A BIBA Brokers' Guide to

Construction Risks and Opportunities

2018 – Issue 1

BIBA

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Welcome

Our first supplement of 2018 examines the complex world of construction risks and provides food for thought about the insurance needs of this sector.

You cannot hide from construction risks especially if you live or work in a town or city where inevitably a team of workers will be demolishing, inspecting or building structures on almost every corner. Contractors have been in the news recently too, with extensive coverage of the financial failure of the mega contracting and outsourcing firm, Carillion.

This supplement covers the current state of this sector and examines the regulation and legislation that surrounds it. Bearing in mind current uncertainties around Brexit and general economic conditions we outline the risks and opportunities likely to be experienced by those firms in the building trade.

In a departure from previous supplements, this time we look at one sector at high level and hope to provide you with an oversight of a huge and diverse industry with many insurance needs that present multiple opportunities for brokers.

Mike Hallam, ACII, Chartered Insurance Practitioner, Head of Technical Services, BIBA

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Risks and opportunities: The Brexit effect

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There can be little doubt that Brexit uncertainty has caused turmoil in the construction industry. By far the biggest risk is Brexit's impact on growth of the sector.

In fact, September 2017 saw negative growth for the first time in more than a year. However, Brexit may also bring opportunities.

Risks to growth

Investment and funding

Decreased investment and funding is a major risk to growth. The European Investment Bank invested €7.8 billion for major projects in the UK in 2015. Further, the UK has been one of the biggest net beneficiaries of other European funds which support large projects such as Crossrail and HS2. Given the likely loss of such substantial funding, the government is, somewhat unsurprisingly, remaining focused on encouraging investment and opportunities from outside the EU, particularly China.

Reduction in workforce

Whilst the industry has recently warned of the danger if there is a "cliff edge" for vital EU workers, the most recent agreement with the EU confirmed that EU citizens living in the UK will have their right to live and work here protected. This is welcome news. Nearly 13% of construction workers across the UK are foreign-born, mainly from the EU. This proportion rises to around 50% in London and the South East.

However, with the UK's ultimate withdrawal from the free movement of people, the ability to entice and maintain the requisite numbers of workers is uncertain.

With a smaller workforce leading to wage increases, projects may take longer and become more expensive. The sector may have to consider new, alternative construction techniques if growth is not to be hampered.

Rising costs of imports

The costs of imported materials are rising due to the weakened pound; a great risk to growth given that nearly 60% of construction materials are imported from the EU. It is worth noting that this is also affecting the costs of construction in property claims.

Opportunities in the sector

Procurement laws may change following Brexit, allowing UK firms to essentially "buy national", thereby increasing UK business overall.

As for the workforce, the government has committed to further training and has introduced the apprenticeship levy, requiring all UK firms with a yearly wage bill of more than £3million to contribute.

Whether or not such opportunities are sufficient to overcome the risks, the one thing that is certain is that uncertainty will remain for a while longer yet.

Risks and opportunities in the construction sector

Author:
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The UK construction sector accounts for approximately 10% of total UK employment[1] and, in 2016, construction related employment grew by 55,831 on the previous year.

The 2013 government publication 'Construction 2025' outlined goals to put Britain at the forefront of global construction and stated that the international market was forecast to grow by more than 70% by 2025.

Despite such positivity, results were mixed for the UK construction sector in 2017. Output fell in October, mainly due to a decline in repair and maintenance and new work. Some construction firms reported delays in receiving payments, with an average wait of 69 days from the point of invoice. Plus, uncertainty arising from Brexit contributed to predictions of a 4.5% decline in public sector investment. However, with a government plea to build 300,000 new homes each year, plus an injection of cash for skills training announced in the 2017 Autumn Budget, the sector will likely continue to experience both risks and opportunities in 2018 and beyond.

Modern Methods of Construction (MMC)

An increasing need for housing calls for time and cost efficiencies when building properties; Modern Methods of Construction (MMC) could offer a solution. MMC previously focussed on domestic housing projects, but now also extends to commercial properties. It embraces various on- and off-site approaches including:

- Volumetric construction (3 dimensional units, fully fitted off-site)
- Pods (e.g. kitchen or bathroom units)
- Panelised systems (panels of timber or light steel framing)
- Sub-assemblies and components (larger components incorporated into new homes. E.g. porches and dormers)

Off-site construction has many advantages. Manufacture of kit in off-site factories can improve precision and quality control. Plus, the incidence of on-site accidents can be reduced by limiting numbers of workers in a location.

Naturally there are insurance considerations and risks. One is the potential use of non-approved materials and associated fire hazards. Timber, often selected for being environmentally friendly and sustainable, can pose an obvious fire risk. External cladding, often comprising potentially combustible materials, can also accelerate the spread of fire up the external face of a building, or fires can spread through window openings or cavities in the building fabric. Construction firms should undertake preventative measures, such as performing fire risk assessments and appointing a Fire Safety co-ordinator at each construction site. The HSE publication "Fire safety in construction"[2] contains guidance for those carrying out construction work. "Fire Prevention on Construction Sites: The Joint Code of Practice 9th Edition," also has useful information.

Pods are a key feature of MMC. These ready-made rooms, often kitchens and bathrooms, are constructed off-site, then delivered on-site for installation. Despite the advantage of speed and ease, some concerns exist around the level of quality with high-volume output. Also, any use of unskilled labour for plumbing and electricity connections for pods can lead to error and accident.

Furthermore, there are potential business interruption issues regarding delayed repair and availability of products.

To avoid any delays when using MMC it's recommended to involve your insurer as early as possible in the project. Early confirmation of the proposed building materials also helps insurers to provide best advice on alternative, safer materials where appropriate.

Counterfeit equipment

While second-hand equipment is not necessarily inferior equipment, the potential for pirate manufacturers to supply counterfeit apparatus is a very real risk.

The global manufacturer, Terex, highlighted this issue in 2013 and 2015, citing a rise in such activity. Counterfeit cranes, originating from South Korea, were being sold to UK firms under the Terex/Demag brand. These cranes were built from different parts and lacked essential safety components. This meant many companies were unwittingly at risk of a serious health and safety incident.

There can also be financial implications. The high cost of cranes, even second hand, means such items are often financed. Identification of a counterfeit crane, and its likely subsequent deactivation, may result in a firm still being required to continue repayments on a redundant piece of machinery. Also, whilst in the event of a claim liability may not be an issue if the owner can demonstrate they bought it in good faith, the diminished value of the equipment could result in a reduced insurance pay out for any contractors' all risks claims.

Companies may wish to take steps to safeguard themselves against such an event, through arranging a full inspection with a qualified engineer prior to purchase, or by checking the provenance with the manufacturer.

[1] https://www.designingbuildings.co.uk/wiki/UK_construction_industry

[2] http://www.hse.gov.uk/pubns/priced/hsg168.pdf

Health and Safety: Inspection versus maintenance

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How many of us would step into a lift knowing it had never been subject to a safety inspection? Or would operate equipment without knowing it was in full working order?

On a daily basis, workers across a variety of industries interact with equipment and machinery which, if found to be faulty, could have serious repercussions for both employees and firms.

This is especially relevant for employees in the construction industry, who regularly come face to face with heavy duty equipment ranging from welders and jackhammers to pile drivers and bulldozers. Despite the clear need for ensuring such equipment is safe and secure, there were 609,000 self-reported non-fatal injuries in the workplace in 2016/17[3], of which more than 24,000 related to contact with machinery.

The body responsible for the regulation and enforcement of workplace health, safety and welfare is the Health and Safety Executive (HSE). They publish free guidance to businesses and recommend inspection and maintenance programmes.

There is an important differentiation between inspection and maintenance. The purpose of inspection is to identify any faults and defects with a piece of equipment before they become an unacceptable risk. Such inspections can take the form of general safety tours, safety sampling (the activity of identifying unsafe behaviours) or more thorough examinations of plant and machinery.

The frequency of inspections also varies, depending on the type of machinery, its use, and the results from a related risk assessment. Under the Lifting Operations and Lifting Equipment Regulations (LOLER), lifting equipment must be inspected every six or 12 months, depending on the type. Some engines, motors and pumps, on the other hand, may only require an inspection every 24 months. The regulations which deal with work equipment and machinery used in workplaces are referred to as 'Provision and Use of Work Equipment Regulations' 1998 (or PUWER). These regulations apply for both employers and the self-employed throughout Great Britain.

PUWER also dictates that all work equipment be maintained in an efficient state. Whereas inspection is designed to identify faults before they become serious, maintenance is concerned with the ongoing efficiency, suitability and safety levels of a piece of equipment. This type of maintenance is known as routine maintenance and seeks to prevent deterioration of equipment.

Corrective maintenance is required when machinery breaks down or malfunctions and effort is needed to bring it back into working order. Like with inspections, there is no universal rule for the frequency and type of maintenance required; instead this should be determined as a result of risk assessments and take into consideration factors such as the intensity of use and operating environment.

The potential consequences of neglecting to undertake regular inspection and maintenance in the workplace can be catastrophic.

Heavy penalties can be levied where a company is found to be negligent of carrying out suitable inspection and maintenance activity. These may take the form of financial penalties or, in severe cases, custodial sentences.

Companies may also suffer reputational damage, where an incident related to a health and safety breach makes the headlines.

Even more solemn can be the cost to humans who suffer life-altering or even fatal injuries. In October 2017 a West Midlands construction firm was found guilty of causing the tragic death of a worker related to a faulty item of machinery.

The company was fined £255,000 for corporate manslaughter under the Corporate Manslaughter and Homicide Act, and the director was sentenced to 12 months' imprisonment and 300 hours' community service. The judgement was that the company had allowed the equipment and surrounding area to fall into a dilapidated and dangerous state, causing the death of the employee.

Responsibility for both maintenance and inspection lies with the owner of the equipment. Aside from ensuring compliance to inspection and maintenance regulation, companies can also undertake simple steps to keep workers safe. These include powering off equipment whenever possible, placing mobile plant in neutral gear and ensuring workers wear appropriate clothing and equipment. All operators should also be trained in the operation of plant. Such small actions may be enough to prevent a serious incident from occurring.

[3] Health and Safety Executive (HSE) http://www.hse.gov.uk/statistics/causinj/

HEALTH AND SAFETY

Health and Safety regulation in the construction sector

Author:
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Health and safety in construction is highly regulated and it remains a significant focus of enforcement by the Health and Safety Executive (HSE). HSE figures show that the sector accounts for the largest number of fatal accidents (30 in the UK in 2016/17).

The Construction (Design and Management) Regulations 2015 (replacing the 2007 regulations) set out clearly defined health and safety duties for clients, principal designers, principal contractors and workers involved in construction projects. A breach of these duties can form the basis for enforcement action and criminal prosecutions, even in the absence of an injury.

The HSE also has powers to charge Fees For Intervention (FFI) when it investigates health and safety infractions, even if it does not take more serious action. The level of risk and breadth of relevant regulation makes the construction sector a fruitful target for the FFI scheme.

HSE guidance on compliance with legal duties in the construction industry can be found on its website and includes Managing Health and Safety in Construction L153. The HSE expects companies and individuals to familiarise themselves with guidance as it is no longer able to act in a direct advisory role.

In the last few years accidents on or around construction sites have led to prosecutions for serious offences including corporate manslaughter and gross negligence manslaughter, as well as health and safety offences. Since early 2016 new sentencing guidelines have increased penalties and fines for those convicted of these offences. In R v Monavon Construction Limited, a principal contractor was prosecuted for corporate manslaughter following the deaths of two members of the public who fell into the basement of a construction site through an inadequate hoarding. In that case the defendant company was fined £550,000.

It is vital that those involved in construction have a proper understanding of relevant risks and control measures. For obvious reasons control of work at height, lifting operations and Personal Protection Equipment (PPE) are crucial to safety management. There are also important health considerations arising from the use of hazardous materials (e.g. cement products) and construction equipment such as breakers and drills, which have been linked to Hand Arm Vibration Syndrome and Noise Induced Hearing Loss. In recent years the HSE has also focused on the management of risks which could cause musculoskeletal injuries, such as manual handling.

One of the challenges facing the construction industry is communication about safety management, given the multinational nature of the workforce and the high turnover of employees and contractors on a project. For companies responsible for the management of construction projects and sites, it is vital that they ensure that adequate inductions, safety information and welfare facilities are provided to workers. It is also important to ensure good levels of communication and cooperation between the various parties involved in a project.

Case study

Subject:
Climate and Renewables – Contractor Liability

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A recent Supreme Court decision in the case MT Hojgaard A/S vs E.On Climate and Renewables UK (2017) UKSC 59 has found that a contractor can be liable for a strict fitness for purpose requirement, even where performance with that obligation is impossible. This has significant implications for those operating in the industry and those that underwrite the risks they face.

What happened?

The contractor (MT Hojgaard A/S) contracted to carry out design and installation of an offshore windfarm in Scotland. The contract included the following provision:

"The Works elements shall be designed for a minimum site specific 'design life' of twenty years… all elements shall be designed to operate safely and reliably in the environmental conditions that exist on the site for at least this lifetime."

Following completion, the wind turbine foundations were found to be defective. The employer therefore sought to bring a claim against the contractor.

It was accepted that the problem arose out of an error with the international industry standard (J101); which was "out" by approximately a factor of ten. In the circumstances, the contractor argued that it could not be liable; it had complied with and followed the industry standard which was accepted and used by all reasonably competent contractors at the time.

The Court was unsympathetic. It found the contractor liable in any event for breach of contract (note – it did not find that the contractor was negligent). It had signed up to deliver a windfarm with a "design life" of 20 years; it had not delivered on that obligation.

Why does it matter?

The obvious lesson for operators in the industry is clear; don't sign up to a promise that you cannot deliver on. In this case, the contractor tried to argue that the express "fitness for purpose" obligation had been watered down by other parts of the contract that were not as strict. It didn't get away with it.

It also illustrates the stark difference between a "fitness for purpose" obligation and an obligation to use "reasonable skill and care" in designing and constructing the works. Undoubtedly, the scope and nature of the obligation will impact on risk profile and suitability of cover; particularly in the context of contractual liability exclusion clauses.

This will be particularly pertinent when operating in an area where a "fitness for purpose" obligation could extend beyond the current industry standard, or, for example, where the industry standard is still being developed in line with new and emerging technologies.

This should act as a word of warning, therefore, as the industry continues to invest in alternative methods of design and construction to offer innovative solutions, mitigate increased costs and enhance profitability.

Legislation, regulation and subcontracting

Author:
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Workers in the construction industry are exposed to a number of hazards on a daily basis, which means it is perhaps unsurprising that the sector is subject to a raft of legislation and regulation.

From falls from height to asbestos exposure, the need to protect both workers and clients is crucial. Some of the key legislation is examined below:

Construction (Design and Management) Regulations 2015

The key piece of legislation, the Construction (Design and Management) Regulations 2015 (CDM), was created to manage the health, safety and welfare of UK construction projects. These regulations apply to all clients, designers, contractors and workers working on such projects across the sector.

The CDM regulations lay out different stipulations dependant on stakeholder. For example, a commercial client must ensure that sufficient time and resources are allocated to a project and welfare facilities are provided on a construction site.

Designers must take every step to eliminate, reduce or control foreseeable risks arising during the build phase or once a building has been constructed.

In the case where an accident occurs as a result of contravention or negligence of CDM, the consequences can be severe. The Health and Safety Executive would investigate the nature of the accident and prosecute a duty holder, normally focussing on the principal client initially. In the case of a fatal accident, the police would become involved and potential fines can be financial, custodial – or both. Current guidelines on corporate manslaughter cases can start at £180,000 and reach £20 million. Additionally there can be irreparable damage to a firm's reputation.

A summary of duties is available on the HSE's website: **http://www.hse.gov.uk/construction/cdm/2015/summary.htm**

Health and Safety at Work Act (HSWA) 1974

This Act of Parliament consolidated a number of existing fragmentary regulations and is the primary piece of legislation covering occupational health and safety in Great Britain.

It places the onus on employers to engage in duties which protect the welfare of their employees at work. It also places duties on employees to protect themselves when carrying out their duties. However the Act states that these duties must be undertaken 'as far as is reasonably practicable', allowing for some interpretation and subjectivity on the part of employers.

Between the Act's inception in 1974 and 2007, the rate of injuries per 100,000 employees dropped by 76% leading many to praise the Act's influence.

Any breach of this Act is a criminal offence and employers can face financial penalties of up to £20,000 for an accidental breach, or an unlimited fine or imprisonment for a deliberate breach. UK employers are therefore required to hold employers' liability insurance, to protect them in the event of a claim from an employee. This insurance became mandatory under the Employers' Liability (Compulsory) Insurance Act, 1969 and companies must display evidence of their EL insurance, either via a printed poster or in digital format.

Sub-contracting in construction

As ever more varied skills are required for the design and construction of buildings, the use of sub-contractors in the industry has become more prevalent. However, anyone instructing sub-contractors still has a number of duties under health and safety law, including ensuring they have the necessary skills to do the job safely and without risk.

There can be severe penalties for failing to meet health and safety stipulations, and a contractor cannot disown responsibility where workers subcontracting for them cause injury or illness through neglect or lack of care.

It can be complicated to understand the responsibilities and requirements of insurance for sub-contractors. Generally sub-contractors are categorised into two types: 'bona-fide subcontractors' (BFSC) and 'labour only sub-contractors' (LOSC). In the former example, where the sub-contractor works without direction from the principal, then Employers' Liability insurance is generally not required. However, where the sub-contractor is categorised as a 'LOSC', they should be treated as a standard employee where EL insurance is required. It may also be prudent to consider public liability insurance, dependent on the nature of work and relationship. It is wise to check that the insurance covers meet the specific requirements of the contractor and if necessary, discuss these with the insurer.

SUSTAINABILITY CONSTRUCTION

Sustainability and ecological issues in construction

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The construction sector is making strides to promote environmentally responsible behaviours.

Solar energy

Solar energy is one example. In 2012, the government announced an intention to power four million homes this way by 2020. In 2016, solar usage almost doubled and 2017[4] figures show approximately 1.5 million homes now run, at least partly, on solar. Not just residential properties, but also 24,000 commercial properties and 2,000 solar farms use solar too.

While solar energy is seen as green and cost-efficient, construction companies must undertake planning to ensure their designs are sustainable. Contractors and sub-contractors should identify project related risks and comply with health and safety law. It is also important to check they hold sufficient levels of cover regarding public liability and products liability, where appropriate. Additionally, property owners should check with their insurer that installing solar panels won't affect their insurance cover.

Green belt

A growing population and increased demand for housing has resulted in more approvals for building on green belt land. Currently, covering more than 6,000 square miles, the number of green belt hectares is decreasing, according to the Department for Communities and Local Government.

Brownfield land is an alternative. This previously used land, which has subsequently become derelict or contaminated, could reduce the threat to green belts. The government recently announced £3bn to develop brownfield plots, which was welcomed by the Campaign to Protect Rural England (CPRE), suggesting brownfield development could accommodate up to 1.4 million homes.

Some developers are deterred from considering brownfield sites, anticipating environmental or financial issues. However, environmental insurance can assist in various situations, including:

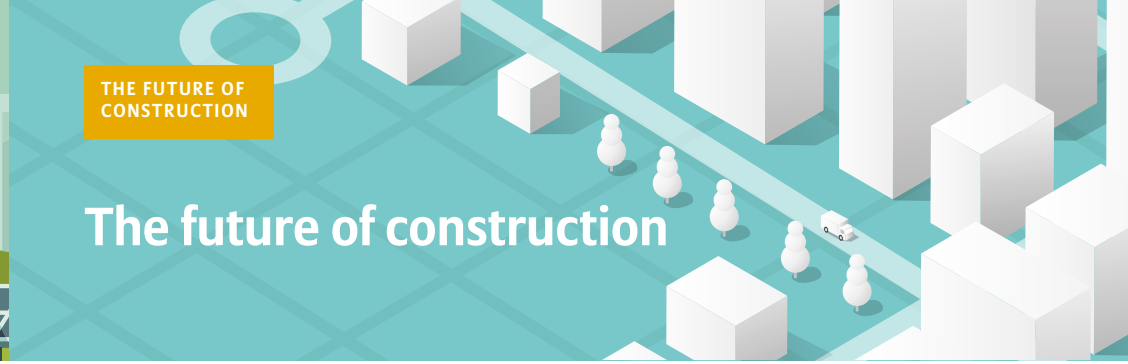
- liability for damage to biodiversity
- business interruption from pollution
- liability for third party injury, damage, clean-up costs and nuisance.

Since some limitations to these insurance products exist it is important to check that the covers are appropriate to the needs of the contractor.

Eco-friendly

Due to the increasing demand for crude oil, used for powering machinery, some construction firms are now exploring electric powered machinery or motor hybrid technologies, such as "Niftylift" cherry pickers. Other initiatives include using sustainably sourced timber and recycled paper as insulation, minimising waste and reducing carbon emissions.

[4] https://www.greenmatch.co.uk/blog/2015/08/how-popular-are-solar-panels-in-the-uk



THE FUTURE OF CONSTRUCTION

The future of construction

Author:
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You may be familiar with the terms 'InsurTech', 'FinTech' and 'RegTech', but did you know that the construction industry has its own version – 'Constructech'?

Typically a risk averse industry, the construction sector is now poised to take advantage of some of the latest emerging trends. In fact, as one of the least digitised industries[5], it needs to evolve or face the risk of being left behind. Fortunately, there are a number of areas where construction can be seen to be preparing for the future.

Building Information Modelling (BIM)

BIM is a technology-based project planning process whereby digital 3D models are created to provide insight into the design, construction and management of a building. This acts as a kind of 'rehearsal', highlighting any potential design issues and driving savings on projects. BIM is a collaborative process, uniting design teams, engineers and construction workers and providing visible end-to-end project lifecycle management. Furthermore it's gained support from the government, which mandated the use of BIM on all public sector centrally procured construction projects from 2016 onwards. Many large, global construction companies are seeing the benefits of creating virtual, digital prototypes prior to commencing the build phase.

However, there are some insurance-related challenges. Liability is one, since with so many people working collaboratively on the same model, it can be difficult to determine responsibility in the event of a design or build issue. Intellectual property is another challenge. By its nature, BIM encourages input from various sources, potentially making it harder to identify clear ownership.

Since BIM is technology-based, construction firms may need to increase investment in IT platforms and systems, or face the decision to outsource. If the latter, longer supply chains will be created with additional implications for risk and insurance cover. The next step for BIM will see an upgrade to 5D, coupled with augmented reality technology via wearable devices. This will superimpose virtual models onto the physical environment, allowing even greater representation of the finished design.

Augmented and virtual reality

Smart goggles and helmets may not be at the cutting edge of fashion, but they are helping construction firms revolutionise the way they work. Virtual reality (VR), originally created for gaming, is a wholly artificial computer-generated simulation which stimulates vision and hearing. Augmented reality (AR) takes that experience one step further by layering computer-generated graphics over real-world surroundings. This can assist construction workers through mimicking the end product of a construction project through a fully immersive experience. Suddenly it is easier to see where doorframes may need moving, or where whole layouts need to be re-planned.

It is hoped that through greater adoption of these AR devices, hazards and problems will be identified sooner, resulting in fewer incidents and injuries.

[5] McKinsey Report June 2016 – https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/imagining-constructions-digital-future

Offsite manufacturing and construction

Falling under the umbrella of 'modern methods of construction' is 'offsite construction'. This was a trend which began with pre-fabricated buildings after World War 2 and today is a process recognised for reducing time and cost on construction projects. It refers to the planning, design, fabrication and assembly of modular parts at a location other than that where the final product will be installed. According to the UK Commission for Employment and Skills (UKCES)[6], around 12% of construction in the UK takes place offsite, with a value of around £1.5bn.

There are many advantages to using this method. With parts already assembled, build times are shortened and fewer people are required to work on-site, also contributing to reduced costs. The future may see robots assisting in the installation of components, with a view to reducing human injury risk on such sites.

There's also less waste, since materials can be managed prior to leaving the factory, driving down the amount of refuse to landfill sites.

Finally, such projects are less susceptible to delay from bad weather conditions, since the majority of the work is completed in indoor industrial units.

While there are numerous benefits to using modern construction methods, as with any emerging technology, there are associated challenges. In particular, concerns over insurance are apparent as underwriters evaluate the new risks to ensure any hidden hazards are fully understood. These new methods are having an effect on the way insurers assess risk; insurers will review the chosen construction method alongside the materials used to determine the level of cover required.

Another hurdle is the current insufficient training and qualification held by some workers. Partly due to a lack of awareness and suitability of available training, plus a shortage of qualified training providers, many firms just don't have the right skills to manage this method of working. The Construction Industry Training Board (CITB) has set out a strategy to address these issues in line with the government's plans to push the off-site construction agenda.

Another consideration is the increased number of companies involved in an off-site project, potentially impacting upon supply chains and liability agreements.

Currently, off-site construction only makes up about 7% of UK construction GDP. However, as demand for more rapid and efficient construction grows, the sector is likely to see an upwards trajectory in this area.

Smart materials

An area of innovation for the construction sector is the invention of so-called 'smart' materials. These are materials which can respond autonomously to a change in environment in order to fulfil a purpose.

Concrete, containing cement, is one of the most commonly used materials in construction but has a negative impact on the environment, with cement manufacture being one of the biggest emitters of harmful greenhouse gases. Concrete can often develop cracks which need repairing, requiring the manufacture of yet more concrete. Good news then, that researchers are currently investigating the development of 'self-healing' concrete, which will embed self-activating bacteria to plug the cracks before they worsen. Despite this innovation being in its infancy and the prohibitive cost, the inventor is hopeful that the benefits will be recognised for the construction industry.

Shapeshifting materials may sound like something from sci-fi, but they are now being put to good use in flexible joints and connections. These objects can change shape when subjected to physical force, or even pre-programmed with a standard shape which the material should revert to when required. Opportunities for use include structures subjected to extreme weather conditions, such as bridges in areas at risk of hurricane or earthquake.

Drones

Drones, or 'unmanned aerial vehicles' (UAVs) have been identified as having many uses within construction. Prior to building, drones can be used for land surveillance, to determine whether the site is appropriate for the intended project. Their cameras can capture landscape photographs which are much more accurate than traditional aerial photographs and have the facility to scan sites from the air and send images back to computers for the purpose of creating 3D models. Sometimes this data is used for marketing purposes, as a means of attracting clients and potential investors.

Drones can also be used post-completion of a construction project as part of safety inspections. This is particularly beneficial in checking high or impassable structures such as skyscrapers or bridges, which would otherwise be difficult and costly for humans to navigate.

Some drones are even being used to transport equipment to and from sites, to reduce transportation times and improve security. There's no doubt that drones have huge benefits for the construction sector, but there are also many legal considerations and implications.

Firstly, due to data protection laws, individuals are entitled to know when their data is being collected and used. The use of drones for the purpose of secret employee surveillance is therefore illegal and employers could find themselves in breach of data protection laws.

There remain on-going concerns around mid-air collisions and loss of control. Drone operators must abide by strict flying regulations such as 'no-fly' zones and maximum altitudes. Recently the UK government announced the potential introduction of new safety awareness tests for anyone flying a UAV. Insurance is also a key consideration, since many insurance companies have yet to create policies for drones. There is also the potential for refusal of third party claims involving drones operated by, or on behalf of an insured unless appropriate insurance has been arranged.

The construction industry has seen much transformational innovation over the last few years, which brings huge opportunities but also increased risk. Against these technological advances, it will be increasingly important for construction companies to familiarise themselves with the relevant insurance products, to ensure they are covered adequately against such risks.

[6] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/305025/Technology_and_skills_in_the_construction_industry_executive_summary.pdf

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