



# COVID-19 INSIGHT

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## NAVIGATING A NEW WORLD



How we can return to  
pre-COVID-19 output levels  
and increase productivity

The construction sector – like every other part of the global economy – will be forever changed by the coronavirus pandemic. In the UK, our sector has already encountered huge output and productivity challenges.

With the impact of the pandemic, delivering more output and increasing productivity has now become critical for our sector’s survival – and in turn our economy’s ability to recover.

In this latest article from Mace’s series ‘Navigating a New World’, we explore what we can do to begin our return to pre-COVID-19 output levels and increase productivity across the sector.

## The lockdown and a slow return

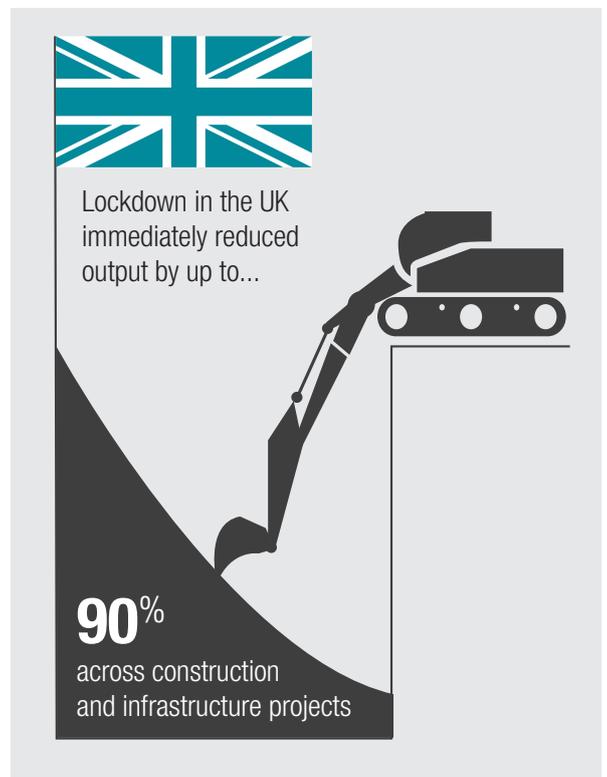
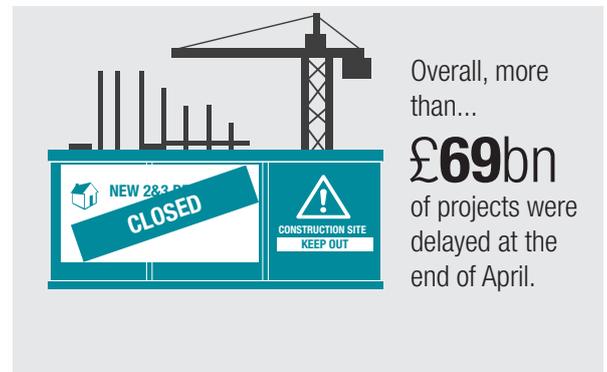
When the UK Government announced the introduction of lockdown rules across the country, the construction industry prepared itself for a short, sharp shock of hugely reduced output – and that certainly came to pass.

Official figures show that construction output dropped by 5.9% in March, the largest drop since the financial crisis, and those figures do not include any direct impact from the Government’s official lockdown.

That reduction in output wasn’t consistent across the whole industry. Infrastructure projects – largely located outside of urban areas – saw a less significant drop in output and a faster return to work. The housing sector, in comparison, saw most contractors and clients stop work for at least a month, driven by a projected drop in demand for house sales from buyers who could no longer visit properties. Overall, more than £69bn of projects were delayed at the end of April.

By and large, however, the industry has remained resilient. By drawing on Government support and working collaboratively, companies across the sector have managed to survive the immediate impact of COVID-19 and are now slowly returning to work.

However, what is often missed in discussions of the impact of the coronavirus pandemic is that this is not a short-term output issue. Lockdown in the UK immediately reduced output by up to 90% across construction and infrastructure projects, but the real challenge will be the long-term impact of sustained reduced output as sites recommence and try to return to normal operations.



# Managing the output and productivity challenges

**Output:** the overall delivery of activity on a particular project or programme.

**Productivity:** the amount of work carried out by each person working on a construction project.

Our sector is a complex and interdependent ecosystem, which is geared to provide the right supplies and services to an expected level of output. The longer we run with reduced output, or uneven output across different sectors of construction, the more likely it is we will face a catastrophic capacity loss as companies and manufacturers encounter financial challenges.

Even before the coronavirus pandemic took hold, UK construction faced a huge challenge around productivity. Compared to construction workers in Germany, each UK operative on site produced 20% less per week which in turn had huge impacts on the affordability of delivering infrastructure and construction.

As the UK returns to work, there are several new factors that will limit output:

## Worker safety and perceptions of the construction industry

It goes without saying that the safety of people working on construction sites must be the first priority for everyone in the industry – if people do not feel they can return to work safely we cannot operate.

The worst-case scenario would be new outbreaks of coronavirus on construction projects, both because it would put more people at risk, as well as likely resulting in new limitations and regulations on how we operate.

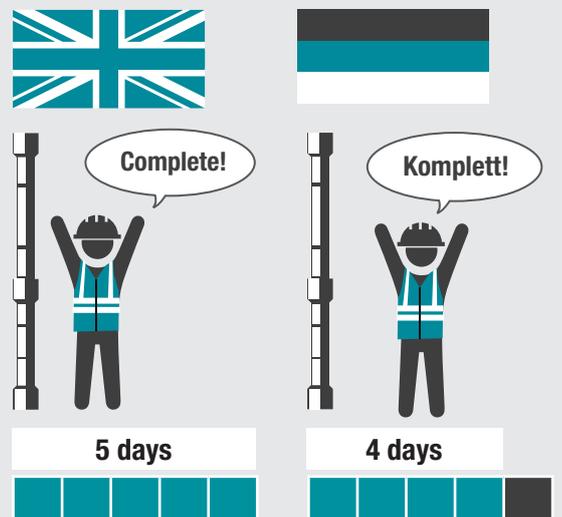
## Capacity of public transport and sites facilities

We are already seeing limitations on the capacity of transport systems to safely get workers to construction projects, and the ability of construction sites to provide adequate access and welfare facilities.

We must continue to comply with HSE regulations on welfare access for operatives. If half as many operatives can use toilets on site we cannot increase output without providing additional facilities

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**20%**  
less per week



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## Workforce availability

The availability of the site workforce will become an even greater challenge. The sector relies on high levels of foreign workforce and output levels generally drop 20% during the holiday periods as workers return home to visit their families. With new quarantine measures being introduced, this will further impact on the output that will be achieved.

### New ways of working

Once workers are on site, the new health and safety guidance will change the way they work, with previously simple ‘two-handed’ tasks requiring new operational procedures and additional safety measures and PPE to be performed.

### Liquidity in the supply chain

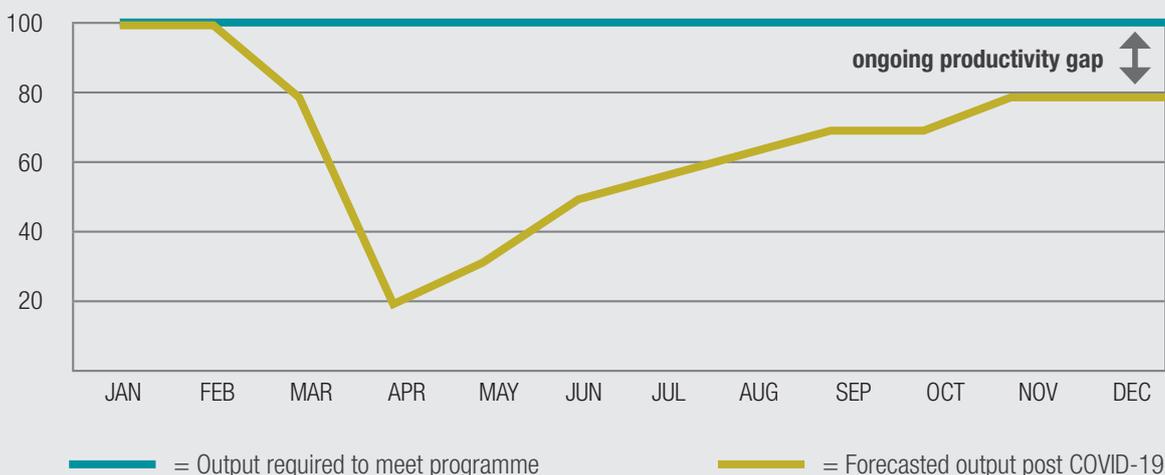
With reduced output limiting revenue and cash flow across the sector, as we return to work suppliers will likely face challenges around meeting financial commitments. Few companies are able to run successfully at reduced capacity for long. If suppliers cannot pay their employees, activity on projects will come to a halt.

### Material production capacity

Even if operatives can get to site and work safely, if we cannot provide materials to projects then work cannot be carried out. With an uneven return to work many manufacturers will be facing risks around production. We have already seen a significant impact on output on open sites due to an inability to access key materials.

Combined with our sector’s existing productivity challenge in the UK, severely limited output and mounting contractual risk for every week that projects or programmes are delayed, our industry faces a ‘perfect storm’ that could topple hundreds of suppliers. On our own projects, Mace forecasts a long-term 20% reduction in output across most projects and programmes.

### Impact of long-term output limitations



Previously, if a project needed to deliver a specific amount of output by a particular date, the workforce could be increased or working hours lengthened to ensure that targets could be met. Facing delays in programmes and mounting costs, there will be huge pressure for projects to deliver faster, but there is no easy solution.

Under the new conditions, we face a long-term limitation on the number of people working on sites, and so our productivity problem becomes more acute as risks mount.

### Productivity and output measures in construction

In order to establish how the sector is performing we must be able to accurately measure productivity and output. The key measures are:

Measure	Data	What it tells us:
Output indicator of revenue	Number of workers divided by total prime cost revenue	How much output is being delivered per worker
Productivity per worker	Worker hour divided by value of work delivered	How productive is each individual operative

Measured at a site, project, programme and sector level these leading indicators will ensure we can identify output and productivity issues early and begin to mitigate them.

# How the industry must respond

There is good news, however. Mace's own data shows that individual worker productivity on construction sites has broadly remained unchanged. If we can increase productivity to meet the drop in output we will be able to return to a sustainable construction delivery model. This is not a small challenge. If we are to achieve this, the solution to the output challenge must be an increase in productivity across every site, supplier and programme in the UK. We have identified three sets of measures that will help to make this a reality:

## Safety first



**Innovating to deliver safer and more productive ways of working:** Often specialist suppliers are the best equipped to find new approaches that allow for more productive working, but don't have the capacity to research or the incentive to share. Contractors, clients and consultants must work with suppliers to develop new best practice.

**Sharing best practice across the sector:** A safer construction sector is better for everyone – from people working on sites all the way up to clients. We cannot risk having to solve the same problem hundreds of times for every site. Effective knowledge sharing on health and safety will support a faster return to work.

**Engaging with stakeholders:** Local and transport authorities are critical in allowing for increased safe capacity for travel to site and longer operational hours that will provide the scope for safely increasing output levels on construction projects without additional welfare facilities. The industry must work together to ensure stakeholders are supportive and engaged with our challenges.

## Supporting the supply chain



**Material supplies:** Manufacturers, wholesalers, suppliers and contractors must work in a coordinated fashion to ensure that material supplies do not affect production. Clients, contractors and consultants must closely monitor material supply chains to ensure that they are operating effectively and engage quickly to address issues.

**Supplier liquidity:** A sudden loss of liquidity in a key supplier risks a knock on impact on production and on projects. In order to ensure that suppliers are able to meet their financial commitments despite short term revenue disruption, contractors, consultants and clients have a responsibility to work closely with strategic suppliers and be prepared to provide flexibility on payment terms.

**Finance and commercial arrangement:** Long-term output limitations create commercial risk, and if not addressed this will make many suppliers' businesses unsustainable. Developing an agreed compromise on balancing commercial risk across clients and suppliers at an early stage will prevent a catastrophic impact on project delivery.

## Redefine the future



**Improve productivity measurement and data:** If we do not understand the scale of our output and productivity requirements we cannot fix it. Agreeing an industry standard measure and sharing data, led by the Construction Leadership Council, around 'worker value per day' will help improve how we operate sector-wide.

**Innovation at the heart of change:** Through the sector deal a culture and movement to innovate has commenced, however, there is still resistance from some clients to not be the first early adopters due to the potential risks. There needs to be greater investment and government support to make digital and innovation at the heart of any new programme.

**Moving to a 'construction to production' model:** The increased digitisation of the construction sector is already underway. Simply 'more offsite' will not be enough – we must create a true 'construction to production' model utilising platform and assembly models that deliver faster, safer and greener construction.

**Creating a new culture of knowledge sharing and learning:** The pandemic offers an opportunity to comprehensively change how we work. If we are to deliver radical productivity increases this spirit must be captured and we must innovate together to reshape our sector's culture.