

ConTech – a short lived fad or the future?



It is undeniable that society is undergoing a digital transformation in a bid to be more innovative, sustainable and cost efficient, and the construction industry is no exception. For years, 'PropTech' or 'property technology' has been the industry buzzword and all major players in the real estate industry have become familiar with the term and the stir it has caused industry-wide. ConTech, or 'construction technology', is a subsection of PropTech and is a hot topic in driving discussions about what the future of the construction industry will look like.

In terms of acceptance amongst industry professionals and implementation of technologies in everyday business, ConTech has fallen behind PropTech. That is not to say the potential for ConTech expansion is not huge – the possible improvement on time and cost efficiency; profit margins; and employment opportunities could be vast. It is possible that one day the industry will be unable to function without the use of new technologies, but thus far, although the ideas are there, uptake has been slow. So what exactly is ConTech, what could it mean for the construction industry and why has uptake been so slow?

What is ConTech?

Drones

An example of ConTech in practice is the introduction of drones. Already having made a huge impact on those working on-site, PWC predicts that drones could replace humans in 45.2 billion dollars' worth of labour over the next four years. Drones are used for jobs such as inspecting scaffolding and cranes, which would otherwise be a dangerous job for construction workers. Less workers and engineers are required on-site and, as a result, contractors utilising the technology have seen a huge cost saving and improved safety for their workers.



Whilst some doors have closed through the use of drone technology, others have opened. Workers may not be required to travel up to great heights to check equipment, but they may be required to learn new skills. For example, people will need to be trained to maintain and fix broken machines/robots, and others will be needed to manage the course of the drone.

Modular construction

One of the hottest topics in ConTech is off-site construction. By constructing a building off-site, the developer can control the environment inside the factory (avoiding unpredictable and hazardous weather) and use the most up-to-date technologies within digital design.

Companies like Blu Homes are revolutionising the way that homes are made, as buyers can help to design their homes in a quick, simple and highly customisable process, with homes being built in as little as three months. The homes are also significantly more energy efficient than homes constructed on-site, which is a necessary requirement for many consumers and businesses these days.

What does the future of ConTech hold?

Smart technologies are being utilised in other industries, and construction need not be an exception. In 2017, Skanska UK announced they would be trialing DAQRI smart helmets on-site, which saw the first use of augmented reality technology in the industry. The technology provides information in the worker's sight line, warning them of dangers or giving them guided instructions. Experts can be called in remotely and they can see what the wearer is seeing, providing an extra layer of capability over their core capability.

Some construction companies have removed the need for paper through the advent of company-wide smartphone platforms. These platforms have the ability to gain detailed insight into a project's future operations through advanced data analytics, including budget forecasting and planning; attendance and productivity recommendations; and health and safety implementation. Through the use of data analytics, project managers can gain oversight of what is working (or not!) on-site far more easily than relying on word of mouth from workers on-site or trying to be in multiple places at once.

The company Uptake has developed innovative technologies for building sites by using the Internet of Things (IoT) to prevent unscheduled downtime, extend the lifespan of machinery and improve the efficiency of equipment dispatching. The IoT is an incredibly fast growing area in all technology sectors, promoting a connection between the Internet and computing devices which are embedded in everyday objects. In the context of ConTech, the 'everyday object' could be anything from a piece of machinery to an automated aspect of the building, meaning there is infinite space for growth in this area.

On a management level, ConTech could see the expansion of cloud-based management software which would vastly improve project efficiency and promote stakeholder accountability by enabling access to the drawings, the schedules and contracts. Amongst its capabilities, software of this sort would optimise workflows and profit margins.

Why has uptake been so slow?

As shown, possibilities are endless. So, why has the industry struggled with widespread implementation of these technological solutions and concepts?

1. All new concepts need investment to grow, and investment has been slow. Pi Labs reported that investment in ConTech represented around 10% of total investments, whilst investments within the Real Estate FinTech sector accrued over 30%. Drones, BIM, modular construction and smart phones are



widely used, but they are not at the cutting edge of what is available in the 'techosphere'.

The *really* innovative technology is generally limited to trials because investment in larger scale applications is considered too risky.

2. Many construction projects are completely unique, and much of the time-saving implemented through smart technologies in other technology sectors such as real estate and finance is through automating repetitive tasks. The sheer uniqueness of each project makes this feature of limited use.
3. Conservative attitudes towards change and the 'if it ain't broke, don't fix it' approach are rife in the real estate and construction industry. The costs of these solutions will not be cheap and often, the barrier for adoption will be the requirement for 'sign-offs' from individuals at different levels before it can be implemented. As integration of these solutions will often be unproven, attaining sign-off is frequently near impossible.
4. Contractors have become accustomed to implementing a cost and risk averse position through an age old trend of lowest cost tendering. Their improvement goal is often to reduce cost and risk so that any profits from a tender bid can be secured (which often would have to be lower than others to win the bid initially). Prices must be kept low and, as such, there is no room for investment in smart technologies because, although it may well help with cost and time efficiency in the long run, licencing fees and testing will push up overheads in the short run which just isn't affordable for many companies. BIM has been around for years but, because it has lacked investment in years gone by, is only now becoming mainstream in the UK. In contrast, the USA is far more advanced than the UK in the use of BIM and this may well be attributable to the nature of the UK construction industry and the 'lowest cost tender wins' culture.
5. These attitudes hinder, and even prevent, scaling. It is essential to prove that a particular ConTech technology will add value to projects. However, to illustrate value, it has to be trialed on a project, the industry has the money but it is a gamble – profit margins are tight as it is, cashflow is a real problem and it's just not economically feasible to try a new piece of technology, spend all the money on implementation, push up project costs and risk the technology failing.

The transformation from one of the least digitally enabled industries to a leader in pioneering technology is not going to happen immediately, particularly when hanging against a backdrop in which companies often lack in resources and struggle with cashflow. However, if forward-thinking companies can continue to incorporate ConTech solutions into everyday processes, every aspect of a construction project can be made easier and cheaper. From management software to smart technology, the IoT to new methods and solutions – it's about doing more with less.

How we can help

From developers, investors and contractors to high net worth individuals, our construction lawyers provide a wealth of expertise and ensure construction contracts are well drafted and watertight. We can also assist with construction disputes. To find out more, please contact our [construction team](#).