## **INDUSTRY OVERVIEW**

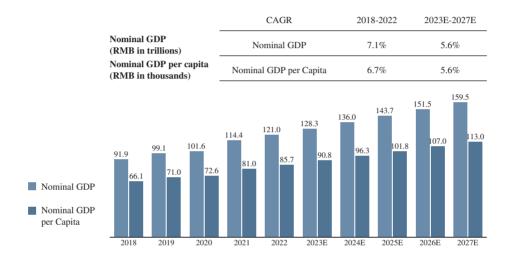
The information and statistics set out in this section and other sections of this [REDACTED] were extracted from the F&S Report, which was commissioned by us, and from various official government publications and other publicly available publications. We engaged Frost & Sullivan to prepare the F&S Report, an independent industry report, in connection with the [REDACTED]. The information from official government sources has not been independently verified by us, the Joint Sponsors, the [REDACTED], the [REDACTED], the [REDACTED], the [REDACTED] and the [REDACTED], [REDACTED], any of their respective directors and advisers, or any other persons or parties involved in the [REDACTED], and no representation is given as to its accuracy.

#### SOURCE OF INFORMATION

The contract sum to Frost & Sullivan is RMB1,320,000 for the preparation and use of the F&S Report, and we believe that such fees are consistent with the market rate. Frost & Sullivan is an independent consulting firm founded in Hong Kong. It offers industry research and market strategies and provides growth consulting and corporate training. In compiling and preparing the F&S Report, Frost & Sullivan has adopted the following assumptions: (i) Chinese social, economic and political environment is likely to remain stable in the forecast period; (ii) the Chinese government policies on equipment operation service market will remain unchanged during the forecast period; (iii) related industry key drivers are likely to drive the market in the forecast period. Frost & Sullivan has conducted detailed primary research which involved discussing the status of the industry with leading industry participants and industry experts, as well as secondary research which involved reviewing company reports, independent research reports and data based on its own research database. Frost & Sullivan has obtained the figures for the projected total market size from historical data analysis plotted against macroeconomic data as well as specific related industry drivers. Our Directors confirm that, after making reasonable enquiries, there is no adverse change in the market information since the date of the Frost & Sullivan Report that may qualify, contradict or have a material impact on the information.

#### **OVERVIEW OF PRC ECONOMY**

Over the past five years, China's macro economy has maintained a rapid growth. China's nominal GDP increased from RMB91.9 trillion in 2018 to RMB121.0 trillion in 2022 with a CAGR of 7.1%, and is expected to further increase to RMB159.5 trillion in 2027, representing a CAGR of 5.6% from 2023 to 2027. On the other hand, China's urbanization rate increased from 59.6% in 2018 to 65.2% in 2022 with a CAGR of 2.3%, and is expected to further increase to 71.1% in 2027, representing a CAGR of 1.8% from 2023 to 2027. The following chart sets forth the historical and forecast nominal GDP and nominal GDP per capita in China for the periods indicated.



Source: National Bureau of Statistics, Frost & Sullivan

The following chart sets forth the historical and forecast urbanization rates of China and other major economies for the periods indicated.

Urbanization Rate, %			U.S	EU	Chi	na			
82.3%	82.5%	82.7%	82.9%	83.1%	83.3%	83.4%	83.4%	83.5%	83.6%
74.5%	74.7%	74.9%	75.0%	75.2%	75.3%	75.4%	75.4%	75.5%	75.6%
59.6%	60.6%	63.9%	64.7%	65.2%	66.1%	67.4%	68.7%	69.9%	71.1%
2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E

Source: National Bureau of Statistics, World Bank, Frost & Sullivan

## TRANSFORMATION AND UPGRADE OF THE CONSTRUCTION INDUSTRY

Underpinned by the ever-increasing investment in the infrastructure industry and expansion of urbanization, the construction industry has maintained a steady growth. The total output value of the construction industry in China increased from RMB23.5 trillion in 2018 to RMB31.2 trillion in 2022 with a CAGR of 7.3%, and is expected to further increase to RMB41.1 trillion in 2027, representing a CAGR of 5.6% from 2023 to 2027.

With the steady growth of the macro economy, China's construction industry has entered into a new era of technology transformation and upgrade, motivated by the following factors:

- Challenges confronted in construction due to the complex terrain. China has a vast territory of 9.6 million sq. km., consisting of 67% of mountain land, highland and hills and 33% of flatlands and basin. Such complex terrain brings numerous challenges for construction. Challenges confronted in construction due to the complex terrain, as well as the development of infrastructure collectively foster a high demand for advanced construction methods and customized equipment operation services.
- Labor shortage and higher labor costs. China's aging level has increased over the past five years, with the aging rate (calculated by the population over 65 years old divided by the total population) increasing from 12.0% in 2018 to 14.9% in 2022, and is expected to further increase to 17.3% in 2027. To address the problems associated with labor shortage and higher labor costs, the construction industry has entered into a new era of technology transformation and upgrade to meet customers' needs for higher quality and comprehensive services, as well as smart and safer manufacturing.
- Increasingly stringent regulatory requirements. China's laws and regulations on production and construction safety and environment protection are becoming increasingly stringent. In terms of production and construction safety, new laws and regulations have been implemented to lower the tolerance for accident work injury, raise the safety standards for construction site, and impose stricter requirements on construction safety. In terms of environment protection, requirements for energy conservation and emission reduction are more stringent as China's goal is to achieve carbon peaks by 2030 and carbon neutrality by 2060. As a result, construction methods and engineering equipment are constantly upgrading. Technologies such as low-carbon energy-saving technology, production safety technology and prefabricated tools are being increasingly applied.

Key future trend of the transformation and upgrade of construction industry mainly include the following aspects:

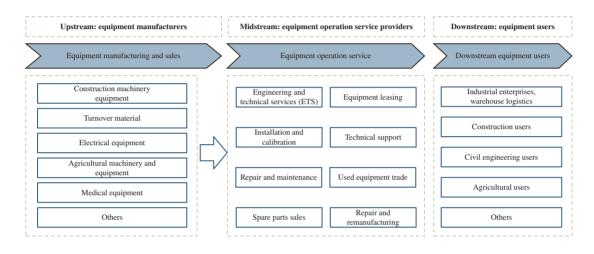
- Constant upgrade of construction methods. Fueled by technological breakthroughs, construction methods are constantly upgrading. With the development of technologies in relation to new infrastructure, such as 5G, IoT and cloud computing, innovations in construction methods, such as construction industrialization (the proportion of prefabricated construction increased, and accounted for 24.5% of China's construction industry in 2021), digitalized construction, intelligent construction technology and low-carbon construction technology are increasingly applied at a fast pace. As a result, the construction industry is gradually transforming from labor-intensive to knowledge-intensive, with more talents equipped with professional technical know-how and expertise entering this industry.
- Appliance of advanced engineering equipment. Engineering equipment will upgrade towards the direction of unmanned control, automation and miniaturization. Efficient, safe, cost-saving, environmentally-friendly and intelligent engineering equipment will be increasingly applied in more scenarios to replace the manpower.
- *Highly specialized division of labor and transformation of supply chain.* Along with the transformation and upgrade of construction methods and equipment, equipment operation during the construction process is becoming more complex and specialized. Transformation and upgrade of the construction industry will facilitate the transformation of supply chain for the construction industry. According to the F&S Report, leading players in the equipment operation service industry in China are expected to benefit from transformation and upgrade of the construction industry and supply chain for the construction industry. These leading players will proactively participate in the process of, as well as take lead in, market transformation and upgrade, according to the F&S Report.

## THE EQUIPMENT OPERATION SERVICE MARKET IN CHINA

## Overview

Equipment operation service refers to the services provided by equipment operation service providers that cover the full-cycle of projects to the equipment users, which primarily includes (i) traditional equipment operation service, such as equipment leasing; (ii) other services driven by the increasing demand from equipment users for one-stop solutions, such as construction and instalment, repair and maintenance, agency sales, spare parts sales, used equipment disposal, and equipment remanufacturing; and (iii) other value-added services. Nowadays, end users in the equipment operation service market demand high quality and comprehensive services, which require specialized and professional services and solutions. Furthermore, with the adoption of new technologies such as IoT on equipment, as well as extensive use of Apps and WeChat applets, leading equipment operation service providers are able to provide more diversified value-added services, such as remote control, IoT-based security alarm and smart equipment management.

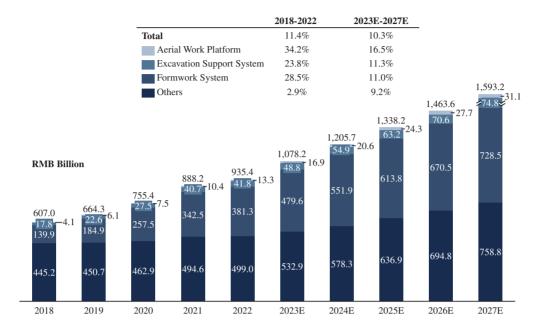
The equipment operation service market value chain can be divided into three parts: (i) the upstream equipment suppliers; (ii) the midstream equipment operation service providers; and (iii) the downstream equipment users. The upstream equipment suppliers primarily manufacture and sell equipment including, but not limited to, engineering machinery equipment, excavation support system and formwork system, electrical equipment, agricultural machinery equipment, healthcare equipment. The midstream equipment operation service providers primarily provide services such as equipment leasing, construction and instalment, and repair and maintenance. The downstream equipment users come from diversified industries, which include but are not limited to areas in relation to industrial, storage and logistics, construction, civil engineering, and agriculture. The following chart sets forth the value chain of equipment operation services.



As compared to direct procurement of equipment, equipment users do not need to bear the one-off procurement costs of equipment or be directly responsible for construction and instalment and repair and maintenance if they engage equipment operation service provider. In addition, they can further enjoy other value-added services, such as agency sales, spare parts sales, used equipment disposal, and equipment remanufacturing from equipment operation service providers. According to the F&S Report, the penetration rate of the equipment leasing industry in China continued to increase from 2018 to 2022, and is expected to further increase in the future.

Due to increasing labor costs and increasingly stringent regulations in relation to construction site safety, equipment is playing an even more pivotal role in replacing manpower, which has led to a rapid increase for specialized equipment operation service in the past five years. The size of equipment operation service market in China in terms of revenue increased from RMB607.0 billion in 2018 to RMB935.4 billion in 2022 with a CAGR of 11.4%. Keeping pace with the further optimization and integration of the market participants, improvement in service quality and specialization and increase in the equipment amount, it is expected that the size of equipment operation service market in China in terms of revenue will increase to RMB1,593.2 billion in 2027 with a CAGR of 10.3% from 2023 to 2027. The following chart sets forth the historical and forecast size of equipment operation service market in China in terms of revenue for the periods indicated.

## Market size of equipment operation services in China, breakdown by equipment type, 2018-2027E



Note: Others mainly include excavator, loader, forklift and road construction equipment operation services.

Source: China Formwork and Scaffold Association, China Construction Machinery Association, Frost & Sullivan.

#### **Aerial Work Platform**

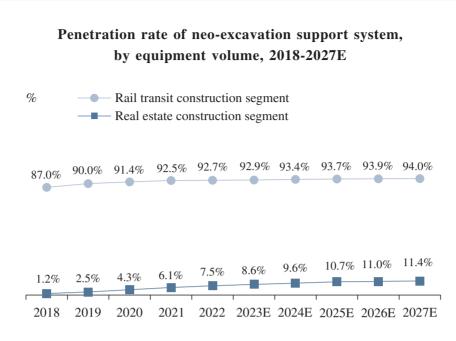
Aerial work platform refers to the movable machinery equipment used for the work carried out at certain heights. According to the National Standard of Classification of Aerial Operations, the equipment used at aerial heights of more than two meters where there is a possibility of falling is classified as aerial work platform. Compared with traditional aerial work tool, such as hanging baskets, aerial work platform nowadays is more flexible in operation and deployment, which can significantly accelerate construction progress, simplify construction process in harsh conditions, reduce labor intensity and labor costs, and ensure the safety of construction workers. Moreover, applicable scenarios of aerial work platform are expanding from traditional areas such as manufacturing and construction to more diversified areas, including, but not limited to, agricultural areas, consumer areas, cultural areas, tourism areas and recreational areas. As a result of the advantages of aerial work platform and increasing market demands, equipment volume of aerial work platform increased significantly from 113.2 thousand units in 2018 to 487.4 thousand units in 2022 with a CAGR of 44.1% and is expected to further increase to 1,194.6 thousand units in 2027 with a CAGR of 17.7% from 2023 to 2027. Among equipment volume of 487.4 thousand units of aerial work platform in China in 2022, approximately 428.9 thousand units, or approximately 88%, were held by equipment operation service providers.

## **Excavation Support System**

Excavation support system refers to the temporary support structure applied in the pit or cofferdam to protect workers and equipment during the underground or underwater construction process. Traditionally, excavation support system is primarily manufactured with concrete or cement and is not recyclable. In 2022, the equipment volume of concrete excavation support system exceeded hundreds of millions of tons. The Guidance on Facilitating Construction Waste Reduction (《推進建築垃圾減量化的指導意見》) issued by the Ministry of Housing and Urban Rural Development in 2020 sets out that local governmental entities shall establish and gradually improve a working mechanism for construction waste reduction, control construction waste from its source, facilitate the transformation of the pattern of construction and production, effectively reduce the construction waste throughout the entire process of construction, as well as continuously facilitate the sustainable development of the construction industry and improve the urban and rural living environment as well. To address the increasing needs for more efficient, safe, cost-saving and environmentally-friendly excavation support system, the market share of neo-excavation support system is expanding rapidly. Our neo-excavation support system mainly refers to steel support system, which is environmentally-friendly, safe, intelligent and recyclable. Neo-excavation support system can help reduce consumption of materials in construction process, as well as complete tasks that cannot be undertaken by manpower or traditional excavation support system in construction process (such as water-proof), so as to accelerate the construction progress, enhance the construction method, ensure safety of construction personnel and ensure the project is carried out as scheduled. Attributable to its multiple competitive advantages over traditional excavation support system, neo-excavation support system is rapidly superseding traditional excavation support system in the market. Neo-excavation support system is extensively applied in excavation support for the construction of bridges, subways, stadiums, tunnels, transportation system, stations and buildings. The equipment volume of neo-excavation support systems in China increased from 15,549 thousand tons in 2018 to 39,679 thousand tons in 2022 with a CAGR of 26.4%, and is expected to further increase to 73,902 thousand tons in 2027 with a CAGR of 11.9% from 2023 to 2027. The size of neo-excavation support system market in terms of revenue increased from RMB17.8 billion in 2018 to RMB41.8 billion in 2022 with a CAGR of 23.7%, and is expected to further increase to RMB74.8 billion in 2027 with a CAGR of 11.3% from 2023 to 2027. Among a total equipment volume of 39,679 thousand tons of neo-excavation support systems in China in 2022, approximately 31,743 thousand tons, or approximately 80.0%, were held by equipment operation service providers.

Furthermore, the underground construction, in which excavation support system is vastly applied, has maintained rapid growth over the past few years. According to the F&S Report, since the implementation of 13th Five-Year Plan, the total increase in gross area of underground construction amounted to 1.4 billion sq.m. from 2016 to 2020. As a percentage of gross construction area in urban areas completed, the increase in gross area of underground construction increased from 15.0% in 2016 to 22.0% in 2020. The increase in gross area of underground construction is expected to reach approximately 310 million sq.m. in 2026, and such increase as a percentage of gross construction area in urban areas completed is expected to further increase to 23.0% in 2026, according to the same source.

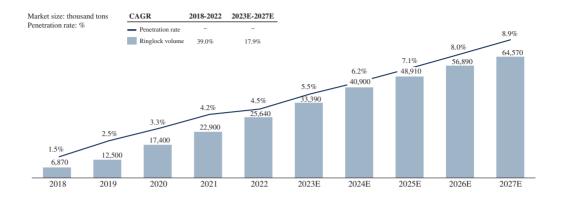
#### **INDUSTRY OVERVIEW**



Source: Ministry of Housing and Urban Rural Development, Frost & Sullivan

#### **Formwork System**

Formwork system is the system used for support and protection when building the main structure, which mainly includes two categories, namely, formwork and scaffold. In terms of its composition materials, traditional formwork system mainly refers to wooden or bamboo scaffold, or steel pipe fastener or bowl buckle scaffold, while neo-formwork system mainly refers to steel ringlock scaffold. Ringlock scaffold surpasses traditional formwork system in terms of flexibility in assembly, safety and cost efficiency. In 2022, equipment volume of traditional scaffold amounted to approximately 571.3 million tons. Currently, some provinces and municipalities such as Jiangsu, Shanghai, and Hubei, have issued relevant policies to encourage the application of ringlock scaffold. For example, the Housing and Urban Rural Development Department of Jiangsu issued the Notice of Enhancing the Safety Management of Building Construction (《關於切實加強建築施工安 全管理的通知》) in May 2020 to promote the extensive application of socket ringlock steel scaffold in urban railway transportation projects, as well as in large-scale and complex projects. With increasing customer demands for efficient, safe, cost-saving and environmentally-friendly formwork system, the market share of neo-formwork system is surging. Specifically, with the rapid development in the infrastructure construction in urban areas accompanied by the increasingly stringent requirements on energy conservation, environmental protection and construction safety, ringlock scaffold is gaining its market acceptance and is rapidly superseding traditional scaffold. Ringlock scaffold is extensively applied in numerous construction scenarios such as that for subways, railways, bridges, factories and buildings. Equipment volume of ringlock scaffold in China increased from 6,870 thousand tons in 2018 to 25,640 thousand tons in 2022 with a CAGR of 39.0%, and is expected to further increase to 64,570 thousand tons in 2027 with a CAGR of 17.9% from 2023 to 2027. Among equipment volume of 25,640 thousand tons of ringlock scaffold in China in 2022, approximately 19,230 thousand tons, or approximately 75%, were held by equipment operation service providers.



#### Market size of Neo-formwork system, by equipment volume, 2018-2027E

*Note:* Ringlock scaffold's market share equals equipment volume of ringlock scaffold divided by total equipment volume of steel scaffold

# COMPETITIVE LANDSCAPE OF THE EQUIPMENT OPERATION SERVICE MARKET IN CHINA

The general equipment operation service market in China is extremely fragmented with the top three players collectively only accounting for 1.5% of the total market share in terms of revenue, with more than 15,000 small-to-medium scale players accounting for the remaining 98.5% in 2021. We are ranked first in terms of revenue in 2021, accounting for 0.7% of the market share. Equipment volume speaks out for an equipment operation service provider's service capability to a large extent. We are ranked first in terms of revenue among equipment operation service providers in China in 2021.

Rank	Company	Company background	Revenue	Market share
			(RMB in	
			billions)	(%)
1.	Our Group	We are a comprehensive equipment operation service provider dedicated to provide one-stop equipment solutions to customers.	6.1	0.7
2.	Pangyuan Rental	Pangyuan Rental was incorporated in 2001 in Shanghai, and focuses on tower crane leasing and related services.	4.3	0.5

Source: Organizing Committee of China Construction Material Rental Contractor, China Formwork And Scaffold Association, Frost & Sullivan

## **INDUSTRY OVERVIEW**

				Market
Rank	Company	Company background	Revenue	share
			(RMB in	
			billions)	(%)
3.	Huatie	Huatie Emergency was incorporated	2.6	0.3
	Emergency	in 2008, listed on the Main Board of		
		Shanghai Stock Exchange in 2015 and		
		mainly provides construction support		
		equipment, building maintenance and		
		repair equipment, construction		
		machinery and other operation,		
		maintenance equipment services and		
		aerial work platform operation		
		services.		

Source: Frost & Sullivan

#### **Aerial Work Platform**

Unlike the operation service markets for excavation support system and formwork system, the aerial work platform operation service market in China is highly concentrated. In 2021, the top three market participants collectively accounted for 57.7% of the total market size in terms of equipment volume of aerial work platforms, with around 1,600 small-to-medium scale market participants accounting for the remaining 42.3% market size. We are ranked first in terms of equipment volume of aerial work platforms in 2021. Our equipment volume of aerial work platforms amounted to approximately 97.2 thousand units in 2021, accounting for 29.6% of the market share in terms of equipment volume in China in 2021. The following table sets forth our ranking in terms of equipment volume of aerial work platforms among equipment operation service providers in China in 2021.

			Equipment volume of aerial work	Market
Rank	Company	Company background	platforms	share
			(Units in	
			thousands)	(%)
1.	Our Group	We are a comprehensive equipment operation service provider dedicated to provide one-stop	97.2	29.6

equipment solutions to customers.

#### **INDUSTRY OVERVIEW**

Rank	Company	Company background	Equipment volume of aerial work platforms (Units in	Market share
			thousands)	(%)
2.	Huatie Emergency	Huatie Emergency was incorporated in 2008, listed on the Main Board of Shanghai Stock Exchange in 2015, and mainly provides construction support equipment, building maintenance and repair equipment, construction machinery and other operation and maintenance equipment services and aerial work platform business.	47.0	14.4
3.	Company A	Company A was incorporated in 2016, and mainly focuses on aerial work platform leasing, including straight boom lifts, curved lifts, scissor lifts and other aerial work platform.	45.0	13.7

Source: Frost & Sullivan

*Note:* The identity of peer company is presented in code name as the equipment volume of the private company used in the above ranking is non-public information, which was estimated based on Frost & Sullivan's primary interviews and calculations. As we have not acquired consent from the company, unauthorized disclosure may cause potential disputes.

#### **Neo-excavation Support System**

Our neo-excavation support system mainly refers to steel support system. According to the F&S report, there are approximately one thousand excavation support system operation service providers in China, and most of them have less than ten thousand tons of equipment volume. The neo-excavation support system operation service market in China is highly fragmented with the top three market participants collectively accounting for 8.7% of the total market size in terms of equipment volume, with other small-to-medium scale market participants accounting for the remaining 91.3% in 2021. We are ranked first in terms of equipment volume of neo-excavation support system in 2021. Our equipment volume of neo-excavation support system amounted to approximately 1,537.9 thousand tons in 2021, accounting for 5.1% of the market share in terms of equipment volume in China in the same year. The following table sets forth our ranking in terms of equipment volume of neo-excavation support system among equipment operation service providers in China in 2021.

#### **INDUSTRY OVERVIEW**

Rank	Company	Company background	Equipment volume of neo-excavation support system	Market share
			(Tons in thousands)	(%)
1.	Our Group	We are a comprehensive equipment operation service provider dedicated to provide one-stop equipment solutions to customers.	1,537.9	5.1
2.	Huatie Emergency	Huatie Emergency was incorporated in 2008, listed on the Main Board of Shanghai Stock Exchange in 2015, and mainly provides construction support equipment, building maintenance and repair equipment, construction machinery and other operation, maintenance equipment services and aerial work platform operation services.	743.0	2.5
3.	Company B	Company B was incorporated in 2006 and specializes in integrated services such as research, development, design, manufacturing, construction, leasing, and sales of temporary steel structure, such as hanging baskets, steel bridges, steel platform, steel support and steel cofferdam.	330.0	1.1

Source: Frost & Sullivan

*Note:* The identity of peer company is presented in code name as the equipment volume of the private company used in the above ranking is non-public information, which was estimated based on Frost & Sullivan's primary interviews and calculations. As we have not acquired consent from the company, unauthorized disclosure may cause potential disputes.

#### **Neo-formwork System**

Our neo-formwork system mainly refers to ringlock scaffold. The neo-formwork system operation service market in China is highly fragmented. In 2021, the top three market participants collectively accounted for 5.7% of the total market size in terms of equipment volume of neo-formwork system, with around 800 small-to-medium scale market participants accounting for the remaining 94.3% market size. We are ranked first in terms of our equipment volume of neo-formwork system amounted to approximately 534.4 thousand tons in 2021, accounting for 3.2% of the market share in terms of equipment volume in China in 2021. The following table sets forth our ranking in terms of equipment volume of neo-formwork system amounted system amounted to approximately 534.4 thousand tons in 2021.

### **INDUSTRY OVERVIEW**

Rank	Company	Company Background	Equipment volume of ringlock scaffolds	Market Share
			(Tons in thousands)	(%)
1.	Our Group	We are a comprehensive equipment operation service provider dedicated to provide one-stop	534.4	3.2
2.	Company C	equipment solutions to customers. Company C was incorporated in 2000, and mainly engaged in production, sales, leasing, engineering contracting and on-site technical services of ringlock scaffold.	235.0	1.4
3.	Company D	Company D was incorporated in 2017, and mainly engages in leasing of construction materials and providing related solutions. It owns various types of formwork equipment, such as ringlock scaffold and H-steel.	185.0	1.1

Source: Frost & Sullivan

## ENTRY BARRIERS OF THE EQUIPMENT OPERATION SERVICE MARKET IN CHINA

#### Capabilities in Large-Scale Asset Operation and Management

Unlike small-to-medium scale market participants with limited equipment volume available and basic and traditional equipment leasing and maintenance service capabilities, leading equipment operation service providers are generally equipped with high equipment volume with diversified equipment categories available, as well as capabilities in ensuring project efficiency and quality, maximizing the value of equipment and reducing the depreciation arising from misoperation. Capabilities in large-scale asset operation and management originate from long-term experience in continuously serving large-scale projects as well as constant investment, development, iteration and upgrade in digitalized operation.

*Note:* The identities of peer companies are presented in code names as the equipment volume of the private companies used in the above ranking are non-public information, which were estimated based on Frost & Sullivan's primary interviews and calculations. As we have not acquired consent from these companies, unauthorized disclosure may cause potential disputes.

## **INDUSTRY OVERVIEW**

#### High Technical Requirements for One-stop Equipment Operation Services

Along with the development of the infrastructure industry and continuous urbanization, construction methods, especially those applied in large-scale construction projects, have become more complex and specialized. As a result, market demand for one-stop and multi-dimensional equipment operation services is continuously increasing. While one-stop and multi-dimensional equipment operation services require proven expertise and technologies from equipment operation service providers, such services are usually provided by leading market participants, which own high-quality equipment, possess advanced construction methods and equipped with professional implementation team.

#### Fast Response and Resource Allocation Capabilities

China has a vast territory and construction projects conducted thereon spread all over. When the client requests for equipment operation services, the equipment operation service providers must respond promptly to address client's demand to ensure timely implementation of the project timetable. Fast response capabilities require equipment operation service providers to be equipped with an extensive service network covering numerous cities in China, as well as equipment and other types of asset available at each service outlet within the network. Further, for large-scale projects, clients generally require vast amount of equipment and supporting staff to be in place in a short period of time. In such cases, the equipment operation service providers need to timely re-allocate asset and equipment among different service outlets in surrounding areas. Such requirements form a high entry barrier for companies that are not equipped with an extensive service network and timely resource allocation capabilities.

#### Brand Recognition and Established Brand Reputation

A well-recognized brand name is normally the outcome of vast technical expertise and abundant project experience, which is essential for equipment operation service providers to carry out business operations. A well-recognized brand name brought by decades of proven operation results is one of the keys to success in the equipment operation service market. For example, to ensure the quality of construction project implementation, construction contractors, especially central enterprise construction contractors, usually have more stringent requirements on equipment performance, construction safety and construction techniques. In such case, construction contractors tend to cooperate with equipment operation service providers with well-recognized brand names, which sets a high entry barrier for new entrants as it is extremely difficult for them to establish a well-recognized brand name in a short time period.

## **INDUSTRY OVERVIEW**

#### MARKET DRIVERS OF THE EQUIPMENT OPERATION SERVICE IN CHINA

#### **Urbanization and Expansion in Urban Construction**

Steady growth of the PRC's economy, along with the continuous escalation of urbanization and industrialization has led to a continuously increasing demand for urban and industrial infrastructure investment. According to the F&S Report, China's urbanization rate increased from 59.6% in 2018 to 65.2% in 2022, representing a CAGR of 2.3%, and is expected to further increase to 71.1% in 2027, representing a CAGR of 1.8% from 2023 to 2027. Therefore, in order to accommodate the rapid expansion in urban construction, relevant equipment operation service is well-positioned for vast growth potential in the future.

#### **Favorable Policies**

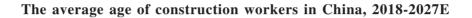
The Central Committee of the Communist Party of China and State Council have issued a series of policies to facilitate the transformation to an environmentally-friendly and low-carbon-emission economic system. For example, the *Proposals of the Central Committee of the Communist Party of China on Formulating the 14th Five-Year Plan for National Economic and Social Development and the Long-term Goals for 2035 (《中 共中央關於制定國民經濟和社會發展第十四個五年規劃和二〇三五年遠景目標的建議》)* 

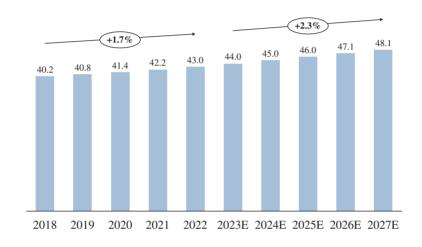
(The "Proposals") issued in 2020 sets out that the PRC Government plans to facilitate the environmentally-friendly transformation in key industries and areas, as well as facilitate the low-carbon, safe and efficient use of energy. The Proposals also emphasizes the importance of work safety. The implementation of these policies will facilitate the extensive application of efficient, safe, cost-saving and environmentally-friendly equipment used for construction, which will in turn prosper the demand of equipment operation service in the infrastructure industry. The Proposals will actively promote the principles of construction waste reduction and the recycling of engineering equipment and materials. At the same time, new equipment with higher safety and efficiency will be used to reduce the reliance on human labor and improve safety. Specifically, important ways to reduce construction waste include (i) making good use of steel support materials which can be recycled to replace the traditional disposable concrete support, and (ii) replacing the traditional wooden and bamboo scaffolds and traditional steel scaffolds with ringlock scaffolds that have longer service life. In terms of safety, compared with traditional scaffolds, the ringlock scaffolds have a higher bearing capacity. For such reasons, they are considered safer and more stable, which will significantly improve the safety of engineering construction. In addition, compared with the traditional hanging baskets, aerial work platforms also have obvious advantages such as higher efficiency and safety. These top-level policies will effectively promote the acceptance and use of the ringlock scaffolds, the steel support and the aerial work platforms in various industries, and be a driving force for our business. As a result, a supportive and orderly market environment for equipment operation service providers will be established in China.

## **INDUSTRY OVERVIEW**

#### Increasing Demand for Equipment to Replace Human Labor

China's aging population level has increased due to the improvement in people's livelihood and medical condition as well as the low birth rate in the past five years. China's aging rate (calculated by the population over 65 years old divided by the total population) increased from 12.0% in 2018 to 14.9% in 2022, and is expected to further increase to 17.3% in 2027. The aging population and the low birth rate over the past years have led to a decline in the amount of labor supply in China, which in turn led to an increase in labor costs. Meanwhile, the average age of construction workers in China increased from 40.2 in 2018 to 43.0 in 2022, and is expected to further increase to 48.1 in 2027.





Source: National Bureau of Statistics, Frost & Sullivan

In addition, the average annual compensation of urban employees in China increased from RMB74.3 thousand in 2017 to RMB106.4 thousand in 2021, with a CAGR of 9.4%, and is expected to further increase to RMB161.9 thousand in 2026, representing a CAGR of 8.8% from 2021 to 2026. China's increasing aging level and increasing labor costs are expected to result in the increasing needs for equipment which can replace or reduce human labor in many scenarios, especially ones in risky conditions, such as aerial work.

In addition, the vast demand for infrastructure construction in the past five years has also resulted in a rapid growth in equipment volume. Under such circumstances, equipment operation service providers with professional service capabilities are able to provide equipment users with one-stop equipment solutions covering the full-cycle of projects so as to enhance operational efficiency, reduce labor costs and increase utilization rate of equipment.

# Expansion of Applicable Scenarios and Geographic Coverage of Equipment Operation Services

Attributable to technological breakthroughs and upgrades in information technology, equipment operation service providers are able to offer diversified equipment offering portfolio and service offerings tailored to customers' needs arising from numerous scenarios, including but not limited to, subways, tunnels, integrated pipe galleries, pipe trenches, housing, large-scale entertainment events and sports events. Furthermore, continuous escalation of urbanization, industrial transformation and upgrade, as well as the implementation of 14th Five-Year Plan, which is accompanied by the ever-growing demand from China's construction market, bring opportunities for equipment operation services in tier-three cities or lower in China.

#### Sustainable Growth of the Infrastructure Industry

The market demand for equipment operation services is closely related to the development of infrastructure industry. China's infrastructure industry experienced steady growth in recent years. The output value of China's infrastructure industry increased from RMB23.5 trillion in 2018 to RMB31.2 trillion in 2022, representing a CAGR of 7.3%, and is expected to further increase to RMB41.1 trillion in 2027, representing a CAGR of 5.6% from 2023 to 2027. Attributable to the steady growth of China's macro economy, the national strategies of regional economic integration and new urbanization, as well as the continuous increase in new infrastructure related projects, it is expected that the investment in real estate industry and infrastructure industry will continue to increase, which will in turn fuel the development of the infrastructure industry. The emerging patterns of city cluster and metropolitan region also contribute to the high demands for infrastructure construction. Along with the sustainable growth of the infrastructure industry, demand for equipment operation services, especially for those related to construction equipment, is expected to increase continuously.

#### **Division of Labor for Industry Specification**

The supply-side structural reform focuses on more efficient allocation of resources by eliminating obsolete production capacities and enhancing specialized and professional services. An increasing amount of enterprises tend to lower their investment in fixed asset as well as asset-liability ratio, and to focus their resources on the operation of core business. Meanwhile, along with the transformation and upgrade of the construction industry, the customers are facing more complex construction scenarios, which require the application of advanced construction methods and specialized operational staff. Professional equipment operation service providers are able to provide high quality equipment with tailor-made solutions to their customers in such scenarios. As division of labor for industry specification becomes more common in the industry, an increasing number of equipment users will tend to engage professional equipment operation service providers to provide equipment related services rather than procure equipment on their own, which will lead to vast growth potential for equipment operation services.

## **INDUSTRY OVERVIEW**

## FUTURE TRENDS OF THE EQUIPMENT OPERATION SERVICE MARKET IN CHINA AND ASEAN

#### CHINA

#### **Further Increase in Penetration Rate**

The penetration rate of the equipment leasing industry in China is relatively low as compared to those of the developed countries. According to the F&S Report, the penetration rate of equipment leasing industry in China in 2022 was 57.5%, while the average penetration rate in the developed countries, including countries in North America, European Union and Japan, was 66.9% in 2022. The penetration rate of the equipment leasing industry in China increased from 51.3% in 2018 to 57.5% in 2022, and is expected to further increase to 64.0% in 2027, which will in turn bring more business opportunities and broader customer base to leading equipment operation service providers in China.

#### **Continuous Increase in Market Concentration**

China's equipment operation service market is vast but fragmented, with more than 15,000 market participants in 2021, among which most of them are micro and small enterprises spreading across tier-two cities and lower tier cities, as well as rural areas. Low asset amount, low efficiency, and low gross profit margin are the main characteristics of the aforementioned market participants. According to the F&S Report, the top three market participants in equipment operation service market in China collectively only accounted for 1.5% of the total market size in terms of revenue in 2021.

In the future, equipment operation service providers with low asset amount, limited customer resources, weak service capabilities and weak profitability will not be able to compete with leading equipment operation service providers that are able to provide comprehensive and multi-dimensional equipment operation services covering the full cycle of projects. As a result, in the future, it is expected that leading equipment operation service providers will gain larger market shares and the market will further consolidate.

## Transformation from Provision of Only Leasing Service to Multi-dimensional Services

Provision of equipment leasing service as the only service offering is an early form of equipment operation services, and is also the mainstream in the current equipment operation service market in China. Most of the market participants are currently only able to provide leasing service rather than multi-dimensional services.

With the rise of labor costs and the requirements of safety production, energy conservation and environmental protection, the division of labor has become more specialized. At the same time, reforms in supply chains had sped up the transformation of asset-light construction engineering companies. At present, changes in digitization and the internet of things have been increasingly adopted in the construction engineering industry, along with related economic models, industrial policies and commercial practices. Such changes in the industry resulted in the tendency among construction engineering companies to outsource their engineering and technical solutions to other service providers in order to overcome the increasingly higher technical barriers of entry. In the future, it is expected that engineering and technical services that are provided by equipment operation service providers will face greater development and expansion opportunities.

## **INDUSTRY OVERVIEW**

In the future, driven by the higher requirements for light-asset operation, environmentally-friendly measures and operational efficiency from the downstream customers, market demand for multi-dimensional value-added services, such as engineering and technical services, IoT based technical support and used equipment disposal, are expected to keep increasing. Therefore, the equipment operation service market in China will gradually transform from provision of only leasing service to multi-dimensional equipment operation services.

#### **Digitalized Operation**

Emerging technologies such as 5G, IoT, and artificial intelligence has facilitated the digitalization transformation of the economy. The equipment operation service market also commenced digitalization and intelligence transformation underpinned by new technologies.

The traditional equipment operation service industry also embraces the Internet to efficiently connect high quality equipment operation service providers and downstream customers through the Internet platform, industrial Internet platform and industry big data. The application of such information technologies breaks industry barriers, facilitate information sharing, reduces costs and enhances operational efficiency, which eventually achieves industrial digitization and digital industrialization, as well as facilitates the efficient development of the equipment operation service market. In addition, IoT and artificial intelligence also facilitates the upgrade of intelligent networking of the equipment. The IoT and digitalization process involve a wider range of data collection, storage, computing, and cloud services based on data, which can achieve data communication between equipment and people, equipment and equipment, and equipment and cloud. The equipment operation service providers can further analyze the data collected and enhance their service quality and efficiency. Therefore, equipment operation service providers will have the opportunity to implement innovative business models and offer abundant value-added services such as big data analysis to help clients improve their operational efficiency and project management capabilities through visualized operation data.

#### ASEAN

The ASEAN Comprehensive Recovery Framework ("ACRF") adopted in 2020 includes a series of relief plans for countries in the region to stimulate investment in various fields including infrastructure construction in the region. In the past two years, relevant economic recovery plans have achieved remarkable results, and ASEAN is realizing rapid economic recovery with its high level of openness and regional integration. Going forward, investment in transportation infrastructure such as roads, railways and airports will continue to be the momentum of ASEAN's economic growth in the future. Specifically, at the policy level of major economies in ASEAN, among the 246 national strategic projects of the Indonesian government in 2022, 97 are related to road and railway infrastructure. The "12th Malaysia Plan" (2021-2025) announced that the construction of transportation infrastructure such as airports, ports, and industrial areas will become the focus of investment. The macroeconomic outlook of the Philippines is also optimistic, which is mainly due to the "Build, Build, Build" plan issued by the Duterte administration.

## **INDUSTRY OVERVIEW**

The Thai Ministry of Transport announced that it will invest in 36 large-scale transportation infrastructure projects, covering roads, rail transit and airports. As an important manufacturing center in the ASEAN region, Vietnam attached great importance to infrastructure construction. Vietnam's new law on Public-Private Partnership has relaxed the requirements for the proportion of private investment and introduced a revenue sharing and compensation mechanism. Generally speaking, ASEAN infrastructure and real estate construction are expected to maintain a rapid growth trend in the coming years, which will promote the growth of demand for construction machinery and equipment including aerial work platforms. The equipment operation and service market will also face broad development opportunities.

For example, downstream sectors including infrastructure and real estate construction in ASEAN are generating increasing demand for the aerial work platforms. In 2022, market size of aerial work platform operation service reached to RMB1.68 billion, implying a CAGR of 34.7% comparing to 2018. Going forward, the market size will further grow to RMB5.55 billion in 2027 at a CAGR of 26.6% from 2023 to 2027, which is mainly attributable to the expanding scale of investment in infrastructure and real estate construction in this region.

Singapore, Thailand, and Malaysia are the more developed economies in ASEAN and also contribute to the major share of aerial work platform operation service market. In 2022, market size of aerial work platform operation service in Singapore, Malaysia, and Thailand reached to RMB0.59 billion, RMB0.53 billion, and RMB0.24 billion, respectively, representing CAGRs of 34.6%, 37.1%, and 36.1% respectively compared to 2018. The three markets are expected to remain the major markets of aerial work platform operation, with market size reaching RMB2.02 billion, RMB1.88 billion, and RMB0.85 billion in 2027 at CAGRs of 27.7%, 28.0%, and 28.7% respectively, from 2023 to 2027, mainly attributable to higher economic development and urbanization rate.

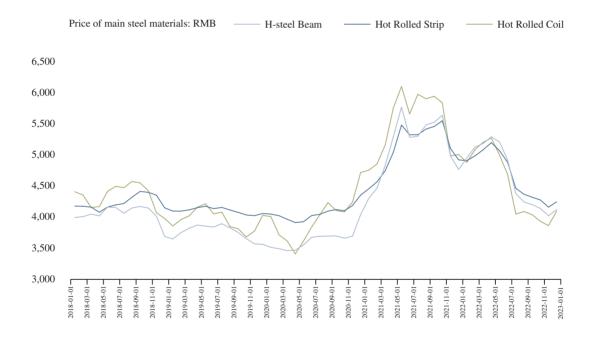
In 2022, total sales volume of secondhand aerial work platform in ASEAN reached 15.7 thousand units, implying a CAGR of 26.1% comparing to 2018. Going forward, driven by the above mentioned positive factors, the sales volume is expected to further grow to 28.5 thousand units in 2027 at a CAGR of 10.8% from 2023 to 2027. Accordingly, size of secondhand aerial work platform operation service market in ASEAN reached RMB0.97 billion in 2022, representing a CAGR of 34.1% comparing to 2018. Similar to overall market condition, Singapore, Thailand, and Malaysia are also the major markets of secondhand aerial work platform operation. In 2022, market size of secondhand aerial work platform operation. In 2022, market size of secondhand aerial work platform operation, and RMB0.14 billion, respectively, representing CAGRs of 34.0%, 36.2%, and 36.8% respectively comparing to 2018. Driven by the increasing volume of secondhand equipment, sizes of these three markets are expected to grow to RMB0.89 billion, RMB0.97 billion, and RMB0.44 billion in 2027 at CAGRs of 24.5%, 24.8%, and 25.0% respectively, from 2023 to 2027.

Competitive landscape of aerial work platform operation market in ASEAN is quite fragmented with no dominant players at current stage, most players are small to medium sized rental companies.

#### **INDUSTRY OVERVIEW**

# KEY RAW MATERIALS PRICE TREND OF THE EQUIPMENT OPERATION SERVICE MARKET IN CHINA

Steel is a major raw material for manufacturing of temporary steel structure and scaffold. The steel price will directly affect the prices of supporting equipment. Since 2017, due to the reduction of excessive production capacity in the steel industry promoted by the PRC Government, the prices of main steel products, such as H-Beam, hot rolled strip and hot rolled coil, have increased with fluctuations in the steel. It is expected that due to the continuous effort in reducing excessive production capacity in the steel industry and the increased downstream requirements for steel products as a result of stable growth of construction industry, which requires large amount of temporary steel structure as well as permanent steel structure, the price of main steel products will maintain a growth trend during the forecast period from 2023 to 2027. The following chart sets forth historical price of main steel materials for the periods indicated:



Source: Shanghai Futures Exchange, Frost & Sullivan