

**constructsteel**

Monthly update for the construction industry

November 2020



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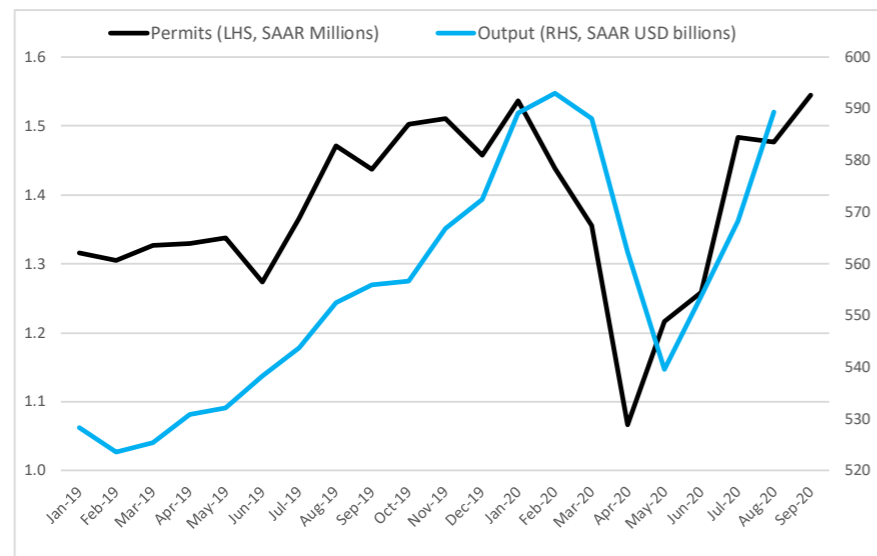
## Construction market trends

**United States** Private residential output buoyant led by low interest rates and pent up demand. Uncertainty over long-term office space needs continues to negatively impact non-residential sector

Private residential output grew 6.7% y-o-y in August, reaching February 2020 peak levels. Building permits were up 4.7% y-o-y in September. Private non-residential output fell -4.3% y-o-y. The Architectural Billings Index bounced by 7 points to 47 in September (ABI<50=contraction).

Private residential output vs. building permits

Source: US Census, McKinsey & Company

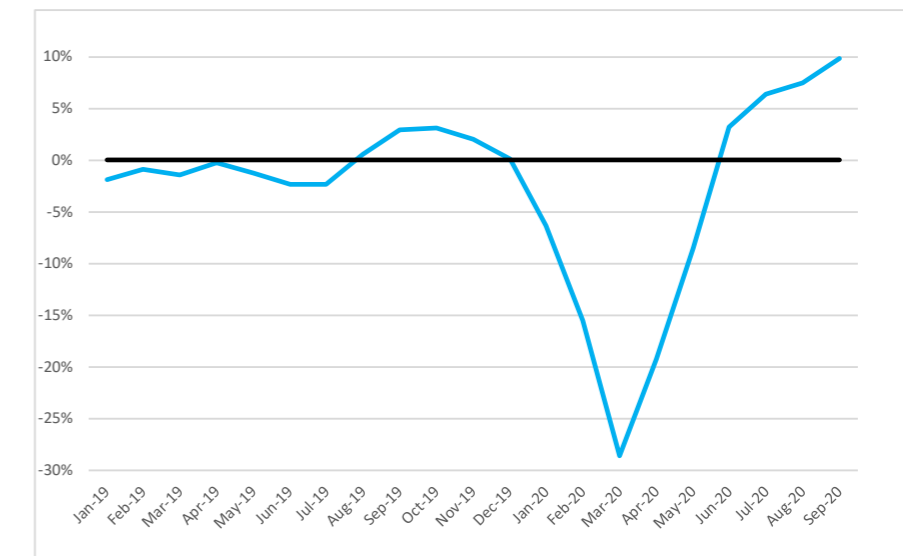


**China** Construction conditions remain buoyant

Newly started floor space started in Q3 maintained the same momentum as in Q2 and up by 4% y-o-y. Floor space sold accelerated over Q2 levels and by 10% y-o-y in Q3. Railway investment was up 4.5% y-o-y on a year to date basis in September.

Residential floor space sold (3 month moving average, % y-o-y)

Source: National Bureau Statistics of China, McKinsey & Company

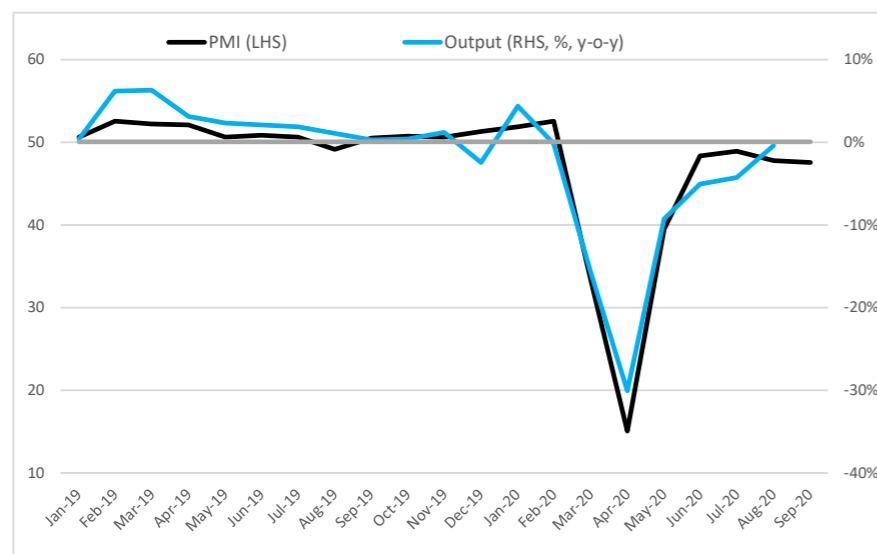


**Europe** Activity in the residential and private non-residential sectors to remain weak with minor respite from civil works expected

Eurozone construction output rose slightly in August, but remains -3% below January 2020 peak levels. The IHS Markit Eurozone Construction PMI stood at 47.5 in September (<50=contraction).

EU27 construction vs. PMI

Source: Eurostat, IHS Markit, McKinsey & Company

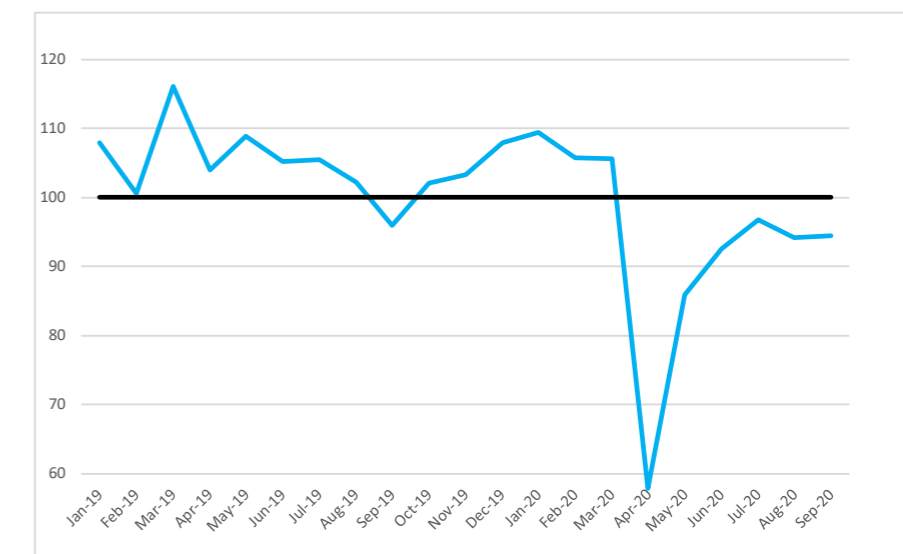


**India** Gradual pickup in activity continues with the y-o-y decline in the index of core activity narrowing

The weighted average of eight core industries fell -0.8% y-o-y in September. Barring coal, steel and electricity, crude oil, natural gas, refinery products, fertilizers and cement declined y-o-y.

Weighted average of eight core industries industrial production

Source: INSAG



Knowledge partner:

**McKinsey  
& Company**

## Special Topic: Steel promotion in construction and the need for global collaboration

Through global collaboration, we can all benefit from steel's versatility and credentials to provide steel enabled sustainable solutions that add value to customers working in construction.

The benefits of better collaboration amongst steel companies and partners in the industry to the construction industry have never been so compelling. As detailed by our Chairman, Dr Joseph Seungmin La in the [September issue](#), construction is the largest market for steel by tonnage but has lacked a unified and concerted focus from the steel industry. The industry is complex and diverse in terms of its product needs, customer types, applications and use of materials. But it is exactly these attributes that there is an opportunity for steel if we change the way we think about construction and the way we interact with parties involved.

Collaboration has started between the members of worldsteel under constructsteel. This has followed the demonstrable success of our past activities and that we now have a clear vision of what we need to achieve to provide clearer education to the market; to have a single clear message for steel and to lead steel company collaboration in key projects such as sustainability, steel enabled solutions, communication and applications.

### Sustainability

Construction is the largest user of raw materials, so whilst responding to the societal needs of accommodation, transportation and places of work, it also now faces increasing pressure to be more sustainable, to be more efficient, safer and professional. These trends are rapidly changing the industry and steel needs to have very clear and understandable messages and solutions to ensure it is the material of choice.

Building with steel provides opportunities for not only extended lower maintenance life cycles, but the flexibility to provide opportunities for changes in use, at later stages of the life of the building, when needs might change. To achieve this flexibility and circularity, the construction supply chain must work together to ensure that we are reducing resource use in the 'construction' and 'building use' phase. Work is also required to ensure that, at the end-of-life of a building, we have the choice available to us to use those materials and products again.

constructsteel has already got the Zero Energy Building (ZEB) programme underway with an aim to provide an architecturally designed, industry supported solution to parts of the residential market. Another key project is to get the steel industry's communication positioned better in response to the carbon debate. Like other materials, we need to speak with one voice about our product to demonstrate steel is a sustainable solution.

### Steel enabled solutions

Steel is not the only material used in construction. In every project in every segment of construction other material types are present. Sometimes it is in direct competition such as other metals for facades and roofs, sometimes in collaboration such as rebar in concrete bridges and structures or HDG for timber connections. Part of constructsteel's forward work is to gain a greater insight into the use of steel with other materials as both composite solutions and as steel enabled solutions.

To best do this we are looking to work with other Trade Associations for other materials to establish common ground and understanding for a better overall offer to the market. Not only do we see this as an opportunity to create more value and speed up product development but reduce risk.

## Jonathan Clemens, Vice-Chairman, constructsteel



Every year we see significant and catastrophic failures in construction. Reducing risk generally, and eliminating unnecessary risk specifically in the design, specification and construction are very much at the forefront of industry thinking. This risk reduction can be achieved through a systems approach to construction.

We view a systems approach from two different perspectives. One of these is working with each other in the industry and with other materials the aim is to agree common standards and common approaches to integration and connection. Transparency in terms of material properties and testing is also key. Through this work traditional construction supply chain methodology will provide better outcomes.

The second approach is modular or off-site. Skills in the industry in many of the world are lacking, safety on site is a concern when compared to other choices for workers and conditions are substandard to an office or factory in many cases. To move away from this dangerous and dirty image, to improve efficiency from design to use and to save on resources there is tremendous focus on industrialising parts of construction. Offsite and modular solutions have been around for bridges, buildings and landscaping for decades. Indeed, much of the success of steel structures in buildings, composite panels in building envelope and re-enforced concrete has been that each of these provides a more reliable and prefabricated solution.

The energy behind this approach is now accelerating and offers a real opportunity for steel companies to benefit taking what we have learnt in other markets such as automotive and packaging for example using high strength steels in blanks and structure to improve the final product.



## Customers as partners and co-collaborators

We need to communicate with customers more effectively (speaking their language) and work with them more closely to build trust. From this place we can connect with them through mutual understanding of the diverse requirements each of our customers in the construction industry has. By getting closer to your customers business goals and the markets in which they operate can make a real difference to your product performance and business returns.

Working collaboratively, we can innovate together for growth, delivering products and services that give both steel companies and construction customers an advantage, whether that is improving cost-effectiveness and speed of construction, increasing the functionality and performance of buildings and infrastructure or creating more sustainable solutions.

Key to this approach is having experienced construction professionals in our teams that can educate, offer advice and assistance on how to get the best from our products on construction projects, ensuring client, Building Regulations and planning requirements are all met in the most cost effective and sustainable way.

For the steel industry working closely with customers can also have other benefits. The industry is rapidly becoming more digitally enabled with incredible solutions for design, structural calculations, environmental scenarios and whole life cycle calculations. Working with our own engineers can we therefore apply the use of high-grade steels, new steels and composite solutions to answer tomorrows challenges.

constructsteel is dedicated to improving the industry communications to the sector and providing a portal for customers and steel customers to interact. This education though needs to be deployed locally and to not only those in the industry now but those in education who will work with us tomorrow. The more members committed to this activity the greater the chances of success.

## Applications

I cover this point last as I wanted to focus on two very different meanings of this word in the English language.

Firstly, the application of our products in use in construction. As mentioned, steel is very well positioned to gain even more value in this market which already accounts for the largest volume of our product. The complexity of applications and customers has to date often meant that the industry is seen as less attractive than other markets. I would argue that this diversity in product types, construction solutions, routes to markets and of course customers means that every steel company so inclined to focus on the construction industry should be able to find its point of differentiation to succeed. There is enough current volume, future opportunity, product types and ways to supply in a market that is truly global and changing more rapidly than before for the diversity incumbent amongst the World Steel Association membership.

Secondly there is the application of effort and endeavour. There are examples of materials and product companies supplying the construction industry that are hugely successful. They share some common traits in that they understand the market, they speak the language of the market and meet the demands of the wider societal needs not just a technical specification. If we think of these brands, we must also bear in mind the emotional connection to these brands in the hearts of the customers, not just their minds, is borne from effective communication, demonstrated results and trust.

From constructsteel we already have a wealth of resources in personnel, case studies and brand experiences to draw from and an exciting programme of work ahead. For construction we are all convinced that for the construction market there is opportunity. Steel a sustainable solution.



## Technical trends: Sector innovation.

### Interview with Peter Zeman, CEO of Zeman GMBH – Fabrication Innovation and the role of Automation

***What are the overall trends that you see in the steel fabrication sector? What innovations took place over the last 10 years that really changed the business?***

If we look at a longer time frame, let's say the 70s-80s, when we established all those numeric controlled machines, especially for cutting in steel structure – this was the first time when we connected machines to the office and started to give orders to the machines. So that is when the automatization trend in the industry started.

If we look for the past 10 years, then I think that is the 3D modelling. It has existed for a long time now, but it took a while for engineers and engineering companies in Europe to switch from 2D to 3D. As soon as you're modelling in 3D, the computer knows exactly how the product looks like – while if it's flat, you don't have all dimensions, you don't have the right measuring. But in 3D, you can collect all the data during the technical design works and that gives the basis to create the data that machines can further on read nowadays. And I think this is, let's say, a basis for robotic machines because they act in the real world, they act in three dimensions, and they have to know the data.

This is a big improvement, and now also machine builders are trying to adapt to this huge amount of additional datasets to use. We are now able to design and build machines that can use the data. Various complicated designs are possible now because of the huge data processing support with the help of software and computers. Computerizing the engineering made a big step forward. Now you have more opportunities to make use of data, for example – the statistical calculations to ensure safety and stability, those were developed a long time ago but it took a lot of effort to do that by hand. And we also now have the opportunity to channel all the data to the machines for our benefit.

***What changes do you expect to happen going forward? What do you need to prepare for your company to remain successful over the next 10-20 years?***

In future it will be necessary to put more efforts in automatization – there is no way around it. You need to ensure a constant level of quality, you need precise time schedules, you need to know in advance if a machine is about to break down, then how long it will take to fix it and what is the impact of that. We need to make sure we don't come to a construction site and build on the go, reassemble if things go wrong and start all over – this is still done, but this is not the way of the future. And I think steel construction companies are quite far ahead with this given the engineering and technical procedures and standards in place, existing CAD equipment, etc.

I still have to say it takes a while for companies across the whole sector and engineers to adapt to new ideas – we are not in a very fast-moving market, the industry has traditionally been very conservative, which is not surprising. To some extent, the industry relies on a tradition to ensure the right quality and minimize risks, but I'm sure the fabrication methods can economically improve the construction process.

Peter Zeman,  
CEO,  
Zeman GMBH



***What major benefits do you see of prefabrication and automation – time and cost-saving, better quality, anything else?***

Same as in any other market sector, it is increased productivity and efficiency, but at the same time, it is also about ensuring a certain level of quality. Also, reduced accidents and health risks, especially if we are talking about the health of the welding professionals, who are traditionally exposed to hazards like smoke, for example.

What I see as bottlenecks to capture all the potential is the lack of skilled labour. Also, you need to think not of a specific task but of a project as a whole – this is a large ecosystem where various elements and stakeholders need to work well together. We should be thinking about the universal standards, procedures on how we co-operate on the building site, etc because it is the common rules that will make the difference in the end.

***What role can the public sector or legislation play in supporting the sector – innovations and R&D support, funding, etc?***

R&D support is very important. You need to give a platform for bright professionals to work together, but you also need to acknowledge that not too many companies can heavily invest in R&D and sustain a level of production that can support their innovation efforts. There should be support for smaller companies and bright individuals when it comes to R&D as this will benefit the whole sector – at the end of the day, you need to look at it as an investment.

Same applies to standardisation. We often don't have standardisation even on a country level – this is not due to the lack of pan-European regulation (which makes perfect sense to me), just some countries make their adjustments to achieve certain short-term goals and advancements. This doesn't create a sense of security for companies in the sector – you might run into a risk of facing the court for non-compliance across regional and country codes. There should be absolute clarity and transparency around standards and regulations.

***How do you see sustainability trends in both construction and steel industries impacting your sector?***

This is an important topic and I think looking at buildings, for example, a critical area is the duration of the buildings. Buildings can stand for thousands of years, we have proof for that – and there are different ideas here. Can we tear down the building and build it up with the same materials again? Can we think of better reuse of materials or even optimizing the process of, for instance, scrap making? Is it possible to design a building for a versatile usage so that we can adapt the building over and over again without destroying it? This can definitely save significant resources, just requires thinking a bit in advance.

## Construction steel news headlines

### construction market and regulations

Single-family housing starts in the US continued to climb in September, showing an increase of 8.5% to a 1.11 million seasonally adjusted annual rate, the highest pace since June 2007. Meanwhile multifamily sector, which includes apartment buildings and condos, decreased 16%. [Link](#)

The US construction and industrial outlook is certainly challenged as a result of the global pandemic, but there are bright spots including residential construction, as well as a general expectation for some sectors to see improvement as soon as next year. Total US construction is expected to decline 2% in 2020 and 3% in 2021 as uncertainty continues. [Link](#)

Dubai issued a new building code that streamlines building rules and helps cut construction costs. This will enhance Dubai's international investment attractiveness and promote diversification of projects in the emirate's construction sector. [Link](#)

European contractors' federation FIEC has forecast an 8.5% fall in EU construction activity in 2020 and warned that the situation could worsen in 2021 if investments in construction, both public and private, do not recover significantly. [Link](#)

The European Commission has published Renovation Wave Strategy to improve the energy performance of buildings. By 2030 Commission aims to at least double renovation rates, 35 million buildings could be renovated and up to 160,000 additional green jobs created in the construction

sector. [Link](#)

China and India are set to lead Asia's construction sector out of its coronavirus slump, analysts say, as the two governments look to power infrastructure growth -- and their economies -- in the years ahead. Advisory firm Oxford Economics expects China will see annual construction output contract 8% this year but surge to 14.5% in 2021. For India, output is expected to shrink 5.4% this year, with a rebound to 7.7% in 2021. [Link](#)

The construction output growth forecast for Sub-Saharan Africa in 2020 has been cut down to -4.9% from previous forecast of 0.7%, according to GlobalData. The region is expected to enter a region-wide deep recession in 2020 as a result of the COVID-19 pandemic driven by several headwinds -- most of which are related to policies imposed to contain the spread of COVID-19. [Link](#)

### construction materials

Industrial and construction material stocks are predicted to be among the sectors that will shine as US markets hit fresh highs over the next year. Material price increases and stocks are rising, contractors are worried about the prices of steel. [Link](#)

Global steel demand will fall this year, but by less than previously forecast, owing to a stronger than expected recovery in China and quicker than expected recovery in North

America. Globally, construction has been more insulated from the pandemic as governments have used it as a means to stimulate economic activity -- this continued after lockdown measures began to ease, aided by pent-up demand, low-interest rates and a cheaper cost of borrowing. [Link](#)

India Ratings and Research have maintained a negative outlook on the steel and base metal sector for the rest of FY21 and it expects an operational recovery to pre-Covid levels gradually by the second half of FY22. [Link](#)

Russian steel demand is expected to rebound to 2019 levels and slightly above in a V-shape recovery in 2021. Russian steel output rebounded strongly in July, shaving just -4% on-year, as compared to a -12% drop in April and -17% drop in May, on the back of strong export sales. [Link](#)

CEMEX has announced that its first-ever net-zero carbon concrete Vertua®, will soon be available in its major markets worldwide after a successful launch in Europe. This innovative solution has a reduced carbon footprint of up to 70% without sacrificing performance. The compensation of the remaining CO2 is achieved by participating in reforestation projects, among other initiatives. [Link](#)

Strong lumber prices to continue in North America through the end of 2020. The pandemic work-from-home trend drove lumber prices to record levels and helped producers realize record-high revenues. [Link](#)

A combination of stagnant wood demand in Europe, readily available log supply in Northern and Central Europe, and a lack of forest resources available to supply domestic lumber manufacturers in major wood-consuming regions worldwide has created opportunities for sawmills in Europe to increase production and export outside Europe. [Link](#)

LafargeHolcim, the parent company of Aggregate Industries, has become the world's first building materials supplier to commit to hitting net zero emissions by 2050. The number of initiatives will be rolled out across its UK business Aggregate Industries i.e. recycling 100 million tons of waste and byproducts. LafargeHolcim, which operates in over 90 countries, is working with SBTi to develop a roadmap for helping the global cement sector hit the 1.5°C target. [Link](#)

### construction sector players

ArcelorMittal Europe released details of its CO2 technology strategy toward an ultimate goal of net zero emissions by 2050, and its plan will begin with a commitment to 'green steel' production using hydrogen before the year is out. [Link](#)

US based Skender Manufacturing, the modular-focused spinoff of general contractor Skender Construction, has announced it is closing its doors due to economic difficulties brought on by the COVID-19 pandemic. Both investor appetite and very important to the modular construction market, hospitality market, had been curtailed by the pandemic. [Link](#)

Bouygues Construction invests in PowiDian, a specialist

in hydrogen-based energy production. Investment agreement and partnership contract provides the structure for a co-development strategy, which will enable it to broaden its range of green hydrogen-based solutions to address customers' energy challenges. [Link](#)


Caterpillar, largest construction OEM reports 23% fall in construction sales due to continued impact of Covid-19. However Caterpillar said it was well-positioned to weather the crisis, with \$9.3 billion in cash and \$14 billion of available liquidity at the end of its third quarter. [Link](#)

Vinci's latest financial results show revenue down 12% for the first nine months of 2020, but the company stressed that most of its divisions are seeing a return to normal business in the third quarter, in spite of the continuing pandemic. [Link](#)

Trimble and Boston Dynamics announce strategic alliance to extend the use of Autonomous Robots in construction. Robots will play a crucial role in automated construction workflows and can augment the human workforce by handling dirty, dull and dangerous tasks. [Link](#)

Technology firm Trimble has launched the Roadworks 2D Paving Control Platform, a system that help contractors reduce both asphalt waste and project time, while improving finishes. [Link](#)



A low-angle photograph of the Golden Gate Bridge, showing its massive red steel towers and suspension cables against a clear blue sky. The bridge deck is visible at the bottom with several cars driving. A semi-transparent blue circle is overlaid on the left side of the image, containing white text.

Steel used in infrastructure can offer high fatigue performance, making it ideal for use in projects where reliability and endurance are key.

World Steel Association

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