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## INDUSTRY OVERVIEW

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*The information and statistics set out in this section and other sections of this document were extracted from various official government publications, other publicly available publications and the report prepared by Frost & Sullivan, which was commissioned by us, unless otherwise indicated. We engaged Frost & Sullivan to prepare the Frost & Sullivan Report, an independent industry report, in connection with the [REDACTED]. The information from official government sources has not been independently verified by us, the Sole Sponsor, the [REDACTED], [REDACTED], [REDACTED], [REDACTED], the Capital Market Intermediaries, 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.*

### OVERVIEW OF MACRO ECONOMY OF THE PRC

Over the past years, the Chinese economy maintained its solid growth despite the global financial crisis. The nominal GDP in China increased from approximately RMB91.9 trillion in 2018 to approximately RMB121.0 trillion in 2022, at a CAGR of approximately 7.1%. Moreover, the per capita nominal GDP in China increased from approximately RMB66,006 in 2018 to approximately RMB85,698 in 2022, at a CAGR of approximately 6.7%. According to the International Monetary Fund, the nominal GDP and per capita nominal GDP are expected to grow at CAGRs of approximately 5.9% and 6.0% from 2022 to 2027, reaching approximately RMB161.3 trillion and approximately RMB114,873 by 2027, respectively.

The output value of the construction industry in China has reached approximately RMB31.2 trillion in 2022 from approximately RMB22.6 trillion in 2018, representing a CAGR of approximately 8.4%. According to the “14th Five-Year Plan for the Development of the Construction Industry” (《「十四五」建築業發展規劃》) issued by the State Council, the construction industry is expected to greatly modernise its industrial chain to form the preliminary stages of a green and low-carbon production model. By 2025, the standard of building information modelling (“**BIM**”) framework is expected to be formed, and the quality and safety systems of infrastructure projects are expected to be more robust. Therefore, it is anticipated the output value of the construction industry will grow at a CAGR of approximately 6.5% from 2022 to 2027, reaching approximately RMB42.7 trillion by 2027.

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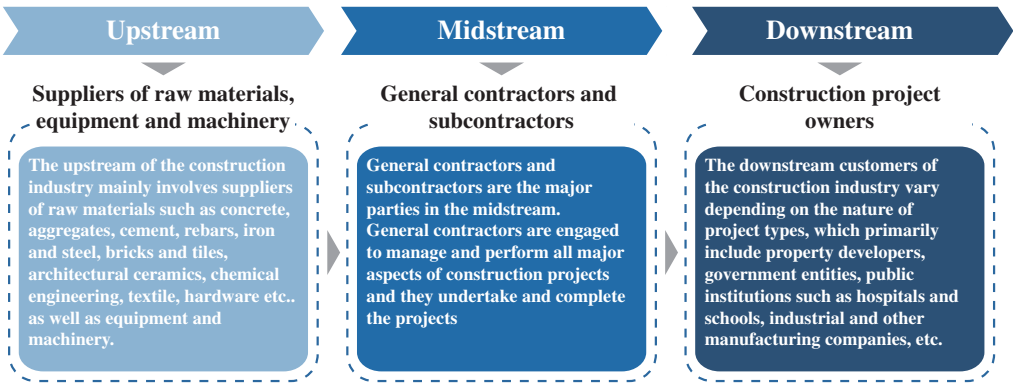
## INDUSTRY OVERVIEW

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### OVERVIEW OF THE CONSTRUCTION INDUSTRY IN THE PRC AND GUANGDONG PROVINCE

The construction industry has long been one of the pillar industries in the PRC, it plays a significant role in the national economic development. In particular, the central and local government authorities have intensively introduced incentive policies to promote better green development and infrastructures in urban and rural areas and better development patterns involving high-quality green construction and green lifestyle formation.

#### Value chain of the construction industry in the PRC



Source: Frost & Sullivan

The value chain of the construction industry consist of three main segments: (i) upstream suppliers of raw materials, equipment and machinery; (ii) midstream general contractors and subcontractors; and (iii) downstream construction project owners.

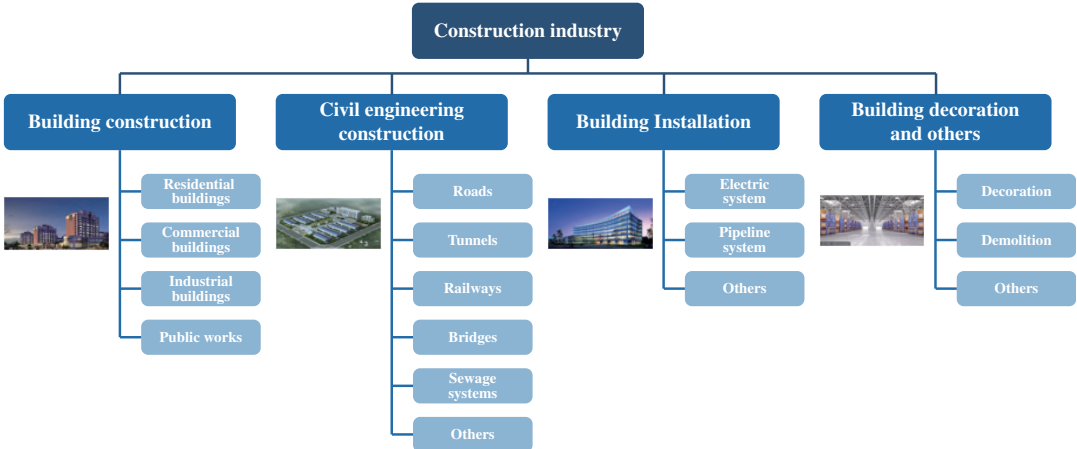
Upstream suppliers of raw materials, equipment and machinery primarily include excavators, manufacturers, traders and equipment lessors.

Midstream general contractors and subcontractors play an important role in the value chain. General contractors are usually given the responsibility to manage and perform all major aspects of construction projects, including but not limited to, foundation works, building construction, curtain wall construction, fit-out and renovation and fireproofing. The general contractor is also responsible for engaging subcontractors in providing construction services and labour force and other specialised construction services required for the construction project.

**INDUSTRY OVERVIEW**

**Classification of the construction industry**

According to the “Industrial Classification for National Economic Activities” (《國民經濟行業分類》) issued by the National Bureau of Statistics of the PRC, the construction industry in the PRC can be divided into four major sectors consist of (i) building construction; (ii) civil engineering construction; (iii) building installation; and (iv) building decoration and others, which can further be sub-divided as follows:



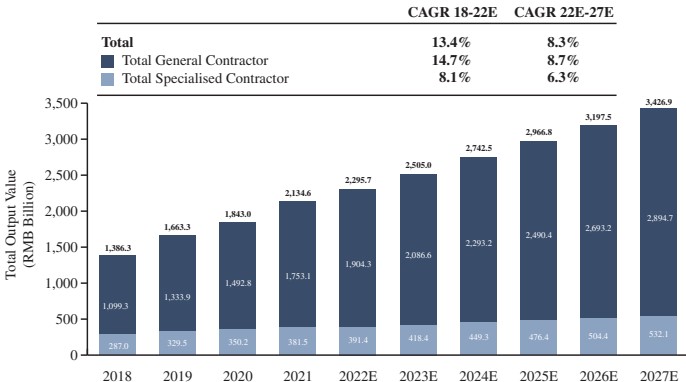
Source: National Bureau of Statistics of the PRC and Frost & Sullivan

**Market size of the construction industry in the PRC and Guangdong Province**

**Total output value**

The total output value of construction is quantitative measurement in terms of the production scale, development efficiency and gross output of the construction industry, which includes: (i) output of construction engineering which refers to construction field work, equipment installation, building maintenance; (ii) output of auxiliary construction productions and industrial work; (iii) output of outsourcing construction service and machinery leasing service; (iv) output of plan, design and supervision service; and (v) output of other construction related work, products and services.

**Total Output Value of Construction Industry by Contractor (Guangdong Province), 2018–2027E**



Source: National Bureau of Statistics of the PRC and Frost & Sullivan

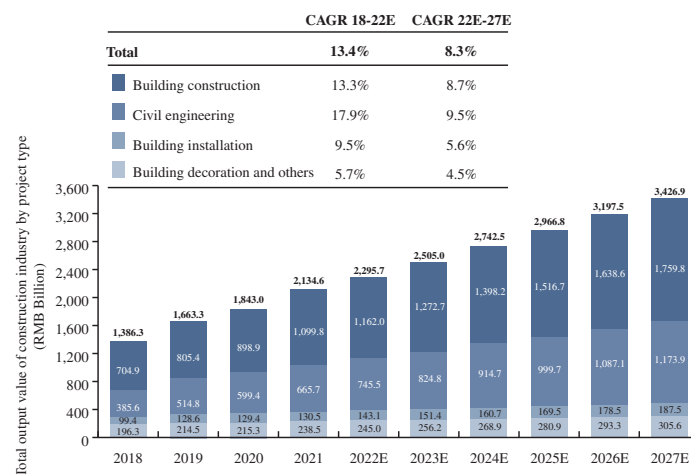
## INDUSTRY OVERVIEW

According to the Frost & Sullivan Report, except for projects with special requirements, project owners would normally prefer to engage general contractor to manage construction project as a whole rather than engaging numerous specialised contractors. Consequently, project constructed by general contractors occupies the majority of the market share of the construction industry in terms of output value in Guangdong Province. In 2018, general contractors in Guangdong Province took 79.3% of the construction market share in Guangdong Province and this majority market occupation rate further increased to 83.0% in 2022.

Driven by the continuous development of construction projects in the PRC, general contractors dominated in the construction market in Guangdong Province in terms of construction output value, with a construction output value of approximately RMB1,099.3 billion in 2018 and RMB1,904.3 billion in 2022 at a CAGR of approximately 14.7%, and it is expected to grow at a CAGR of approximately 8.7% from 2022 to 2027, reaching a construction output value of approximately RMB2,894.7 billion by 2027.

According to the “Notice Regarding Deepening the Reform of Separation of Permits and Business Licenses and Further Stimulating the Development Vitality of Market Participants” (《關於深化“證照分離”改革進一步激發市場主體發展活力的通知》) promulgated by the State Council in May 2021, the third-grade qualification for construction enterprises will be revoked and the conditions for second-grade are correspondingly adjusted and no more third-grade qualification categories for specialised contractors, and thus, it is anticipated the construction license reduction of permits and simplification of approval will be vigorously promoted among general and specialised contractors and the qualification standards of the construction industry in the PRC will be gradually optimised in the future.

### Total Output Value of Construction Industry by Project Type (Guangdong Province), 2018–2027E



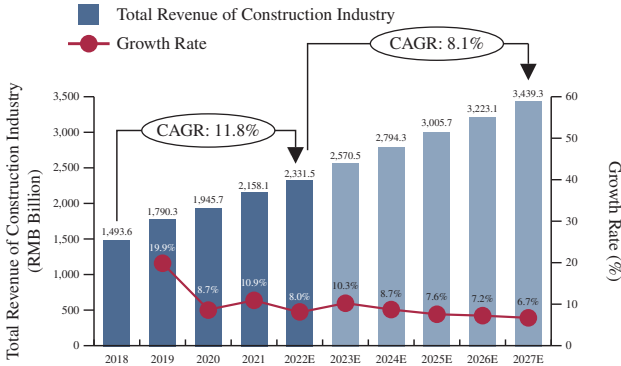
Source: National Bureau of Statistics of the PRC and Frost & Sullivan

**INDUSTRY OVERVIEW**

Among all of the sectors of the construction industry, building construction held the dominant market position in Guangdong Province, represented approximately 50.9% market share in 2018 and approximately 50.6% market share in 2022. Civil engineering being the second largest sector in Guangdong Province, represented approximately 27.8% market share in 2018 and approximately 32.5% market share in 2022. Furthering on the State Council’s Opinion on Improving the Management over Urban Planning Construction (關於進一步加強城市規劃建設管理工作的若干意見) published in 2016, the civil engineering sector in Guangdong Province experienced rapid growth at a CAGR of approximately 17.9% from 2018 to 2022 and is expected to remain to be the highest growing sector in the construction industry in Guangdong Province at a CAGR of approximately 9.5% from 2022 to 2027.

**Total revenue**

**Total Revenue of Construction Industry (Guangdong Province), 2018–2027E**



Source: National bureau of Statistics of the PRC and Frost & Sullivan

The total revenue of construction market in Guangdong Province have experienced solid growth in the past years, while Guangdong Province have even achieved double-digit growth at a CAGR of approximately 11.8% from 2018 to 2022, reaching approximately RMB2,331.5 billion in 2022 and is expected to further increase to approximately RMB3,439.3 billion by 2027.

**Recent impact on the development of the PRC property industry**

The depressed property industry in the PRC has a negative impact on the growth of construction industry. The PRC property industry has demonstrated a downward trend since 2021. With the introduction of “three red lines” policy in late 2020 in the PRC, which provides certain financing criteria for property developers in the PRC, a number of property developers were caught in a serious capital chain rupture and had defaulted on their debt obligations in 2021. In 2023, some property developers in the PRC faced financial difficulties and struggled to fulfill their debt obligations and required extension on their debt payments. According to the data published by the National Bureau of Statistics of China, from January to July 2023, the investment in property development was approximately RMB6,771.7 billion, representing a year-on-year decrease of approximately 8.5%, of which the investment in residential buildings was approximately RMB5,148.5 billion, representing a year-on-year decrease of approximately 7.6%. Being in the

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## INDUSTRY OVERVIEW

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upstream of the property industry chain, the construction industry has also been considerably impacted and witnessed a slowdown in the overall development pace of the construction industry, especially the building construction sector, in 2022. Although the construction industry suffered from COVID-19, demand contraction, waning expectations, and expected downward trend in the short term, the effective implementation taken by the PRC government is expected to maintain a long-term upward trend in the future. According to the “Notice on Regulating the Order of the Real-estate Market” (關於持續整治規範房地產市場秩序的通知) issued by the Ministry of Housing and Urban-Rural Development and other seven authorities in July 2021, it is necessary to focus on regulating the quality of real estate development as well as regulating illegal construction and other issues to improve the healthy and steady development of the real estate market. In 2022, the Chinese government continues to regulate the order of the market, strengthen market supervision, build an effective mechanism of the construction industry, improve the supply and demand side policies and adhere to the “houses for living in and not for speculative investment as well as implementing city-specific policies” (房住不炒，因城施策) to achieve the “stabilizing land prices, housing prices and expectations” (穩地價，穩房價，穩預期). In November 2022, the central bank and the China Banking and Insurance Regulatory Commission jointly issued the Notice on the Current Work of Financial Support for the Stable and Healthy Development of the Real Estate Market, which increased support for real estate enterprises from the perspective of financial institutions to stabilise the development of the real estate market. Further, in December 2022, the Central Economic Work Conference explores a new development model for the PRC property industry and emphasises on promoting a virtuous cycle and healthy development of the PRC property industry. Since 2023, local governments have also continued to introduce policies to boost demand in the sector by lowering purchase and lending limitations, relaxing household requirements and increasing central provident fund loan limits.

### **Competitive landscape of the construction industry in the PRC and Guangdong Province**

The construction industry in the PRC is highly fragmented, though the leading construction enterprises in the PRC are dominated by SOEs. While these SOEs heavily rely upon domestic infrastructure investments, which is largely driven by government spending initiatives, other emerging non-SOE private construction enterprises seek opportunities in the massive construction market in the PRC by focusing on building up their own strengths and competitive advantages. In terms of construction revenue in the PRC in 2022, private construction enterprises accounted for approximately 35.2% market share. In terms of construction revenue among all private construction enterprises in 2022, the top five private construction enterprises accounted for approximately 4.2% market share among all private construction enterprises in 2022, according to the Frost & Sullivan Report.

In 2022, the market size of the construction industry in Guangdong Province was approximately 8.2% to the overall PRC market, in terms of revenue. The construction market in Guangdong Province is highly fragmented, with top five private construction enterprises in Guangdong Province occupying approximately 15.0% market share in terms of revenue among all private construction enterprises in Guangdong Province in 2022.

## INDUSTRY OVERVIEW

### Ranking and market share of top 5 private construction enterprises headquartered in Guangdong Province in terms of revenue in Guangdong Province, 2022

Ranking	Private construction enterprise	Identity and background	Revenue (in RMB billion)	Market share
1	Company A	A subsidiary of Country Garden Holdings Company Limited, a Hong Kong listed company (stock code: 2007) based in Foshan, Guangdong Province, mainly engaged in engineering construction and building construction projects.	37.3	6.2%
2	Company B	A private company based in Maoming, Guangdong Province, mainly engaged in building construction, building materials, construction labour management and real estate development.	16.5	2.8%
3	Company C	A private company based in Guangzhou, Guangdong Province, mainly engaged in building construction, municipal utilities, electromechanical installation and building decoration.	15.0	2.5%
4	Company D	A private company based in Maoming, Guangdong Province, mainly engaged in infrastructure construction, building construction and engineering services.	13.5	2.3%
5	Company E	A subsidiary of Guangzhou R&F Properties Co., Ltd., a Hong Kong listed company (stock code: 2777) based in Guangzhou, Guangdong Province, mainly engaged in design, development, sales and management of real estate projects.	7.1	1.2%
<b>Top five</b>			<b>89.4</b>	<b>15.0%</b>
<b>Total private</b>			<b>600.0</b>	<b>100.0%</b>

Source: Guangdong Construction Industry Association and Frost & Sullivan

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## INDUSTRY OVERVIEW

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### Drivers affecting the performance of the construction industry in the PRC

#### 1. *Sustained urbanisation*

According to the National Bureau of Statistics of the PRC, the urbanisation rate in the PRC reached approximately 65.2% in 2022 and it is projected to reach approximately 72.0% in 2027, representing a CAGR of approximately 2.0%. The continuous urbanisation will drive the demand for residential, industrial, and commercial building construction projects, public works, as well as civil engineering constructions and therefore stimulate the development of construction industry in the PRC.

#### 2. *Growth in infrastructure investments*

The construction industry is capital-driven, its development is greatly attributed to the continuous growth in fixed asset investment. The PRC government seek to drum up economic growth amidst the COVID-19 pandemic outbreak by boosting investment spending on infrastructure projects. The total investment in fixed asset rose to approximately RMB58.0 trillion in 2022, with an increase of approximately 4.8% as compared to that of 2021. The PRC government has consistently maintained public spending on infrastructure development as a mean of stimulating the macro economy and to further improve the growth of the construction industry.

#### 3. *Favourable policies from governments*

In recent years, the central and local government authorities have intensively introduced incentive policies to accelerate the application of industrialisation and information technology such as BIM and the development of prefabricated construction. According to the “14th Five-Year Plan (2021–2025) for National Economic and Social Development” (《國民經濟和社會發展「十四五規劃」(2021–2025)》) has proposed to speed up the construction of infrastructure in the PRC covering sectors such as transportation, water conservancy and energy facilities, to further improve national basic public services level. Moreover, the provincial government of Guangdong Province has also released a corresponding five-year plan to promote the construction industry, where efforts will be made to strengthen the development of infrastructure and other construction sectors.

### Market trends and development of construction industry in the PRC

The construction industry in the PRC has developed significantly in recent years as a result of high economic growth and a strong real estate market. Innovative technologies, building techniques and practices, concepts and construction products are steadily being adopted by major construction companies in PRC. For example:

#### 1. *Increased complexity and scale of construction projects and comprehensiveness of services*

As construction projects are becoming more complex and greater in scale with the increasing urbanisation rate and the rapid development of the construction industry in the PRC, opportunities are created for construction enterprises, demanding higher standard of project management in terms of modelling, evaluation and control to achieve an overall equilibrium of time, cost, quality and



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## INDUSTRY OVERVIEW

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safety. Besides, construction enterprises have been more active in the recent years to develop organic growth strategies or through mergers and acquisitions to transform themselves into integrated full-service construction enterprises to better capture the growing market.

### **2. *Mechanisation, robotisation and automation of construction processes***

With the development of the economy and society in the PRC, labour force in the construction industry is increasingly scarce, resulting in the rising cost of labour. According to the nation’s “14th Five-Year Plan”, efforts will be made to promote parts-producing robots and explore the application scenarios for robots used for operations and maintenance. There are also plans to deploy construction robots in the construction industry for mass application by 2025. Thus, with the development of mechanisation, robotisation and automation of construction processes, the demand for labour force will be reduced and higher efficiency will be expected in the future.

### **3. *Adoption of green building technology***

Green building has become increasingly important to the nation’s strategy to transform and upgrade the construction industry. Green building facilitates as a starting point in reaching peak carbon dioxide emission and achieving carbon neutrality. In the “14th Five-Year Plan”, the PRC government made emphasises on the development of the green industry and many provincial governments have developed incentive policies to provide subsidies or tax benefits for real estate developers for their engagements in the development of green buildings. It is believed that the development of green buildings will effectively drive the growth of the construction industry including subsectors such as new building materials, new energies and related services in the future.

## **Key entry barriers of the construction industry in the PRC**

### **1. *Qualification and track record barrier***

General contractors are required to obtain qualifications approved by the MOHURD and local government authorities in order to perform construction projects in the PRC. The qualification of general construction contracting is divided into different grades, and is awarded based on factors including, but not limited to, registered capital, track record, scale of operation, equipment and machinery capacity, technological innovation, minimum member of technical and managerial employees, etc. General contracts with entry-level qualifications are restricted to perform medium to small scale construction projects. New entrants without a proven track record are at a disadvantage in winning project tenders and contracts as developers and governments tend to cooperate with construction companies that have a proven track record and sound reputation based on years of experience in the construction industry.

### **2. *Capital and cash-flow barrier***

In order to enter the construction industry, substantial capital and sound cash-flow management is necessary to support the significant upfront expenditures required for the purchase of raw materials, labour recruitment and purchase/lease of equipment and machinery for its

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## INDUSTRY OVERVIEW

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construction projects. Construction enterprises also need to set aside funds in the event of any cash-flow mismatch between the time in receipt of payment from its customers and payments to its suppliers, which may include retention monies held by its customers during a project until the end of the agreed defects liability period. In addition, construction projects will generally have a higher requirement in terms of registered capital imposed on construction enterprises undertaking such projects. Therefore, it is difficult for new entrants without sufficient capital and cash-flow to undertake sizable construction projects.

### **3. *Environmental compliance barrier***

With the increasing attention of environmental sustainability, construction enterprises are expected to comply with more strict environmental protection laws and regulations on matters such as noise control, air pollution control, waste disposal, etc. New entrants need to devote a large amount of time and effort in order to be comply with various regulations which can be a potential barrier for these new entrants.

## **Threats and challenges of the construction industry in the PRC**

### **1. *Labour shortage***

Labour shortages have become an increasingly severe challenge in the construction industry. The number of workers willing to work in the traditional construction industry is decreasing affecting domestic supply of construction workers. In addition, aging of labour force, coupled with the ongoing skilled labour shortage, provides a major challenge to those in the industry. However, contemporary intelligent manufacturing construction methods can highly reduce the reliance on manual labour and enhance productivity as compared to the traditional construction methods.

### **2. *Increasing costs***

Rising of cost of labour and raw material is a major threat in the construction industry. Labour and raw materials are integral components in construction projects, and these costs fluctuate depending on a variety of factors, such as changes in domestic supply and demand, global and local economies, and other related government policies.

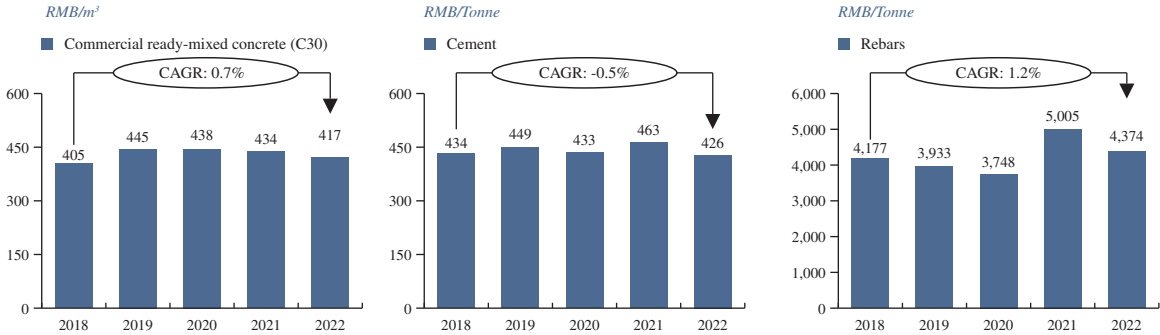
## **PRICE TRENDS OF MAJOR COST COMPONENTS OF THE CONSTRUCTION INDUSTRY IN THE PRC**

### **Raw materials**

Ready-mixed concrete, cement and steel (being rebars) are three major raw materials used in the construction industry and rebar is a major type of steel used in constructions. Cement is the primary ingredient of concrete and thus the price of concrete correlates and fluctuates with that of cement. The prevailing market price of these raw materials can vary widely depending on their grade quality and their supply and demand from areas to areas at any given time.

**INDUSTRY OVERVIEW**

**Price trend of major constructions materials in the PRC (Concrete, Cement, Rebars), 2018–2022**



Source: National Bureau of Statistics of the PRC, China Cement Products Industry Association and Frost & Sullivan

Notes:

1. All prices are exclusive of tax.
2. Grades of concrete are defined by the number next to the letter “C”, which indicates the minimum compressive strength the concrete must possess after 28 days. Prices of C30 ready-mixed concrete is used in the respective graph above for demonstration purpose.
3. The prices from 2018 to 2022 are calculated based on the average of the average monthly price for the relevant year.

The price of major construction materials in the PRC between 2018 and 2022 was relatively stable, though there was a temporary downtrend in 2020 due to the slowdown of construction activities amid the outbreak of COVID-19 despite an increase in price of raw materials during the first quarter of 2020, which later regained their positions in 2021.

The price trend of C30 ready-mixed concrete between 2018 and 2022 was relatively stable, its average price grew from approximately RMB405 per m<sup>3</sup> in 2018 to approximately RMB417 per m<sup>3</sup> in 2022, representing a CAGR of approximately 0.7%.

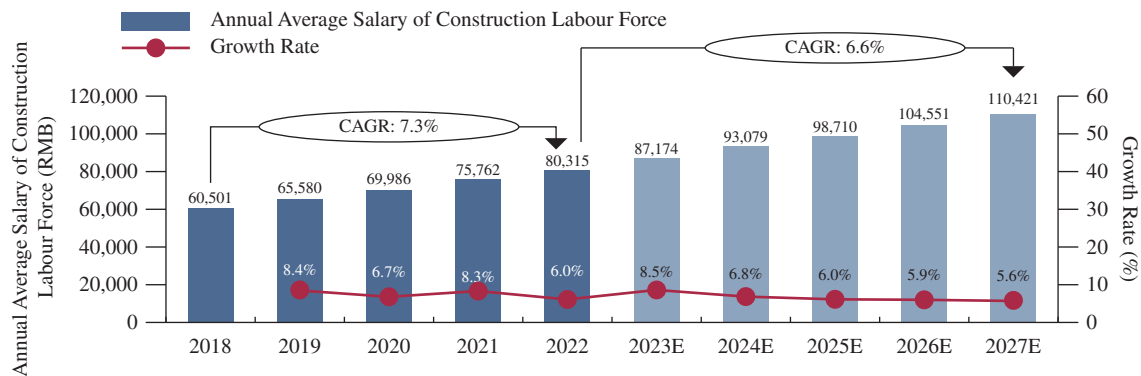
Over the period from 2018 to 2022, the average price of cement was relatively stable, it decreased from approximately RMB434 per tonne in 2018 to approximately RMB426 per tonne in 2022, representing a CAGR of approximately -0.5%.

As for the average price of rebars, it decrease from approximately RMB4,177 per tonne in 2018 to approximately RMB3,933 per tonne in 2019 and further decrease to approximately RMB3,748 in 2020. In 2021, the demand for downstream industries such as construction, home appliances and automobiles increase. Thus, the average price of rebars experienced a rapid increase and reached approximately RMB5,005 per tonne by the end of 2021. In 2022, the average price of rebars decreased to RMB4,374 per tonne, representing a CAGR of approximately 1.2% from 2018.

## INDUSTRY OVERVIEW

### Labour

#### Annual Average Salary of Employed Persons in Construction Industry (the PRC), 2018–2027E



Source: National Bureau of Statistics of the PRC and Frost & Sullivan

The industry has witnessed a shortage of labour due to the growing income of other industries in the past years, and it is increasingly difficult to retain experienced talent and attract new talent of the younger generation. Thus, the average salary of employed persons in the construction industry in the PRC has grown rapidly at a CAGR of approximately 7.3% from 2018 to 2022 and it is expected it will continue to grow at a CAGR of approximately 6.6% from 2022 to 2027 reaching approximately RMB110,421 by the end of 2027.

An increasing labour cost will bring challenges to general contractors. On one hand, general contractors will need to retain and recruit talents by providing attractive remuneration, but on the other hand, general contracts must tightly control labour cost to maintain its project profitability.

### IMPACT OF THE OUTBREAK OF COVID-19 ON THE CONSTRUCTION INDUSTRY

#### 1. Higher cost of raw material

Amid the outbreak of the COVID-19, there was a temporary imbalance of supply and demand of construction raw materials, the price of such raw materials has soared in the first quarter of 2020 affecting the profit margin of many construction enterprises.

#### 2. Shortage of labour

As a typical labour-intensive industry, construction enterprises were heavily impacted by the shortage of labour in early 2020 as a result of extended Chinese New Year holiday and delayed in resumption of work due to restriction and lockdown policies imposed by the PRC government. In a survey conducted by the China Construction Industry Association (《中國建築業協會》) published on 15 April 2020, in which 804 enterprises took part, approximately 90.6% of respondents said the outbreak of COVID-19 had a negative impact on construction progress, and approximately 66.0% reported a shortage of labour.

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## INDUSTRY OVERVIEW

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### 3. Shortfall of cash-flow

In order to control the spread of COVID-19 in early 2020, the government of the PRC imposed various restriction and lockdown policies, resulting in disruption to business activities. The suspension of construction operations, along with the increased cost of raw materials and equipment and machinery had put a heavy burden on construction enterprises, due to the (i) slowdown of receivables collection from its customers; (ii) increased difficulty in controlling cost; and (iii) increased mismatch between payables and receivables.

### SOURCE OF INFORMATION

We have commissioned Frost & Sullivan, an Independent Third Party, to conduct a research on the construction industry in the PRC and to prepare the Frost & Sullivan Report at a total fee of RMB725,000. Frost & Sullivan is an independent global consulting firm, which was founded in 1961 in New York. It offers industry research and market strategies and provides growth consulting and corporate training and has over 40 offices with over 2,000 industry consultants, market research analysts and economists.

Frost & Sullivan conducted (i) primary research, which involved discussing the status of the industry with leading industry participants and industry experts and (i) secondary research, which involved reviewing company annual reports, independent research reports and data based on its own research database. The Frost & Sullivan Report was compiled based on the following assumptions: (i) the PRC’s economy is likely to maintain steady growth in the forecasted period; (ii) the PRC’s social, economic, and political environment is likely to remain stable in the forecast period; and (iii) market drivers like sustained economy growth and urbanisation, growth in infrastructure investments, promotion from prefabricated construction industry, favourable policies from governments are expected to boost the development of the construction industry of the PRC and Guangdong Province.