

CHINA GLASS MACHINERY INDUSTRY

Daxue Consulting on behalf of the Italian Trade Agency
June, 2022

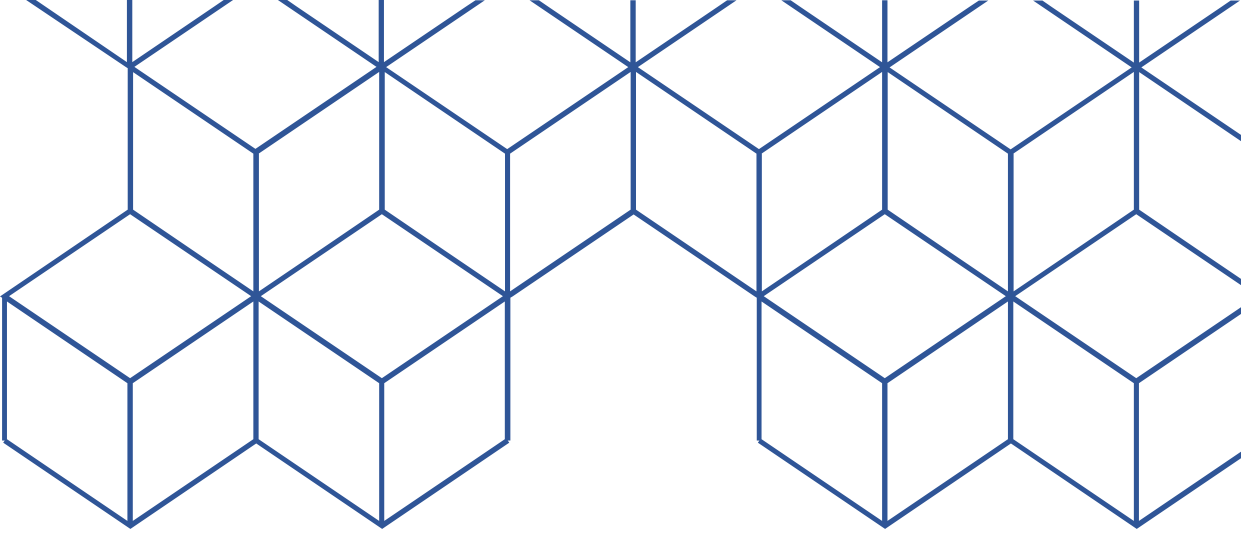


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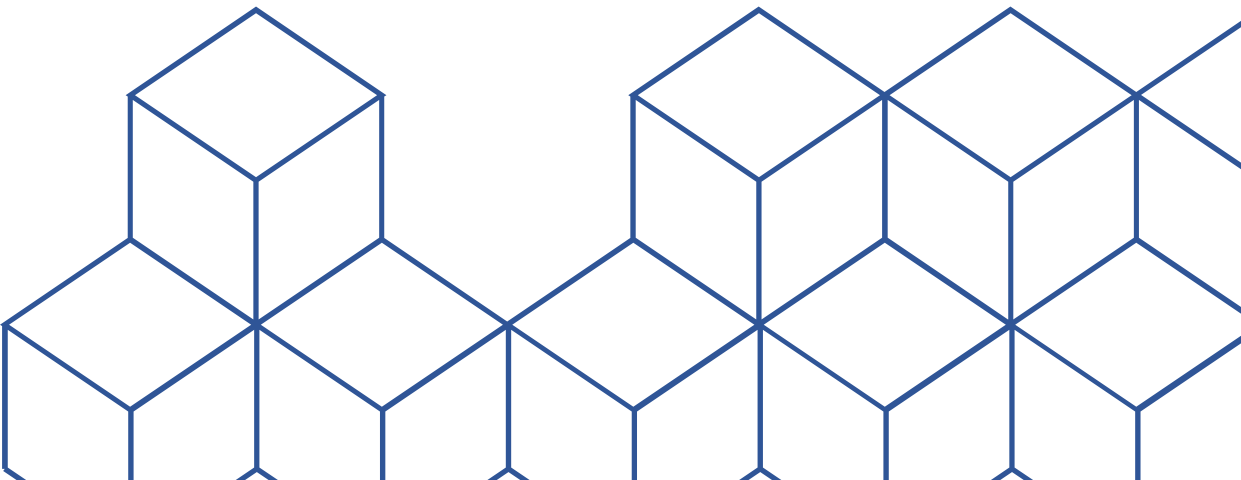


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Executive Summary



The "China Glass Machinery Industry" report provides an in-depth understanding of Mainland China's glass machinery market. In the early stage of modern China's glass and glass deep processing industry, China relied on imports. On the one hand, the glass produced by imported machinery was of better quality; on the other hand, imported glass machinery had some technologies that domestic glass machinery could not achieve at the time. In recent years China's glass and glass deep processing industry has developed rapidly; most domestic production and processing equipment can meet the needs of domestic glass manufacturers, and foreign machinery and equipment have gradually begun to lose competitiveness. However, in some high-end segments that require high-quality equipment, foreign machinery still has a competitive advantage. The market demand for the Chinese glass machinery industry in 2021 is estimated at EUR 1.6 billion.

The deep-dive research on various glass machinery suppliers provides you with insights related to market entry options, product development, marketing channels, and value propositions. SWOT analysis based on the data we collected from both primary and secondary research generates insights into the strengths and weaknesses of Italian, as well as foreign brands, in China. Italian brands have a good reputation in the industry and can surpass domestic players in the field of advanced technologies, processes, and expertise. However, some Italian products and services might not be well-aligned with the real needs and expectations of the Chinese audience and seem more expensive relative to the value they provide. Thus, Italian brands or foreign brands will have both certain opportunities and threats when operating in China market now and in the future.

Last but not least, our recommendations, based on 4P analysis, delve into the best practices in the market, including industries/subindustries in which the imported machine can thrive, reasons leading to bidding losses, online and offline marketing channels & sales, samples of the procurement process, and so on.



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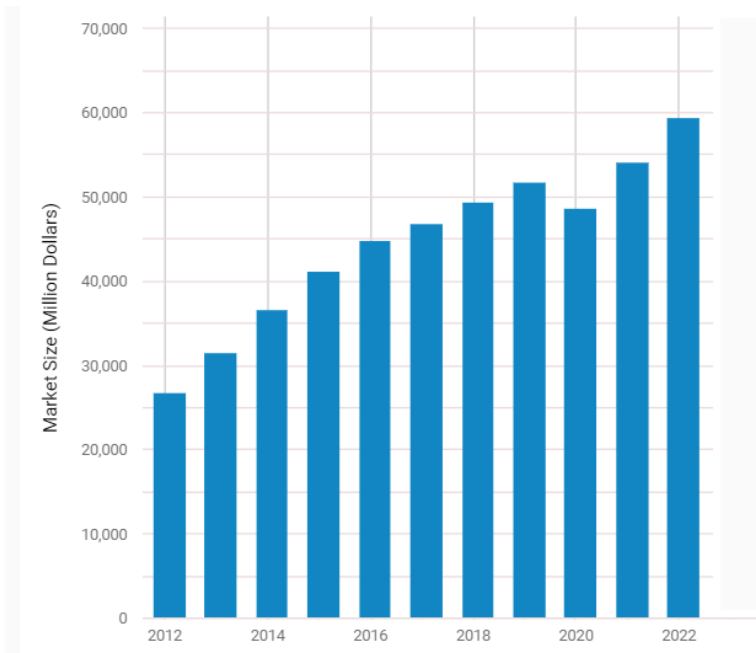
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CHINA GLASS INDUSTRY

Market Overview – Glass Industry

The market size, measured by revenue, of the China Glass Manufacturing industry, is estimated at EUR 52.24 billion (IBIS World) in 2022

In 2020, the COVID-19 outbreak had a significant impact on the glass industry in China. Glass production, transportation, and sales were significantly negatively impacted in the first quarter of 2020 as domestic factories in China had to stop production due to strict government control measures. With the effective control of the outbreak in China, glass manufacturing has gradually returned to normal levels in 2021. Demand at home and abroad is expected to increase. However, foreign businesses are still greatly affected by the epidemic



Source: IBIS World

Future Trends

- The market size is expected to **increase 9.5% in 2022**
- The market size has **grown 4.9% per year on average** between 2017 and 2022. It **increased faster** than the Manufacturing sector overall
- As a result of the previous excessive growth in glass production capacity, the government introduced a **capacity replacement policy**, and the **future glass industry will focus more on the quality of glass rather than capacity**
- The Glass Manufacturing industry in China is the **71st** ranked Manufacturing industry by market size and the **135th** largest in China



Expert

D-Level,
Glass Manufacturer



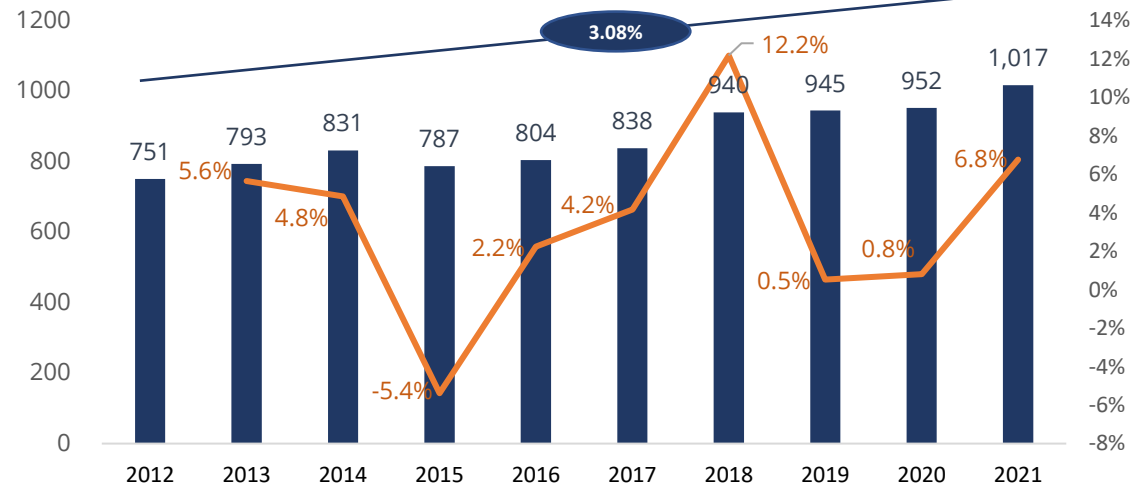
In terms of production, I think the future production of glass in China will grow by 5-10% per year in the future.

The construction glass is expected to remain stable, driven by new real estate projects and the energy-saving renovation of existing buildings, while photovoltaic photothermal glass, transportation glass, and pharmaceutical glass will maintain growth

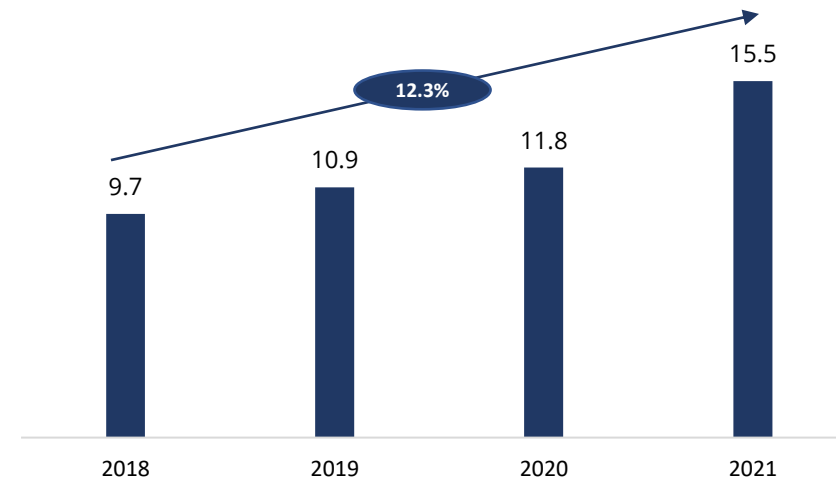
Market Overview - Flat Glass - A Positive Outlook for The Domestic Flat Glass Market

China is the largest producer and consumer of flat glass with total output growing at 3.08% (CAGR) over the last 10 years

China's Flat Glass Production 2012-21 (Mn weight case*)



Flat Glass total Revenue (EUR Bn)



*1 weight case = 50 kg

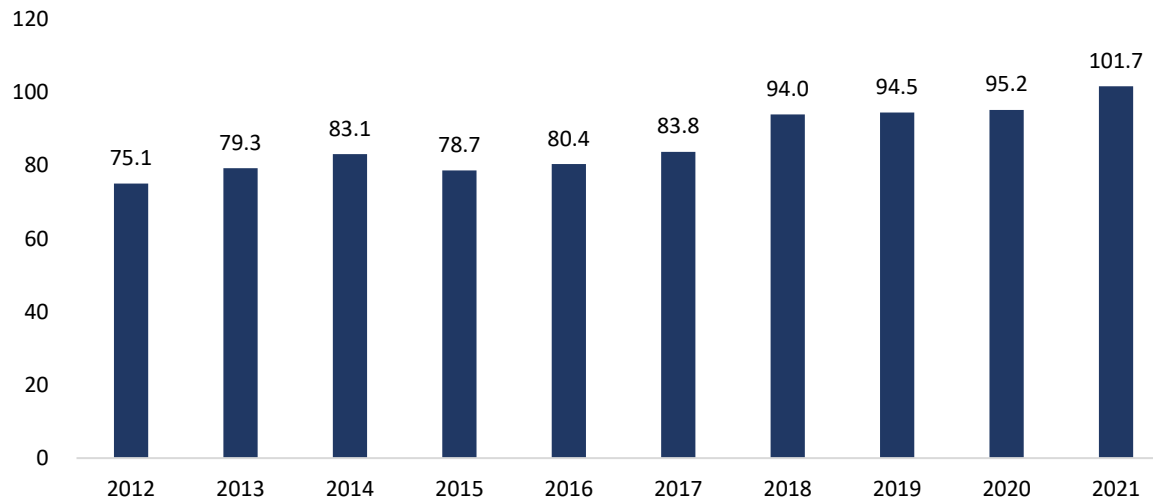
■ Total production — YoY growth rate

- The YoY growth rate of flat glass production decreased sharply from 12.17% in 2018 down to 0.53% in 2019. One of the main reasons is that China issued the **Implementation Measures for the Replacement of Production Capacity in the Steel, Cement, and Glass Industry** to address the serious problem of overcapacity in the flat glass industry. However, the YoY growth rate has started picking up since 2020 due to the introduction of new flat glass production lines.
- The CAGR rate of China's flat glass production is 3.08%, which indicates that the glass industry has **grown steadily over the past decade**.

Curved Glass Outlook

Curved glass is a product of deep processing of flat glass, and its production accounts for approximately 10% of China's flat glass production

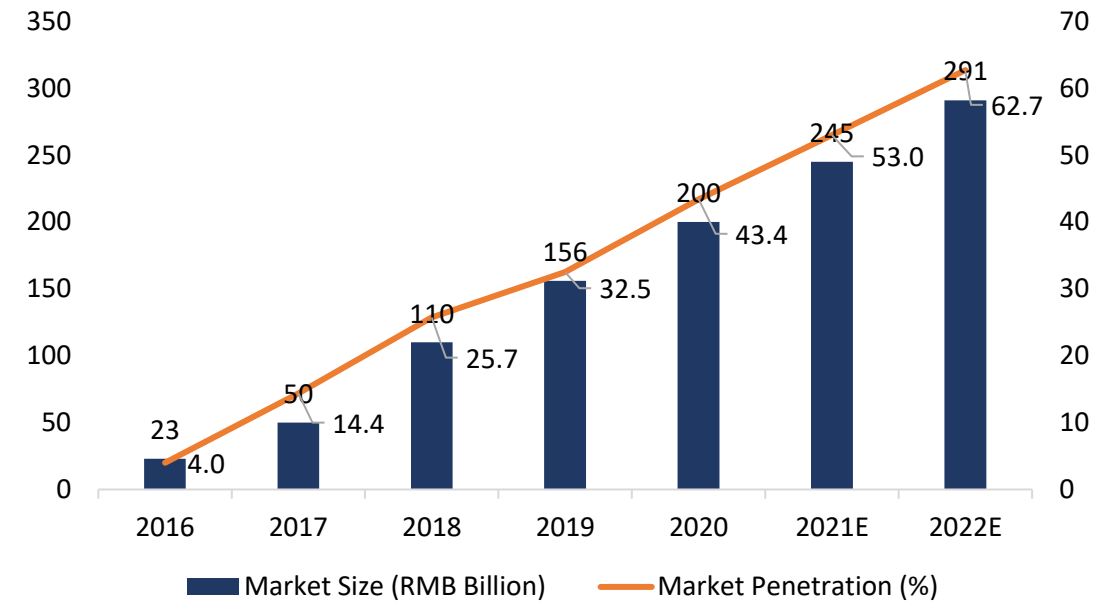
Estimated China's Curved Glass Production 2012-21*
Mn weight case



1 weight case = 50 kg

* Estimated China's curved glass production in 2012-2021 is based on expert interviews and team analysis

China 3D Glass Market Size and Penetration Rate

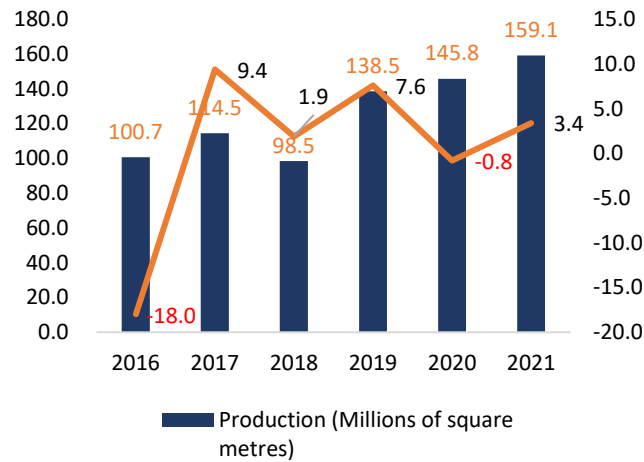


- **Annealed Curved Glass, laminated curved glass, and double curved glass** are the main three types of curved glass in the Chinese market.
- In China, curved glass is mainly used in the following industries or products: residential buildings, commercial and public buildings, display cabinets, glassware, and smart end products (3D glass).
- **3D glass:** As the technology continues to mature, 3D glass application scenarios continue to expand, market demand continues to increase, and **the market size of 3D glass is on a growth trend in the future**

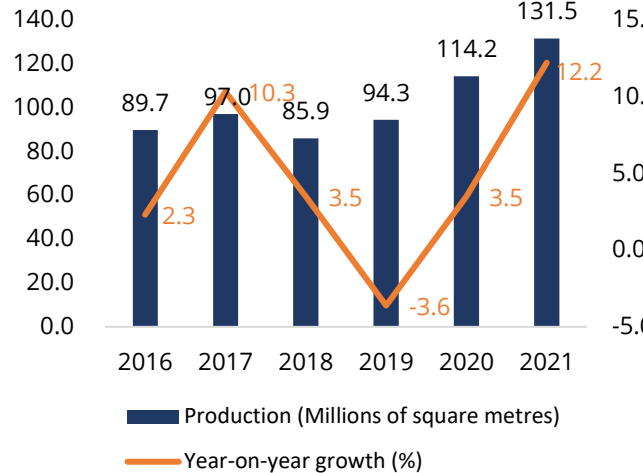
Market Overview - Production by Glass Type

The general trend for all types of glass is growing, especially photovoltaic glass and electronic glass, which are two important industries that China will focus on in the future

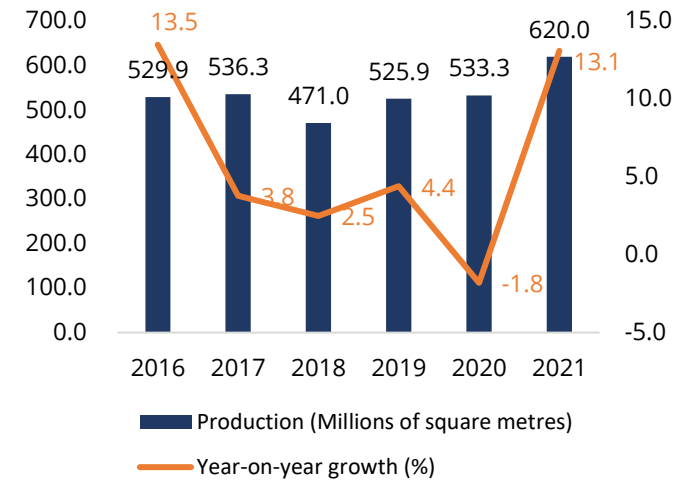
Insulating Glass



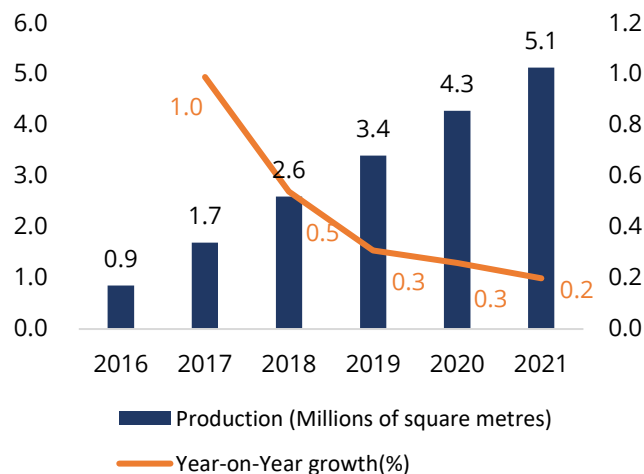
Laminated Glass



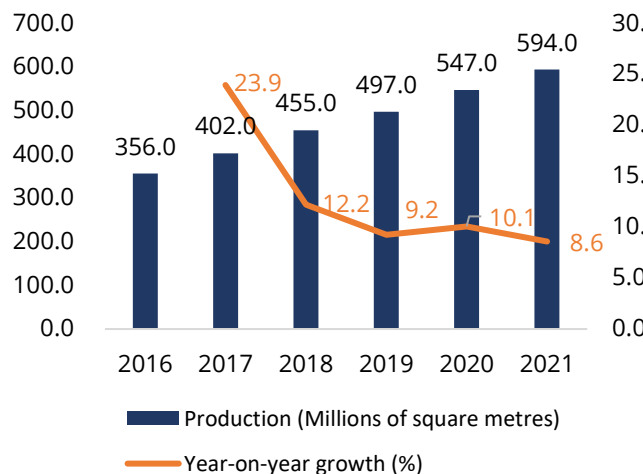
Tempered Glass



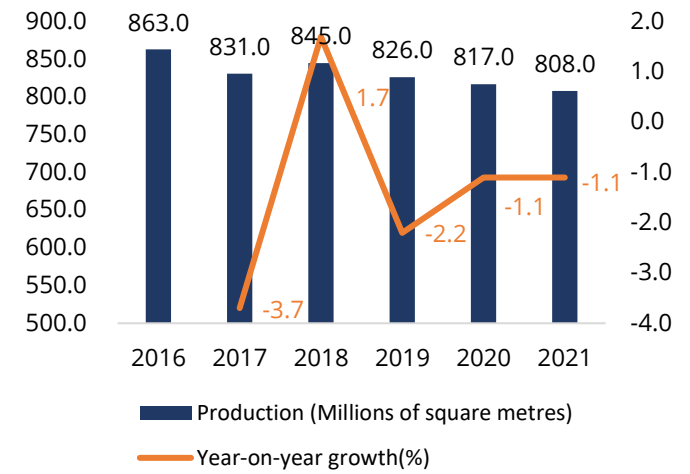
3D Glass



Photovoltaic Glass



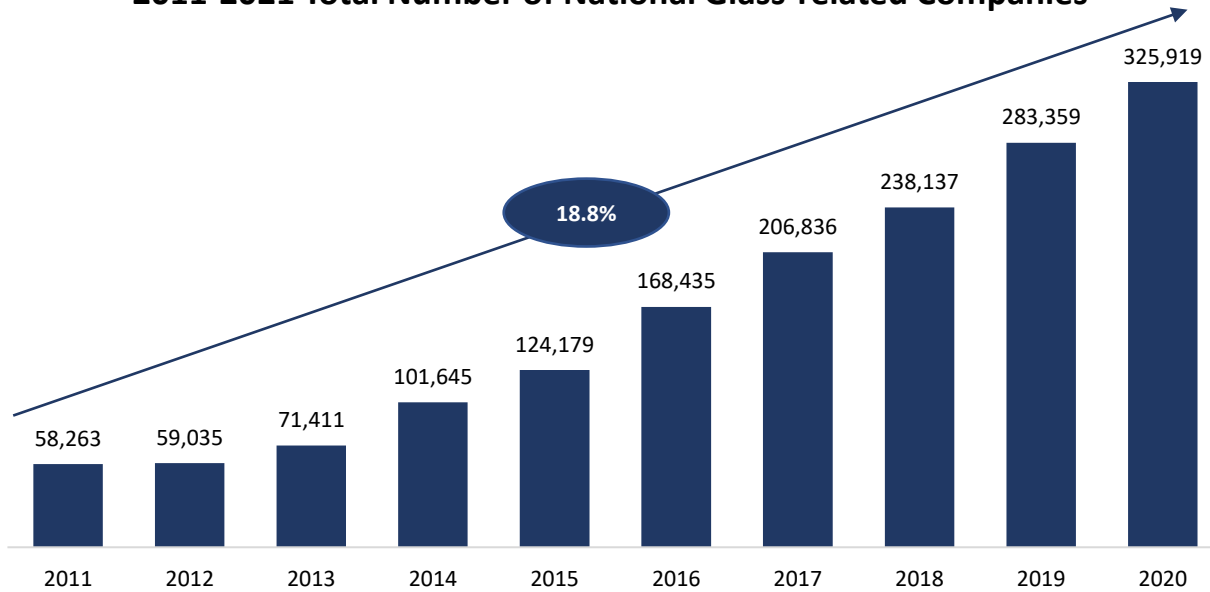
Electronic Glass



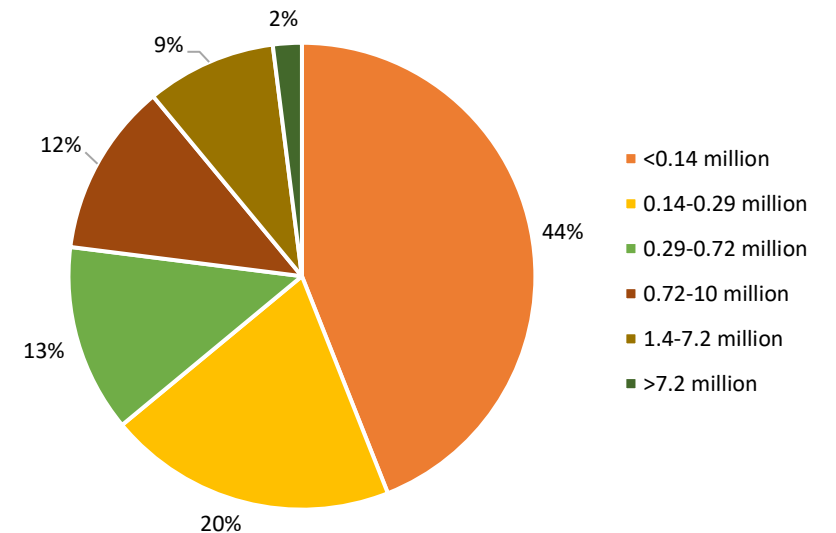
Industry Dynamics – 44% of Downstream Businesses Are Small in Size

The number of glass-related companies registered has increased sixfold in the last ten years, with the majority of them having a registered capital of less than EUR 0.72 million (RMB 5 million)

2011-2021 Total Number of National Glass-related Companies



National distribution of registered capital of glass-related enterprises in 2021 (EUR million)



- Over the past 10 years, the number of glass-related business registrations nationwide **has climbed at 18.8% CAGR**. Although the number of glass-related companies has **increased sixfold compared to a decade ago**, flat glass production capacity has not grown as rapidly as the number of companies, because most of the newly-registered glass-related companies are non-manufacturing ones.
- In terms of registered capital, **nearly 80%** of glass-related enterprises in China have a registered capital of less than EUR 0.72 million (RMB 5 million) while those with a registered capital of more than EUR 7.2 million (RMB 50 million) account for 2% of the total. It indicates that the **glass market in China is highly fragmented**. Small companies account for about half of the total glass market.



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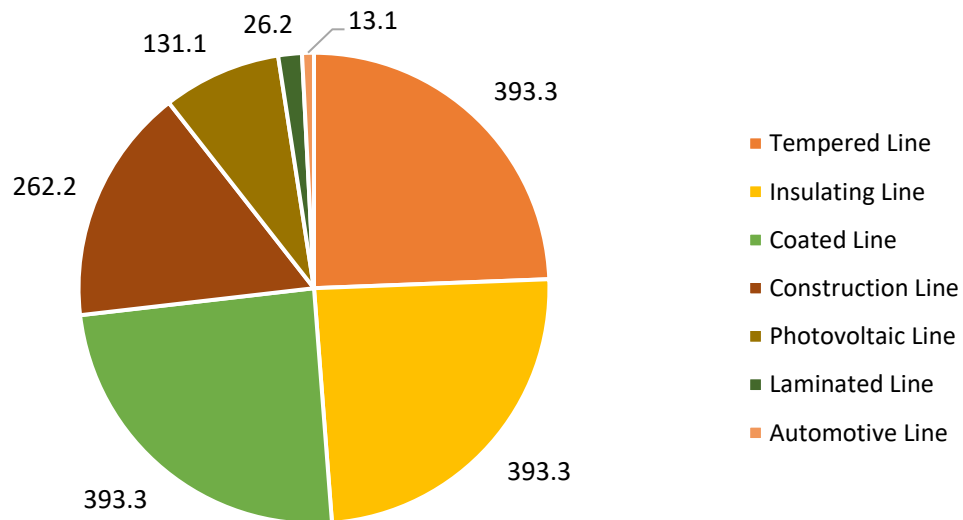
CHINA GLASS MACHINERY INDUSTRY

Market Overview

The market demand for glass machines in China is estimated at EUR 1.6 billion annually

In the early stage of modern China's glass and glass deep processing industry, China relied on imports. On the one hand, the glass produced by imported machinery was of better quality; on the other hand, imported glass machinery had some technologies that domestic glass machinery could not achieve temporarily. In recent years **China's glass and glass deep processing industry has developed rapidly**, most of the production and processing equipment can meet the needs of glass manufacturers, foreign machinery and equipment gradually lost competitiveness, but **for some high-end, high-quality equipment, foreign machinery still has a competitive advantage.**

China's Glass Machinery Market Demand (EUR Mn)



2021 Average exchange rate: EUR 1 = CNY 7.6282

Current and Future Developments

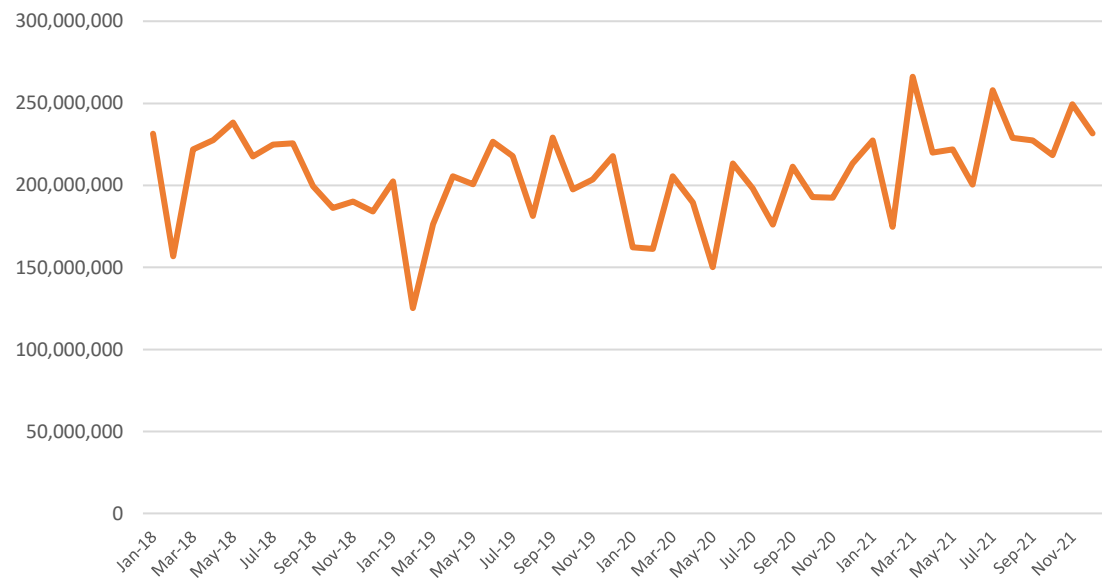
- The market demand for glass machinery in China is the sum of estimations for 7 production lines in the pie chart.
- For some **high-end and special equipment, foreign brands account for a relatively large proportion**. The proportion of foreign and domestic machines is approximately 70% and 30%.
- China's glass machinery industry is **still in the development stage** and will **continue to develop at a steady pace in the future**.
- In the future, the demand for individual machines in China's glass processing industry will decrease, and **line solutions will become the future trend**.

Trade Overview – Import Values

Total import has been gradually increasing between 2019 to 2021, despite the impacts of the pandemic

Overall total import performance between 2019 and 2021 has been positive, with a CAGR of 2.7%. Top partners with China are US, Germany, Italy, South Korea, Japan, and Taiwan. US and European brands have a good reputation in the industry and can surpass domestic players in the field of advanced technologies, processes, and expertise.

Glass Machinery Imports 2018-21 (EUR, Monthly)



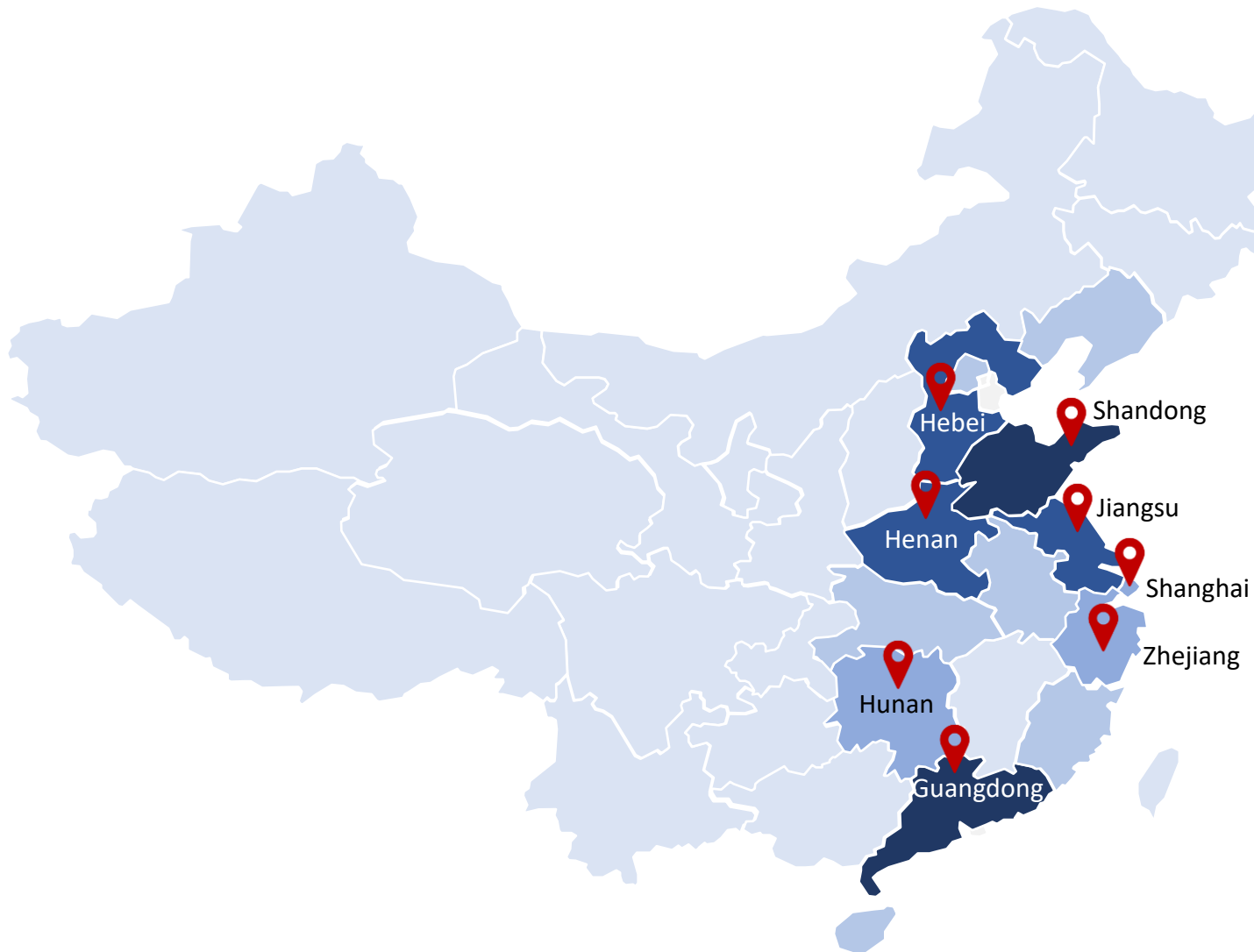
Future Trends

- The market is projected to rebound significantly in the next 2-3 years after the pandemic is under control, especially for foreign machinery as import becomes easier.
- Extrapolation suggests the market will have an estimate of about 4.3% CAGR between 2022 and 2025.
- Grinding and polishing machines for flat glass are increasing in terms of export potential; its ratio in terms of all flat glass machinery import increased by roughly 9% between 2019 and 2021.
- Firing furnaces have seen an increase in import ratio for curved glass machinery by roughly 5% between 2019 and 2021; a dip occurred in 2020 possibly owing to the pandemic, but quickly recovered.

Foreign glass machinery brands operate in China with different models. Some players build manufacturing capacity in China to better serve local customers while some manufacture machines in a 3rd country then ship to China. Besides, several companies choose to establish long-term relationships with agents for selling in China.

Regional Concentration of Companies in China – Strong Presence in East and South

Guangdong, Shandong, Jiangsu, Henan, and Hebei are the top 5 provinces in which major glass machinery manufacturers are located, accounting for approximately 75% of total business units



Regional Concentration

- Glass manufacturers in China are concentrated in **South China**, mainly in Guangdong, and in **East China**, mainly in Zhejiang and Jiangsu. **Henan and Hebei also have a high number of manufacturers** due to the fact that they are both provinces with **developed heavy industries, mature supply chains, and relatively low labor costs**.
- In China, there are **several popular regions depending on the type of equipment**. For example, there are many suppliers of line control and cutting machine machines from the Anhui Province. Luoyang, in Henan, is famous for its tempering furnaces in China.



Expert

D –Level, Glass Machinery Manufacturer



Guangdong has the largest number of glass machinery manufacturers, **accounting for at least 25% to 30% of the market share** of the entire glass machinery industry, with a large market capacity. The main reasons for this are the advantages of its **geographical location, mainly in terms of the talent pool, technological advantages, and support of local policies**.

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Thank you

for your time and interest in China's glass machinery industry

For any assistance you may need on the Chinese market, please find the Italian Trade Agency offices contacts at this link: <http://www.ice.it/en/markets/china>.

For Eastern China provinces, please contact us at shanghai@ice.it. For any other inquiries about this report, please contact dx@daxueconsulting.com.



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