GPoC 2023
Global Powers of Construction

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Javier Parada,
Global Engineering & Construction
Sector Leader
Deloitte Spain

Coordinated by
Martín Alurralde, Partner
Deloitte Spain
Margarita Velasco, Senior Manager
Deloitte Spain
Eduardo Oliver, Manager
Deloitte Spain

Published by
Marketing & Brand Department

Contact
Infrastructure Department,
Deloitte Madrid
Plaza Pablo Ruiz Picasso, S/N
Torre Picasso 28020 Madrid, Spain
Phone + 34 91 514 50 00
Fax + 34 91 514 51 80

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Introduction

Global Powers of Construction (GPoC) analyzes the outlook for the construction industry and discusses the strategies and performance of the most representative listed global construction groups in 2023.

We are pleased to present the seventh edition of GPoC, a publication in which we prepare a ranking of the world's major listed construction groups and compile data that we use as a basis for a financial analysis intended to identify and discuss trends within the industry. As in prior editions, the data included in GPoC has been obtained from various external sources, mainly company annual reports and Euroconstruct, European Commission, International Monetary Fund, World Bank, Forbes and ENR reports.

This publication includes analysis of the current macroeconomic outlook and expectations for the coming years in the global construction industry. Following the disruptions caused by the COVID-19 pandemic and the outbreak of a war in Europe in early 2022, the industry is still suffering the impacts of commodity price surges, supply chain disruptions and the re-emergence of significant inflation with the subsequent surge in interest rates and exchange rates fluctuation. These factors are behind the moderate increase in revenue of our GPoC in 2023. As regards prospects for the industry, construction is expected to experience sluggish growth in 2024, due mainly to challenging macroeconomic conditions that are expected to impact advanced economies more than emerging markets. However, the industry remains resilient in the medium-long term and is expected to have a steady growth pattern.

This publication analyzes the main financial indicators of the industry's major players. Performance in terms of revenue, market capitalization, international presence, diversification, profitability, debt and other financial ratios is examined in this issue. In 2023 the aggregate USD sales of the Top 100 GPoC rose by 3.4%, while market capitalization increased by 18.3% (see Figure 1.1).

We also include a section in which we analyze the decarbonization challenge, an industry trend that is expected to have a major impact in the near future, taking into account the new post-pandemic priorities. In general, the industry has a long way to go in terms of sustainability, which will foreseeably be addresed by the leading construction companies in the years ahead.

We hope that you find our GPoC 2023 analysis of the global construction industry of interest and that the information detailed herein helps you to understand and assess the related challenges and opportunities for the coming years. As always, we would be grateful for any thoughts and suggestions you may have.

Javier Parada
Global Engineering & Construction
Sector Leader Deloitte

Ranking of listed global construction companies

The total revenue obtained by the GPoC in 2023 (see Figure 1.2) amounted to USD 1.997 trillion, 3.4% higher than in 2022 (8% in local currency). In terms of its geographical distribution, 53.5% of revenue originates from companies based in China, with the remaining revenue coming from Europe (particularly France and Spain), Japan, the United States and South Korea; these geographies account for approximately 21%, 9%, 8% and 5% of total sales, respectively (see Figure 1.3). These percentages remain fairly consistent with sales achieved in the previous year. As a result of the fall in exchange rates versus the USD of certain currencies in some of the geographical areas indicated (China and Japan), the increase in sales in local currencies was higher, with an increase of 8% with respect to the 2022 sales figure.

As regards the stock market performance of the GPoC, their total value increased from USD 591,884 million to USD 702,080 million (18.3%, 20.1% in local currency) (see Figure 1.1). The remarkable performance of several areas, notably the United States with an increase in market value of more than 50% together with Europe with a 25.2% increase in USD market value figures, has positioned the overall market capitalization of our GPoC far above the USD 591,543 million figure recorded in pre-pandemic 2019.

As in previous years, China State Construction Engineering, which reported close to USD 320,000 million in revenue in 2023, heads the ranking. The podium, which remains unchanged with respect to previous years, also includes two other Chinese companies, China Railway Group and China Railway Construction. Together, they consistently account for approximately 33% of the total revenue of our GPoC (see Figure 1.2).

By number of companies, Europe has the largest presence in the industry, with 40 groups included in the Top 100 ranking. Aggregate sales of European GPoCs increased by 11.3% with respect to the previous year, amounting to USD 411,933 million. Market capitalization, which experienced a sharp decrease in 2022, increased by a notable 25.2%. As regards revenue, three French groups, Vinci, Bouygues and Eiffage, together with the Spanish group ACS, which are ranked 7th, 8th, 16th and 11th, respectively, are the largest European construction companies (see Figure 1.1). It is noteworthy that the French company Vinci, with a sales figure that is about one-fourth of the figure obtained by the top Chinese GPoC, leads the market capitalization ranking of the Top 100 GPoC companies (see Figure 2.1) with a market value that is 2.5 times higher than that of the first group in revenue terms.

Japan takes second place in the ranking by number of companies (14). Aggregate USD sales of the Japanese GPoC decreased by 8.3% to USD 174,955 million (see Figure 1.1). This decrease is attributable to exchange rates since sales in local currency did in fact increase by 9.5%. Of these companies, five focus mainly on homebuilding, including the largest Japanese companies included in our Top 30, Daiwa House Industry and Sekisui House, placed 12th and 17th, respectively.

The United States also has 14 companies in the Top 100 ranking with total revenue of USD 166,768 (see Figure 1.1). Sales of the US GPoC grew by a modest 3.6%, but market capitalization increased by an astounding 50.1%. Some of the largest US companies, such as D.R. Horton, Lennar and Pultegroup, ranked 13th, 14th and 25th, respectively, focus mainly on homebuilding (see Figure 1.2).

South Korea's presence in the ranking is headed by Samsung C&T, Hyundai E&C and Doosan, which are among the Top 30 companies in terms of revenue. Revenue in 2023 grew by 9.8% for the seven South Korean companies included in the ranking, while aggregate market capitalization also increased by 4.8%.

The remaining entities included in the ranking are medium-sized companies located in areas such as India, Australia, Canada, the United Arab Emirates, Turkey and Mexico. Their aggregate sales represented approximately 3.9% of the total revenue of the GPoC. Among these companies, only the Indian company Larsen & Toubro and the Mexican Grupo Carso reported sales exceeding USD 10,000 million.

Figure 1.1: Top 100 Global Construction Companies by Country

Country	Number of companies	Sales 2023 (USD million)	%Change 2023 - 2022	% Change LC(**) 2023 - 2022	Market cap (USD million)	% Change Market cap 2023 - 2022	% Change LC(**) 2023 - 2022
AUSTRALIA	2	14,325	5.7%	16.3%	9,069	(4.2%)	(0.7%)
AUSTRIA	2	25,652	6.7%	4.0%	5,240	9.6%	6.1%
BELGIUM	1	1,350	9.8%	7.0%	214	(17.4%)	(20.0%)
BRAZIL	1	1,488	15.7%	12.0%	1,301	87.2%	71.8%
CANADA	2	9,840	4.6%	8.4%	6,287	79.1%	74.8%
CHILE	1	1,240	30.2%	25.4%	279	103.8%	111.4%
CHINA	11	1,069,628	2.0%	7.3%	121,253	(9.8%)	(0.4%)
DENMARK	1	2,901	10.3%	11.7%	876	87.0%	73.6%
FINLAND	1	2,340	(7.6%)	(10.0%)	460	(16.6%)	(19.3%)
FRANCE	3	158,666	19.2%	16.0%	96,465	25.6%	21.3%
GREECE	3	10,600	(10.9%)	(13.2%)	7,887	67.0%	62.1%
INDIA	1	23,196	8.8%	17.3%	37,038	13.2%	22.5%
ISRAEL	1	3,153	(2.4%)	7.0%	1,634	(24.7%)	(19.5%)
ITALY	2	23,633	24.1%	20.8%	5,255	35.3%	31.0%
JAPAN	14	174,955	(8.3%)	9.5%	76,658	1.2%	11.9%
MEXICO	1	11,191	24.0%	9.3%	25,268	167.9%	132.7%
NETHERLANDS	2	9,072	2.2%	(0.5%)	1,079	22.9%	18.9%
NORWAY	1	4,084	1.6%	11.6%	1,364	2.5%	5.6%
PORTUGAL	1	6,005	49.9%	45.9%	1,344	250.0%	238.5%
SOUTH KOREA	7	96,356	9.8%	11.1%	23,547	4.8%	8.0%
SPAIN	7	85,860	16.0%	13.0%	57,440	32.6%	29.8%
SWEDEN	4	28,236	(3.4%)	1.3%	11,449	12.4%	8.4%
SWITZERLAND	1	4,003	7.3%	0.9%	662	(12.9%)	(20.7%)
TAIWAN	1	3,323	4.1%	8.9%	1,106	2.9%	2.4%
THAILAND	1	1,833	(4.2%)	(5.0%)	132	(54.6%)	(55.0%)
TURKEY	2	5,040	(10.4%)	34.6%	7,366	(36.5%)	0.4%
UNITED ARAB EMIRATES	1	3,368	(19.4%)	(19.4%)	642	41.7%	41.7%
UNITED KINGDOM	11	49,532	(4.6%)	(1.0%)	32,777	11.7%	7.3%
UNITED STATES	14	166,768	3.6%	3.6%	167,988	50.1%	50.1%
Grand total	**100**	**1,997,635**	**3.4%**	**8.0%(*)**	**702,080**	**18.3%**	**20.1%(*)**

* Average increase has been calculated applying the prior year average exchange rate to the current year local currency sales and therefore excluding the appreciation/depreciation of the USD effect

** LC stands for Local Currency

Source: Global Powers of Construction (GPoC) 2023. (July 2024)

Top 100 GPoC–ranking by sales

Figure 1.2: Top 100 Global Construction Companies by Sales

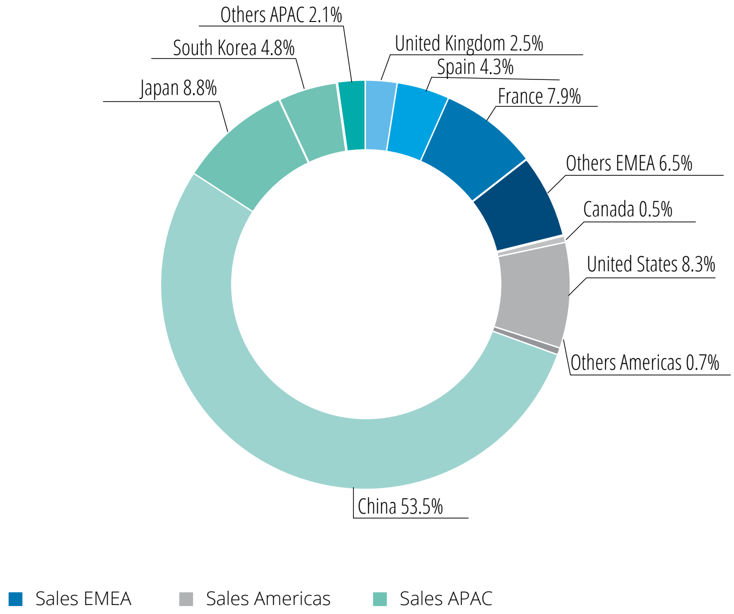
Rank 2023	Company	Country	Sales 2023 (MN $)	% Change 2023-2022	% Change in local currency 2023-2022	2023 Market capitalization (USD million)	% Change 2023-2022	% Change in local currency 2023-2022
1	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD. (CSCEC)	CHINA	319,949	4.8%	10.2%	28,394	(14.0%)	(11.4%)
2	CHINA RAILWAY GROUP LTD. (CREC)	CHINA	178,434	4.0%	9.5%	18,308	(2.5%)	0.3%
3	CHINA RAILWAY CONSTRUCTION CORP. LTD. (CRCC)	CHINA	160,713	(1.4%)	3.8%	13,558	(4.1%)	(1.2%)
4	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD. (CCCC)	CHINA	107,144	0.1%	5.3%	14,646	(7.5%)	(4.8%)
5	METALLURGICAL CORPORATION OF CHINA LTD (MCC)	CHINA	89,518	1.6%	7.0%	8,252	(6.9%)	(4.2%)
6	POWER CONSTRUCTION CORP OF CHINA	CHINA	86,063	1.1%	6.4%	11,862	(23.7%)	(21.4%)
7	VINCI	FRANCE	74,459	14.6%	11.6%	71,807	27.5%	23.4%
8	BOUYGUES	FRANCE	60,591	29.8%	26.4%	14,350	28.2%	24.1%
9	CHINA ENERGY ENGINEERING CORP	CHINA	57,342	5.3%	10.8%	10,515	(11.2%)	(8.6%)
10	SHANGHAI CONSTRUCTION GROUP (SCG)	CHINA	43,021	1.2%	6.5%	2,928	(12.7%)	(10.2%)
11	ACTIVIDADES DE CONSTRUCCION Y SERVICIOS, S.A. (ACS)	SPAIN	38,657	9.2%	6.3%	12,359	66.9%	61.6%
12	DAIWA HOUSE INDUSTRY CO.	JAPAN	36,237	(8.3%)	10.6%	15,453	(10.5%)	(2.2%)
13	D.R. HORTON	UNITED STATES	35,460	5.9%	5.9%	35,986	55.3%	55.3%
14	LENNAR CORP.	UNITED STATES	34,234	1.7%	1.7%	35,939	41.2%	41.2%
15	SAMSUNG C&T CORP.	SOUTH KOREA	32,061	(4.0%)	(2.9%)	16,204	10.6%	14.1%
16	EIFFAGE, S.A.	FRANCE	23,615	10.3%	7.4%	10,308	10.6%	4.8%
17	SEKISUI HOUSE	JAPAN	23,414	(11.5%)	6.1%	14,817	18.9%	33.6%
18	LARSEN & TOUBRO LTD. (L&T)	INDIA	23,196	8.8%	17.3%	37,038	13.2%	22.5%
19	HYUNDAI ENGINEERING & CONSTRUCTION CO. LTD. (HDEC)	SOUTH KOREA	22,691	38.0%	39.6%	2,999	(3.1%)	0.1%
20	STRABAG	AUSTRIA	19,109	6.5%	3.8%	4,700	9.4%	5.9%
21	ACCIONA	SPAIN	18,411	56.1%	52.0%	8,090	(19.9%)	(22.5%)
22	KAJIMA CORP.	JAPAN	17,657	(4.6%)	15.0%	5,850	(3.1%)	5.8%
23	JACOBS ENGINEERING	UNITED STATES	16,352	9.6%	9.6%	17,196	24.4%	24.4%
24	SICHUAN ROAD AND BRIDGE (GROUP) CO. LTD.	CHINA	16,247	(19.1%)	(14.9%)	9,193	(8.4%)	(5.7%)
25	PULTEGROUP	UNITED STATES	16,062	(1.0%)	(1.0%)	21,940	113.4%	113.4%
26	SKANSKA AB	SWEDEN	15,757	(2.3%)	2.4%	7,452	14.4%	10.3%
27	FLUOR CORP.	UNITED STATES	15,474	12.6%	12.6%	6,675	35.3%	35.3%
28	OBAYASHI CORP.	JAPAN	14,647	(14.4%)	3.2%	5,470	3.1%	12.6%
29	DOOSAN	SOUTH KOREA	14,639	11.3%	12.6%	980	12.6%	13.0%
30	SHIMIZU CORP.	JAPAN	14,277	8.1%	30.4%	4,185	(6.2%)	2.4%
31	Saipem SPA	ITALY	12,870	22.3%	19.1%	3,245	34.7%	30.4%
32	SUMITOMO FORESTRY	JAPAN	12,336	(2.9%)	3.8%	6,107	71.6%	84.5%
33	DAITO TRUST CONSTRUCTION	JAPAN	12,238	(13.2%)	4.7%	6,785	(6.9%)	1.7%
34	TAISEI CORP.	JAPAN	12,128	(11.7%)	6.4%	5,810	(0.3%)	8.9%
35	BALFOUR BEATTY	UNITED KINGDOM	11,903	7.7%	7.4%	2,300	(4.2%)	(9.2%)
36	GRUPO CARSO	MEXICO	11,191	24.0%	9.3%	25,268	167.9%	132.7%
37	WEBUILD S.p.A.	ITALY	10,764	26.3%	23.0%	2,010	36.4%	32.0%
38	IIDA GROUP HOLDINGS	JAPAN	10,630	(13.9%)	3.8%	4,589	(8.5%)	(0.1%)
39	GS ENGINEERING & CONSTRUCTION	SOUTH KOREA	10,282	8.0%	9.2%	984	(31.2%)	(29.0%)
40	TOLL BROTHERS	UNITED STATES	9,995	(2.7%)	(2.7%)	7,339	55.4%	55.4%
41	FOMENTO DE CONSTRUCCIONES Y CONTRATAS, S.A.	SPAIN	9,763	20.3%	17.1%	7,025	69.7%	64.2%
42	NVR	UNITED STATES	9,463	(8.7%)	(8.7%)	22,366	50.6%	50.6%
43	FERROVIAL	SPAIN	9,210	15.8%	12.8%	27,060	41.9%	37.4%
44	DAEWOO ENGINEERING & CONSTRUCTION CO.	SOUTH KOREA	8,913	10.5%	11.8%	1,314	(3.9%)	(0.8%)
45	HASEKO	JAPAN	7,584	(6.4%)	12.9%	3,159	(8.2%)	8.5%
46	WORLEY	AUSTRALIA	7,479	6.2%	16.8%	5,539	7.3%	11.2%
47	TAYLOR MORRISON HOME	UNITED STATES	7,418	(9.8%)	(9.8%)	5,704	74.0%	74.0%
48	KBR	UNITED STATES	6,956	6.0%	6.0%	7,484	3.8%	3.8%
49	LENDLEASE	AUSTRALIA	6,846	5.2%	15.7%	3,530	(17.9%)	(14.9%)
50	ROYAL BAM GROUP NV	NETHERLANDS	6,782	(2.7%)	(5.3%)	720	15.5%	11.8%
51	PORR AG	AUSTRIA	6,542	7.3%	4.5%	541	11.6%	8.0%
52	SINOMA INTERNATIONAL ENGINEERING CO. LTD.	CHINA	6,468	12.1%	18.0%	3,475	24.2%	27.9%
53	BARRATT DEVELOPMENTS PLC	UNITED KINGDOM	6,412	(8.5%)	1.0%	5,124	(10.0%)	(13.8%)
54	ATKINSREALIS GROUP	CANADA	6,398	10.3%	14.4%	5,671	83.2%	78.8%
55	DL E&C	SOUTH KOREA	6,115	5.4%	6.6%	1,003	1.7%	4.9%
56	MOTA ENGIL SGPS	PORTUGAL	6,005	49.9%	45.9%	1,344	250.0%	238.5%

Rank 2023	Company	Country	Sales 2023 (MN $)	% Change 2023-2022	% Change in local currency 2023-2022	2023 Market capitalization (USD million)	% Change 2023-2022	% Change in local currency 2023-2022
57	MYTILINEOS HOLDINGS	GREECE	5,940	(10.6%)	(12.9%)	5,616	90.2%	84.1%
58	PEAB AB	SWEDEN	5,806	(5.1%)	(0.5%)	1,635	0.3%	(3.4%)
59	PRIMORIS SERVICES CORP.	UNITED STATES	5,715	29.3%	29.3%	1,772	52.1%	52.1%
60	NCC AB	SWEDEN	5,366	0.2%	5.0%	1,222	34.1%	29.2%
61	MORGAN SINDALL PLC	UNITED KINGDOM	5,108	14.3%	14.0%	1,339	52.8%	44.9%
62	SACYR, S.A.	SPAIN	4,986	(19.1%)	(21.2%)	2,363	29.8%	25.7%
63	HEBEI CONSTRUCTION GROUP CO. LTD.	CHINA	4,730	(20.4%)	(16.3%)	122	(38.7%)	(38.2%)
64	TAYLOR WIMPEY PLC	UNITED KINGDOM	4,360	(20.3%)	(20.5%)	6,676	52.6%	44.7%
65	BELLWAY PLC	UNITED KINGDOM	4,129	(11.3%)	(3.7%)	3,435	(6.5%)	(11.5%)
66	KIER GROUP PLC	UNITED KINGDOM	4,103	(5.3%)	4.6%	426	15.5%	10.6%
67	VEIDEKKE ASA	NORWAY	4,084	1.6%	11.6%	1,364	2.5%	5.6%
68	TODA CORP.	JAPAN	4,040	(9.5%)	9.1%	1,613	(14.1%)	(6.2%)
69	IMPLENIA AG	SWITZERLAND	4,003	7.3%	0.9%	662	(12.9%)	(20.7%)
70	TUTOR PERINI CORP.	UNITED STATES	3,880	2.4%	2.4%	473	21.7%	21.7%
71	GEK TERNA	GREECE	3,785	(8.8%)	(11.1%)	1,390	24.4%	20.4%
72	KELLER GROUP PLC	UNITED KINGDOM	3,679	1.0%	0.7%	817	16.1%	10.0%
73	PENTA-OCEAN CONSTRUCTION CO. LTD.	JAPAN	3,633	(8.9%)	9.9%	1,357	(5.6%)	3.1%
74	AECON GROUP INC.	CANADA	3,441	(4.7%)	(1.1%)	616	48.7%	45.2%
75	PERSIMMON PLC	UNITED KINGDOM	3,440	(27.1%)	(27.3%)	5,659	20.4%	14.1%
76	OBRASCON HUARTE LAIN, S.A.	SPAIN	3,387	(1.4%)	(3.9%)	294	3.6%	0.3%
77	SUMITOMO MITSUI CONSTRUCTION CO. LTD.	JAPAN	3,386	(5.7%)	13.7%	453	(15.6%)	(7.8%)
78	ORASCOM CONSTRUCTION LTD.	UNITED ARAB EMIRATES	3,368	(19.4%)	(19.4%)	642	41.7%	41.7%
79	CTCI CORP.	TAIWAN	3,323	4.1%	8.9%	1,106	2.9%	2.4%
80	ENKA INSAAT VE SANAYI AS	TURKEY	3,226	(14.4%)	(14.4%)	6,904	(35.0%)	2.9%
81	ELECTRA LTD.	ISRAEL	3,153	(2.4%)	7.0%	1,634	(24.7%)	(19.5%)
82	BERKELEY GROUPS HOLDINGS	UNITED KINGDOM	3,065	(4.0%)	8.6%	6,517	5.3%	5.3%
83	GRANITE CONSTRUCTION INC.	UNITED STATES	2,992	6.7%	6.7%	2,235	45.7%	45.7%
84	PER AARSLEFF HOLDING	DENMARK	2,901	10.3%	11.7%	876	87.0%	73.6%
85	HAZAMA ANDO CORP.	JAPAN	2,748	(9.3%)	9.4%	1,009	(19.7%)	(12.3%)
86	YIT OYJ	FINLAND	2,340	(7.6%)	(10.0%)	460	(16.6%)	(19.3%)
87	HEIJMANS NV	NETHERLANDS	2,290	20.0%	16.8%	360	40.9%	36.4%
88	STERLING INFRASTRUCTURE INC.	UNITED STATES	1,972	11.5%	11.5%	2,719	171.1%	171.1%
89	ITALIAN-THAI DEVELOPMENT PUBLIC CO. LTD.	THAILAND	1,833	(4.2%)	(5.0%)	132	(54.6%)	(55.0%)
90	TEKFEN HOLDING AS	TURKEY	1,814	(2.1%)	40.7%	462	(52.7%)	(27.4%)
91	GALLIFORD TRY PLC	UNITED KINGDOM	1,679	2.0%	12.6%	260	12.9%	8.1%
92	HJ Shipbuilding & Construction	SOUTH KOREA	1,655	19.4%	20.8%	65	(20.0%)	(17.5%)
93	COSTAIN GROUP PLC	UNITED KINGDOM	1,652	(6.0%)	(6.3%)	224	70.9%	62.0%
94	MRV ENGENHARIA	BRAZIL	1,488	15.7%	12.0%	1,301	87.2%	71.8%
95	GRUPO EMPRESARIAL SAN JOSE SA	SPAIN	1,445	25.6%	22.3%	249	(9.7%)	(12.6%)
96	CFE	BELGIUM	1,350	9.8%	7.0%	214	(17.4%)	(20.0%)
97	JM AB	SWEDEN	1,306	(19.4%)	(15.5%)	1,141	1.1%	(2.6%)
98	SALFACORP SA	CHILE	1,240	30.2%	25.4%	279	103.8%	111.4%
99	ELLAKTOR SA	GREECE	875	(20.4%)	(22.5%)	882	35.1%	33.8%
100	MATRIX SERVICE CO.	UNITED STATES	795	12.3%	12.3%	159	17.5%	17.5%
	Total		**1,997,635**	**3.4%**	**8.0% (*)**	**702,080**	**18.3%**	**20.1% (*)**

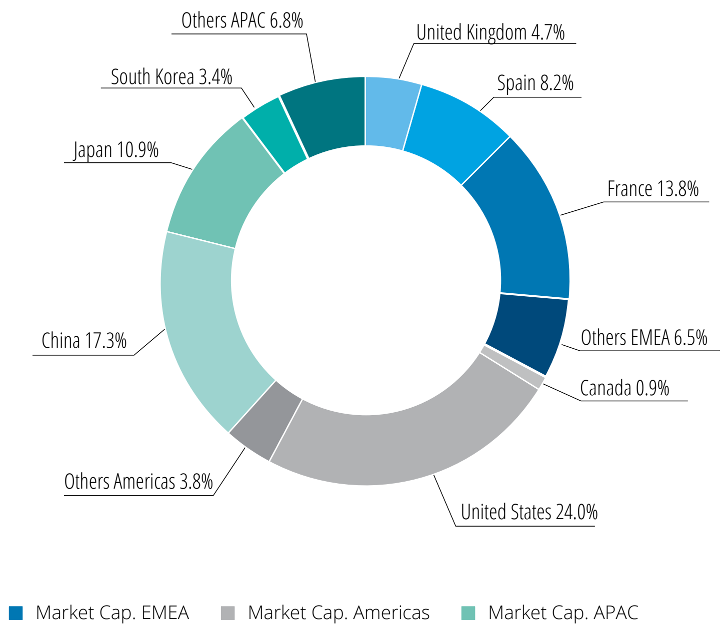
* Average increase has been calculated applying the prior year average exchange rate to the current year local currency sales and therefore excluding the appreciation/depreciation of the USD effect

Figure 1.3: Top 100 Global Construction Company Sales and Market Capitalization

Sales



Market capitalization



Source: Global Powers of Construction (GPoC) 2023. (July 2024)

Top 30 GPoC–ranking by market capitalization

In 2023 our Top 100 GPoC reported a 18.3% increase in their market capitalization confirming the market recovery after the debacle caused by the COVID-19 pandemic in 2020. Negative or poor stock market performance in some areas, mainly China and Japan, was offset with the good performance of US and European companies.

The aggregate market capitalization of the companies in our Top 30 ranking rose by 19.3% in 2023 to USD 543,899 million (see Figure 2.1). This figure is slightly higher than the 18.3% increase shown by the complete Top 100 GPoC. In terms of geographical distribution of the Top 30 and in line with the previous year, both China and Europe had eight companies on the list, while the United States had seven companies included in 2023.

The performance of our companies was uneven, with the US groups included in the Top 30 recording an impressive 49% average growth, followed by the European groups that recorded a 27.2% increase in the year. The Asian companies showed a negative evolution in the case of China with a 5% decrease in the market value of their Top 30 companies and the flat performance of the Japanese groups. As an exception, the lone South Korean group included in our Top 30 reported a 10.6% increase in its market capitalization.

To better understand the stock market performance of our GPoC, we performed a more in-depth analysis by geographical area, which is as follows:

Figure 2.1 Top Global Construction Companies by Market Capitalization

Rank MC	Company	Country	2023 Market Capitalization (USD million)	2022 Market Capitalization (USD million)	% Change	% Change in LC(**)
1	VINCI	FRANCE	71,807	56,316	27.5%	23.4%
2	LARSEN & TOUBRO LTD. (L&T)	INDIA	37,038	32,716	13.2%	22.5%
3	D.R. HORTON	UNITED STATES	35,986	23,165	55.3%	55.3%
4	LENNAR CORP.	UNITED STATES	35,939	25,454	41.2%	41.2%
5	CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD. (CSCEC)	CHINA	28,394	33,007	(14.0%)	(11.4%)
6	FERROVIAL	SPAIN	27,060	19,066	41.9%	37.4%
7	GRUPO CARSO	MEXICO	25,268	9,432	167.9%	132.7%
8	NVR	UNITED STATES	22,366	14,848	50.6%	50.6%
9	PULTEGROUP	UNITED STATES	21,940	10,283	113.4%	113.4%
10	CHINA RAILWAY GROUP LTD. CREC)	CHINA	18,308	18,780	(2.5%)	(0.3%)
11	JACOBS ENGINEERING	UNITED STATES	17,196	13,821	24.4%	24.4%
12	SAMSUNG C&T CORP.	SOUTH KOREA	16,204	14,652	10.6%	14.1%
13	DAIWA HOUSE INDUSTRY CO.	JAPAN	15,453	17,265	(10.5%)	(2.2%)
14	SEKISUI HOUSE	JAPAN	14,817	12,464	18.9%	33.6%
15	CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD. (CCCC)	CHINA	14,646	15,832	(7.5%)	(4.8%)
16	BOUYGUES	FRANCE	14,350	11,192	28.2%	24.1%
17	CHINA RAILWAY CONSTRUCTION CORP. LTD. (CRCC)	CHINA	13,558	14,132	(4.1%)	(1.2%)
18	ACTIVIDADES DE CONSTRUCCION Y SERVICIOS, S.A. (ACS)	SPAIN	12,359	7,405	66.9%	61.6%
19	POWER CONSTRUCTION CORP OF CHINA	CHINA	11,862	15,544	(23.7%)	(21.4%)
20	CHINA ENERGY ENGINEERING CORP	CHINA	10,515	11,845	(11.2%)	(8.6%)
21	EIFFAGE, S.A.	FRANCE	10,308	9,322	10.6%	4.8%
22	SICHUAN ROAD AND BRIDGE (GROUP) CO. LTD.	CHINA	9,193	10,036	(8.4%)	(5.7%)
23	METALLURGICAL CORPORATION OF CHINA LTD (MCC)	CHINA	8,252	8,866	(6.9%)	(4.2%)
24	ACCIONA	SPAIN	8,090	10,100	(19.9%)	(22.5%)
25	KBR	UNITED STATES	7,484	7,207	3.8%	3.8%
26	SKANSKA AB	SWEDEN	7,452	6,513	14.4%	10.3%
27	TOLL BROTHERS	UNITED STATES	7,339	4,723	55.4%	55.4%
28	FOMENTO DE CONSTRUCCIONES Y CONTRATAS, S.A. (FCC)	SPAIN	7,025	4,141	69.7%	53.3%
29	ENKA INSAAT VE SANAYI AS	TURKEY	6,904	10,625	(35.0%)	2.9%
30	DAITO TRUST CONSTRUCTION	JAPAN	6,785	7,287	(6.9%)	1.7%
	Total Top 30		**543,899**	**456,041**	**19.3%**	**21.1% (*)**
	Ranking 31-100		158,182	137,564	16.3%	16.7% (*)
	Total Top 100		**702,080**	**593,605**	**18.3%**	**20.1% (*)**

* Average increase has been calculated applying the prior year average exchange rate to the current year local currency sales and therefore excluding the appreciation/depreciation of the USD effect

** LC stands for Local Currency

Source: Bloomberg

Asian companies

Following the very negative market performance of the eight Chinese groups included in our Top 30 in 2022, all again showed a decrease in their market value in 2023. The aggregate USD value contracted by 5%. Looking at the evolution in local currency all companies present a decrease in market value, confirming the negative overall performance, although the depreciation of the exchange rate worsened the picture in this area (see Figure 2.1).

The three Japanese companies in our list recorded the same aggregate market value as in 2022. However, their performance is uneven with Sekisui House registering a notable 18.9% increase in its USD market capitalization (see Figure 2.2). The performance of our Japanese companies was negatively impacted by the evolution of the exchange rate, since overall market value measured in local currency increased by 11.2%.

The South Korean company Samsung C&T Corp registered a notable 10.6% increase in market value, while Larsen & Toubro continued its robust market performance and after recording a 20.1% increase in 2022 was able to further increase its market value by 13.2% in 2023, consolidating the group's second place in our 2023 Top 30 (see Figure 2.1).

European companies

The total market value of the European groups included in our Top 30 increased by a noteworthy 27.7% on aggregate. Except for the Spanish company Acciona, which recorded a 19.9% decrease in its market value, all the remaining European groups recorded double digit growth in their USD market capitalization, also enhanced by the favorable evolution of the exchange rate. It is noteworthy that Vinci, our top GPoC in terms of market value, was able to record an impressive 27.5% increase in 2023, further widening the distance to the second largest construction company by market value, the Indian Larsen & Toubro.

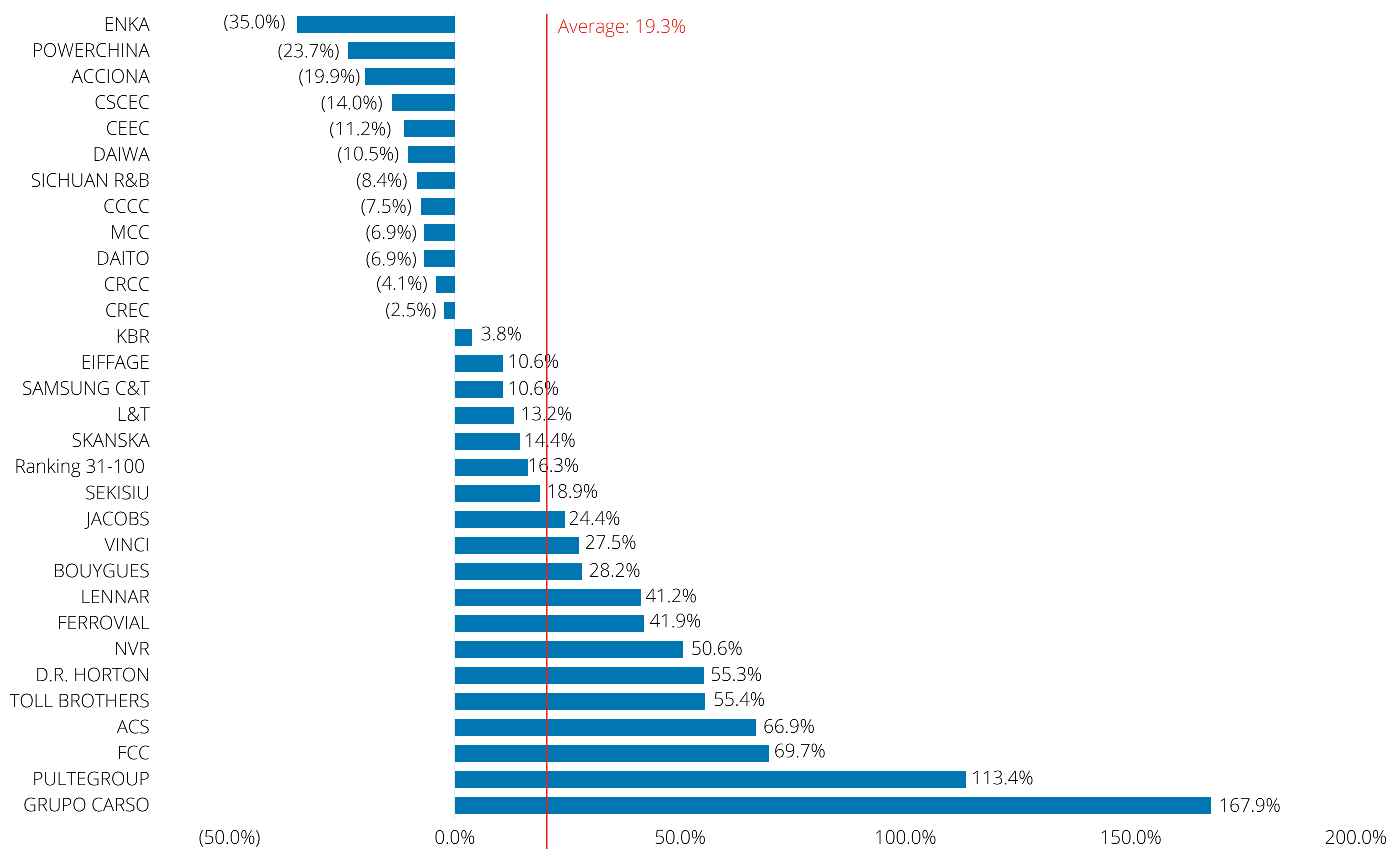
In relative terms, the largest increase corresponds to the Spanish FCC Group, which was able to increase its market value by almost 70% (see Figure 2.2).

US companies

US groups recorded an astounding 49% overall increase in market capitalization in 2023. Except for KBR, a 2022 entry in our Top 30 list, the other six groups in the Top 30 saw double digit increases in their market values in 2023 (see Figure 2.2). The homebuilder Pultegroup was able to more than double its market capitalization in 2023. Other homebuilders such as D.R. Horton and Lennar recorded 55% and 41% increases in their market values, reflecting the strength of the US housing market.

Due to the positive evolution described, our Top 30 GPoC by market capitalization improved on the figures achieved in 2019, before the impact of COVID-19 on stock markets started to be noted.

Figure 2.2 Market Capitalization change FY 2023 vs FY 2022



Source: Global Powers of Construction (GPOC) 2023. (2024)

Top 30 GPoC–ranking by international sales

In 2023, revenue obtained by our Top 30 GPoC from international sales rose to 18.4% of total sales from 17.1% the previous year, still under the 19% pre-pandemic ratio achieved in 2019.

Although 2023 continued to show the recovery of economic activity in the construction sector with the resulting increase in revenue of our GPoC, the current global economy is still experiencing difficulties primarily attributable to the availability of goods and labor. These circumstances and the inherent heightened risk of international construction projects mean only a limited number of companies derive a meaningful percentage of sales from their international operations.

As discussed in our "Outlook for the construction industry", although the long-term forecasts for the industry are positive with it set to expand, the short-term outlook remains affected by the uncertainties that are present in the global economy. The situation will vary from one geographical area to another depending on their infrastructure needs and on the impact of inflation and economic policy decisions.

As a result, the economic environment is still very different from the one that drove several of our main GPoC to adopt a clear internationalization strategy. The increased risks and difficulties caused by current circumstances could make these companies re-evaluate their appetite for risk in the markets that were chosen in a very different context.

In this regard, in 2023 our Top 30 GPoC obtained around 18.4% of total revenue outside their respective domestic markets, an improvement on the figure of 17.1% obtained in 2022, but still down from the 19% figure representing international sales back in 2019.

As in prior years, European groups continue to be the most internationalized with 63% of their sales obtained outside their domestic markets, a slightly higher percentage than the 61% figure obtained

in 2022. The South Korean GPoC and the Indian group Larsen & Toubro were also able to increase the weight of their international revenue to noteworthy percentages of 43% and 39%.

In line with 2022 and 2021, the US-based GPoC only obtained 9% of revenue abroad due to the inclusion in the ranking of significant domestic homebuilders, D.R. Horton, Lennar and Pultegroup. The remaining two US companies obtained approximately a third of their revenue from international sales.

ACS remains the most internationalized contractor among our GPoC in relative terms with 91% of total revenue obtained outside Spain, in line with 2022. However, it is again the French group Vinci that leads our ranking of international sales, with USD 42,426 million or 57% of its revenue (see Figure 3.1).

Lastly, and in line with prior years, the Chinese and Japanese groups under analysis have a marked focus on their domestic markets and, accordingly, show lower percentages of international revenue. However, while our Chinese GPoC repeat with 7% of their total sales obtained abroad, Japanese groups saw an increase in their international presence from 13% obtained in 2022 to a noteworthy 21% in 2023.

Figure 3.1 Top 30 Global Construction Companies by 2023 International and Domestic Sales

Rank	Company	Country	International sales (USD million)	Domestic sales (USD million)	International sales as % of total sales
1	VINCI	FRANCE	42,426	32,033	57.0%
2	ACS	SPAIN	35,026	3,630	90.6%
3	BOUYGUES	FRANCE	30,575	30,016	50.5%
4	CCCC	CHINA	16,801	90,343	15.7%
5	CSCEC	CHINA	16,348	303,601	5.1%
6	STRABAG	AUSTRIA	16,028	3,081	83.9%
7	ACCIONA	SPAIN	13,190	5,221	71.6%
8	SKANSKA	SWEDEN	12,109	3,648	76.8%
9	DOOSAN	SOUTH KOREA	10,837	3,802	74.0%
10	SAMSUNG C&T	SOUTH KOREA	10,130	21,930	31.6%
11	L&T	INDIA	8,931	14,265	38.5%
12	CREC	CHINA	8,792	169,642	4.9%
13	HDEC	SOUTH KOREA	8,587	14,104	37.8%
14	CRCC	CHINA	8,517	152,196	5.3%
15	POWERCHINA	CHINA	8,311	77,753	9.7%
16	CEEC	CHINA	7,926	49,416	13.8%
17	EIFFAGE	FRANCE	7,349	16,266	31.1%
18	KAJIMA	JAPAN	5,465	12,192	30.9%
19	JACOBS	UNITED STATES	5,389	10,963	33.0%
20	FLUOR	UNITED STATES	4,960	10,514	32.1%
21	DAIWA	JAPAN	4,941	31,296	13.6%
22	SHIMIZU	JAPAN	4,475	9,802	31.3%
23	SEKISUI	JAPAN	3,851	19,563	16.4%
24	MCC	CHINA	3,722	85,797	4.2%
25	OBAYASHI	JAPAN	3,662	10,985	25.0%
26	SCG	CHINA	991	42,030	2.3%
27	SICHUAN R&B	CHINA	382	15,865	2.4%
28	PULTEGROUP	UNITED STATES	-	16,062	0.0%
29	LENNAR	UNITED STATES	-	34,234	0.0%
30	D.R. HORTON	UNITED STATES	-	35,460	0.0%
	Subtotal		**299,721**	**1,324,641**	**18.4%**
	Ranking 31-100 2023		113,621	259,652	30.2%
	Total		**413,342**	**1,584,293**	**20.7%**

Source: Global Powers of Construction (GPoC) 2023. (2024)

Outlook for the construction industry globally

In 2024, global construction output is anticipated to grow by 1.6%, down from a growth rate of 4.1% in 2023[1], because of challenging macroeconomic conditions, including inflation and geopolitical uncertainties, which are expected to impact advance economies more significantly than emerging markets. Perspectives for the long term remain positive as the industry is expected to grow from USD 10.4 trillion in 2023 to USD 16.1 trillion by 2030, with a CAGR of approximately 5.9%[2] during the period.

The short-term outlook for the global construction industry remains affected by the uncertainties that surround the global economic situation. Changes in interest rates, inflation and supply chain instability are examples of factors that play crucial roles in determining the pace and scale of construction activities. Geopolitical tensions further deteriorate the macroeconomic scenario, increasing existing uncertainties.

As construction projects require financing, higher interest rates lead to a lower profitability and the postponement of investments. Accordingly, the increase in interest rates that started in 2022 to control inflation is putting pressure on the construction industry. Major reference interest rates remain high at a range of between 4% and 5.5% in most countries. Cuts are expected in the latter part of 2024, although they are not likely to reach pre-pandemic levels in the medium term.

Even though some progress has been made since the peak of the disruptions during the COVID-19 pandemic, supply chain issues are expected to continue affecting the construction industry in 2024. Shortages of electrical components and volatile material prices remain significant. Prices for key materials such as steel, lumber and concrete are still above pre-pandemic levels, impacting project budgets and timelines. In addition, the shortage of skilled labor exacerbates project delays and increases labor costs. Effective planning, early procurement of materials and the use of advance technologies are essential for dealing with these ongoing disruptions.

Although the current macroeconomic and geopolitical environment will result in a slow growth in the global construction business in 2024, the industry remains resilient in the medium-long term. The industry is projected to rebound with a growth of 2.4% in 2025[3] while continuing its steady growth trajectory until 2030 by benefiting from global trends such as sustainability and rapid urbanization.

By sectors, green and sustainable construction represents the segment with the most opportunities within the industry as it is supported by robust government policies and growing market demand. Companies that focus on sustainable building practices and the integration of renewable energy are likely to experience significant growth and success in the coming years.

Also, traditional subsectors such as infrastructure, industrial facilities, residential and non-residential buildings will also be benefited from growing urbanization. By 2050, around 68% of the global population is expected to live in urban areas (Figure 4.1), up from 55% in 2018.[4] The urbanization trend will be most pronounced in Asia and Africa, where urban populations are projected to double by mid-century. However, other geographies such as North America, Western Europe and the MENA region will play a crucial role in driving the global construction industry´s expansion over the next decade. A more in-depth analysis by geographical area is as follows:

The Americas

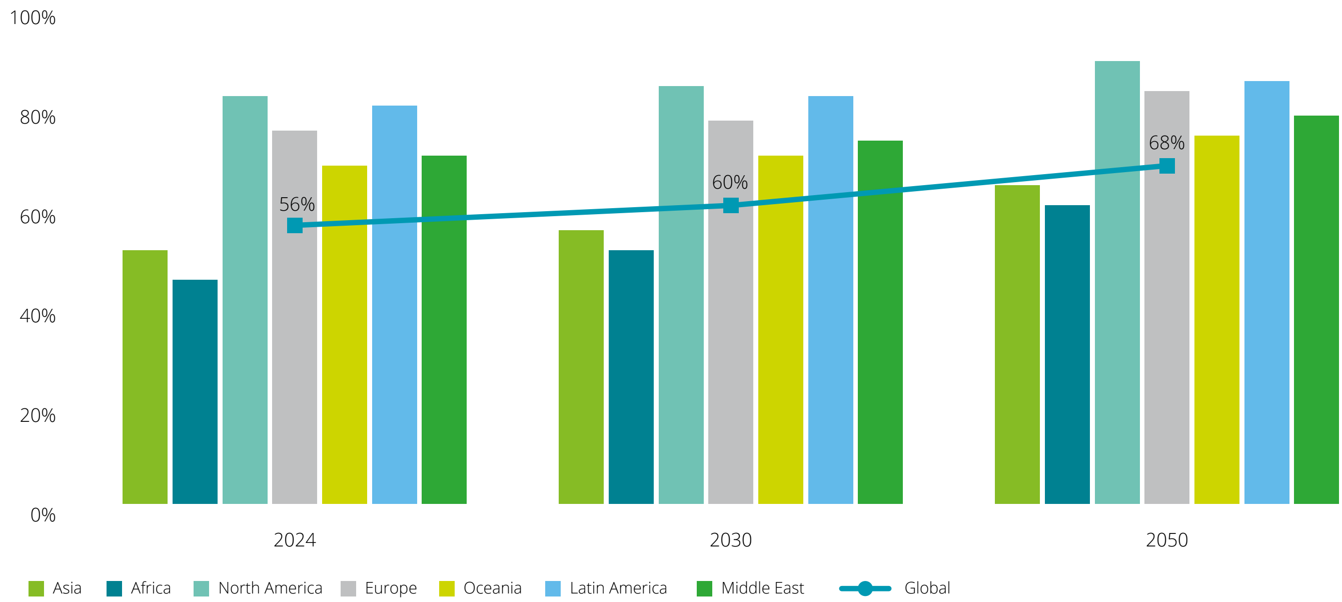
When analyzing the economic growth of the continent and the forecasts for the coming years, we must distinguish between North America and Latin America due to the significant differences between the two areas:

North America

The macroeconomic outlook for North America in 2024 and 2025 shows moderate growth with the United States and Canada facing various economic challenges and opportunities. Both are expected to benefit from easing inflation and supportive monetary policies, though geopolitical tensions and labor market conditions will require careful management to ensure sustained growth.

In real terms, GDP in the United States grew by 2.5% in 2023 which primarily reflected increases in consumer spending, non-residential fixed investment, state and local government spending, exports, and federal government spending. In the coming years, it is expected to grow by 2.7% in 2024 and 1.9% in 2025.[5]

Figure 4.1: Expected Global Urbanization Rate*



* Population of at least 5,000 hinhabitants in contiguoug dense grid cells (>1,500 inhabitants per square km)
Source: World Bank, April 2023

The size of the US construction market amounted to USD 2.3 trillion in 2023 and it is expected to achieve an CAGR of more than 4% during 2025-2028 strengthened by investments in the energy, transportation, housing and manufacturing sectors.[6]

The Infrastructure Investment and Jobs Act and other federal initiatives are expected to continue driving substantial investments in infrastructure projects (roads, bridges, power infrastructure and water treatment facilities). Investments in clean energy infrastructure, supported by the Inflation Reduction Act (IRA), are set to grow. Additionally, both the IRA and the CHIPS Act are boosting manufacturing construction, particularly for data centers, semiconductor plants and electric vehicle battery factories. Residential construction is facing challenges due to high interest rates and inflation, which have impacted housing affordability, but there is a cautious optimism for modest growth as economic conditions improve.

Real GDP growth in Canada was 1.1%[5] in 2023, 1.4 p.p. below the United States. Growth is expected to reach a modest 1.2%[5]in 2024 which reflects ongoing economic challenges, including subdued domestic demand and a weak job market.

Real GPD is expected to improve in 2025 (2.3% [5]) as the Bank of Canada is expected to start easing monetary policy in mid-2024.

The Canadian construction industry, sized at USD 351 billion in 2023[6], faces a mixed outlook for 2024 and 2025, with an expected decline in 2024 followed by a potential recovery in 2025. Government investments in infrastructure and energy projects, particularly in the context of the Investing in Canada Plan[8], will play a crucial role in supporting the industry´s growth. Prospects for residential construction depend on how fast monetary policies ease while manufacturing and logistics are expected to provide growth opportunities for non-residential construction.

Latin America and the Caribbean

The macroeconomic outlook for the region over the next few years suggests moderate growth and significant challenges. While inflation is expected to decline and fiscal policies remain disciplined, the region must navigate economic uncertainties and manage public debt effectively.

Real GDP grew in the region by 2.3% in 2023 and is expected to remain in the range of 2.0%-2.5% between 2024-2025.[5]

Every country in this region increased real GDP in 2023 with the notable exceptions of Argentina and Perú. Argentina is not expected to grow before 2025.[5]

The construction industry in Latin America is expected to grow at a CAGR of more than 2% from 2024 to 2028[9] driven by significant investments in infrastructure, energy and residential projects.

Brazil leads infrastructure investment in Latin America, focusing on transport, energy and industrial projects. Similarly, Mexico is investing heavily in energy infrastructure and transportation networks while Colombia is also seeing rapid growth in this segment.

The residential construction industry in Latin America is set for steady growth over the next few years, driven by urbanization, government initiatives and high demand for affordable housing.

Europe

The macroeconomic outlook for Europe over the next few years suggests moderate growth with significant reliance on easing inflation, strong labor markets and supportive investment policies. Nevertheless, the region must overcome substantial challenges related to geopolitical tensions and the lingering effects of past monetary policy tightening.

In 2023 average real GDP growth reached 1.4% and is forecast to accelerate to 1.6% and 2.0% in 2024 and 2025[5], respectively (0.8% in 2024 and 1.5% in 2025 for the Euro area). Among the largest economies, Germany saw its GDP decrease, the United Kingdom, France and Italy reported below average GDP growth and Spain posted growth of 2.5% in 2023.

The European construction industry is facing a period of adjustment with minimal growth expected in the short term. Infrastructure and non-residential construction investment is expected to remain resilient, largely reflecting government infrastructure spending with RRF (Recovery and Resilience Facility) support. By contrast, housing investment is projected to continue contracting as an ongoing fall in house prices and a still large build-up of inventories weigh on supply. The downsizing of residential construction is set to continue in 2025, but the aggregate outlook masks significant variations across countries.[10]

The size of the Western Europe construction market amounts to about USD 2,000 billion and is estimated to register a CAGR of 1.4% over the 2023-2027 period. The growth is primarily supported by investments in the energy and utilities sector, in line with the different government targets for generating electricity from renewable energy sources by 2030.[11]

The size of the Eastern Europe construction market in revenue terms is projected to reach USD 809.2 billion in 2024 and is expected to grow at a CAGR of more than 3% over the 2024-2028 period. The regional growth is expected to be supported by investments in the renewable energy, transport, and manufacturing sectors.[12]

Asia

Asia´s macroeconomic outlook for 2024 and 2025 is optimistic, driven by strong domestic demand, declining inflation, and supportive fiscal and monetary policies. In 2023, real GDP increased by 5.0% and is expected to continue growing by 4.5% and 4.3%, respectively[5]. Among the largest economies, India and China will lead growth in the coming years while the Japanese economy is forecasted to maintain modest growth of about 1%.[5]

Despite challenges in the real estate sector, the overall outlook remains positive for China. The size of the Chinese construction market amounted to approximately USD 4.80 trillion in 2023 and is projected to grow at a CAGR of 6.0% between 2024 and 2032, reaching a value of around USD 8.11 trillion by 2032.[13] China's focus on infrastructure development, including transportation networks (roads, railways, ports), energy projects, and urban development initiatives, has been a significant factor propelling growth in the Chinese construction market. Ambitious projects such as the Belt and Road Initiative (BRI) have fuelled demand for construction services, leading to substantial investment in infrastructure. Also, China´s 14th Five-Year Plan for the 2021-2025 period includes significant investments in infrastructure and renewable energy projects.

India's construction industry is experiencing notable growth, supported by the government's emphasis on infrastructure development, increased foreign investment, and rapid urbanization. The Indian budget for the 2023-24 fiscal year includes a significant increase in infrastructure investment that will represent around 3.3% of GDP.[14] In addition to infrastructure, there is strong demand for affordable housing driven by rapid urbanization. It is estimated that by 2030, 600 million people will be living in urban areas, creating demand for 25 million additional housing units.[15]

The Japanese construction market amounted to USD 514.5 billion in 2023 and is projected to achieve an AAGR of around 1% over the 2025-2028 period.[17] Japan´s infrastructure development plans are extensive, focusing on transportation, energy, and urban development. Key projects include the expansion of the high-speed rail network, urban infrastructure upgrades in preparation for the World Expo 2025 and the development of offshore wind energy capacity. The development of 10GW of offshore wind capacity by 2030 is set to increase the share of renewable energy in the total power mix to 22-24%. The size of the Japanese real estate market is projected to grow (CAGR) by 2.88% over the 2024-2032 period.[18] The growing number of residential and commercial properties, along with rising international investment trends, are propelling the market across the country.

Oceania

Australia, the largest economy in the region, increased real GPD by 2.1%.[5] Projections for 2024 point to a deceleration to 1.5%[5] largely attributed to tighter macroeconomic policies, higher interest rates and subdued consumer demand due to reduced real household disposable income. Growth is anticipated to improve to around 2.0%[5] in 2025 as economic conditions stabilize and policy adjustments take effect.

The construction industry is expected to record average annual growth of 2.8% from 2025 to 2028.[19] The growth will be driven by significant investments in infrastructure, including energy and utility projects, as well as transportation and healthcare infrastructure.

Australia has a solid commitment to enhancing its infrastructure to support economic growth, improve connectivity, and prepare for future events and population growth. As an example, the federal budget for 2023-2024 projects AUD 62.8 billion in general government infrastructure funding over the next four years.[20]

Residential construction is expected to see moderate growth as it may face some headwinds such as high construction costs, interest rates and regulatory hurdles. Nevertheless, population growth continues to support this sector, particularly in major cities like Sydney, Melbourne and Brisbane.

The non-residential building sector in Australia presents varied growth prospects across different segments. While traditional office and retail spaces face challenges due to changing work patterns and consumer behavior, industrial, healthcare and mixed-use developments show growth potential driven by technological advancements, demographic trends, and significant government investments.

Middle East and North Africa (MENA)

The MENA region is expected to see modest growth of around 2.7%, an improvement on growth of 1.9% obtained in 2023.[5] This acceleration is attributed to various factors, including easing inflation and some stabilization in global commodity prices, but the rate has been downgraded from previous projections due to ongoing geopolitical tensions, including the conflicts in Gaza and Sudan. In 2025, growth is expected to strengthen to 4.2% as the impacts of current conflicts and oil production cuts are expected to diminish.

The construction sector in the MENA region is expected to experience moderate growth, driven by significant government investments, particularly in infrastructure and urban development projects. This growth is uneven across different countries due to varying economic conditions and geopolitical factors.

Saudi Arabia is projected to be the leading investor in infrastructure within the region, driven by its ambitious Vision 2030 initiative and other mega projects aimed at diversifying its economy away from oil dependency.

Among other sectors, Saudi Arabia, the United Arab Emirates, Egypt, Morocco and Qatar are leading the MENA region in residential construction investments. These countries are implementing large-scale projects to address housing needs driven by urbanization, population growth, and economic efforts.

The focus within the non-residential construction sector is on developing commercial real estate, industrial facilities, healthcare, and education. Saudi Arabia, the United Arab Emirates, and Qatar are leading these efforts with ambitious projects aligned with their respective national visions and strategic plans.

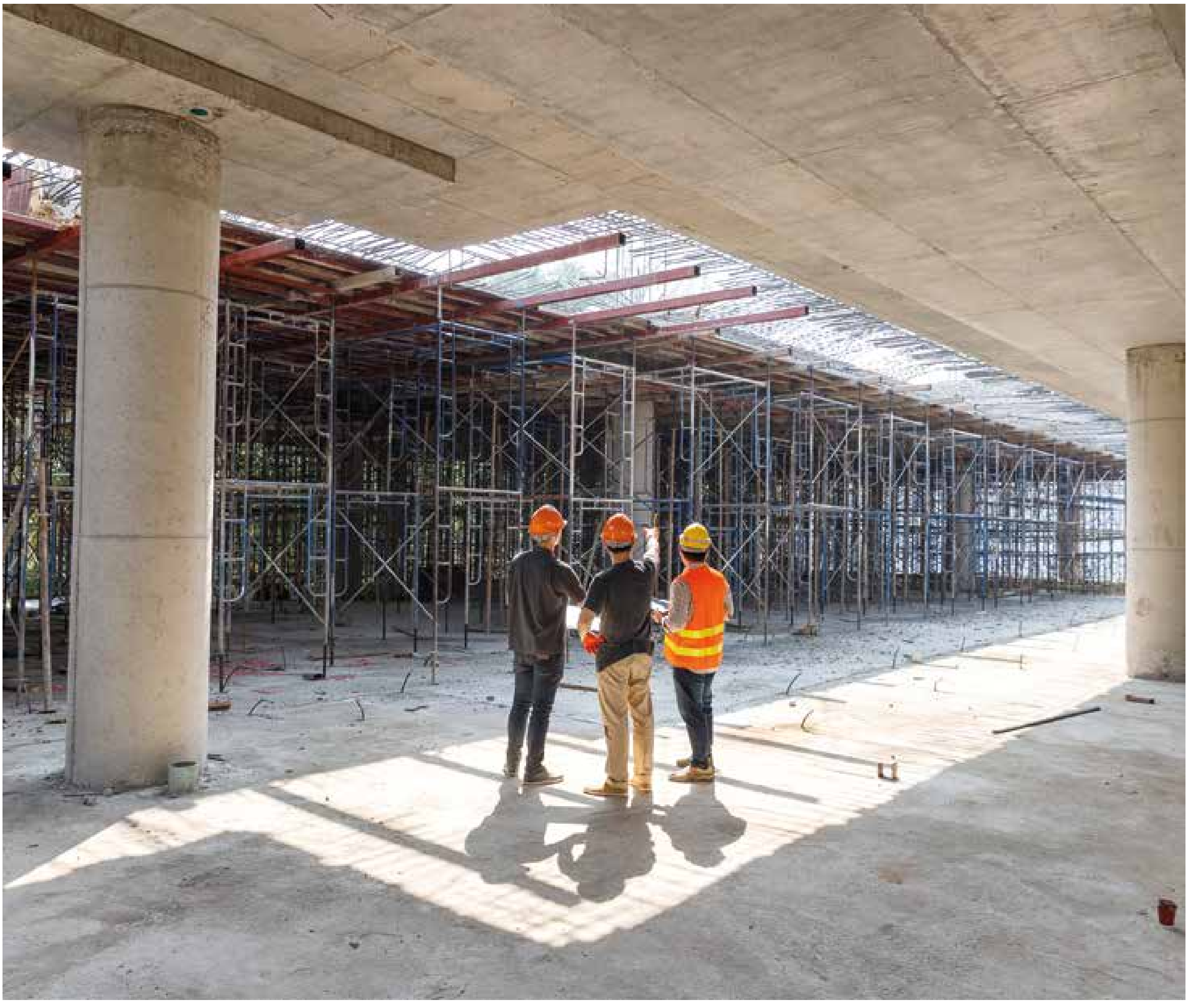


Figure 4.2: Real GDP growth (Annual percentage, 2023)

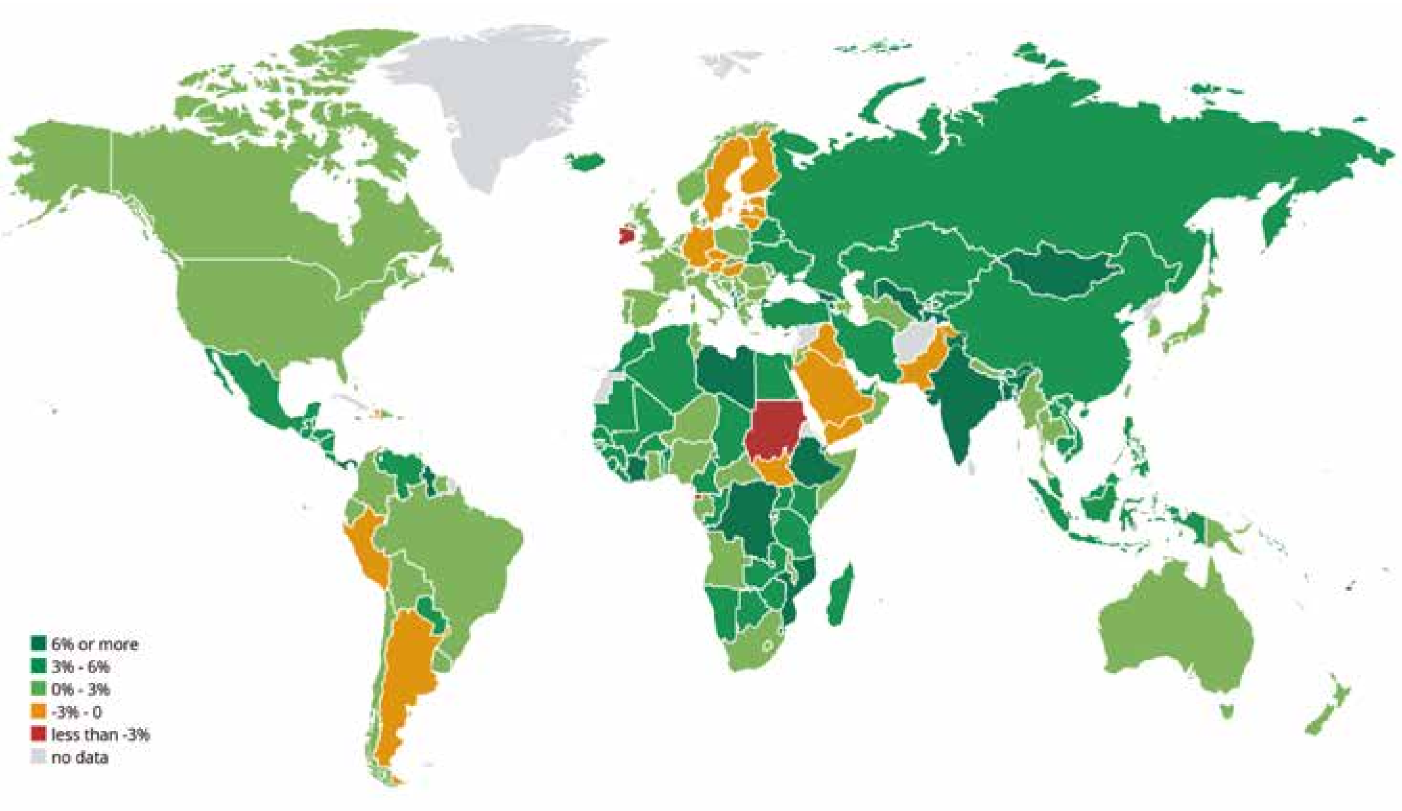


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Figure 4.3: Real GDP growth (Annual percentage, 2024)

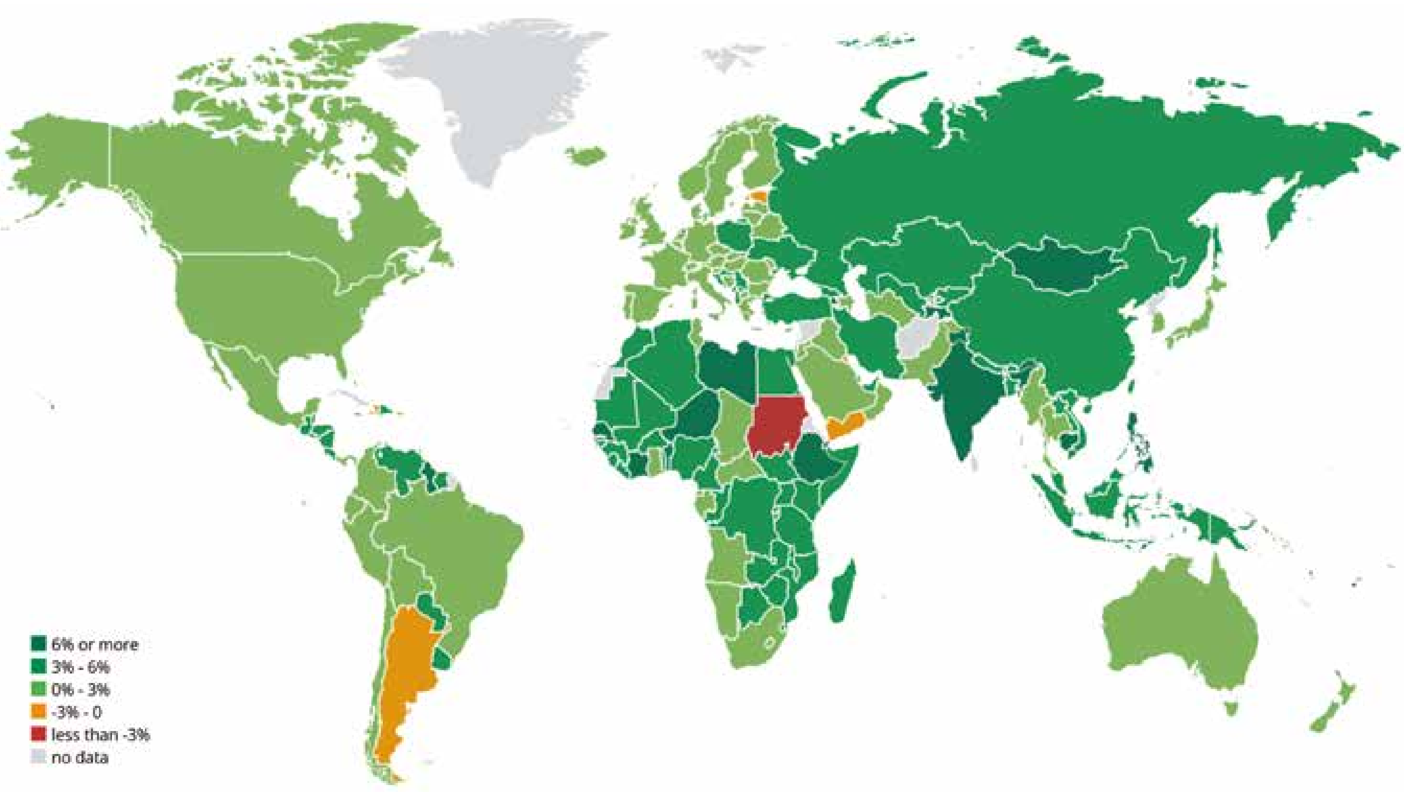

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Figure 4.4: Total forecast infrastructure investment gaps

Source: Global Infrastructure Outlook. Global Infrastructure Hub.

Decarbonization of the construction industry

The construction sector accounts for 37% of global CO_2 emissions,[21] of which 16% represent embodied carbon–CO_2 emissions from material sourcing and manufacturing, logistics, and construction activities. Cement production alone is responsible for about 8% of the world´s CO_2 emissions.[22] This makes it one of the biggest single sectors contributing to global warming.

To meet the Paris Climate Accord mandates, the United Nations has indicated that the sector must halve its emissions by 2030 and achieve net-zero across the development of all new initiatives and existing assets by 2050. Accordingly, the current decade is pivotal for reaching milestones needed for transforming the sector to meet net-zero targets in 2050.

Challenges to meet climate neutrality

Decarbonization of the construction industry is a complex challenge with multiple facets, largely because of the industry´s significant reliance on high-carbon processes and materials, which impacts the entire value chain of an asset (Figure 5.1). Here are some of the key challenges that exist:

- Technological adaptation: The construction industry is embracing a range of new green technologies aimed at reducing its carbon footprint and promoting sustainability. These technologies are not only focused on reducing emissions from building materials and processes but also on enhancing energy efficiency and incorporating renewable energy sources.

  Innovations in concrete production include the development of low-carbon cements and concrete that use alternative materials such as fly ash, slag, and calcined clays to reduce the amount of clinker, a major source of CO_2 emissions in traditional cement production. Also, Carbon Capture, Utilization and Storage (CCUS) technology captures CO_2 emissions during cement manufacturing and either it stores it underground or repurposes it into new products.

  Modular construction involves constructing parts of buildings in a factory setting and then assembling them on-site. This approach reduces waste, speeds up construction times and improves the overall energy efficiency of the building process.

  Innovative materials such as aerogels, phase change materials and high-performance insulation have been developed to enhance the energy efficiency of buildings as these materials help to control temperatures efficiently, reducing the need for heating and cooling. Also, building-integrated photovoltaics are solar cells designed to double as roofing, shading and façade material while also generating electricity.

  Overall, technologies to decarbonize the industry are available but may not be cost effective as they require significant capital investments in an industry that has traditionally reported narrow margins. Also, regulatory frameworks may struggle to keep pace with new technological developments. Lengthy regulatory approval processes, uncertainty regarding compliance standards, and a lack of specific guidelines may impede the widespread adoption of certain technologies.

The reluctance to adopt these innovations can hinder the sector capacity to meet the emission reduction targets outlined by governments and international agreements. A stricter regulation from policymakers, adequate incentives (financial benefits, tax advantages, etc.) and sufficient availability of green financing across the life of an asset are needed to activate demand for low-carbon materials, equipment, and construction processes.

- Workforce: With a strong push toward sustainability and decarbonization, there is a growing need for skills related to green construction practices such as knowledge in handling eco-friendly materials and proficiency in energy-efficient building techniques. Workers are increasingly expected to understand and implement green building standards.

  Workers need to know how to select and use sustainable materials that have lower environmental impacts. That includes materials such as recycled steel, bamboo, reclaimed wood and low-VOC (volatile organic compounds) paints. Additionally, the implementation of practices that minimize waste during construction is crucial.

  Skills in designing and constructing buildings that use minimal energy for heating, cooling, lighting and water heating are critical. This includes understanding insulation techniques, window placements for natural lighting without heat loss and the integration of renewable energy systems such as solar panels or geothermal energy systems.

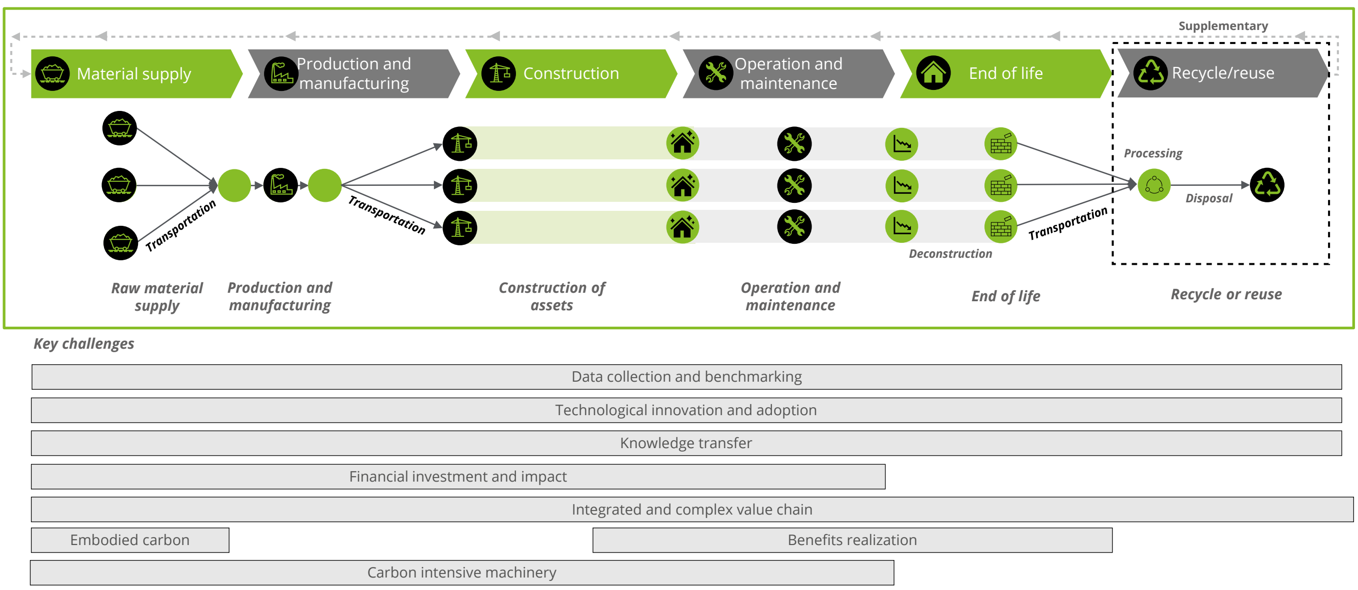
  Professionals in the construction industry are increasingly required to calculate the carbon footprint of their projects. Knowledge of various green building certifications, such as LEED, BREEAM or WELL standards, is critical. Professionals need to understand how to obtain such certifications and the benefits they offer.

  To acquire these green skills, professionals can take various training programs offered by industry associations, certification bodies, or through higher education programs. By acquiring and implementing green skills, workers in the construction industry not only increase their employability, but also contribute to creating more sustainable and environmentally friendly buildings. This shift is critical to addressing global environmental challenges such as climate change and resource depletion.

- Industry fragmentation: A multitude of stakeholders throughout the value chain can constrain the adoption of sustainable practices and hinder decarbonization efforts. Should key material suppliers resist the transition due to concerns over costs or a lack of familiarity with sustainable alternatives, the project may encounter elevated expenses and potential delays in delivery timelines. The sector should improve collaboration across project lifecycles by expanding the contract models to include all project stages and value chain participants.

  Collaborative contracts often establish common goals for all stakeholders, including sustainability and decarbonization targets. By aligning the interests of owners, contractors, suppliers and subcontractors around these goals, collaborative contracts encourage teamwork to achieve reduced carbon footprints and enhanced sustainability outcomes. These contracts often include mechanisms for sharing risks among the parties, which can encourage more innovative approaches to sustainability that might be deemed

Figure 5.1: Illustrating the key challenges within the value chain of Assets



Source: Global S&C Pathways to Decarbonization, Deloitte April 2024 too risky in more traditional contractual setups. Shared risks reduce the burden on any one party and can encourage the implementation of novel materials, technologies and methods aimed at reducing carbon emissions.

- Financing: Financing the decarbonization of the construction industry involves a mix of innovative financial instruments, government support, private investments, and policy initiatives to encourage sustainable practices.

  Governments can provide direct financial support through subsidies and grants to encourage the adoption of green building technologies and practices. This could include funding for retrofitting old buildings to meet new environmental standards, implementing renewable energy systems, and using sustainable building materials.

  Green bonds are popular financial instruments for raising capital for projects with environmental benefits. Also, financial institutions can offer favorable loan terms and lower interest rates for projects that meet certain green criteria.

  Public-Private Partnerships (PPPs) could be particularly effective in financing infrastructure projects that incorporate sustainability criteria. These partnerships enable the sharing of the financial risks associated with green investments between public entities and private investors.

  Tax incentives for companies that invest in green technologies can significantly reduce the overall costs of such investments. These can include tax credits, reduced VAT rates or accelerated depreciation for sustainable assets.

  Overall, through these various financial mechanisms and cooperative models, the construction industry can access the capital needed to transform itself and fully embrace decarbonization, thus contributing significantly to global efforts to mitigate climate change.

- Data collection and benchmarking: The requierements for accurate data collection and reporting of carbon footprint are crucial for managing and measuring the progress of decarbonization efforts. The lack of consistent definitions, data, methodologies, and tools to account for carbon, as well as of a single regulatory body, results in varying interpretations, limiting the ability of market participants to achieve consistent outcomes. Also, there are significant difficulties that arise from the diverse nature of construction activities, the complexity of the projects and the industry´s fragmented structure. By overcoming these challenges, the construction industry can make more informed decisions that contribute to significant reductions in carbon emissions and overall environmental impact.

Regulatory landscape

Policies will be key to accelerating low-carbon construction and must address demand and supply simultaneously. On the demand side, policies must incentivize the adoption of low-carbon assets while on the supply side they must support investments in more low-carbon construction solutions and technologies.

European nations are seen as having the most mature regulations in relation to embodied carbon. The European Green Deal will transform the EU into a modern, resource-efficient, and competitive economy, ensuring climate neutrality by 2050. One-third of the EUR 1.8 trillion investments from the NextGenerationEU Recovery Plan, and the EU's seven-year budget, will finance the European Green Deal.[23]

Performance in the Americas is uneven. In the United States, the 2022 Inflation Reduction Act (IRA) introduced tax deductions and credits for energy-efficient commercial and public buildings, including renewable energy installations and green building certifications. It has projected a budget of approximately USD 437 billion over the next decade, out of which USD 369 billion is dedicated to investments in clean energy and climate mitigation measures.[24] Canada is also making significant strides in the decarbonization of its construction industry. One major initiative is the Low Carbon Built Environment Challenge program, which focuses on accelerating the adoption of low-carbon materials and systems across the industry. In Latin America, while there are significant initiatives underway, greater collaboration, updated regulations and broader adoption of sustainable technologies are needed to accelerate the decarbonization of the construction industry.

Among the largest Asian economies, China is taking steps to decarbonize its construction industry as part of its broader efforts to transition to a low-carbon economy. Key initiatives include the enhancement of green building standards, the promotion of energy-efficient building technologies and the increased use of sustainable materials in construction projects. China´s Green Building Evaluation Standards are an example of the extensive framework designed to enhance sustainability in the construction industry. Japan is making significant strides in decarbonizing the construction industry as part of its efforts to achieve carbon neutrality by 2050. The Building Energy Efficiency Act, which sets stringent requirements for energy efficiency in both new and existing buildings, is worthy of note. In addition, the decarbonization of the construction industry in India is progressing but faces challenges that appear to be slowing the pace of change compared to some other countries, particularly those with more developed infrastructure and stringent regulatory environments. However, the potential for decarbonization in India is huge, given that much of its required infrastructure for 2050 is yet to be built, which provides a unique opportunity to integrate low-carbon strategies right from the planning stages.

The global regulatory landscape for construction decarbonization is moving in a positive direction, with increasing awareness and adoption of sustainable practices. However, it is crucial to strengthen efforts to ensure greater consistency between nations, improve enforcement and expand regulations to cover all aspects of construction sustainability.

Performance of our GPoC

As market leaders, our GPoC are gradually implementing measures aimed at decarbonization the business. Performance among our GPoC is still uneven but some of the most remarkable achievements are as follows:

- The European GPoC are some of the players most committed to decarbonization as the European Union has been very ambitious in setting climate targets.

Acciona´s comprehensive approach to sustainability, especially its emphasis on renewable energy and sustainable infrastructure, positions it as a leader in decarbonization efforts. The company's proactive strategies and investments demonstrate its commitment to reducing its environmental footprint and supporting global efforts to mitigate climate change. As an example, Acciona has implemented in the A-68 highway in La Rioja (Spain) a pilot project that utilizes biomass slag as a substitute for natural soil in constructing road subbases, enhancing the structural support and rigidity while meeting Spanish road construction standards.[25]

The largest European GPoC, VINCI, has committed to ambitious sustainability goals, including significant reductions in carbon emissions across its operations. VINCI achieved a 14% reduction in greenhouse gas emissions (scopes 1 and 2) between 2018 and 2023 and 37% of their electricity consumption in 2023 came from renewable sources.[26] Another specific example of VINCI´s commitment is the installation of charging stations across the network of highways that the group operates. VINCI is working in partnership with various operators to deploy these facilities, the aim being to provide more than 1,500 charge points.[27]

Skanska has reduced the carbon emissions from its own operations (scope 1 and 2) by approximately 60% compared to the base year of 2015.[28] This reduction is part of Skanska´s broader sustainability strategy, which includes achieving a 70% reduction in its own carbon emissions by 2030.[29]

- As our largest US-based GPoC are focused on homebuilding, the most innovative sustainability solutions recently implemented are related to this sub-sector. It is worth noting the collaboration of D.R. Horton with Plantd, a manufacturer of carbon-negative building materials. This partnership involves using materials made from fast-growing perennial grass to construct homes, significantly reducing the carbon footprint associated with traditional building materials. Similarly, Lennar, in collaboration with ICON, is involved in developing the world´s largest neighborhood of 3-D printed homes, which uses innovative construction technologies that are more resource-efficient.

There is a major focus on infrastructure renewal across the United States as there is a real need for modernizing aging infrastructure and making it more sustainable. One specific example is the Oak Hill Parkway project in Austin (United States). In partnership with Balfour Beatty, Fluor´s approach to this project includes using advanced construction techniques and materials that minimize the environmental impact. It includes the management of construction waste and the use of recycled materials wherever possible, as well as implementing erosion and sediment control measures to protect local waterways.

- Even though regulation in some Asian countries is moving at a slower pace than in other geographies such as Europe, our Asian-based GPoC have implemented innovative solutions to make their operations more sustainable.

  China State Construction Engineering Corporation (CSCEC) has a strong portfolio of green building projects and actively promotes the construction of energy-efficient and environmentally friendly buildings.

  While CSCEC is a notable example, there are other Asian construction companies such as Obayashi that are also renowned for their sustainability efforts, particularly in reducing greenhouse gas emissions and implementing advanced environmental technologies in their construction projects.

  Larsen & Toubro has demonstrated a strong commitment to sustainable construction, implementing global and local standards such as LEED and IGBC. Also, the group has made significant investments in solar and wind energy projects, contributing to India´s transition to cleaner, more sustainable energy sources.

The involvement of our GPoC is crucial for the decarbonization of the industry due to their significant influence on global construction practices, their capacity for investment and their roles as trendsetters. Their proactive measures not only contribute directly to reducing emissions but also set an example that can drive broader changes across the industry.

Financial performance of the GPoC 2023

Financial performance was uneven in 2023 as the Top 30 GPoC have dealt with a complex macroeconomic scenario. Sales increased by 4% and profitability remained relatively stable despite the existing supply chain issues. Stock-market performance was strong, particularly in the United States and Europe, and market capitalization jumped to USD 467,454 million. However, slightly lower EBIT margins, net debt continued year-on-year increases (5%) and higher interest rates impacted on reported net income, down by 0.5%.

Even though our Top 30 GPoC have shared characteristics, different macroeconomic situations relating to the construction industry in the markets in which these companies operate as well as the portfolio of activities carried out by each of our GPoC explain their uneven financial performance in 2023 (Figure 6.0):

- The aggregate EBIT margin amounted to 5.7%, 0.1 p.p. below 2022. The increase in sales reported by the European-, US-, and Asian-based GPoC (17%, 5%, and 2%, respectively) did not lead to higher profitability. Indeed, the US-based GPoC, which in most cases are considered to be homebuilders, reported a 2.3 p.p. decrease in operating profitability as high interest rates and inflation resulted in higher price pressure in the US housing industry. EBIT from construction activities decreased from 5.6% in 2022 to 5.4% in 2023 but remained relatively stable when excluding homebuilders. The non-construction EBIT margin rose to 6.6% in 2023 (2022: 6.3%), driven by Lennar's margin improvement in 2023 from the loss reported in 2022. Excluding homebuilders, non-construction profitability remains steady.

  The net income margin worsened by 0.2 p.p. to 4.0% in 2023. By regions, profitability is led by the US-based GPoC (10.3%), dominated by homebuilders, followed by the European-,and Asian-based GPoC (4.4% and 3.3%, respectively). The decrease in the net income margin is partially explained by the impact of high interest rates. The average net income margin ranged from 3.8% to 4.5% over the last five years.

  The Top 30 GPoC dividend yield decreased by 0.4 p.p. to 2.9% in 2023 from 3.3% in 2022. While market value rose by 14%, the dividends distributed remained relatively stable. European groups dominate the Top 30 ranking by dividend yield. In contrast, US groups obtained the highest return-on-equity (17.6%) but did not report above average payout ratios.

- Stock-market performance was led by the US- and European-based GPoC, whose market capitalization increased by 52% and 23%, respectively. Enterprise value to EBITDA among these groups is in the range of 6x. At the other end of the spectrum, the Asian-based GPoC reported weak performance (down by 3%) that led them to trade at a discount (0.9x market value to book value ratio).

- Aggregate net debt rose by 5% to USD 357,481 million in 2023. The Asian-based GPoC are the most leveraged (38.7% net debt-to-equity ratio), followed by the European groups (30.3%). The US-based GPoC reported a ratio of 0.3% partially

Figure 6.0: Top 30 GPoC Financial Ratios

Types	EBIT/ Sales	Net Income/ Sales	Net debt/ Net debt equity	Net debt/ Market cap	Market cap/ Book value	EV/ EBITDA	Net debt/ EBITDA	CAPEX / Sales	Dividend yield	ROE
Asian companies	4.5%	3.3%	38.7%	1.5	0.6	8.2	4.9	4.1%	3.2%	9.4%
United States companies	14.6%	10.3%	0.3%	0.0	1.7	6.6	0.0	0.5%	0.8%	17.6%
European companies	7.3%	4.4%	30.3%	0.3	1.7	5.8	1.3	5.1%	4.2%	13.4%
Top 30 GPoC 2023	**5.7%**	**4.0%**	**35.1%**	**0.8**	**0.9**	**7.3**	**3.2**	**4.0%**	**2.9%**	**11.1%**
31-100 GPoC 2023	**7.0%**	**4.5%**	**20.3%**	**0.2**	**1.5**	**8.2**	**1.2**	**2.2%**	**2.5%**	**10.1%**

Source: Global Powers of Construction (GPOC) 2023 analysis; Bloomberg, accessed April 2024 and company financials explained by the fact that homebuilders typically operate a business model based on projects with relatively quick investment and capital recovery cycles. Similarly, debt in terms of EBITDA and market value is significantly higher among the Asian companies, which reported ratios of 4.9x and 1.5x.

The main financial ratios of the construction companies placed from 31st to 100th in the Top 100 GPoC ranking show profitability levels exceeding those of the Top 30 GPoC and debt levels that are significantly lower. This is due mainly to the significant weight of Chinese companies in the Top 30 GPoC and homebuilders among the companies ranked from 31st to 100th. Excluding these effects, the profitability and debt figures of these two groups are very similar.

A more in-depth analysis of the financial ratios and indicators by company allows us to draw the following conclusions:

EBIT margin

Based on the figures obtained in 2023 and 2022 (see Figure 6.1). the following conclusions may be drawn:

- EBIT from construction activities accounted for 5.4% of sales, while operating profitability from non-construction activities averaged 6.6%. Even though profitability by activity was uneven compared to 2022, the combined EBIT margin remains stable at 5.7%. Profitability from construction and non-construction activities has remained relatively stable in the last five years, with minor exceptions (see Figure 6.2). None of the Top 30 GPoC reported operating losses in 2023 or 2022.

- Operating profitability from construction activities continued to be led by homebuilders since the housing industry present higher margins as a general rule. Among them, PulteGroup jumped to first position as it is the only company that improved from 2022 as the company implemented measures to control construction costs and improve efficiency. Efficient home designs and obtaining construction materials and labor at competitive prices helped maintain strong operating margins despite input cost inflation. The remaining homebuilders reported lower profitability compared to 2022 as high interest rates and inflation resulted in higher price pressure in the housing industry. Excluding homebuilders, average profitability from construction activities stood at 4.3% (0.1 p.p. above the 2022 figure), while those GPoC ranked from 31st to 100th presented an average construction margin of 6.2% (0.5 p.p. below the 2022 figure). The Chinese company Sichuan Road and Bridge, which reported construction EBIT of 10% in 2023, is the first non-homebuilder ranked. Jacobs Engineering and Strabag complete the Top 3. None of our Top 30 GPoC reported construction losses in 2023 or 2022.

- Besides homebuilders, the companies with the highest non-construction EBIT margins are Obayashi and VINCI. While the Japanese company's non-construction operations relate to engineering and real estate, the French company's non-construction activity is mainly headed by its concession businesses. In contrast, Skanska and Strabag reported operating losses attributable to the impairment of assets related to their residential and commercial property development business streams, while Fluor experienced losses related to its early-stage small modular reactor business which bore significant expenses and losses in 2023.

Figure 6.1. Top 30 GPoC EBIT/Sales

	EBIT* / Sales					
	Construction activities		Other activities		Total	
Company	2023	2022	2023	2022	2023	2022
PULTEGROUP (**)	21.0%	20.6%	47.1%	49.5%	21.5%	21.2%
LENNAR CORP. (**)	16.9%	21.2%	15.8%	(16.4%)	16.9%	19.3%
D.R. HORTON (**)	16.6%	21.7%	28.2%	44.2%	17.8%	22.8%
SEKISUI HOUSE (**)	11.2%	15.6%	7.3%	6.2%	8.7%	7.9%
SICHUAN ROAD AND BRIDGE (GROUP) CO. LTD.	10.0%	10.0%	5.2%	10.7%	9.5%	10.1%
DAIWA HOUSE INDUSTRY CO. (**)	9.5%	9.7%	6.7%	0.5%	9.5%	8.6%
JACOBS ENGINEERING	8.4%	7.3%	4.0%	4.6%	6.6%	6.2%
STRABAG	7.1%	4.8%	(5.2%)	1.7%	5.0%	4.1%
CHINA STATE CONSTRUCTION ENGINEERING CORP. LTD. (CSCEC)	6.9%	7.1%	(0.2%)	(0.5%)	4.1%	4.2%
LARSEN & TOUBRO LTD. (L&T)	5.9%	7.5%	14.1%	12.9%	10.3%	10.3%
FLUOR CORP.	5.6%	3.1%	(2.9%)	3.2%	3.5%	3.1%
Average	**5.4%**	**5.6%**	**6.6%**	**6.3%**	**5.7%**	**5.8%**
SAMSUNG C&T CORP.	5.4%	6.0%	8.1%	5.8%	6.9%	5.9%
CHINA COMMUNICATIONS CONSTRUCTION GROUP LTD. (CCCC)	5.1%	4.4%	5.6%	6.4%	5.2%	4.7%
VINCI	4.0%	3.8%	19.0%	17.7%	12.1%	11.1%
EIFFAGE. S.A.	3.7%	3.8%	12.8%	12.8%	11.0%	10.9%
KAJIMA CORP.	3.6%	3.9%	16.7%	19.0%	5.2%	5.9%
CHINA RAILWAY GROUP LTD. (CREC)	3.6%	3.9%	4.1%	2.5%	3.6%	3.7%
SKANSKA AB	3.5%	3.7%	(5.4%)	59.3%	3.2%	6.1%
OBAYASHI CORP.	3.5%	1.0%	21.4%	18.2%	4.7%	2.1%
CHINA ENERGY ENGINEERING CORP	3.2%	3.4%	13.0%	11.8%	5.2%	5.2%
BOUYGUES	3.2%	3.0%	4.9%	7.0%	4.1%	4.4%
POWER CONSTRUCTION CORP OF CHINA	3.1%	2.3%	8.4%	12.5%	3.4%	3.3%
ACTIVIDADES DE CONSTRUCCION Y SERVICIOS. S.A. (ACS)	2.9%	2.7%	15.4%	12.0%	3.7%	3.3%
CHINA RAILWAY CONSTRUCTION CORP. LTD. (CRCC)	2.8%	2.6%	6.9%	8.4%	3.4%	3.4%
DOOSAN	2.7%	2.2%	11.1%	10.2%	7.5%	6.6%
ACCIONA	2.4%	1.9%	11.4%	14.5%	7.3%	7.8%
METALLURGICAL CORPORATION OF CHINA LTD (MCC)	2.2%	2.6%	1.8%	2.9%	2.2%	2.6%
SHIMIZU CORP.	2.0%	2.7%	8.9%	5.5%	2.8%	3.0%
Average Asian companies	**4.6%**	**4.5%**	**4.1%**	**4.1%**	**4.5%**	**4.4%**
Average United States companies	**15.4%**	**18.3%**	**9.8%**	**7.1%**	**14.6%**	**16.9%**
Average European companies	**3.7%**	**3.4%**	**12.0%**	**13.7%**	**7.3%**	**7.2%**
Average excluding homebuilders	**4.3%**	**4.2%**	**6.3%**	**6.3%**	**4.8%**	**4.7%**
Average 31-100 GPoC	**6.2%**	**6.7%**	**9.8%**	**8.4%**	**7.0%**	**7.1%**

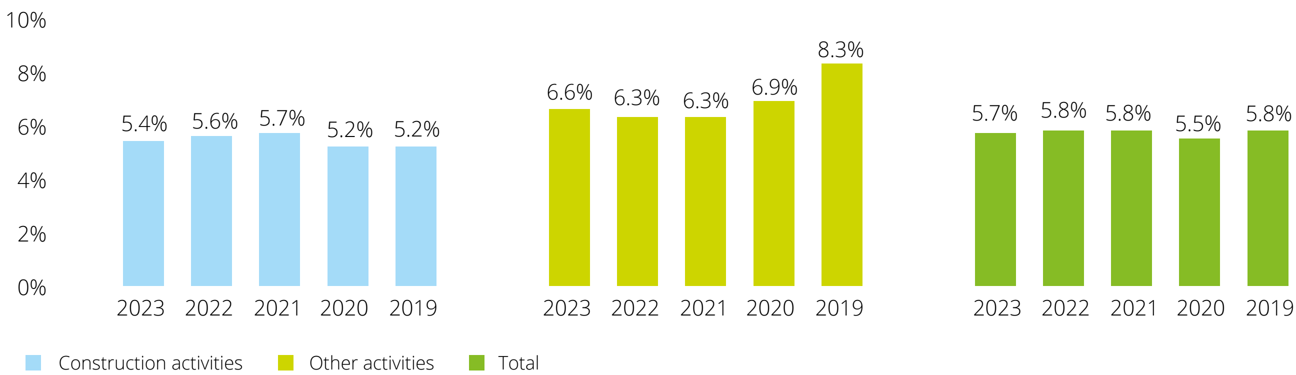
(*) EBIT figures. as reported by these groups. correspond to operating income from ordinary activities

(**) Companies with significant homebuilding activity

Shanghai Construction Group and Hyundai E&C were not included in the analysis since these companies do not disclose construction EBIT from other activities

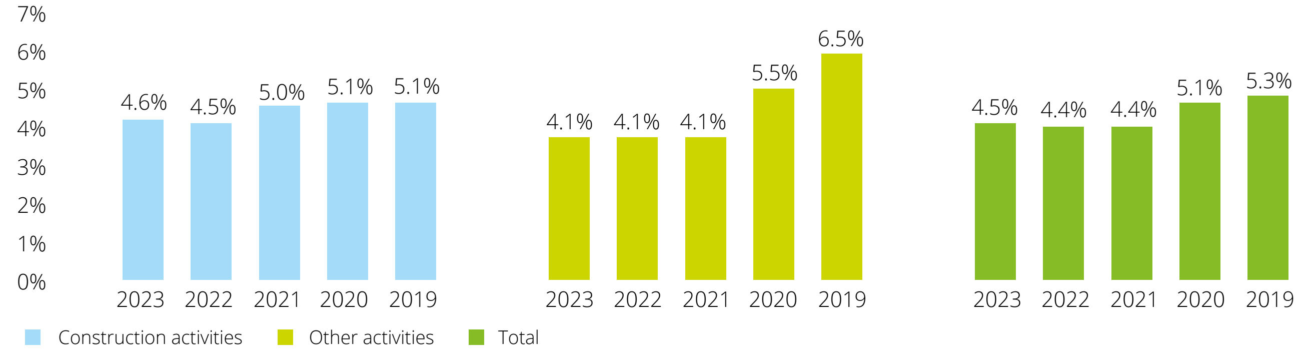
Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Figure 6.2: Top 30 GPoC EBIT Margin



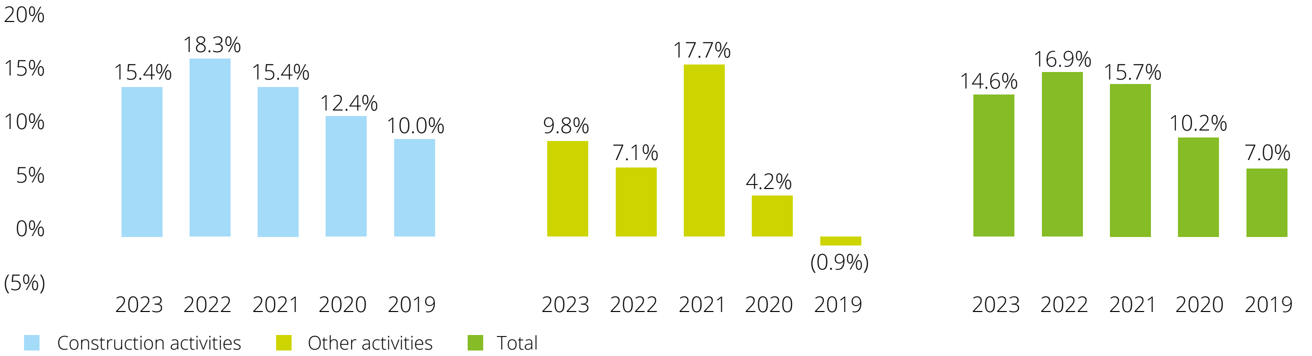
Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Figure 6.2.1 Asian Top 30 GPoC EBIT Margin



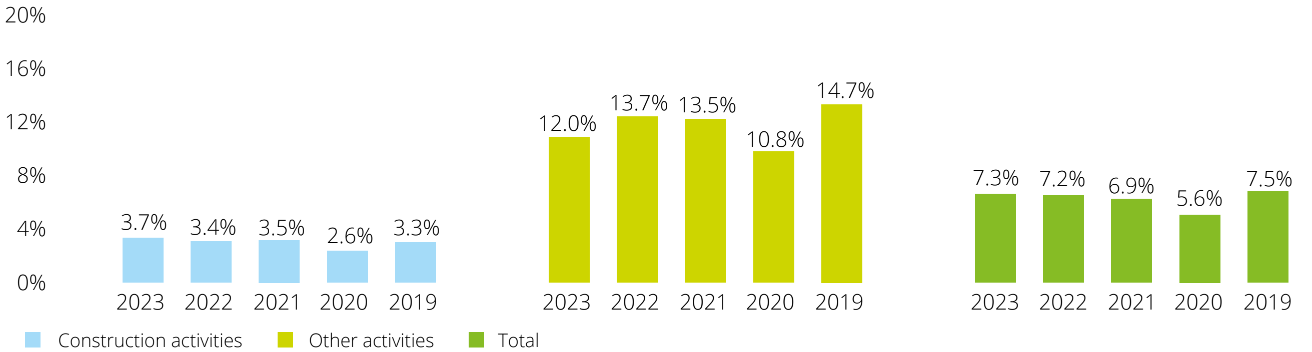
Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Figure 6.2.2: US Top 30 GPoC EBIT Margin



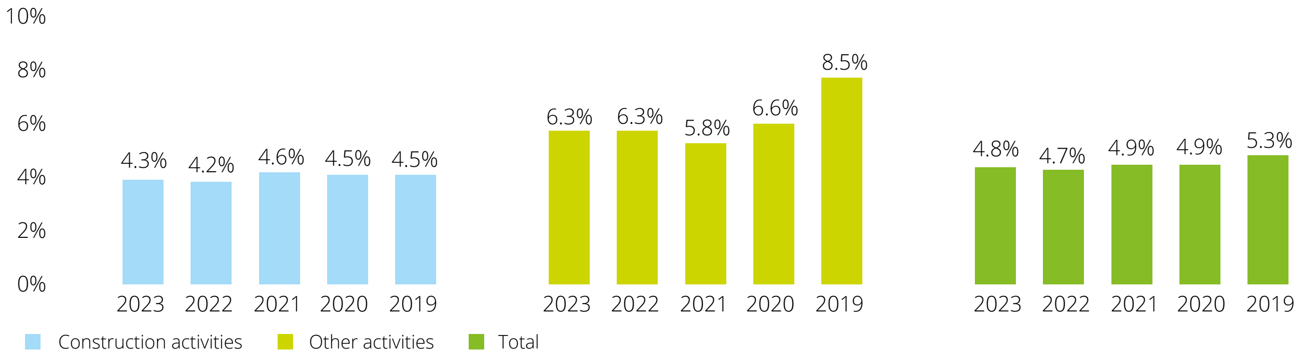
Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Figure 6.2.3: European Top 30 GPoC EBIT Margin



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Figure 6.2.4: Ex-homebuilder Top 30 GPoC EBIT Margin



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

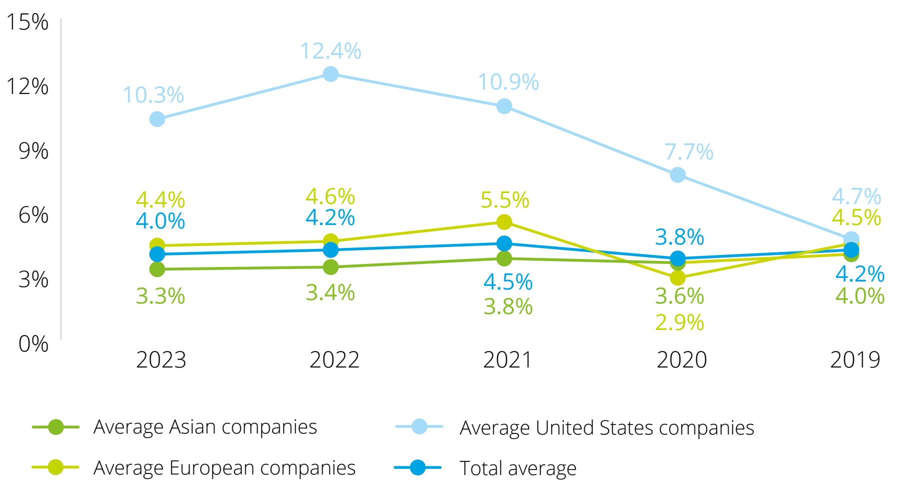
Figure 6.3: Top 30 GPoC Net income as a percentage of total sales

	Net income / Total sales	
Company	**2023**	**2022**
PULTEGROUP *	16.2%	16.1%
D.R. HORTON *	13.5%	17.6%
LENNAR *	11.6%	13.8%
SICHUAN R&B	7.9%	8.4%
VINCI	7.4%	7.2%
EIFFAGE	7.0%	6.7%
SEKISUI *	6.7%	6.5%
SAMSUNG C&T	6.5%	5.9%
DAIWA *	6.4%	8.5%
L&T	6.2%	6.8%
KAJIMA	4.8%	4.8%
JACOBS	4.4%	4.8%
CCCC	4.1%	3.6%
OBAYASHI	4.0%	2.2%
Average	**4.0%**	**4.2%**
ACCIONA	3.6%	5.5%
STRABAG	3.6%	2.8%
CEEC	3.5%	2.8%
CSCEC	3.2%	3.4%
SKANSKA	3.0%	5.1%
CREC	3.0%	3.0%
CRCC	2.8%	2.9%
POWER CHINA	2.8%	2.7%
SHIMIZU	2.7%	3.2%
HDEC	2.2%	2.2%
ACS	2.2%	2.0%
BOUYGUES	2.1%	2.6%
MCC	1.8%	2.2%
DOOSAN	1.4%	-3.4%
SCG	0.5%	0.5%
FLUOR	0.5%	0.5%
Average Asian companies	**3.3%**	**3.4%**
Average United States companies	**10.3%**	**12.4%**
Average European companies	**4.4%**	**4.6%**
Average excluding homebuilders	**3.4%**	**3.4%**
Average 31-100 GPoC	**4.5%**	**4.8%**

(*) Companies with significant homebuilding activity.

Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Figure 6.4: Net income as a percentage of total sales



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Net income

The 4% increase in revenues reported by our Top 30 GPoC did not lead to higher profits in the bottom line, which resulted in an aggregate net income margin of 4.0% in 2023, 0.2 p.p. below 2022. However, profitability has remained relatively stable over the last five years at approximately 4% with minor variations from one year to another. A more in-depth analysis of the Top 30 GPoC net income margin in 2023 (see Figure 6.3) led us to draw the following conclusions:

- The US-based GPoC reported the highest net income margin in 2023 (10.3%) as this category is dominated by homebuilders. Nevertheless, figures are below those reported in previous years due to higher price pressure in the US housing industry. The Asian groups, which are mainly focused on construction activities, reported the lowest aggregate profitability while the European GPoC obtained higher margins from non-construction operations (Figure 6.1).

- As in the EBIT margin (Figure 6.1), the Top 3 is dominated by PulteGroup, D.R. Horton, and Lennar. VINCI reported the highest profitability among the European groups, closely followed by Eiffage. The French groups have shown a slight improvement in profitability in 2023 due to the strong performance of their concessions businesses. Sichuan R&B is heavily involved in projects linked to China's Belt and Road Initiative. This initiative has attracted substantial government investment and support, ensuring a steady flow of high-value projects that contribute to high profitability.

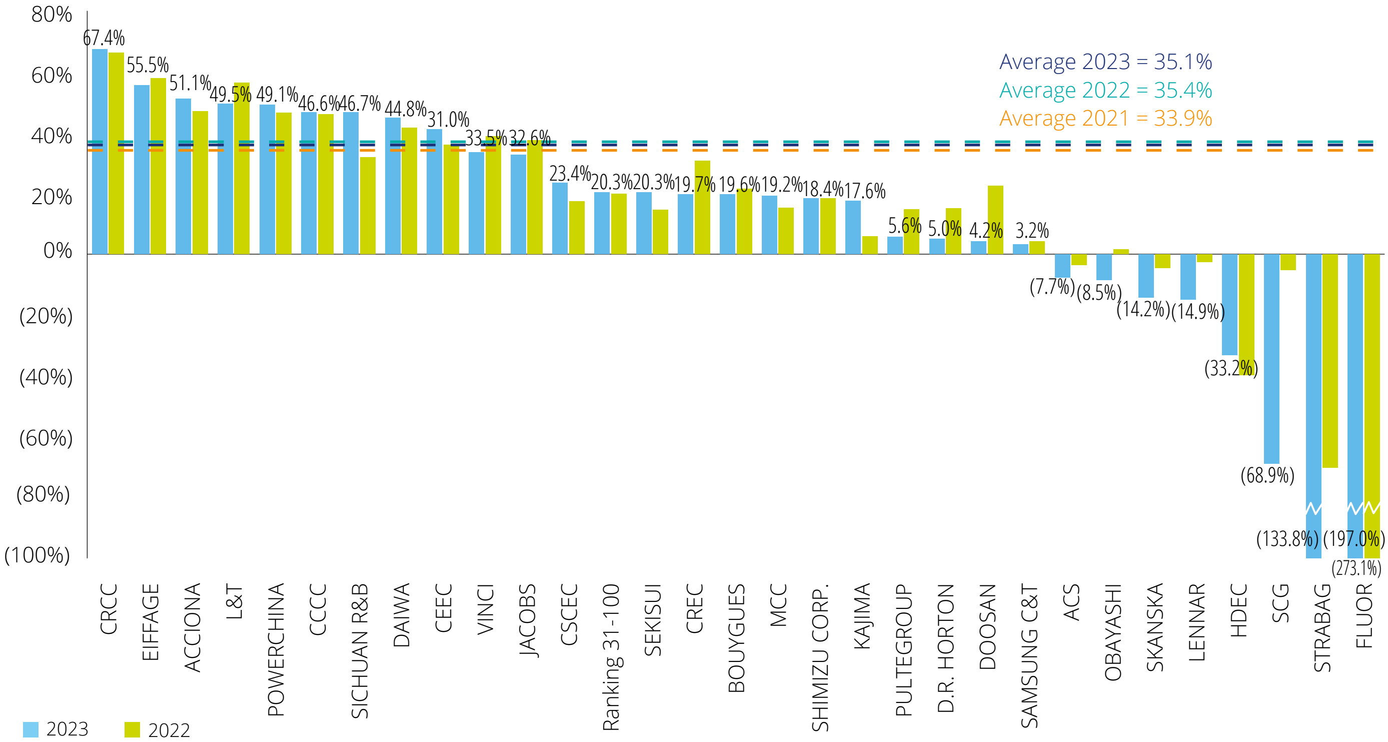
- None of our Top 30 GPoC reported net losses in 2023 although the net income margin for Fluor and Shanghai Construction is below 1%. Fluor recorded significant losses from the sale of its American Equipment Company in South America and the Stork business in Latin America. Shanghai Construction has a significant portion of its business tied to the real estate market, which has been phasing a downturn.

Net debt/Net debt + Equity

The analysis of this ratio (see Figure 6.5) enables us to draw the following conclusions:

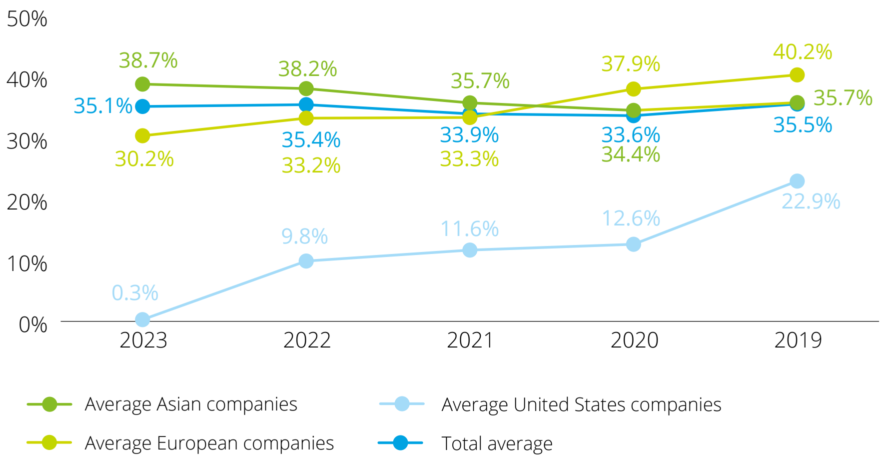
- Aggregate equity and net debt increased by 7% and 5%, respectively, resulting in a 35.1% net debt/net debt + equity ratio in 2023, 1.5 p.p. above the lowest ratio reported over the last five years.
- Eight companies reported positive net cash positions in 2023 with Lennar having the largest cash surplus (USD 3,471 million) partially explained by its operating strategy of maintaining the pace of production in lockstep with the pace of sales. US-based companies have been reducing the ratio continuously since 2019.
- Some of the companies that reported the highest ratios, such as Eiffage or Acciona, have a significant presence in non-construction businesses (concessions and renewable energies, among others) which traditionally require major capital investments that in most cases are

Figure 6.5: Top 30 GPoC, Net debt/(Net debt + Equity)



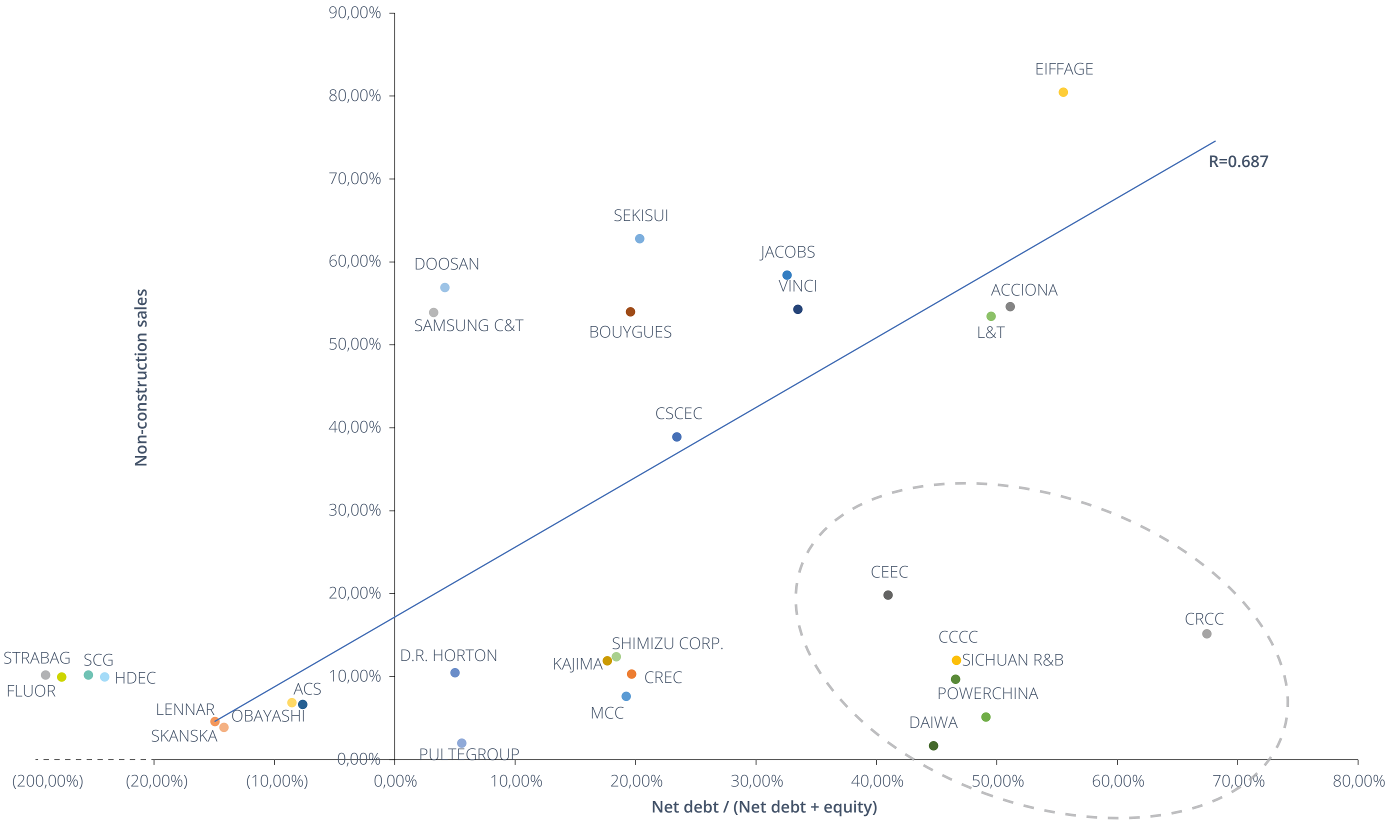
Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Figure 6.6: Net debt/(Net debt + Equity)



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Figure 6.7 Top 30 GPoC, Non-construction sales to Indebtedness



financed by external borrowings. Acciona increased its net debt to USD 1,965 million in 2023 as a result of the full integration of Nordex in 2023.

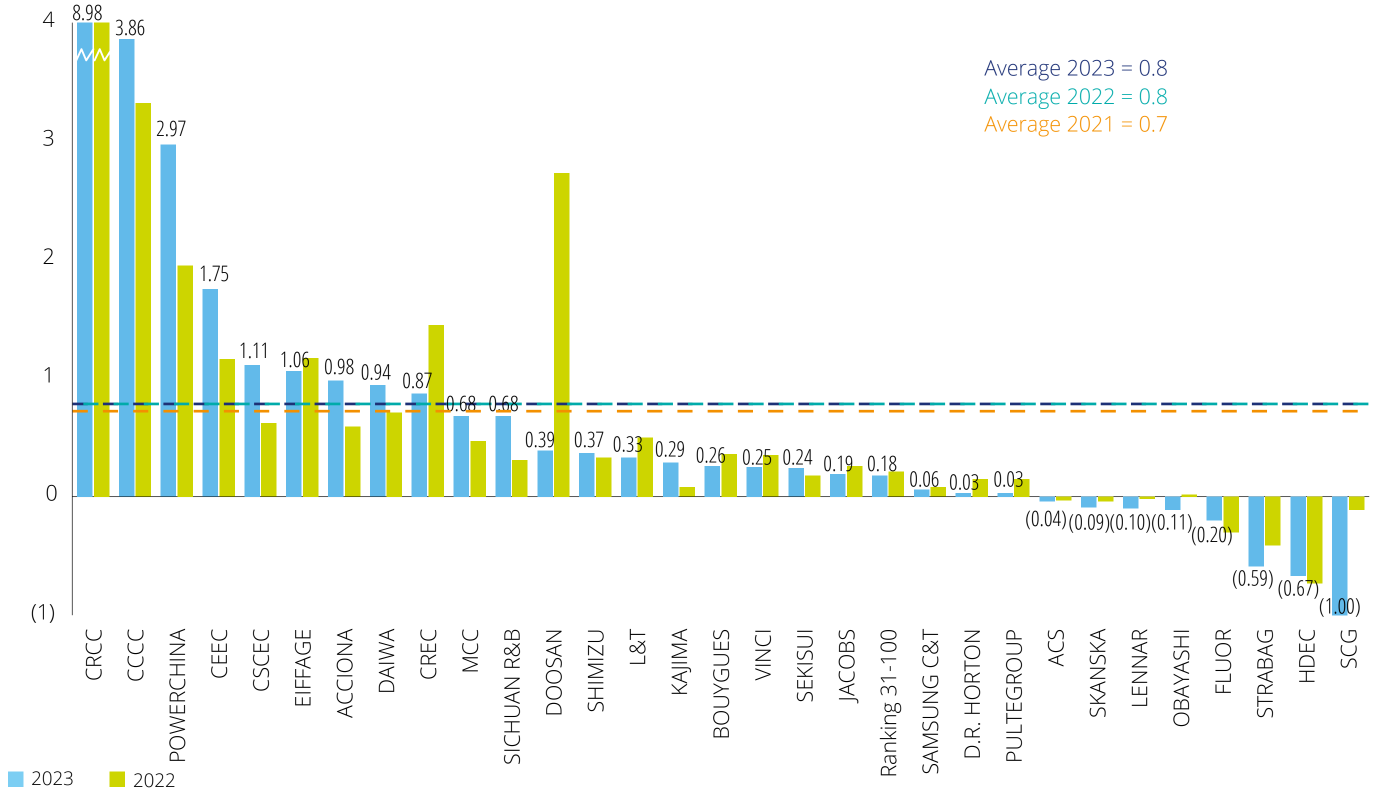
- The GPoC ranked from 31st to 100th showed a lower aggregate ratio as 25 companies reported net cash positions in 2023 (NVR, Taisei, Daito, Barratt, DL E&C, Sinoma, among others).

Net debt/Market capitalization

The following conclusions can be drawn from our analysis of the net debt to market capitalization ratio shown in Figure 6.8:

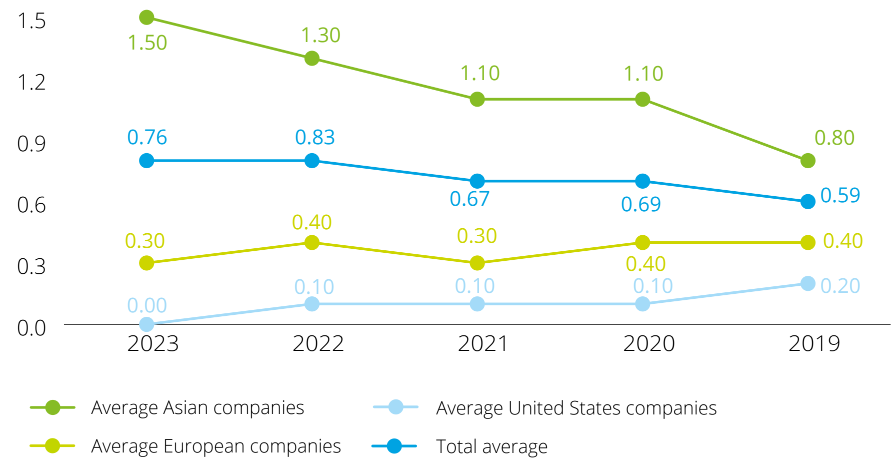
- The net debt to market capitalization ratio remained stable at 0.8 in 2023. Sixteen companies managed to reduce their ratios. Among them, Doosan reduced from 2.7 in 2022 to 0.4 in 2023 as its net debt dropped significantly partially explained by USD 317 million proceeds from the successful initial public offering (IPO) of Doosan Robotics, which was one of the largest IPOs of the year in the Korean stock market.
- The ranking is led by five Chinese companies: China Railway Construction, China Communications Construction,

Figure 6.8: Top 30 GPoC Net debt / Market capitalization



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Figure 6.9: Net debt / Market capitalization



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

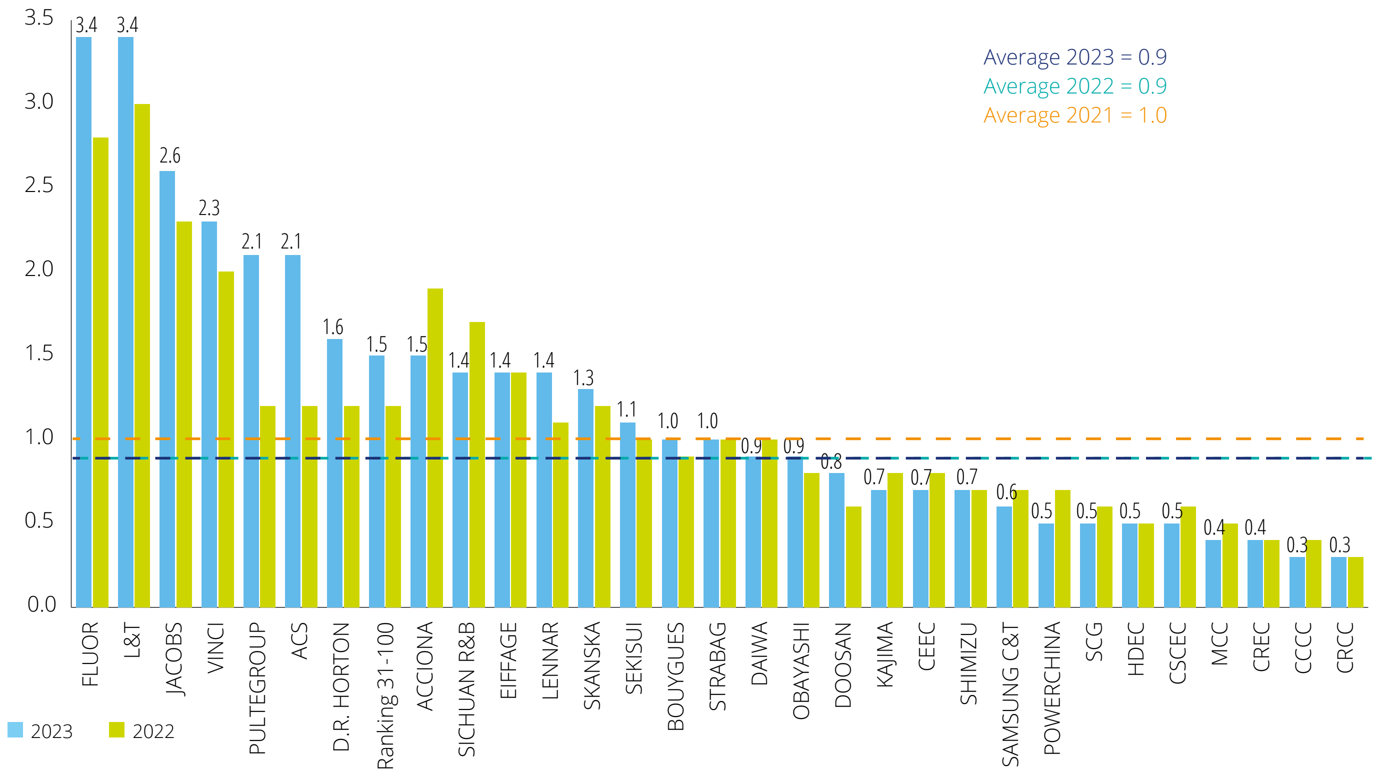
Power Construction, China Energy Engineering and China State Construction. All of these companies also trade at a discount to book value in the stock markets (Figure 6.10).

Market capitalization/Book value

The most noteworthy matters arising from the analysis of the market capitalization to book value ratio (see Figure 6.10) are as follows:

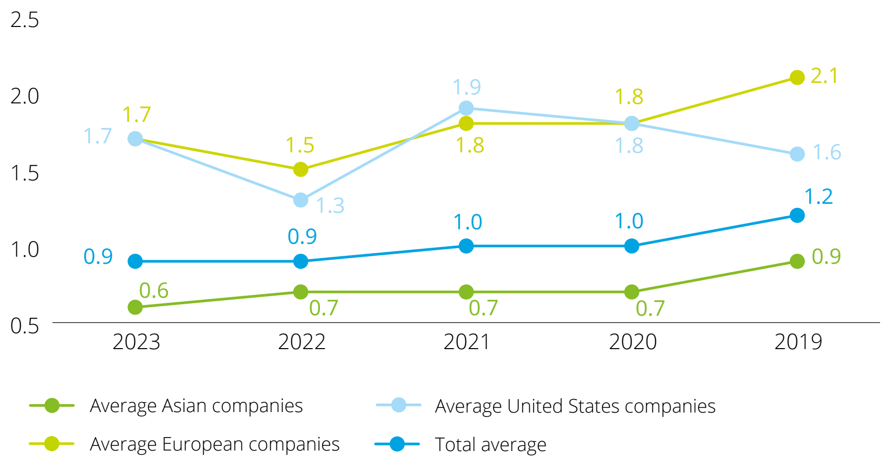
- On aggregate, the Top 30 GPoC traded at a discount to book value for two years in a row (see Figure 6.11). By entities, only 16 groups reported higher market capitalization than book value. Those GPoC ranked between 31st and 100th showed a solid position as the ratio reached 1.5x in 2023.
- Both the US-based GPoC and the European GPoC reported a market capitalization to book value ratio of 1.7x, above the 2022 figures, as a result of strong performance in the stock markets. The Asian-based GPoC have traded at a discount to book value in the last five years (see Figure 6.11).
- In 2023 this ranking was headed by Fluor and closely followed by Larsen & Toubro, whose market capitalization increased by 35% and 13%, respectively. The divestments of non-strategic assets and the positive operational results of its

Figure 6.10: Market Capitalization / Book Value



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Figure 6.11: Market Capitalization / Book Value



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

core construction business resulted in a strong performance in the stock markets by Fluor. The Top 5 is completed by Jacobs, VINCI and Pultegroup.

- If it was not for Sichuan Road and Bridge, all the Chinese GPoC would be trading at a discount to book value in 2023. The Top 5 GPoC by sales, all from China, reported market capitalization to book value ratios of 0.5x or less.

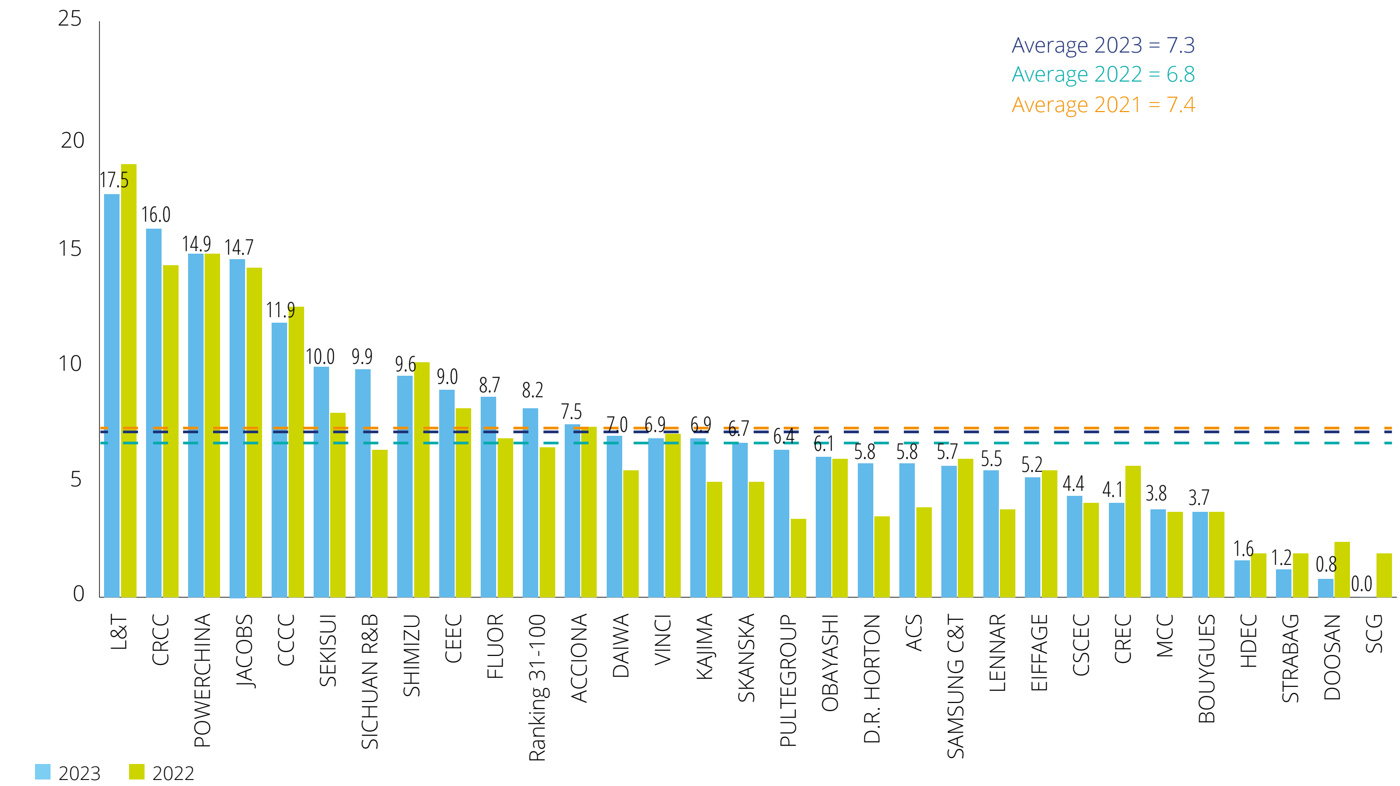
Enterprise value/EBITDA

The average enterprise value/EBITDA multiple (see Figure 6.12) increased by 0.5 points to 7.3x in 2023, due to a 9.8% increase in enterprise value partially offset by a 2% increase in EBITDA. Six groups reported ratios above 10x, 15 between 5x and 10x and 8 GPoC reported enterprise value to EBITDA ratios below 5x. The GPoC ranked from 31st to 100th showed an enterprise value/EBITDA ratio of 8.2x.

By geographical area, the enterprise value for the Asian-based GPoC represented more than 8x EBITDA, while the differences between the ratios reported by the US- and European-based companies are not particularly significant.

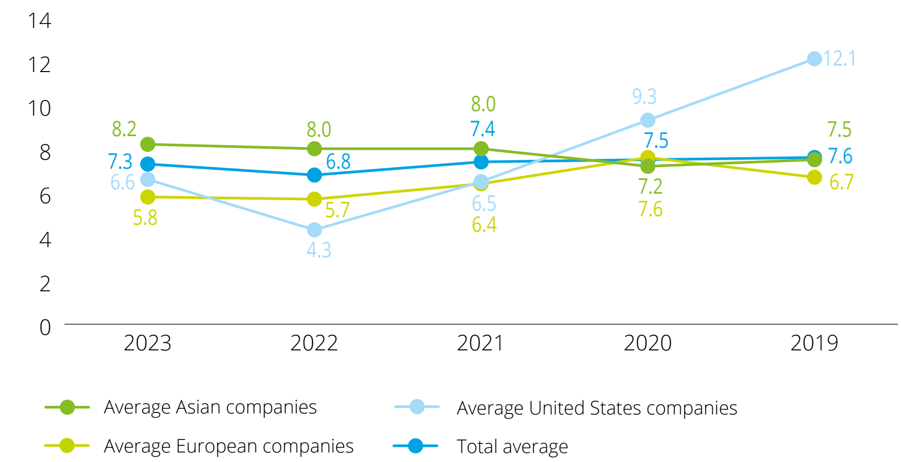
This ranking is headed by Larsen & Toubro and followed by China Railway Construction, PowerChina and Jacobs, all of which reported ratios above 14x. At the

Figure 6.12: Top 30 GPoC. Enterprise value/EBITDA



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Figure 6.13: Enterprise value/EBITDA



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

other end of the spectrum, companies such as Shanghai Construction, Doosan and Strabag have similar EBITDA and enterprise values.

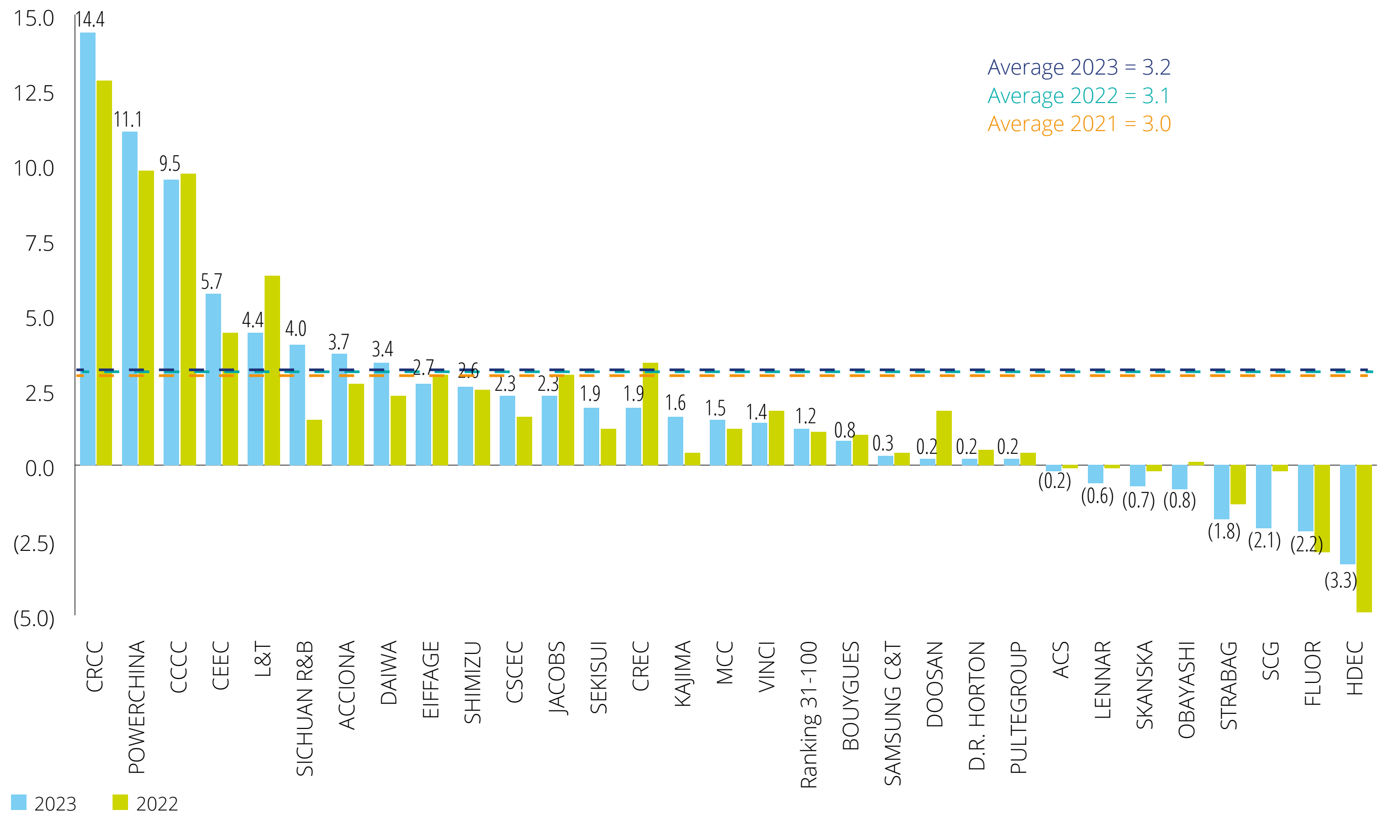
Net debt/EBITDA

The Top 30 GPoC reported an average net debt/EBITDA ratio of 3.2x in 2023, 0.1 points above the 2022 figure (see Figure 6.14), due to a 5.1% increase in net debt partially offset by a 2.1% increase in EBITDA. The ratio has increased by 0.4x since 2019 (see Figure 6.15). The GPoC ranked from 31st to 100th obtained an aggregate net debt/EBITDA ratio of 1.2.

As mentioned in the previous analysis, the Asian groups reported higher net debt related ratios while the US groups reported the lowest. The European-based GPoC managed to reduce the net debt/EBITDA ratio by 0.2 points in 2023, as a result of an improvement in both net debt and EBITDA.

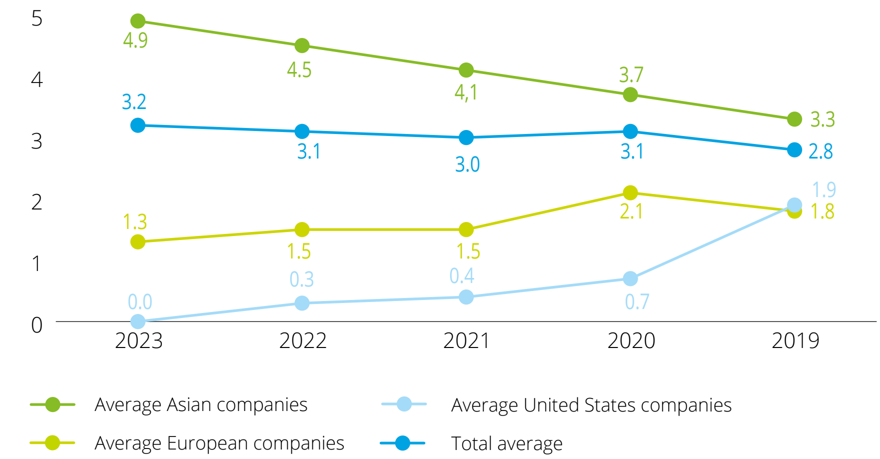
China Railway Construction Corporation, PowerChina, and China Communications Construction led this ranking in both 2023 and 2022.

Figure 6.14: Top 30 GPoC, Net debt/EBITDA



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Figure 6.15: Net debt/EBITDA



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Eight groups achieved ratios below zero as a result of the cash surpluses they held at the end of the year while five groups reported ratios below 1. None of the entities under review reported negative EBITDA.

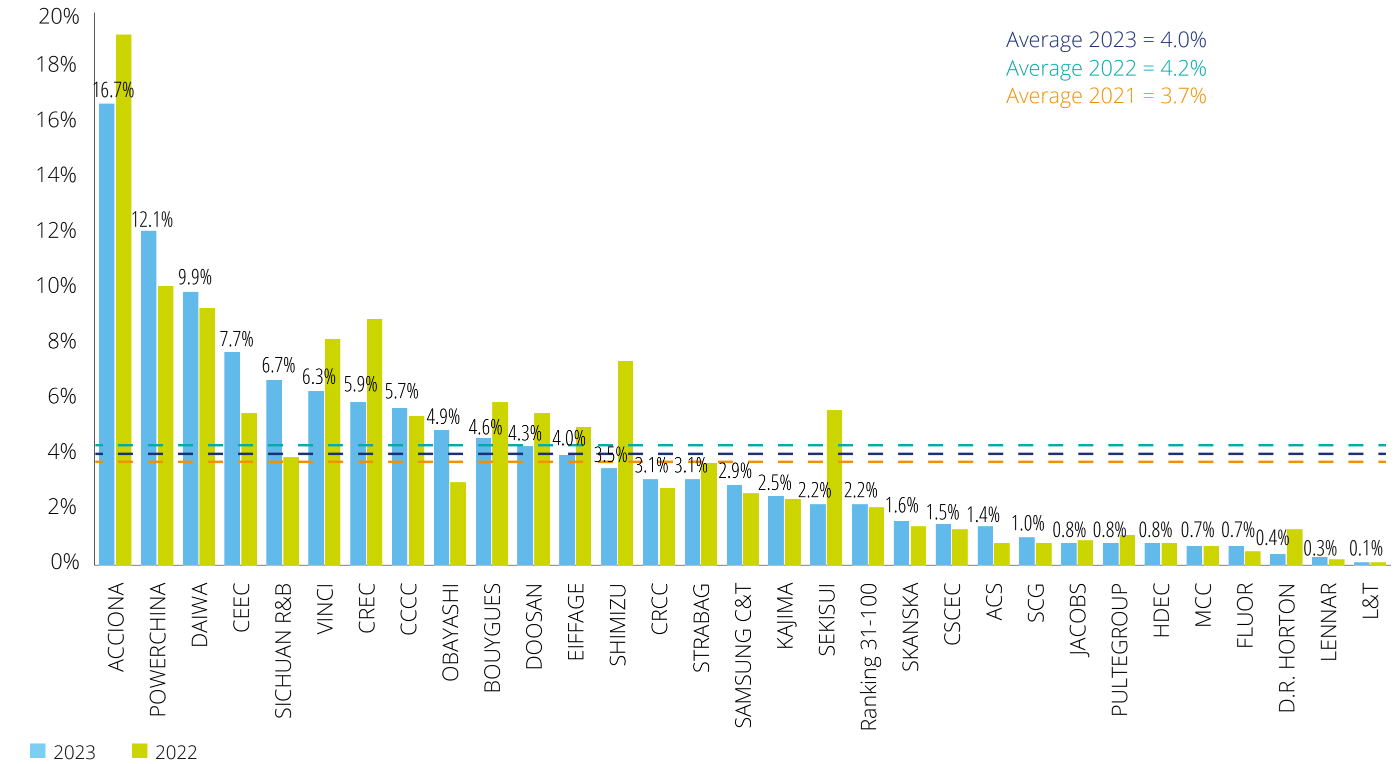
Capital expenditure/Sales

The average capital expenditure/sales ratio reported by the Top 30 GPoC was 4.0% in 2023, compared to 4.2% in 2022. Over the last five years the lowest ratio was achieved in 2021 (3.7%), and the highest in 2020 (4.6%).

Diversified groups report higher capital expenditure related to their non-construction activities, such as concessions and renewable energy projects. Accordingly, Acciona, VINCI and Bouygues, which are among the most widely diversified GPoC, were ranked in the Top 10, while US-based homebuilders reported a below-average ratio of 0.4% in 2023.

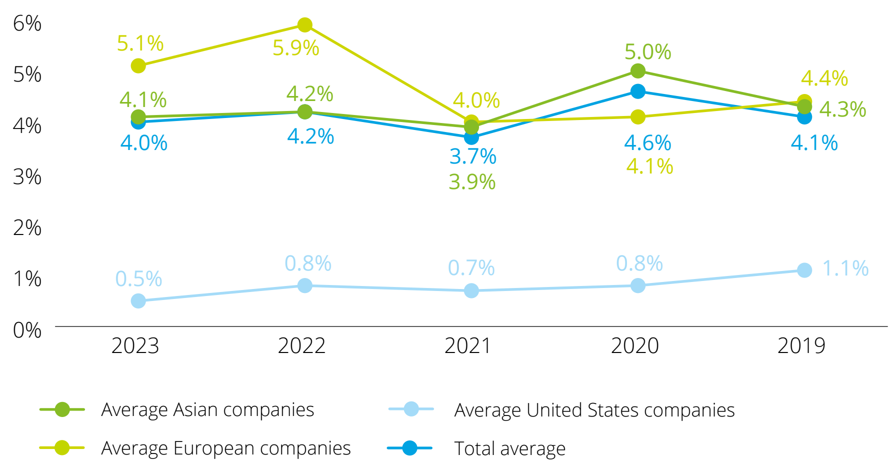
The GPoC ranked from 31st to 100th reported an average ratio of 2.2%. While Mota Engil and Ferrovial showed a ratio higher than 7% mainly as a result of their concession businesses, 49 companies reported a below-average ratio in 2023.

Figure 6.16: Top 30 GPoC, Capital expenditure/Sales



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Figure 6.17: Capital expenditure/Sales



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Dividend yield

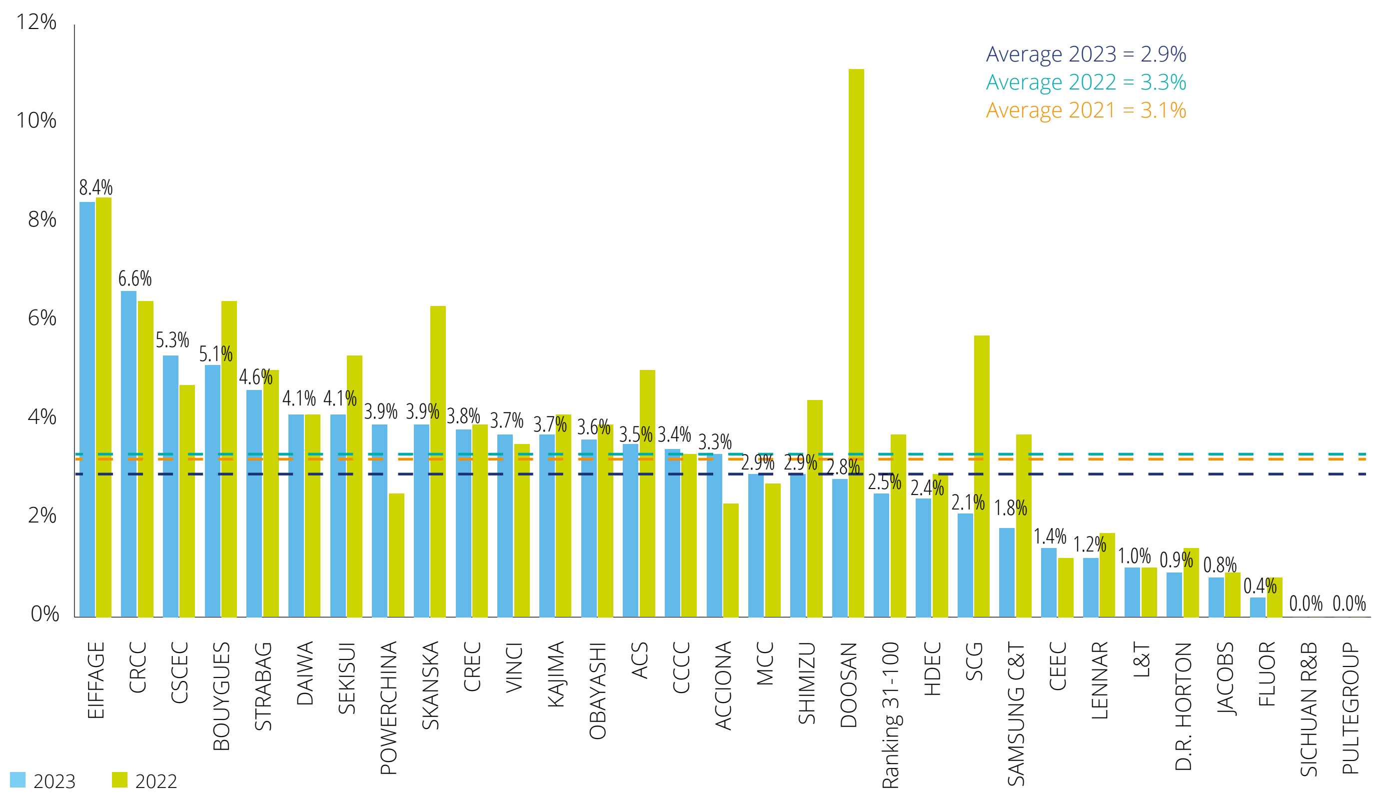
The Top 30 GPoC dividend yield analysis showed a decrease of 0.4 p.p. to 2.9% in 2023 from 3.3% in 2022 (see Figure 6.18). Despite a 14% increase in market value, year-on-year dividend distributions remained stable. The GPoC ranked from 31st to 100th had a similar dividend yield.

By geographical area, the US-based GPoC have remained stable with a 1% dividend yield since 2019, while European and Asian groups reported dividend yields of 4.2% and 3.2%, respectively, in 2023 (Figure 6.19).

Three European groups are ranked in the Top 5: Eiffage, Bouygues and Strabag.

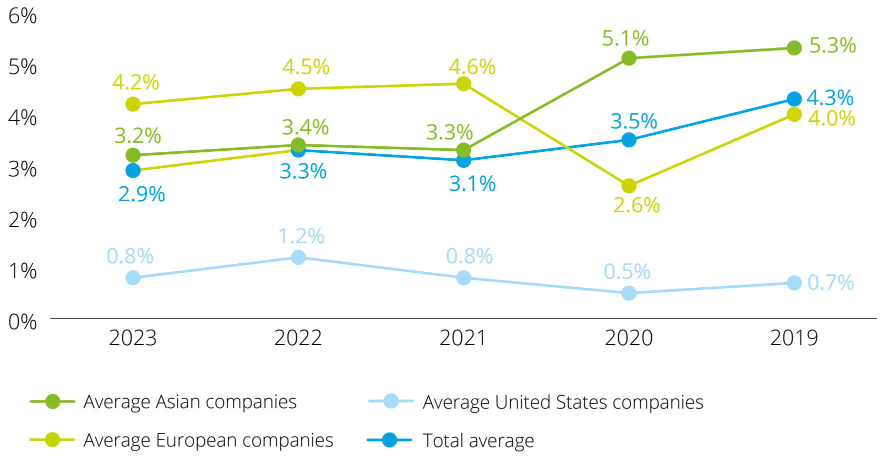
Homebuilders, which are among the most profitable in terms of the net income margin, prioritize reinvesting their profits back into the business to fuel growth. By reinvesting earnings, these companies aim to expand their market share and increase long-term shareholder value through capital appreciation rather than high dividend payouts.

Figure 6.18: Top 30 GPoC, Dividend Yield



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Figure 6.19: Dividend Yield



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

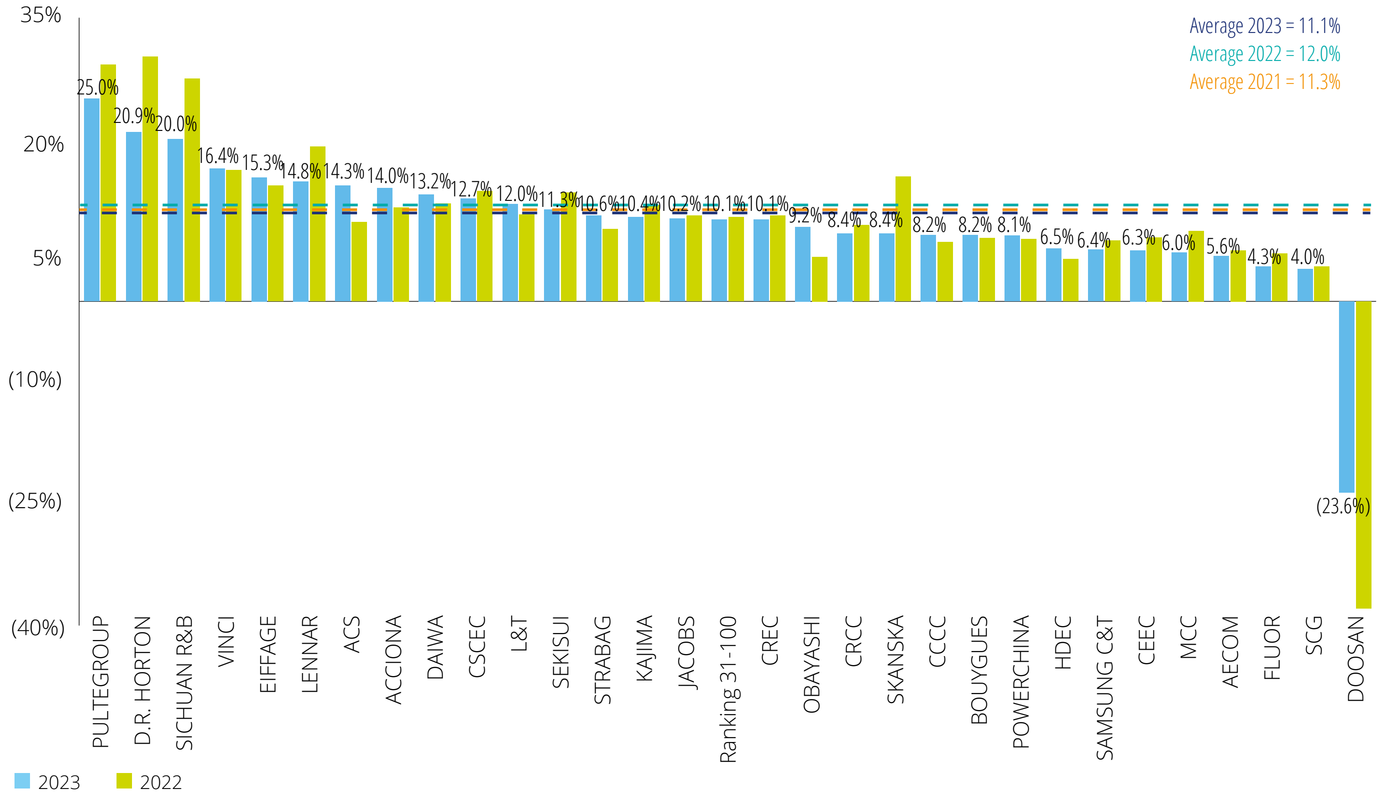
Return on Equity (ROE)

The Top 30 GPoC aggregate ROE decreased from 12.0% in 2022 to 11.1% in 2023 (Figure 6.20), which was the result of a combination of an 8% increase in book value and 1% decrease in net income attributable to shareholders. Similar ratios were reported by the 31st to 100th GPoC.

Twelve groups reported above-average ROE, while Doosan reported net losses attributable to shareholders mainly due to USD 240 million impairment of assets incurred in 2023.

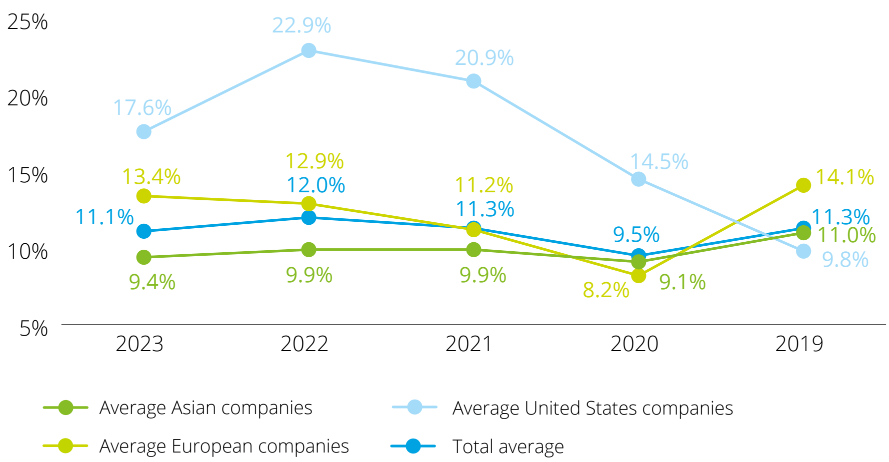
Pultegroup and D.R. Horton headed this ranking since homebuilders usually report higher operating margins. Sichuan Road and Bridge completes the Top 3. More diversified companies, such as VINCI, Eiffage, ACS and Acciona, were in the Top 10 as their non-construction operations are more profitable than their construction activity.

Figure 6.20: Top 30 GPoC, Return on Equity



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Figure 6.21: Return on Equity



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Comparison Top 30 GPoC vs 31st to 100th GPoC

Collectively, 31st to 100th GPoC financials present some differences with the Top 30 GPoC:

- Higher profitability ratios, both in terms of EBIT margin (7.0% vs 5.7%) and net income margins
- Lower leverage ratios, both in terms of Net debt/Net debt & Equity (20.3% vs 35.1%), net debt/market cap (02x vs 0.8x) and net debt/EBITDA (1.2x and 3.2x)
- Higher market cap/book value ratios (1.5x vs 0.9x) and EV/EBITDA ratios (8.2x vs 7.3x)
- Lower capex/sales ratio (2.2% vs 4.0%)
- Similar dividend yield (2.5% vs 2.9%) and ROE ratios (10.1% vs 11.1%)
- Lower diversification ratio (24.2% of non-construction sales vs 24.7%) and higher internationalization ratio (30.2% of sales obtained abroad vs 18.4%).

The different levels of diversification and internationalization of the 31st to 100th GPoC are a root cause of some of the differences in their financial ratios as compared to the Top 30 GPoC. However, higher leverage ratios, usually derived from non-construction activities, do not appear to be consistent with lower profitability, EBITDA and market capitalization ratios, which are usually obtained higher by more diversified companies.

Geographical and portfolio diversification of the GPoC

Global trends such as rapid urbanization and decarbonization of the economy represent a huge opportunity for our GPoC to go overseas but also to add new activities to their portfolio in addition to the traditional construction business. Internationalization and diversification enable our GPoC to balance risks, which is critical given the uncertainties that surround the short-term macroeconomic outlook. In 2023, revenue from non-construction activities and international sales of our GPoC represented 25% and 18%, respectively (24% and 17% in 2022). European groups continued to lead the diversification and internationalization ranking, as opposed to China- and US-based GPoC.

Diversification

Non-construction activities performed by the GPoC are characterized by more predictable revenues and higher operating margins than construction activities. From 2019 to 2023, the EBIT margin from activities other than construction remained in the range of 0.6 to 2.1 p.p. above the traditional business (Figure 6.2). Moreover, business diversification leads to higher indebtedness as renewable energy projects and concession businesses, among other diversified operations, require significant initial capital investment.

In 2023, 75% of total sales reported by our Top 30 GPoC were obtained from construction activities, in line with previous years. This trend does not differ significantly from the data reported by those GPoC ranked from 31st to 100th (76%). European-based GPoC lead this ranking in relative terms (43%) while Asia- and US-based GPoC reported non-construction sales of 22% and 14%, respectively.

The non-construction activities of our GPoC enable us to draw the following conclusions:

Real estate

This is one of the most common diversification businesses among our GPoC as it complements construction, allowing companies to offer integrated services from building to managing properties. Real estate activities often lead to higher value creation through long-term property appreciation and recurring income. Some of the most significant GPoC that have diversified operations to real estate are as follows:

- US-based GPoC, D.R. Horton, Lennar, and PulteGroup remain the largest players in the real estate business. These companies provide services from homebuilding to delivering homes to end customers but differ in the way they approach the market. D.R. Horton focuses on a broad market, offering homes in various price bands to attract first-time, move-up and luxury buyers. Lennar leverages its multifaceted business model, including mortgage and title services, to enhance the customer experience. PulteGroup targets diverse buyer segments through multiple brands like Pulte Homes, Centex and Del Webb.

  In terms of number of homes delivered, the ranking is led by D.R. Horton as it delivered about 83,000 homes in 2023 while Lennar and Pultegroup delivered about 73,000 and 29,000 units, respectively.

- The Japanese companies Daiwa House and Sekisui House are also well considered homebuilders. Daiwa House operates across five real estate segments: single-family homes, build-to-rent homes, condominiums, commercial facilities, and logistics and corporate facilities. Daiwa House reported strong performance in 2023, with a year-on-year increase in sales of 106%. Sekisui House reported a 6% increase in total sales.

- Among the Chinese GPoC, China State Construction Engineering reported revenue of USD 63,749 million from its real estate development activities, out of total non-construction sales of USD 124,530 million. China Railway Construction, China Railway Group and Metallurgical Corporation of China, among others, also carry weight in the Asian real estate market.

- In Europe, Skanska is the only GPoC group that has reported a significant volume of sales within the segment, while Strabag, Bouygues or ACS, among other European groups, have a residual presence in the real estate business. 2023 was a tough year for Skanska´s real estate business, particularly in the US market where profitability went down primarily due to property value write-downs.

  A decrease in interest rates in the short and medium-term could boost transactions in the coming years.

Industrial services

This segment is a broad field of activity that includes engineering services as well as the installation and maintenance of energy, transport and industrial infrastructure. It is therefore, one of the broadest non-construction activities across our GPoC. The most significant players in this field are Asian- and European-based GPoC:

- French groups, VINCI, Bouygues and Eiffage lead this segment of operations. In 2023, the most valuable contractor in the world recorded sales related to energy and industrial services amounting to USD 27,888 million through VINCI Energy and Cobra IS (year-on-year increase of 18.8%). The order book registered a record high of close to USD 31 billion, driven by worldwide energy transition needs. As an example of VINCI's commitment to renewable energy, it reported 2GW of capacity in operation or under construction at year-end and a total portfolio of 15 GW under development. Similarly, the integration of Equans, an energy services provider, in Bouygues in October 2022 led to the reporting of USD 20,262 million in sales obtained from this activity. The reported backlog amounted to almost USD 27 billion. This division includes the design and delivery of customized technical and environmental solutions for infrastructure, manufacturing facilities and urban environments. Last but not least, Eiffage reported sales of USD 15,035 million from the infrastructure and energy systems divisions. The order book registered a significant increase to above USD 22.5 billion due to different acquisitions made in the energy services provider industry as well as to the award of two major tender bids, Penly EPR2 reactors (USD 4.3 billion) and Grand Paris Express Ligne (USD 2.75 billion). Other European-based GPoC also have a presence in this industry.

- In Asia, Samsung C&T reported a 13% increase in sales (USD 17,284 million) related to this segment. Also, the Indian group Larsen & Toubro reported sales of USD 8,988 million related to energy projects and hi-tech manufacturing facilities. Lastly, China Communications Construction reported sales of more than USD 6,970 million from its infrastructure design business, which involves comprehensive services relating to planning, design and consulting for a wide range of infrastructure projects. It reported a backlog at year-end of USD 19,209 million, thereby strengthening its position as the leading company in China.

- The US-based GPoC Jacobs reported revenue of USD 9,554 million for its People & Places Solutions division, which is focused on infrastructure modernization and energy transition solutions.

Concessions

Public-private partnerships (PPPs) might be used as a mechanism for government to procure and implement public infrastructure by granting private investors the opportunity to finance and operate such infrastructure. This activity is characterized by sustained cash flows, but also by strong initial capital investments and, accordingly, financing requirements. European-based GPoC lead the concessions business while the US- and Asian-based groups are yet to diversify their operations toward this activity:

- VINCI is the European leader in the concessions business through its autoroutes and airports divisions, which reported sales of USD 11,807 million. 2023 was the year in which pre-pandemic traffic levels were to a large extent exceeded. While the autoroutes division manages a network of 4,443 km in France, VINCI Airports operates more than 70 airports in 13 countries. The transformation of motorways and airports into low-carbon infrastructures represents a huge opportunity for the group's long-term strategy.

- ACS reported strong performance in the concession activity in 2023. ACS´s presence in the sector is mainly driven by its 50% non-controlling stake in Abertis, a Spanish-based entity that operates more than 8,000 km of highway concessions in the Americas, Asia and Europe. Iridium manages more than USD 34 billion investments in concessions. Reported EBIT from these two concessions businesses amounted to USD 312 million, which represents a 38.6% increase in 2023. The presence within the sector is completed by Hochtief PPP Solutions, which has a portfolio of 35 infrastructure projects.

- Other European players, such as Eiffage and Strabag have extensive experience in concession activities. Eiffage reported USD 3,391 million in sales from transport infrastructure operations (a year-on-year increase of 9.2%). Strabag's total equity investment in concession projects amounted to close to USD 600 million at year-end.

Other non-related activities

GPoC groups have also been able to develop businesses that are not related to the construction industry cycle:

- China Railway Construction owns 1.33 million square meters of logistics sites, over 40,000 square meters of railway lines and 32,550 cubic meters of oil storage capacity to support its core business and improve efficiency. Reported sales amounted to USD 13,539 million.

- Bouygues has a major presence in the media and telecom sectors. Bouygues' TF1 reported sales of USD 2,481 million in 2023, 8% below the figure for 2022. In addition, Bouygues Telecom reported USD 8,345 million in 2023, 3% above the figure for 2022.

- Larsen & Toubro's Financial Services division reported USD 1,566 million in sales, which represents about 7% of total sales. Larsen & Toubro offers a diverse set of financial products and services encompassing mutual funds, infrastructure finance and home loans, among others.

Internationalization

Many construction companies focus on international expansion as a corporate strategy to sustain growth and diversify risks. Internationalization reduces dependency on local markets, provides access to high growth markets and facilitates the benefits from economies of scale. However, internationalization often comes with risks and difficulties in adapting from local to overseas business models due to different regulatory frameworks, cultural differences, or new contractual models, among others. Companies need to carefully assess these factors, implement solid risk management policies and adapt to the unique challenges of each market to succeed globally.

The international growth of our GPoC is driven by both organic strategies such as project-based expansion and local partnerships and by inorganic strategies such as acquisitions and mergers. Our Top 30 GPoC obtained 18.4% of total sales overseas in 2023, 1.3 p.p. above the GPoC figure for 2022 (Figure 3.1). European companies lead this ranking (63%), although in recent years Asian companies have expanded to the Americas, Asia & Oceania and Africa (11%). The US-based GPoC reported 9% of total sales from abroad. While Jacobs and Fluor show a significant international presence (33% and 32.1%, respectively), the US-based homebuilders are focused on the domestic market.

In relative terms (Figure 7.0), the most internationalized contractor is ACS, whose overseas operations represented 91% of total sales. As in 2022, the Top 3 is completed by Stragbag (84%) and Skanska (77%). The first non-European based GPoC ranked is China Communications Construction Group, placed in 4th position. In contrast, the US homebuilders are placed in the last five places.

Total international sales reported in 2023 amounted to USD 300,790 million. The top 3 in terms of volume is headed by VINCI and followed by ACS and Bouygues. China Communications Construction and China State Construction Engineering are ranked 4th and 5th, far behind the European groups (Figure 3.1).

A summary of the presence of our GPoC by region, excluding companies that only operate in their domestic markets, is as follows (Figure 7.0):

Europe

Sales reported in Europe by our GPoC amounted to USD 83,653 million, excluding domestic revenues for the European-based GPoC. VINCI, Bouygues and Strabag lead the presence of our Top 30 GPoC in Europe. Excluding their national operations, all of them reported sales above USD 15,000 million:

- VINCI's total sales in Europe, excluding France, amounted to more than USD 25,500 million. Its operations are mainly located in the United Kingdom, Germany and Spain and sales amounted to USD 6,422 million, USD 5,202 million and USD 3,728 million, respectively. Airport concession operations, communication infrastructure deployment, maintenance of roadways, and large EPC projects are some examples of VINCI's operations in Europe.

- Bouygues' sales in the region, excluding France, amounted to USD 17,834 million in 2023. Some of the most significant projects under execution are located in the United Kingdom such as the Hinkley Point C nuclear power station and the high-speed rail line connecting Birmingham to Manchester. Other projects in the region, such as Northvolt´s battery gigafactory in Sweden, which aims to produce sustainable batteries, highlight Bouygues' commitment to the energy transition.

- Strabag's sales in the region, excluding Austria, amounted to USD 15,019 million in 2023. Germany is still its most important market in Europe, with reported sales of USD 9,769 million. The order backlog in Germany amounted to USD 13,450 million at the end of the year. One of the flagship contracts under execution in Europe is High Speed 2 (HS2) in the United Kingdom. Strabag, as part of a joint venture with, among others, Skanska, is responsible for the production of 36,000 precast concrete segments for the London tunnels of HS2.

The Americas

The presence of the Top 30 GPoC 2023 in the Americas is once again dominated by European groups: ACS, Vinci, Bouygues, Skanska and Acciona. Asian companies, such as Doosan, Samsung C&T and Larsen & Toubro also reported significant operations in this region:

- ACS is the largest international contractor among our GPoC in the Americas. International sales exceeded USD 23,800 million in 2023 (62% of total sales). Operations in this region are focused on the United States and Canada, mainly through its Turner, Flatiron and Dragados subsidiaries, which have been boosted by an unprecedented phase of investment from public programs and decarbonization efforts. The USD 2.84 billion Pearl Harbor base contract awarded by the Pentagon and Panasonic's 30GW battery manufacturing plant are two significant milestones achieved by ACS in 2023. The group's backlog in North America amounts to USD 38,536 million.

- VINCI has consolidated as the largest international contractor in absolute terms among our GPoC. VINCI reported sales of USD 10,513 million in this region, representing 14% of total sales, mainly through its industrial subsidiary, Cobra IS, and VINCI Airports. Cobra IS has a significant presence in Brazil, having executed the construction of more than 30,000 km of high-voltage power lines in the past 20 years. In 2023, VINCI Airports expanded operations in the

Americas through the completion of the acquisition of a 29.99% stake in the Mexican airport operator company named Grupo Aeroportuario del Centro Norte (OMA) for a total amount of USD 1.17 billion. This company operates 13 airports located in northern and central Mexico. Lastly, it should be noted that the civil construction division has a strong presence in the United States and Canada with revenue in 2023 totalling USD 1.5 billion and USD 1.1 billion, respectively.

- Bouygues reported USD 8,364 million in this region in 2023. Overall, the United States market´s growth potential, coupled with Bouygues' strategic initiatives, positions it as a key focus area for the company´s future expansion not only for the traditional construction business but also for other business lines. As an example, Equans, its energy division, is involved in the DC Smart Street Lighting project in Washington D.C., which is considered the largest urban streetlight modernization project in the United States.

- Other European-based GPoC, such as Skanska and Acciona, reported USD 6,791 million (43% of total sales) and USD 3,826 million (21% of total sales), respectively, in the Americas in 2023. Their operations are boosted by the largest infrastructure investment authorized in the history of the United States, the Infrastructure Investment Jobs Act, and renewable energy project opportunities.

- Doosan, which ranked 5th in the Americas in terms of absolute sales, reported USD 6,064 million in 2023. Its main international market is the United States through its compact equipment division, Bobcat. Samsung C&T and Larsen & Toubro reported USD 4,397 million and USD 3,550 million, respectively, in the region in 2023.

Middle East, Asia and Oceania
ACS, Samsung C&T and VINCI lead international sales in this region:

- Total sales reported by ACS in this region amounted to USD 7,819 million, about 20% of total sales. ACS operates principally in Australia through CIMIC, which reported USD 21,066 million on its order book. Some of the flagship projects across the region are the Humelink Power Transmission project in New South Wales, a high-voltage infrastructure for a battery energy storage system provided by Tesla in Brisbane, and the Sydney Harbour Metro.

- Despite the fact that sales in the region went down by 35% in 2023, Samsung C&T is still a significant player across the region with total revenue of USD 4,891 million in this region. It is executing a diversified portfolio of contracts from infrastructure mega projects such as the Riyadh Metro or the WestConnex motorway in Australia to renewable energy plants, particularly green hydrogen.

- VINCI reported sales of approximately USD 4,000 million in this region in 2023. VINCI Construction has major operations in New Zealand and Australia, where it obtained USD 1.4 billion (15.5% above 2022). In addition, the company has, through its subsidiary Cobra IS, significant contracts for the construction of transmission lines in New South Wales which will increase the group's presence in the region.

Africa

Total sales reported by our GPoC in 2023 amounted to USD 8,284 million. Hyundai E&C and VINCI lead sales in the region:

- Although Chinese companies usually do not disclose the geographical breakdown of their international sales, these groups are a dominant force in the African construction industry, driven by China´s strategic economic interests and facilitated by substantial financial backing from Chinese banks. Africa is the largest market for China's overseas construction.

- Hyundai E&C reported USD 2,432 million in sales in Africa in 2023. This region is one of the emerging markets selected to expand its operations through strategic cooperation with leading local companies. The main ongoing projects are related to civil infrastructure and petrochemical plants.

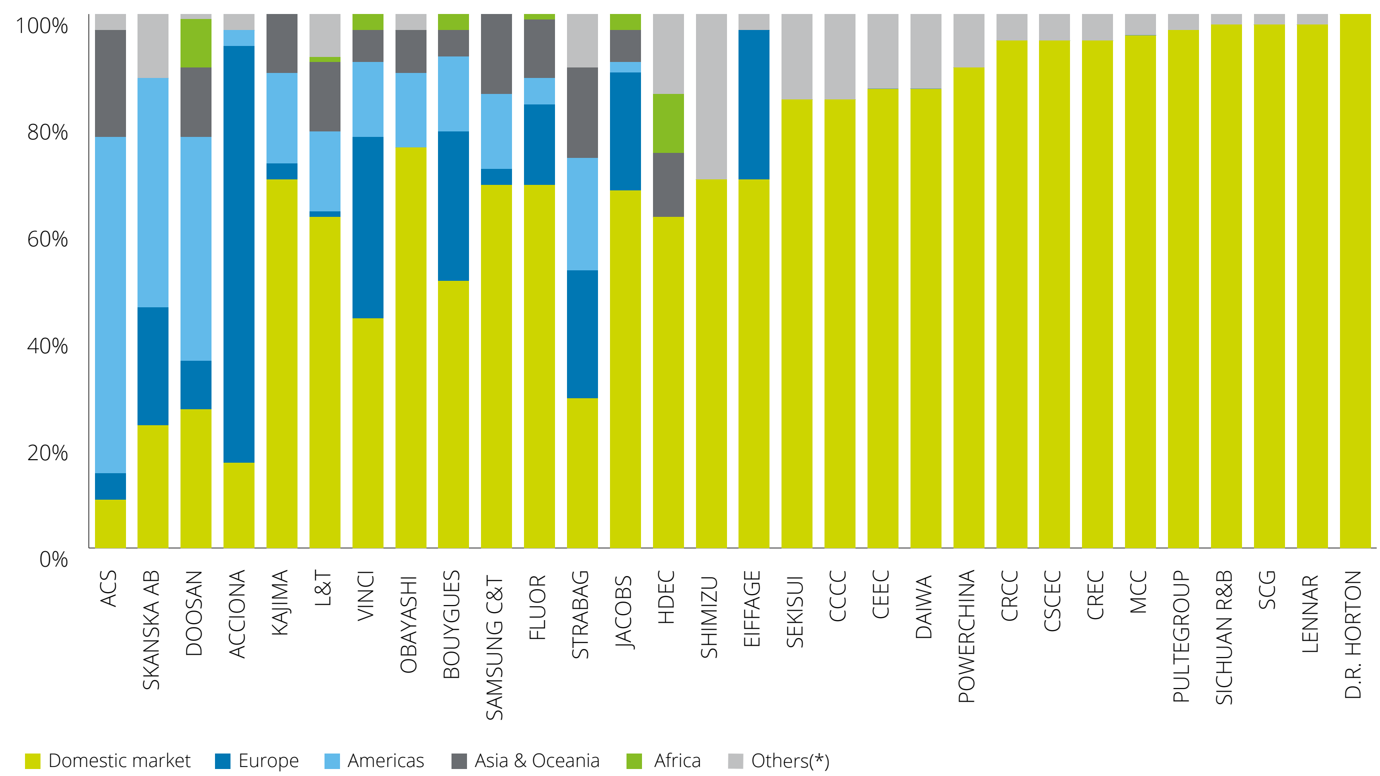
- VINCI reported sales in Africa of approximately USD 2,000 million, a year-on-year increase of 20%. A significant portion of its operations in Africa are carried out by VINCI Construction through its road construction and maintenance business in Côte d'Ivoire, Niger, Chad and Benin; its water works business in Tanzania and Uganda; and its building construction business in Morocco.

Diversification vs internationalization

Based on the different levels of internationalization and diversification achieved by our Top 30 GPoC in terms of total sales (Figure 7.1) four main categories are identified: Domestic and international construction groups and conglomerates, respectively. Additionally, our GPoC groups that are considered to be homebuilders are classified as a separate category. According to our analysis, the financial performance of the companies included in each category share similar patterns that enables us to draw the following conclusions:

- Pure construction activity shows narrow operating margins. Operating profitability among international and domestic construction groups reached 4.2% and 4.0% while international and domestic conglomerates reported 7.8% and 10.9%.

Figure 7.0: Top 30 GPoC Sales by region



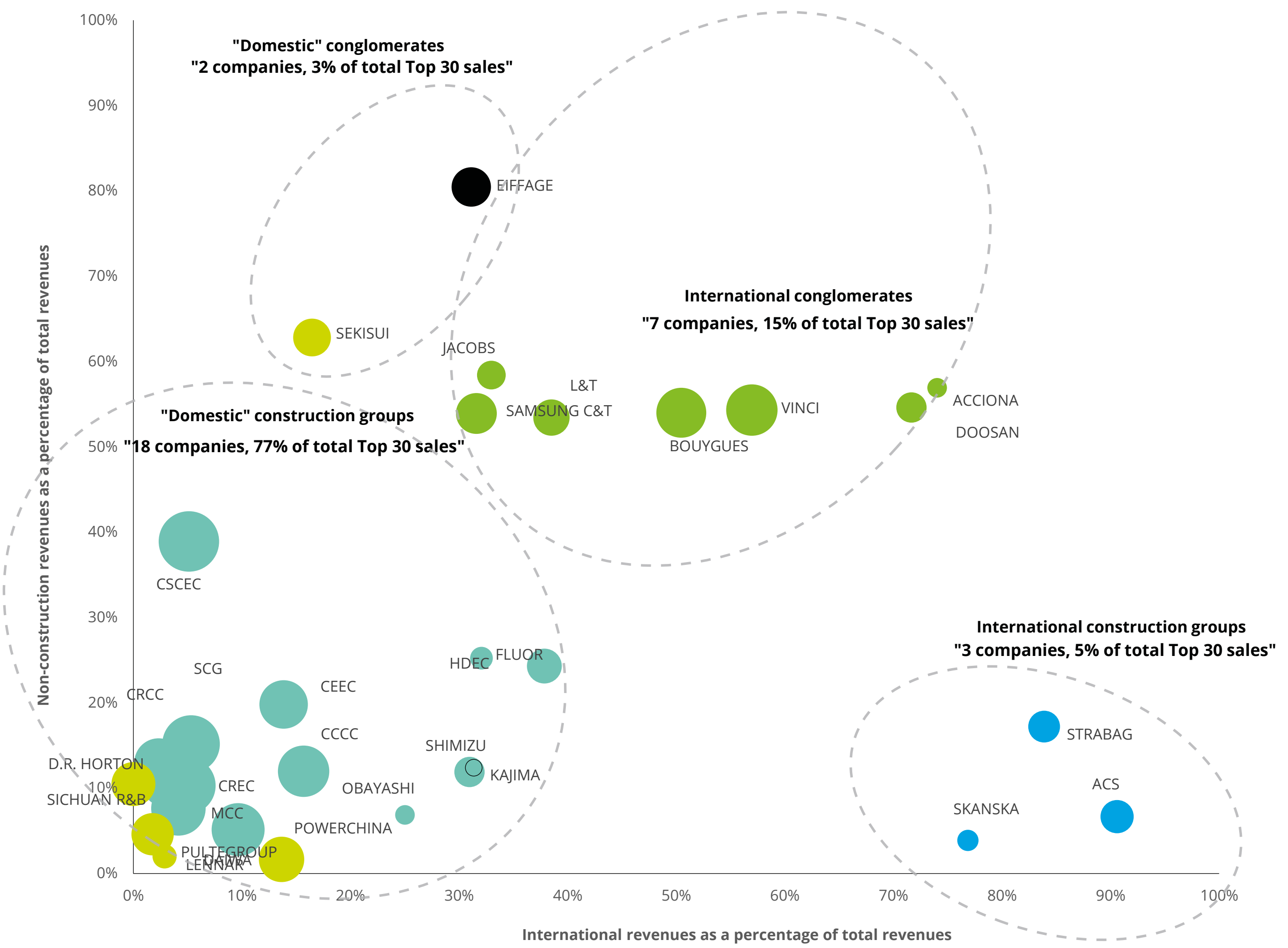
(*) The percentages included in the 'Other' segment were taken from figures that the companies did not disclose in their annual reports or in their financial statements

Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Nevertheless, the highest operating margins in 2023 were again reported by homebuilders (14.4%). In terms of net profit, the conclusions do not vary significantly (Figure 7.2).

- Moreover, non-construction activities related to the construction cycle usually led to higher indebtedness since some of these activities (renewable energies, concessions, etc.) require a significant initial capital investment. International construction groups and domestic construction groups, excluding the Chinese GPoC due to their particular characteristics in terms of indebtedness, reported net cash position. On the other side of the spectrum, international and domestic conglomerates reached 28.4% and 55.5%, respectively. Among the eight GPoC that reported net cash positions in 2023, seven companies are focused on construction activities while one group is a homebuilder. In terms of market capitalization, domestic construction groups is the only category that trade at a book value discount (0.5x) (Figure 7.2).

Figure 7.1: Internationalization vs Diversification



Source: Global Powers of Construction (GPOC) 2023 analysis; company financials

Figure 7.2: Top 30 GPoC Financial Ratios by categories

Types	% International sales	% Non-construction sales	EBIT/Sales	Net income/ Sales	Net debt / Net debt equity	Market cap/ Book value	Net debt/ EBITDA	CAPEX / Sales	Dividend yield	ROE
International construction	85.9%	8.8%	4.2%	2.7%	(30.8%)	1.5	(0.9)	1.9%	3.8%	12.2%
International conglomerates	50.7%	54.6%	7.8%	5.0%	28.4%	1.7	1.6	5.2%	2.7%	10.6%
Domestic construction	8.7%	19.6%	4.0%	3.0%	40.3%	0.5	5.4	4.0%	3.6%	9.3%
Domestic conglomerates	31.1%	80.5%	10.9%	7.0%	55.5%	1.4	2.7	4.0%	8.4%	15.3%
Homebuilder	6.0%	14.4%	15.4%	10.5%	15.2%	1.4	0.7	3.1%	1.6%	16.7%
Top 30 GPoC 2023	**18.4%**	**24.7%**	**5.7%**	**4.0%**	**35.1%**	**0.9**	**3.2**	**4.0%**	**2.9%**	**11.1%**

Study methodology and data sources

Companies were included in the Top 100 Global Powers of Construction based on their total sales for financial years ended in 2023. To be included in the ranking, a company must be publicly traded and the portion of revenue arising from building and civil works must be significant enough to qualify. The Top 100 GPoC ranking by sales was prepared based on information taken from the ENR "Top 250 Global Contractors" ranking and the Forbes "Global 2000" list, filtered by "construction services". We have excluded from these rankings non-listed groups. Listed entities consolidated into a larger group were also excluded from the ranking. Several sources are consulted to prepare the GPoC publication. All the data in this edition were gathered from external sources, such as annual company reports, International Monetary Fund, World Bank, Euroconstruct, European Commission, Forbes and ENR reports. The main data sources for financial and other company information are annual reports and information found in company press releases and fact sheets or on company websites. In order to provide a common base from which to rank companies by their revenue figures, the revenue of non-US companies is converted to US dollars. Exchange rates, therefore, have an impact on the results. The average exchange rate corresponding to each company's fiscal year is used to convert that company's results to US dollars (see "Appendix-Exchange rates"). Group financial results are based only on companies with data. Not all items of data are available for all companies. It should also be noted that the financial information used for each company in a given year is accurate at the original date of issue of the financial report. Although a company may have restated prior year results to reflect a change in its operations or as a result of a change in accounting policy, such restatements are not reflected in this data. This study is not an accounting report. It is intended to provide an analysis of the main financial indicators of the major players within the construction industry and reflect market dynamics and their impact on the industry over a period of time. As a result of these factors, growth rates for individual companies may not correspond to other published results.

Deloitte Global construction and infrastructure group contacts

Region	Name	Telephone	Email
Australia	Jason Thorne	+612 9322 7905	jathorne@deloitte.com.au
Austria	Gabriele Etzl	+43 1 5130913107	getzl@deloitte.at
Belgium	Frédéric Sohet	+ 32 2 639 49 51	fsohet@deloitte.com
Brazil	Eduardo Oliveira	+55 11 5186 1675	eoliveira@deloitte.com
Central Europe	Maciej Krason	+48(22)5110360	mkrason@deloittece.com
China	Lily Lili Yin	+86 10 85125240	lilyin@deloitte.com.cn
Denmark	Lars Kronow	+45 22 20 27 86	lkronow@deloitte.dk
Finland	Sami Laine	+358207555504	Sami.Laine@deloitte.fi
France	Marc De Villartay	+33 1 55 61 27 16	mdevillartay@deloitte.fr
Germany	Michael Mueller	+49(89)290368428	mmueller@deloitte.de
Global	Javier Parada	+34629142071	japarada@deloitte.es
Greece	Alexis Damalas	+302106781310	adamalas@deloitte.gr
India	Hemal Zobalia	+91 22 6185 439	hzobalia@deloitte.com
Ireland	Michael Flynn	+353(1)4172515	micflynn@deloitte.ie
Israel	Doron Gibor	+972 3 7181819	dgibor@deloitte.co.il
Italy	Andrea Muggetti	+39 0283323035	amuggetti@deloitte.it
Japan	Tokio Suzuki	+819064900170	tokio.suzuki@tohmatsu.co.jp
Kenia	Gladys Makumi	+254719039331	gmakumi@deloitte.co.ke
Luxembourg	Amandine Gillet	+352 45145 2179	amgillet@deloitte.lu
Malta	Raphael Aloisio	+35623432700	raloisio@deloitte.com.mt
Middle East	Tim Parr	+971 4 376 8888	tiparr@deloitte.com
Norway	Arne Geir Veglo	+47 900 49 049	gveglo@deloitte.no
Portugal	João Paulo Domingos	+351 210422570	jdomingos@deloitte.pt
	Joaquim Duarte Oliveira	+351962103055	joaqoliveira@deloitte.pt
Romania	Steve Openshaw	+40212075602	steveopenshaw@deloittece.com
South Africa	Jean-Pierre Bernardus	+254719039279	jplabuschagne@deloitte.co.ke
South Korea	Jae Sung Lee	+82 2 6676 2129	jaesunlee@deloitte.com
Spain	Antonio Sanchez-Covisa	+34 914432622	asanchezcovisa@deloitte.es
Sweden	Harald Jagner	+46 73 397 73 81	hjagner@deloitte.se
Switzerland	Karl Frank Meinzer	+41 58 279 8086	kmeinzer@deloitte.ch
The Netherlands	Jurriën Veldhuizen	+31(88)2881636	jveldhuizen@deloitte.nl
Turkey	Erdem Selcuk	+90(212)3666026	eselcuk@deloitte.com
United Kingdom	Nigel Shilton	+44(0)2070077934	nshilton@deloitte.co.uk
United States	Michelle Meisels	+1 213 688 3293	mmeisels@deloitte.com

Appendix-Exchange rates

2023			2022		
Currency	**Date**	**Exchange rate**	**Currency**	**Date**	**Exchange rate**
AED	From 01.01.2023 to 31.12.2023	3.67	AED	From 01.01.2022 to 31.12.2022	3.67
AUD	From 01.07.2022 to 30.06.2023	1.52	AUD	From 01.07.2021 to 30.06.2022	1.38
BAHT	From 01.01.2023 to 31.12.2023	34.78	BAHT	From 01.01.2022 to 31.12.2022	35.05
BRL	From 01.01.2023 to 31.12.2023	4.99	BRL	From 01.01.2022 to 31.12.2022	5.16
CAD	From 01.01.2023 to 31.12.2023	1.35	CAD	From 01.01.2022 to 31.12.2022	1.30
CHF	From 01.01.2023 to 31.12.2023	0.90	CHF	From 01.01.2022 to 31.12.2022	0.96
CLP	From 01.01.2023 to 31.12.2023	838.79	CLP	From 01.01.2022 to 31.12.2022	870.74
CNY	From 01.01.2023 to 31.12.2023	7.08	CNY	From 01.01.2022 to 31.12.2022	6.73
	31.12.2023	7.10		31.12.2022	6.90
CRORE	From 01.01.2023 to 31.12.2023	82.57	CRORE	From 01.01.2022 to 31.12.2022	78.58
DKK	From 01.10.2022 to 30.09.2023	6.98	DKK	From 01.10.2021 to 30.09.2022	6.89
EUR	From 01.01.2023 to 31.12.2023	0.92	EUR	From 01.01.2022 to 31.12.2022	0.95
	31.12.2023	0.90		31.12.2022	0.94
GBP	From 01.01.2023 to 31.12.2023	0.81	GBP	From 01.01.2022 to 31.12.2022	0.81
	From 01.05.2022 to 30.04.2023	0.83		From 01.05.2021 to 30.04.2022	0.74
	From 01.07.2022 to 30.06.2023	0.83		From 01.07.2021 to 30.06.2022	0.75
	From 01.08.2022 to 31.07.2023	0.82		From 01.08.2021 to 31.07.2022	0.76
HKD	From 01.01.2023 to 31.12.2023	7.83	HKD	From 01.01.2022 to 31.12.2022	0.13
INR	From 01.04.2022 to 31.03.2023	80.30	INR	From 01.04.2021 to 31.03.2022	74.51
	31.03.2023	82.19		31.03.2022	75.87
JPY	From 01.04.2022 to 31.03.2023	135.45	JPY	From 01.04.2021 to 31.03.2022	112.33
	31.03.2023	132.75		31.03.2022	121.44
	From 01.02.2022 to 31.01.2023	132.71		From 01.02.2021 to 31.01.2022	110.67
	31.01.2023	130.17		31.01.2022	115.22
KRW	From 01.01.2023 to 31.12.2023	1,306.76	KRW	From 01.01.2022 to 31.12.2022	1,291.78
	31.12.2023	1,290.97		31.12.2022	1,260.18
MXN	From 01.01.2023 to 31.12.2023	17.73	MXN	From 01.01.2022 to 31.12.2022	20.12
NOK	From 01.01.2023 to 31.12.2023	10.57	NOK	From 01.01.2022 to 31.12.2022	9.61
PLN	From 01.01.2023 to 31.12.2023	4.20	PLN	From 01.01.2022 to 31.12.2022	4.45
SEK	From 01.01.2023 to 31.12.2023	10.61	SEK	From 01.01.2022 to 31.12.2022	10.12
	31.12.2023	10.05		31.12.2022	10.42
TRY	From 01.01.2023 to 31.12.2023	23.79	TRY	From 01.01.2022 to 31.12.2022	16.56
TWD	From 01.01.2023 to 31.12.2023	31.15	TWD	From 01.01.2022 to 31.12.2022	29.80
ILS	From 01.01.2023 to 31.12.2023	3.68	ILS	From 01.01.2022 to 31.12.2022	3.36

* All Exchange rates used are to convert the value of one dollar. Fred.stlouisfed.org is the source for the exchange rates.

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