

## INDUSTRY OVERVIEW

The information contained in this section, unless otherwise indicated, have been derived from various official government publications and other publications generally believed to be reliable and the Industry Report prepared by Frost & Sullivan which we commissioned. We believe that the sources of information contained in this section are appropriate sources for such information and have taken reasonable care in extracting and reproducing such information. We have no reason to believe that such information is false or misleading in any material respect or that any fact has been omitted that would render such information false or misleading in any material respect. None of our Company, the Sole Sponsor or any of our or their respective directors, officers or representatives or any other party involved in the [REDACTED], except for Frost & Sullivan, has independently verified such information nor give any representation as to the accuracy or completeness of such information. As such, you should not unduly rely upon such information in making, or refraining from making, any [REDACTED].

### SOURCE OF INFORMATION

We have commissioned Frost & Sullivan, an independent market research and consulting company, to conduct an analysis of, and to prepare a report on the Slewing Ring Market and Construction and Industrial Machineries and Other Parts Market. The report prepared by Frost & Sullivan for us is referred to in this document as Industry Report. We agreed to pay Frost & Sullivan a fee of HK\$300,000 which we believe reflects market rates for reports of this type.

Founded in 1961, Frost & Sullivan has 40 offices with more than 2,000 industry consultants, market research analysts, technology analysts and economists globally. Frost & Sullivan's services include technology research, independent market research, economic research, corporate best practices, advising, training, client research, competitive intelligence, and corporate strategy.

We have included certain information from the Industry Report in this document because we believe this information facilitates an understanding of the Slewing Ring Market and Construction and Industrial Machineries and Other Parts Market for the prospective investors. The Industry Report includes information of the Slewing Ring Market and Construction and Industrial Machineries and Other Parts Market, as well as other economic data, which have been quoted in the document. Frost & Sullivan's independent research consists of both primary and secondary research obtained from various sources in respect of the Slewing Ring Market and Construction and Industrial Machineries and Other Parts Market. Primary research involved in-depth interviews with leading industry participants and industry experts. Secondary research involved reviewing company reports, independent research reports and data based on Frost & Sullivan's own research database. Projected data were obtained from historical data analysis plotted against macroeconomic data with reference to specific industry-related factors. Except as otherwise noted, all the data and forecasts contained in this section are derived from the Industry Report, various official government publications and other publications.

In compiling and preparing the research, Frost & Sullivan assumed that the social, economic, and political environments in the relevant markets are likely to remain stable in the forecast period, which ensures the steady development of the Slewing Ring Market and Construction and Industrial Machineries and Other Parts Market in the PRC and Hong Kong.

### OVERVIEW OF SLEWING RING MARKET

#### Definition and Classification

A slewing ring is a necessary transmission part for some large-size machineries and equipments, which can ensure the relative rotational motion between objects, as well as bearing the axial force, radial force and tilting moment simultaneously. Generally, it is a rotational rolling-element bearing that typically supports a heavy but slow-turning or slow-oscillating load.

A slewing ring is usually made with gear teeth integrated with the inner or outer race. Compared to other rolling-element bearings, slewing rings are generally made in length of diameters of a meter or more.

Slewing rings can be classified into single row four-point contact ball, double row angular ball, single row crossed cylindrical roller, triple row roller, ball and roller combine, single row cylindrical roller.

#### Industry Value Chain

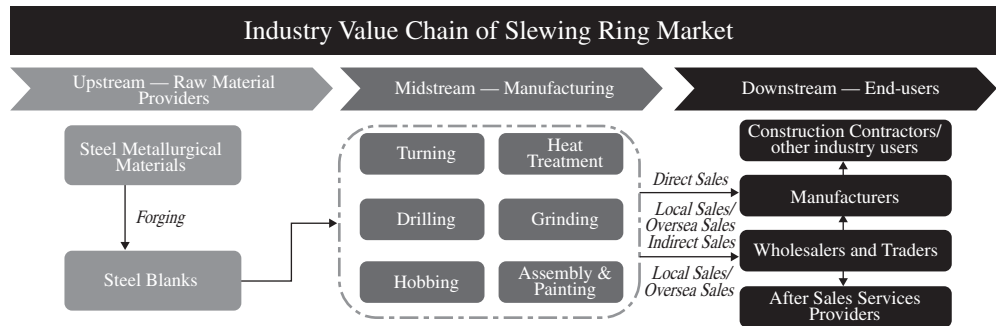
As the direct manufacturing material of slewing rings, steel is usually forged from steel metallurgical materials such as iron ore and manganese ore. The manufacturing process of slewing rings generally contains turning, heat treatment, drilling, grinding, hobbing, assembly and painting. Detailed processing technologies are also involved in different procedures. For instance, turning includes rough turning and finish turning whilst quenching and tempering composes the heat treatment process. Different tests have to be conducted when all parts are assembled to ensure the product quality.

After manufacturing slewing rings, manufacturers can either sell products to end-users directly, or sell products to intermediates engaged in wholesale trading, retailing and distribution, which will resell the products to end-users with or without after-sales services. IOT is common for end-users, especially overseas users to purchase through wholesaler and traders.

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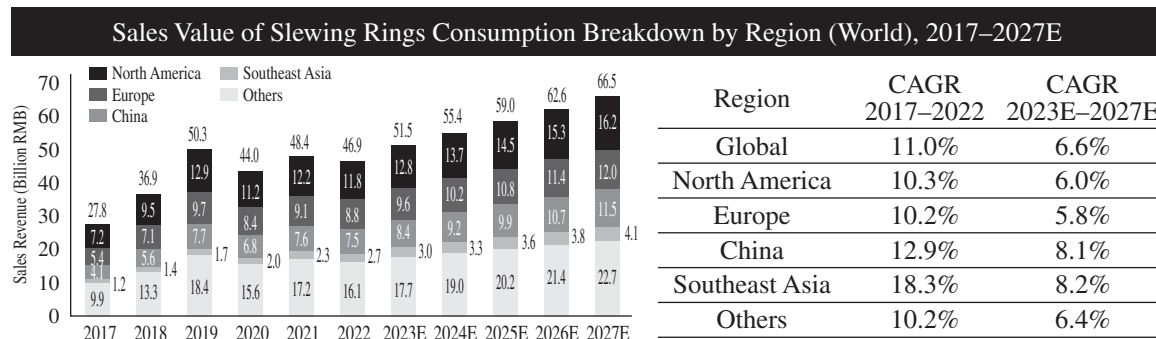
Manufacturers are one of the end-users of slewing rings. Other end-users are mainly those companies providing after-sales services such as equipment repairing for construction machineries and equipments. Slewing ring manufacturers usually manufacture slewing rings on ODM basis and OEM basis. Slewing rings are not only the key components for excavators and cranes, but widely applied in other construction equipments, machineries equipments, wind turbines, military industry, robots, etc. The ultimate end-users of machinery that adopts slewing rings and other components are construction contractors and other industry users such as wind turbine service providers.

Our Group is a midstream slewing ring manufacturer that manufactures slewing rings for sale to wholesalers, traders, construction contractors and manufacturers in both domestic and overseas markets.



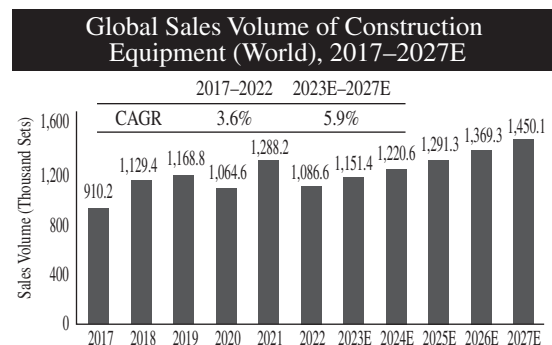
Source: Frost & Sullivan

### Global Sales Value of Slewing Rings Consumption by Region



Source: Frost & Sullivan

As slewing rings are necessary transmission parts for large-size machineries and equipments in construction equipment industry, the slewing ring market is highly correlated with the construction equipment industry. Generally, the construction equipment industry is likely to experience a recession period roughly every eight years and displays periodic characteristics. Going forward, the sales value of slewing rings consumption is expected to attain RMB66.5 billion globally in 2027, representing a CAGR of approximately 6.6% during 2023 to 2027.



Source: Frost & Sullivan

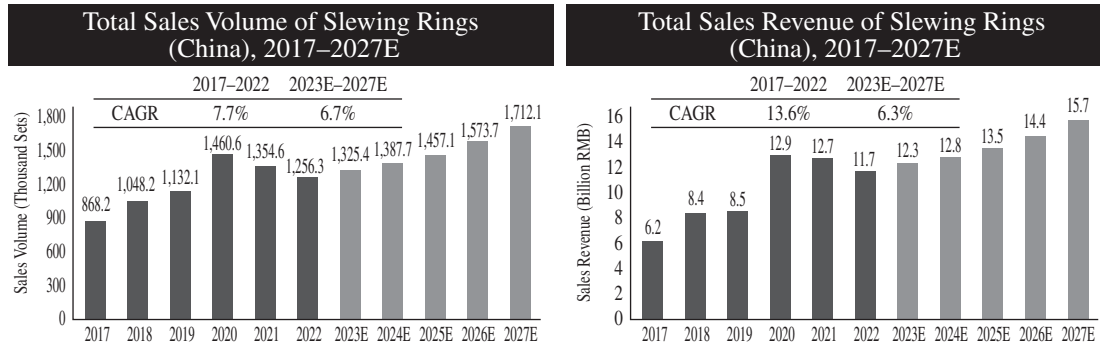
The global sales volume of construction equipments registered an growth from 910.2 thousand units in 2017 to 1,086.6 thousand units in 2022, at a CAGR of 3.6%. The drop in 2020 was due to the COVID-19 outbreak and the slow down of construction activities. The global sales volume of construction equipments is expected to expand at a CAGR of 5.9% from 2023 to 2027. The worldwide rise in construction activity is anticipated to drive the demand for these equipments. Favourable government initiatives such as stimulus packages and lower housing rates that inclined consumers for new house purchases are key factors expected to drive market growth over the forecast period.

### Market Size of Slewing Ring Market by Sales Volume and Revenue in China

Sales revenue, which is primarily impacted by the sales volume and composite steel index, is mainly driven by several factors including sustained demand from downstream industries and government policy support such as The Belt and Road Initiative and Made in China 2025. The Belt and Road Initiative is expected to drive the infrastructure construction in relevant countries, which will raise

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the demand for construction equipments. The sales revenue of slewing rings in China has increased from RMB6.2 billion to RMB11.7 billion during 2017 to 2022, representing a CAGR of approximately 13.6%. The sales revenue of slewing rings in China is expected to grow at a CAGR of approximately 6.3% during 2023 to 2027.



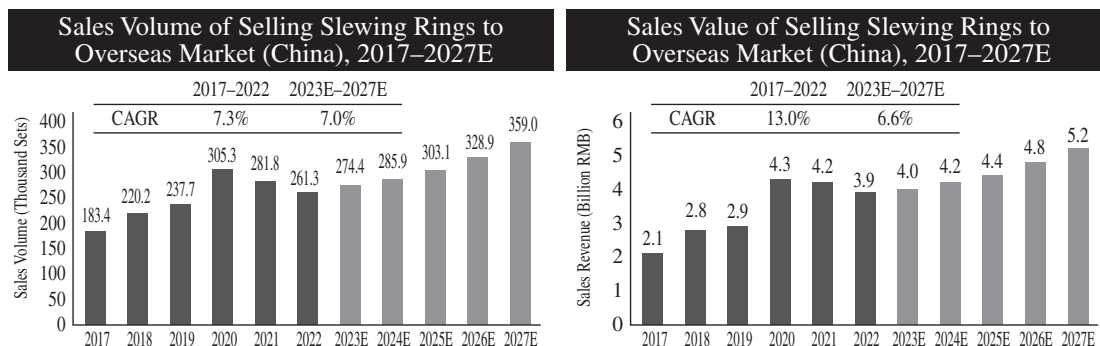
Note: Total sales volume = domestic sales volume + sales volume of selling slewing rings to overseas market; Total sales revenue = domestic sales revenue + sales value of selling slewing rings to overseas market

Source: Frost & Sullivan

### Market Size of Slewing Ring Market by Sales Volume and Revenue from China to Overseas Market

For global downstream market of slewing rings, the rise in adoption of renewable energy and expansion in the infrastructure sector are driving the market expansion for slewing ring globally, the sales volume of selling slewing rings to overseas market has increased from 183.4 thousand sets to 261.3 thousand sets, representing a CAGR of approximately 7.3%. IOT is expected to attain 359.0 thousand sets in 2027, representing a CAGR of approximately 7.0%. The sales value of selling slewing rings to overseas market on the other hand, has increased from RMB2.1 billion in 2017 to RMB3.9 billion in 2022, representing a CAGR of approximately 13.0% and is expected to record CAGR of approximately 6.6% during 2023 to 2027.

There is still a gap between domestic and foreign brands of slewing rings. The lifespan of foreign slewing rings is generally longer than domestic products. Compared with domestic products, slewing rings manufactured in Europe generally have a lower dispersion and a higher quality, while Japanese slewing rings create less noise.



Source: Frost & Sullivan

The U.S. has been the largest country of China's overseas sales of slewing rings from 2017 to 2022. The sales value of slewing rings to the U.S. increased from RMB388.5 million to RMB556.1 million, and is expected to reach RMB819.4 million by 2027. The sales value of slewing rings to Hong Kong has increased from RMB55.9 million in 2017 to RMB100.4 million in 2022. Hong Kong is acting as an intermediate transfer station for the sales of slewing rings to overseas markets of China.

Singapore as an international trading center with well-established networking is experiencing rapid urbanisation and growing demand for smart machinery. The business-friendly tax system in Singapore offers a sustainable and stable environment for international trading and has long been considered as a trading centre and entrepot for the slewing ring industry. Over 90% of imported slewing rings are re-exported to other regions etc. From 2017 to 2022, the sales value of slewing rings to Singapore has increased from RMB29.1 million to RMB52.1 million. Going forward, the sales value of selling slewing rings to Singapore is likely to maintain a moderate growth pace from 2023 to 2027, reaching RMB86.6 million by 2027. Similar to Singapore, Malaysia and the Philippines situated in the Southeast Asia have their local demand for slewing rings in manufacturing machinery as well as the demand from re-export to other countries such as the U.S. and Europe. The sales value of selling slewing rings to the

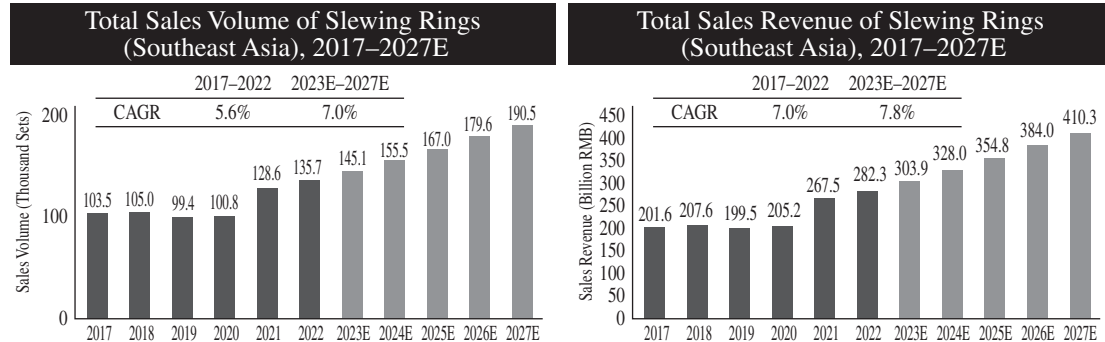
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Philippines from China has increased from RMB7.7 million to RMB23.2 million from 2017 to 2022, representing a CAGR of 24.7% during the period and is expected to attain RMB37.9 million in 2027, representing a CAGR of approximately 9.7% during 2023 to 2027. Malaysia as another growing sales destination in the Southeast Asia recorded a robust growth during 2017 to 2022, attaining a CAGR of 31.0%, and is expected to attain RMB173.2 million in 2027, representing a CAGR of 7.7% during 2023 to 2027.

Europe has been one of the largest exporting regions for Chinese slewing ring manufacturers. From 2017 to 2022, the sales value of selling slewing rings to Europe has increased significantly from RMB441.7 million to RMB907.5 million, representing a CAGR of 15.5%.

### Market Size of Slewing Ring Market by Sales Volume and Revenue in Southeast Asia

IOIn recent years, multinational slewing rings manufacturing companies have started to set up production site in Southeast Asia owing to the continuously improving infrastructure, affordable labour cost, encouraging government policies as well as industry agglomeration in the area where value chain across the upstream raw material providers, midstream manufacturer and downstream customers are setting up branches in the area. Investment from sizeable slewing ring companies is dedicated to improve its local manufacturing capabilities, boost the supply chain network and accelerate regionalisation to accommodate to the local supply chain. Accordingly, the sales volume of slewing rings in Southeast Asia has increased from 103.5 thousand sets to 135.7 thousand sets, representing a CAGR of approximately 5.6% during 2017 to 2022, and is expected to attain a CAGR of approximately 7.0% during 2023 to 2027. The sales revenue of slewing rings in Southeast Asia on the other hand has increased from US\$201.6 million to US\$282.3 million during 2017 to 2022, representing a CAGR of approximately 7.0%.



Source: Frost & Sullivan

### Key Growth Drivers

**Favourable Government Policies** — Catering to the rapid urbanisation process and adoption of new energy in China and the subsequent demand for construction equipments and wind turbine generators, the Chinese Government has promulgated various policies in underpinning the slewing ring industry development. In 2021, the China Bearing Industry Association published the National Bearing Industry 14th Five Year Development Plan (“全國軸承行業“十四五”發展規劃”) outlined that continuous research and development shall be devoted on applying advanced slewing rings into high-end industries such as aerospace equipments, marine engineering equipments and energy saving and new energy vehicles. The 14th Five-Year Plan for Economic and Social Development and Long-Range Objectives through to the Year 2035 (“十四五規劃和2035年遠景目標綱要”) remarked the promotion of advanced industrial base, modernisation of the industrial chain and deepen the implementation of intelligent manufacturing and green manufacturing project in the slewing ring industry. Further, the Tariff Adjustment Plan for 2021 (“2021關稅調整方案”) in China has rolled out a series of tariffs relieving policies on various types of slewing ring products. In light of the Chinese favourable policy environment, the bearing market including the slewing ring market in China is therefore expected to grow in the future.

**Thriving Demand for Construction Machineries** — In regards to the construction industry in China, the total sales volume of various machineries such as excavator, bulldozers, graders, tractor scraper have all recorded robust increment during past few years. These machineries are essential during the incidence of infrastructure, traffic and road construction, real estate, and mining industry, while the country is continuously rolling out large-scale infrastructural project to meet the burgeoning population in recent years. In particular, the production volume of excavator in China has increased considerably at a CAGR of approximately 9.5% during 2017 to 2022. Going forward, as outlined in the National Comprehensive Three-Dimensional Transportation Network Planning Outline (“國家綜合立體交通網規劃綱要”), a modern high-quality comprehensive three-dimensional transportation network shall be built to ensure the citizens are able to reach any urban cluster in two hours any cities in the nation within three hours. In the connection of the thriving construction industry, slewing rings serving as an integral part of construction machinery shall grow along.



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***Demand Originated from New Energy Industry*** — Slewing rings is extensively applied on the wind energy industry, while the number of wind turbine in China has increased steadily at a CAGR of approximately 10.8% during 2016 to 2021. According to the 14th Five-Year Development Plan for Renewable Energy (“十四五”可再生能源發展規劃), the National Energy Administration maps out the concrete adoption plan of wind energy in major area in China. Wind energy has accounted for approximately 6.6% of the national wide electricity consumption. The installed capacity of wind power in China has increased at a CAGR of approximately 15.5% during 2016 to 2021 and is expected to increase at a CAGR of approximately 17.2 during 2022 to 2026. Under the carbon neutrality target set out by the Chinese government, coupled with the core functionality of slewing ring in connecting the steering of the drive, yaw and pitch systems in wind turbine unit, the demand for slewing ring shall be propelled accordingly along with the expedite development of the wind energy industry.

***Wider Application Domain*** — Though slewing ring is mainly applied in the manufacturing of construction equipments, the application of the stuff has been broadening in recent years. Slewing ring has been applied in medical machines, packaging facilities, transporters, water treatment processes, mining equipments and other fields. IOn particular, industrial automation and application of robotics is thriving in recent years in order to reduce operational cost and enhance production efficiency, while alleviating the impact of costly labour and ageing population. The industrial automation market in China has increased at a CAGR of 3.8% during 2016 to 2021. Slewing ring serve as pivotal part within industrial robots and machine tools and therefore the demand would be stimulated accordingly. Also, the slewing ring has also filled the unique needs of several government application including missile systems, antenna and radar positioning, catapults, etc. The increasing range of application of slewing rings is forecast to further drive the market.

***Technology Development*** — The requirement on the performance of slewing ring has increased due to the wider application especially in high precision fields. As the demand grows, the industry of slewing ring is likely to face an upgrade and development. High end products are likely to be needed in the future.

***Automation and Streamlined Slewing Ring Production*** — Slewing ring manufacturers are increasingly devoted to accelerate automation and assimilate computer numerical controlled machineries into the production and inspection line. IOn view of the outbreak of the COVID-19, leading players in the industry leverage the incorporation of such technology to implement automation to elevate overall production yield and efficiency under the operational pressure of shortage of labour and growing labour cost. Further, The promotion of Industry 4.0 is likely to help increase the demand for slewing rings and the slewing ring manufacturers are expected to shift towards automation and adoption of industry 4.0.

### **Market Challenges**

***Fluctuation of Raw Material Price*** — The production of slewing ring is highly associated with the raw material price of gear steel, carbon round steel and other types of steel. The price of steel has greatly fluctuated over the past five years, which directly affect the production cost and selling price slewing bearing. The potential risk of steel price fluctuation is expected to remain as a threat to the stable development of slewing bearing market.

***Competition from emerging countries*** — In recent years, the manufacturing industry has seen a change in supply chain. Attributable to the growing availability of skilled labour and lower labour cost, Southeast Asia has become an additional option of outsourcing locations and taking up a share of electronics manufacturing from the PRC. There is a shift of production facilities from the PRC to other countries due to the trade dispute between the PRC and the U.S. As a result, the emergence of these alternative locations shall pose a threat to manufacturing industry in the PRC.

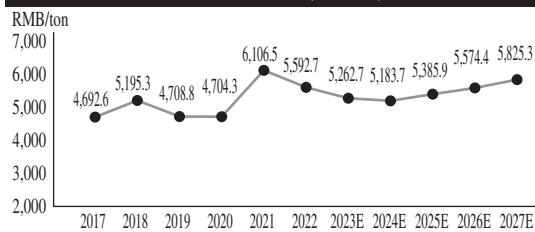
### **Cost Structure Analysis**

The steel price is affected by many factors such as macro economy, supply and demand situation, raw material price, international trade, etc. The price trend of gear steel and carbon round steel has risen during 2017 to 2022 and is expected to remain upward trend in short-term owing to rising demand. The steel comprehensive price index is expected to attain 136.5 in 2027, showcasing a steady increase over the forecast period.

Steel made of 50Mn, 42CrMo and S48C are the major raw materials for manufacturing slewing rings. The price trends of major raw materials generally followed the price trend of steel comprehensive price index, which reflects the overall performance of steel price in China. 42CrMo is the material with the highest quality. Most of the steel companies in China are able to provide this kind of steel, hence the supplier option is rather flexible. Leading steel companies including a major supplier of our Group during the Track Record Period generally are more reliable in terms of quality. The prices of the three major raw materials are highly correlated with the overall steel price. They are also expected to fluctuate in the future, but remain an upward trend in short term.

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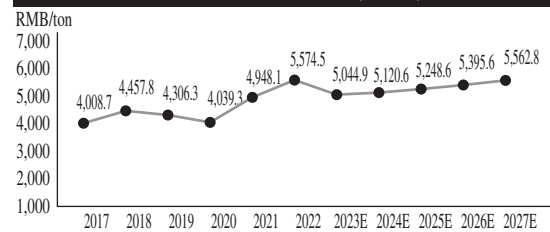
**Price Trend of Gear Steel (China), 2017–2027E**



Note: The price above is the national average price of all types of gear steel (35/42CrMoØ50)

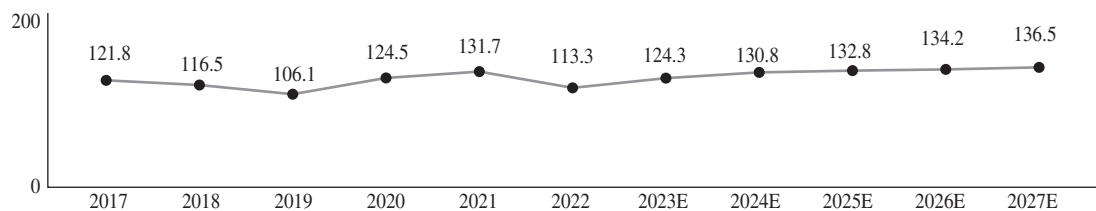
Source: Frost & Sullivan

**Price Trend of Carbon Round Steel (China), 2017–2027E**



Note: The price above is the national average price of all types of carbon round steel (45# steel in GB, S45C and S48C in JIS)

**Steel Comprehensive Price Index (China), 2017–2027E**



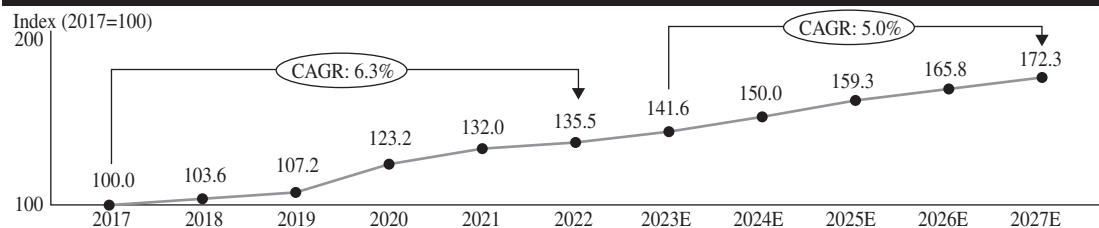
Note: The price above is the national average price of all types of carbon round steel (45# steel in GB, S45C and S48C in JIS)

Source: WIND, China Iron and Steel Industry Association, Frost & Sullivan

### Price Trend of Slewing Rings

The price trend of slewing rings is highly associated with the price of raw material including gear steel, carbon round steel and other types of steel. Attributable to the growing demand originated from construction machinery, other equipment and wind turbine, coupled with the continuously rising complexity of slewing ring that elevates the cost in relation to research and development, manufacturing and quality assurance, as well as the rising raw material price of slewing ring including gear steel, carbon round steel and other types of steel, the price trend index of slewing rings has increased from 100.0 to 135.5 during 2017 to 2022, representing a CAGR of approximately 6.3% during the period. Going forward, alongside with the rise in the price of raw material, and constantly growing demand from downstream, the price trend index of slewing rings is expected to attain 172.3 in 2027, growing at CAGR of 5.0% during 2023 to 2027.

**Price Trend Index of Slewing Rings (China), 2017–2027E**



Note: The price index is made reference to export unit values of ball or roller bearings (HS code: 8482) originated from the PRC.

Source: Trade Map, Frost & Sullivan

### COMPETITIVE LANDSCAPE OF SLEWING RINGS MARKET IN CHINA

The slewing ring market in China is fairly fragmented, the top three manufacturers together attained a revenue of RMB5,563.4 million in 2021, accounting for approximately 47.6% of the slewing ring market in 2021. There are approximately 200 slewing ring manufacturers in the PRC and a majority of them are small and medium enterprises.

According to the Measures for Statistical Definitions of Large, Medium and Small Enterprises (“統計上大中小微型企業劃分辦法”), the classification of large, medium and small enterprises in the manufacturing industry is as follows: (i) Large enterprise: annual revenue greater than RMB400 million; (ii) Medium enterprise: annual revenue between RMB20 million and RMB400 million; (iii) Small enterprise: annual revenue between RMB3 million and RMB20 million.

IO on the slewing ring market in the PRC, Large sized players generally own several integrated production lines which involves the vertical integration from production to quality assurance, as well as horizontally integrated with multiple product lines that produce different types of slewing ring and other types of bearing products.

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Our Group is a medium sized player with an integrated production line in the market. In 2021, our Group recorded a revenue of approximately RMB59.0 million, accounting for approximately 0.5% of the total market in terms of sales revenue. In 2021, the increasing pressure on environmental protection, as well as the outbreak of the COVID-19 which resulted in lockdown and quarantine measures that led to temporary stagnation in business pipeline of certain companies, have collectively led to the closure of several small-sized manufacturers, which in turn decreases the total number of slewing ring manufacturers in China and the industry is witnessing market consolidation.

### Top 3 China-Based Manufacturers of Slewing Ring Market in China by Revenue, 2021

Rank	Market participants	Revenue in 2021 (RMB Million)	Market Share (%)
1	Company A	2,260.7	19.3%
2	Company B	2,221.2	19.0%
3	Company C	1,081.5	9.2%
	<i>Sub-total</i>	5,563.4	47.6%
	<i>Others</i>	6,136.6	52.4%
	<b>Total</b>	<b>11,700.0</b>	<b>100.0%</b>

*Note:* Company A was founded in 2005 in Henan and is a listed company trading in Shenzhen stock exchange. Company A serves the slewing ring market with downstream industry including wind turbine and port equipment sector extensively.

Company B is a joint venture headquartered in Jiangsu and was founded in 2002. The major products of the Company are slewing rings and industrial steel balls.

Company C was established in 1954, and its capacity, production and sales scale and supporting service have expanded around the globe. Main products include slewing ring, railway bearings, automotive bearings, and rotary table bearing.

*Source: Frost & Sullivan*

The market of overseas sales of slewing rings is also fragmented. Our Group ranked at the fifth place, accounting for approximately 1.5% of the market in 2021 in terms of sales revenue to overseas markets. Our Group is positioned as a premium slewing ring manufacturer targeting the local PRC and overseas markets. The Group is the largest manufacturer of slewing rings to overseas markets in South China in terms of sales revenue to overseas markets.

Our Group faces potential competition from non-PRC players in overseas markets, especially in developed regions such as Japan and Europe, where local manufacturers have relatively strong experience to the local markets. However, comparing with these manufacturers, our Group has a price advantage, as well as high quality, capacity and variety production, which may help to attract and retain customers.

### Top 5 Manufacturers of Oversea Slewing Ring Sales in China by Revenue, 2021

Rank	Market participants	Revenue in 2021 (RMB Million)	Market Share (%)
1	Company C	454.2	11.6%
2	Company B	410.9	10.5%
3	Company D	133.0	3.4%
4	Company E	63.4	1.6%
5	<b>Our Group</b>	<b>59.0</b>	<b>1.5%</b>
	<i>Sub-total</i>	1,120.5	28.7%
	<i>Others</i>	2,779.5	71.3%
	<b>Total</b>	<b>3,900.0</b>	<b>100.0%</b>

*Note:* Company D is a company located in Anhui and established in 2007. The company focuses on the manufacturing and sales of slewing rings and slewing drives.

Company E is a leading domestic manufacturer headquartered in Anhui founded in 1984. The company is the subsidiary of a listed company in the Shenzhen stock exchange.

*Source: Frost & Sullivan*

## Entry Barriers

**Stringent quality requirement** — As downstream products of slewing rings such as construction machinery are considered durable and precise devices, clients, i.e. manufacturer of these machineries, are therefore generally maintaining stringent requirements towards their contract manufacturers and demonstrate stickiness to qualified slewing ring manufacturer. Slewing rings manufacturers shall continuously monitor the products are of high quality and are highly consistent and stable. Slewing rings that are able to undergo stringent and comprehensive verification such as JIS standard, validation,

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testing, site audit processes are highly preferred by customers. Further, steady flow of product is one of the key considerations when downstream customers select a slewing ring manufacturer. As a result, suppliers who have their own production facilities can maintain competitive advantages within the industry. Overall, establishment and existing players excel their competitive advantages in this area while it poses certain barrier to new entrant.

**Industry know-how** — With the continuous improvement of China’s equipment industry, the downstream manufacturers are demanding a higher standard on the precision, life and reliability of slewing rings. In order to produce qualified products, slewing ring manufacturers should have the corresponding technical ability in material selection, processing, heat treatment and product testing. Slewing bearings usually need more advanced and professional equipment and technology to meet its performance. It is difficult for new entrants to construct perfect technical system and recruit enough technical personnel in a short period.

**Business relationship** — Downstream customers of slewing rings are more likely to keep long cooperation relationships with leading and well-known manufacturers with high quality slewing rings. Given the long-standing relationship of existing slewing ring manufacturers with various levels of stakeholders, relationship and networking within the industry act as an entry barrier due to the fact that the fabrication of slewing ring requires materials and equipment supply, as well as sales network and reputation comprising traders and various downstream customers. Business relationship also enable slewing ring manufacturers to expand their product offerings and achieve provision of one-stop shop solution in order to stand out from other competitors.

**Capital investment** — Manufacture of slewing ring is considered a capital-intensive business with substantial initial investment in purchase of steel as raw material, module and tooling, establishment of production facilities with automated and precise production chain as well as recruitment of technical staff. The initial set up cost together with the operational cost will pose a barrier for new entrants without sufficient financial resources.

### OVERVIEW OF CONSTRUCTION AND INDUSTRIAL MACHINERIES AND OTHER PARTS MARKET

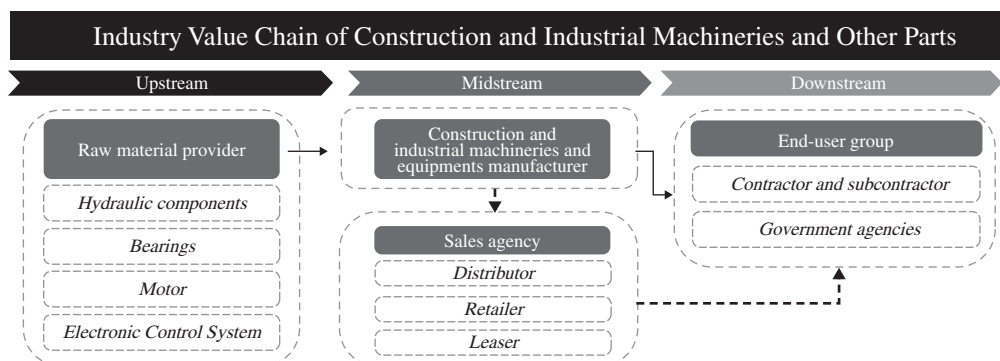
#### Definition and Introduction

Machineries and equipments for construction and industrial works are the tools and machineries used in projects including civil, building, electrical and mechanical (E&M) and repair, maintenance, alteration and addition (RMAA) works and other industrial activities.

The examples of construction and industrial machinery and equipment include generator welding set, air-compressor, compactor, roller, lighting tower water pump, forklift, wheel loader, bulldozer, tele-handler, boom lift, forklift, scissor lift. The machines and devices used in a construction and industrial projects are illustrated below.

#### Value Chain

The construction and industrial machineries and equipments market is divided into upstream raw material provider, midstream manufacturer and sales agency and downstream end-user group. Upstream raw material provider provides mechanical and electronic components for midstream manufacturer, where subsequently construction and industrial equipments such as heavy equipments, cranes, roadwork machineries, mobility machineries, power units and portable equipments are fabricated by midstream machineries and equipments manufacturer. Manufacturer may establish its own sales channel, or engage sales agency in distributing, leasing and retailing respective machineries to downstream end-user groups including contractor, subcontractor and government agencies.



Source: Frost & Sullivan



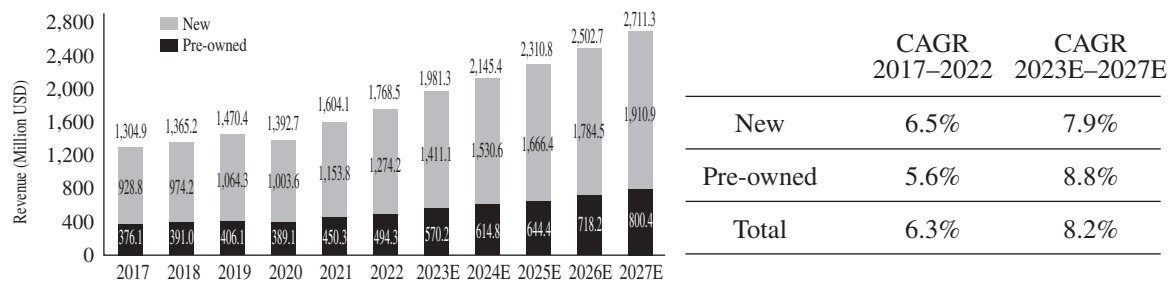
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### Market Size of Construction and Industrial Machineries and Other Parts in Southeast Asia

Market size of construction and industrial machineries and other parts in Southeast Asia has seen an increase from US\$1,304.9 million in 2017 to US\$1,768.5 million in 2022, representing a CAGR of 6.3%. The increase is predominantly due to the increasing infrastructure investment and development of affordable housing, which creates the increasing need for excavators and undercarriage parts.

The overall construction demand is forecasted to rise, with an increase in demand for healthcare facilities, civil engineering works and government projects. The private sector's construction demand is expected to improve due to a brighter economic outlook and upturn in the property market sentiment, thereby translating into growth for construction works, namely digging, trenching, earthmoving, loading and foundations. Market size of construction and industrial machineries and other parts globally and in Southeast Asia is expected to maintain the growth at a CAGR of 5.9% and 8.2% for the next five years, and reach US\$76.6 billion and US\$2,711.3 million in 2027, respectively.

**Market Size of Construction and Industrial Machineries and Other Parts in Southeast Asia, 2017–2027E**

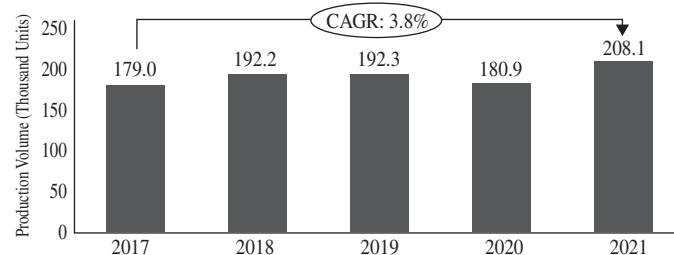


*Note:* Construction and industrial machineries and other parts mainly refers to excavators and undercarriage parts such as track chains, rollers and track shoes. The market size refers to the business receipt of the companies engaged in the manufacturing and sales of construction and industrial machineries and other parts, taking the change in price and quantity into consideration.

*Source:* Frost & Sullivan

In 2021, the volume of excavators produced in Japan amounted to approximately 208.1 thousand units, increased from about 179.0 thousand in 2017. Among construction equipments, excavators had the highest production volume in Japan.

**Production volume of excavators (Japan), 2017–2027E**



*Source:* Frost & Sullivan

### Key Market Drivers

**Increased Infrastructure Investments** — There will be more construction projects in both private and public sector in the near future, driven by the increased infrastructure investments in the aftermath of the COVID-19 outbreak. The resumption of projects in the commercial and leisure sectors are helping improve the construction industry's overall growth and increases regional investment in large-scale public infrastructure, particularly in railways, expressways, and airports. This is most notable in Southeast Asia, which is being earmarked as countries to have positive construction sector growth. Infrastructure investments, residential, commercial, and industrial construction, mine and well construction and institutional spending are all expected to increase, following the economic activities resumption, which would drive the global sales of construction and industrial machineries and equipments.

**Supportive Government Initiatives** — Supportive government initiatives are expected to drive the growth of the market. For instance, in August 2021, the federal government of the U.S. announced stimulus packages including US\$550 billion in new federal investment for modernising infrastructure are expected to drive construction spending in the country. Similarly, in 2019, the Government of India announced to invest US\$1.4 trillion for infrastructure projects from 2019 to 2023. To boost the economy, the Chinese Government announced the US\$1 trillion infrastructure plan in 2022, targeting

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investments in new energy projects, high-speed rail and water tunnels. Accordingly, the supportive government initiatives would translate into the upcoming demand for construction machinery over the forecast period.

**Technological Advancements** — The construction and industrial machineries and other parts market are witnessing a lot of technological advancements in efficiency optimisation and product reliability. This is seen in automated solutions as it helps increase productivity with minimum effort and reduced errors. Autonomous operating technology is widely adopted in the off-highway operating vehicle segment and other construction tasks that are repetitive, physical, precise, and time-sensitive. This is driving the demand for the development of autonomous construction equipment. For example, manufacturers are developing autonomous construction equipment which works on wireless communication technologies by interfering with radio signals from other equipments, receiving commands, and reporting status. The trend for autonomous construction equipment would translate into growth opportunities for the construction and industrial machineries and other parts market.

**Increasing Investment in Smart City Projects** — The demand for excavators is expected to be driven by the construction sector in the near future. In particular, smart cities in Southeast Asia takes a more focused look at how cities across the region can make better use of data, digital tools, and smart solutions to solve specific public problems and make the urban environment more livable, sustainable, and productive. On the back of the substantial government funding, there is increasing number of smart infrastructure projects initiated in the developing countries. The strong investment in the real estate sector will foster the need for superior hydraulic excavators in construction and undercarriage parts.

**Replacement cycle** — According to the characteristics of the machinery industry product replacement cycle, the renewal and replacement cycle of construction machinery such as excavator, bulldozer and grader are generally 8–10 years. Owing to the robust demand for this equipment in past years, the demand for renewal and replacement is expected to continuously propel the construction machinery market globally.

**Demand for one-stop solutions** — Parts like sprocket, idler, track roller, track chain and track shoes go through many steps from raw material to finished components ready for assembly and the process, such as casting, precision machining, heat treatment and surface finishing takes time to perform. A one-stop solution provider, such as the Company, takes complexity out of the procurement process, which reduces lead time and improves quality too. The one-stop solution also enables the customers to simplify and accelerate new product development and prototyping activities. Engaged in the provision of construction and industrial machineries and other parts, the services providers are able to provide one-stop solutions and tap into market growth.

### Market Challenges

**Shortage of Expertise and Talented Labour** — A shortage of expertise and talented labour, coupled with an absence of systematic cultivation and recruitment for human capital, may pose a significant challenge for the development of the industry. Construction machinery is considered technology-intensive industries and require extensive research and development effort by personal and technical workers. The specialised knowledge in designing, developing and manufacturing construction machinery requires at least 3–5 years of training, which further exacerbates the lack of professional and technical personnel in the industry.

**Disruption in Supply Chain** — Global event such as the COVID-19 outbreak since early 2020 and the US China Trade War has temporarily affected the supply of raw material due to the disruption on material supply chain and availability of labour associated with the containment measures undertaken around the globe. Constraints in material sourcing and price fluctuation in raw material poses significant challenge to industry players.

### COMPETITIVE STRENGTHS OF OUR GROUP

Please refer to the paragraph headed “Business — Competitive strengths” in this document for a detailed discussion of competitive strengths of our Group.