

How will COVID19 impact Offsite Manufacturing & Technology?

Output from the Constructing Excellence Offsite Manufacturing & Technology Group
Online Discussion 30 April 2020

We are dealing with a new normal. Changes in lifestyle, increased home working and a massive increase in uptake of digital tools and platforms are having profound impacts. Social distancing is not going away soon so how can we go back to work? New processes need to be found for us to manufacture and build the way we were, but will we still build the way we were?

As Constructing Excellence once said, [Never waste a good crisis](#), so we must consider how the current situation represents an opportunity. How will it change what is built? Is this an opportunity to accelerate transforming construction initiatives?

What are the short term opportunities for pre-manufactured content? How will these translate in medium / long term?

- In response to the crisis factories along with construction sites went through a process of stopping and reworking processes to enable social distancing.
- Many manufacturers, especially in the volumetric space prioritised COVID related projects such as hospitals and testing procedures.
- There was a lot of re-engineering of processes to ensure the right things were manufactured safely and delivered to the right places. This highlighted many inefficiencies in manufacturing processes. This focus on productivity in manufacturing environments could be one of the long term benefits of this situation. There are lots of discussions in factories over moving to greater automation to enable greater social distancing within the factories themselves.
- Factories represent controlled environments and the need to move as much activity as possible to controlled environments is important. Manufacturers, such as Tata Steel, have issued their own guidance and procedures based on government requirements.
- Mid Group, a 5 year old offsite-only contractor tend to have one third of the people on site compared to traditional builds so the majority of their sites were unaffected. The only sites that were impacted were tight sites in e.g. Central London and other areas where staff struggled to get to site on crowded transport systems. In short term things have been staggered to prevent congestion on site.
- Innovations such as intelligent PPE. For example, Interserve trialled intelligent PPE on the Birmingham Nightingale hospital.
- Reports that some infrastructure projects are ahead of schedule as they are able to practice social distancing effectively and therefore resources can be diverted to them.

What can we learn from the Nightingale Hospitals and other accelerated facilities?

- Mid Group were involved in converting two floors in St Barts for ICU and a project to place a cancer unit on a hospital car park to prevent cancer patients going into hospital buildings and coming into contact with the virus. Usual procurement procedures went out the window and all was done on Trust based on existing relationship where parties had worked together before. Contractor was approached on the Monday and the facility was handed over the following Wednesday. The work was agreed on an open book plus 2.5% margin basis. The collaboration was really strong with everyone focused on getting the project delivered on time and to the highest standards.

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- There are comparisons here with the approach Network Rail took to the collapse of the railway line at Dawlish, effectively cutting off Devon and Cornwall from the national rail network. The team shared insight with Constructing Excellence South West about the collaborative approach that was taken, including contracts not issued all done on trust with everyone working together to get the line up and running as safely and quickly as possible. Disappointingly this approach was not taken forward to other projects and the client reverted to original practices.

The genie is out of the bottle. Home working is working! How has this changed adoption of digital tools?

- There is a risk that companies make decisions at speed that are wrong in the long term. It is really important that organisations purchase software and other solutions that are right for the long-term.
- Tools that are coming out - that promote collaboration. The situation has accelerated the implementation and uptake of Microsoft Teams in many large companies. Many people are finding software solutions that they have always had and never used really useful.
- People who didn't use software before are now increasing their competencies, especially senior people who often ask junior staff to help navigate software systems, now that is not an option these people are finding the systems usable and asking about how they can get more out of them. There is a risk to things like the common data environment, as people may get confused about which purpose to use each application for.
- One contractor has mandated that all staff need to spend a day at home each week. This has improved the admin they do with project leaders finding time to send emails, do CPD and talk to their teams. Makes people feel part of an organisation rather than a project team. This has the positive impact of 20% reduction in travel to sites.

Organisational cultures? What impact for future built environment?

- COVID is having a huge impact on how people work and are based. Working from home will increasingly become the norm and employees have demonstrated that they can be just as productive from home, especially on some tasks that are difficult to do in an office environment.
- One attendee reported a client who was about to sign off on a new head office had a re-think about the requirements. Client now looking at the office becoming more of a place to gather for social rather than working. The requirements may move to less people and more space with a higher proportion of break out and meeting areas.
- Offices cannot fully be replaced yet, but increasingly people will be looking at co-working style spaces.
- What will this shift mean for requirements for homes? Will there be a bigger market for garden offices? Will new home design have better provision for home working?. Will this impact on where people live and help address the north south divide as people no longer need to live so close to their work?

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- A lot of time is wasted travelling to meetings. Offices should be located near major railway stations to make using public transport easier. Places of work will require good infrastructure links.
- Could the pandemic lead to less pressure on cities as people no longer need to live there for work?
- Better Wi-Fi and connectivity are crucial for both homes and offices.
- Organisations that revert to old ways of working are likely to fail.

What do we think the new normal is going to bring? Will there be a continued reduction in carbon? Is economy going to take precedence over air quality / environment?

- We need to consider how increased home working will impact on energy use in homes. Offices are often BREEAM rated and organisations are often focused on energy efficiency across their estates. There is not the same focus on houses, where the vast majority of homes are not as efficient as some offices.
- Will economy take precedence over air quality? Large reductions in CO2, Nitrous Oxide and other greenhouse gases have been reported globally. Will they be pressure from some governments/organisations to refrain from returning to previous levels? There is already some pressure being applied for Governments not to bail out high polluting businesses for example.
- Will there be new metrics for looking at productivity/success? For example in Amsterdam they are exploring environmentally friendly alternatives to reporting against GDP. Could New National Happiness become a measure for example?
- We need to look at how we procure things. What questions around carbon are asked at tender stage, but are weighted in such a way that cost always wins and nobody is checking effectively on whether the claims are delivered.
- Need to challenge the assumption that more sustainable means more cost. Things like the RIBA sustainability outcomes should be mandatory rather than guidance.
- The real challenge is that business models and financing systems are not suited to prioritise carbon and sustainability.

Next steps?

The next meeting will take place virtually in early June and delve into the carbon issues surrounding carbon and sustainability and will include input from the Active Buildings Centre and MTC.

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Participants

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- Patrick Scannell, BuildDots
- Alex Small, BIM & Digital Platforms Manager Tata Steel (Chair)
- John Spencer, Founder & Managing Director Envision Solutions LTD
- Mark Taylor, Head of construction, Preston college

Get involved

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