



CONSTRUCTION MARKET INSIGHTS – APAC AND GCC

**Skilled labour shortage impacting
construction growth opportunities**

MARCH 2024

Australia • India • Japan • Malaysia • Singapore • South Korea • Taiwan • KSA • UAE

Executive summary



John Butler
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The APAC region may be experiencing only moderate GDP growth, but it still leads the field in a turbulent world.

Over the coming decade, APAC is expected to be a significant driver of the global economy. This is thanks to domestic investment in infrastructure and renewable energy, as well as its strength in manufacturing, as the world's factory for key components such as semiconductors and batteries for electric vehicles.

Meanwhile, the GCC countries are enjoying steady growth, fuelled by government policies to reduce dependence on oil revenues, with investment in non-fossil fuel infrastructure, commercial real estate, and nascent digital and life sciences sectors.

APAC's dominance in the high-tech industries is set to continue, with battery manufacturing capacity expected to double by 2030 and widespread expansion in chip foundries. It is also one of the fastest-growing markets for data centre construction, with rapid expansion both in established hubs and emerging locations.

Macroeconomic trends have challenged the life sciences sector, but investment in R&D and drug discovery is fuelling strong growth in key markets such as Australia, Singapore and Japan, while India is becoming a major pharmaceutical manufacturing hub, benefitting from the government's support for the sector the global movement to diversify supply chains away from China.

However, this strong pipeline will only be fully realised with a sufficient supply of skilled labour – a critical issue for projects across the region. In developed countries, an ageing demographic has left contractors reliant on workers from overseas, while emerging markets lack the local skills base to deliver large and complex projects.

This is fuelling competition among countries keen to lure a migrant workforce, and labour costs are spiking. Recruitment, training and widespread implementation of more efficient methods of construction will be essential if the region is to fulfil its potential, and to support the global transition to net zero emissions by 2050.

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GDP Growth

While only moderate growth is expected in the APAC region, it is expected to be the fastest growing region in the world in 2024. The GCC economy is anticipated to be resilient with growth in the non-oil sectors.

Despite changing global demand from commodities to services and tighter monetary policies, the APAC and GCC regions continues to be a significant growth driver worldwide in 2024.

Australia

Economic growth is expected to decrease from 1.8% in 2023 to 1.4% in 2024, before recovering to 2.1% in 2025. Elevated interest rates and cost of living will continue to impact private consumption. Strong working-age population growth and a recovery in export levels will partially offset these obstacles.

India

Economic growth prospects should remain strong with GDP expanding 6.5% annually in fiscal years 2024-2025. India remains the fifth largest economy in the world.

Japan

Despite a weak global outlook, Japan's economy grew by 1.9% in 2023, driven by robust domestic macroeconomic performance. The recovery is expected to continue moderately, buoyed by pent-up demand, although challenges may arise from a slowdown in the pace of recovery in overseas economies.

Taiwan

Economic growth has slowed sharply since 2022. Taiwan is susceptible to the adverse effects of declining global demand, monetary tightening and the electronics cycle, due to its heavy reliance on semiconductor exports.

Singapore, South Korea and Malaysia

In 2023 Singapore, South Korea and Malaysia economies slowed, due to weak global demand. In 2024, Singapore's economy is poised for growth, fuelled by a surge in foreign investments. Malaysia's growth will be driven by a robust manufacturing sector and strong domestic demand, while South Korea is expected to experience an uptick in exports.

KSA

Currently experiencing a significant economic shift, as it undertakes reforms aimed at diminishing reliance on energy, broadening sources of revenue, and improving competitiveness. The economy is expected to increase positively in 2024 after shrinking in 2023.

UAE

The UAE economy is steadily growing due to government initiatives and rising labour participation. Non-oil sectors are expected to drive economic growth beyond 2023.

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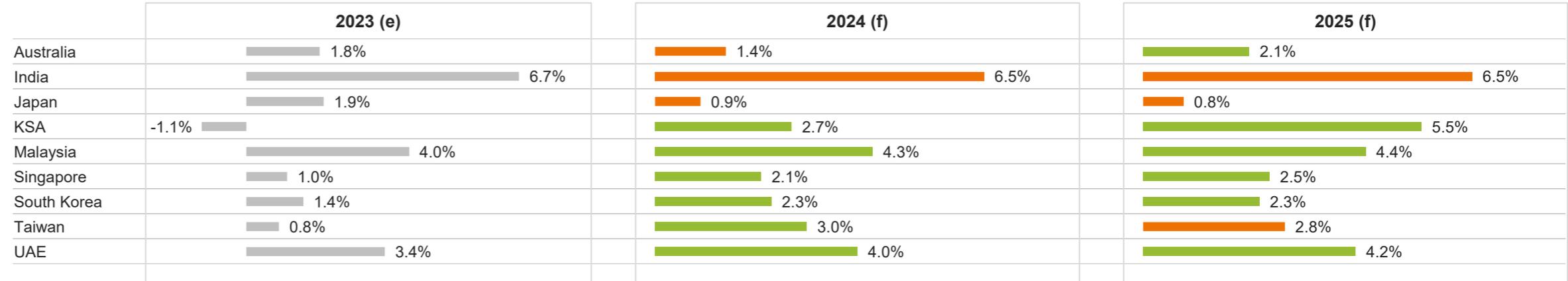
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Real GDP annual growth (%)



Source: IMF (Oct 2023 and Jan 2024 Update); for India, data and forecast is based on fiscal year (e) estimated (f) forecasted

More than previous year Less than previous year

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Inflation

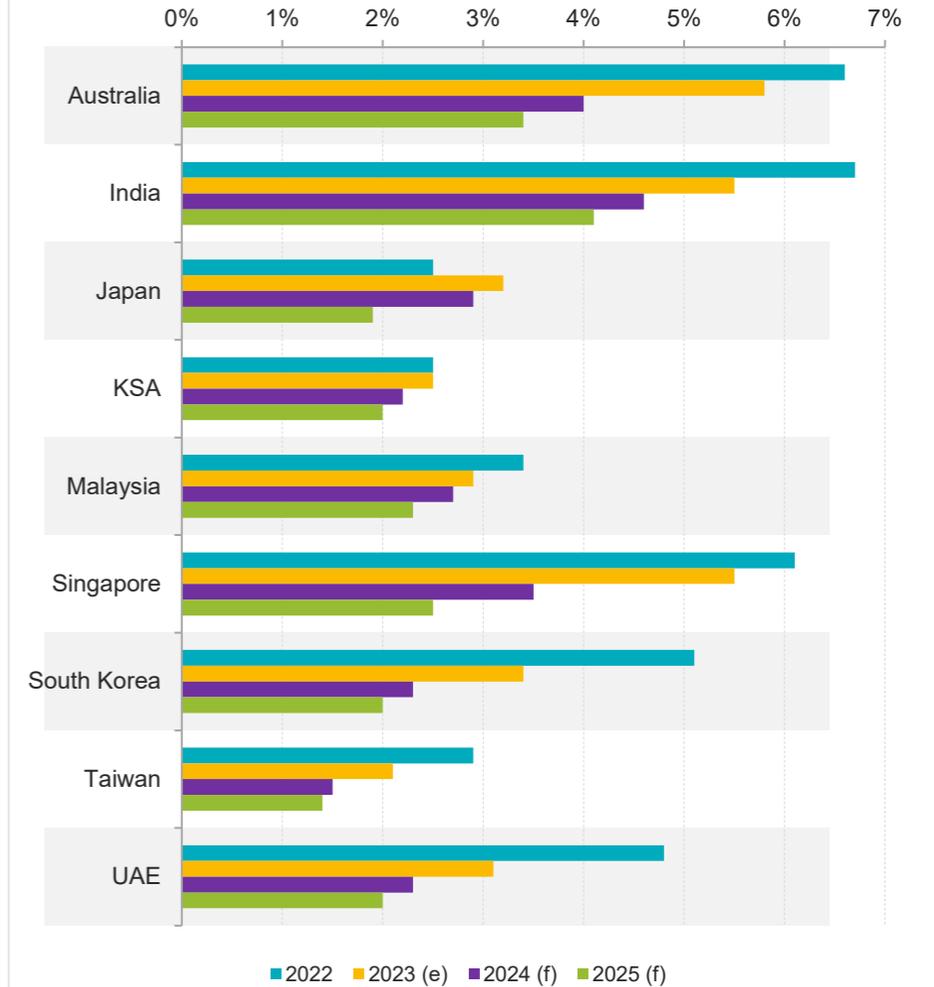
“ Whilst inflationary level peaks in recent years have started to level off, and in many instances, reduce, certain economic challenges remain for the construction industry. ”



Ciaran McCormack
Regional Director, GCC

- Overall, APAC is anticipated to achieve each countries' respective Central Bank target inflation levels ahead of the rest of the world economies, which in general will not see targets reached until at least 2025.
- Tightening monetary policy across the region is enabling a soft landing, helped by recovering domestic demand and acceleration of global disinflation, boosting APAC's export economy.
- There are regional variations in headline and core inflation, with a more gradual decline in Australia, India, Singapore, and South Korea.
- Japan's core inflation reached historically high levels in 2023 due to strong domestic demand and rising wages, and it is expected to stay above two percent until early 2025.
- With structural policy measures in place, inflation in GCC is returning to pre-pandemic levels and it's expected to decline further in 2024.

CPI inflation



Source: IMF (Oct 2023 Update) (e) estimated (f) forecasted

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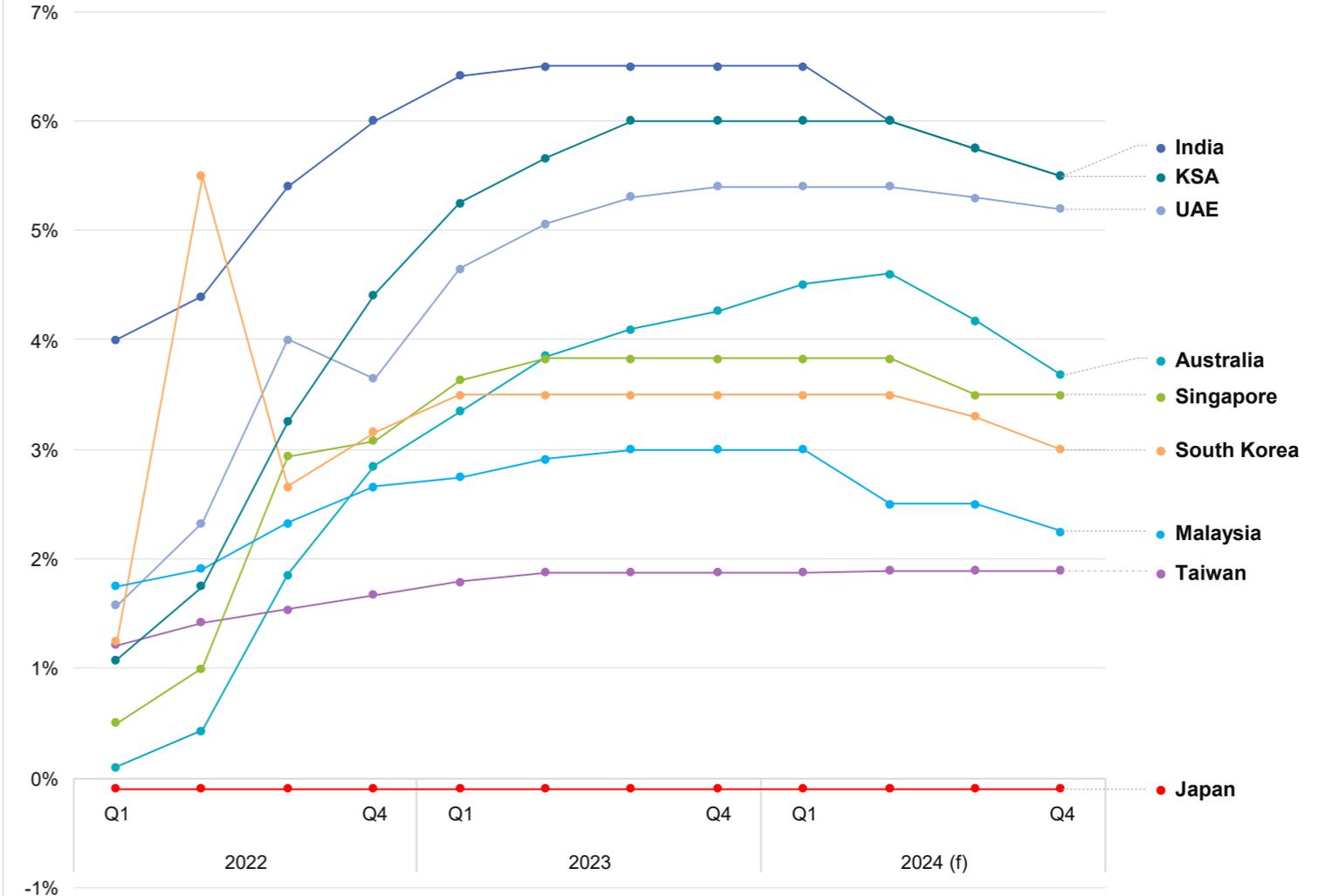
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Interest rates

Liquidity conditions in the construction industry are likely to improve as interest rates are expected to edge downwards in 2024.

- Interest rates in APAC were relatively modest in 2021 with an upward trend in the second quarter of 2022.
- In 2023 central banks worldwide strived to match the aggressive rate increases initiated by the US Federal Reserve. As a result, both emerging and advanced economies in the APAC region halted their tightening monetary policy cycles in 2023.
- In the fourth quarter of 2023, APAC central banks reduced interest rates to sustain economic expansion, as inflation moderated in the region. Subsequent easing and tightening of monetary policy parameters assisted in containing inflation.
- With the exception of the Bank of Japan and the People's Bank of China, central banks in APAC have adopted more restrictive monetary policy positions to preserve price stability.
- As currencies in GCC countries are mostly pegged, a potential cut in interest rates by the US Federal Reserve in the second half of 2024 is expected to result in reduced interest rates and improved liquidity in the market.
- Elevated interest rates have created challenging conditions for new construction with increased cost of financing and impacts on contractor's profit margins. However, as inflation cools, interest rates are expected to reduce in coming quarters.

Short-term interest rates (% change per annum)



Source: OECD short term interest rates and trading economics, Central Banks

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Key challenges

“As commodity and material prices begin to flatline, skills shortages and high interest rates are the biggest challenges facing our industry at present.”



John Carleton
Regional Director, ANZ

Australia

- Labour shortages, is one of the greatest challenges facing the Australian construction industry. This is further exacerbated by low productivity levels.
- Additionally, elevated interest rates and fixed price contracts have resulted in financial losses for numerous contractors.

India

- While India boasts a wide labour pool, the availability of specialised skilled labour for some more complex projects remains a challenge.
- Low digital literacy and capabilities among contractors poses a key challenge in the construction industry, hindering the rate of adoption of new technologies despite significant opportunities in India's booming construction sector.

Japan

- Amidst an ageing and shrinking population, the Japanese construction industry is facing a chronic labour shortage, which has kept productivity low and resulted in rising labour costs.
- With a considerable share of construction workers aged over 60, the situation is likely to become more severe.

KSA

- Late payments are a significant issue within the construction industry in GCC, impacting overall project cashflows.
- Availability of skilled labour and communication barriers in non-metro locations also pose significant challenges for the industry.

Malaysia

- The local construction industry has been adversely affected by a labour shortage, and elevated interest rates.
- The slow adoption of digital technology and lack of training facilities for some is also posing a challenge.

Source: Global Data, RICS, Autodesk, APAC Outlook, Asia Development Bank

Singapore

- Business cost increases, due to rising wages and high pass-through costs from suppliers has been one of the key challenges for the construction industry in Singapore.
- Cost of financing is also impacting the overall profitability and funding of projects. As with other countries, skilled labour shortages is a significant risk to project delivery.

South Korea

- Uncertain macroeconomic conditions are a major challenge impacting the growth of the South Korea construction market, which has led to a delay or cancellation of government subsidies resulting in construction projects being postponed or cancelled.
- Additionally, access to credit, availability of labour and increased material costs, are negatively affecting the construction industry.
- South Korea, once a labour exporter, now faces labour shortages and has turned to South East Asia to meet the requirements for a skilled workforce.

Taiwan

- Issues such as skilled labour shortage, technology adoption and financial constraints due to interest rates and inflation are some of the major challenges in this market.

UAE

- The UAE, like most countries in the region suffers from a lack of skilled labour.
- Construction industry faces competition from other industries and additionally, there is an ongoing issue relating to poor payment processes to contractors, which causes delays in projects.
- Weather conditions are another challenge with temperatures exceeding 40 degrees Celsius during summer, resulting in project delays.

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Construction industry output

Despite challenges caused by elevated interest rates, high inflation costs, and a weak global economic outlook, construction output continues to grow, fuelled largely by substantial investments in critical sectors including infrastructure, data centres, semiconductors, and renewable energy.

Australia

- Construction output in real terms is expected to have increased by 8% in 2023.
- Key growth drivers included infrastructure, energy and utilities, data centres, and the industrial sector. However, a decline in construction output is anticipated in 2024 due to elevated interest rates, high construction costs, labour shortages, and a downturn in residential construction.
- Despite these challenges, there is a strong project pipeline in manufacturing and data centres, and the industry is expected to grow at an average annual growth of 3.2% from 2025 to 2027.

India

- Continues to show standout growth across multiple sectors including industrial, logistics, infrastructure, energy and utilities, commercial, data centres, residential, and institutional.
- The total construction output in real terms increased by 9.6% in 2023 with an expected increase of 5.3% in 2024.
- Growth is driven by the government's continued focus on infrastructure and renewable energy sectors, coupled with a rebound in manufacturing activity.

Japan

- The Japanese construction industry is experiencing moderate growth, with an estimated increase of 0.9% in 2023 and a gradual rise of 1% in 2024.
- This growth is supported by developments in the renewable energy, telecommunications and manufacturing sectors.
- The government is committed to investing in semiconductor manufacturing plants, renewable energy projects, clean energy vehicle research and development, and battery storage production.
- There has been significant private sector investment in the data centre sector.

Source: Global Data

KSA

- KSA is one of the most dynamic construction markets in the GCC, with a projection of an average annual growth of 4.9% from 2023 to 2027.
- The government's heightened focus on increasing net spending and the implementation of Vision 2030 will drive the growth in construction industry.
- Notably, large-scale mega projects such as NEOM contribute significantly to driving growth in the sector.

Malaysia

- Construction output surged by 6.6% in 2023, driven by significant infrastructure projects funded through both foreign and domestic investments.
- The industry is set to maintain its growth trajectory, with an anticipated average annual growth of 4.4% in 2024, supported by budget allocations for development.
- The government is actively attracting foreign investors, particularly in the semiconductor, electric vehicle (EV), and renewable energy sectors.
- A robust pipeline of data centre projects further contributes to the positive outlook.

Singapore

- In 2023, the construction industry experienced a 7.4% increase in real output, driven by a surge in infrastructure projects, residential and commercial developments, and government initiatives.
- The commercial construction sector led the way, expanding by 32.3% in real terms in 2023, fuelled by tourism, hospitality, retail, office, and data centre projects.
- Sustainability and innovation, particularly in green construction and smart infrastructure, remain focal points. The industry is expected to sustain a 3.3% growth in 2024.
- The industrial sector is also set for growth, fuelled by semiconductor manufacturing, green hydrogen, and biotech projects.

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South Korea

- In 2023, the construction industry grew by 4.2%, driven by investments in commercial, infrastructure, energy, institutional, and industrial sectors.
- However, a 3.2% contraction is expected in 2024 due to high interest rates and construction costs, along with weaknesses in the residential sector. The industry is set for an average annual growth of 2.6% from 2026 to 2027.
- The semiconductor sector is rebounding, with increased exports and production, while data centre investments are on the rise.
- Government support for the EV battery and material manufacturing industry adds to the positive outlook.

Taiwan

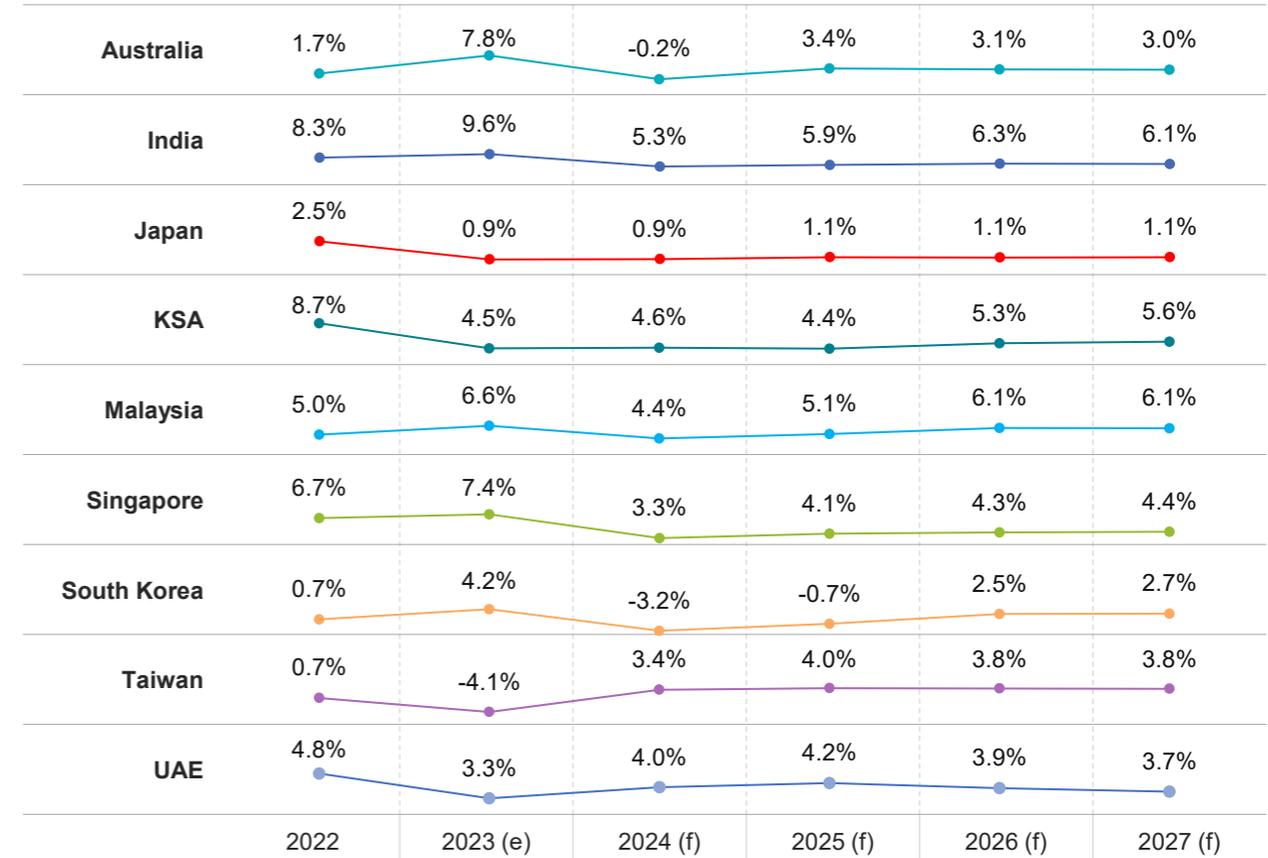
- Construction output contracted by 4.1% in 2023 due to the impact of high interest rates and a decline in foreign direct investment. However, it is anticipated to increase by 3.4% in 2024, supported by the government's investment in infrastructure and renewable energy.
- In country there is a continued focus by international players in the data centre sector. Additionally, the industrial sector which witnessed a contraction in 2023, due to a fall in foreign investments is also expected to pickup in 2024. It will be supported by increasing interest from those in the semiconductor, battery manufacturing and recycling sectors.

UAE

- In 2023, construction output in the UAE increased by 3.3%, fuelled by real estate projects, improved energy market receipts, and investments in non-energy infrastructure.
- The government's emphasis on energy and infrastructure, including transportation, utilities, decarbonization, renewable and nuclear energy generation, will continue to fuel the growth in the industry and the construction output is expected to increase by 4% in 2024

Source: Global Data

YoY % change in construction output



Source: Global Data

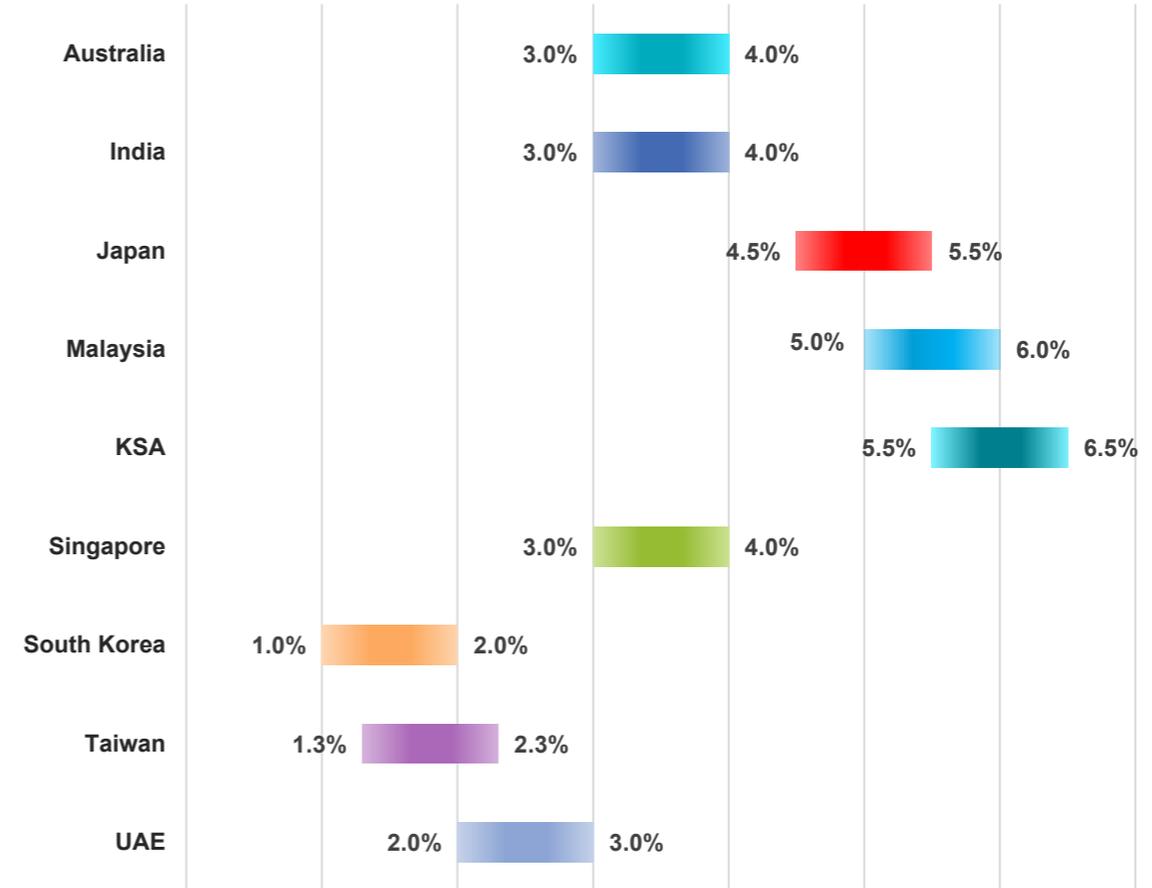
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Construction inflation

Construction inflation in APAC countries is projected to decelerate in 2024, supported by easing material prices, however labour costs are likely to remain a challenge impacting project cost and timelines.

- Construction costs have normalised, with material prices stabilising.
- Steel prices have decreased from 2022 highs in most countries and are expected to trend based on each country's construction activity level.
- Copper prices remain volatile and are likely to increase across the region.
- Energy-intensive materials like cement and concrete remain elevated but stable.
- The supply chain, which had shown signs of normalization, remains constantly alert due to ongoing geopolitical events, which may have a knock-on effect to the cost of imported material and equipment.
- Ongoing challenges with skilled labour and contractor availability, especially in busy markets, will continue to exert upward pressure on pricing.

Linesight construction inflation forecast 2024



Source: Linesight

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Supply chain outlook for long-lead equipment

Equipment supply timelines (in months)

	Australia		India		Japan		Malaysia		Singapore		Taiwan		KSA		UAE	
	Jan 2024	Q2-Q3 2024	Jan 2024	Q2-Q3 2024	Jan 2024	Q2-Q3 2024	Jan 2024	Q2-Q3 2024	Jan 2024	Q2-Q3 2024	Jan 2024	Q2-Q3 2024	Jan 2024	Q2-Q3 2024	Jan 2024	Q2-Q3 2024
Transformers	6 - 12	↔	< 6	↗	> 12	↗	> 12	↗	>12	↔	> 12	↗	6 - 12	↗	6 - 12	↗
Generators	> 12	↔	6 - 12	↗	> 12	↗	> 12	↗	6 - 12	↔	> 12	↗	> 12	↗	> 12	↗
UPS	6 - 12	↔	6 - 12	↗	> 12	↗	6 - 12	↗	< 6	↗	6 - 12	↔	6 - 12	↗	6 - 12	↗
Batteries	6 - 12	↕↗	6 - 12	↗	> 12	↗	6 - 12	↗	< 6	↗	6 - 12	↔	6 - 12	↗	6 - 12	↗
LV switchgears	> 12	↕↗	< 6	↔	> 12	↗	6 - 12	↗	< 6	↗	6 - 12	↔	6 - 12	↔	6 - 12	↔
PDU/RPP	> 12	↕↗	6 - 12	↔	> 12	↕↗	< 6	↗	< 6	↗	6 - 12	↔	6 - 12	↔	6 - 12	↔
STS	> 12	↕↗	6 - 12	↗	> 12	↕↗	< 6	↔	< 6	↔	6 - 12	↔	6 - 12	↗	6 - 12	↗
Chillers-PRR	6 - 12	↕↗	6 - 12	↔	> 12	↕↗	6 - 12	↔	6 - 12	↔	> 12	↔	6 - 12	↗	6 - 12	↗
CRAC	6 - 12	↕↗	6 - 12	↔	> 12	↕↗	6 - 12	↔	< 6	↔	6 - 12	↔	6 - 12	↗	6 - 12	↗
Cooling tower	6 - 12	↕↗			> 12	↕↗	< 6	↔	6 - 12	↔	6 - 12	↔	< 6	↔	< 6	↔
BMS	6 - 12	↕↗			> 12	↕↗	< 6	↔	< 6	↔	6 - 12	↔	< 6	↔	< 6	↔
Elevators	< 6	↕↗			> 12	↕↗	< 6	↔		↔	6 - 12	↔	6 - 12	↔	6 - 12	↔

↗ Increasing
↔ Stable
↕ Decreasing
↕↗ Volatile

Notes:

Australia

- Transformers refer to smaller dry cast resin type transformers. For large oil filled transformers, typical delivery timelines are >12 months

India

- Local supply timelines are generally shorter compared to imported supply timelines
- Transformers – longer lead times on some DC

projects seen. High-capacity imported ones are in the range 40-50 Weeks

- Imported makes of generators are experiencing longer lead times. Generators up to 1800 KVA are being locally procured.
- Delays in UPS timelines may sometimes be attributed to battery availability, particularly as lithium-ion batteries are experiencing delays.

Japan

- Generators refers to gas turbine generator. For Diesel generators (3150-4000kVA) lead time is also more than 24 months and it is expected to increase further
- Air-cooled chillers are assumed in the specifications

KSA and UAE

- The timelines provided are applicable for generators with a capacity of 3000 KVA or above
- Locally manufactured switch gears are assumed in the specifications

Disclaimer:

The timelines provided are based on specific specifications and brands, as reported in January 2024, and reflect market conditions at that time. However, it's important to note that market conditions are subject to geopolitical and other influences which may cause supply chain disruptions that could impact the delivery schedules of equipment. Therefore, the timelines mentioned above are indicative and subject to change.

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Labour availability in APAC and GCC

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Overview

As supply chains normalise and commodity prices ease from the peaks of 2022, labour remains one of the most significant issues in APAC and GCC.

The degree and nature of challenges, however, vary from country to country. In developed countries, there is an acute shortage of labour due to demographic factors such as ageing populations, while in emerging markets, there is significant availability of low-skilled construction labour but a shortage of skilled labour.

Labour shortage remains a critical issue in the construction industry due to a scarcity of qualified personnel. The influx of infrastructure project investments in the region is exacerbating the strain on the labour market.

In Japan, the labour supply-demand gap is exerting pressure on labour costs and whilst there has been a fixed percentage increase in wages for all employees, unions are now pushing for wage hikes aligned with inflation, further escalating labour costs.

Going forward, as APAC and GCC nations escalate their decarbonization endeavours, there will be an additional demand for a “green collar” workforce which will increase the pressure of the demand supply gap.

Source: International labour organisation

Worker mobility

- Migrant workers in the construction industry have been a key source of labour across the APAC nations.
- Mobility trends however vary across countries, influenced by their immigration policies, and demand supply dynamics.
- Nations such as Japan and South Korea experiencing population decline are forging agreements with labour-abundant countries to facilitate labour migration.
- Some regions including India are facing shortages of construction labour due to highly skilled workers migrating to projects in the GCC countries, where wages are more competitive.

Future trends

- Governments and industry stakeholders are actively working to address this issue through measures such as relaxing migration policies and upskilling existing workers.
- It's expected that a short to medium term labour shortage will persist until demand-supply gaps are addressed, impacting both project costs and timelines.
- In the long term, achieving net zero emissions within the next 30 years will require not only upskilling of the existing workforce, but also adding additional workforce to meet this target.

Labour

Labour shortages across borders

Australia

- The labour shortage in the Australian construction industry is anticipated to persist and remain acute until 2025.
- Skilled labour shortage in Australia is one of the key challenges for the industry, leading to soaring labour costs, which puts pressure on margins.
- According to sources, trades and labourer shortages are growing at the fastest rate and will remain acute until 2025.

GCC

- According to sources, mega construction projects in KSA are luring workers from neighbouring GCC countries, resulting in talent shortages.
- Persisting demand fuelled by multi-billion-dollar undertakings including NEOM, Diriyah, and the Red Sea Project is escalating the competition for skilled personnel throughout the Gulf.

India

- India, a global economic powerhouse and the 5th largest economy, is on the brink of a historic milestone.
- The construction industry, integral to this journey, is set to soar to US\$1.4 trillion by 2025. However, a stark challenge looms due to the critical shortage of skilled professionals.
- As India targets “developed nation” status by 2047, the urgent need to address this employability crisis in the booming construction industry becomes undeniable.
- Many skilled workers have flown to greener pastures like the GCC region for better opportunities.

Japan

- Japan had a labour deficit across many industries from 2020 to 2022. With an ageing population, workers 65 and older made up more than 10% of the workforce.
- Economic experts are concerned that Japan won't have enough workers to rebound to pre-pandemic levels due to its ageing population.

Malaysia

- As the country strives for greater self-reliance in its construction sector, there continues to be high shortages of skilled workers.
- Malaysia has not seen a significant return of migrant workers due to slow government approvals and protracted negotiations with Indonesia and Bangladesh over worker protections.
- The government is embracing the importance of diversity as an effective way to address labour shortages in the construction field.

Singapore

- A skilled labour shortage remains a significant constraint affecting the industry.
- An aging population and low birth rates is another contributing factor and remains a major challenge.
- Despite the government's efforts to promote industry reform that enhances productivity and efficiency, the lack of available skilled labour will persistently impede the potential expansion of the regions construction.

South Korea

- The construction industry in South Korea is facing a shortage of workers, particularly with some reluctance to work in remote areas.
- Other factors such as cultural and language barriers are also leading to a shortage of migrant workers and a need for domestic engineers to take on more responsibility.
- The industry is now engaging with the government on easing some mobility regulations, especially on visa rules, to hire more foreign construction workers to address these shortages.

Taiwan

- Taiwan's construction industry has high labour shortages despite its resiliency.
- Due to its population demographics including low birth rates and an ageing population, the workforce is decreasing.
- The government of Taiwan has recently signed a memorandum of understanding (MoU) on migration and mobility with India, in order to expand its foreign workforce and address labour shortages in manufacturing, construction and agriculture.

A detailed analysis of the labour market has been conducted for countries including Australia, Japan, and Singapore in the subsequent pages of this section.

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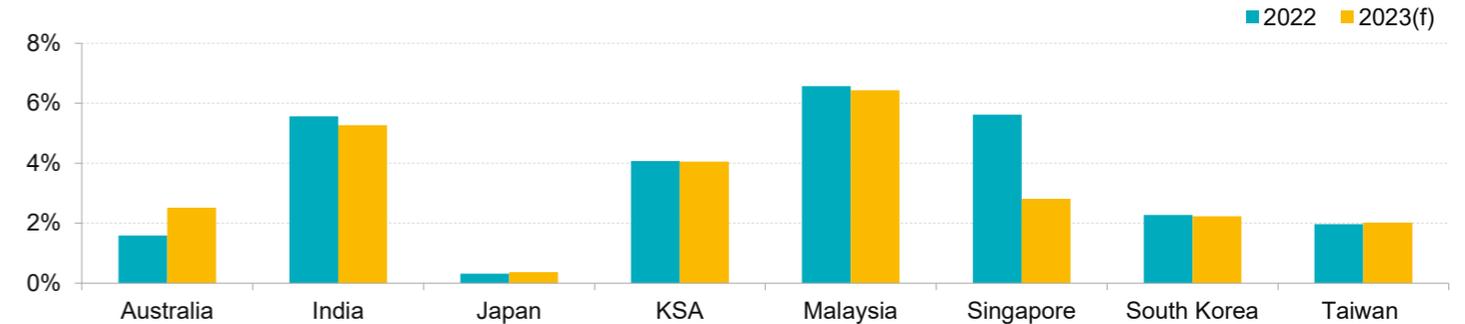
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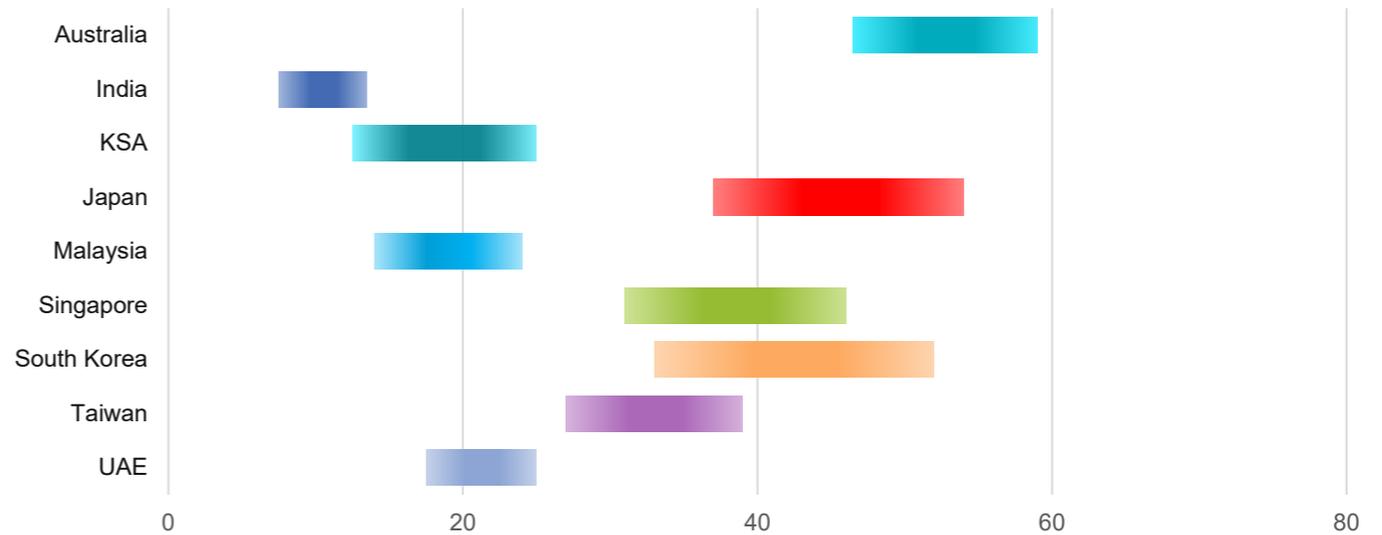
Labour cost trends

- Labour costs surged in the majority of APAC and GCC nations in 2022 as a result of inflation, labour migration, demand-supply mismatch and skill shortages.
- While the overall labour cost inflation stabilised in most countries, Australia saw a surge in 2023 due to an acute labour shortage.
- In the construction industry, there has been a shortage of skilled workers across countries in APAC and GCC regions.
- High construction activity has led to a surge in skilled worker costs, with India and Singapore experiencing increases of 7 to 8%, while Malaysia saw increases in the range of 4 to 9%.
- Inadequate supplies of particular construction equipment has additionally contributed to increased labour wages.

YoY percentage change of labour cost index – all industries



Hourly labour cost (in US\$/hr) for skilled construction labour across APAC countries



Note: The hourly rates are "all in" job rates that a contractor would charge on owner or end user. These rates include base wage rate, insurances, overhead profit etc.

Notes:

Data for UAE for YoY percentage change of labour cost index was not publicly available at time of publication.

The labour cost index measures change over time in wage and salary cost for employee jobs, unaffected by changes in the quality or quantity of work performed. The labour cost index is represented for all sectors.

It is calculated by dividing the labour costs by the number of hours worked. Labour costs include costs for wages and salaries as well as non-wage costs like employer social contributions. These don't include the cost of vocational education or any other costs, such as those associated with hiring, purchasing work attire, etc.

Source: Global Data

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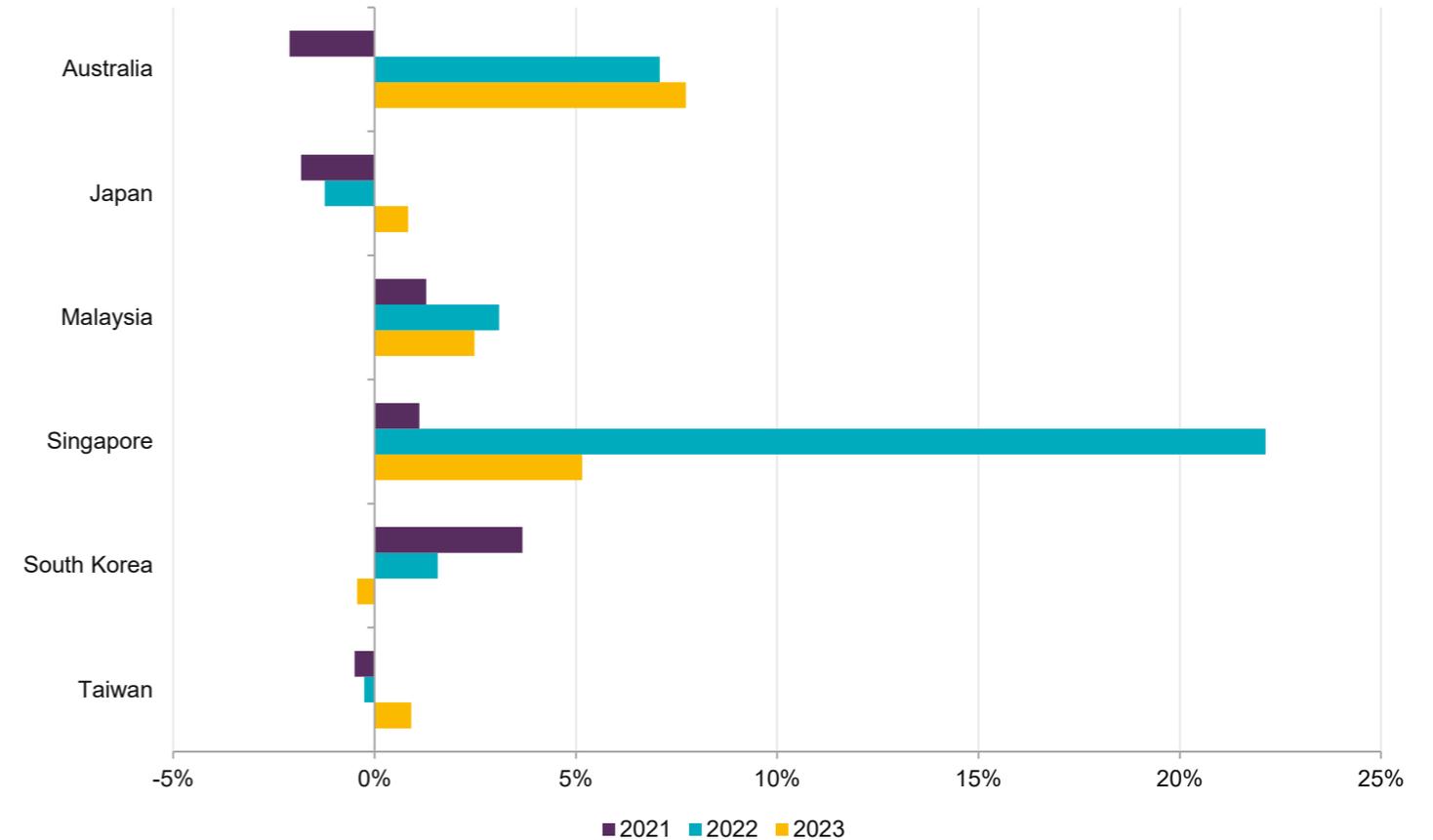
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Construction industry employment

- The construction industry experienced a deceleration in 2021 due to the COVID-19 pandemic, which had an impact on labour employment globally and led to a reduction in the proportion of employed individuals in the industry.
- 2022 saw a rise in labour employment as a result of robust demand. The employment markets in Australia, Singapore, Malaysia and South Korea all witnessed positive growth in 2022, while there was a marginal dip witnessed in Taiwan and Japan. Japan has been witnessing a gradual decline in the number of construction workers in the last few years. However, an uptick was observed in 2023. One of the reasons could be attributed to the overall increase in the number of foreign workers in the country.
- In 2023, almost all countries witnessed an increase in construction employment as efforts were made at all levels to address labor shortages, coupled with demand stemming from infrastructure and mission-critical sectors.
- Moving forward, governments are implementing policy measures to address the shortage issue. For instance, the Ministry of the Interior (MOI) in Taiwan recently approved applications from construction firms to recruit over 9,000 migrant workers, aiming to alleviate labor shortages in the local economy. Similarly, Japan aims to increase the number of foreigners eligible for skilled worker visas by over 800,000 in the next five years, starting from fiscal 2024.

YoY percentage change of persons employed in construction industry



Notes:

Data for India, KSA and UAE for YoY percentage change of persons employed in construction industry not publicly available at time of publication.

Source: Australian Bureau of Statistics, Job mobility February 2023, Statistics of Japan, Department of Statistics Malaysia, Manpower Research and Statistics Department Singapore, National Statistics Taiwan, Statistics Korea, Nikkei, Focus Taiwan

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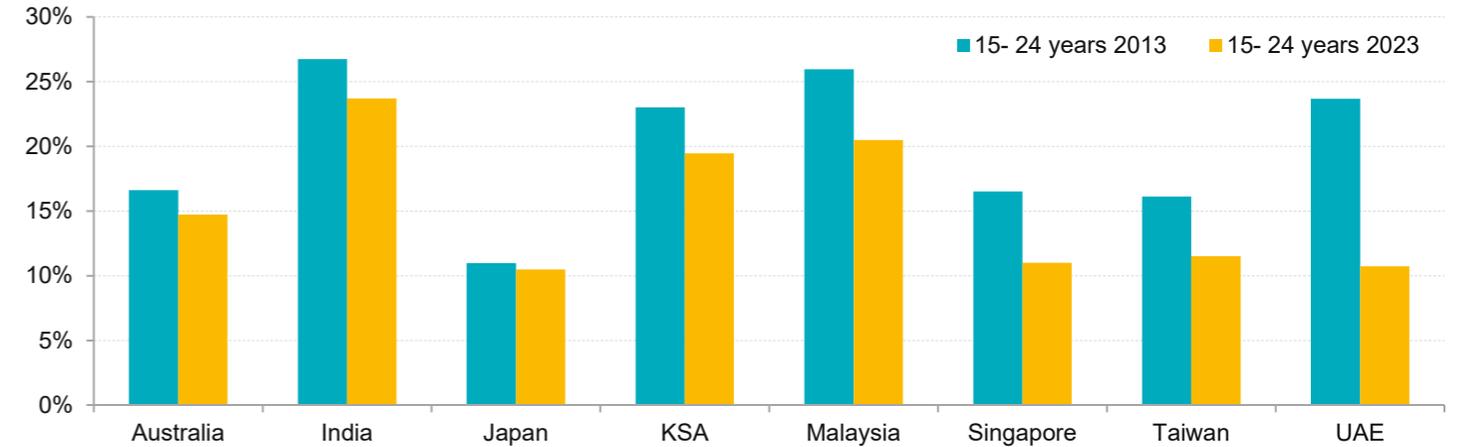
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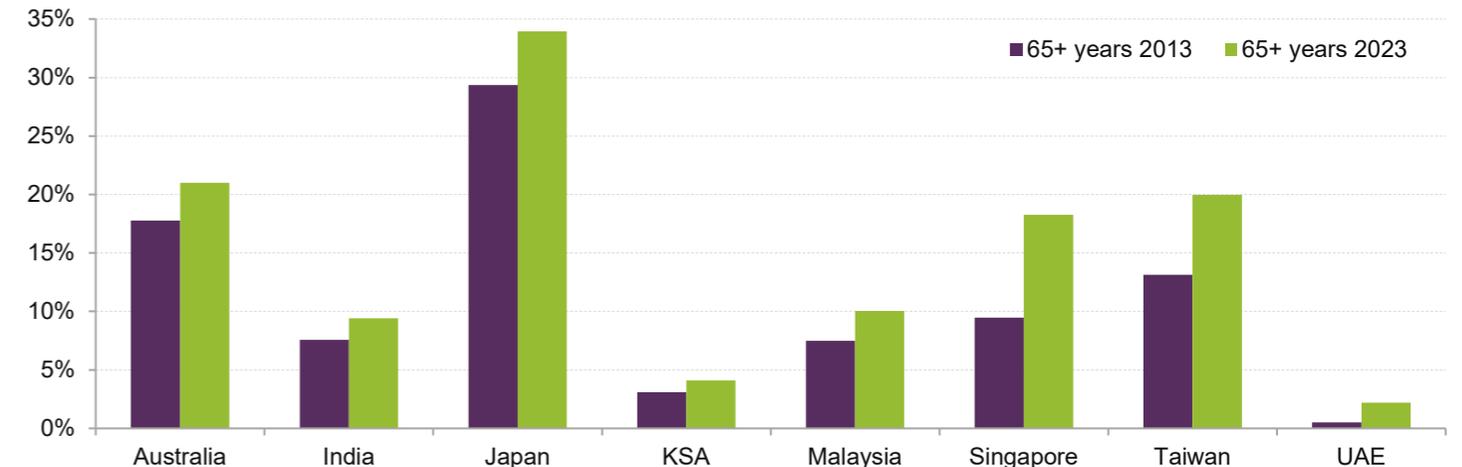
Labour Supply factor

- Ageing populations has been a significant factor impacting construction labour supply in the APAC and GCC regions.
- The projected increase in the elderly population in Asia and the Pacific is greater than twofold, from 630 million in 2020 to an estimated 1.3 billion in 2050. This increase will have an impact in the labour force everywhere.
- Due to increased longevity and declining fertility rates, the APAC region is currently experiencing a significant demographic shift that ranks among the most critical on a global scale: **Accelerated Ageing**. One in every four individuals in APAC will be sixty years old or older by 2050.
- The population of individuals aged 15-24 was higher in 2013 and has been gradually declining annually since then; by 2023, the proportion had decreased dramatically in every country.
- Age groups 65 and older are experiencing a substantial increase in the APAC nations. Japan has the most elderly population and one of the lowest fertility rates worldwide. Additionally, Australia, Singapore, and Taiwan are experiencing population ageing.

Proportion (in %) of population of age groups (15 – 24 years)



Proportion (in %) of population of age groups (65+ years)



Source: United Nations Development Programme, ESCAP, Asian Development bank

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Construction labour: Australia

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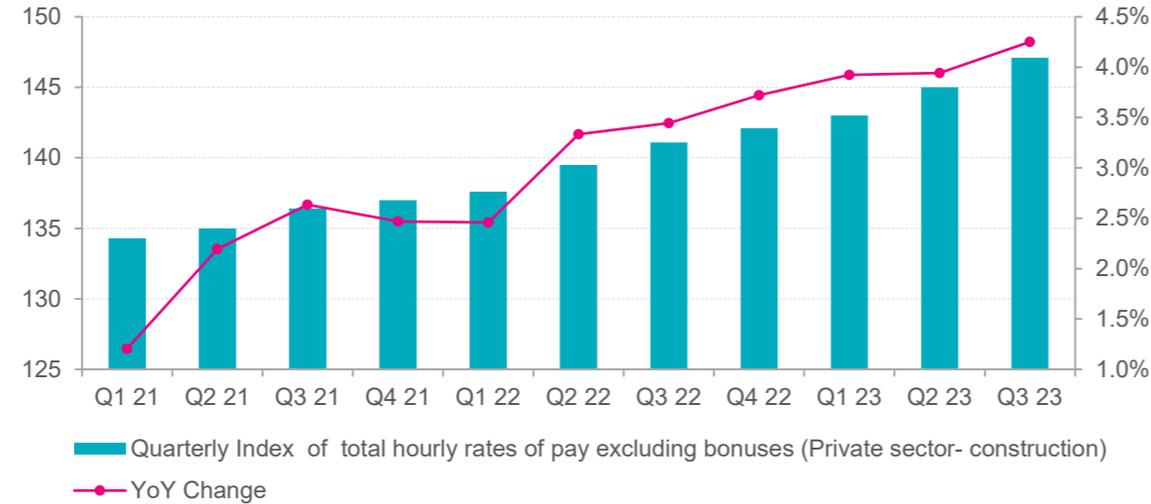
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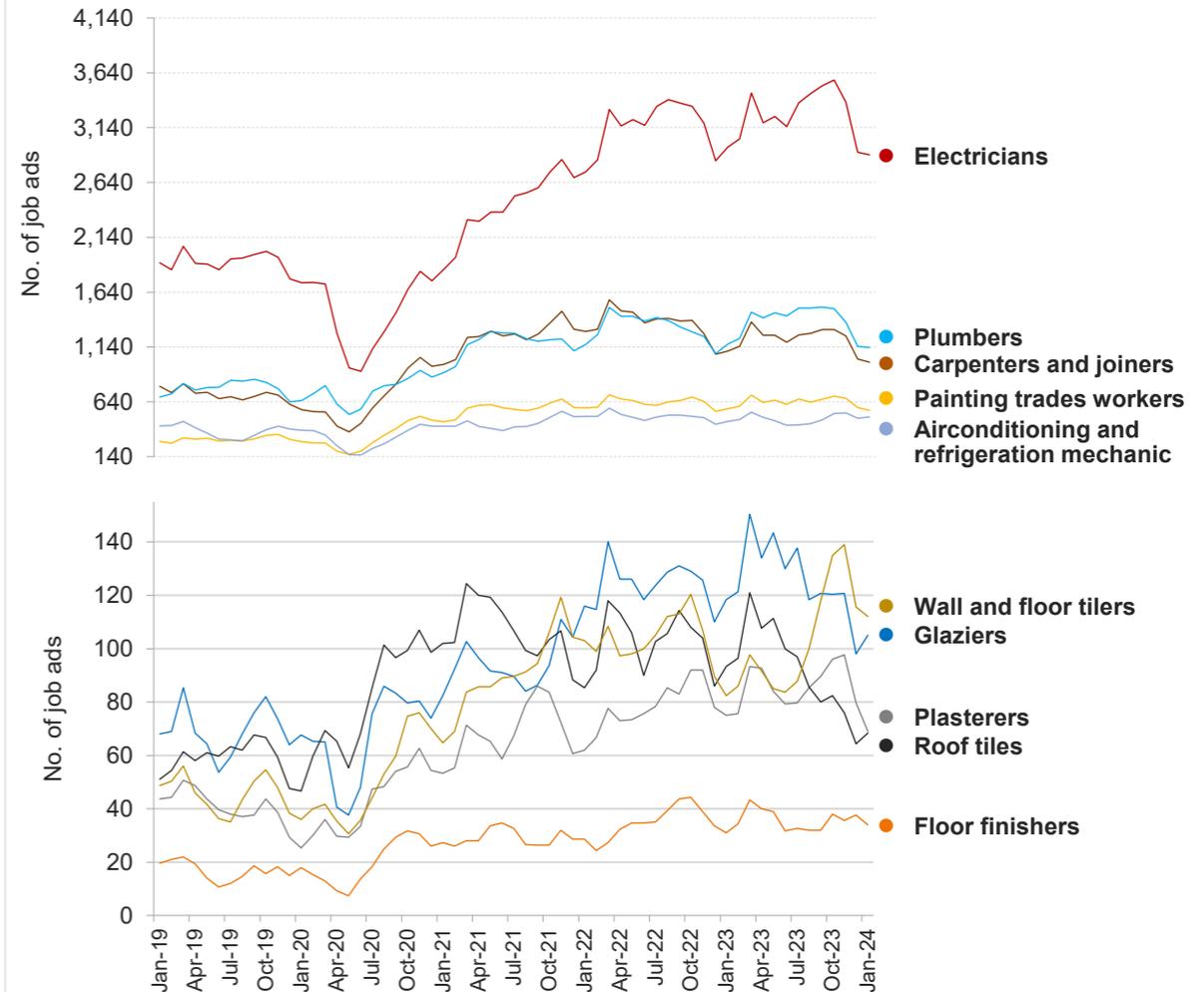
Australia labour cost index in construction industry



- Demand for construction workers in Australia is being driven by activity levels in infrastructure, energy and utilities and mission-critical sectors.
- According to skill priority surveys by the government of Australia over the past three years (2021-2023), building trades indicated in these graphs, have consistently reported shortages, with vacancies on the rise.
- Vacancies (posted online) for electricians surged by 56%, wall and floor tilers increased by 73%, and glaziers saw a 28% rise from January 2019 to January 2024.
- The labour cost index in the construction industry surged in Q3 2023, with a YoY increase of 4.3%.

Source: Australian Bureau of Statistics, Jobs and Skills Australia, The Internet Vacancy is a monthly count of online job advertisements compiled by Jobs and Skills Australia

Australia job internet vacancies – building trades



Labour

Construction labour: Singapore

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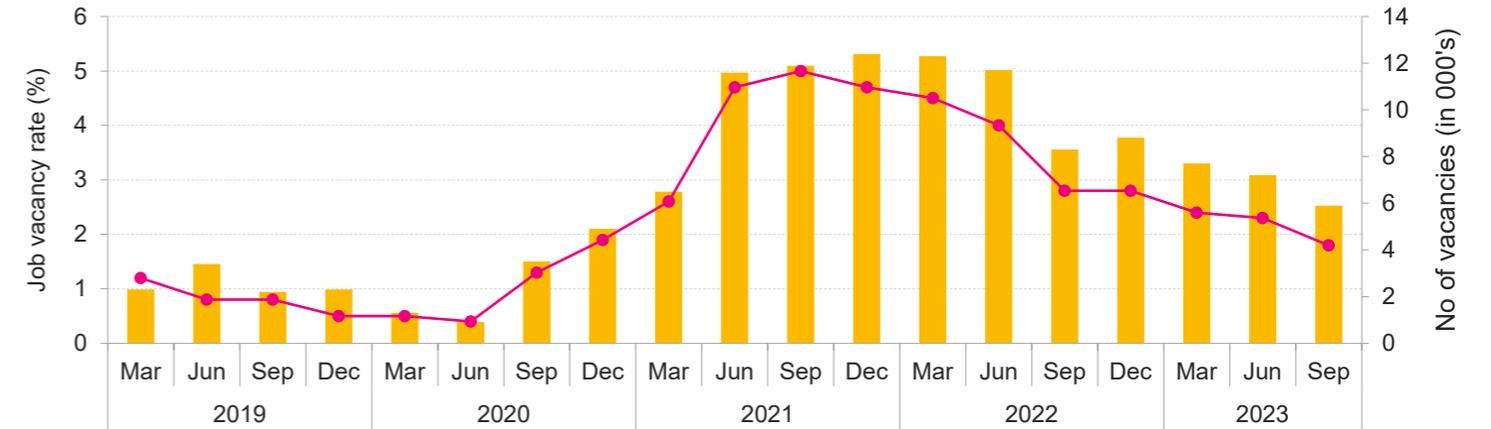
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- The number of job vacancies in the construction industry decreased from 8,300 in Q3 2022 to 5,900 in Q3 2023.
- The job vacancy rate dropped to 1.8% in Q3 2023, yet despite this decline, the values remain higher than pre-COVID levels.
- The job vacancy rate is still 100 basis points higher than that in Q3 2019. With the current projected growth in the construction industry the pressure on labour availability will increase.
- Singapore's construction industry heavily depends on low-cost foreign labour. As the construction activity started picking up in 2021, the number of foreign work permit holders in construction, marine shipyard, and process industries increased by 12% from December 2019 to June 2023.
- However, recent changes in laws, including a reduction of DRC* for the construction industry from 87.5% to 83.3%, and the dismantling of the man-year entitlement framework, may impact the industry.
- Nevertheless, there are also incentives being introduced to promote new technologies and off-site construction. BCA is encouraging pre-fab and off-site construction through the Off-site Levy Scheme.
- This initiative aims to support the transformation of the built environment sector and promote the adoption of more productive technologies like design for manufacturing and assembly (DfMA).
- Construction work permit holders (WPHs) predominantly working in off-site facilities under eligible DfMA operators will benefit from reduced levies under this scheme.

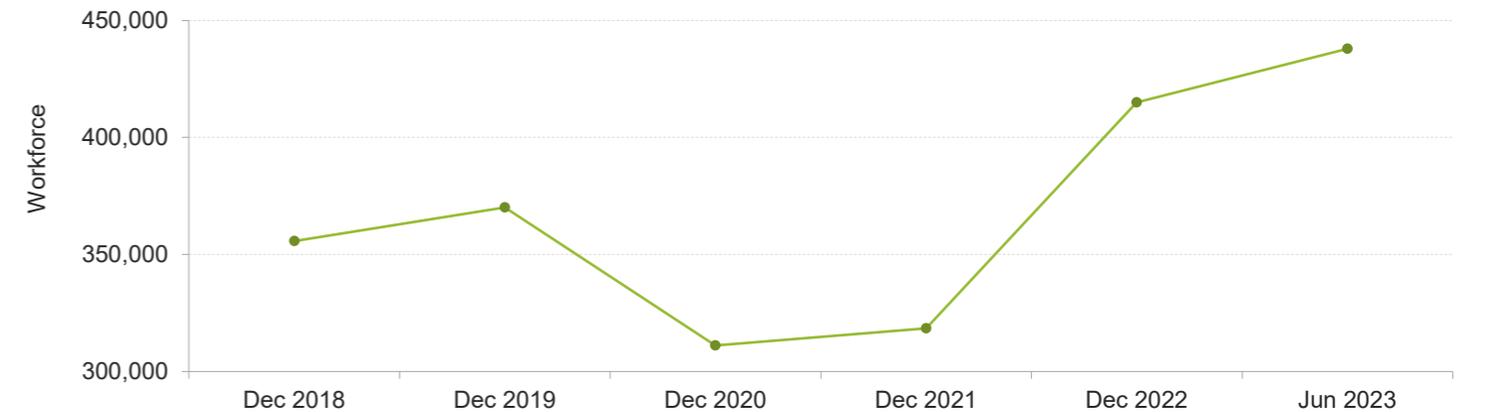
Note: *DRC is the maximum ratio of foreign employees to the total workforce that a company in a given sector can employ.
Source: Ministry of Manpower, Singapore

Job vacancy in Singapore construction industry

Job vacancy rate for a quarter is defined as the total number of job vacancies divided by the total demand for manpower at the end of the quarter.



Singapore work permit-issued for foreign workforce (construction, marine shipyard and process)



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Construction labour: Japan

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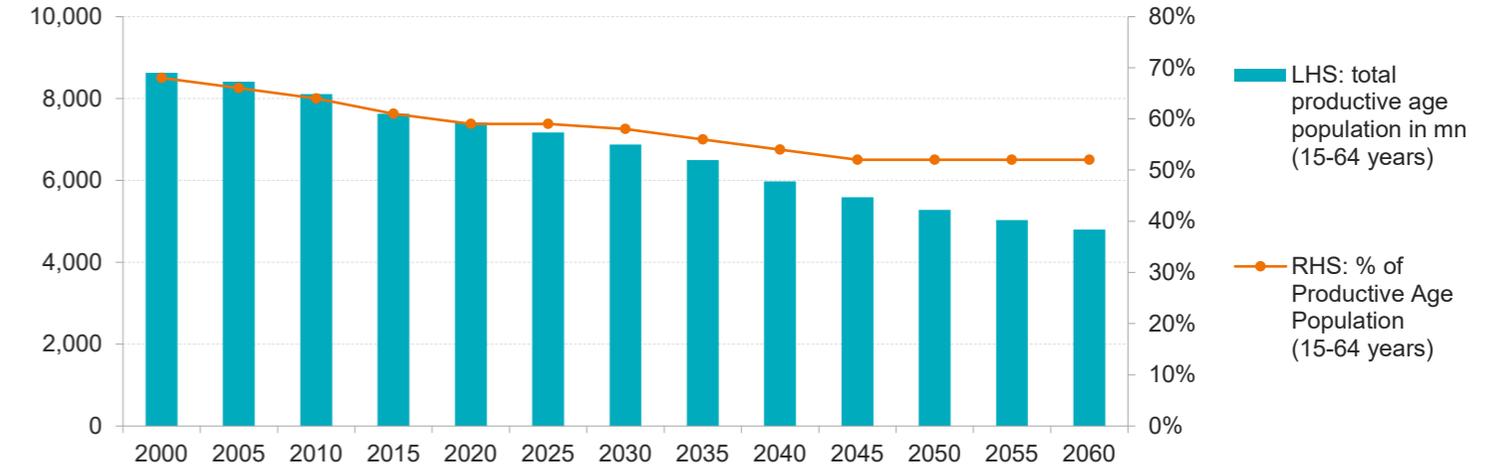
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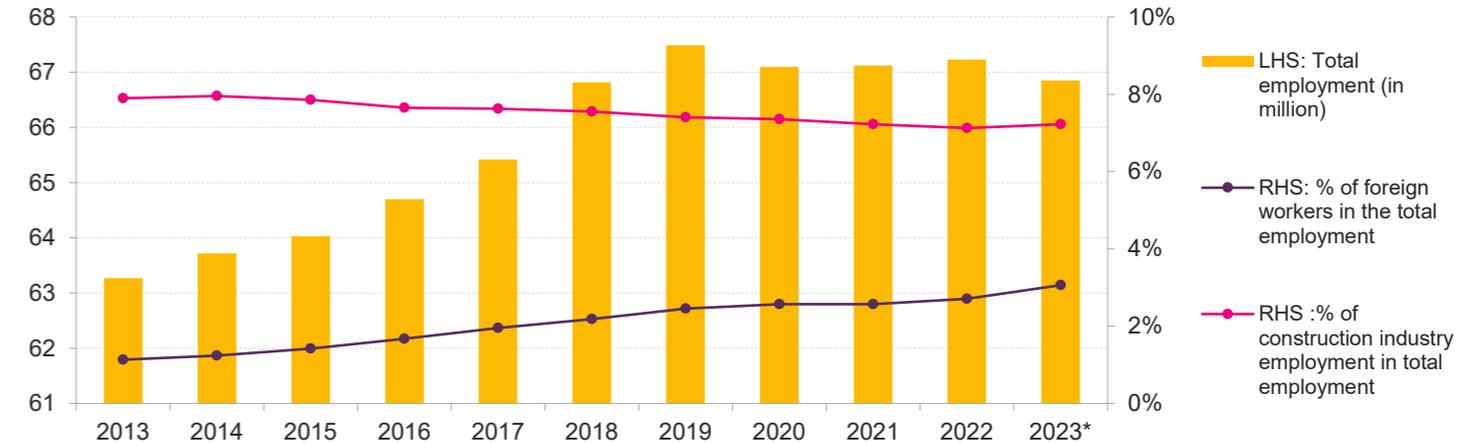
Methodology

- As per a recent study by Recruits Work Institute, Japan may face a shortage of 11 million workers by 2040. The peaking of labour participation and contraction of available employment pool is due to decrease in productive working population.
- The percentage of productive age population in Japan has reduced from 68% in 2000 to 59% in 2020, and it is expected to further reduce to 52% by 2045.
- Labour shortage is a key challenge for the construction industry. Measures are being taken by both public and private players to address this.
- There has been intensified competition in manufacturing and other industries to secure workers that has resulted in an increase in wages.
- In Japan, the proportion of construction workers to all other employed workers fell from 8% in 2012 to 7.2% in 2023. Efforts are being made to increase foreign labour in the country.
- The population of foreign workers in Japan reached an all-time high of 2.05 million in Oct 2023, representing a YoY increase of 12.4%.
- The Japanese government is imposing an upper limit of 360 overtime working hours per year, which could exacerbate pressure on labour availability and impact project timelines.

Productive age population in Japan



Employment trends in Japan



Source: Ministry of Land, Infrastructure, Transport and Tourism
Government of Japan, Recruits Work Institute, Japan
Deloitte Japan, Construction Industry Trends and Outlook in Japan

Sectors in focus

Data Centres

Overview

“ The APAC data centre market is forecast to grow exponentially in the coming years, with AI and Edge Computing requirements largely driving this increased growth. Sustainability challenges will increase as growth continues, with the key players in the Data Centre market jostling for position to offer innovative solutions to improve environmental outcomes. ”



Brian Coyle
Director

Sustainability is a primary focus for data centre players, with hyperscalers securing renewable energy Power Purchase Agreements (PPAs) across the region, many of which have been featured in the media of late.

APAC is one of the fastest growing data centre markets globally. The surge in e-commerce, 5G expansion, and widespread adoption of cloud computing and AI are driving this growth. With a CAGR of 23.5% Public Cloud Services market in APAC is expected to reach US\$153.6bn in 2026.¹

While developed markets like Japan, Australia, and Singapore are still favourable for data centre builds, there is also considerable interest towards emerging markets like India, Taiwan, Malaysia and Indonesia.

The GCC is also experiencing rapid expansion in data centre demand, driven by businesses migrating to the cloud, increasing data usage, and government’s digital transformation strategies. KSA, is gaining traction with government investments, alongside established markets like the UAE.

AI driving demand and design

With the rise of AI applications, AI power consumption is expected to grow threefold by 2028.² In response, data centre developments are scaling up with strong demand for large-scale campus type setups. This surge in AI demand is expected to lead to increased rack density, impacting HVAC and air-cooling requirements. Facilities servicing AI-related needs require substantial land area and access to affordable power.

Modular construction

Modular construction adoption is increasing across the region, with faster adoption rates seen in developed markets like Singapore. However, impediments such as design flexibility, high logistic costs, and limited availability of skilled workforce hinder progress, especially in emerging markets like India.

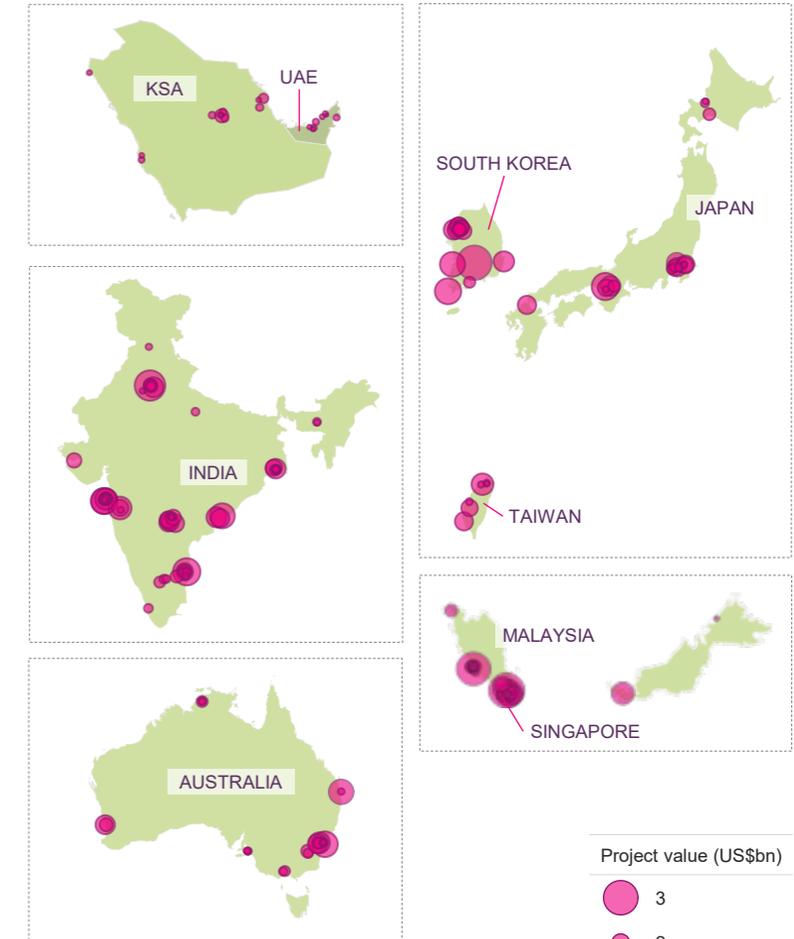
Sources:

¹ IDC Asia/Pacific (Excluding Japan) Public Cloud Services Forecast, 2022–2026: Adoption Shifts to Adjacent Technologies

² Schneider Electric – Energy Management Research Center White Paper 110 Version 2.1

Key site locations

Planned and under-construction projects



Note: Each bubble represents an individual project and size of the bubble represents the value of the project
Source: Global Data

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Sustainability a key focus

- Sustainability initiatives are a welcome development within the industry and a trend that will become more prevalent and sophisticated in the short term.
- In Singapore, where there are sustainability regulations for data centres, developers and operators are focusing on low carbon and low power usage effectiveness (PUE) designs.
- Lifecycle cost assessments are now being carried out at concept stage, prioritizing low OPEX, at the expense of higher CAPEX outlays.
- Renewable energy options like green wall and PV systems are being introduced to enhance sustainability efforts.

Sources: Global Data

³ IMDA Press release – 14 July 2023

⁴ Malaysia gets RM76bil data centre investments |The Star

⁵ Pinsent Masons, Taiwan to provide credit guarantees for green electricity corporate power purchase agreements

Project activity

Australia

- Australia's data centre project pipeline amounts to approximately US\$10bn, with Sydney accounting for around 50% of these projects by value.
- Melbourne is beginning to close the gap to Sydney as the primary market in Australia, especially in relation to new builds with a number of established and new players investing in Melbourne over the past 12 months.
- Other emerging locations include Brisbane and Perth.

GCC

- The data centre market in the GCC region is still at early stages of development but growing rapidly, with the region expected to be one of the fastest growing data centre markets in the coming years.
- Currently, the UAE and KSA has a pipeline of projects valued at approximately US\$1.3 bn.

India

- India has the largest data centre project pipeline in the region, accounting for approximately 40% of the projects by value among the countries covered in this report. Key locations in India include Mumbai, Chennai, Hyderabad, and the National Capital Region.
- With the rollout of 5G, edge data centres are also gaining momentum, although deployment is still in its early stages. Investments for edge DCs in land are underway in several Tier 1 cities across India.

Japan

- Greater Tokyo remains the largest data centre cluster in Asia-Pacific, but significant activity is also underway in Osaka and Chiba. Hokkaido is attracting investments due to its location in a colder climate zone, offering favourable conditions for low energy consumption.

Singapore

- In South East Asia, Singapore remains one of the most preferred locations for data centres, boasting the best cloud ecosystem not only in the APAC region but globally. Singapore has a pipeline of US\$2.2bn, with the Economic Development Board and IMDA awarding contracts in July 2023 to develop 80MW of new capacity across four data centre operators.³
- Singapore, similar to other Tier 1 markets in APAC, has capacity constraints due to land availability, causing developers to look at other markets such as Malaysia.

Malaysia

- Malaysia has a significant pipeline of US\$14.3bn for DC projects and benefits from its proximity to Singapore. The country received US\$16bn worth of investments from data centres between 2021 and March 2023, and its data centre market is expected to attract investments of US\$2.25bn by 2028.⁴

Taiwan

- Taiwan remains a preferred location for data centres among global data centre operators, with approximately US\$3bn worth of projects in the pipeline. There is a focus on corporate power purchase agreements (CPPAs), and the government plans to provide credit guarantees for green electricity CPPAs.⁵

South Korea

- More than two-thirds of the data centre capacity is concentrated in the Greater Seoul area. Within the Greater Seoul region, Central Seoul, Gyeonggi, and Incheon provinces collectively host most of upcoming DC projects, while large-scale projects are also planned in Gyeongsangbuk-do, Jeollanam-do, and Jeollabuk-do.

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01

Supply chain challenges

- Whilst previous disruptions in the supply chain have eased, the DC supply chain is still contending with persistent market challenges, including delays due to high demand for MEP equipment.
- Leading manufacturers or OEM's are now expanding their local production capacities to address the growing demand. Many developers have chosen to order well in advance, paying 30-50% of the costs upfront, thereby also hedging their risk on inflation.

02

Skill shortages

- Across the region, there's a shortage of skilled labour, particularly in mission-critical sectors and advanced manufacturing, leading to challenges in project execution.
- Countries like Taiwan, Japan, and South Korea grapple with ageing populations, and with their labour force rapidly shrinking, this is impacting availability of skilled labour.
- Developed markets such as Singapore and Australia are also facing difficulties in sourcing skilled construction workers amidst increasing construction activity.
- There is variability in availability of skilled labour across cities in India. The highest demand is seen in Mumbai and Chennai, inflating wages by 20-30% in these cities.

03

Lack of availability of skilled contractors

- Availability of skilled contractors in high demand markets such as Japan and Taiwan is limited. The top 4 contractors in Japan are currently contracted on large-scale infrastructure projects, which are not due to be completed until 2025.
- Similarly in Australia some of the most sought-after general contractors, and just as importantly their supply chains, have full order book for the next 12-18 months.

Sectors in focus

Life Sciences

Overview

Historically consolidated within designated parts of APAC, Life Sciences has experienced significant geographical spread in recent years. Despite some challenges, there are evolving opportunities for sustained growth due to diversified supply chains, increased private investment and a desire for self-reliance.



Michael Murphy
Regional Director,
South East Asia

Significant investments in AI for accelerating drug discovery are underway. This surge in R&D activities is expected to drive demand for laboratory facilities.

Following a robust growth period during the pandemic, the life sciences sector in the APAC region is now facing challenges, due to macroeconomic trends and high interest rates. Nevertheless, there's a noteworthy increase in private credit flowing into the sector, fuelling further growth. Both governments and the private sector are placing strong emphasis on R&D, with Singapore and Australia at the forefront. Companies based in these nations saw substantial double-digit growth in R&D in 2022.

In response to the imperative to diversify supply chains, India is emerging as a pivotal pharmaceutical hub within the region, with the availability of talent and supportive government policies. There is a growing prominence in pharmaceutical manufacturing services, including Contract Development and Manufacturing Organizations (CDMOs) and Active Pharmaceutical Ingredient (API) producers.

There is also a growing interest in GCC in the last few years as regulators and investors have been investing in building public-private partnerships with big pharmaceutical companies and emerging biotech firms. In the 2023 federal budget, the UAE earmarked US\$1.3bn for healthcare and community protection initiatives.⁶

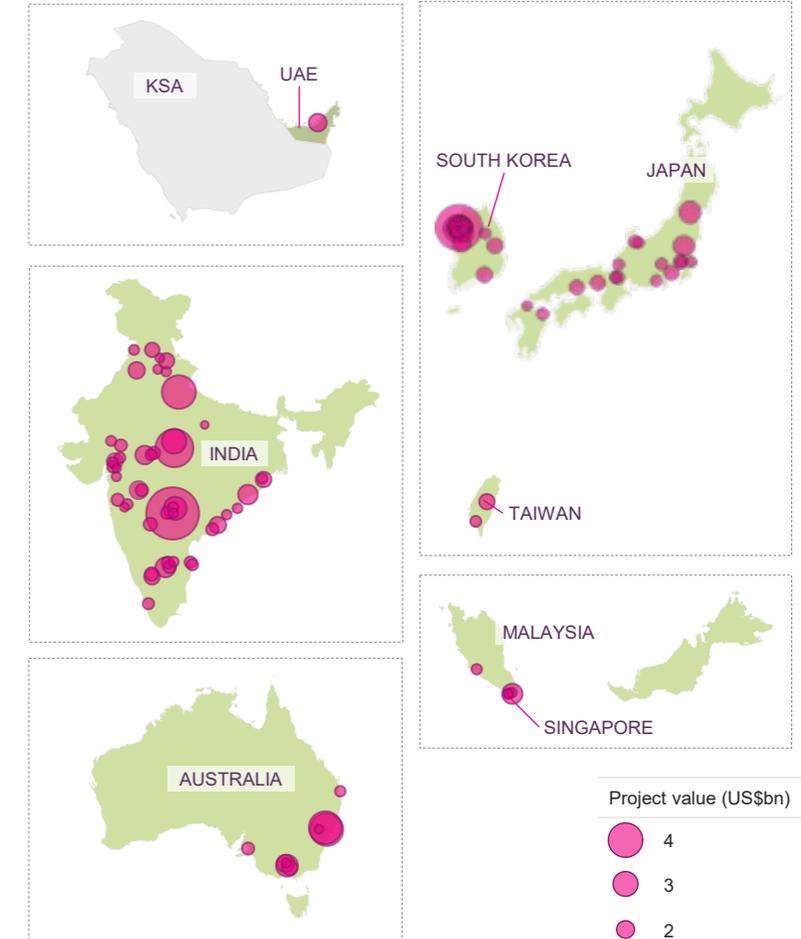
In pharmaceutical manufacturing, the adoption of flexible and modular designs, along with prefab components, is on the rise, to minimise retrofitting costs and align with advancing technology. Effective programme and supply chain management are crucial for the smooth delivery of such large-scale projects in the industry.

Source:

⁶ PWC Article dated 1 June 2023, *The Middle East's biotech plans are taking shape*

Key site locations

Planned and under-construction projects



Note: Each bubble represents an individual project and size of the bubble represents the value of the project

Source: Global Data

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Project activity

- Among the countries covered in the report, Australia has the most projects in planned execution stage which are mainly in Victoria, followed by New South Wales and Queensland.
- South Korea and India have the largest pipeline in terms of planned projects. In South Korea, Seoul is an established cluster, however new developments are also planned in Incheon.
- In India, whilst there are existing national-level policies supporting the life sciences sector, several states also offer additional incentives such as capital subsidies, tax benefits, and streamlined clearance systems. Bangalore and Hyderabad stand out as the key established life sciences clusters. However, new large-scale manufacturing developments are emerging in Gujarat, Andhra Pradesh, Tamil Nadu, Orissa and Maharashtra, further diversifying the landscape and boosting the sector's growth potential.
- In the GCC, Abu Dhabi is emerging as a key area for investment in the life sciences sector. While the size of development is relatively smaller compared to the APAC region, there is a gradual uptick in investment activity.
- Several R&D facilities, are planned or underway across the APAC region, but most notably in Australia, Singapore, South Korea and Japan.
- Taiwan is positioning itself as a leading hub for advanced medical research and product development. The government's implementation of regenerative medicine act has profoundly influenced, highlighting the joint efforts of the government and the industry to promote innovation, safety and accessibility.

Source:

⁷ *The Straits Times, Steps being taken to meet biotech manpower needs, with sector expected to grow by 8% per annum*

Key considerations

- | | | |
|-----------|--|---|
| 01 | Regulatory challenges in emerging markets | <ul style="list-style-type: none"> • In emerging life sciences markets, the regulatory framework is not as mature as in developed markets which needs to be considered during planning. Maneuvering through approvals, compliance, and licensing processes demands a nuanced understanding of the regulatory landscape. |
| 02 | Supply Chain challenges | <ul style="list-style-type: none"> • The lead time for specialised items such as filling lines and inspection lines in the life sciences sector remains lengthy. Contractors in Australia for example often resort to air freighting equipment to meet project timelines. Additionally, contractors are frequently tasked with procuring numerous small items, as it is more convenient for the client than handling the procurement themselves. |
| 03 | Availability of skilled contractors | <ul style="list-style-type: none"> • Many contractors are new to the sector, necessitating significant effort to familiarise them with sector-specific expectations regarding commissioning, documentation, and other aspects. |
| 04 | Talent shortage in the developed markets | <ul style="list-style-type: none"> • In developed life sciences markets such as Japan, Singapore, South Korea, and Australia, a significant shortage of biotech talent is being experienced. • According to a report by The Strait Times, this shortage in Singapore may widen by approximately 30% over the next decade.⁷ However, efforts are underway by the government to address this pressing issue. |

Sectors in focus

High-tech Industrial (semiconductors and batteries)

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Overview

“ The APAC region is leading the global digital and energy transition and will be the future hubs for semiconductor and battery manufacturing.

We are seeing many governments working closely with the industry to attract investments by offering incentives and support. ”



Ameya Gumaste
Executive Director &
Country Head, India

The region's battery manufacturing capacity is set to double by 2030, rising from 2TWh in 2023 to 4TWh.⁸

The APAC region is witnessing a surge in demand for lithium-ion batteries, driven by the rapid transition to electric vehicles in major automotive markets. This region stands as a leader in the global battery storage market, with Asia expected to dominate the EV supply chain.

India is incentivizing local battery production, while Japan offers substantial support, up to US\$2.2 billion, for local storage battery production⁹.

South Korea, along with its top battery companies, is planning a joint investment of US\$15.1 billion through to 2030 to advance battery technologies¹⁰.

The Australian government is also developing a battery manufacturing strategy, while Saudi Arabia, as part of its Vision 2030 initiative, is significantly investing in the sector.

The APAC region, led by China, Taiwan, South Korea, and Japan, dominates the semiconductor manufacturing industry. Three countries, namely Taiwan, South Korea and Japan account for over 55% of global wafer production capacity.¹¹ However, regulatory changes from the EU and US are reshaping the sector.

While policies promoting local manufacturing emerge in Japan, South Korea, and India, South East Asian countries that have a more developed semiconductor ecosystem including Singapore and Malaysia, are also ramping up efforts to increase their foundry capacities.

Sources:

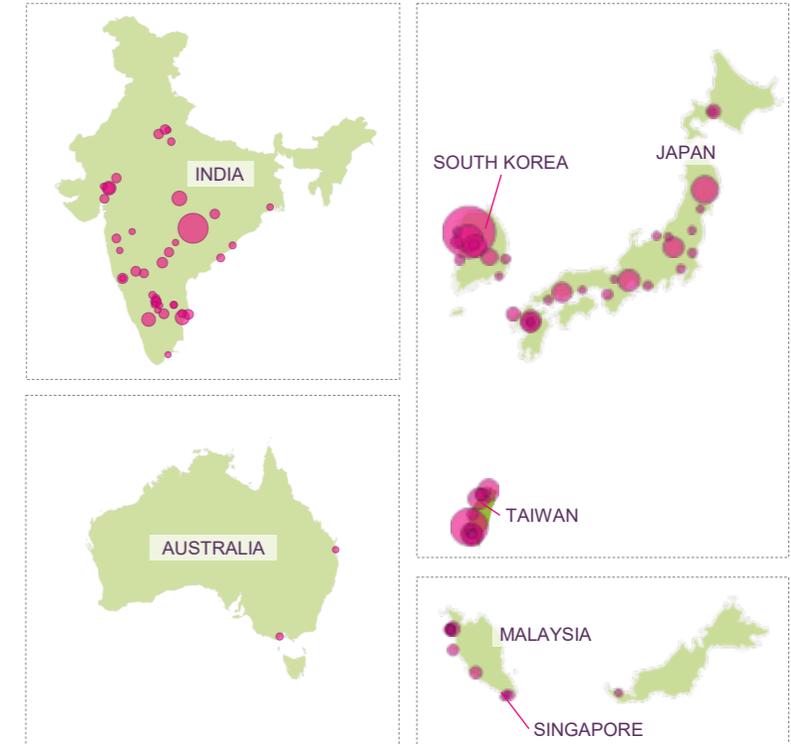
^{8,9} S&P Global Research: *Lithium-ion battery capacity to grow steadily to 2030*, 27 Jul 2023

¹⁰ *Economic Report 2023 Republic of Korea, Embassy of Switzerland in the Republic of Korea*, 30 June 2023

¹¹ BCG Semiconductor Industry Association, *Strengthening the global supply chain in an uncertain era*, April 2021

Key site locations

Planned and under-construction projects



Project value (US\$bn)

- 90
- 60
- 30
- 0.025

Note: Each bubble represents an individual project and size of the bubble represents the value of the project
Source: Global Data

Sectors in focus

High-tech Industrial (semiconductors and batteries)

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Project activity

- Countries-with established semiconductor markets are announcing both expansion and new projects in the sector.
- India's electronic manufacturing sector is growing exponentially with the government setting up an India semiconductor mission (ISM), tasked with spearheading the country's US\$10 billion semiconductor and display manufacturing. The Indian government has received 4 proposals for setting up semiconductor manufacturing plants and 13 for chip assembly units.¹²
- Malaysia is poised to become a regional hub for the electric vehicle industry, stating that its existing industry offers a strong foundation for Malaysia to be a crucial part of global EV supply chains.
- Big chip makers from the US and other western countries are moving to increase production in Singapore as they work to meet growth in demand and spread their supply chain risk.
- Over the next five years the APAC region is anticipated to have the highest number of battery construction projects in the world, with India and Japan the top investment locations within the region.

Sources:
Global Data

¹² Money Control

¹³ BCG Semiconductor Industry Association, *Strengthening the global supply chain in an uncertain era*, April 2021

Key considerations

01

Project Planning and scheduling

- The immense scale of giga-projects can present significant challenges related to construction schedules. Delays to the schedule can have substantial financial impacts. While there are established battery manufacturing regions within the APAC region, in both established and new regions, it is imperative to conduct detailed risk assessments and integrate them into project planning processes early.

02

Talent shortages and skills gap

- A key challenge facing the sustained success of advanced manufacturing in the APAC region, is the ongoing need for talent with the required qualifications and technical expertise to meet rising demand.
- The complexity of HVAC and electrical systems in these facilities demands highly skilled MEP labour. The intricate nature of clean rooms, vital for maintaining required cleanliness levels, require very high precision in terms of execution.
- Furthermore, these large-scale projects necessitate a substantial number of on-site trade workers concurrently. Hence, meticulous labour capacity planning is imperative for the successful execution of such projects.

03

Supply chain planning

- High-tech manufacturing projects need cutting-edge equipment and materials which often require the procurement of these in advance, due to their long lead times. Currently, some materials and equipment have lead times of over a year.
- The US and Europe collectively produces 59% of the total global manufacturing equipment capacity by value.¹³ Therefore, emerging locations within APAC require meticulous supply chain planning to ensure, delivery schedules can be adhered to in order to handle large-scale projects efficiently.

Commodities

Construction commodities play a crucial role in the global economy, and their prices are subject to fluctuations due to various factors such as supply and demand, economic outlook, and geopolitical events.

In recent times, we have witnessed market corrections in commodities, providing timely relief to the construction industry.

At Linesight, we closely monitor the trends and developments in the commodities market to provide our clients with the most up-to-date and accurate information.

Please note that commodity prices are based on representative materials available in the respective countries, and as these materials may not be standard across all markets, cross-country comparisons on prices can be ineffective. For example, asphalt types can vary between hot, cold or a bitumen price, and standard unit sizes for materials can vary across countries. Material prices relate to raw or unfinished materials, and not to finished, delivered and erected on-site prices.



Copper



Steel rebar



Steel flat



Stainless steel



Cement



Concrete



Lumber



Bricks/Blocks



Plasterboard



Diesel

APAC



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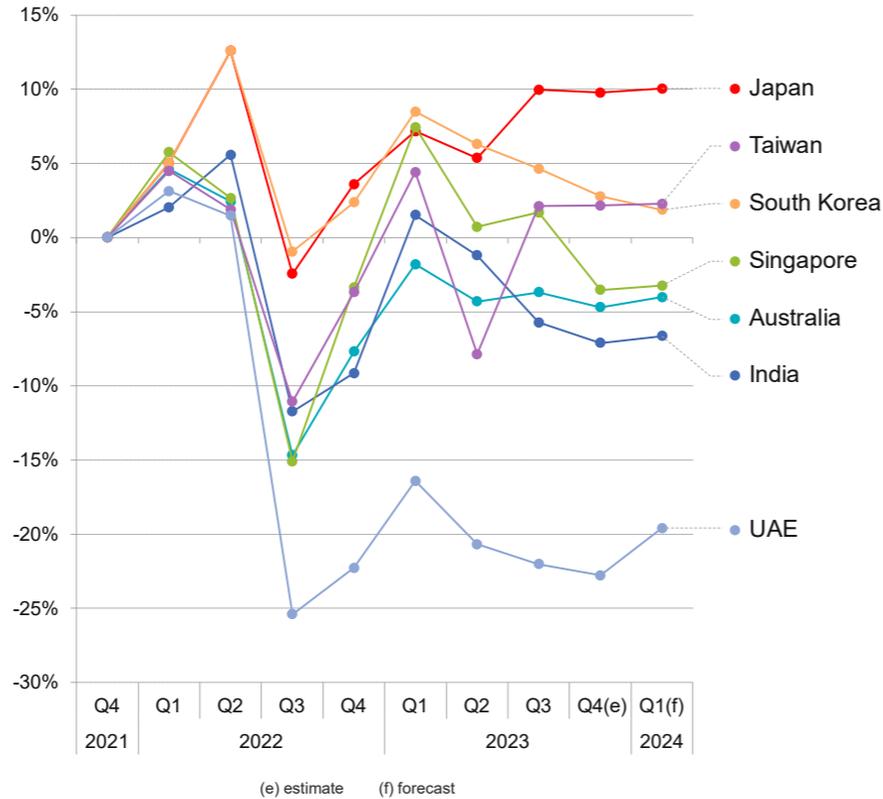
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Price change comparison against Q4 2021



YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	

3%	■	●	◆	➔
-2%	■	●	◆	➔
-6%	■	●	◆	➔
-10%	■	●	◆	➔
-2%	■	●	◆	➔
-8%	■	●	◆	➔
-4%	■	●	◆	➔

■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	➔ ≥ 1% - < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% - < 1%
			➔ ≥ -1% - < -5%
			↓ ≥ -5%

Source: Global Data

Past trend

Prices have been volatile since Q4 2021. Influencing factors include an anticipated increase in demand from China, supply disruptions in Latin America, and a weak global economic outlook. The prices peaked in H1 2022, easing out during the second half of 2022. From Q4 2022 to Q4 2023, copper prices remained relatively stable, with maximum increases of 6%. However, there was continued volatility within shorter timeframes throughout 2023. In the UAE the prices mirrored the trend seen in Europe.

Current situation

In Q4 2023, copper prices experienced a marginal decrease across countries, including Japan, Australia, Singapore, and South Korea, primarily due to currency strengthening. However, by December 2023, prices rebounded globally, driven by an improved global economic outlook, government investments in renewable and EV sectors, and anticipated recovery in China.

Future outlook

Prices are expected to sustain an upward trajectory, at a moderate pace*. Contributing factors include improving economic conditions, anticipation of a recovery in Chinese markets, increased demand for copper from government-led initiatives in renewable energy and EV sectors, and the global economy showing signs of recovery from the second half of 2024.

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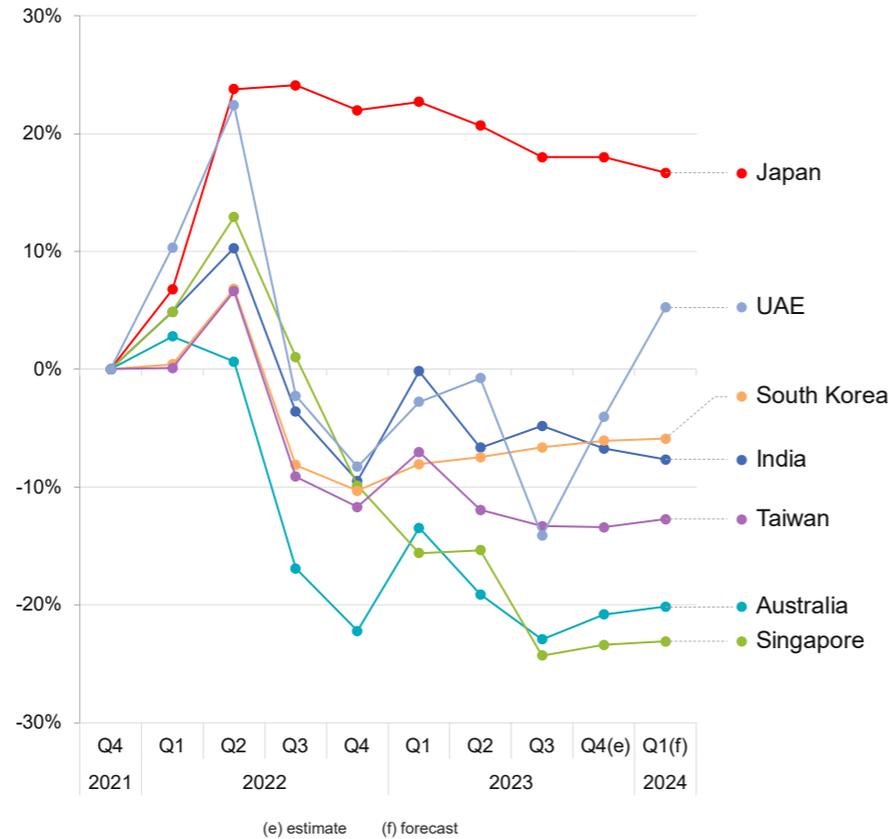
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Price change comparison against Q4 2021



YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	
Q1 '23 – Q1 '24 (f)				Q2 - Q3 '24 (f)

-5%	■	●	◆	➤
8%	■	●	◆	↔
2%	■	●	◆	➤
-8%	■	●	◆	➤
-6%	■	●	◆	➤
-8%	■	●	◆	↔
-9%	■	●	◆	➤



Source: Global Data

Past trend

Steel prices have experienced a decline from the highs of 2022, marked by market volatility throughout 2023. Economic uncertainty and subdued manufacturing activity exerted varying degrees of pressure on steel prices and demand across countries.

Notably, Japan stands out as an exception, with steel prices remaining 17% higher than Q4 2021, primarily attributed to the weakened Yen.

Current situation

From Q3 2023 to Q4 2023, steel prices generally stabilised across most countries.

However, Australia experienced a modest 3% increase, and the UAE witnessed a notable 10% QoQ surge, mainly influenced by the government's strategic emphasis on infrastructure development and recent supply chain disruptions in Red Sea.

Future outlook

In the first quarter of 2024, prices are expected to remain stable across all the countries with the exception of UAE, where an increase is foreseen due to heightened development works and potential supply chain disruptions stemming from the Red Sea crisis.

Looking ahead to the second half of 2024, the trajectory of steel prices will hinge on the extent of construction activity prevailing across the respective countries.



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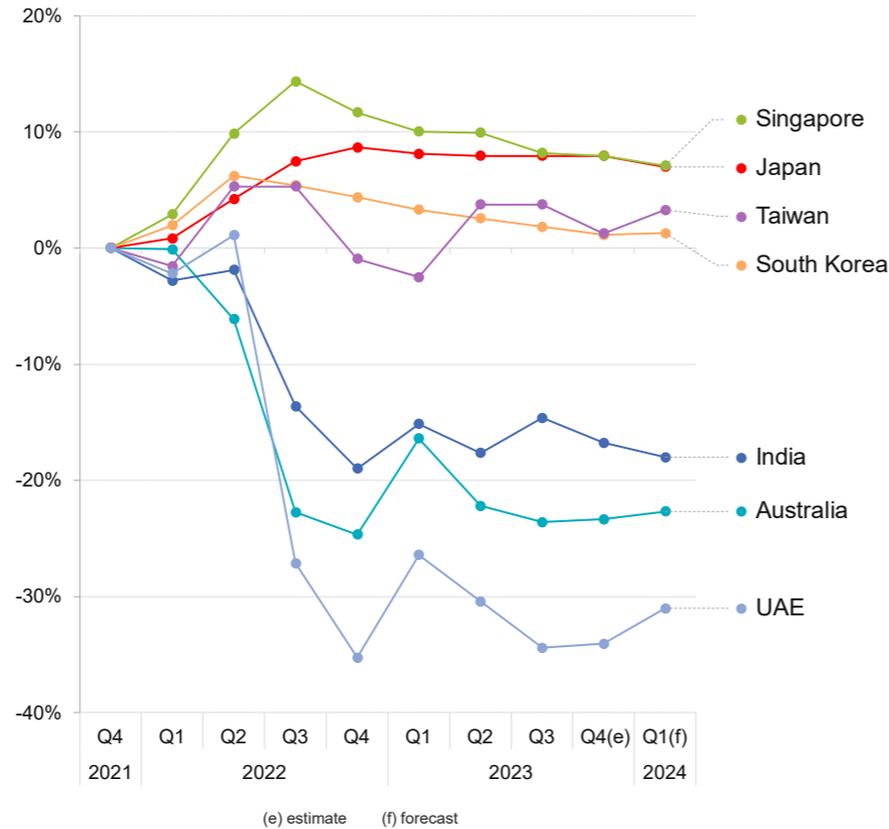
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Price change comparison against Q4 2021



YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	

-3%	Deficit	Balanced	Stressed	↗
-1%	Surplus	Balanced	Adequate	↗
6%	Deficit	Surplus	Adequate	↗
-2%	Deficit	Balanced	Stressed	↗

-3%	Surplus	Balanced	Stressed	↗
-8%	Deficit	Surplus	Adequate	↔
-6%	Deficit	Surplus	Adequate	↔

■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	↗ ≥ 1% - < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% - < 1%
			↘ ≥ -1% - < -5%
			↓ ≥ -5%

Source: Global Data

Past trend

Steel flat prices have mirrored the trends of rebar prices in India, Australia, and the UAE. However, prices have remained largely stable in Singapore, Taiwan, South Korea, and Japan over the last two years, attributed to sustained manufacturing activity.

Current situation

On a QoQ basis, in Q4 2023 Steel flat prices stabilised across the countries, with prices edging downwards in India and Taiwan due to weak manufacturing activity in the previous quarter.

Future outlook

In Q1 2024, prices of steel flat are expected to remain more or less stable across all countries. However, in line with steel rebar prices, steel flat prices in the UAE are expected to witness an increase of 5%.

In the coming quarters, flat steel prices are likely to mirror the trends in steel rebar.

Commodities Stainless steel

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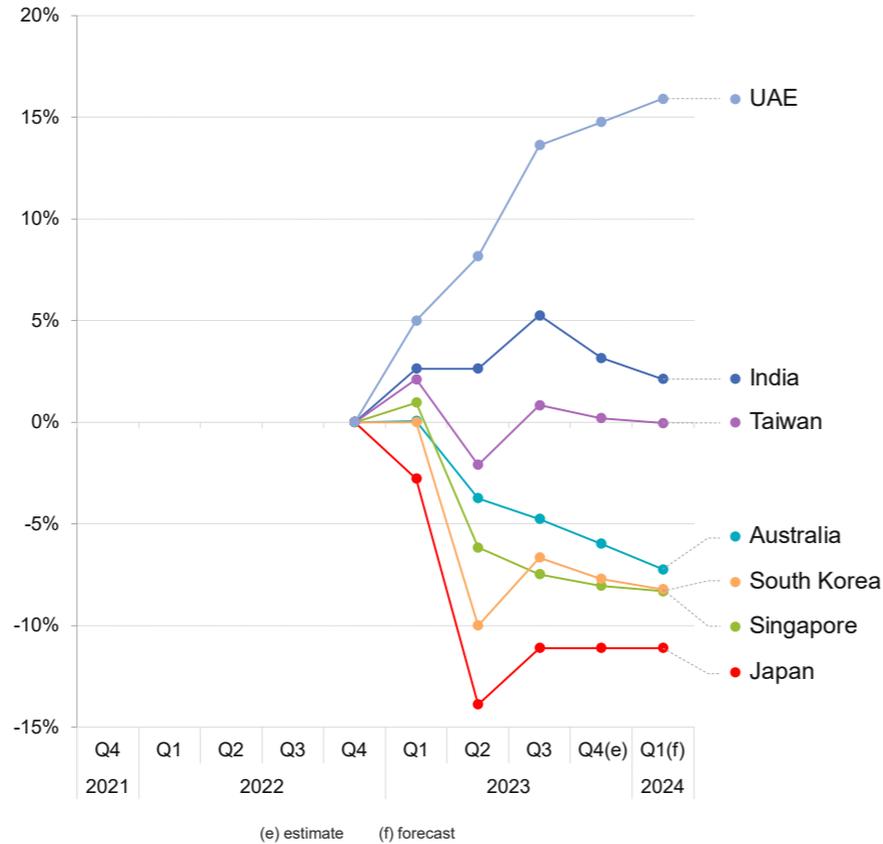
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Price change comparison against Q4 2022



Source: Global Data

YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	

10%	■	●	◆	➔
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0%	■	●	◆	↔
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-2%	■	●	◆	➔
-----	---	---	---	---

-7%	■	●	◆	↔
-----	---	---	---	---

-8%	■	●	◆	➔
-----	---	---	---	---

-9%	■	●	◆	↔
-----	---	---	---	---

-9%	■	●	◆	↔
-----	---	---	---	---

■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	↔ ≥ 1% - < 5%
■ ≤1%	● Surplus	◆ Easily available	➔ < -1% - < 1%
			➔ ≥ -1% - < -5%
			↓ ≥ -5%

Past trend

From Q4 2022 to Q4 2023, the prices of stainless steel have generally remained stable or experienced a decline, with the exception of India and the UAE. Notably, the YoY prices in India increased by 3%, while the UAE witnessed a significant surge of 15%, attributed to government investments in the transport sector. Meanwhile, Taiwan experienced stainless steel price volatility during this period.

Current situation

Prices for stainless steel fell marginally in Q4 2023 in most APAC countries and UAE due to currency appreciation, a drop in raw material prices, and a glut of nickel pig iron. Prices in Japan however have been stable, with demand from the manufacturing sector offsetting the impact of low prices.

Future outlook

Lower nickel prices and an oversupply of nickel pig iron are expected to drive down stainless-steel prices in the short term, with the exception of India and the UAE, where prices are expected to rise due to investments in transportation infrastructure projects. Similarly, an increase can be expected in South Korea if manufacturing activity picks up. In the second half of the year the rise in nickel prices will be driven by its role in the green transition and is anticipated to contribute to a stabilisation and eventual increase in stainless-steel prices.



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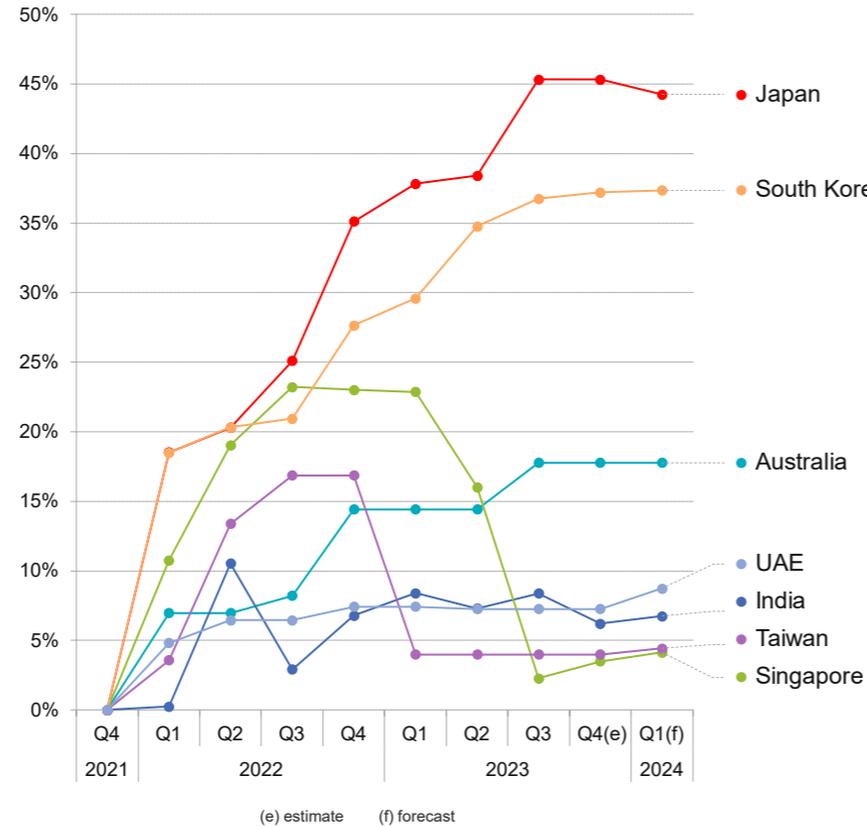
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Price change comparison against Q4 2021



Source: Global Data

YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	

5%	Deficit	Balanced	Stressed	↗
6%	Deficit	Balanced	Stressed	↗
3%	Deficit	Balanced	Stressed	↗
1%	Deficit	Balanced	Stressed	↗
-2%	Deficit	Balanced	Stressed	↔
0%	Deficit	Balanced	Stressed	↗
-15%	Deficit	Balanced	Stressed	↔

■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	↗ ≥ 1% - < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% - < 1%
			↘ ≥ -1% - < -5%
			↓ ≥ -5%

Past trend

Cement prices rose in Q4 2021, and throughout 2022, influenced by surging energy prices and supply chain disruptions. Despite some easing in energy costs, prices remained volatile and generally elevated compared to Q4 2021 levels.

Producers, facing losses from 2022, have struggled to pass on reduced input costs to customers. While there has been moderation in prices in Singapore and Taiwan, the overall trend has been one of sustained high prices.

Current situation

On a QoQ basis, prices remained stable in Q4 2023 in Australia, Japan, South Korea, Taiwan, and UAE. Despite a moderation in thermal coal costs, prices remained resilient in Japan and UAE due to a pickup in civil engineering work.

A 72% anti-dumping duty on Egyptian cement imports kept prices elevated in South Korea. Singapore experienced an increase of 1% due to construction activity, while in India, prices edged downwards owing to a supply overhang and tight competition.

Future outlook

Prices are expected to marginally increase in Q1 2024 due to a combination of demand factors, and supply chain disruptions. Australia's residential sector weakness may be balanced by higher production costs from decarbonization efforts. Investments in infrastructure and housing in UAE and India are contributing to pricing dynamics.

Singapore and Taiwan anticipate a rise in construction activity, while Japan and South Korea are expected to witness a softening of construction activity in the coming quarters.



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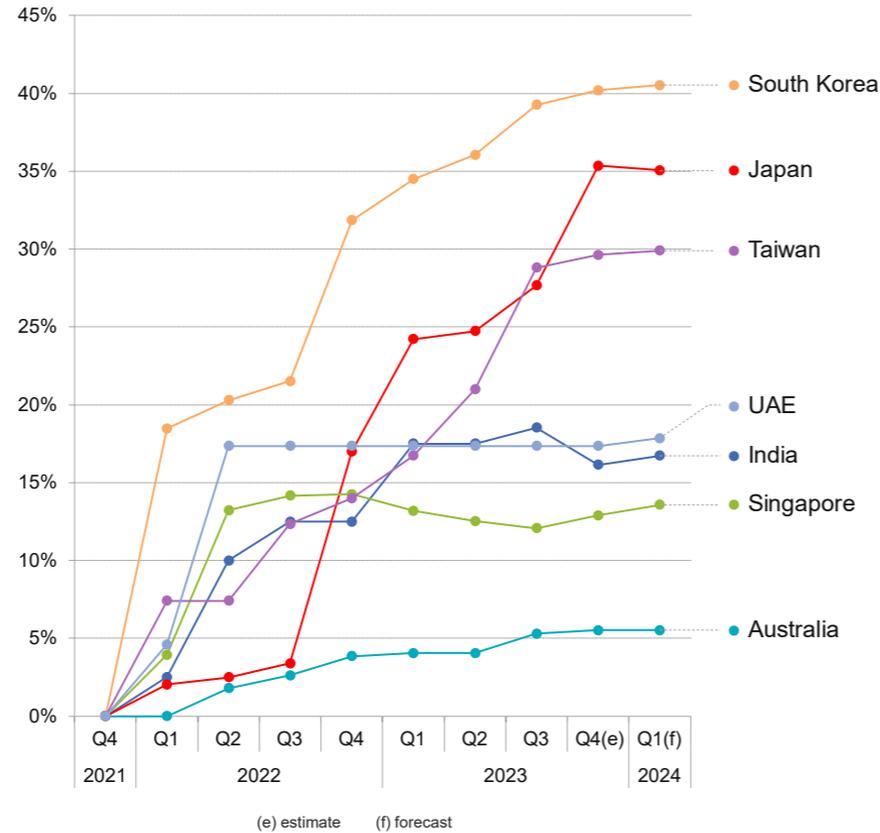
Labour

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Price change comparison against Q4 2021



Source: Global Data

YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	
4%	■	●	◆	➔
9%	■	●	◆	➔
11%	■	●	◆	➔
0%	■	●	◆	➔
-1%	■	●	◆	↔
0%	■	●	◆	↔
1%	■	●	◆	➔

■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	➔ ≥ 1% - < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% - < 1%
			➔ ≥ -1% - < -5%
			↓ ≥ -5%

Past trend

Concrete prices have largely followed similar trends to cement. Prices are still elevated as compared to Q4 2021.

The moderation in the cement prices which were seen in Singapore and Taiwan however are still not reflected in the concrete price.

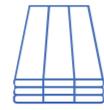
Current situation

Concrete prices have remained relatively stable on a quarter-on-quarter basis across all countries.

However, India experienced a 2% dip in line with cement prices, while Japan, despite seeing no increase in cement prices in Q4 2023, witnessed a 6% surge in concrete prices. This increase was attributed to rising aggregate costs driven by demand from civil engineering projects.

Future outlook

Prices in Q1 2024 are anticipated to remain stable across all countries. Moving forward, the prices of concrete are expected to mirror the trends observed in cement prices in the coming quarters.



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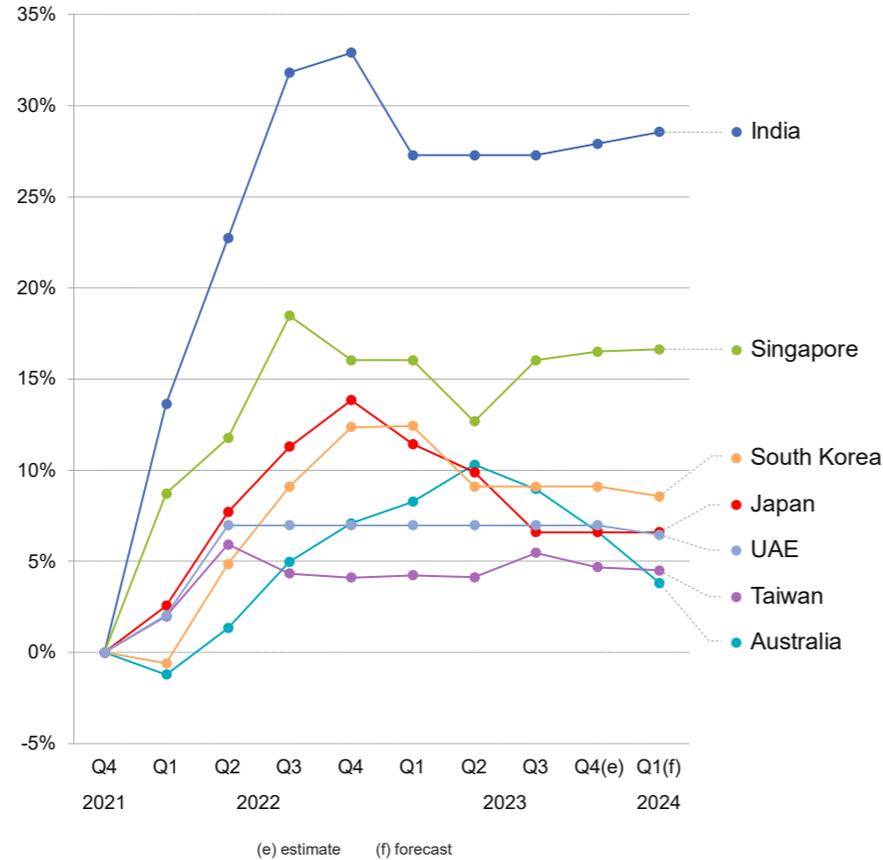
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Price change comparison against Q4 2021



YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	
1%	■	●	◆	↔
1%	■	●	◆	↔
-3%	■	●	◆	↘
-4%	■	●	◆	↔
0%	■	●	◆	↔
0%	■	●	◆	↔
-4%	■	●	◆	↘

■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	↗ ≥ 1% - < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% - < 1%
			↘ ≥ -1% - < -5%
			↓ ≥ -5%

Source: Global Data

Past trend

Lumber prices began to rise in Q2 2022 amid global supply chain disruptions. Although there was some moderation in the second half of 2023, the prices remain elevated compared to those in Q1 2022.

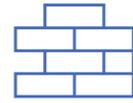
Current situation

With a stabilisation of supply and demand, lumber prices remained relatively stable in Q4 2023 compared to Q3 2023. However, Australia experienced a 2% decrease in prices, attributed to a weak residential construction sector.

Future outlook

Due to a sluggish residential construction sector, lumber prices are anticipated to decrease by 3% in Q1 2024 in Australia, whilst price stability is expected in other countries. Looking ahead, there are expectations of a continued decline in prices in Australia and South Korea.

Conversely, countries like India, UAE, and Singapore, where construction activity is on the rise, are likely to experience elevated lumber prices for a few more quarters.



Commodities Bricks/Blocks

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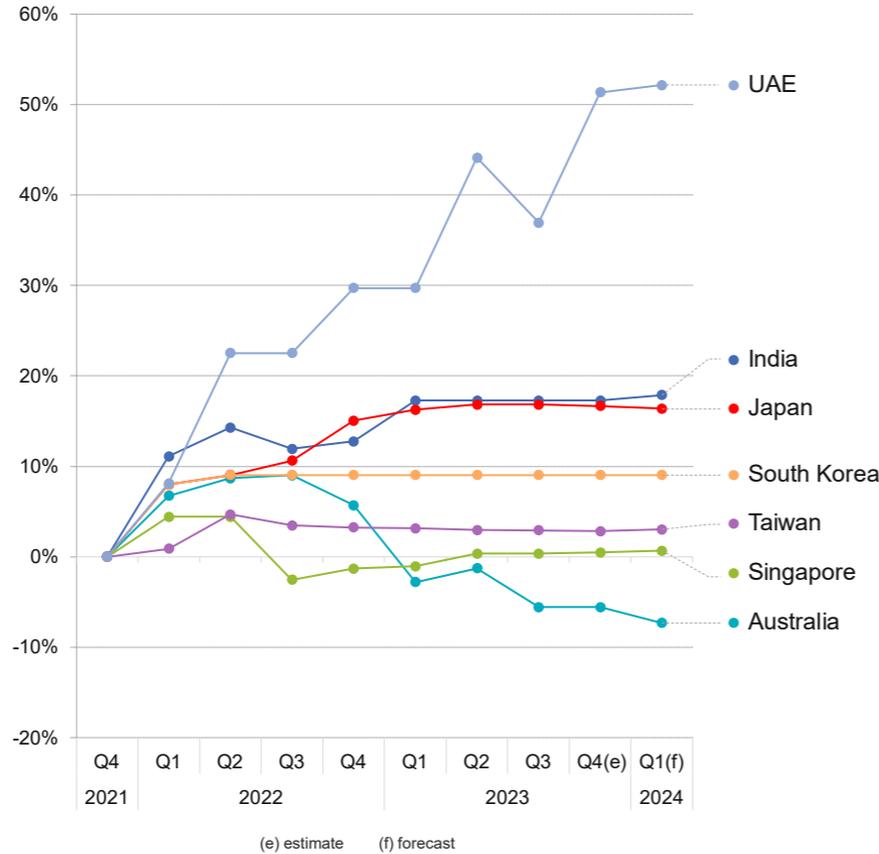
Labour

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Price change comparison against Q4 2021



Source: Global Data

YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	
17%	■	●	◆	↔

1%	■	●	◆	↔
0%	■	●	◆	➔
0%	■	●	◆	↔
0%	■	●	◆	↔
2%	■	●	◆	↔
-5%	■	●	◆	➔

■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	➔ ≥ 1% - < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% - < 1%
			➔ ≥ -1% - < -5%
			↓ ≥ -5%

Past trend

Over the past year, brick prices have generally remained stable, with the exception of a 6% increase in concrete block prices in UAE from Q1 2023 to Q3 2023, attributed to producers raising prices after stability in the previous quarters. Australia experienced a 3% decline in brick prices due to a weakened residential sector.

Current situation

In Q4 2023, common trends in brick prices were seen across several countries. Australia experienced stability in brick prices after a decline in Q3 2023. India, Japan, South Korea, and Taiwan saw stable brick prices with marginal changes or slight declines.

In Singapore, brick prices remained relatively stable, showing only a marginal rise due to increased construction demand. However, in the UAE, concrete block prices increased by 10.5% in Q4 2023, driven by heightened demand for housing construction.

Future outlook

In Q1 2024, brick prices are expected to exhibit diverse trends. Australia anticipates a slight decline due to the reduction in residential construction. Japan and South Korea may see lowering prices amid weakened construction activity.

Taiwan and India foresee a modest uptrend supported by an expected increase in construction activity. Meanwhile, UAE is expected to see elevated prices due to robust real estate projects.

Commodities Plasterboard

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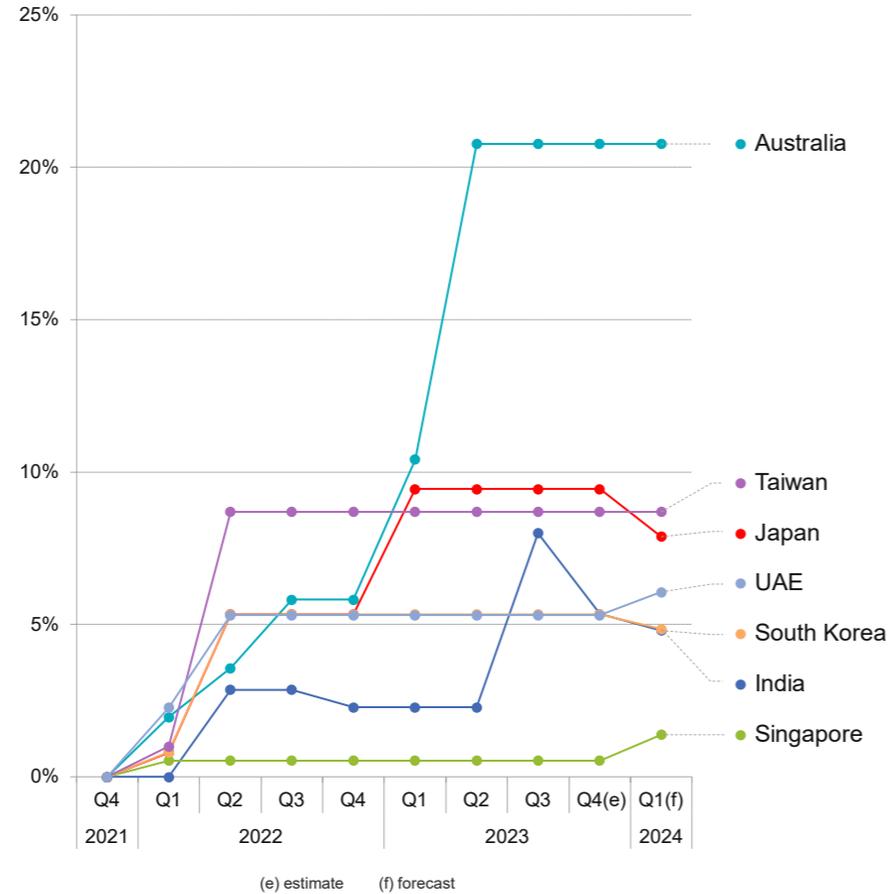
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Price change comparison against Q4 2021



Source: Global Data

YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	

9%	■	●	◆	↔
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0%	■	●	◆	↔
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-1%	■	●	◆	↘
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1%	■	●	◆	↔
----	---	---	---	---

0%	■	●	◆	↔
----	---	---	---	---

2%	■	●	◆	↔
----	---	---	---	---

1%	■	●	◆	↔
----	---	---	---	---

■ >5%	● Deficit	◆ Stressed	↑ ≥ 5%
■ >1%-≤5%	● Balanced	◆ Adequate	↗ ≥ 1% - < 5%
■ ≤1%	● Surplus	◆ Easily available	↔ < -1% - < 1%
			↘ ≥ -1% - < -5%
			↓ ≥ -5%

Past trend

Plasterboard prices have been on the rise since Q2 2022, and although supply chain disruptions have eased and energy prices decreased, prices have remained at elevated levels.

This is attributed to producers being unable to pass on the reduction in input costs due to the losses they previously incurred. Singapore saw a slight dip of plasterboard prices of 3% on a YoY basis in Q3 2023, as prices had been elevated since Q2 2021.

Current situation

On a quarterly basis, prices remained more or less stable, edging slightly downward in Q4 2023. This is mostly due to producers still trying to recoup losses and so were unable to pass on lower input costs to buyers.

Future outlook

Plasterboard prices are expected to remain relatively stable in Q1 2024. As construction activity increases, prices are expected to stay elevated in the near future. However, Japan is likely to see a dip of 1.4% in prices due to the weak residential and commercial sectors.



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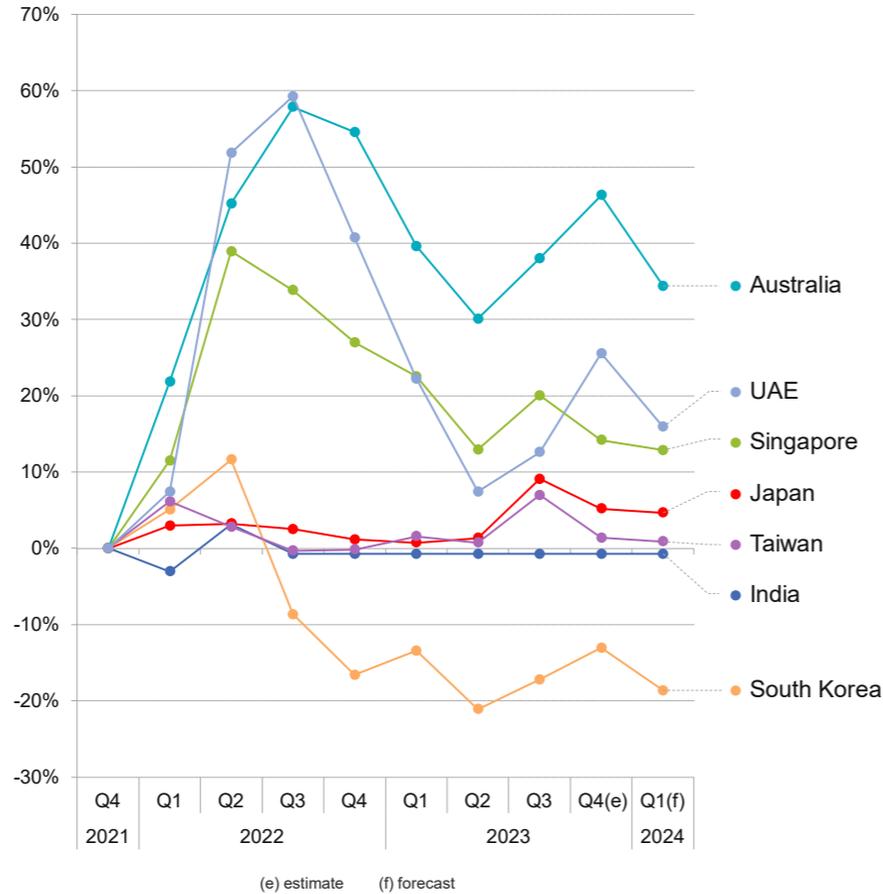
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Price change comparison against Q4 2021



Source: Global Data

YoY % price change	Level of impact on construction industry			Forecast
	Price change (e) vs (f)	Material availability	General state of supply chain	
Q1 '23 – Q1 '24 (f)				Q2 - Q3 '24 (f)

-4%	■	●	◆	↘
-5%	■	●	◆	↔
-8%	■	●	◆	↔
4%	■	●	◆	↘
-1%	■	●	◆	↔
0%	■	●	◆	↔
-6%	■	●	◆	↔



Past trend

Diesel prices decreased in Q2 2023 from the peaks of early 2022 in all the countries. In India, diesel prices have remained unchanged since Q3 2022, with state-owned oil companies maintaining price.

Amid uncertain global economic conditions, volatility was observed in diesel prices in Q3 2023, with Japan and Taiwan witnessing peak prices higher than that in H1 2022.

Current situation

In Q4 2023, on a quarterly average basis, diesel prices increased in a few countries, however the prices which peaked in first week of 2023 fell to a low in December 2023. Additionally, the strengthening of currencies in APAC also kept the increase in check.

Future outlook

Diesel prices are expected to decline in Q1 2024, due to an expected lower average in crude oil prices. Factors affecting the price outlook, however, include potential further escalation of tensions in the Middle East and the decline in freight volumes through the Red Sea and Suez Canal. In India diesel prices are likely to remain stable in the near future given the general elections scheduled in 2024.

Furthermore, an extension in voluntary production cuts by OPEC+ nations is expected to keep oil prices volatile in short term.

Methodology

Linesight has commissioned independent global research to track construction activity, materials and commodity prices.

The approach and methodology for the collection of construction material pricing and other indicators is based on primary and secondary research.

Primary and secondary research

Primary research is conducted on a quarterly basis with stakeholders in the value chain, including manufacturers and suppliers/distributors of the target materials, to ascertain market information on prices in recent quarters, and also on projections for changes in the coming quarter and remainder of the year. The market analysis also involves a thorough assessment of secondary sources of data on materials and labour prices, in addition to underlying demand and supply trends that will impact market prices.

Sources include GlobalData's Construction Intelligence Center (CIC), the World Bank, IMF, OECD, as well as country specific national statistics offices, such as the U.S. Bureau of Economic Analysis, Bureau of Labor Statistics, and also industry specific associations and publications.

Definitions

- All commodities are raw materials
- Nominal data series do not exclude changes in prices and are also referred to as current prices series. Annual changes in nominal data for construction output will include changes in construction activity, as well as changes in costs for materials and equipment.
- Real data series are calculated by keeping prices constant (so, are also referred to as constant price series), and therefore, they reflect changes in activity only. Growth rates in nominal terms can overstate the pace of growth in construction activity if there is high inflation stemming from rising prices for key inputs.
- Level of impact rating reflects a combination of factors: price change (compared to recent past beyond the last quarter), the importance of the material, and general state of the supply chain in terms of stability.
- The key site locations and their respective project values indicated in the sector maps are based on information sourced from the Global Data Intelligence Center and data available in the public domain at the time of writing this report. These maps are indicative only and do not represent the exact project values.

Abbreviations

QoQ	Quarter on Quarter
YoY	Year on Year
MoM	Month on Month
GDP	Gross Domestic Product
CPI	Consumer Price Index (wherever not specified)
e	estimated
f	forecasted
EV	Electric Vehicles
DC	Data Centre

Disclaimer

The construction market insights report contains information, data, and analysis related to the construction industry. While we strive to provide accurate and up-to-date information, it is important to note that the commodity market is subject to various factors, uncertainties, and changes that may impact the accuracy or reliability of the report's contents.

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Published March 2024

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Acknowledgements

Linesight wishes to thank all who took the time to contribute to this report including but not limited to:

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