

constructsteel

Monthly update for the construction industry

May 2021



constructsteel

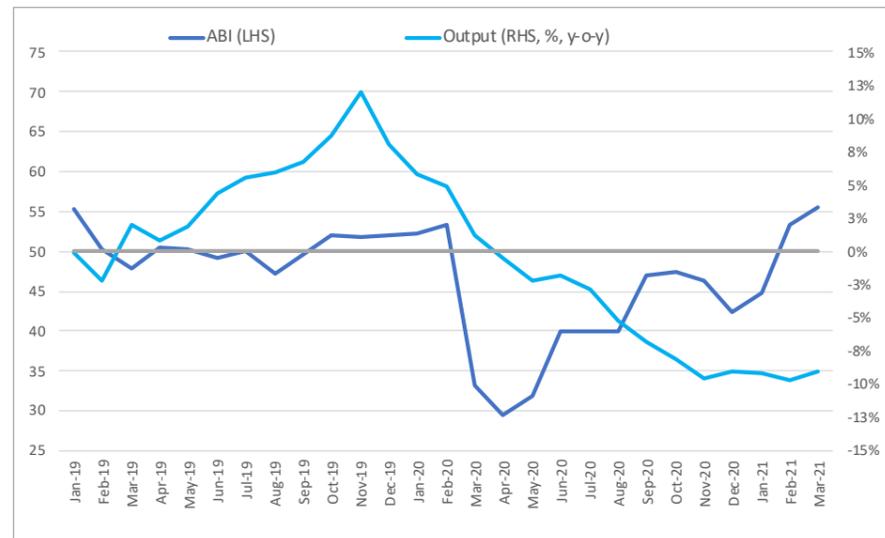
Construction market trends

United States Leading indicators point to stabilisation in private non-residential output in coming months.

Private residential output up 1.7% m-o-m in March (23%, y-o-y); issued building permits up 2.3% m-o-m (30%, y-o-y). Private non-residential output down -10% y-o-y in March. The Architecture Billings Index (ABI) expanded for the second straight month to 55.6 in March (>50, expansion) and reaching the highest level since January 2019.

Private non-residential output vs ABI

Source: McKinsey & Company

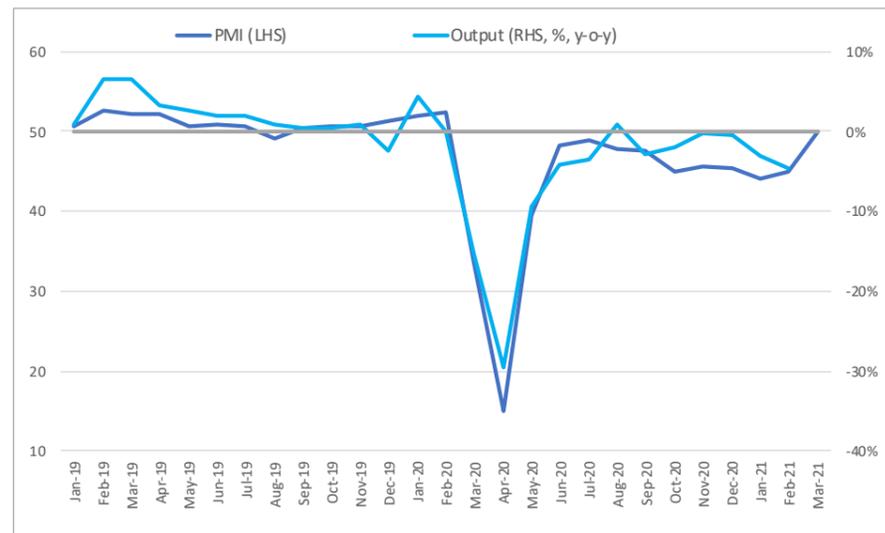


Europe Construction remains weak but optimism returns in March and for the first time since February 2020.

Eurozone output down -1.6% m-o-m in February (-4.7% y-o-y). The IHS Markit Eurozone construction PMI expanded to 50.1 in March (> 50, expansion) and for the first time since February 2020.

Eurozone construction output vs PMI

Source: Eurostat



Knowledge partner:

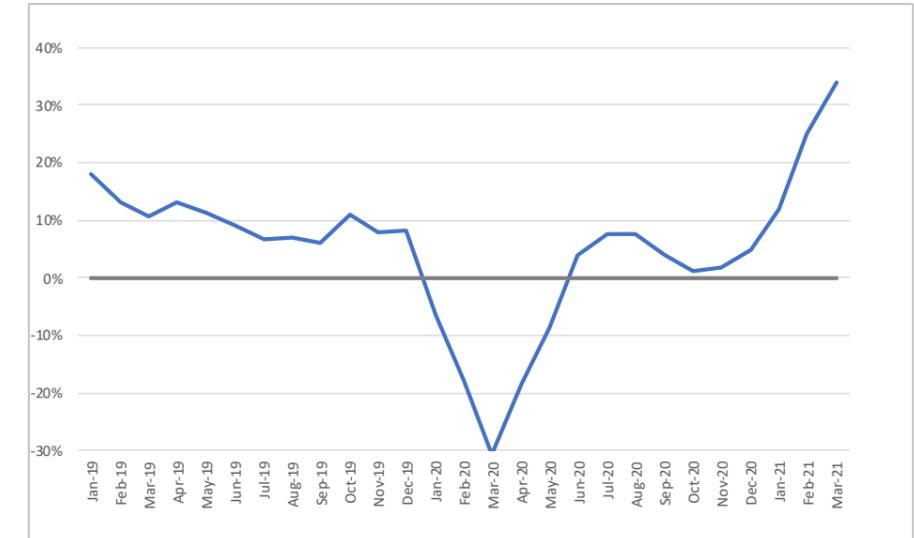


China Chinese real estate buoyant but authorities following credit restrictions to slow growth.

New floor space started up 34% y-o-y and floor space sold up 70% in Q1 (helped by weaker base in Q1 20)

Floor space started (3 month moving average, % y-o-y)

Source: McKinsey & Company

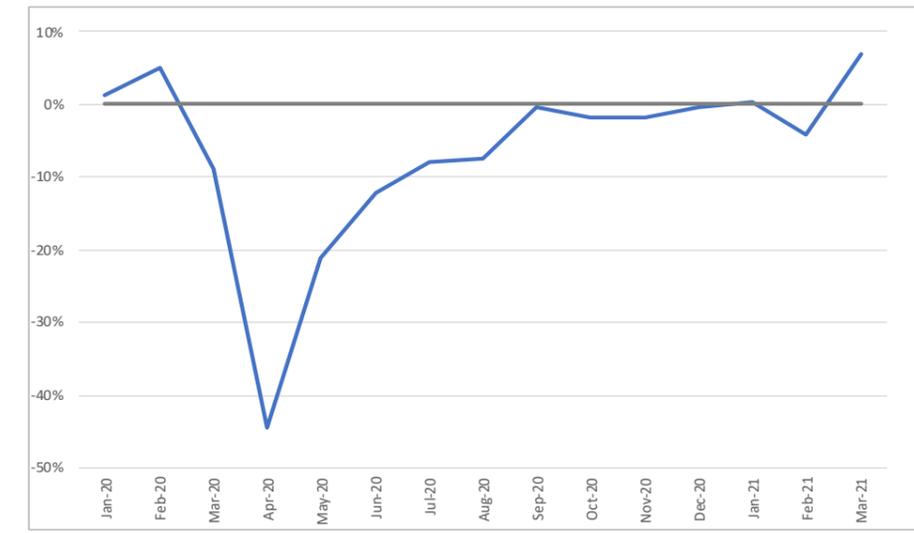


India Weak base contributes to largest expansion in core activity in 32 months in March but underlying activity generally weak.

The weighted average of eight core industries output up 7% y-o-y in March. Output of steel and cement recorded the highest growth and by 23% and 33% respectively.

Weighted average of eight core industries industrial production (% y-o-y)

Source: Ministry of Commerce & Industry, India



Special topic: Developing a Zero Energy House

Duncan Swinhoe
Managing Principal,
Gensler



Gensler

Gensler is a global design firm with over 6,000 professionals across 50 offices worldwide. We are focused on using the power of design to enhance the human experience and make the world a better place. In 2016 we signed up to the Paris Climate Accord and have committed to an ambitious goal of removing all green-house gases associated with the built environment.

constructsteel reached out to Gensler in 2020 to discuss working together to develop an affordable steel based Zero Energy House. We were excited by this project as it closely aligned with Gensler's aims. We welcomed the opportunity to work directly with the steel industry as steel is a material widely used across the globe in construction of buildings. The potential to work with the steel industry to understand how to use steel in a low-impact, carbon conscious fashion which can positively impact environmental performance of buildings was refreshing and pro-active and one we warmly welcomed. We were also delighted to hear that this project was to focus on creating affordable dwellings that can help address the world's housing crisis, an issue that is close to Gensler as we seek to shape the future of cities across the globe.

Gensler have now partnered with constructsteel to design a 100m², 2-storey family home that can be adapted depending on regional and climatic variables. Steel has the best circular economy story of any commonly used construction material. The aim is to prove how steel can be utilized to build a globally affordable, and reusable, net-zero house.

Through structured interactive workshops, Gensler and the constructsteel partners have scrutinized varying modern and traditional construction methods, material selections, and regional approaches to delivering an affordable family house. A resilient home is one that encourages flexibility and longevity. In response to this challenge, we are creating a house that has flexibility and fluctuating occupant requirements at its core: The proposal can be disassembled, re-configured, and expanded when required. All with locally-focused resources and without substantial on-site works.

The intention of this initial workstream is to create a design that can then hopefully move into 'prototype' where we can realize a built demonstrator project that can be used to promote the sustainable use of steel to create affordable net zero housing. We look forward to sharing the results of the design process later this year!



Technical trends: The next normal in construction material distribution

McKinsey & Co

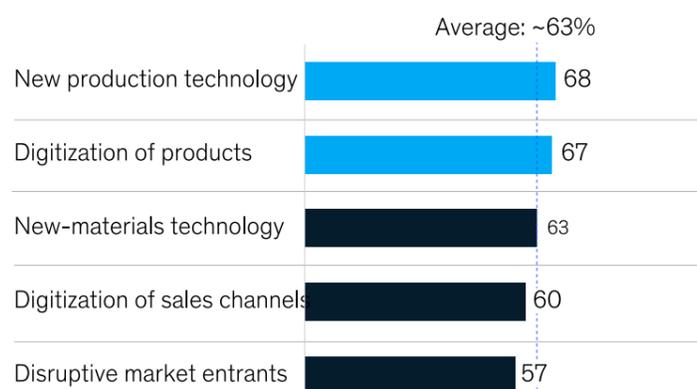
The construction industry and its supporting ecosystem have shown unsatisfactory performance in recent years, and external market factors and complex industry dynamics have impeded attempts at change. Over the next decade, however, new technologies and increased product digitization are likely to disrupt parts of the construction ecosystem, transforming the industry as we know it.

In late 2019, McKinsey & Co conducted a global survey of 400 industry decision makers—primarily executives, owners, and principals—and asked them which factors they believe will affect the industry. The results suggest unprecedented disruption, especially regarding new production technology and the digitization of products (exhibit). Two-thirds of the industry executives McKinsey recently surveyed agree that the COVID-19 pandemic has accelerated the transformation; half report that they have already raised their level of digitization investment.

All players across the value chain will need to develop their strategies for dealing with disruption. This includes financing and development; the supply of materials, components, and machinery; off-site construction; and on-site construction and assembly. But it is especially true for materials distribution and logistics, engineering and planning, and general and specialized contracting—all of which survey respondents say will experience the largest disruption.

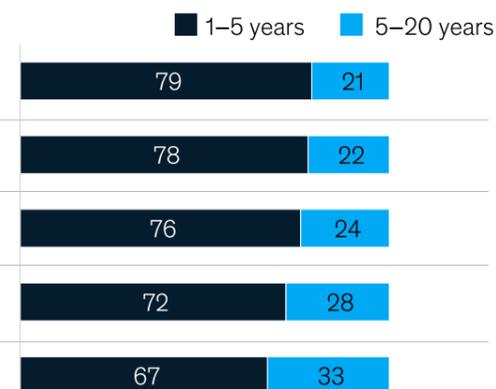
Industry leaders expect disruption to occur.

Which [of these emerging disruptions] do you think will have highest impact on the construction industry? Share of respondents rating that emerging disruptions will have “high impact,”¹ %



More than two-thirds of respondents think that industrialization

When do you think the emerging disruptions will impact construction at scale? Share of respondents, %



More than two-thirds of respondents expect disruptions to impact construction in the near term

¹High impact equals a 7 or higher, where 10 is highest impact.

Source: McKinsey survey of 400 construction-industry CxOs; expert interviews; McKinsey analysis

A closer look at materials distribution

Materials-distribution companies procure basic materials, components, and equipment and then resell them to consumers and businesses.

Today, the segment represents a high share of both value added (8 to 12 percent) and profits (13 to 17 percent) in the construction ecosystem. These figures come as no surprise, since distributors connect suppliers with project sites and subcontractors, keep stock of a complex array of components and materials, handle logistics, and even provide credit in some regions.

However, many survey respondents believe that distributors could see value erode if no action is taken to overhaul their current business models, particularly in the new-build segment:

- Greater standardization and productization, such as better planning with building-information modeling (BIM), could move decisions upstream to less-fragmented and more-sophisticated buyers, and reduce the scope of materials needed.

- Digital twins and building-management systems (BMS) could make it possible to plan for and predict repair and maintenance needs, thus reducing the need for local stock.

- Better on-site efficiency could increase the need for just-in-time logistics.

- Expanded online marketplaces for materials and direct sales from suppliers could increase price transparency versus performance, likely resulting in a reduction in the breadth of materials on the market

and creating a new set of competitors—while also potentially increasing direct-to-site deliveries, undermining the economics of a store network.

- Increased off-site construction could shift procurement to factories with consolidated demand and relatively predictable planning horizons, reducing the need for store networks.

As a result, the value distributors add (and their profit pools) might materially decline in coming years, in a challenge that may not be as severe as the ones facing players such as contractors and designers, but which may still be notable. In fact, 20 percent of survey respondents believe that materials distributors will see the largest decline—or even stop existing in their current form—within ten years.

Yet another outcome is possible as well: distributors could reposition themselves as industrial-grade logistics hubs for the construction setup of the future. In this scenario, distributors become even more effective as catalysts for productivity at sites, generating substantial value for the entire industry by cutting time and effort now wasted in searching for, waiting for, and moving materials on-site.

What construction industry leaders can do now

All companies, regardless of where they are situated along the value chain, have a choice: either defend the core and transform to adjust to the changing environment, or actively reinvent themselves to attack and disrupt the markets they operate in. These disruptive plays require investing and risk taking, but successful moves could be

rewarded with step changes in profitability and valuation. The leaders will likely be those that gain scale and consolidate the market while excelling at demand forecasting and inventory planning, as well as lean efficiencies and category reviews. These capabilities will be crucial to fulfilling increased demand for flexible, just-in-time, value-added logistics to construction sites and prefabrication plants, and to providing on-site logistics planning and operations. Digital interfaces are becoming increasingly essential as well, connecting with BIM and BMS for optimal planning and ordering, and offering advice through digitized expertise. Simpler preassembly, submodules, and kitting for the customer will save time on-site.

Companies will also be expected to meet customers' sustainability expectations on logistics emissions, design labeling that transparently communicates the sustainability impact of alternative building materials, and offer guidance in the selection of optimal materials.

Distributors could reinvent themselves by taking on a role as the future construction landscape's logistics hub. In doing so, they could create new value for customers, for instance, by helping with international sourcing or offering credit finance, packing in assembly order, in-room delivery, delivery before the working day, providing on-site logistics planning, and operations, or even offering simple preassembly.

Construction steel news headlines

construction market and regulations

New orders in the Eurozone construction sector have returned to growth territory as IHS Markit Eurozone Construction Purchasing Managers' Index rose from 45.0 in February to 50.1 in March, signifying a fractional expansion in construction activity in the construction zone. Job creation has resumed in the eurozone's construction sector after 12 months of falls, though some activities and countries are still in decline. [Link](#)

Contractors and clients in the UK including Balfour Beatty, Costain, HS2, Mace, Multiplex and Skanska have adopted a standard pre-qualification system for sub-contractors and suppliers. The Common Assessment Standard means that their supply chains will need a single certification to work with them and reduce duplication of effort that is costing the sector up to £1 billion a year. [Link](#)

Dutch consultant Arcadis has published its annual rankings of the most expensive cities in which to carry out a construction project. The 2021 International Construction Cost Index ranks Geneva as the most expensive city to undertake construction work, followed by London, Copenhagen, Oslo and Zurich, and shows a fall in costs in American cities, reflecting a fall in the value of the dollar. Additionally, prices have not fallen in response to the pandemic, while historically drop in construction demand would cause construction prices to fall sharply. [Link](#)

UK consulting engineer Arup has partnered with Madaster, an online platform intended to make construction materials part of the circular economy – so

that they can be reused at the end of their life. Madaster, which currently operates in Germany, the Netherlands, Norway and Switzerland, creates a “material passport” for building elements. This gives the product's quality, origin, and the location of the material in a building or structure, as well as information about how it can be reused. [Link](#)

After a decrease in the number of construction cranes in use across major cities in the U.S. and Canada, Rider Levett Bucknall's Crane Index has found an increase in cranes to start 2021. Toronto still towers high with the most cranes in any North American city, with 208, up from 124 in Q3 of 2020. Of the 14 cities tracked by RLB, seven saw an increase in the number of cranes from the last report. [Link](#)

China's central bank has asked lenders to rein in credit supply, as the surge of lending that sustained the country's debt-fuelled coronavirus recovery renewed concerns about asset bubbles and financial stability. Previous tightening measures, led by stricter quotas on real estate lending, have failed to quell credit growth. China's medium-to-long-term consumer loans, comprised mainly of mortgage lending, rose 72 per cent to hit a record \$213 billion in the first two months of this year. [Link](#)

construction materials

China's domestic rebar margins reached a two-year high of \$117.9/mt in April on the back of strong rebar spot prices and a slight easing of iron ore input costs, and bumper sales of excavators in March indicate a strong pipeline of construction

activity, which should keep rebar demand and prices well supported throughout the second quarter. [Link](#)

Merchants and building materials producers have warned timber shortages look set to worsen as construction demand rises. World prices for sawn timber have soared in the face of ongoing supply chain disruptions due to the reduced availability of shipping containers, and strong global demand. This has seen timber join steel in seeing unprecedented price hikes over the last few months. [Link](#)

Since the beginning of this year, significant price increases were recorded for construction materials in Germany. Steel products and bitumen, which is used in road construction and for sealing work, were particularly affected by sharp price rises. The reason for the significant increase in steel prices was “apparently limited supply capacities at manufacturers due to the recovery in demand in the automotive and engineering sectors”. [Link](#)

Spain's cement consumption grew 53% in March from a year earlier as the construction industry recovered from a COVID-19 lockdown that saw the country grind to a halt in 2020. Cement consumption rose to 1.41 million tons in March, recovering from a slump last year and moving 9.3% above the level recording in March 2019. [Link](#)

India's first 3D-printed home may provide a solution to the country's shortage of affordable housing, using a technology

that is quicker, cheaper and more efficient than traditional construction. The single-storey home, measuring about 56 square metres, was built by Tvasta Manufacturing Solutions in the southern Indian city of Chennai. A home can be built in just five days and be customised, so the technology is suitable for the government's affordable housing programme, as well as for disaster resettlement. [Link](#)

En+ Group, an Anglo-Russian energy and metals company, has produced aluminium with what it claims is the world's lowest carbon footprint. The metal is made using a “inert anode” process that produces emissions one hundred times lower than the industry average. Aluminium accounts for the third-highest emissions of all construction materials making this innovation is a major development for green building. [Link](#)

construction sector players

UK consulting engineer Arup and American architect Hickok Cole have designed America's first high-rise overbuilt timber structure – 80M project. The two-storey extension will be located on top of a seven-floor structure – this will add 100,000 sq ft of space, including a penthouse with a roof terrace, to the 290,000 sq ft building. While there has been a renaissance in tall timber construction throughout Europe over the past decade, high-rise mass timber has been slower to take off in the US, partly due to restrictive code requirements, capping the height of timber buildings at 85 feet—a height exceeded by 80 M. [Link](#)

ACS, Spain's largest contractor, has made an offer to buy a controlling share of Italian toll-road operator, Autostrade per l'Italia, which manages half of Italy's motorway network,

Reuters reports. The offer, which ACS said was worth between €9bn and €10bn, was made to Atlantia, an Italian holding company that holds an 88% stake in Autostrade. [Link](#)

French construction and concessions group Vinci has released its first quarter financial results for 2021, with Vinci Construction seeing sales increase 10% while the revenue for the company as a whole was up 5% compared with the first quarter of 2020. For the construction segment (including Eurovia) the first quarter of 2021 continued the positive trend seen in the second half of 2020 – revenue rose 10% compared with the first quarter of 2020 and 6% relative to the first quarter of 2019. [Link](#)

Two Californian companies, real estate firm Palari Group and construction technology company Mighty Buildings, have announced plans for a \$15m development of 3D-printed net-zero-energy homes in Rancho Mirage, California. Spread across a five-acre plot, the 15 buildings will be created from Mighty Buildings' 3D-printed panellised “Mighty Kit” system, which the company says will eliminate 99% of construction waste. [Link](#)

Global engineering and construction firm Bechtel reported \$17.6 billion in 2020 total revenue, a 19% drop from the year before. Virginia-based private company, the country's largest contractor by revenue, also lost ground on its new work and backlog. [Link](#)

Votorantim SA, one of Brazil's biggest diversified holding companies, is launching a real estate arm, betting on further growth in demand for housing and a revamped office market. Altre, as the newly-launched firm is called, is initially being seeded with unused Votorantim-owned industrial land, but it is looking

for new assets, including the development of office buildings. [Link](#)

Mexican cement producer Cemex reported on Thursday a more than 15-fold jump in first-quarter profit, beating analyst expectations and sending its stock price surging. The global cement giant said the results were boosted by higher sales in the United States and in Mexico, as well as by higher cement volumes in most of its markets and higher product prices in Mexico and across Latin America plus the Caribbean regions. [Link](#) In the meantime, LafargeHolcim raised its full year guidance after reporting higher sales and doubling its operating profit during the first quarter, sending a positive signal for the global construction sector. The world's largest cement maker said it was seeing “fantastic growth momentum”, with better results in all of its regions as building resumes after pandemic-driven shutdowns last year. [Link](#)

Swedish construction company Skanska is seeing early signs of recovery in private home building after reporting better-than-expected first-quarter earnings that boosted its shares. Its Construction division raised its market outlook for the next 12 months for residential building across its markets, and raised the outlook for non-residential building in Sweden, Britain and the United States. [Link](#)

Irish building materials group Kingspan is investing in H2 Green Steel, a company pioneering steel production using hydrogen. H2 Green Steel was founded in 2020, aiming to build a large-scale fossil-free steel production in northern Sweden. Kingspan is set to be a single-digit minority shareholder alongside mainly Swedish investors. [Link](#)

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