

Sino Nordic Business Development Center **NEWSLETTER VOL2-2020**

China issued the “Opinions on Accelerating the Development of Mechanization of Planting Facilities”

Recently, the Ministry of Agriculture and Rural Affairs issued the Opinions on Accelerating the Development of Mechanization of Planting Facilities, which clearly stated that the standardization of the layout of facilities, the mechanization of facilities construction, the mechanization of production operations, the intelligence of facilities and equipment and the socialization of production services should be vigorously promoted. By 2025, the total area of planting facilities, mainly plastic greenhouses, solar greenhouses and continuous greenhouses, will be maintained at more than 2 million hectares, and the mechanized technical equipment system and social service system for the production of the main varieties of vegetables, flowers, fruit trees and herbal medicines will be basically established, with the overall level of mechanization of planting facilities reaching more than 50%. This is China's first time to promote the mechanization of planting facilities to make systematic deployment, and is an important action to promote the overall development of agricultural mechanization.



Source: http://www.moa.gov.cn/govpublic/NYJXHGLS/202006/t20200629_6347402.htm

Weiheng Agriculture: Analysis of Trends in the Establishment of National Modern Agricultural Parks in 2020

On March 06, 2020, the General Office of the Ministry of Agriculture and Rural Affairs and the General Office of the Ministry of Finance issued a "Notice on the Establishment of National Modern Agricultural Industrial Parks in 2020", in which the Ministry of Agriculture and Rural Affairs and the Ministry of Finance measured the application indexes of each province, autonomous region, municipality directly under the central government and the Xinjiang Production and Construction Corps according to relevant factors, and released 40 application quotas.

Since the establishment of the National Modern Agricultural Industrial Park was launched in 2017, as of June 27, 2019, the Ministry of Agriculture and Rural Affairs approved the establishment of 114 national modern agricultural industrial parks, including 65 at the national level and 49 at the provincial level.

This paper analyzes statistics and visualizes the layout, conditions, amount, awards and specific park data for the establishment of national modern agricultural industrial parks from 2017 to 2020, providing reference for those who have applied or want to apply for a national modern agricultural industrial park, optimizing the choice of leading industries, enhancing farmers' participation, exploring new modes of agricultural and rural development, and promoting the revitalization of rural industries. Below are the core viewpoints:



It is expected that after the launch of the establishment of National Modern Agricultural Industrial Park in 2020, there will be 154 multi-functional, complex integrating "big agricultural concept, whole industrial chain, deep integration, greening, high added value, and strong competitiveness".

In 2020, China will focus on supporting the creation of high-quality grain and oil, healthy aquaculture, and modern seed industry industrial parks, and encourage the creation of Chinese herbal medicine industrial parks based on the needs of industrial development. Priority will be given to supporting eligible poor counties, grain production functional areas, important agricultural production protection areas, special agricultural products advantageous areas, and national modern agricultural demonstration areas.

In terms of the layout and conditions for the establishment of national modern agricultural industrial parks, in 2020, China will focus on supporting the establishment of industrial parks for high-quality cereals and oil, healthy farming and modern seed park, and encouraging the establishment of industrial parks for Chinese herbal medicine in conjunction with industrial development needs. Priority will be given to supporting eligible impoverished counties, functional grain production zones, major agricultural production protection zones, distinctive agricultural product advantage zones, and national modern agriculture demonstration zones.

Judging from the industrial concentration degree of modern agricultural industrial parks that have been approved to be established between 2017-2019, it can be seen that the tendency of non-grainization is relatively serious. 41.94% of the industrial parks have selected two or more leading industries with weak correlation, have not focused on a single dominant industry, and do not have prominent industrial advantages, which is not conducive to a bigger and stronger industry. Judging from the current distribution of the leading industries, first is fruit industry such as citrus, kiwi, apple and other fruits; followed by vegetable industries such as mustard, kimchi, radish, and garlic; followed by grain industries such as rice, wheat, potato, and barley; followed by tea and the beverage industry such as coffee; then there is the livestock and poultry and Chinese medicinal material industry; at present, there are relatively few industrial parks with aquaculture, flower gardening, sugar (sugar cane), and oil (peanut) as the leading industries.

Source: <https://www.weihengag.com/home/article/detail/id/4828.html>

Zhejiang will Establish 100 Digital Agriculture Factory Pilot Demonstrations by the End of 2020

In June, the Zhejiang Provincial Department of Agriculture and Rural Affairs decided to launch the second batch of digital agricultural factories based on the 72 digital agricultural factory pilot demonstrations identified in 2019, aiming to complete at least 100 digital agriculture factory pilot demonstrations in total by the end of 2020.

Digital plant (breeding) factory

The construction focuses on the production environment, production process, distribution and marketing, quality and safety, ecological protection and other aspects, promoting the application of equipment and technology such as environmental monitoring, intelligent control and intelligent irrigation in facility agriculture, and building an intelligent production management system.

Digital ranch

The construction shall be carried out in accordance with the "Notice of Zhejiang Provincial Animal Husbandry and Agricultural Machinery Development Center on Printing and Distributing the Digital Construction Guidelines for Pig Farms of More than 10,000 Heads (Interim)" (Zhemufa [2020] No. 20).

Digital fishery

The construction shall focus on promoting the application of real-time monitoring of the water environment, precise feeding management, disease monitoring and early warning, circulating water equipment control, and net cage elevation control to improve the level of digital application of production, operation and management.

Source: <https://mp.weixin.qq.com/s/5X5AVILDHhnamRtPsCtnXg>

Overview of the Development of Prefabricated Buildings in 2019

At the end of January this year, the Standards and Quota Department of the Ministry of Housing and Urban-Rural Development issued the "Notice on the Development of Prefabricated Buildings in 2019." The Science and Technology and Industrialization Development Center of the Ministry of Housing and Urban-Rural Development cooperated with the statistical work and recently released the 2019 National Prefabricated Building Development Report. ([Read the original article](#))

Overall development

1. Development scale

According to statistics, in 2019, 420 million square meters of new assembled buildings were under construction nationwide, an increase of 45% over 2018, accounting for about 13.4% of the new construction area, with an average annual growth rate of 55% in the past four years. Overall, the assembly building has shown good development in recent years, and has played an important role in promoting the transformation and upgrading of the construction industry and promoting green and high-quality development in urban and rural construction.

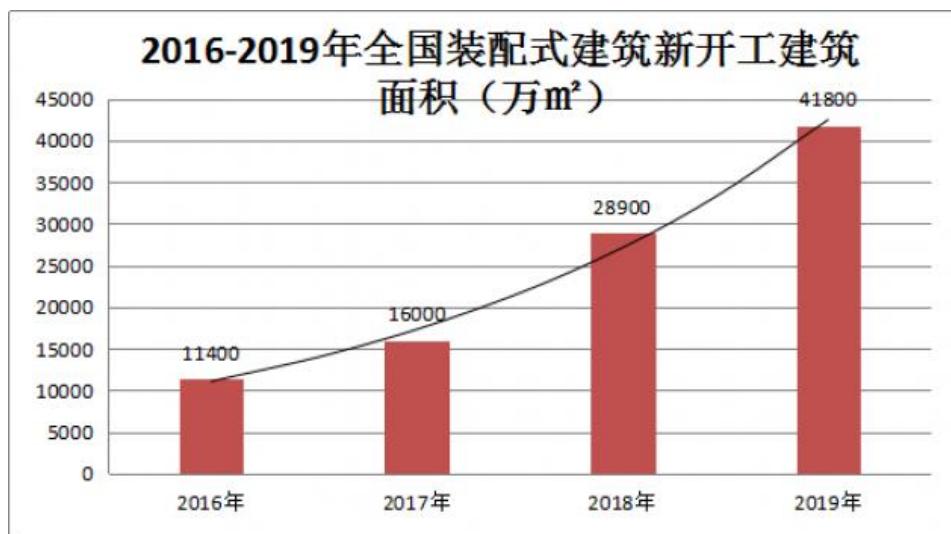


Figure 1: New construction floor space of assembled buildings nationwide in 2016-2019 (10,000m²)

2. Regional development

Key promotion regions lead the development, and other regions also show scale development. According to the document, the three major urban agglomerations of Beijing-Tianjin-Hebei, Yangtze River Delta and Pearl River Delta are the key promoting regions, other cities with a resident population of more than 3 million are actively promoting regions, and the remaining cities are encouraging promoting regions. In 2019, the proportion of new construction of assembled buildings in key promoting regions accounted for 47.1% of the country, and the combined proportion of new construction of assembled buildings in actively promoting regions and encouraging promoting regions was 52.9%. Assembled buildings continue to lead the country in the developed eastern region, while other provinces and cities are gradually showing a large-scale development. Shanghai's newly started prefabricated construction area in 2019 was 34.44 million m², accounting for 86.4% of its new buildings; Beijing's 14.13 million m², accounting for 26.9%; Hunan Province 18.56 million m², accounting for 26%; Zhejiang Province 7895 million m², accounting for 25.1%. In Jiangsu, Tianjin, Jiangxi and some other places, assembled buildings account for more than 20% of new buildings.

Judging from the statistics of the past three years, the newly-started prefabricated construction areas in key areas were 75.11 million m², 135.38 million m², and 196.78 million m², accounting for 47.2%, 46.8%, 47.1% of the national proportion respectively. These regions are strongly supported by assembly building policies and measures, and have a good foundation for industrial development, forming a good policy atmosphere and market development environment.

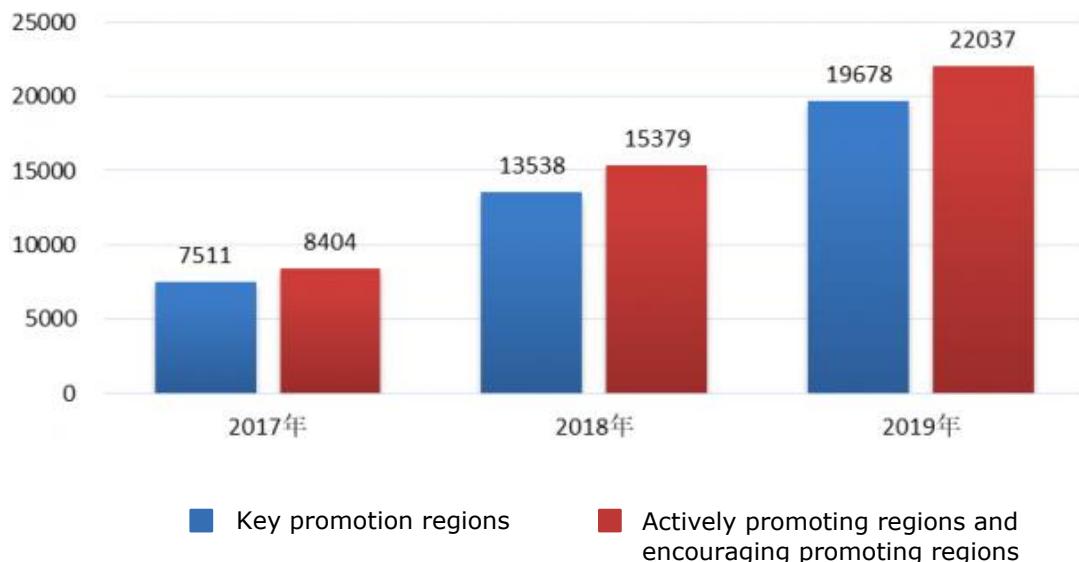


Figure 2: New construction area of prefabricated construction in the past 3 years (10,000 m²)

3. Structural development

In terms of structural form, the prefabricated concrete structure is still the main form, and the shear wall structure is the main form of prefabricated concrete residential buildings. In 2019, 270 million m² of newly started prefabricated concrete structure buildings were under construction, accounting for 65.4% of the newly started prefabricated buildings; 130 million m² of steel structure buildings accounted for 30.4% of the newly started prefabricated buildings; 2.42 million m² of wood structure buildings, and 15.12 million m² of other mixed-structure prefabricated buildings.

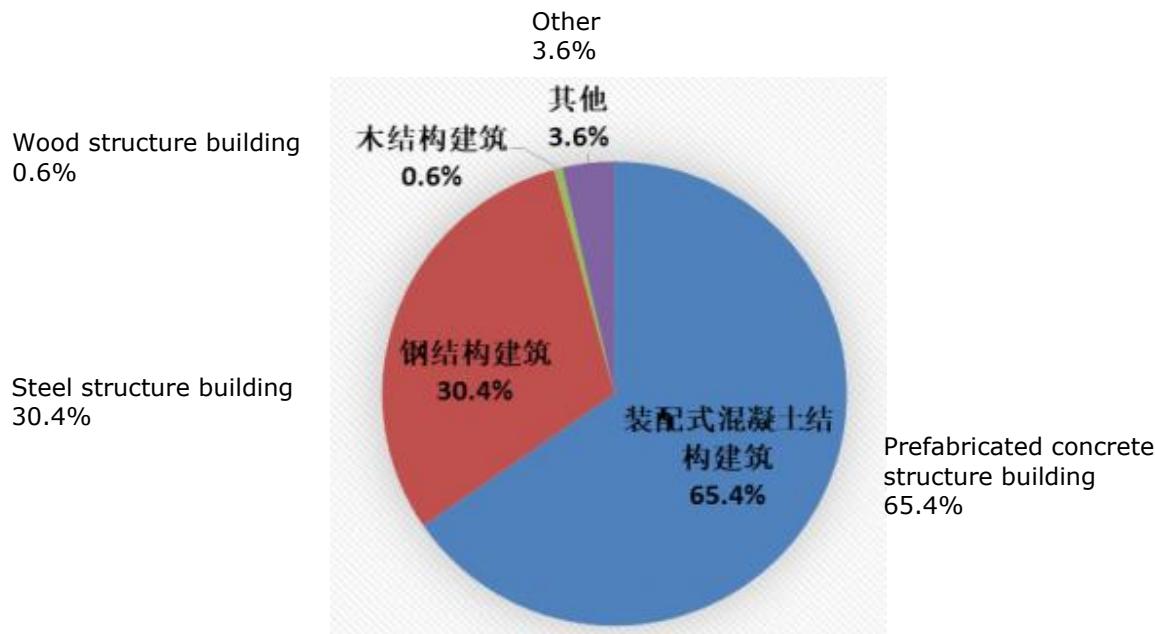


Figure 3: Newly started prefabricated buildings by structural type

In 2019, the Ministry of Housing and Urban-Rural Development approved seven provinces including Zhejiang, Shandong, Sichuan, Hunan, Jiangxi, Henan, and Qinghai to carry out steel-framed housing pilot projects, guiding the localities to clarify the pilot objectives, scope and key tasks of the pilot, organizing the development of a specific pilot work program, and implementing a number of pilot projects. With the deepening of the pilot work, the standard specifications, technical system, industrial chain and regulatory system of steel structure housing will be gradually improved, laying a good foundation for the development of steel structure assembled housing.

4. Building type application

In recent years, the application of assembled buildings in commercial housing has gradually increased. Among the newly-started prefabricated buildings in 2019, commercial housing was 170 million m², affordable housing was 60 million m², and public buildings were 90 million m², accounting for 40.7%, 14% and 21% of newly-started prefabricated buildings. Led by the support of local policies, especially the inclusion of requirements for the construction of assembled buildings in the control detailed planning and land grant conditions, the development of assembled buildings has been effectively promoted.

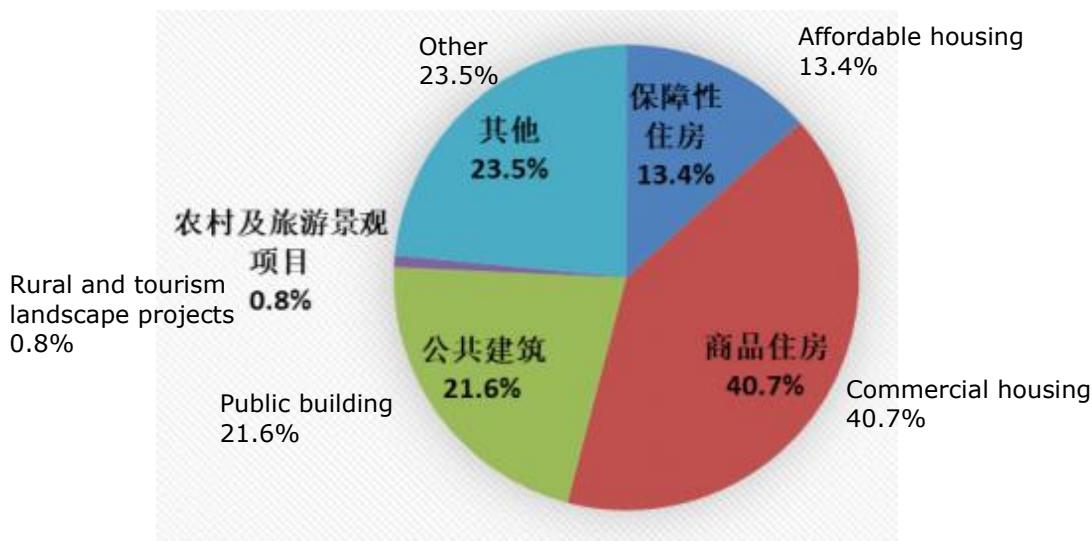


Figure 4: New Assembly Buildings by building type

5. Introduction of policy measures

Since the issuance of the Guiding Opinions of the General Office of the State Council on the Vigorous Development of Assembled Buildings, 31 provinces (autonomous regions and municipalities directly under the Central Government) have issued relevant policies and documents to promote the development of assembled buildings. From 2016 to 2019, the number of policies and documents related to assembled buildings issued by 31 provinces, autonomous regions and municipalities directly under the Central Government was 33, 157, 235 and 261 respectively, and the supporting facilities were continuously improved. Various economic incentive policies and technical standards have provided institutional safeguards and technical support for the promotion of the development of assembled buildings.

6. Technical standard support

After years of practice and accumulation, prefabricated concrete buildings have formed various types of technical systems, and established a relatively complete industrial chain with mutually coordinated structures, enclosures, equipment pipelines and decoration. In 2019, the Ministry of Housing and Urban-Rural Development issued the "Guidelines for the Development of Prefabricated Concrete Construction Technology System (Residential Buildings)" to guide the development direction of prefabricated concrete technology in various regions. The pilot projects of some leading enterprises for the development of steel structure housing provide practical exploration and accumulation. From 2016 to 2019, the number of standards and specifications related to assembled buildings issued by 31 provinces, autonomous regions and municipalities directly under the central government were 95,

95, 89 and 110 respectively, providing solid technical support for the development of assembled buildings.

7. Industry chain development

Driven by policies and led by the market, the capacity of industries related to the design, production, construction and decoration of assembled buildings is rapidly improving, while also driving the development of new specialized companies in component transportation, assembly and installation, and component parts production. According to statistics, in 2019, China has 2,483 precast concrete component production lines with a design capacity of 162 million m³; 2,548 steel structure component production lines with a design capacity of 54.23 million tons. Newly assembled and furnished building area increased from 6.99 million m² in 2018 to 45.29 million m² in 2019.

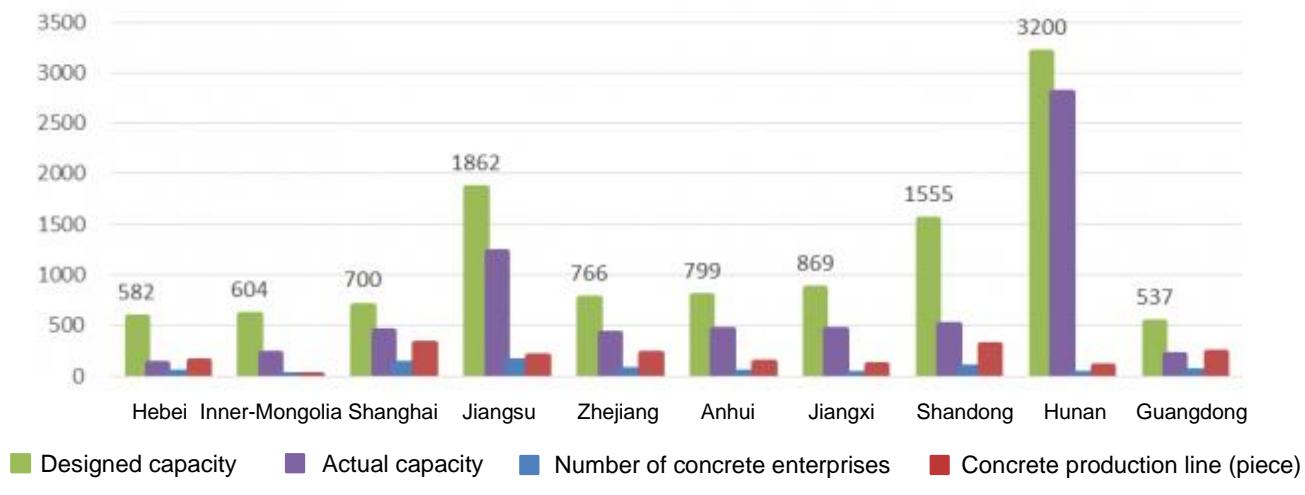


Figure 5 Producers and capacity of assembled concrete components in 2019
(top 10 provinces and cities in terms of capacity)

(Hunan Province has vigorously promoted the development of prefabricated buildings in recent years, and its comprehensive strength ranks the top of China, and has formed a "leading" effect in China. Hunan Province has initiated the construction of an intelligent construction platform for the entire industrial chain of prefabricated buildings, which provides new ideas for the development of prefabricated buildings nationwide, and enriches measures and means to promote the development of prefabricated buildings. The annual prefabricated construction and engineering technology expo is held in Changsha, the capital city of Hunan. For more information, please go to their website: <http://www.higbe.org/en/>)

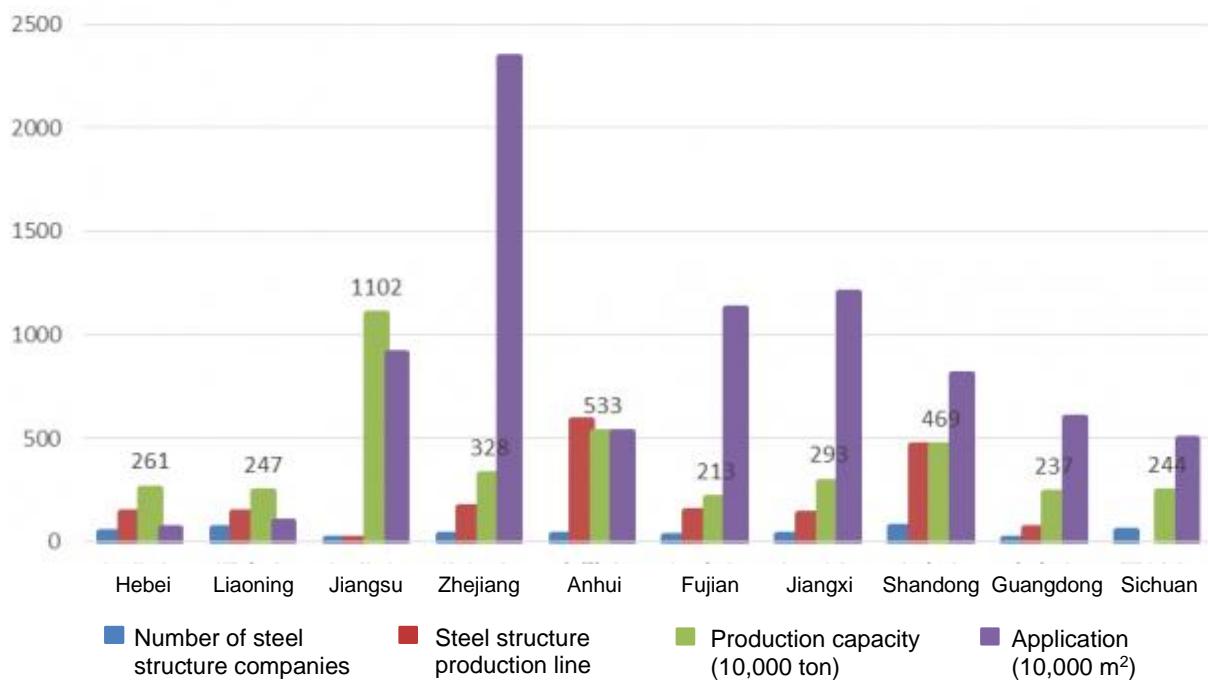


Figure 6 Steel structure companies and capacity in 2019 (top 10 provinces and cities in terms of capacity)

8. Full decoration development

According to statistics, in 2019, the fully furnished building area was 240 million m², compared to 120 million m² in 2018, which is double the growth level. Among them, the assembled and furnished building area in 2019 was 45.29 million m², and in 2018 this indicator was 6.99 million m², the growth level is 5.5 times that of 2018, the development speed is faster, but the total amount is still small.

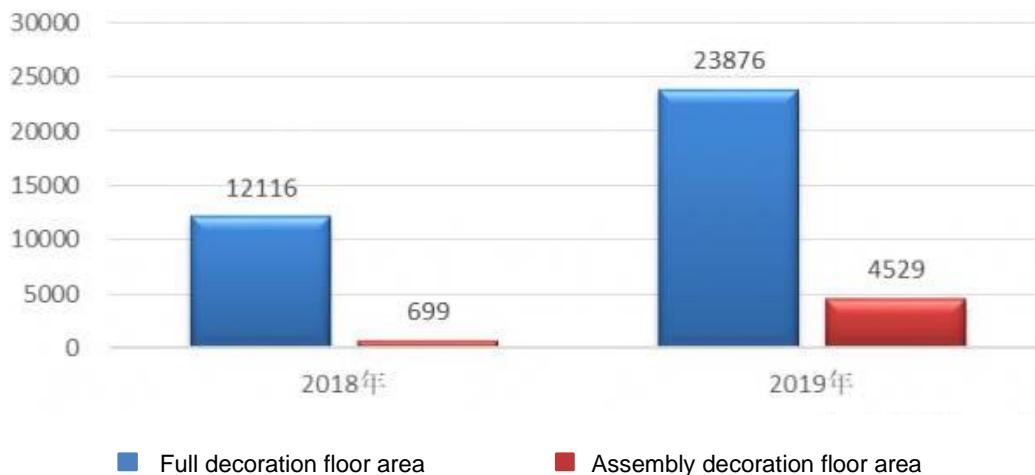


Figure 7 Floor space of new construction of full decoration and assembly decoration in 2018-2019

9. Quality improvement

Housing and urban-rural construction authorities in various places attach great importance to the quality and safety of prefabricated buildings and the improvement of building quality, and actively explore in practice, take multiple measures simultaneously, and have formed many good experiences. The first is to strengthen the check and supervision of key links. Beijing, Shenzhen and other places implemented design and construction organization plan expert review, construction drawing review, component in-plant supervision, component quality traceability, grouting full-process video recording, quality random inspection and other regulatory measures. The second is to improve the construction technology and reduce the difficulty of construction through technological innovation. For example, Beijing promoted the use of sleeve grouting fullness monitor, which effectively solves the problem of insufficient grouting and leakage during the sleeve grouting operation. The third is to increase the skill training of workers. Local industry associations and leading enterprises have actively invested in the development of industrial worker skill training, which has promoted the improvement of the skill level of workers. Fourth, assembly decoration has promoted the improvement of the comprehensive performance of the quality of construction products. For example, the Beijing public rental housing project adopted prefabricated construction and assembly decoration, which effectively solves the common problems of building quality, and the rate of indoor maintenance and repairs has dropped by more than 70%.

10. Talent and industrial workforce

In recent years, the construction of China's assembled construction projects has grown rapidly, and the demand for assembled construction talents is particularly strong. In 2018 and 2019, approved by the Ministry of Human Resources and Social Security, two national assembled construction vocational skills competitions were jointly held by the China Construction Education Association, the China Employment Training Technical Guidance Center, and the Science and Technology and Industrialization Development Center of the Ministry of Housing and Urban-Rural Development. The event is of great guiding significance for improving the skill level of workers in the assembly construction industry, pushing enterprises to increase their efforts in talent training and enhancing the influence of vocational education in assembly construction. A number of vocational skills schools and leading enterprises have been actively cultivating new-age construction industry workers, cultivating a large number of skilled talents for the development of assembled construction. Beijing, Shanghai, Shenzhen and other places have also introduced measures to cultivate talents, including increasing investment in vocational skills training, establishing training bases, strengthening job skills upgrading training, extensively launching technical lectures, expert seminars, technical competitions and other training activities, and taking a variety of measures to meet the demand for assembled building construction.

Main problems

Low degree of standardization. At present, the degree of standardization and modularization of components of assembled buildings in China is relatively low. Due to the lack of standardization and modularization of the design process, there are many components of different specifications and sizes in practical applications, the amount of molds is large, the level of generalized production is low, and the management of production, stacking, transportation, and installation is relatively difficult, resulting in low efficiency, high mold amortization cost and high labor cost, and inability to give full play to the advantages of prefabricated buildings.

Insufficient innovation in construction mode. At present, the number of prefabricated construction projects applying EPC general contracting is relatively small, and the management level of general contracting projects needs to be improved. In most areas, the relevant policy guidance documents for general engineering contracting are not clear, the number of companies that have the ability to undertake general contracting projects is insufficient, and the coordinated work of all links in the entire industry chain is insufficient to maximize overall benefits.

Lagging in information development. Assembled building is an important carrier for the development of building informatization. At present, although there are some research and development about building information model (BIM), the overall progress is slow, and still stays at the level of design or simulation, and display. There is a lack of overall planning and application of the entire industrial chain of design, production, logistics, and construction. Most areas have not established an information management platform, and the overall level of information and intelligence is low.

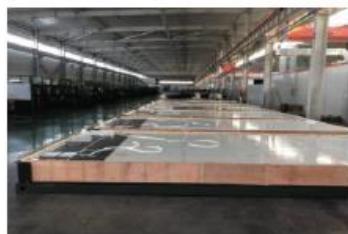
Key initiatives for 2020

Actively guide the optimization and upgrading of the technical system of assembled construction; compile relevant standards and technical guidelines for steel structure buildings; improve the capacity of the prefabricated building industry; give play to the leading role of demonstration cities, industrial bases and demonstration projects; actively promote assembled decoration; increase publicity and guidance to promote the transformation and upgrading of the construction industry.

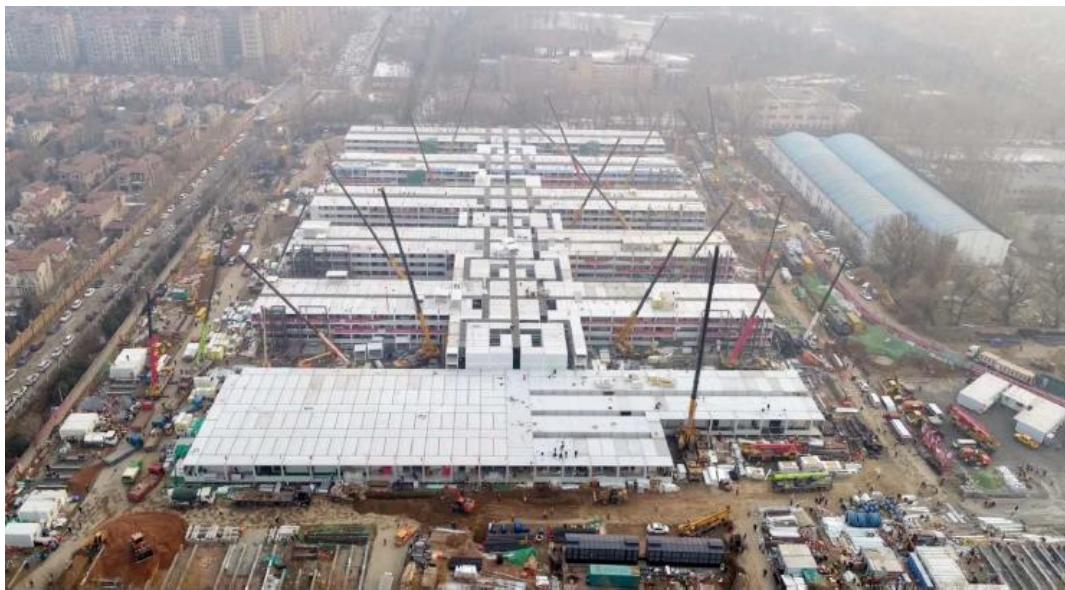
Reference case

A prefabricated medical building/facility in the city of Wuhan in China opened its doors to patients after just 10 days of construction, to treat patients infected with the coronavirus. The China constructor was: Housespace Prefab Co.,Ltd (HSP), that was established in 2010. The company is a professional manufacturer specialized in producing prefab houses. Their HQ is in Beijing, with 4

production bases, 7 branch companies, sales and service network covers 200 key cities and regions. Products exported to more than 100 countries and regions: Southeast Asia , Middle East, Africa, Europe, America, Australia, etc. HSP focuses on prefab houses made in the style of what is called a flat pack house, like a container. These flat pack houses are prefabricated off-site and can be assembled very quickly on-site. They can be made into different shapes, like a transformer (see figure below).



The two prefab hospitals completed in Wuhan were constructed very quickly, in under ten days. For one hospital, it required 3000 sets of flat pack houses (see the construction site in the figure below).



China's Urban Business Environment Report 2019 released

The "2019 China Urban Business Environment Report" was officially released on June 18, compiled by China Central Radio and Television, and is the first authoritative third-party report on business environment published by a mainstream national media outlet. According to the report, Beijing, Shanghai, Shenzhen, Guangzhou, Chongqing, Nanjing, Hangzhou, Chengdu, Tianjin, and Ningbo are among the top 10 cities in the comprehensive evaluation ranking. Suzhou, Nantong, Yantai,

Wuxi, Dongguan, Shaoxing, Wenzhou, Weifang, Jinhua and Zhuhai are among the top ten cities in the overall ranking of economically active cities.

The report designed an evaluation system consisting of five dimensions, including infrastructure, human resources, financial services, government environment, and inclusive innovation.

Source: <https://weibo.com/ttarticle/p/show?id=2309404517094027821322>

New Members of Our sinobusiness.dk: Viemose DGS

Brief introduction of the company

Viemose DGS is Scandinavia's largest manufacturer of high-tech cultivation systems and greenhouses. We export our high-quality products to the whole world, always working closely with our customers to create the optimal solution.

Founded in 1947, Viemose brings more than 70 years of world-wide experience directly to you.

Brief introduction of the technology / product

Viemose DGS specializes in automated cultivation systems. Our moving gutter systems (MGS) work as both single layer or as vertical farming, bringing the desired level of automation to your greenhouse, optimizing your production of monocultures such as leafy greens. Our benches can be installed as mobile benches or fully automated mobile benches for flower production.

Advantages of the technology

The advantages of a Moving Gutter System and vertical farm systems focus on the most important aspects of modern indoor farming:

- 30% or higher increase of productivity vs. growing on benches by optimizing the spacing between plants.
- Significant reduction of labor cost due to a high level of automation.
- A contamination free, controlled growing environment due to fewer people and fewer growing variables in the greenhouse.

- Significant reduction of water usage due to the exact irrigation technology where the only water used is for the plants growth and no water is wasted.

Application Field

The Moving Gutter Systems and vertical farm systems are ideal for any monoculture such as leafy greens/herbs, single-cycle flowers or even (medical) cannabis. The MGS systems need to operate in controlled growing environments greenhouses or buildings. Both glass, plastic or PU greenhouses are ideal for MGS, as are closed structures such as steel buildings, vacated factory buildings, containers etc.

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ENRICH Online Workshops

ENRICH in China is organizing a Workshop series happening this Autumn (September and November) with some of their Community Members. This series is made up of 3 online workshops:

16 September: Doing Business in China – Best Practices & Case Studies;

30 September: Chinese Culture & Business Etiquette;

10 November: Technology Transfer Basics focusing on China.

To know more you can check the flyer here:

<http://web.spi.pt/enrichchina/workshops092020/index.html>. Information is also shared in their website, in the events section (<http://www.china.enrichcentres.eu/events>).