

## 1. Green agriculture

### 1.1 The First Batch of National Long-term Fixed Observational and Test Stations for Green Agricultural Development

The General Office of the Ministry of Agriculture and Rural Affairs has issued a notice on determining the first batch of national long-term fixed observational and test stations for green agricultural development.

The construction of national long-term fixed observational and experimental stations for green agricultural development (hereinafter referred to as the "observation and experiment stations") is an important part of the construction of a pilot support system for green agricultural development and the important basic work to promote the scientific development of green agricultural development.

In order to accelerate the construction of observational and test stations, the Ministry (Ministry of Agriculture and Rural Affairs) has recently adopted a combination of on-site inspections, progress scheduling and expert demonstration to comprehensively evaluate the construction of the observational and test stations, and has confirmed the establishment of 6 such stations (including the one in Quzhou County, Hebei Province) and 10 National Agricultural and Scientific Observational and Experimental Stations (including the National Observational and Experimental Station of Soil Quality in Changping, Beijing). It has been decided that the above-mentioned stations should be the first batch of national long-term fixed observational and experimental stations of green agricultural development.

[http://www.moa.gov.cn/nybgb/2020/202011/202012/t20201220\\_6358460.htm](http://www.moa.gov.cn/nybgb/2020/202011/202012/t20201220_6358460.htm)

### 1.2 10 counties and cities in Shandong have been identified as the pilot zones of the provincial-level green agricultural development

Shandong Provincial Department of Agriculture and Rural Affairs has announced the list of the pilot zones (Shanghe County, Zhucheng City, Jinxiang County, Ningyang County, Rushan City, Fei County, Ningjin County, Xin County, Zouping City, Chengwu county) for provincial-level green agricultural development. The pilot zones should, according to the goals and tasks, make tentative efforts in innovating green agricultural development system, formulating green agricultural development policies, popularizing green agricultural technology, and strengthening incentives and restrictions and government supervision, and should also explore a green development model with local characteristics and sum up experience for the promotion of green development across the whole province.

Relevant departments should attach great importance to the work of pilot zones, strengthen policies and systematic supplies, establish a stable input mechanism for green agricultural development, and improve a green ecological-oriented agricultural subsidy system:

[http://dzrb.dzng.com/articleContent/3490\\_835573.html](http://dzrb.dzng.com/articleContent/3490_835573.html)

## 2. Home automation

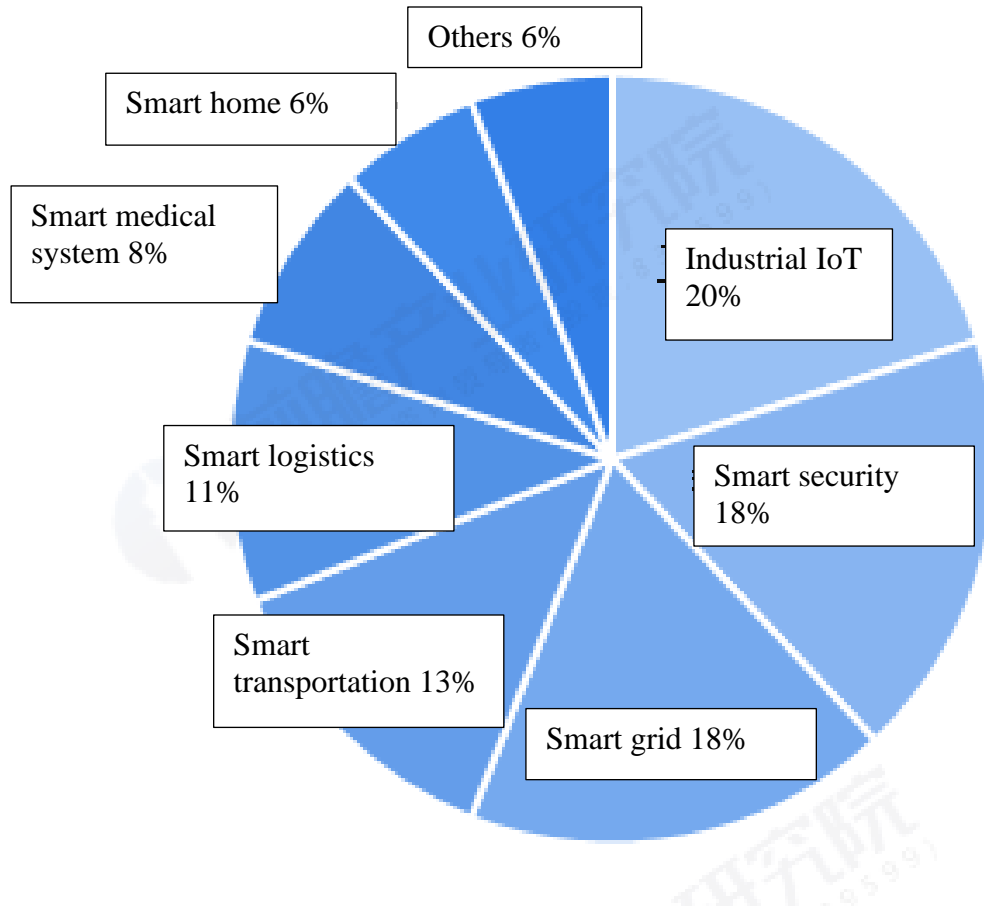
In recent years, the consumption growth of traditional household appliances in China has been weak, while smart home has gradually occupied the minds of consumers due to its intelligent and convenient usage. At present, China's smart home is a relatively mature field for the application of the Internet of Things, with continuous enrichment of product categories and rapid market expansion.

### 2.1.1 Smart home has become one of the important applications of the Internet of Things

As a new generation of information technology, the Internet of Things (IoT) connects objects to the Internet. Its application areas involve infrastructure such as industry, agriculture, environment, transportation, logistics, security, and home furnishing, healthcare, education, finance and services, tourism, etc.

The application of IoT technology in the field of smart homes began quite early, and it has become one of the important applications of the Internet of Things. According to data released by the China Academy of Information and Communications Technology, China's smart homes has occupied 6% of Internet of Things application, becoming one of the fast-developing industries in the consumer sector in 2019.

Figure 1: The proportions of application of China's IoT in 2019 (%)



### 2.1.2 Policies support the rapid development of the Home automation industry

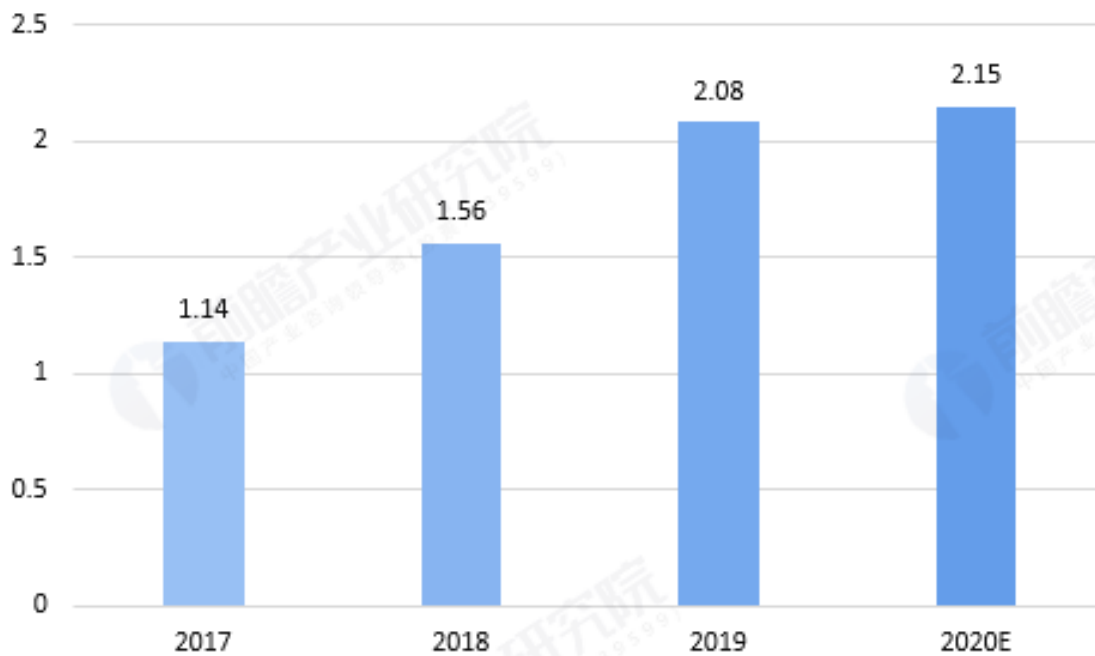
Smart home is an important part of the IoT field and has always been supported by governmental policies. The 2019 government work report clearly mentioned the development of "Smart+" for the first time, and the government supporting policies have been providing a good environment for the progress of China's smart home industry.

### 2.1.3 China's smart home shipments and market scale grow rapidly

In recent years, China's smart home shipments and market scale have grown rapidly. According to IDC report, China has shipped 156 million pieces of home automation products in 2018, a year-on-year increase of 36.7%. In 2019, the figure has exceeded 200 million, reaching 208 million, an increase of 33.5% over 2018.

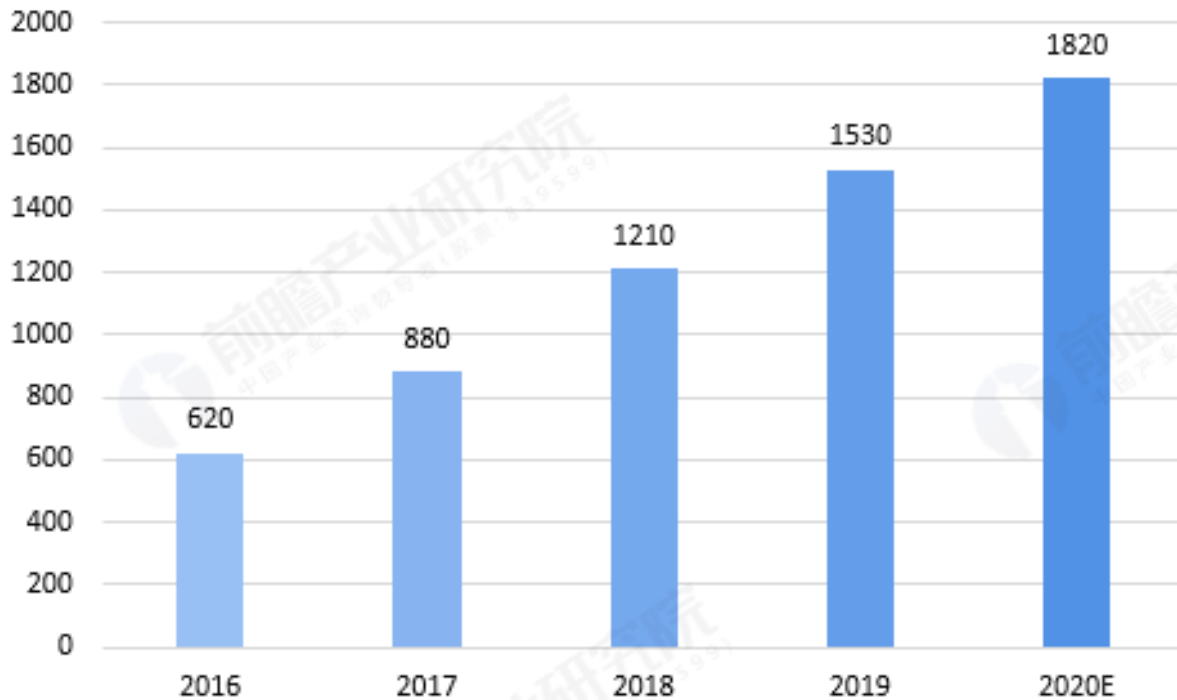
In 2020, due to the impact of covid-19, the growth was predicted to slow down, and it was expected to increase by 3% year-on-year to 215 million pieces.

Figure 3: China's shipment and prediction of smart home products 2017-2020 (100 million pieces)



According to the data released by iiMedia Research, the market size of China's smart home in 2019 was 153 billion yuan, a year-on-year increase of 26.45%. It was expected that the amount would reach 182 billion yuan in 2020.

Figure 4: China's smart home market size and prediction 2016-2020 (million yuan)

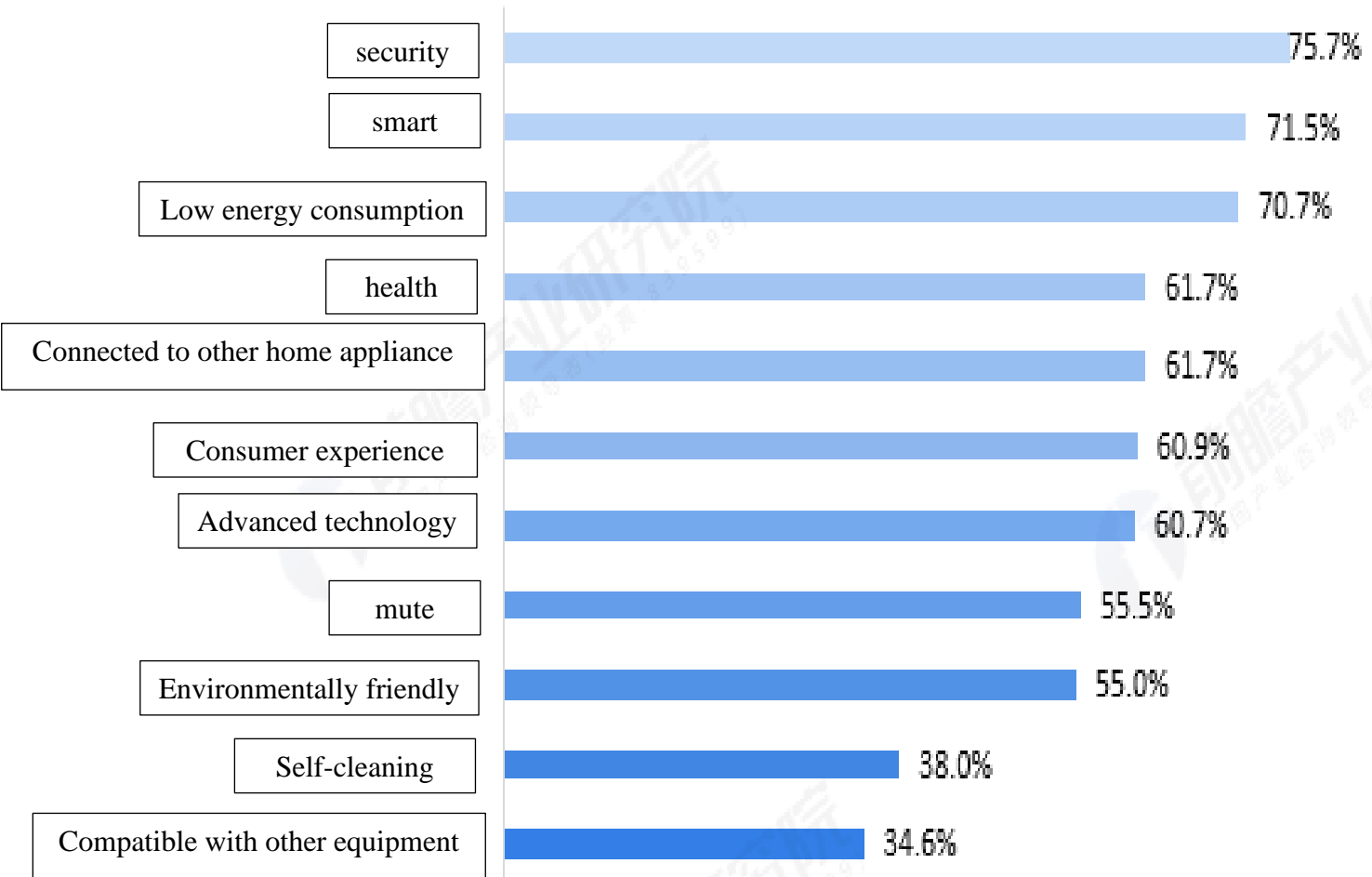


#### 2.1.4 The consumption upgrade of young people drives the growth of smart home sales

At present, as the main consumers of household appliances in China, young people have a higher pursuit of the quality of home life. Compared with traditional consumers who pay attention to product prices and brands, young consumers consider more factors when buying home appliances. Among them, smartness has become an important factor of concern for the consumption of home appliances.

According to the "A User Survey Report on Ten Trendy Lifestyles " published by 36Kr Research Institute, 71.5% of young people consider smart-related factors when purchasing home appliances. Smart home appliances have become the mainstream of young consumers' home appliances consumption.

Figure 5: concerns of young people while choosing home appliances (%)



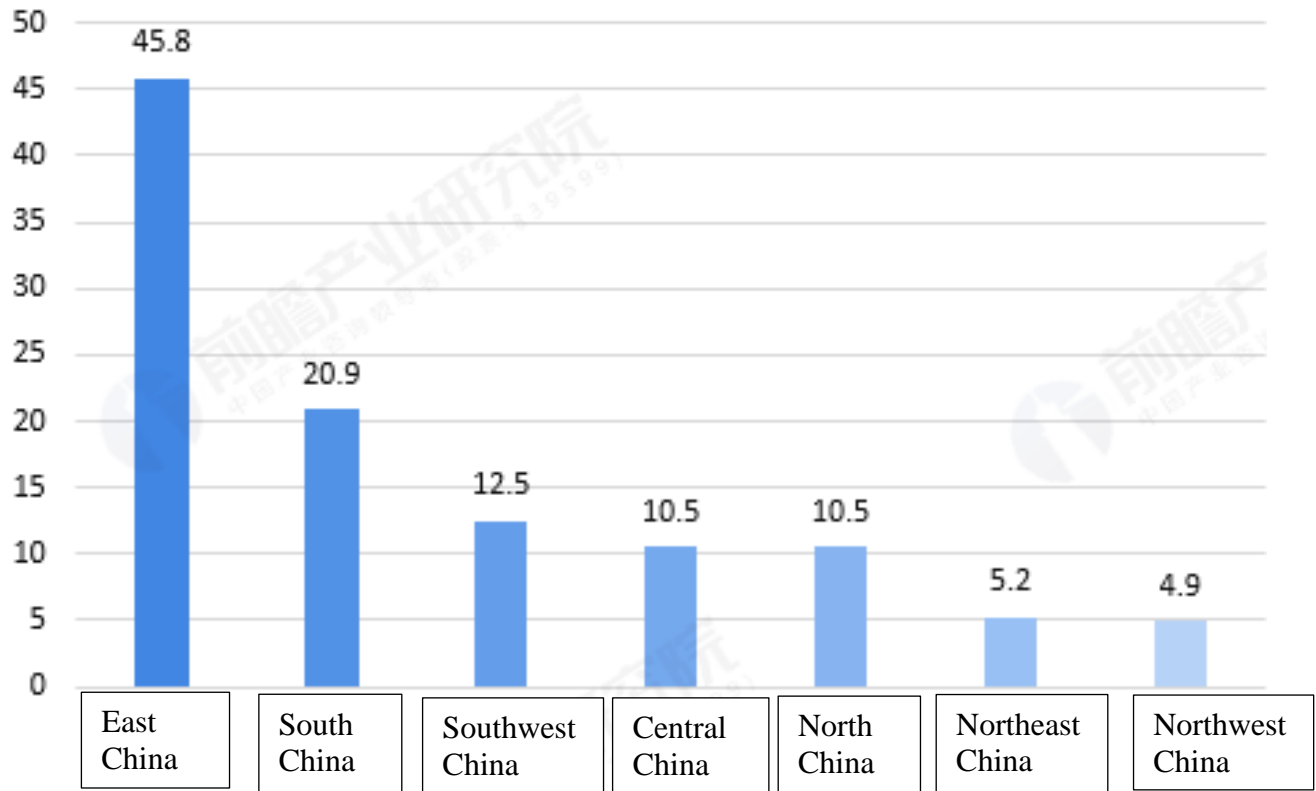
### 2.1.5 Smart home product sales channels are diverse, and real estate developers are one of the main B-end channels

The targets of smart home sales are mainly B-end (Business) and C-end (End users). The B-end includes real estate, hotels, apartments, home decoration companies, etc., of which real estate developers are the main channels; the C-end is online e-commerce platforms and offline furniture stores.

### East China is the main force in the high-end smart home market

According to data released by avc-mr.com, from January to July 2020, East China is still the major market of home automation installed in exquisitely decorated homes, with 458,000 sets sold, mainly in Hangzhou, Nanjing, Suzhou and other cities.

Figure 10: the market of home automation in exquisitely decorated homes in China, Jan-July 2020 (10 thousand sets)



<https://bg.qianzhan.com/trends/detail/506/201203-dd433c11.html>

### 3. Green Building

#### 3.1 31 provinces have released BIPV green building plans for 3~5 years to come! 13 places have clearly issued subsidy policies!

According to incomplete statistics from the International Energy Network/Photovoltaic headlines, as of January 1, 2021, Beijing, Tianjin, Shanghai, Chongqing, Inner Mongolia, Zhejiang, Henan, Kaifeng, Henan, Liaoning, Yunnan, Urumqi, Shanxi, Shandong, Weifang City, Shandong, Qinghai, Anhui, Ningxia, Guangdong, Shaanxi, Nanping City, Fujian, Qiqihar City, Heilongjiang, Jiangsu, Jilin, Hebei, Baoding Dingxing County, Hebei, Baoding Yi County, Hebei, Xinji City, Hebei, Wuqiao County, Cangzhou, Hebei, Cangzhou, Hebei The 31 places in Nanpi County, Langfang City, Hebei Province, and Gu'an County, Hebei Province have issued relevant BIPV policies for the next 3 to 5 years.

Among them, Beijing, Shanghai, Chongqing, Zhejiang, Urumqi in Xinjiang, Yunnan, Shanxi, Shandong, Ningxia, Shaanxi, Jilin, Hebei, and Jiangsu have subsidies for the construction of BIPV green buildings.

Tianjin, Inner Mongolia, Henan, Kaifeng City in Henan, Liaoning, Weifang City in Shandong, Qinghai, Anhui, Guangdong, Nanping City in Fujian, Qiqihar City in Heilongjiang, Yunnan, Shanxi, Shandong, Ningxia, and Shaanxi have issued BIPV three-year plans (2020~2022) year)

Jilin, Hebei, Hebei Baoding Dingxing County, Hebei Baoding Yi County, Hebei Xinji City, Hebei Cangzhou Wuqiao County, Hebei Cangzhou Nanpi County, Hebei Langfang City, Hebei Langfang Gu'an County have issued BIPV five-year plans (2020-2025 ).

<https://www.in-en.com/article/html/energy-2300216.shtml>

## **4. Prefabricated building**

### **4.1 The turnover may exceed 2 trillion yuan in 2025**

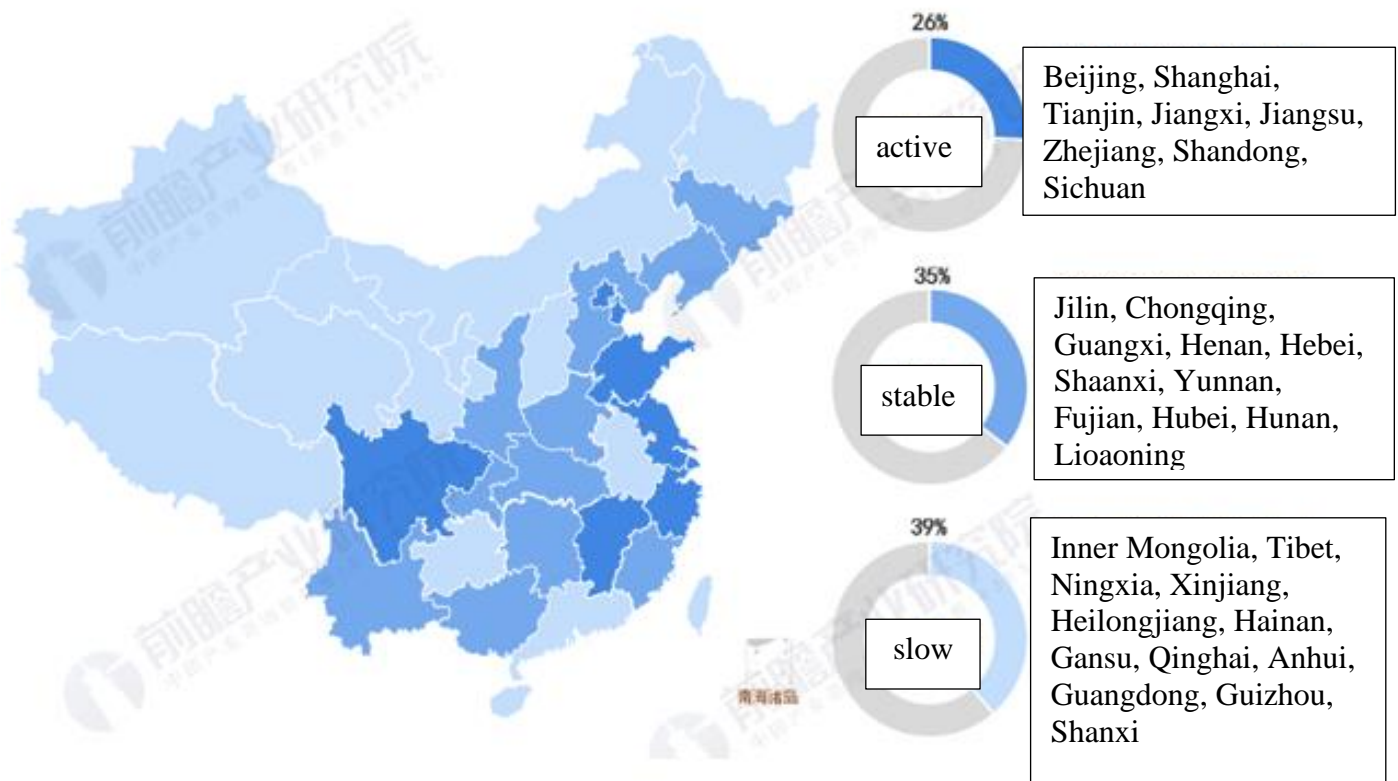
#### **Policy planning: the introduction of multi-level policies and the acceleration of development**

The "Thirteenth Five-Year Plan" Action Plan for Prefabricated Buildings clearly stated that by 2020 the proportion of prefabricated buildings nationwide should reach more than 15% of the new buildings

In response to the call of the national policy, all provinces and cities across the country have successively introduced plans to promote the development of the prefabricated construction industry. According to the "targets for the proportion of prefabricated buildings proposed for 2020", these provinces and cities can be divided into three categories: 1. Active type (clearly proposing to achieve the goal of achieving a proportion of more than 30% of prefabricated buildings by 2020), and 2. Stable type (reaching the rate of 15-20% or more), 3. Slow type (no clear or detailed target, or no more than 15%).



Figure 4: categories of places based on policies for prefab buildings

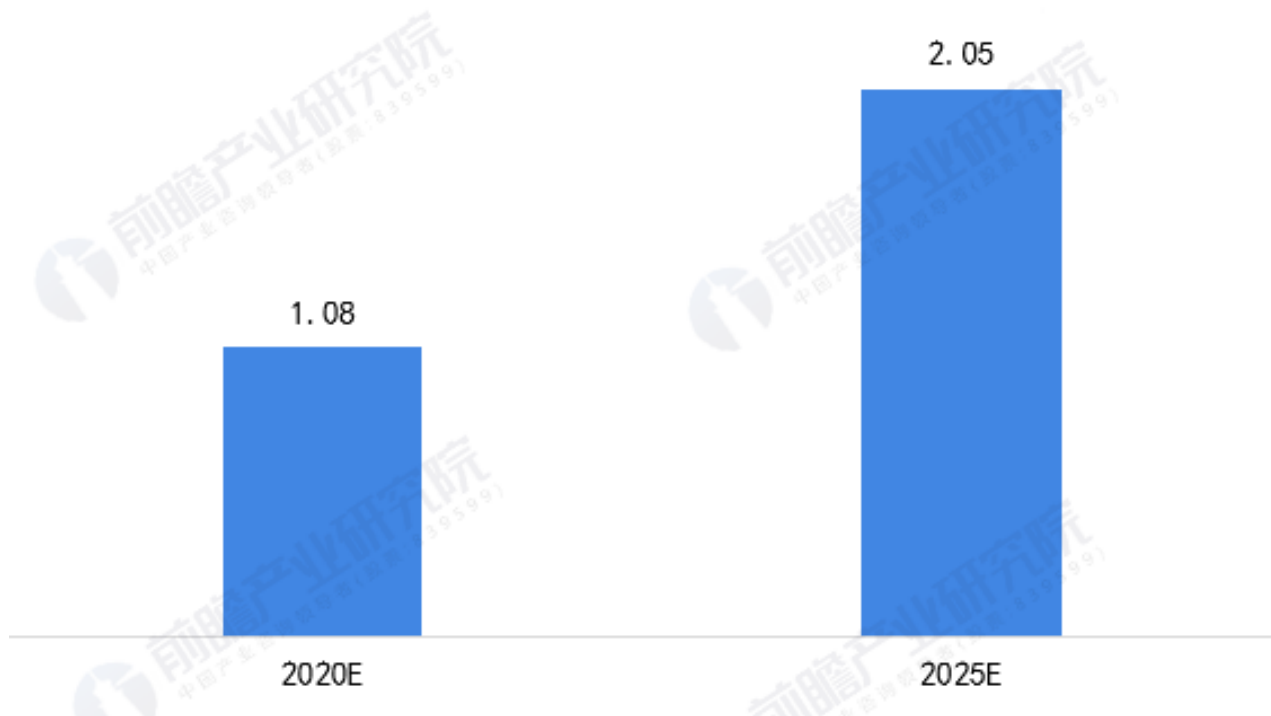


### Development prospect: trillion market with broad prospects

According to data from the Ministry of Housing and Urban-Rural Development, in recent years, China's new construction area has been increasing continually. According to the growth rate in previous years, the Prospective Industry Research Institute estimates that by 2025, the country's newly constructed area will exceed 3.5 billion square meters. Given the current status and future trends of the newly building area and the governmental construction plan for prefabricated buildings, it is estimated that the newly-started prefabricated building area will be about 1.054 billion square meters in 2025.

With the development of technology and the reduction of costs, the cost of prefabricated buildings will continue to decline in the future. Based on the price of 1,950 yuan per square meter, the cost of new prefabricated buildings will reach two trillion yuan in 2025.

Figure 11: Predicted market of prefab building industry in China 2020-2025 (trillion yuan)



<https://bg.qianzhan.com/trends/detail/506/210107-ad987696.html>

## 4.2 Interpretation of the Several Policies and Measures to Promote the Development of Prefabricated Buildings

On January 7, 2021, the General Office of Qingdao Municipal Government issued the "Notice on Several Policies and Measures to Promote the Development of Prefabricated Buildings" (hereinafter referred to as Several Policies and Measures). The contents are now interpreted as follows:

"Several Policies and Measures" puts forward 11 specific policy requirements and supporting measures, mainly including the following aspects:

(1) to strengthen policy guidance. It is stipulated that a certain proportion of newly-built civil buildings should be constructed with prefabricated components, and the proportion of prefabricated buildings should be increased year by year, reaching 50% by 2023.

(2) to grant fee reduction or exemption for prefabricated buildings. It is stipulated that eligible prefabricated buildings can be exempted from waste disposal fees and the caution money for migrant workers' wage can be reduced by half. For buildings using prefabricated exterior wall products, the exterior wall construction area is not included in the floor area ratio as long as it does not exceed 3% of the total planned construction area.

(3) to give preferential policies to the construction and sales of prefabricated buildings. It is stipulated that for eligible prefabricated buildings, their construction companies will be rewarded with additional points in the market credit assessment, and pre-sales can be arranged in advance. Those who apply for housing fund loans to purchase prefabricated apartments will have priority over others in queuing. Financial institutions should be encouraged to increase loan support for the prefabricated construction industry providing preferential treatment in loan quota, loan term and interest rate.

(4) to give financial rewards to outstanding prefabricated buildings. Financial subsidies will be given when there are buildings with high prefabrication and assembly rates and industrialized projects with demonstration significance. Manufacturers of prefab parts and components that conform to the catalog of new wall materials can enjoy the preferential policy of VAT refund. Qualified prefabricated construction enterprises are encouraged to apply for the certification of high-tech enterprises so as to fully enjoy policies such as the deduction of R&D expenses and tax incentives.

[http://www.qingdao.gov.cn/zwggk/xxgk/bgt/gkml/zcjd/202101/t20210108\\_2888063.shtml](http://www.qingdao.gov.cn/zwggk/xxgk/bgt/gkml/zcjd/202101/t20210108_2888063.shtml)

## 5. Vertical farming

### 5.1 Ministry of Agriculture and Rural Affairs attaches importance to small-scale peasants;

#### vertical farms boast 15 harvests per year

Zhao Changbao, head of the Policy and Reform Department of the Ministry of Agriculture and Rural Affairs, emphasized the important position of small-scale peasants in the process of organic integration with modern agriculture: He said that we should always pay attention to them, prevent edging them out, and focus on driving their development. The key point is to do a good job in three areas: First, we should always pay attention to small-scale peasants. In accordance with the requirements of serving, improving and prospering peasants, intensive efforts should be made in policy formulation, work deployment, and financial resources; Second, we should prevent excluding them. We ensure the fairness and inclusiveness of the peasant-benefiting policy, and prevent artificially favoring large-scale farmers and squeezing out peasants; third, we should focus on motivating them, guide them to cooperate, and improve the degree of their organization and development capabilities.

Agricultural experts believe that vertical farms are “the future of sustainable agriculture as we know them”: They can be completely powered by renewable wind energy and cause zero environmental damage to nearby rivers, and they are likely to be agricultural archetype in the next few decades.

It is understood that the agricultural products grown in vertical farms will yield 15 bumper crops a year, compared with 2 harvests in traditional agriculture. It is illuminated by tens of thousands of professional LED bulbs all day long, and the lettuce and other green leafy vegetables in the planting box will grow out soon, not affected by extreme weather. Meanwhile, a robot system is available to check plants' growth.

<https://www.163.com/dy/article/G13SO93705118U1Q.html>

## 6. Organic agriculture

### 6.1 The report shows organic agricultural enterprises face shortage of funds and talents

According to the "China Organic Product Certification Market Survey Report" released by the State Administration for Market Regulation, the average annual growth rate of Chinese organic product certification reached 13.76% from 2015 to 2019. While the organic industry is developing rapidly, it is also facing problems such as fund shortage, industry fragmentation, and low industrial added value.

According to a survey conducted by the China Agricultural University on the "Demand for Organic Agriculture Industry", nearly 20 small and medium-sized enterprises have problems such as insufficient funds, weak product sales, and lack of technical personnel, and there is a shortage of management talents.

[https://www.sohu.com/a/445836602\\_379553](https://www.sohu.com/a/445836602_379553)

## 7. Pension

### 7.1 National Development and Reform Commission: Strive to cultivate a group of health and elderly care industry clusters by 2022

According to the official website of the National Development and Reform Commission, the General Office of the National Development and Reform Commission, the General Office of the Ministry of Civil Affairs, and the General Office of the National Health Commission have recently issued the "Notice on the Establishment of a Mechanism to Actively Responding to the Population Ageing" (hereinafter referred to as "Notice") on February 1 2021. The "Notice" pointed out that by 2022, we will strive to develop a number of innovative and active areas in the country that are compatible with the process of economic and social development and population aging, and cultivate a number of health and elderly care industry clusters with strong driving force and excellent economic and social benefits, and form innovative models with distinctive characteristics, and explore a batch of universally applicable, pragmatic and effective policy measures to deal with population aging.

#### **Promote the development of "Internet + pension"**

The "Notice" clarified that we will vigorously support the senior care enterprises and promote related branding. Efforts will be made to promote the development of "Internet + elderly care services" and "Internet + elderly health services", support large Internet companies to integrate such services with their technology, support Internet platforms for high-quality elderly care and thus better utilize the information technology. Also the notice has stated that we should promote the integrated development of the elderly care industry with education and training, health, sports, culture, tourism, housekeeping and other happiness industries, and support qualified regions to create destinations for elderly care

Pan Helin, Executive Dean of the Institute of Digital Economy, Zhongnan University of Economics and Law, pointed out that "Internet + pension" is essentially the process of digitalization of the pension industry chain, which is to make some pension services online. Broadly speaking, it also involves using big data to match demand, optimizing the supply-demand relationship of the entire industry chain, including home-based care for the elderly and on-site services, which can all be matched by digital technology.

<https://finance.sina.com.cn/chanjing/cyxw/2021-02-02/doc-ikftssap2317930.shtml>

## 8. Cultural Tourism

### 8.1 Cultural and tourism integration to create a feast of quality consumption

Many places across the country have proposed in the 2021 government work report to accelerate the development of the cultural tourism industry and promote tourism consumption, by facilitating the integrated development of culture and tourism, actively developing red tourism, and promoting the construction of smart tourism.

Shanxi Province has proposed in the government work report to promote the integrated development of culture, tourism, and preserving health. The focus is on building such three major sectors as "The Yellow River, The Great Wall, The Taihang mountains" and establishing the tourism brands such as "Visiting Shanxi·Reading History", "promoting wellness in Shanxi in summer" and so on, and building internationally renowned cultural tourism destinations.

Chongqing has proposed to formulate policies and measures to promote the high-quality development of the tourism industry by focusing on key cultural tourism projects such as the "The Three Gorges Dam · Yangtze River Bonsai" and the World Hot Spring Valley, and creating the World Big River Song Festival, the Three Gorges International Tourism Festival, and the ecological ethnic tourist festivals in Southeast Chongqing as well as other festival brands, and actively establishing national tourist resorts, national 5A tourist attractions, and national tourism demonstration areas.

Zhejiang has proposed to accelerate the development of cultural tourism industry, develop new models of digital culture, and promote the construction of Qiantang River Cultural Industry Belt.

In the government work report, Nanjing City in Jiangsu Province has proposed to benefit the people by promoting integration of culture and tourism, protecting the ecology of the Qixia Mountain, Laoshan Mountain and other scenic spots, and creating a full-scale tourism demonstration area above the provincial level and harvest 250 billion yuan tourism revenue.

Guangdong has proposed to promote the high-quality development of culture, tourism and sports industries by deepening the integration of cultural and tourism development, creating iconic scenic spots and cultural heritage paths in the Greater Bay Area, developing red culture, ancient post roads in southern Guangdong, ethnic minority villages and other characteristic routes, and building world-class tourist destinations.

Guangxi has proposed to accelerate the upgrading of the service industry, through upgrading the development of life service industries such as promoting wellness, culture, sports, and housekeeping, promoting the construction of a number of major health and cultural tourism projects, implementing and improving cultural tourism consumption policies, and creating a smart tourism platform "one-click tour of Guangxi", and hence strive to restore the number of tourists and consumption to 2019 levels.

Hainan has proposed the development of tourism in the government work report, by achieving a 30% increase in total tourism revenue, speeding up the construction of a tourist road around the island, and starting the construction of 3 post stations within the year so as to realize "Traveling Hainan with a mobile phone".

<http://finance.yunnan.cn/system/2021/02/03/031271218.shtml>

## 8.2 Lanzhou Cultural Tourism Will Realize "The New Scene"

The reporter learned, on February 8 from the 2021 Work Conference on Lanzhou City Cultural Tourism and Radio, Television and Cultural Relics and Party Style and Clean Government Construction that by 2025, Lanzhou will double the income and the number of cultural tourism visits, and will receive 150 million visits of domestic and foreign tourists and achieve a total tourism income of 110 billion yuan. The city's comprehensive income from cultural tourism and preserving health is expected to reach 14 billion yuan, thus achieving the goal of doubling.

During the "Thirteenth Five-Year Plan" period, the average annual growth rate of the added value of Lanzhou's cultural industry was over 10%, ranking first in the province. The growth rates of tourists and the total tourism revenue in the city have been continuously maintained at more than 20%. More than 100 key projects have been constructed and nearly 100 billion yuan has been invested. The meeting pointed out that during the "14th Five-Year Plan" period, Lanzhou Cultural Tourism will make every effort to utilize the Yellow River culture, implement a plan to double the development rate of the cultural tourism industry, turning it into a strategic pillar industry, and realizing the "new scene" of Lanzhou cultural tourism.

<http://www.gsei.com.cn/html/1628/2021-02-09/content-312274.html>

## 8.3 The 14th Five-Year Plan fully supports the development of the "pastoral + health care + tourism" model

### **8.3.1 Minister of Agriculture and Rural Affairs Han Changfu presided over an executive meeting of the Ministry, reviewed and approved the "National Rural Industry Development Plan (2020-2025)"**

(1) The central government has allocated 7.27 billion yuan to support the development of local characteristic industries in 552 townships and 62 counties (cities).

(2) The integration of rural tourism and business entities is also explained.

Ministry of Agriculture and Rural Affairs has called efforts to integrate funds and projects, vigorously develop pastoral complexes, and improve the basic environment of pastoral complex projects

### **8.3.2. The "Healthy China 2030 Plan" directly outlines the scale of the health industry by 2030- which will reach 16 trillion.**

The "Healthy China 2030 Plan" has pointed out that it is necessary to actively promote the integration of wellness promotion and elderly care, tourism, Internet, fitness and leisure, and food, so as to give birth to new health industries and new development models. Efforts should be made to improve the linkage mechanism between ecotourism development and ecological resource protection, increase guidance and support for poverty alleviation through ecotourism, strengthen the construction of tourism supporting facilities for nature reserves, forest parks, wetland parks, desert parks, and grasslands in accordance with the law, and improve the ecotourism industry standards. We should actively create diversified eco-tourism products, promote the deep integration of ecology and pastoral, wellness promotion, culture, tourism, education, Internet and other industries, vigorously develop ecological experience, ecological scientific research, ecological health, ecological tourism, etc., and advocate smart tourism, low-carbon tourism, and create high-profile 50 high-quality forest tourism destinations, 20 high-quality forest tourism routes, 30 special forest towns, 10 national forest experience stations, and cultural Pilot bases.

The combination of promoting wellness and rural tourism lays the foundation for the development of healthy towns

<http://www.china-cer.com.cn/shisiwuguihua/2020122110586.html>

## **9. Health care**

### **9.1 2020 China Internet Medical Report: The giants emerge**

Policies support Internet medical care, and user habits have been developed. Since the General Office of the State Council issued the "Opinions on Promoting the Development of "Internet + Medical Health"" in 2018, Internet medical care has been developing substantially, especially since the outbreak of the Covid-19 epidemic. Services such as on-line consultation and medical e-commerce have played an important role in reducing contact of and pressure on offline outpatient institutions. Subsequently, the state has successively issued a number of policies to encourage the development of Internet medical care, involving the inclusion of follow-up visits in health insurance and prescription circulation. Internet medical care is faced with new development opportunities. After years of development and the baptism of the epidemic, users have become accustomed to online medical services. In 2020, the number of monthly active users of online medical services at the peak hour has exceeded 60 million. Online medical services have become an important form of medical services.

The venture capital invested in Internet medical care in the past three years has exceeded 110 billion yuan, which has greatly promoted the development of Internet medical care. Medical startups and new medical models are emerging endlessly, and the Internet medical industry is showing a lot of competition. From the perspective of the initiators of current Internet medical projects, there are three types of players in the Internet medical market in China. The first category is the traditional well-known hospitals, actively developing online medical services, and possessing high-quality offline medical resources, especially outstanding health-care personnel with strong competitiveness and user trust, but their weakness lies in the poor online customer acquisition ability. Operating alone without large-scale effect, they find difficulty in horizontal expansion. The second category is Internet medical companies such as Alibaba, JD, Baidu, Tencent, etc., which, through internal incubation, investment, acquisitions, alliances and other means, have achieved expansion in the medical field. Their advantage lies in capital resources and online acquisition, whereas their offline hospital resources are relatively weak, but they are working on it now. The third category is small and medium-sized entrepreneurial enterprises, which are more flexible and have certain competitive advantages in the Internet medical niche market.

<https://finance.sina.com.cn/tech/2020-12-25/doc-iznezxs8826467.shtml>

## **9.2 The Notice on Deepening the Promotion of the "Internet + Medical and Health" "Five Ones" Service Action**

Since the issuance of the "Opinions of the General Office of the State Council on Promoting the Development of "Internet + Medical Health"" and other documents, various localities have acted quickly and have achieved remarkable results in promoting the development of "Internet + Medical Health", and have formed a good situation of departmental coordination and top-down linkage. Especially during the Covid-19 epidemic prevention and control, various places has innovated online service models, which has played an important role in supporting the precise prevention and control of the epidemic, avoiding cross-infection, promoting the orderly flow of personnel, and resuming work and production. In order to promote the typical practices in the online services, further solve the problems of the people in seeking medical treatment, and continue to promote the in-depth development of the "Internet + medical health" services, the National Health Commission, the National Medical Insurance Bureau, the State Administration of Traditional Chinese Medicine have decided to deepen the "Five Ones" service actions throughout the industry.



- (1). promote "integrated" shared services and improve the level of convenient, intelligent and humanized services
- (2). advocate the "one-code-to-pass" converged service, and overcome the barriers of multi-codes that are not mutually accessible
- (3). advance the "one-stop" settlement service and improve the "Internet +" medical online payment
- (4). facilitate the "one network" government services to resolve the problems of difficult, slow, and complicated tasks
- (5). promote "one game of chess" anti-epidemic services and strengthen information technology support for normalized epidemic prevention and control  
[http://www.nhsa.gov.cn/art/2020/12/15/art\\_37\\_4056.html](http://www.nhsa.gov.cn/art/2020/12/15/art_37_4056.html)

## 10. Seeds

### 10.1 How important is it to solve the agricultural seed problem in China?

The Central Economic Work Conference was held in Beijing December 16<sup>th</sup> to 18<sup>th</sup> 2020. "Solving the problem of seeds and cultivated land" has become one of the eight key tasks of China's economy in 2021.

Affected by the Covid-19 epidemic, southern floods, northeast typhoons, and grass moths, the topic of national food security has been repeatedly mentioned in 2020. The meeting put forward that "The key to ensuring food security lies in implementing the strategy of storing grain and solving seed problems through technology."

The meeting has proposed to strengthen the protection and utilization of germ-plasm resources and strengthen the construction of seed banks. It is necessary to respect science, strictly supervise and orderly promote the industrial application of biological breeding and to carry out the seed research to solve technological barriers.

Xu Hongcai, deputy director of the Economic Policy Committee of the Chinese Academy of Policy Research, told reporters that seeds can be likened to computer chips. The heavy dependence on imports is not good for our country's food security. It is necessary to take precautions in order to firmly hold it in our own hands.

"In the future, we must continue to advance the research on improved crop seeds and livestock and poultry breeds." The Ministry of Agriculture and Rural Affairs has made it clear that by 2025, we should strive to cultivate a number of major varieties with independent intellectual property rights, and our innovative capabilities of key crops and livestock and poultry breeding should approximate or reach the world-class level.

The meeting made it clear that the red line of 1.8 billion acres of arable land must be firmly held, and such arable land should only be used for agricultural purposes. It is necessary to build a national food security industrial belt, strengthen the construction of high-standard farmland, strengthen the construction of farmland water conservancy, and implement the national black soil protection project.

<https://news.cctv.com/2020/12/20/ARTIGnLvqIMA4h8kJLBxVp9S201220.shtml>

## 10.2 China highly relies on imported Seeds

Among the imported varieties, the controlled-environment agriculture (CEA) has the highest import dependence. Some varieties have an import ratio of more than 90%. For example, the dependence rate of imported broccoli seeds reaches 95%, and the figure of hybrid carrots, spinach and onions is above 90%.

A large farm located in the suburbs of Beijing produces tomatoes, cucumbers, radishes, eggplants, lettuce and other popular vegetables. The person in charge of the farm told reporters that leeks, pakchoi, and Chinese cabbage are mainly domestic varieties. Others are mostly imported seeds. For example, cucumber and eggplant are mainly Dutch varieties, lettuce is American, and radish seeds come from Japan and South Korea. Spinach seeds come from Europe.

Big data shows that the top five of imported vegetable seeds are tomatoes, broccoli, carrots, spinach and onions. The main high-end imported varieties of tomatoes are American "SVTM4224" and Hazera's "Summer Sun" etc.. These varieties have outstanding performance in low temperature and weak light, commercial properties attractiveness, and disease resistance.

Broccoli is mainly Japanese cold-tolerant varieties. These varieties are excellent in adaptability, storability and resistance of unfavorable conditions.

The main imported varieties of carrots include French "No. 6 Red Honor", etc. They are exceptional in black spot resistance, bolting resistance, and commodity consistency.

Spinach seeds are mainly German "175" and Japanese "029", and they perform better in downy mildew resistance, cold resistance, and commercial attractiveness.

Onions are mainly Dutch variety, which have better disease resistance and adaptability.

Vegetables are daily consumer goods, and the basis for growers to earn a living. They are also an indispensable part of the agricultural industry. Relevant experts said that in the future, they hope that through a series of technical research in the breeding field, new varieties will be cultivated and promoted to increase the autonomy rate of vegetable seeds by more than 50%, especially that of broccoli, carrots, spinach, etc., which are highly dependent on imports.

[https://www.sohu.com/a/447513952\\_114988](https://www.sohu.com/a/447513952_114988)

### 10.3 Ukraine's seed export sets a record in ten years

Ukraine's latifundist.com reported on December 9<sup>th</sup> 2020 that Dr. Zakharchuk of Economics, the head of the Investment, Materials and Technology Support Department of the Institute of Agricultural Economics of the National Science Center of Ukraine, introduced that from January to September 2020, Ukrainian grain and oil crop seeds exports reached 16.5 million US dollars, an increase of 30% over the same period in 2019 (12.7 million US dollars), the best in a decade.

A total of 533 tons of soybean seeds were exported from Ukraine in 2020, with a total value of 300,000 US dollars. Among them, 456 tons were exported to China, valued at US\$171,000; 65 tons to Kazakhstan, valued at US\$85,000; 8 tons to Azerbaijan at US\$12,000.

<http://www.mofcom.gov.cn/article/i/jyjl/e/202012/20201203021616.shtml>

## 11. Artificial Intelligence

### 11.1 China will become an important driving force for the growth of the global artificial intelligence market

*Xinhua News Agency, Beijing, December 16 (Reporter Wen Jinghua)* The International Data Corporation (IDC) and Inspur Group recently jointly released the "2020-2021 China Artificial Intelligence Computing Power Development Evaluation Report", which predicts that by 2024, China will have a strong presence in the global artificial intelligence market. The proportion will reach 15.6%, making China an important driving force for the growth of the global market.

The report has predicted that China's artificial intelligence market was expected to reach approximately US\$6.27 billion in 2020, and will maintain an annual growth rate of 30.4% in the next four years, reaching a market size of US\$17.22 billion in 2024. Although affected by the epidemic, the overall growth rate of China's artificial intelligence market did not reach IDC's expectations last year, but it is still higher than the 20.1% average growth rate of the global artificial intelligence market during the forecast period.

From the perspective of the application penetration of the artificial intelligence industry, the Internet still ranks first, the application scenarios of telecommunications and manufacturing are more

abundant, and the market potential is expected to be greatly improved. The medical industry accelerated the implementation of artificial intelligence applications under the influence of the epidemic, and achieved remarkable results in many aspects, and the artificial intelligence applications has greatly expanded in the first half of 2020.

[http://www.gov.cn/xinwen/2020-12/16/content\\_5569878.htm](http://www.gov.cn/xinwen/2020-12/16/content_5569878.htm)

## 12. The Indian water market

The Indian budget for 2021-22 announces investments for DKK 243 billion in the urban water sector. This year's Union Budget, which is to kick-start the economy after a year in the shadow of Covid-19, shows that India is now increasing its commitment to modernize the water sector. A new government mission spearheaded by the Ministry of Housing and Urban Affairs aims to connect more than 28 million households with tap connections, and 24.8 million households with sewer connections. In addition, there is a focus on reducing water loss to below 20%, strengthening wastewater management, increasing the recycling of secondary water and on a rejuvenation of the facilities within water conservation and rainwater collection.

In addition, Ministry of Jal Shakti, which is responsible for getting piped drinking water to all rural households by 2024, received a budget increase of 179% compared to 2020. Last year, the Danish and Indian Prime Ministers agreed to work towards further strengthening the cooperation on water with a focus on water efficiency and water loss. In this context, they tasked the Indian Ministry of Jal Shakti and the Danish Environmental Protection Agency under the Danish Ministry of Environment to develop a Work Plan for an initial period of three years.