has brought about a rise in demand for various



sensors.

According to CRI's analysis, due to the relatively outdated technology of domestic IC industry, the manufacturing will face enormous risks once it involves in international trade disputes or sanctions. For Chinese IC manufacturers, it will take a very long time (10-20 years) and numerous investment (above USD 100 billion) to improve the technologies of integrated circuits. It is expected that in the coming years, some local IC companies will upgrade the technical level and production capacity of integrated circuits through self-developed and imported advanced technologies and equipment. For overseas IC-related companies, the Chinese market provides plentiful investment opportunities.

This report may convey more information to readers:

The economic environment of China's IC industry

Supportive government policies for the IC industry

Supply status of China's IC industry

Analysis on the demand for integrated circuits in the Chinese market

Competition landscape of IC industry in China

Analysis on the imports and exports of integrated circuits in China

Major Chinese enterprises in the IC industry

Threats and Challenges of China's IC industry

Prospect of China's IC industry, 2018-2022



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- 4 Tongfu Microelectronics Co., Ltd.
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- 7 Tianshui Huatian Technology Co., Ltd.
- 8 Will Semiconductor Co. Ltd.
- 9 Gigadevice Semiconductor Inc.
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- 15 Ingenic Semiconductor Inc.



- 16 Zhejiang East Crystal Electronic Co., Ltd.
- 17 Tech Semiconductors Co., Ltd.
- 18 Netac Technology
- 19 Unigroup Guoxin Co., Ltd.
- 20 All Winner Technology Co., Ltd.



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