



architectural acoustic finishes

SonaSpray fcx – Windermere Jetty Museum, Cumbria.

Oscar Acoustics were specified for the Windermere Jetty Museum in the stunning Lake District. Our SonaSpray fcx acoustic plaster finish, controls noise reverberation without impacting the design, ensuring the acoustic ambience fits seamlessly with the calming surroundings of Lake Windermere.

Credit to Carmody Groarke, Lakeland Arts & Windermere Jetty Museum of boats, steam and stories.



















07/20

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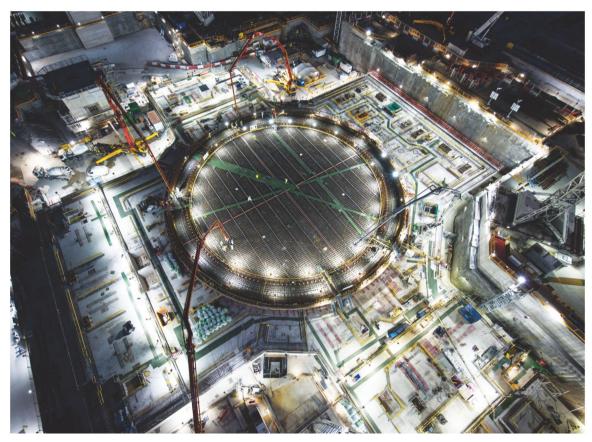
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News



▲ BYLOR completes pour for 49,000 tonne Hinkley reactor base

The Bouygues/Laing O'Rourke joint venture responsible for building Hinkley Point C nuclear power station has completed the 49,000-tonne base for the station's second reactor on schedule. Completion came after a final concrete pour of 8,991 cu m, setting a new UK record for a single, continuous pour.

► Contractor uses antique steam engine as winch

Demolition firm AR Demolition has used a 102-year-old steam traction engine once owned by Sir William McAlpine, son of Sir Robert McAlpine, to remove decommissioned infrastructure from the bottom of a Leicestershire quarry. AR Demolition used the 1918 J&H McLaren engine, called Avis, to remove sections of a conveyor belt from Croft Quarry.





▲ Construction manager rescues seriously injured lorry driver

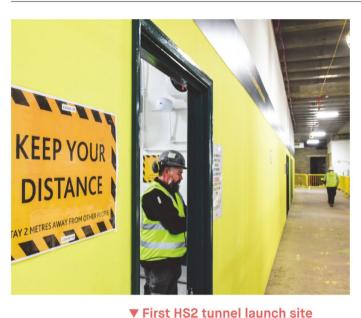
A CIOB member working on the M4 upgrade programme came to the aid of a lorry driver involved in a serious road accident.

Chris McHutchison, who is the Cleveland Bridge construction manager responsible for installing 11 bridges along 32 miles of the M4 between London and Reading, was first on the scene when a lorry crashed into the rear of an articulated lorry that had broken down underneath one of the motorway's existing bridges, giving the driver first aid.

News story for CM? Email neil@atompublishing.co.uk

As part of Emery's ongoing restoration of Bath Abbey, Buro Happold has replaced the abbey's Victorian heating system with underfloor heating powered by the city's hot springs. See p18





▼ Technology aids Willmott Dixon's social distancing

Willmott Dixon has revealed how it is using technology such as GoPro cameras and motion-activated voiceover systems to help its workers to social distance. The measures have been put into place as the contractor gets 95% of its sites back to work.



▲ BAM to use new NEC4 alliance contract on £220m uni job

BAM is to become one of the first contractors to work under the new NEC4 alliance contract, as part of its work for Sheffield Hallam University's plan to revamp its campus. The Hallam Alliance, made up of BAM, the university, BDP-Arup and CBRE, will initially deliver the first phase of the plan - with work to start this month on renovations to the atrium of the Owen Building. The partnership will share profits and losses to incentivise collaborative working.



HS2 is preparing for the arrival of the project's first

giant tunnelling machines, which will be launched

- currently being manufactured in Germany -

will dig the 10-mile-long Chiltern tunnels from

the site next to the M25, to near South Heath in

Buckinghamshire. Work has also begun to build the

concrete precast plant where more than 118,000

from a site next to the M25 at South Portal Chalfont Lane early next year. The two 2,000 tonne machines



▲ Thermal imaging temperature checks for Laing O'Rourke staff

Laing O'Rourke has introduced temperature checks using thermal camera technology on its projects and in its offices to manage the risk from covid-19. The cameras, which are installed into purpose-built modular units for sites, or mounted on ceilings in the entrances to offices, are situated at workplace access points.



Beard steps up as new CIOB president

CHAIR OF BEARD CONSTRUCTION EMPATHISES WITH COVID-19 CHALLENGES FACING MEMBERS AS HE SETS OUT HIS PRESIDENTIAL TERM PLANS. BY WILL MANN

Mark Beard becomes president of the CIOB on 1 July, aware that its members

and the wider construction industry are facing one of the greatest challenges in the institute's 186-year history.

"The covid-19 pandemic is an extraordinary, unprecedented event that nobody could have seen coming," says the chairman of Beard Construction. "I empathise with all CIOB members and anyone in construction who has been laid off, furloughed, or is working harder, for less money. These are uncertain times; but as an industry and an institute we will come through them."

Beard pays tribute to the support the CIOB has been offering members Beard: "I have tried to spend a day each week visiting our sites" "These are uncertain times; but as an industry and an institute we will come through them"

Mark Beard, Beard Construction

during the pandemic, notably through its benevolent fund, online training and industry leadership.

"I'd also like to give my sincere thanks to [outgoing president] Charles Egbu, particularly for his brave stand highlighting mental health issues in construction, which is very timely given the stresses many in the industry are facing as a result of covid-19," he adds.

Communication in a crisis

Beard has been chairman since 1999 of his family-owned construction group, which has four offices in Oxford, Swindon, Bristol and Guildford, and turns over a healthy £160m. But for the past three months, he has had to manage the impact of the coronavirus on the business.

"The best strategy for a crisis is 'communicate, communicate, communicate'," Beard believes.

"It has been difficult because of the lockdown, but I have tried to spend a day each week visiting our sites. This is an opportunity for me to listen to staff concerns, check site operating procedures are being followed and thank individual tradesmen for helping to implement 2m social distancing on our sites."

As well as a transparent approach to management, Beard believes strongly in professionalism and quality - which will be the key focus of his presidential year.

"I am keen to build on the work of the CIOB's quality commission and encourage all construction professionals to embrace the institute's new Code of Quality Management, so we can make quality part of industry culture," he says.

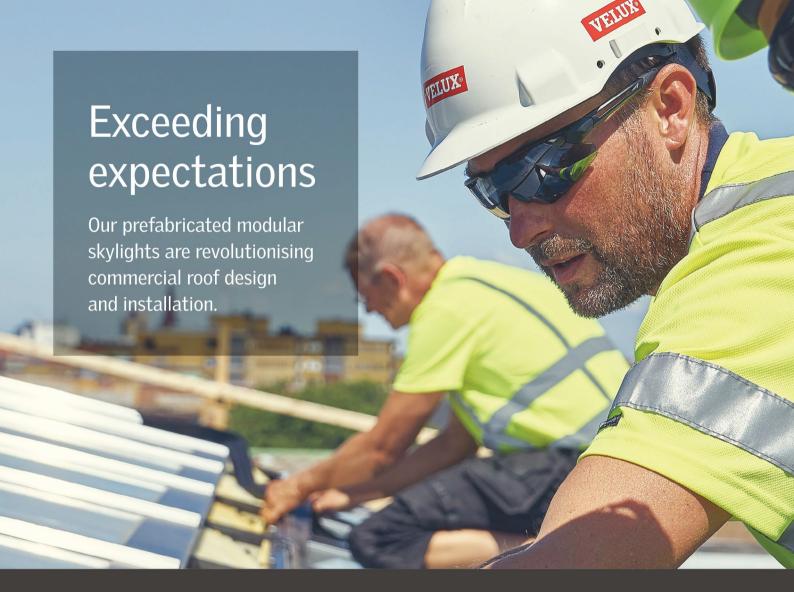
"There are still too many in the industry stuck in outdated ways of working which lead to too many cases of poor quality. This needs to change, as there is a large overlap between the requirements of the looming building safety legislation - and delivery of a high quality, professional construction service."

As well as quality, Beard will be taking "a hard look" at how construction sells itself to the younger generation, working with the CIOB's Novus community, and will be supporting CEO Caroline Gumble on her work reconnecting with overseas members.

"Some of these visits are on hold, for understandable reasons, but we are looking at organising a 'virtual' CEO and presidential conference with all international hubs to share ideas with our overseas colleagues," he explains. "It is important that all CIOB members around the world receive our support during these times.

"I'm proud to become part of the chain of presidents which dates back to our founding as the Builders' Society in 1834," Beard adds, "and look forward to upholding the CIOB's values and principles during my term."

A more in-depth interview with Mark Beard will be published in the September issue of Construction Manager.



Faster

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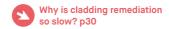
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CIOB, RICS and RIBA welcome high-rise fire safety measures

PROFESSIONAL BODIES RESPOND TO PROPOSALS FROM GOVERNMENT TO FIT HIGH-RISE BLOCKS WITH SPRINKLERS AND SAFETY SIGNAGE



The CIOB's Eddie Tuttle: "It is a very welcome move"

schools and care home buildings of 11m in

height or above, as well as the retrofitting

of sprinklers in buildings when relevant

They also provided evidence to the

government's consultation on changes

to the statutory guidance on building

The response to the consultation

proposes lowering the height threshold

for sprinklers in new blocks of flats and

introduces new guidance on wayfinding

signage and evacuation alert systems.

These amendments reduce the height

threshold for sprinklers in blocks of

flats from 30m to 11m, and introduce

new guidance on consistent wayfinding

signage in blocks of flats over 11m to

The government has noted that the

evidence submitted by the CIOB, RICS,

RIBA and others clearly demonstrated

"the benefits to life, safety and in

reducing the degree of damage by

installing sprinklers in blocks of flats".

research and public affairs at the

CIOB, said: "It is a very welcome

move by the government to lower the

height threshold for the installation

of sprinklers. The CIOB and our sister

professional bodies have long believed

it is a necessary change and will go a

long way to improving the fire safety

of buildings in the UK. This measure

will finally provide the clarity that is

needed, not just within our industry,

but also for the public and the fire

service."

Eddie Tuttle, director of policy,

refurbishment takes place.

safety regulations.

assist firefighters.

The Chartered Institute of Building (CIOB), the Royal Institution of Chartered Surveyors (RICS) and the Royal Institute of British Architects (RIBA) have jointly welcomed new measures from the government which will ensure many more high-rise blocks will be fitted with sprinkler systems and safety signs.

The three institutes have been calling for a change in government policy on high-rise blocks for over a year.

In March 2019 - ahead of a Westminster Hall debate on fire safety and sprinkler systems - the CIOB, RICS and RIBA issued a joint statement calling on the government to require the installation of sprinklers in all new and converted residential buildings, hotels, hospitals, student accommodation,

will finally provide the clarity that is needed, not industry, but also for the public and the fire service"

"This measure iust within our

Building safety benchmarking to follow chemical industry model

The Building a Safer Future Charter, set up to drive construction culture change following the Hackitt review, will base its benchmarking and verification system on a model used by the chemical sector.

The Considerate Constructors Scheme has been appointed by the 'Early Adopters group' to develop and manage the Charter.

CCS CEO Amanda Long told CM that the Charter needed independent verification to have substance.

"We plan to work closely with, and learn from, the 'Responsible Care' approach adopted by the chemical industry," she explained. "We intend to go beyond that approach and exceed their requirements in relation to independent verification."

Responsible Care is a voluntary initiative, adopted by 96 of the world's 100 largest chemical producers, which commits signatories to continuously improving their health, safety and environmental performance, and relations with neighbours and the public.

"We are focusing on raising standards in the industry and building public trust in relation to building safety," said Long.

"We will do this by providing a robust approach to benchmarking and independent verification of projects, as well as providing a public portal for anyone to raise concerns they may have about the safety of a building.

"We will be establishing a working group over the summer to assist and advise on benchmarking and verification," she added. Amanda Long interview, p28

Eddie Tuttle. CIOB



Say hello to the groundbreaking device for setting out and scan on a single set up. Combined with MAGNET Collage and ClearEdge3D Verity, the all new GTL-1000 offers a new standard in construction verification workflows. Quicker and more accurate, near real-time verification is now a reality to save time and money on site.





Back on site - but weak supply threatens construction rebound

Covid-19's impact on global supply chains means lengthening lead-in times for many construction products, explains Kris Hudson



As the daily rates of new covid-19 cases in the UK have dropped,

construction has returned to work. When CM went to press, some 97% of **Build UK members' sites** were operational again. However, with the pandemic disrupting supply chains both domestically and internationally, many of these sites are now competing for scarce resources.

Last year, 46% - or £8.15bn - of all UK imports of construction materials and components came from just five countries: China, Germany, Italy, Spain and the Netherlands.

Spain, Italy and Germany are currently still in the top 10 of countries affected by covid-19 around the world - putting a strain on supply chains. The past months of stringent lockdown have resulted in falling component production in these locations, and the knock-on effect for UK contractors has been lengthening lead-in times for materials, programme delays and higher costs.

Furniture, fixtures and equipment (FF&E), mechanical, electrical and plumbing (MEP) plant, specialist lighting and IT equipment have all been particularly affected, with many global locations seeing eight or nine week delays to lead-in times.

But domestic production of construction material and component is also a concern. The Construction Products Association (CPA) reports that 78% of all construction products are produced in the UK.

And here the impact of the virus has been particularly stark on the delivery of bricks and blocks. The Department for **Business, Energy and Industrial** Strategy (BEIS) reports there was an 86.4% decrease in brick deliveries in April 2020 compared to April 2019, with concrete blocks seeing an 81.8% fall over the same period.

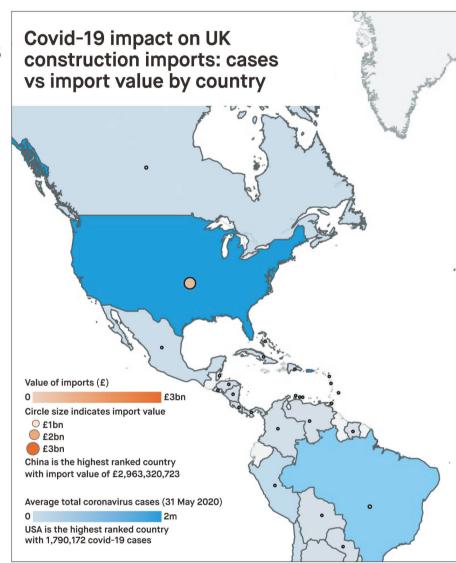
The industry may need to brace for further production pressures and longer lead-in times, as suppliers battle with cashflow challenges and insolvencies. The UK's largest brickmaker, Ibstock. has already reported that it has begun redundancy consultations with 15% of its workforce.

It is clear that contractors, more than ever, need to apply scrutiny and due diligence to the critical path dependency of the goods, components and materials they are sourcing and their condition at the point of transaction.

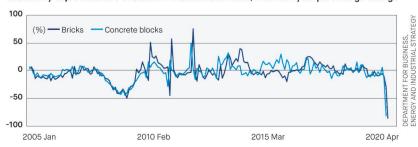
Planning ahead, analysing and mapping alternatives and proactive supplier engagement will be crucial in understanding and mitigating against any delays or further restrictions in the market. Kris Hudson is an economist

and associate director at

Turner & Townsend.

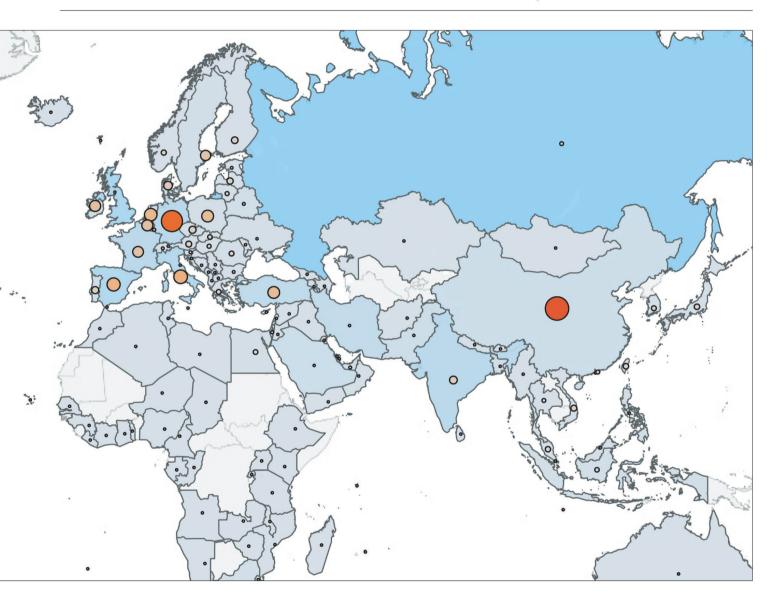


Seasonally adjusted bricks and concrete blocks deliveries, month on year percentage change



15.3%

Proportion of construction firms unable to source materials, goods or services in the UK during the first half of May, according to the ONS. Only healthcare was higher.



News in numbers

Percentage fall in sales for Taylor Wimpey in the 22 weeks to 31 May 2020 compared with the same period in 2019.

The loan from the government's Home Building Fund given to three schemes in Brent Cross, Silvertown and Barking Riverside.

E4.5bn 40.2% 25%

Proportion of construction enterprises which have suffered a decrease in turnover by 50% or more due to the covid-19 outbreak, according to the ONS.

Drop in construction output expected this year according to the CPA. The most optimistic prediction suggests a 26% rebound in 2021.

Opinion

As the country slowly begins to emerge from months of lockdown, many of us will no doubt have taken some time out to think about the so-called 'new normal' and what it means for us. Social distancing and other protective measures look set to remain with us for the foreseeable future. This has already started to raise some big questions about how we do things in construction. The new normal will require a new way of doing things: what you might term 'business as un-usual'.

The past few months have already seen a seismic shift towards digitally enabled collaboration in the construction sector. While this happened as a direct result of not being able to interact in person, it was nonetheless a reminder of the transformative potential of digital technologies and processes which, if fully embraced, could enable more sustainable and productive ways of delivering and operating our built infrastructure.

Collaborative thinking

Planning the route to recovery has helped to sharpen focus on the need for much greater innovative and collaborative thinking in construction. This is evidenced most clearly in the Construction Leadership Council's (CLC) Roadmap to Recovery, which rightly shines a spotlight on the need to up our game in the digital space. By embedding digital and manufacturing technologies and processes, we can lay the foundations for a sector which is far more resilient, performs better and which understands value in whole-life terms.

It is vitally important that any interventions made during the industry restart and reset phases help lay the groundwork for a much wider transformation. Digital and applied technologies can help us model and understand the parameters of sustainable operations and optimise wholelife CO, outcomes, transforming how and what we build.

With a drive towards high-performing assets and encouragement to use highperformance computing, energy analysis and the Internet of Things (IoT) to automate



David Philp Construction Innovation Hub

Covid recovery could shape construction's digital future

THE POST COVID-19 RECOVERY IS A PRIME OPPORTUNITY TO ACCELERATE THE SHIFT TOWARDS DIGITALISATION IN CONSTRUCTION. ARGUES DAVID PHILP



"By embedding digital and manufacturing techniques and processes, we can lay the foundations for a sector which is far more resilient, performs better and which understands value in whole-life terms"

processes we can better achieve the fundamental goal of net zero.

In addition to accelerating the pace of sector transformation, we can also help to maintain the UK's reputation as a world leader for the digital built environment, benefiting the economy as a whole.

The first step will be to accelerate the uptake and embedding of the digital tools and processes, particularly those developed in partnership with industry, especially the UK BIM Framework. Secondly, we need to ensure convergence with other related themes, especially manufacturing, digital twinning, to support new and ever-complex infrastructure challenges - especially those related to productivity and quality.

Thinking once again about the 'new normal', as many organisations announce permanent homeworking arrangements for their staff, occupancy levels of our built assets will change dramatically and we will need better understanding of how our existing buildings and infrastructure should be shaped.

With building owners increasingly needing to reorganise and prioritise their asset portfolios, the Digital Innovation Hub is creating guidance and frameworks around the 'digital estate'. It demonstrates how digitisation of an existing estate with a ioined-up data approach can help gain better insight, making more informed decisions and providing a better coordinated approach to an organisation's asset management strategy based upon more complete and accurate asset information.

The next few months - and quite possibly years - will be like none we've experienced in our lifetimes. There will be challenges aplenty, but opportunities aplenty too. For our part as the Construction Innovation Hub, we'll be working in full support of the CLC Recovery Plan to ensure that digital technologies and processes are at the heart of how we do things in future.

David Philp is the Construction Innovation Hub's digital impact director, and director of BIM in Europe, the Middle East and Africa (EMEA) at Aecom.



Mark Starling

Keeping sites safe during the coronavirus

THE COVID-19 PANDEMIC HAS RESULTED IN UNPRECEDENTED DEMAND FOR HEALTH AND SAFETY ADVISORS' EXPERTISE. MARK STARLING EXPLAINS HOW HE IS HELPING KIER TO OPEN ITS SITES SAFELY

In the 25 years I have worked in construction,

12 of which have been at Kier as a safety, health and environmental manager, these past months have been the most challenging but also the most rewarding. Covid-19 has resulted in unprecedented demand for our advice with safety teams working on construction projects adapting their approach to risk management at an extreme pace.

When the government announced lockdown on 23 March, we needed to react quickly to provide advice and guidance to our teams to allow them to continue their work safely. We immediately completed in-depth workplace risk assessments on every site to determine what controls were required to reduce the risk.

The publication of the Construction Leadership Council's (CLC) first *Site Operating Procedures (SOP)* was a real turning point and gave us a straightforward 'rule book' to follow, ensuring we were able to keep our sites open and productive, delivering projects to our clients.

Our team at Kier played a lead role in developing the updated CLC's SOP. We have further developed this guidance and worked collaboratively with other tier 1 contractors to develop tier 1 guidance that has been adopted across the industry.



Clear signage is used to indicate the social distancing rules on site

From revamping our site offices to adhere to the 2m distancing rules, to putting in place one-way systems, we had a key focus on setting visual standards with a strong emphasis on pictorial signage and very clear zone markings on site so that everyone would immediately understand what was expected of them before reading any words. The approach was also important in case any workers on site struggled to overcome any language barriers.

Programmes of works have been adapted to ensure that fewer people are working in any given area at a time. Front-of-house access control has also been changed: fingerprint scanners have been disconnected and replaced with a card entry system. Kier has found ways to incorporate tools and technology, for example, instead of our dry liners manually lifting plasterboard together, we now use a mechanical plasterboard lifter.

In our welfare facilities we have increased drying room sizes and revamped canteens to have long tables with appropriate distancing marked off. We have also made better use of our outside spaces by setting up outdoor seating areas (with social distancing in place) for breaks.

The covid-19 situation has made a massive impact on our industry and it will hopefully result in a shift in the way we work. We are focusing on making permanent positive

"We had a key focus on setting visual standards with a strong emphasis on pictorial signage and very clear zone markings on site so that everyone would immediately understand what was expected of them"

changes to our business to ensure we are compliant while still being productive, reducing ill health, accidents and incidents while protecting our environment. We will continue to use innovative tools to support our teams, using technology more for training, meetings, events, audits and inspections.

It has been a tough journey so far, but it is thanks to our colleagues that we have a roadmap in place for the future. I am proud to have been part of this whole process and I am proud of everyone in our industry who stood together in these challenging times. Our collective effort can bring about positive change to the industry in the future.

Mark Starling is a Kier safety, health

and environmental (SHE) manager. He is also a chartered member of the CIOB and serves on the CIOB Health, Safety & Welfare (HSW) Group.



Caroline Gumble

Picking a route through the road to recovery

CONSTRUCTION'S RECOVERY FROM THE CORONAVIRUS PANDEMIC PRESENTS AN OPPORTUNITY TO STRENGTHEN THE INDUSTRY, PROVIDED THERE IS THE RIGHT LEADERSHIP SAYS CAROLINE GUMBLE



Much of the focus of our industry is now on recovery and the unique opportunity we have to strengthen the sector. Making a success of this opportunity will require real leadership

and meaningful collaboration.

I want to give credit to a couple of true respected professionals from our industry who have both encouraged and supported a collaborative approach and offered strong and consistent leadership during the pandemic. My thanks to Andy Mitchell, co-chair of the Construction Leadership Council (CLC), and Mark Reynolds of Mace, also a prominent voice on the CLC (and a CIOB Fellow).

The CLC has now published its *Roadmap to* Recovery, which the CIOB supports. It was a significant undertaking, with input from many different organisations. One thing was clear from the start and that was the consensus on seizing the chance to make the changes to our sector that many have long wanted to see.

Among the calls we made during development of the CLC's plan was to pull forward long-term socially valuable projects, supporting employment and ensuring our built environment is fit for the future. I was pleased to see the plan recognise the opportunities

with domestic repair and maintenance, not only for economic reasons but for people's health and wellbeing.

We also called for clarity in the government's expectations of how the industry will handle any contractual conflicts arising from the unanticipated site closures. The CLC plan covers minimising disruption due to contractual disputes, with a call for public sector clients to support contractors in restarting site activity.

The plan also mentions an industry commitment to ensure prompt payment to firms within the supply chain and a commitment from clients to follow guidance on responsible contractual behaviour, all of which we welcome.

There is a note of caution to be sounded. however, as the coronavirus remains present and there are fears of a possible second wave of infections. I urge you to have supplementary plans in place to deal with this possibility if the industry is to have complete confidence in restarting while lockdown measures are being eased.

Caroline Gumble is chief executive of the CIOB.

Encouraging wider participation in the built environment

We need talent from non-traditional backgrounds, says Ashley Wheaton



A recent study found that only one in eight construction workers are women and just 5.4% of workers are from a

BAME (black, Asian and minority ethnic) background. Out of the working-age population in the UK, 18% are disabled and yet only 9.3% of the construction labour force is disabled.

The only way to widen participation in the sector (and, in doing so, boost its declining labour force) is to encourage underrepresented groups to consider a career in the built environment.

In the past few years, the sector seems to have grasped the nettle and made a concerted effort to create a more diverse workforce. Initiatives such as the CITB's Pathways into Construction programme demonstrate the growing willingness to shake up the sector's traditional demographic.

At the University College of Estate Management (UCEM), we recognise that we have a role to play in widening participation and these goals have been embedded in our Access and Participation Plan.

A key part of this strategy is being realised through the work that is being undertaken by Building People - a technology platform that seeks to connect people from underrepresented groups to opportunities within the built environment.

Since the outbreak of the pandemic. we have launched a bespoke BSc Access Module for Year 13 students at a heavily discounted rate to support those wishing to get ahead with their university studies. released CPD training modules for services veterans wishing to learn more about the construction industry with BuildForce, and offered to teach other universities' students via our virtual learning environment (VLE) on a temporary basis.

There is a way to go but UCEM believes the work undertaken over the last few years to make the built environment more inclusive and diverse will have the desired effect.

We will continue to do our bit at UCEM to widen participation and help as many people as possible access our degrees to gain the qualifications needed to progress in the sector.

Ashley Wheaton is principal at University College of Estate Management.







A selection of readers' comments about news and issues in the industry from www.constructionmanagermagazine.com

Do material manufacturers hold the key to understanding embodied carbon?



CM01/06

Barry Keith Holmes dies from covid-19, aged 80

Vaughan Burnand Sad to hear of Barry's passing. Good times with him at the Design **Build Foundation (DBF).** I carried on the work with Don Ward after he retired. Rest in peace.

Don Ward

He was a flying enthusiast. I recall him taking a flight on Concorde to mark his retirement from DBF I doubt he learned to fly it but I would not put it past him. RIP Barry.

Graham Robinson

A true professional and a very good friend. Barry was able to identify how the construction sector could change based on his manufacturing background and applied his experience at the DBF. Barry's dry sense of humour will be missed.

Iain Ferguson

So sorry to hear of his passing. I enjoyed working with him at Arlington, an inspirational man who had a passion for everything he turned his mind to.

Terence Warom Great man, great shame.

John Homer

A great guy and true professional. My most remarkable memory was the enthusiasm and passion for change in a positive way. RIP BH. A privilege to have known you.

CM 30/05

Construction's embodied carbon

Neil Tilley

No doubt the climate emergency is the most important issue in construction today and one which is attracting many column inches, design guides, CO, targets and consultancy offers. All of which adds to what is fast becoming the world's greatest game of Chinese whispers.

Few understand to any relevant level the complexity of the UK construction supply chain and its effect on embodied carbon. Much greater understanding is gained by simply having direct dialogue with the material manufacturers. Hold their feet to the fire and get the clarity and transparency of data needed to make worthwhile decisions.

CM26/05

Combustibles ban review

Luke

It would be far more useful to have a sensible discussion about cavity trays which were inexplicably caught up in the 2018 ban.

This has caused a massive headache where there wasn't a non-combustible product available and those that have come out since 2018 are very expensive and may end up causing more problems as the materials used are not as well suited as plastic.

Chris Pateman

Once you have conceded that the structural and aesthetic choice of products for use in a building should be made, not on the basis of scientific evidence. engineering experience or a clear understanding of the purpose the building is to serve, but rather on the whimsical diktats of our political masters, you have abandoned any justification to claim you speak with expertise.

What is most disturbing about this absurd industry-wide decision to ignore the disease and focus exclusively upon the symptoms is the timber lobby's decision to completely abandon the defence of its product for external and aesthetic use in favour of defending its use in areas where it will be covered up.

We have a shiny, newly updated version of BS 8414. And if you want to focus on facades, we have LPS 1181. which was written by and for the insurance industry. Let's get back to science, people. Or else let's just be

honest and set up a new framework where whoever happens to be secretary of state for the Ministry of Housing, Communities and Local Government this week gets to play God with our designs.

Rory Gannon Luke and Chris make excellent points. Fire blocking, fire socks, cavity barriers, cavity fire stops, cavity fire blocks, B1 or B2 expanding fire foam with or without intumescent sealant. The ambiguities are endless.

So when the quantum of risk is finally reached on how much human life is worth, to whom does the duty of care fall to ensure our buildings are properly inspected? That is to say inspected to ensure the as-specified materials are the ones actually installed and that those materials have been installed correctly. The client!

Or should we now be insisting that qualified inspectors are used to verify that the whole fabric of the works has been safely and properly installed?

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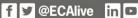
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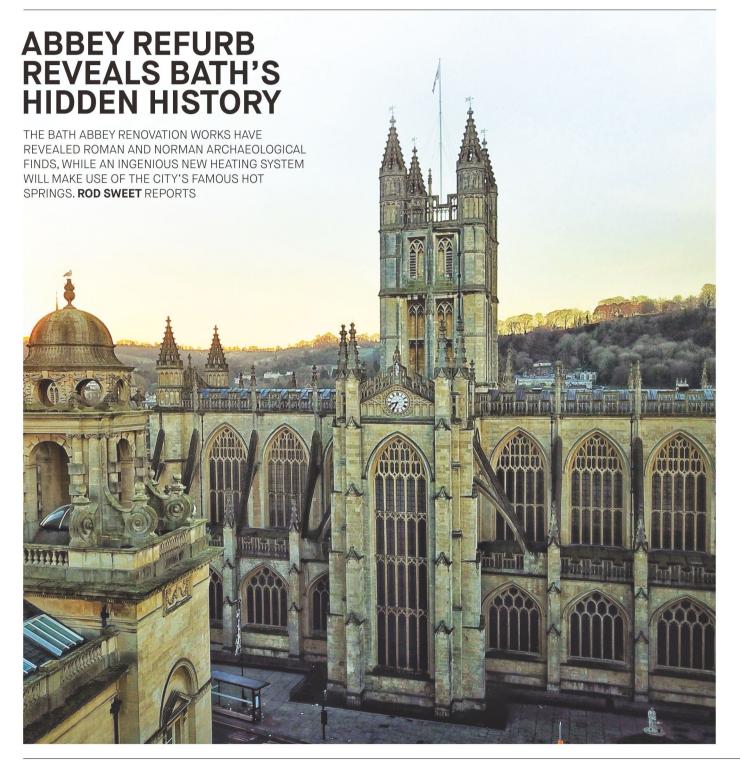












7,00

Over the centuries, around 7,000 individuals were interred in the 2m-deep space beneath the abbey floor

"Apart from the structural problems it could cause in the long term, the uneven floor was also difficult for people with mobility problems"

Alix Gilmer, Bath Abbey

When the city of Bath took on its current form - from the mid-18th to the early 19th centuries - it was rather like a Georgian-era Dubai, with ambitious promoters and developer-architects eager to stamp their novel vision onto this modest town, to capitalise on a new craze for Bath's hot springs.

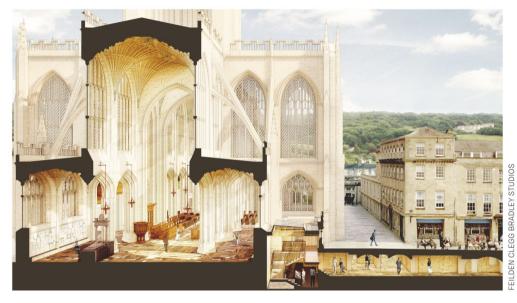
As a result, Bath burst out of its ancient walls and acquired the grand character it has today, typified by neo-classical Palladian crescents. circuses, terraces and wide, sedate boulevards. But, nice as it is, this building boom obliterated many physical traces of Bath's Roman, Saxon, Norman, Medieval and Tudor periods.

Now, an overdue refurbishment of Bath Abbey has prised open a new window onto that history, thanks to the archaeological digs that accompanied it.

Underfloor heating system

Built between 1501 and 1537, the abbey is a relatively new building. But it sits on the rubble of much older buildings, some dating back to at least 675AD. The finds have been described as "once in a lifetime" for the archaeologists, and include Roman roads, Saxon burials and an exquisite tiled floor that graced the 11th century Norman cathedral which once stood on the site.

The refurb will accomplish something else of both practical and symbolic importance. Every day, a million litres of hot water emerge from deep in the ground just yards from the abbey. Thanks to a solution worked



Cross-section of the Footprint scheme, showing the restored abbey floor, vaults and Kingston Buildings to the right

Bath Abbey

restoration Value: £19.3m Programme: May 2018 to early 2021 Client: Bath Abbey Contractor: Emery Architect: Feilden Clegg Bradley M&E engineer: **Buro Happold** Structural engineer: Mann Williams

up by engineer Buro Happold, the restoration will replace the abbey's Victorian-era heating system with underfloor heating powered by the hot springs (see box).

Some years ago, Bath Abbey - a parish church and a busy venue for performing arts - began to grapple with the constraints created by the deterioration and inflexibility of its physical spaces.

Of chief concern was the floor, which was in the midst of a slow-motion collapse thanks to thousands of bodies decomposing under the stone slabs, called ledger stones.

Over the centuries, around 7,000 individuals had been interred in the 2m-deep space, mostly full of soil and rubble, that lies between the existing abbey floor and the floor of the Norman cathedral beneath it. The ongoing decomposition of the bodies created voids, leading to the sloping and sinking of the ledger stones, explains Alix Gilmer, project manager for the Abbey.

"Apart from the structural problems this could cause in the long term, the uneven floor was also difficult for people with mobility problems and for people in wheelchairs," Gilmer says.

Other issues included the building's antique heating system and a lack of space for basic amenities such as toilets, cloakrooms and catering.

Working with architect Feilden Clegg Bradley Studios, the Abbey hatched the £19.3m restoration project, which it dubbed 'Footprint'. This would fix the floor, install underfloor heating and create new spaces in the vaults and neighbouring Kingston Buildings, Georgian-era townhouses where a 'discovery centre' will be located.

Keeping materials flowing

Work commenced in May 2018, with local contractor Emery moving onto site. Emery has had to keep the church open throughout the project, and keep quiet during Holy Communions, while managing the logistics of a tight site in central Bath, keeping personnel and materials flowing to and from many different micro-work faces. The contractor also needed to work around the 18-strong team of archaeologists.



Bath Abbey in 1875





To fix the floor, Emery had to move out the pews, then lift the 891 ledger stones covering an area of 1,000 sq m.

These stones weighed up to 400kg apiece and were themselves of historic interest because they are inscribed with names, dates and other details pertaining to people of note buried under the floor from between 160 and 350 years ago.

Because of the pews, many ledger stones had not been seen for more than a century, so the Abbey trained a team of volunteers to decipher and record the inscriptions, and to research the life stories of the parishioners they describe in order to bring them alive, as it were, for visitors.

With the stones off, workers could remove a layer of the material underneath, plus the old cast-iron heating pipes, and pack in the voids that had formed. That allowed them to pour a reinforced concrete slab and lay pipes for the new heating system, before relaying the ledger stones on a firm foundation.

"By the end of the project," says Emery site manager Felix Emery,



metres down. archaeologists found stone apsidal structures, the first physical evidence of a Saxon monastery, dated to the 9th century

Top: Archaeologists discovered an exquisite tiled floor laid in the 1320s that covered the entire area of the vanished Norman cathedral

Above: Twentyseven Saxon people, interred in the 8th or 9th centuries, were also found

"over 1.000 cu m of material will have been excavated by hand from inside the abbey alone, most of it containing disarticulated human bone that is removed and retained."

Some of the human remains were reinterred, and some relocated to the abbey cemetery south of Bath. "It has been very important to the Abbey that this has been done carefully and respectfully," says Gilmer.

As excavations progressed, many layers of Bath's history have been uncovered, dating back more than two millennia.

Like any city with a 2,000-year history, repeated cycles of construction and demolition have raised Bath's ground level.

"By the end of the project, over 1,000 cu m will have been excavated by hand from inside the abbey alone"

Felix Emery, Emery

The Mesolithic-era level - the Stone Age - requires digging around 4m down, says Cai Mason, of Wessex Archaeology, who led the digs in the abbey floor.

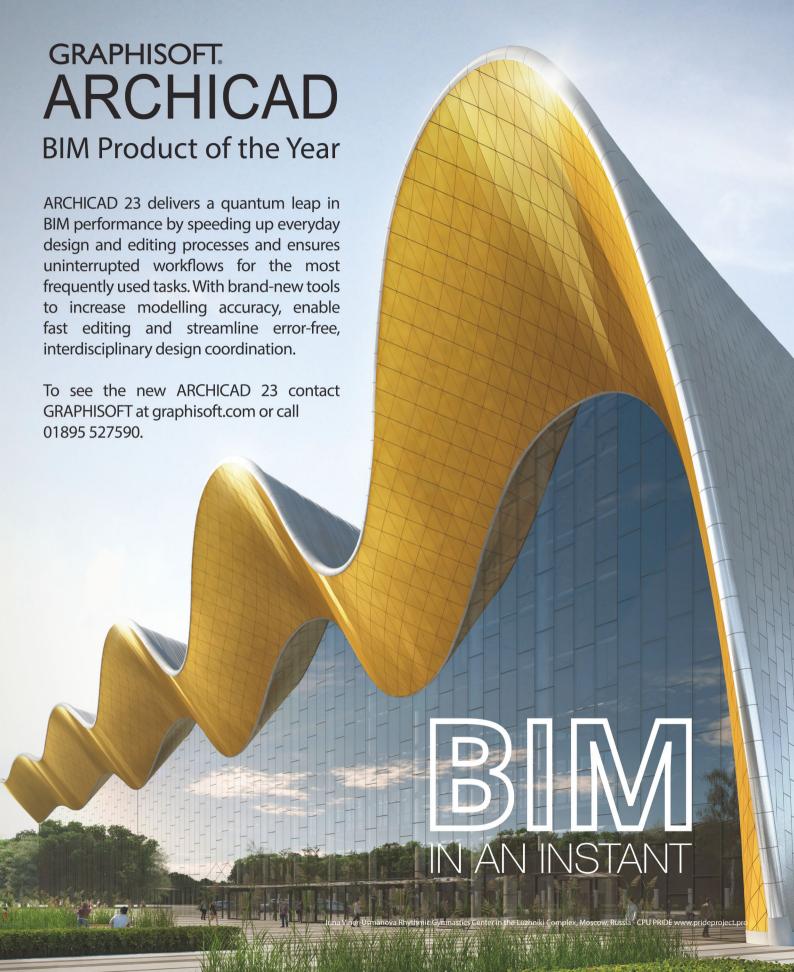
That was where the archaeologists team found the two Roman roads, hard, rammed-gravel surfaces - the most common Roman paving technique with carved stone guttering laid along their edges.

"It's very, very hard," says Mason. "You need a pickaxe to get through it. These are properly engineered roads, among the first structures on the site."

Saxon-era buildings

Up from the Mesolithic-era level, at a depth of 3m, the archaeologists found the remains of two Saxon-era buildings. They are stone apsidal structures - semi-circular ends to rectangular buildings - about 3m in length and 1.5m thick, and the first-ever physical evidence discovered of the Saxon monastery indicated by historical records, which stood on the site. The masonry construction signifies highstatus structures, Mason says. Lime plaster containing charcoal allowed the archaeologists to radiocarbon date the structures to the ninth century.

Another metre up, and the archaeologists uncovered the floor, laid in the 1300s, which covered the entire Norman cathedral that preceded, and dwarfed, today's abbey. One of a string of eye-popping structures built by the Norman conquerors to





The uneven floor of the abbey is being repaired as part of the renovation

stamp their power on England, the cathedral was Romanesque in style - thick-walled, small-windowed and heavy-shouldered - and 100m in length. Previously undiscovered sections of the cathedral's walls were also uncovered.

"Stylistically, it was a copy of the Basilica of Saint-Sernin in France, which is the same ground plan that the Cathedral of Santiago de Compostela [begun 1075] is based on," says Mason.

Floor reconstruction works

By the late 15th century the Norman cathedral had fallen into disrepair, and the new Gothic-style abbey church was commissioned in 1499, completing just in time to be shut down in 1539

by King Henry VIII in his war on the monasteries. But it stands proud today as an iconic feature of the city of Bath.

The first phase of the floor reconstruction works, at the east end of the abbey, completed in June 2019, with the north phase finishing in March. Work has also involved refurbishing the Kingston buildings and excavating the vaults, while shoring them up with additional concrete supports.

The third and final phase is due for completion by the end of the year. Emery will then install a new lighting system and reinstate historic furniture in the first months of 2021, as the new abbey facilities prepare for opening to the public.

Warmth springs eternal: the abbey's new heating system

Buro Happold's closed-loop heat exchange system makes use of the city's springs

Buro Happold has designed a heat exchanger to draw energy from Bath's hot springs. The restoration has not just revealed some of Bath's underworld past; it will put that past to good use.

The springs were first discovered around 863BC. Bubbling up from depths of up to 4km, more than a million litres of water emerge at 46°C every day, just a stone's toss from the abbey's front door. It spends time in various pools before the overflow travels through the Great Drain, a tunnel dug 7m below ground by the Romans, big enough for a person to pass through, before spilling into the River Avon 400m away.

The spring water is not suitable for underfloor heating, owing to its high mineral and silt content, and risks from pathogenic amoeba.

But engineers at Buro Happold discerned that the Great Drain passes close enough to the abbey to allow a closed-loop heat exchange system. This can extract 160kW of energy from the hot spring water in the Roman drain, enabling heat exchangers to provide separate water at 20-25°C to the abbey's electric heat pumps.

The pumps will then raise the temperature to 50-55°C, suitable for underfloor heating and trench heating during milder weather.

By going back to the first century, Bath Abbey can more comfortably proceed into the 21st and, for the first time, two of Bath's most visited monuments - one dedicated to the body and the other to the soul - will be working together.





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DUTY CALLS: TRAINING UP BUILDING SAFETY MANAGERS

WITH THE BUILDING SAFETY ACT LOOMING. THERE ARE FEARS THE INDUSTRY LACKS THE SKILLS REQUIRED BY THE NEW DUTY-HOLDER ROLES, BUT ONE HOUSING GROUP HAS SEIZED THE INITIATIVE, AND IS TRAINING UP ITS OWN BUILDING SAFETY MANAGERS. WITH THE HELP OF THE CIOB. NEIL GERRARD REPORTS



Shortly before the third anniversary

of the Grenfell Tower disaster, in last month's CM, CIOB past president and chair of its quality commission Paul Nash issued a warning to construction: Too many organisations were acting too slowly to develop competencies for the new

duty-holder roles that will come in with the Building Safety Act.

Under official plans, the Building Safety Regulator will oversee the safety of all multi-occupied residential buildings of 18m or more in height, or more than six storeys. It will also have responsibility for a new duty-holder regime operating over a building's lifetime, with greater onus on designers and contractors to explain how they are managing safety risks.

With hundreds of companies owning buildings expected to fall into the scope of the regime, there's expected to be a need for thousands of building safety

Trafford Housing Trust is responsible for managing almost 9,000 homes for social and affordable rent in north-west England

managers (BSMs), appointed to manage the fire and structural risks. "And yet many organisations appear to be waiting for the Building Safety Act to arrive before preparing," Nash warned.

However, that is not the case with Trafford Housing Trust, a housing association responsible for managing almost 9.000 homes for social and affordable rent in north-west England, which was acquired last year by L&Q. Trafford, in response to Dame Judith Hackitt's Independent Review of Building Regulations following the Grenfell fire, has established a new building safety team.

Competency issue

Iain Wallace, who joined Trafford Housing Trust as director of property services just prior to the tragedy, explains how and why the new team was formed.

"The terrible events at Grenfell reinforced my view that we needed a complete rethink around building safety, and that we had to really embrace the recommendations of Dame Judith's independent review," he says.

"The report rang true with some of the issues I was already trying to resolve. so we brought in external experts such as Brad Walker from Fire Strategy Services to advise and work alongside us to produce robust plans to revise our approach to building and fire safety."

The result has been the trust's appointment of two building safety managers, who it is training up to ensure they have chartered status with the CIOB.

It was through this process that conversations started with the CIOB about creating a course that would focus specifically on providing the education necessary for a building safety manager. The qualification aims to provide the managers with the knowledge and skills to take on increased responsibility for fire safety management.

Meanwhile, Trafford has established a response team to triage and manage anticipated new fire safety works, as well as forging stronger ties with Greater Manchester Fire and Rescue Service (GMFRS). This has led to fire safety works to help protect the trust's buildings.

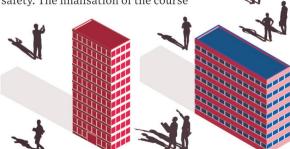
Wallace says: "Having a great relationship with the fire service is a huge help, and it's also a prime example of the housing sector and construction industry working collaboratively.

"The new building safety team builds on this. As well as ensuring compliance with statutory obligations and government objectives, the team will manage the maintenance and testing programmes for fire, asbestos. gas, electric, legionella and lifts. They will also manage the trust's new fire risk management strategy."

The diploma

With competency a key issue identified as part of the independent review into Building Regulations and fire safety, the trust worked with Rosalind Thorpe, associate director - education and standards at the CIOB, and its own fire safety manager, to develop a new building safety manager diploma. The new qualification aims to look at an industry-wide solution to make buildings and their residents safer.

Wallace says: "Using a modular system allowed us to add elements to the course as and when new guidance and information was published on building safety. The finalisation of the course





"We're sharing best practice with the industry; this new building safety approach is an integral part of fire safety... It's vital we get it right"

lain Wallace. **Trafford Housing Trust**

will come about following the inclusion of the findings and recommendations from working group 8 [tasked by Hackitt with creating the building safety manager role, and determining the competences necessary], and this includes a bespoke module on fire safety, which will enable them to take on more fire safety responsibilities."

The trust will now work towards the course getting diploma status. accredited to level six (the equivalent of a bachelor's degree), and its two building safety managers will be the first to complete the course.

"We're sharing best practice with the industry: this new building safety approach is an integral part of fire safety, and we now consider that fire safety is the biggest part of risk management of a building, taking into account likelihood and frequency. It's vital we get it right," Wallace says.

Tony Hunter, assistant chief fire officer with Greater Manchester Fire and Rescue Service (GMFRS), agrees.

"This is a great example of joint working between a housing association and GMFRS," he says. "Our regular >

The Building Safety
Regulator will oversee
the safety of all multioccupied residential
buildings of 18m or
more in height

"We would encourage other housing providers to adopt Trafford Housing Trust's ways of working as best practice"

Tony Hunter, Greater Manchester Fire and Rescue Services

meetings and discussions were always open, honest and transparent, and driven by a genuine desire to create a safer environment for our residents and reduce the impact of fires on the environment. Trafford Housing Trust's ways of working have significantly improved the management of fire safety across a number of sites, and we would encourage other housing providers to adopt them as best practice."

New safety regime

The BSM role, one of the key duty-holder roles under the new building safety regime (see box) is still evolving, but competent building safety managers are expected to be able to fulfil a number of roles and responsibilities. They will have to work in a fluid environment that will include tasks like the co-ordination of the building's compliance programme such as fire equipment, portable appliance testing, alarms, legionella and any other compliance works.

The building safety approach must also see the implementation and co-ordination of a fire risk management system, which includes fire evacuation and security arrangements within a building to ensure a safe working environment, including good housekeeping and the management of fire risk assessments. Managers must also compile and contribute to internal policies, procedures and systems, while ensuring that all relevant aspects of health and safety legislation and Building Regulations are adhered to.

Despite the complex set of tasks involved, Wallace says that since the new building safety manager roles have been introduced, the trust is already seeing improvements: "Following the implementation of the BSMs, the results already speak for themselves. We are seeing a reduction in risk, and an improved ability to respond quickly and both deal with and allocate issues via the building safety team."

Trafford Housing Trust has also become the first organisation in the UK to achieve a new British Standard in fire safety – the recently introduced BS 9997 – awarded after its fire risk management systems passed a series of inspections.

Meanwhile, its parent L&Q, which sits on the government's 'early adopters' steering group, is working with the Ministry of Housing, Communities and Local Government to trial proposals from the new building safety regime. L&Q told *CM* this included: instituting development gateways; developing building safety cases and information required for the "golden thread"; and engaging with residents in different ways about building safety. •

What are the duty-holder roles?

The duty-holder roles in the construction and refurbishment of buildings in scope under the planned new building safety regime are:

- the client
- the principal designer
- the principal contractor
- designer(s)
- contractor(s).

All duty-holders during the design and construction phase will be required to:

- cooperate and share information with the Building Safety Regulator;
- ensure compliance with Building Regulations;
- comply with the specific regulatory requirements imposed upon them; and

• ensure they and the people they employ are competent to do the work they are undertaking.

Once the building is occupied, the 'accountable person' (effectively the owner) is a duty-holder. They will be legally responsible for ensuring that they understand fire and structural risks and must take appropriate steps and actions to mitigate and manage these. They will also be required to appoint a competent building safety manager, approved under a system agreed by the **Building Safety Regulator,** who will also be a duty-holder.

Diploma in Building Safety Management

The new Diploma in Building Safety Management comprises a suite of modules that will be available as standalone modules suitable for a range of duty-holder and existing occupations to develop the skills and knowledge to work on inscope buildings and as a full diploma for those moving into a building safety manager role.

These modules will be placed on the Regulated Qualifications Register in 2020 as publicly available

qualifications, after which they will be accessible to a wider audience of training providers in the UK.

The CIOB's Rosalind
Thorpe worked with
Trafford Housing Trust to
develop the new diploma.
"It is important to provide
learning routes into the new
duty-holder roles as well
as upskilling construction
professionals to provide
assurance of the knowledge
and competence of anyone
working on in-scope
buildings," she said.







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CCS READY FOR KEY ROLE IN BUILDING A SAFER FUTURE

THE CONSIDERATE CONSTRUCTORS SCHEME HAS BEEN APPOINTED BY THE 'EARLY ADOPTERS GROUP' TO DEVELOP AND MANAGE THE BUILDING A SAFER FUTURE CHARTER. WILL MANN FINDS OUT MORE FROM CCS CHIEF EXECUTIVE AMANDA LONG



"We are in touch with over 100 key industry organisations requesting case studies and resources on building safety, to ensure we have relevant, fresh content which helps organisations across the industry and beyond learn from one another"

> Amanda Long. **Considerate Constructors Scheme**

What are the aims of the Building a Safer Future (BSF) Charter and the Early Adopters group?

The Charter has been established to drive a culture change in the construction industry, to ensure buildings are safe for those living and working in them and protect life by putting safety first, ahead of all other building priorities.

We are focusing on raising standards in the industry and building public trust in relation to building safety. We will do this by providing a robust approach to benchmarking and independent verification of projects, plus a public portal for anyone to raise concerns about the safety of a building.

At the same time, we are developing the BSF Charter's Learning and Excellence Hub to create a community where best practice on building safety is shared and relevant examples, case studies and resources are signposted.

The BSF Charter is being set up by the Considerate Constructors Scheme (CCS), which was appointed by the early adopters in an open selection process earlier this year. We are working closely with the Early Adopters, the Ministry of Housing, Communities & Local Government and other relevant organisations to take forward the Charter.

How will CCS be supporting the Charter as its administrative partner?

The CCS has set up Building a Safer Future, including the Charter, as a separate not-for-profit legal entity and is providing leadership and expertise to make the BSF Charter happen.

How will you be working with the Early Adopters group?

Early Adopters will be leading on sharing their examples of best practice in building safety through the BSF Charter's Learning and Excellence Hub.

We are in touch with over 100 key industry organisations requesting

case studies and resources on building safety, to ensure we have relevant, fresh content which helps organisations across the industry and beyond learn from one another and apply these learnings to drive real cultural change.

How will the independent benchmarking and verification work?

To demonstrate that the BSF Charter has substance and is underpinned by benchmarking, it will be necessary to have an effective approach to independent verification.

We plan to work closely with, and learn from, the 'Responsible Care' approach adopted by the chemical industry. We intend to go beyond that approach and exceed their requirements in relation to independent verification.

We will be establishing a working group over the summer to assist and advise on benchmarking and verification.

How will the independent public portal work, and how will engagement with the public on building safety be improved through the Charter?

Engaging with the public is a crucial element of making sure the BSF Charter helps drive forward the cultural change needed to rebuild public trust and confidence in building safety. Offering an independent and accessible route for the public to raise any issues or concerns is fundamental to underpinning its value.

How does this work with the Charter fit with the wider role of the CCS?

The BSF Charter's ethos aligns and reflects the fundamental cornerstones of the CCS. Like the CCS, Building a Safer Future, including the Charter, is a not-for-profit entity and is established to help build public trust and raise standards in the industry.

For more information and to become a registered signatory of the Charter, visit: buildingasaferfuture.org.uk.



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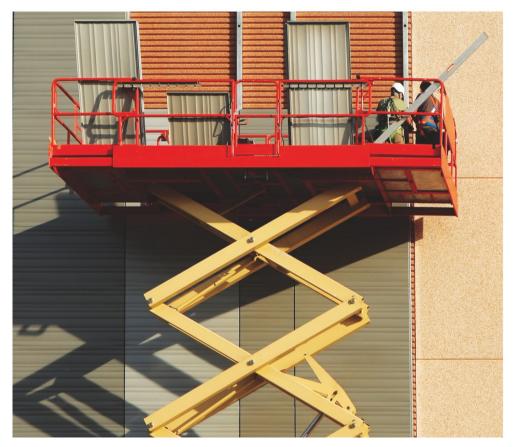


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CLADDING REMEDIATION: WHY IS PROGRESS SO SLOW?

THREE YEARS ON FROM THE GRENFELL TOWER DISASTER, AN ESTIMATED 2.000 HIGH-RISK RESIDENTIAL BUILDINGS STILL HAVE COMBUSTIBLE CLADDING ON THEM. CM ASKS WHY REMEDIATION WORK IS TAKING SO LONG



More than three years have passed since the Grenfell Tower disaster on 14 June 2017, but progress on replacing dangerous, flammable cladding systems on high-risk residential buildings has

been painfully slow.

The latest data available from the Ministry for Housing, Communities and Local Government (MHCLG) shows that there are 300 buildings with aluminium

composite material (ACM) cladding systems - the type used on Grenfell that still needed to be remediated, as at 31 May (see chart).

Some 155 buildings have had the remediation work completed while another 54 have so far had their cladding systems removed. And that's just ACM cladding. According to a House of Commons report by the Documentation about existing cladding is often incomplete or incorrect

all-party Housing, Communities and Local Government Committee published on 12 June, there are another 1,700 high-rise buildings with other forms of combustible cladding systems which need replacing.

"To still have 2,000 high-risk residential buildings with dangerous cladding is deeply shocking and completely unacceptable," said the report, which also estimated that the overall cost of remediating all fire safety defects from social and private sector residential buildings in England could be as high as £15bn.

So, why has progress on cladding remediation been so sluggish?

The government acknowledges in its monthly progress reports that these projects can be complex and involve "major construction work which needs to be planned, consulted on and carried out carefully".

Helen Stuart, senior associate at law firm Trowers & Hamlins, says that it can be a problem for building owners to identify from their own records what materials were actually installed.

"Frequently the documentation handed over at completion is incomplete or, in some cases, incorrect. This issue was picked up in the Hackitt Report and the government's consultation on 'Building a Safer Future' with the 'golden thread of information'," she says.

"There have also been challenges when it comes to the availability of competent experts to advise building owners on fire safety issues and the required remedial works, as well as

300

Ministry for Housing, Communities and Local Government data show 300 buildings with ACM cladding systems – as used on Grenfell – still need to be remediated

"Too many risks are being excluded by the criteria for accessing this support and the amount of money pledged is only enough to cover a fraction of the work needed"

Clive Betts MP

difficulties with obtaining sufficient professional indemnity insurance for some of these experts."

In the private residential sector, progress has been much slower than in the public sector. As of the end of May 2020, only 29 buildings in the private sector had completed remediation works. Another 52 had started, leaving 126 that had not even begun remediation.

Part of the problem, Stuart explains, is that some owners have no other assets save for the freehold of the building.

"These companies rely on the service charge income to be able to pay for any works to the building and so would not have been able to fund any remedial works without recovering the majority of it first from the leaseholders," she says.

"Some time may also have been spent formulating claims against third parties and looking to get the original contractors to undertake the remedial works, or at least giving them the opportunity to do so."

Unfortunately, the covid-19 pandemic has inevitably had an impact too. Although the government stressed in April that cladding remediation work remained a "priority" and could continue if done safely, official data showed that 50% of the ACM remediation projects paused works due to the virus.

"Hopefully, in the next data set we will see that more projects have recommenced in line with the construction industry generally," Stuart says.

The government's response to the criticism is that it set aside £400m in 2018 for social landlords to remediate

high-rise buildings with unsafe ACM cladding, and a further £200m last year for private landlords.

It also announced a new £lbn cladding replacement fund at the end of May for non-ACM cladding systems that are unlikely to meet Building Regulations. This fund will be open to social housing landlords and private sector residential building owners and freeholders where the cost would otherwise be passed to leaseholders through the service charge.

Interestingly, the fund will not be available for remediation works which had already been committed to, or had started, prior to 11 March 2020, which Stuart notes is "unfortunate for those who were proactive and quick to take steps".

"There will be a separate claims process in July for a contribution from government for registered providers with in-scope buildings who cannot show their viability would be threatened by carrying out the works," she adds. "This will be a welcome development for the social sector, as it was initially thought that no funding would be available if the works did not threaten viability."

With the new fund announcement, building safety minister Lord Greenhalgh said: "Now that this additional £1bn funding is in place, building owners must crack on with removing flammable

Support 'will fall short'

buildings that are over 18m."

But there are questions over whether the funding provided will be enough.

cladding on all high-rise residential

The report by the Commons Housing, Communities and Local Government Committee warned that support "will fall far short of what is needed" to deal with dangerous cladding as well as other fire safety issues such as inadequate fire doors or missing fire breaks.

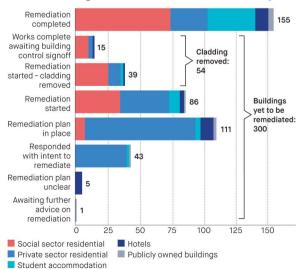
It said that the £Ibn fund will only be enough to cover the cost of removing non-ACM cladding from a third of the 1,700 buildings requiring remediation and criticised "stringent rules", including a short application window and restrictions against social housing providers.

Committee chair Clive Betts says: "Too many risks are being excluded by the criteria for accessing this support and the amount of money pledged is only enough to cover a fraction of the work needed.

"The fund should be increased so that it is enough to cover the amount of work that is actually needed, both to remove cladding and resolve wider fire safety concerns. Further support must also be provided for the costs of stop-gap safety measures, such as 'waking watches', to reduce the burden on homeowners."

The committee called on the government to ensure that "all buildings of any height with ACM cladding should be fully remediated of all fire safety defects by December 2021" and that "buildings with other fire safety defects, including non-ACM cladding, should be remediated before the fifth anniversary of the Grenfell Tower fire in June 2022".

ACM cladding remediation status at 31 May



HEFTY FINE HIGHLIGHTS **WORK AT HEIGHT FAILINGS**

A MAIN CONTRACTOR'S PROSECUTION FOLLOWING AN ENGINEER'S ROOF FALL SHOWS WORK AT HEIGHT RISK MANAGEMENT STILL NEEDS IMPROVEMENT, SAYS GARY WALPOLE



Last month's Health and Safety Executive (HSE) prosecution of a principal contractor following a ladder fall has again highlighted the urgent need for better planning from employers when managing working at height.

London contractor Modus Workspace was fined £1.1m at Luton Crown Court after an engineer, who was testing a sprinkler system for leaks at a site in Hemel Hempstead, fell when the ladder slipped away from him and he dropped almost 3m into a gap between the internal roof and the external wall.

The worker suffered severe blood loss, amounting to around half of his bloodstream. He required a blood transfusion, needed 14 stitches to his The NFRC Roofcert scheme aims to ensure operatives have up-to-date skills head, sustained fractured vertebrae and suffered soft tissue damage.

In this case, HSE investigators discovered that the principal contractor had failed to take reasonably practicable measures to prevent a fall for both the engineer and other contractors working on the roof.

There are still far too many fatalities and accidents caused by working at height in construction. According to HSE RIDDOR statistics, just under half (49%) of all fatalities in construction over the last five years were due to falls from height. The same mistakes are repeated time and time again.

Lessons to learn

So, what lessons can we learn from cases like this one? We know that falls from height are often due to a lack of management control over the following:

- Who carries out the works at height;
- Establishing what training is required; and
- Verifying that those working at height have the relevant skills, knowledge and experience to choose the suitable access equipment and carry out the required task.

How can this be addressed? Firstly. all duty-holders should follow the simple work at height hierarchy for managing and selecting equipment for working at height (see box).

Everyone involved with work at height should also understand the task-relevant safe system of work and the relevant parts of a construction phase plan.

Ladders can be a sensible and practical choice for low-risk tasks, but they should not be chosen purely because they are a quick and easy option. If a risk assessment shows it is correct to use a ladder, then minimise the risk by making sure employees have the relevant training required to use the ladder safely and are fully aware of the risks and measures to help control them.

"A systematic approach should be followed throughout, with clear communication to employees, contractors and clients about the safety risks and how best to manage them"

Technical tasks, like installing a roof, require an understanding of the relevant specification, standards, safe working procedures and practical skillset needed to complete the work to a high standard. This can all be formally assessed to ensure the person can carry out tasks safely.

Additionally, checks need to be made that it is safe to access the roof, and a systematic approach should be followed throughout the installation. with clear communication to employees, contractors and clients about the safety risks and how best to manage them.

The National Federation of Roofing Contractors now runs an accredited programme, Roofcert, which aims to give assurance to contractors and clients that roofing operatives have the up-to-date skills and training that help mitigate the risks from working at height.

With the right skills and a professional approach, we can hopefully reduce the number of accidents involving falls from height.

Gary Walpole is health and safety officer at the National Federation of Roofing Contractors.

The work at height hierarchy

- Avoid work at height where you can;
- Use work equipment or other measures to prevent falls where work at height cannot be avoided; and
- Where you cannot eliminate the risk of a fall, use work equipment or other measures to minimise the distance and consequences of a fall.

London has 42% of the UK's market, with over 1.5m sq ft of green roofs on its buildings



HOW TO STOP GREEN ROOFS TURNING BROWN

A COMMON PROBLEM WITH GREEN ROOFS, PARTICULARLY IN HIGH SUMMER, IS ENSURING THEY PERFORM AS INTENDED FROM THE DAY OF INSTALLATION TO THE DAY OF HANDOVER. CHRIS RODDICK EXPLAINS

Green roofs are growing ever more

popular. London, which has 42% of the UK's market, how has over 1.5m sq ft of green roofs on its buildings. Last month, this niche sector celebrated the first World Green Roof Day on 6 June.

However, while green roofs are always well intended, one of the greatest challenges, particularly at this time of year, is ensuring they are as healthy on the day of installation as when the building is handed over to the client.

One key reason for failure is the lack of establishment watering at the time of installation.

Roofs are hostile environments for all plants. There is an increase in wind at higher levels and the reduced depth

of substrate can dry out quickly when surrounded by a warm building. The perimeter of a planting area is more prone to drying than the centre and so sufficient watering at these vulnerable areas is especially important.

All green roofs require some form of establishment watering which should continue until the plants have developed a sound root system. Establishment watering critically needs a fully operational rooftop water supply with adequate pressure and flow rate at the point of watering, delivered via surface sprinklers.

This initial watering programme is in addition to any fitted irrigation system that will come into operation at a later stage. In warm weather, Establishment watering on a green roof at Tattenhall Park Primary School, Cheshire

"All green roofs require some form of establishment watering which should continue until the plants have developed a sound root system"

watering should take place in the early morning or evening to reduce water wastage through evaporation. Different forms of vegetation will require different watering schedules to meet the needs of the plants.

It is not just about watering though; it is also important to respect the vegetation and avoid physically damaging the plants from using the green roof as a walkway or storage area while the rest of the building project is completed.

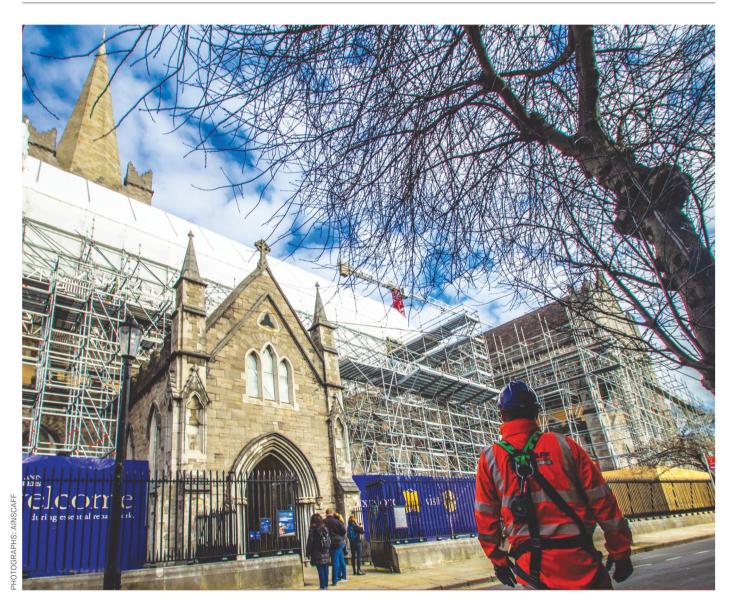
These measures should ensure the roof stays as green as was intended at installation - rather than turning brown.

Chris Roddick is green roof product manager at Bauder.

10 key points to ensure a green roof is successful at installation

- 1. Ensure all other roof works are completed before the green roof is installed.
- 2. Test the watering system, ensure there is a working water source at roof level with sufficient pressure at the point of watering.
- 3. Do not try to install living vegetation on extremely hot, sunny days.
- 4. Install any vegetation on the day it is delivered.
- 5. If using vegetation blankets, ensure they are laid carefully, and

- additional substrate is used to patch any open joints.
- 6. Water the vegetation (even in winter) and fertilise if required.
- 7. Watering should take place in the early morning or evening to reduce evaporation.
- 8. Avoid any trafficking of the roof.
- 9. Avoid any storage of materials on the roof.
- 10. Continue to water the roof as required for the whole establishment period.



IN PICTURES: DUBLIN CATHEDRAL'S ROOF RESTORATION

ST PATRICK'S CATHEDRAL'S BIGGEST CONSTRUCTION PROJECT IN 150 YEARS HAS INVOLVED A COMPLEX TEMPORARY WORKS DESIGN Above: The cathedral is staying open throughout the works

Right: Clusters of beams were clamped to the walls as tying into the building was not possible

Repairs to the roof of St Patrick's

Cathedral in Dublin have reached an important milestone with the completion of a vast scaffold and weather protection system for the 800-year-old building. The £8m conservation project began last September with the appointment of Clancy Construction as main contractor.

Almost 10km of scaffolding was used for the temporary works structure

"The design effectively bridges - and, therefore, avoids loading onto - lower roof areas which run alongside the nave"

Simon Ainscough, Ainscaff

It follows storm damage four years ago, when high winds blew slates off the roof leaving two holes large enough "to drive a Mini car through", in the words of the Very Reverend William Morton, dean of St Patrick's.

It is the largest project at the cathedral since the restoration by Benjamin Lee Guinness 150 years ago. The distinctive blue grey slates used for the work will be sourced from the same slate mine in Wales as those in the 1860s.

The scaffolding design took a year to plan. As tying into the building was not possible, Clancy, scaffolding contractor Ainscaff and scaffold supplier Layher designed a bespoke support structure.

"Clusters of beams were clamped to the walls, then fixed to external support scaffolds to provide a base for further structural elements which rise to support the temporary roof," explains Ainscaff director Simon Ainscough.

"The design effectively bridges - and, therefore, avoids loading onto - lower roof areas which run alongside the nave, while helping to ensure an important door access area remains open. At the same time, the external support





Left: The beam clusters support further structural elements which rise to support the temporary roof Below: The temporary roof spans some 18m

scaffold, which extends down to ground level, provides the optimum structure for the installation of a material loading bay and access stair system."

The 'bay-by-bay' construction of the Layher temporary roof structure meant that the limitations of only having one crane on site were sufficient for the installation. "As each bay was craned into position and sheeted, it was then rolled along and fixed to create space for the following frame," says Ainscough.

The scaffold and temporary roof installation was completed in four months by a team of 14 scaffolders. Almost 10km of scaffolding was used and the temporary roof spans some 18m.

The restoration project will take around two years and the cathedral is expected to stay open throughout.



BIM & Digital



DIGESTING DIGITAL'S ROLE IN BUILDING SAFETY

LAST MONTH'S CM WEBINAR WITH AUTODESK LOOKED AT HOW SOFTWARE AND DATA CAN HELP CONSTRUCTION MEET THE REQUIREMENTS OF THE LOOMING BUILDING SAFETY LEGISLATION. WILL MANN WAS THE CHAIR

Time is running out for construction

organisations which keep poor digital asset records. That was one of the key messages from a recent webinar organised by CM and BIM+, in association with Autodesk.

Panellists discussed how better use of digital models and data management could help the industry meet the requirements of the looming Building

Safety Bill, including Dame Judith Hackitt's 'golden thread' of building information.

In April, the government gave its response to the consultation on Hackitt's independent review of Building Regulations and fire safety, and Anne-Marie Friel, partner - infrastructure at Pinsent Masons, spoke first about the legal and regulatory implications.

Clarion's scan of one of its blocks, taken into Autodesk ReCap



"Maintaining the status quo of poor digital records is risky and getting riskier" Anne-Marie Friel. **Pinsent Masons**

"The single most important feature of this new system is that the building safety regulator will be overseen by the Health & Safety Executive (HSE)," she said. "This will drive real cultural change. And it makes a lot of sense moving away from complex approved documents and towards goal-setting legislation which leaves duty-holders free to innovate and develop technical solutions within an overarching framework of accountability."

And Friel noted the enforcement differences likely under the HSE umbrella: "As Dame Judith says, 'get it wrong - and it won't be just a minor rap across the knuckles anymore'."

The Building Safety Bill will cover new and existing residential properties over six storeys or 18m - but Friel thought it likely to be extended to other multioccupied buildings where people sleep.

She also highlighted that the new approval gateways system is tied closely to the 'golden thread'.

"Gateway one is before planning is granted. At gateway two, approval must be obtained before construction can start on site - and it's at this stage that a 3D digital model of the building as planned, including what products will be used, must be submitted," she explained.

"Any deviation from that model will require the principal contractor to consult with the client and designer. The regulator most approve any major changes, so it is much harder to deviate from the original plan. This will make value engineering much more difficult.



"At gateway three, client, contractor and designer will have to certify compliance with Building Regulations and the handover of the golden thread information."

Friel pointed out that major refurbishments will also trigger the gateway process at stage two. "For older buildings with little documentation. it will be difficult to supply the golden thread information," she said. "We recommend an intrusive survey to support the gateway information requirements."

Next, the challenge of identifying digital solutions to meet the golden thread requirements was discussed by Lee Mullin, construction technical specialist at Autodesk.

"With traditional execution of construction projects, process inefficiencies cause 'data dropouts' through concept, design, construct and operate," he said.

"Since Grenfell, we've been seeing a lot of housing landlords running surveys to understand what has been built and create digital records. That information is often contained in CAD plans, spreadsheets or databases. What we recommend, to collect all this data together, is to create a full building information model."

When deciding what data to collect, Mullin recommends asking three key questions:

"Firstly, who is using the data? Profile all individuals, from senior execs to surveyors on the ground



"BIM improves the information flow between different design and construction stages" Lee Mullin. **Autodesk**

and maintenance workers, who will need access to the data.

"Secondly, what data are you collecting? Consider regulatory requirements and information needed about products from suppliers. This is where BIM is powerful, as more detail can be added through the design and construction process, for example, about fire ratings.

"Thirdly, how will you maintain that data? Because there will be changes to those assets, for example boiler upgrades, and this information will have to be updated."

Mullin believes the process is as important as the technology used. "There are existing standards which detail information management processes -PAS 1192 and the more recent ISO 19650 -so you don't have to reinvent the wheel," he said. "Many in the industry are already using these standards.

"Also think about the people and the culture across a project - that will impact on how you can deliver this golden thread."

Understanding assets

The third presenter was Clarion Housing's fire safety projects director Dan Hollas. Clarion is the UK's largest housing association and its fire safety team has been carrying out laser scans of its high-rise blocks to create digital models with Autodesk's Revit and ReCap. (See CM, February 2020.)

"The aim is a 3D model with tagged asset data to improve our management of our stock," explained Hollas. "There are benefits in terms of compliance, fire safety and a better understanding of our assets which can inform our asset management strategy and make us more responsive to tenant needs."

The challenge for Clarion is effectively linking the asset data to the digital model. The housing group is running a 'proof of concept' on a



"We want to programme our maior works based on accurate data" Dan Hollas. Clarion

10-storey building, with two providers, creating point clouds - from laser scans - of the block and archetypes of the flats inside, plus data for all fire safety equipment only.

"The providers will then supply us with a 3D model, with assets tagged, and a system linking tags within the model to asset data. Plus we want functionality that allows us to access all this asset data and run the reports we require," Hollas said.

Once this is achieved, Clarion plans to roll the system out across all its high-risk residential buildings.

The full webinar, including the Q&A session, is available on constructionmanagermagazine.com.

Questions from attendees

Hamish Henderson-Begg: Will the new handover be the end of soft landings?

Anne-Marie Friel: It is hard to predict all the detailed cultural changes that will happen in response to the new regulations. However, it feels inevitable that, for in-scope buildings, the regulatory framework for gateway three, will become the primary focus for all stakeholders and replace current processes.

Andy Burrows: How was the internal mapping done [on Clarion's projects]?

Dan Hollas: We went into two archetype flats and put the scanner in two places in each.

We found tenants were helpful and guite interested in what we were doing. One challenge was data protection - the scanners were so good they picked up everything in the flat, including photos on the walls.

Alan Glennon: When a subcontractor does not have any BIM software, is quoting for a project designed in BIM possible?

Lee Mullin: Yes, and we have worked with many subcontractors who have worked within a BIM project. If they are contributing towards the design, BIM will allow them to reduce risk by coordinating with other disciplines.





CPD: HOW BUILDING ENVELOPE DESIGN CAN ENHANCE LIGHT QUALITY

THE DESIGN OF BUILDING ENVELOPES CAN HAVE A SIGNIFICANT EFFECT ON LIGHTING IN A BUILDING, AND ON THE WELLBEING OF ITS OCCUPANTS. THIS CPD, IN PARTNERSHIP WITH VELUX COMMERCIAL, EXPLAINS

As good as some artificial lighting is, no electric light source has yet been created that can match the quality of natural light or mimic the variation in its spectrum throughout the course of a day, a season, or a year. All of which puts a focus on 'daylighting', or the controlled use of natural light in and around buildings.

Humans have evolved circadian rhythms and our building designs should reflect the importance of those rhythms. It is possible to create indoor environments that not only provide a good visual experience and high levels of visual comfort, but which are also in tune with the physiology of the occupants. This CPD article looks at Above: An atrium brings natural light into a central space, to reach other parts of the building

the role of natural light in human health and how commercial buildings can be designed to achieve genuinely 'humancentric' daylighting throughout the building fabric.

DAYLIGHT AND EVERYDAY LIFE

The non-visual aspect of light is every bit as critical to how the body functions during the day as the light we use to see.

Circadian rhythms

This is where circadian rhythms enter the equation, the human body's natural response to changing light levels including the production of different hormones at different times. The hormone melatonin governs our pattern of wakefulness and sleep and the type



In association with

of light to which we expose ourselves plays a role in managing the cycle.

Exposure to 'cooler', more distributed, blue-rich light during the day suppresses the production of melatonin and maintains alertness by effectively encouraging the production of serotonin, dopamine and cortisol. Following this with 'warmer' and more focused light during the evening stimulates the release of melatonin and helps people to feel sleepy.

Good lighting and true 'humancentric' lighting combine both visual and non-visual aspects to stimulate the correct physiological responses and promote good health.

Daylight for health

Usually, we do not receive enough daylight and often the 24-hour nature of society then exposes us to too much light during the hours of darkness.

During the day, humans need light that is high in 'melanopic content' followed by light that is low in melanopic content during the evening (and then darkness). This is why exposure to natural light is

so important when thinking about building design.

When it comes to quantity, indoor light is typically a whole order of magnitude lower than outdoor light. A sunny summer's day can provide an illuminance of up to 100,000 lux. Even on a grey and cloudy day 5,000 lux of illuminance is possible. By contrast, indoor lighting might be designed to offer just 200 or 300 lux.

The impact of being indoors

It is popularly held that people spend around 90% of all our time indoors. The light we are usually exposed to indoors, as well as offering a much lower illuminance than natural light. is not dynamic. It has a constant colour temperature and our bodies do not respond to it in the same way.

The circadian rhythm is still evident in people with a 'typical' 9 to 5 office job, but its peaks and troughs are not as pronounced. Feelings of sluggishness are likely as well as making it harder to get to sleep. By contrast, seeing daylight early in the day appears to start the process of getting the body

Roofs offer glazing options where there is a restriction on what can be done with the walls



"Commercial pressures on building design commonly result in office buildings where around a third of employees have no access to daylight"

ready for sleep later that night and can even mitigate exposure to bright light later in the day.

LIGHTING AND BUILDING DESIGN

Commercial pressures on building design commonly result in office buildings where around a third of employees have no access to daylight. European building standards have helped to avoid a similar crisis in occupant comfort and the publication of EN 17037 should ensure that daylighting only improves in buildings throughout Europe.

There is little doubt that daylight should be a significant component of a building design that claims to embrace human-centric lighting. This section looks at how different parts of a building may be designed to properly account for daylight and to provide naturally well-lit spaces.

Walls

Tall buildings with fully glazed facades will always possess a 'wow' factor. But it is important to ensure a building that isn't just attractive from the outside, but also provides a comfortable internal environment.

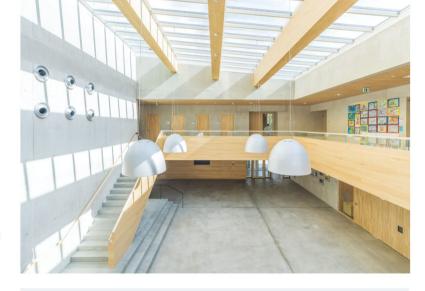
All too often, fully glazed buildings offer little consideration for the heating and cooling loads, and energy demand that such a design imposes. Occupants will have a good view to the outside, but at what cost in terms of over-exposure to daylight and glare, and reliance on mechanical systems for internal temperatures and ventilation?



"Intelligent design involves delivering a healthy interior without consuming more resources than a building needs to"

A glazed facade might look like a clever or intricate design, but intelligent design involves delivering a healthy interior without consuming more resources than a building needs to. That means selecting the appropriate size and location of window openings to maximise daylight while minimising heat losses.

An unrestricted view of the sky can further a sense of connection with the outdoors



Floors

It may sound strange to think about floors as part of daylighting, but they do have a role to play. Shiny and bright surfaces can cause glare, but light colours improve visual comfort.

Then there is the size of the floor area itself and, more specifically, the depth to which it penetrates the building interior. Sometimes referred to as the floor plate, the deeper the floor area and the further that parts of it are from the facade windows the harder it is to serve with an appropriate level of daylight.

Roofs

Where floor areas are too large or deep, or where site constraints or external obstructions restrict access to daylight, facade glazing alone is unlikely to meet the daylighting requirements of a building. This is where roof glazing solutions come in.

Good use of unobstructed roof glazing can help to achieve better illumination and balance glare from facade glazing. Like the walls of a building, orientation influences the availability and quality of daylight in the interior.

EN 17037: The European **Daylight Standard**

The new standard addresses the provision of daylight in buildings

EN 17037, which came into effect at the end of 2019, is the first European Standard to deal exclusively with the design and provision of daylight in buildings.

What does this standard cover?

To achieve its multiple aims in respect of daylighting and occupant comfort, EN 17037 covers four different areas:

Daylight provision

Daylight provision, or illuminance levels, allows users to carry out tasks and plays a part in determining the likelihood of artificial lighting being switched on. Assessment can be via either climate-based modelling or daylight factor calculations.

Assessment of window views

Building users should have a large, clear view of the outside. EN 17037 considers the width and outside distance of the view, as well as landscape 'layers' (sky, landscape and ground). The

view should be perceived to be clear, undistorted and neutrally coloured.

Access to sunlight

Calculating access - or exposure - to sunlight is a comfort and health factor for users of dwellings, nurseries and hospital wards. Daily sunlight exposure can be established through detailed calculation or table values.

Prevention of glare

Prevention of glare is concerned with removing the probability of glare for building users, especially those who do not choose where they sit. It uses a detailed calculation of daylight glare probability (DGP), or a standard table of values for sun-screening materials.

VELUX Commercial has a dedicated EN 17037 white paper covering everything you need to know about this daylight standard. It is available here: https://bit.ly/36V2Tu9



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"An atrium can offer the potential to 'harvest' daylight. It brings natural light into a large central space, from which other parts of the building can then benefit"

It is also worth considering that roof areas may offer glazing options where there is a restriction on what can be done with the walls. While it's tempting to think that new-build projects tend to offer unrestricted possibilities, there are often constraints - and the constraints on a refurbishment project can be even more onerous. While the quality of a view through roof glazing may not be as varied as can be achieved with facade glazing, it is better placed to offer an unrestricted view of the sky and help further a sense of connection with the outdoors.

Atria

Generally speaking, an atrium is a way of bringing the outside in - a space that

Right: Lightcoloured flooring contributes to the sense of visual comfort

Below: Orientation influences the availability and quality of daylight in the interior

is sheltered from the elements while giving building users a connection to the external environment.

The glazing to an atrium therefore falls under different criteria to the roof glazing described above. Where 'standard' roof glazing is primarily intended to light an individual space, an atrium can also offer the potential to 'harvest' daylight. It brings natural light into a large central space, from where other parts of the building can then benefit without needing direct access to facade glazing.

Terraces and outdoor spaces

However well designed a building is, when it comes to access to daylight there is no substitute for being outside. Ensuring the availability of high-quality outdoor space can help encourage people to leave a building and enjoy access to daylight.

A roof terrace has the potential advantage of offering unobstructed access to daylight at any time of day (subject to the position and height of any surrounding buildings). There is arguably greater scope for the design of outdoor spaces at ground level, providing not only daylight but also contact with nature that may have its own mental health benefits.

For example, rather than the path between an office building and its car park being across a featureless expanse of grey roads and pavements, could it be a short wooded walk instead?

CONCLUSION

For any building's lighting strategy to be considered truly human-centric, it should incorporate daylight as much as possible to provide well-lit, dynamic and comfortable internal spaces. Not only does daylight provide a higher level of illumination, it also helps maintain the circadian rhythms of the building's occupants.



CPD Questions

1: How much lux can a sunny summer's day provide? a) Up to 1.000 lux b) Up to 10,000 lux c) Up to 100,000 lux

2. What is a circadian rhythm? a) The human body's natural response to changing light levels b) The human body's natural response to changing humidity levels c) A building's response to changing light levels

3. Which new European standard will help to improve daylighting within commercial buildings? a) EN 1279-5 b) EN 17037

4. How much time is it popularly held we spend indoors? a) 90% b) 85% c) 75%

c) EN 12101-2

5. What type of light promotes alertness? a) 'Warmer' more concentrated redrich lighting b) 'Cooler' more distributed blue-rich lighting c) Neutral artificial lighting

To test yourself on the questions above, visit www.constructionmanager magazine com/cpd-articles



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Gary Kitt

Why UK construction disputes are resolved quickest

THE UK LEADS THE WORLD IN RESOLVING CONSTRUCTION LEGAL DISPUTES, BUT THERE IS PLENTY OF ROOM FOR IMPROVEMENT, SAYS GARY KITT



The UK continues to be the jurisdiction with

the quickest average resolution time for construction disputes - and it also has the lowest average value.

The Arcadis Global Construction Disputes Report 2020, based on research among legal professionals last year, showed a similar volume of construction disputes as during 2018, with the average value remaining consistent at £14.1m (\$17.8m). The global average was

£24.4m (\$30.7m). For the same period, UK survey respondents recorded a 23% drop in the average time taken to resolve disputes to 9.8 months, from 12.8 months in 2018.

Dispute causes

During 2019, a failure to make interim awards on extensions of time and compensation became the top ranked common cause of disputes in the UK.

While this replaces a failure to properly administer the contract, the top cause in the previous five years, it continues a trend of the top dispute cause relating to those administering contracts. Repeating 2018's findings, over 75% of respondents reported that conduct of the project manager or engineer was always or very often at the heart of how the dispute crystallised - most commonly a lack of understanding of the procedural aspects of the contract.

It is therefore unsurprising that over 60% of respondents stated that proper contract administration would have the single largest impact in avoiding disputes in which they were involved.

The second ranked common dispute cause is again the contractor or subcontractor failing to understand or comply with its contractual obligation.

This suggests that contract obligations drafted in plain English, such as the NEC forms, are not as easily understood by practitioners as the lawyers drafting them.

Perhaps it is time for greater representation of true practitioners on the contract-drafting bodies to ensure those administering contracts understand the consequences of their actions or inactions. Greater use of more collaborative standard forms of contracts, such as PPC 2000, might provide more confidence in project delivery. However, little appetite has been shown for these types of contracts, bearing in mind it is now almost 20 years since the PPC forms were introduced.

Resolution techniques

The UK saw a return of adjudication, contract or ad hoc, as the most common dispute resolution method, replacing party-to-party negotiation which dropped to second place in 2019.

Arbitration replaced mediation as the third most common resolution method in the United Kingdom. The recent introduction of some low value or low cost arbitration schemes, such as the Chartered Institute of Arbitrators' Business Arbitration Scheme, could explain this trend.

While the industry should welcome further forms of lower cost dispute resolution, it is

75%

Over 75% of respondents reported that conduct of the project manager or engineer was always or very often at the heart of how the dispute crystallised

"Further collaboration is needed between parties drafting clauses and obligations in contracts, with a focus on those who will be delivering the works"

concerning that no early resolution methods appear in the top three.

In recent years there has been a concentrated effort to promote the benefits and use of mediation, such as the Construction Industry Council's Model Mediation Agreement and *Procedure*, because of its typical lower time and cost benefits. Unfortunately, this is not reflected in this year's results.

Mitigation of disputes or early resolution chiefly depends on a willingness to compromise by the owner or contractor. This was ranked as the most important factor by respondents, ahead of contract-mandated early resolution forms, such as the avoidance processes implemented by Network Rail and Transport for London.

Positively, over half of respondents regarded the cost of resolution - compared to value of outcome - as the most important factor when considering whether a dispute was successful or not. We hope this may signal a shift in dispute resolution methods deployed and that we will see an increase in party-toparty negotiation, mediation, and other forms of early dispute resolution.

Solutions looking forward

The impacts of covid-19 will certainly change the industry and present new challenges. However, one source of positivity has been the collaboration of numerous stakeholders to produce the NHS Nightingale Hospitals to deal with the pandemic. These projects are fantastic examples of using collective efforts to produce project excellence. The industry should learn from these projects, with confidence and trust in the benefits of closer working.

2019 Rank	Most common dispute causes	2018 Rank
1	Failure to make interim awards on extensions of time and compensation	New ranking in 2019
2	Contractor or subcontractor failing to understand or comply with its contractual obligations	2
3	Poorly drafted or incomplete and unsubstantiated claims	New ranking in 2019
2019 Rank	Most common methods of alternative dispute resolution	2018 Rank
1	Adjudication (contractor or ad hoc)	2
2	Party-to-party negotiation	1
3	Arbitration	New ranking in 2019

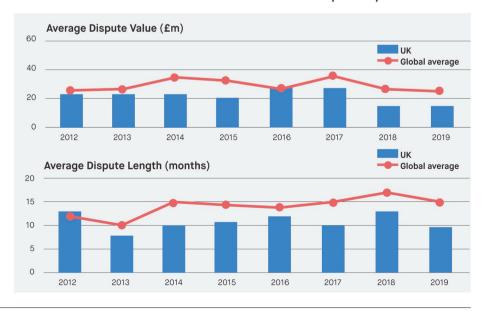
If, as seems likely, the industry enters another recession, we hope that clients, contractors and other stakeholders will draw upon lessons of the previous global financial crisis in 2008, improving collaboration. It would be naïve to think that parties in a commercial world will always approach a project from the same viewpoint, however an increase in the early engagement of the supply chain and conjoined approaches could assist in reducing the impacts of any financial downturn.

Further collaboration is needed between parties drafting clauses and obligations in contracts, with a focus on those who will be delivering the works. A change in mentalities is required from all industry stakeholders as the contractual clauses cannot achieve project excellence on their own. We encourage parties to make administration of contracts easier.

Additionally, increased use of BIM and other collaborative risk management tools can help all parties understand project needs and goals.

We encourage stakeholders to deploy more efforts in the early resolution of disputes, especially those with known time and cost benefits, to minimise the potential impacts arising from differences, 2020 will pose a challenging period for the industry, but through collaborative efforts we can seek to change for the better. There has never been a better opportunity for positive change.

Gary Kitt is head of UK contract solutions at Arcadis and co-author of the Global Construction Disputes Report 2020.



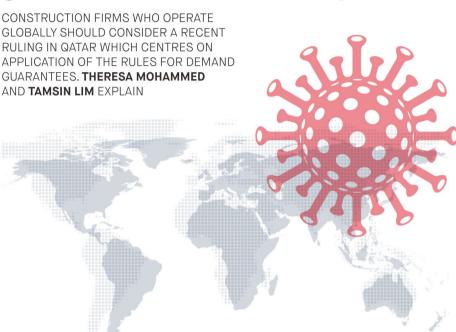


Theresa Mohammed Trowers & Hamlins



Trowers & Hamlins

Covid-19 puts demand guarantees under scrutiny



There is clearly going to be an economic aftermath of covid-19 felt internationally, and project delays during lockdown may result in disputes, costs overruns and insolvencies later this year. Companies are therefore advised to review the forms of security open to them.

For companies operating abroad, particularly in the Middle East, the Leonardo v Doha Bank Assurance Company case in Qatar is significant. It provides guidance on the function of the Uniform Rules for Demand Guarantees (URDG), a set of contractual rules created by the International Chamber of Commerce applying to on-demand bonds and guarantees.

In March 2016, Leonardo entered an engineering subcontract with PAT Engineering Enterprises to provide a low-level radar system to the Qatar Armed Forces. PAT was required to provide guarantees under the terms of its subcontract: an advance payment guarantee (APG) and a performance bond. It provided these via Doha Bank Assurance Company in April 2016.

Leonardo became dissatisfied with PAT's performance and terminated its subcontract in May 2018. Leonardo made several demands on the guarantees over the course of 2018 but was rejected each time.

A dispute regarding the validity of Leonardo's demands was referred to the Qatar International Court in 2019, resulting in judgement in favour of Leonardo. The bank appealed the judgement unsuccessfully. The appeal court considered the validity of Leonardo's demands under the guarantees and the validity of the bank's rejection of Leonardo's demands. It considered:

- Interpretation whether Leonardo's demands complied with the guarantees' terms as required by the URDG;
- Preclusion whether the bank was precluded from challenging Leonardo's

demands on the basis that they did not comply under URDG article 24:

 Excessive demand – whether the demand on the APG was excessive and therefore invalidated by URDG article 17.

In its judgement, the court reviewed the three core principles underpinning the URDG: autonomy, where a guarantee is insulated from the underlying contract; documents, where only the documents dictate the parties' rights and obligations; and compliance, where the documents presented must strictly adhere to the terms of the guarantee.

The court noted these principles were aimed at the commercial importance of certainty and predictability. Parties engaged in future disputes should be entitled to rely on the URDG rather than historic national case law. The court anticipated that this approach would be adopted by courts worldwide.

Against this backdrop, the court considered the three issues in the appeal.

On interpretation, it held that the issue could and should be determined solely by reference to the terms of the guarantees and the URDG. Neither required Leonardo to have made a claim in writing against PAT before making its demands on the bank, nor attach a copy of that written claim to such demands. The demands therefore complied with the terms of the guarantees.

Next, the court ruled that the bank was precluded from relying on its assertion that the demands should have been supported by a prior claim against PAT in writing. This was because it had not provided notice of that ground for rejecting the demands when it served notice denying liability.

Finally, on the excessive demand issue, the court said the limit of the APG had not been reduced and so the resulting demand was not excessive.

This ruling sheds light on how an international court may interpret demand guarantees. Guarantors will have to establish a clear breach of an express documentary term of the guarantee to challenge demands. Beneficiaries may now have more certainty that a demand under a guarantee will be paid out.

Theresa Mohammed is a partner and Tamsin Lim a solicitor at Trowers & Hamlins.





The Future of the



Construction Manager

The lives of construction managers are rapidly changing as technology transforms how buildings and infrastructure are designed and built. We call this the Era of Connection. Find out how the trends will affect you in a new video made in conjunction with CIOB, and discover how you can stay ahead of the curve.

Watch the video at

www.autodesk.co.uk/campaigns/eoc-video-study



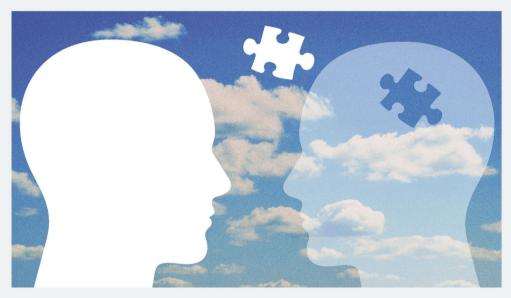
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CIOB announces support for 'Dementia Friends'

INSTITUTE SETS UP PARTNERSHIP WITH ALZHEIMER'S SOCIETY TO IMPROVE DEMENTIA UNDERSTANDING



The CIOB is delighted to announce that it is supporting the Alzheimer's Society's 'Dementia Friends' initiative. The CIOB is working with the Alzheimer's Society to support the construction sector in becoming more dementia-friendly.

Some 850,000 people in the UK are living with dementia, a number that is expected to rise to one million by 2021.



Dementia Friends raises awareness of dementia

However, 93% of homes lack basic accessibility features.

Through the partnership, CIOB members will gain access to resources that help them understand how dementia affects people's lives, and what considerations can be put in place within the built environment to have a positive impact on those with such conditions.

"We want to support the rest of the construction community in improving provision for all members of society and make a lasting, positive impact"

Caroline Gumble, CIOB

CIOB chief executive Caroline Gumble said: "I am very pleased that the CIOB is partnering with the Alzheimer's Society. The construction industry plays a vital role in creating, developing and maintaining the built environment for everyone, including those with long-term health conditions.

"We know that CIOB members are already doing a lot of great work in this area and we want to support the rest of the construction community in improving provision for all members of society and make a lasting, positive impact."

The CIOB Academy currently provides a course, Dementia Awareness, to understand more about dementia, the small actions you can take to support customers and colleagues affected by dementia, identify the ways the built environment can cause challenges for people with dementia, and take steps to make the built environment more dementia friendly.

Other previous work by the CIOB on how the industry can work towards benefiting dementia can be found online.

Sign up for CIOB Academy course in site management

ONLINE CERTIFICATE COURSE STARTS ON 14 JULY

The CIOB Academy is running a site management certificate online starting in July.

The Site Management Certificate provides the tools and knowledge to gain a recognised professional qualification as well as the skills to manage people, activities and processes on construction sites.

Developed by hugely experienced professionals, the course contains four units which will focus on developing people management skills, as well as the ability to estimate and measure work and manage the quality of construction work, as well as best practice in health, safety and the environment.

Gaining the certificate will make you eligible to apply for an AQP card and put you on the path to management of all site-based staff.

The next available start date is 14 July 2020.

Find out all the details at www. ciobacademy.org/course/level-4site-management-certificate.





Online learning

Member deal on social distancing at work course

CIOB MEMBERS RECEIVE 10% DISCOUNT ON COST

CIOB members can take advantage of a 10% discount on an online Social Distancing at Work course.

This course is designed for everyone at a place of work that requires social distancing measures to be implemented due to the current crisis concerning covid-19.

Launched by AMG Safety, a health and safety consultancy based in Weymouth, the course comprises five modules covering explanations of social distancing and government rules as well as health and safety/ risk processes, infection control. good practice measures and practical solutions.

"I couldn't find any other social distancing at work courses online. so I thought we should use our experience and knowledge at AMG Safety to provide a course that fills this huge gap," says Adrian McGrath, managing director.

"With businesses having to try and get going again in this new social distancing world, there is the very real risk that the HSE will prosecute companies that have not adapted their work environments and to top it all off. the risk of staff and clients contracting this virus."

The Social Distancing at Work course can be accessed at www.amgsafetyltd.com and costs £20 + vat. Discount codes can be entered during card payments. For bulk buys and/or bundles, email info@ amgsafetyltd.com.

CIOB HELP

If you are experiencing financial hardship due to covid-19 and are on the membership track, a Chartered **Building Company** or Consultancy or an existing member (MCIOB or FCIOB), please get in touch with our Customer Services team as we may be able to provide some flexibility on fees and membership payments. Contact us online at www. ciob.org/customerservices/contact-us.

Books

Best-selling builder

MATT ROSS'S FIRST NOVEL DRAWS ON THE INDUSTRY



A CIOB member has turned his attention from Crossrail to the bestsellers list.

Matt Ross has realised a long-held ambition by getting his first novel published. Death of a Painter has been well received, with The Sun naming it as its pick of the week.

"Writing has always been my hobby," he says. "In the past I'd written for a stand-up comedian's nationwide tours and TV/radio appearances, and I'd also been commissioned to write for a number of BBC Radio 4 comedy series. However, the itch to write a novel never went away. I applied for a place on the respected Faber Academy course, and was accepted. It changed my life as from it came my debut novel Death Of A Painter."

The 'darkly comic crime caper set in the modern-day building trade' draws on his 20 years in construction. Ross began labouring in his teens and earned his MSc in Construction Law and Arbitration at King's College, London. He secured MCIOB status in 2001 and has worked predominantly in the rail sector. He is currently a senior commercial manager on Crossrail.

"I've been in and around the building industry since my early teens and I've met all sorts of characters, chancers, scoundrels and oddballs... One of the joys of building is that every day and every location is different with a new characters coming and going all the time. It's such a rich, diverse community."



Death Of A Painter is published by Red Dog Press and available in eBook, paperback and hardback from all usual outlets. A sequel is scheduled for publication in early 2021.

Training

Liven up lunchtime with online CPD

OFFICE 365 AND THE **FUTURE HOMES STANDARD**



The CIOB in the Midlands has organised a calendar of live lunchtime webinars, while face-to-face CPD events are on hold.

On 7 July, Cameron MacKenzie (pictured) from Kier Construction will present a webinar focusing on Office 365 in construction, helping you to understand the benefits of using Office 365 and how it can improve collaboration and sharing on construction projects.

Later, on 15 and 22 July, Tom Reynolds, operations director at MES Building Solutions, will present a two-session webinar on Part L 2020 and the Future Homes Standard. The events will be live, allowing attendees the opportunity to interact and ask questions.

For future events and online bookings please check out the events page on the CIOB website at https://events.ciob.org or email Georgina Floyd: gfloyd@ciob.org.uk.

Malta mission: member pushes to raise quality issues on island

JESMOND CHETCUTI LINKS CIOB AND MALTESE GOVERNMENT IN A BID TO BOOST LOCAL INDUSTRY



A project manager in Malta is on a mission to raise standards in the construction industry there and to promote the values of membership and the CIOB.

Jesmond Chetcuti, who became a member of the CIOB last year, has singlehandedly brought issues to the highest attention: the Maltese government.

From left: CIOB CEO Caroline Gumble meets minister lan Borg and Jesmond Chetcuti

Chetcuti spent almost 10 years working in the UK construction industry and on his return to Malta in 2014 the contrast in quality and standards spurred him into action.

"I felt it was my duty to bring the CIOB and what it represents to Malta," explains Chetcuti.

"It is not easy. Luckily the minister for infrastructure and major projects, Hon. Ian Borg, is not only on the same wavelength but also supports the initiative 100 per cent."

In February this year Chetcuti organised a meeting in Malta between the CIOB CEO Caroline Gumble and the minister.

"The meeting was a very positive one in which it was agreed that the vision of both parties is the same and, by joining forces, the aim of improving quality to the local industry could be even more accelerated," he says.

One important factor that came out from this meeting was the lack of legal recognition of the project manager in Malta. The minister promised to rectify this anomaly and in the near future, the role of a construction project manager will be legally on par with the other professions within the same industry.

Since this meeting Chetcuti has been promoting the CIOB to the industry, explaining what the institute brings to the table.

"To date various meetings have taken place - covid didn't help as I had to reschedule everything and meet people in small groups - and in the

"I felt it was my duty to bring the CIOB and what it represents to Malta"

Jesmond Chetcuti

coming months I am expecting that all this will bear its fruit and applications (locally) to join the CIOB will increase." he says.

Chetcuti began his construction career aged 17 as an apprentice tradesman. By the age of 25 he had qualified as a surveyor working on various major projects on the island, from roads to hotels.

When Malta joined the EU, Chetcuti fulfilled an ambition to work abroad. He moved to Scotland, working as a surveyor and then building his engineering knowledge with civil works projects and training. He eventually worked with Graham Construction where he classes James Mulroy as the mentor that opened his eyes to quality and standards issues.

"He was my first project manager that through his unique way of management, showed you how things are done and more importantly why things are done like that and the repercussions if this didn't happen," he says.

"I owe everything to this company. I worked on schools, hospitals, historic buildings, you name it. I had the opportunity to work with the best architects and engineers in the UK, where I continued to learn and develop."

Because of family issues, Chetcuti had to return to Malta but this is when he decided to pursue CIOB membership and lobby for higher standards in Malta.

Events

Join Novus on an End to End walk

WALK WITH NOVUS IN YOUR LOCAL AREA TO BOOST MENTAL HEALTH AND RAISE MONEY

Novus Leeds is inviting all Novus and CIOB members globally to join them on a Virtual Walking Challenge, travelling the distance of the length of Britain from Land's End to John o'Groats.

It is encouraging members to get their boots on and head out for a walk wherever they are, for as far as they can, as many times as possible throughout July. All the miles walked will be added to a grand total and plotted against the End to End route, which totals 1,215 miles.

Along the way there will be picture challenges, scavenger hunts and a chance to catch up with other members virtually.

Getting outside and exercising both support good mental health -something Jake Morrish, Leeds Novus chair, is passionate about promoting. Explaining the rationale behind the event, he said: "During these unusual times it has been difficult to find opportunities to connect with others. With this innovative event we aim to bring new connections together to work towards a combined goal."

The challenge will also raise money for the CIOB Benevolent Fund, supporting CIOB members, staff and their dependent families.

To join the challenge or to support those taking part, visit the CIOB events website at https://events.ciob.org.

Novus members from Manchester, Liverpool and Cumbria climbed Scafell Pike last summer in aid of charity



Workshop

Mental health webinar well received during lockdown

CATCH UP WITH RISING VIBE'S POPULAR PRESENTATION





The CIOB in Southampton ran a web-based workshop for Mental Health Week with Lou Banks from culture consultancy Rising Vibe. The talk met with praise by many who viewed it:

• "This talk was amazingly

- good. It was so factual, very pragmatic, positive, encouraging and realistic."
- "Thank you so much for organizing a speaker who was so dynamic. She was such a good presenter, she knew her subject, talked to a whole range of audiences, I think everyone who listened to this talk would have taken something away from it."

Lou Banks (left) and Rising Vibe's Rising Vibrational Scale (above) which charts feelings in the workplace

"The talk also gave such a positive spin to mental health. After I listened to that talk I realised we all suffer from some of the points identified as anxiety to a greater or lesser extent during periods in our lives." • "Some of the symptoms which were identified I recognise in directors - so it is very much something that happens to people we were told were 'winners'. I think this opens the whole discussion up and shows why mental health is such an important subject."

Access the webinar at https://attendee.gotowebinar.com/register/3367862796724200975Learn more about Rising Vibe's work at https://rising-vibe.com.





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We are the world's largest and most influential professional body for construction management and leadership.

We have a Royal Charter that commits us to work in the public interest, from eradicating modern day slavery from the industry to improving the quality of the built environment and ensuring the right skills, talent and behaviours nurtured in construction.

Become part of the CIOB today.

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Luton's DART project prepares local people for construction apprenticeship opportunities

THIRTEEN DART TRAINEES ARE NOW APPRENTICES



local people to work in construction

Tthe DART site in Luton has provided training for over 700

health and safety, administration to finance" Thirteen are now apprentices on a long-term learning programme, and were gleaned from local schools as a

"The apprentices are

embedded in every team from civil engineering, groundworks,

result of the extensive career-based engagement with local education institutions. Several local Skills Hub graduates are securing apprenticeships with subcontract partners too.

The apprentices are working in diverse occupational areas - embedded in every team from civil engineering, groundworks, health and safety. administration, to finance - and are also a diverse group in their own right. Five of the thirteen (39%) are female, and five (39%) are from black and minority ethnic (BAME) backgrounds.

This diverse new talent is a much-needed boost - considering the UK construction industry's well-publicised skills shortage and ageing workforce, where women make up only 15% and those from BAME backgrounds only 7%.

The Institution of Civil Engineers named Luton DART as an inspiration and trailblazer for the UK's biggest civil engineering project HS2.

The Luton Direct Air to Rail Transit (DART) is a £225m fast transit infrastructure project, and the flagship location for the Construction Skills Fund Training Hub, which aims to create apprentice opportunities.

The hub is at the centre of Luton Council's plans to regenerate the town and raise aspirations. It aims to provide

real-life training development and employment opportunities for local people. So far it has provided training for over 700 local people to help them achieve work in construction.

A number of these have secured longterm sustained employment on the DART site, where the main contractor is VolkerFitzpatrick-Kier.

CIOB

CIOB Business **Development Board vacancies**

APPLICATIONS SOUGHT FOR UK AND INTERNATIONAL ROLES

The CIOB's Business Development Board is seeking new candidates. There are three open roles: one UK member and two international members. Terms are for three years.

The board's chair, Jean Duprez, also director of Duprez Consulting and Women into Construction, said: "The Business Development Board is represented by a diverse group of passionate individuals that cover a broad range of disciplines within our industries."

Members are required to attend four meetings annually, spend eight hours reading annually and have input into projects and strategy.

To apply, email your CV and a covering letter detailing the role you have applied for and why you

would be suitable to become a representative (no more than one page) in confidence to tginda@ciob. org.uk by 10 July 2020.

Successful candidates will be invited to attend a telephone interview on 16/17 July 2020.

The first BDB meeting will be held in August, with the date and location to be confirmed.

Awards

Wakefield winners

CIOB GIVES SUCCESSFUL STUDENTS AN AWARDS CEREMONY ON THEIR DOORSTEPS

The CIOB in the north has been recognising the achievements of local students. Pictured are winners at Wakefield College receiving their certificates and Amazon vouchers, via socially distanced drop-off from their work placement officer.

Patryk Lobocki (Construction in the Built Environment Level 3/Year 2)

Outstanding commitment to his studies in both effort and engagement: overall development as an individual, respected by both staff and his peers.

Aiesha Sheard (Construction in the Built Environment Level 3/Year 1)

Recognition of level of achievement coupled with personal challenges faced.





Bradley Gardner (Construction in the Built Environment Level 3/Year 1)

Excellent commitment to his studies and his personally sourced industry placement. Project managed a council project for the local park, organising his peers to keep tasks on track.

Adam Chapman (Electrical Installations Level 3)

Dedicated to his studies and his selfimprovement. Received positive feedback following a work placement working one to one with a qualified electrician.

Wakefield College's student winners, clockwise from top left: Aiesha Sheard, Bradley Gardner, Patryk Lobocki; Adam Chapman





Nicola Hodson MCIOB

Meet a member

NICOLA HODSON IS STANDARDS ADVISOR FOR WATES GROUP AND CHAIR OF CIOB NOVUS MANCHESTER



What made you chose construction as a career? I originally worked in architecture and, as much as I enjoyed designing buildings, I really wanted to be more involved in the building of them. I have always liked the buzz around construction and to me construction work is meaningful as it provides structures to live, work and play in.

You are clearly passionate about the industry with many voluntary commitments - chair of the CIOB Novus Manchester committee and regional STEM ambassador. Why? What drives this? When I grew up, I had no idea what I wanted to do. and I think had I known about the variety of roles in construction I would have joined from a younger age. The industry is exciting and constantly evolving and I want to share this enthusiasm and passion with others, to show them the opportunities this industry has to offer.

You are involved in quality and business improvement working groups - what would you like to see change in this respect in the industry? I think I would like to see the industry become healthier and more sustainable. Healthier through the materials we use and the buildings we produce but also in terms of the mental health for our workers. Similarly, I

would like to see it become more sustainable through the way we produce buildings and design of the buildings, but also in terms of efficiency and quality.

What are your own career ambitions?

That is the million-pound question. I am always striving to constantly challenge myself and learn more about better ways of working but have never strived for any particular role. I do want to be a leader in the industry and know I can only do this through continuous professional development.

What do you do in your spare time?

I like to tap into my creativity in my spare time, whether that is in the kitchen with new recipes, drawing or being crafty. I have recently started to really get back into drawing and been doing artistic elevations of people's houses as custom gifts. Out of lockdown, I also love to hike and walk in the countryside as an escape from busy city life.

Why did you want to become a CIOB member and what does membership mean for you?

I became a member of CIOB as I wanted to be recognised in the industry. Having switched careers from architecture to construction, it was important to me that I achieve professional recognition. My membership means a lot to me. I think it gives me the freedom to explore different roles in the industry, it allows me to network with so many people I would have never met before and also to develop my knowledge and skills from being chair of Novus to judging student challenges to attending insightful CPDs.

Me and my project

Curve appeal

MORGAN SINDALL'S LAURA ALLISON TALKS US THROUGH A SCHOOL BUILD WHICH INVOLVED MULTI-STAKEHOLDER ENGAGEMENT AND A CHALLENGING CURVED DESIGN



We were appointed by North Lanark-

shire Council through its Schools and Centres 21 framework to design and build a new £17m primary school which would allow two existing schools to come together in a modern, spacious learning environment.

Split into three phases, the 484capacity Hilltop Primary School was delivered as a tandem build, in field space alongside the existing Dunrobin Primary, to accommodate its pupils and those of the nearby Petersburn Primary.

Early and collaborative stakeholder and community engagement was particularly crucial. We were acutely aware that we, with the council and the schools, were not only constructing a new building, but a new school, with



Top: The windows were positioned on the curve to suit the angle of the light

Above: Project manager Laura Allison

Below: The main entrance of the new school campus



an original name, crest, uniform and identity. There was an additional dynamic: one set of pupils and teachers would be relocating to a site where there was already an existing cohort.

We worked with all stakeholders to map out potential sensitivities. Throughout the build process, the site team welcomed both sets of staff and pupils to see the building take shape, held a joint competition to design a safety poster, and facilitated a Christmas lights switch-on and carol concert for families.

The site team also worked with the school to enable pupils to design their new uniform and crest. As part of this initiative, we provided every pupil with a new school tie. These softer elements are sometimes glossed over, but the integration of both school communities in this project really reinforced their value.

During phase one, we had much more traditional technical challenges to contend with. The site required mine shaft exploration and remediation - a first for a project I had managed. We found an unrecorded shaft during this process and treated it, then grouted the full footprint of the building.

"The site required mine shaft exploration and remediation - a first for a project I had managed"

Laura Allison, Morgan Sindall

The campus features 16 teaching spaces, eight language and communication support bases and three multipurpose rooms, along with a separate gym and dining areas. A two-storey 463sg m cylindrical hall is the most striking element of the design.

We chose Parklex wood cladding for the envelope, both for its thermal properties to support the scheme's BREAM Very Good rating and to provide a natural aesthetic. These were glued in addition to secret fix application.

Building to a curve presented several challenges. Internally, it required suspended ceilings, with each room having slightly different dimensions. With natural lighting prioritised, we designed and built four roof lights and light wells in the roof which extended to the ground floor. The positioning of the windows was modelled to allow light to come through at the correct angle.

The new campus has been up and running since the handover of phase one last summer. We have been completing the demolition of the old building and installation of a new 3G sports pitch as part of phases two and three in the months which followed.

It's been gratifying to see the school community form and the work we've done alongside the build itself pay off. The project is one I'm incredibly proud to have been involved with and a testament to the merits of early stakeholder engagement.

Laura Allison is a project manager with Morgan Sindall.





The role of the finance team in recovery

DAVID SMYTH, CFO AT ROOMEX, THE PLATFORM FOR MANAGING CONSTRUCTION TRAVEL SPEND, ON HOW FINANCE DEPARTMENTS CAN LEAD THEIR COMPANIES THROUGH THESE CHALLENGING TIMES

What are the key challenges finance departments are facing right now?

The world is changing dramatically and in ways that are hard to predict. Finance departments are overwhelmed with both the volume of work they have and managing the stress of falling revenues.

The general level of risk is also heightened, with most CFOs looking to create plans with fewer people, budget

cuts and economic uncertainty. But your business is looking to the finance team for clear guidance on what it can afford, what could be cut and how to rebalance.

What advice do you have for finance teams facing these challenges?

First, make sure you have a full understanding of the major functions across the business. Use this time to strengthen relationships, truly understand various strategies, challenges and priorities.

Second, ask yourself the following questions: where are we now? Where do we want to get to? How do we get there? How will we know if we are getting there? Sounds simple, but it will provide you with a clear framework for your plan.

Third, develop strong financial partners. Partnerships allow for more specialisation and allow you to focus on your core activities and mitigate risks.

Amid the pandemic, we developed two strategic partnerships that created growth and opportunities for us while addressing some customer challenges. We partnered with EML to get our new expense management solution, RoomexPay, to market to support key workers travelling during these times. We also worked with Affiniture to increase credit payment periods and reduce pressure on customers.

Fourth, relax and think long term. Yes, this pandemic has changed the way we do business, especially in construction and in travel. But if you think clearly, you will be able to identify innovative, intelligent and growth-oriented measures.

"Post covid-19, construction travel, like all domestic business travel, will be completely different"

David Smyth, Roomex

How do you see travel for the construction industry changing post covid-19?

Construction travel, like all domestic business travel, will be completely different. Hotel availability has reduced, so if your team is used to a particular chain, be flexible. Contactless payment is on the rise, so it could be helpful arming your staff with prepaid cards like RoomexPay. They offer little risk, as the amount of money accessible on each card is directed by the finance team.

I also see travel moving to a centralised platform. Many firms manage travel through multiple leisure sites, Excel sheets and notebooks. It's hard to get a hold of what you're spending and why.

I also foresee, as budgets tighten, compliance with travel policies will be even more essential. Travel policies have always been very important, but now, on top of the assistance they provide to adhering to budgets, all policies will require editing due to the complete change in travel procedure as an effect of the pandemic. Ensure your travel policies have been updated from a cost, risk and duty-of-care perspective.

Roomex has been providing assistance to construction companies as they get back on the road – on everything from sourcing, negotiating and managing safe, clean, flexible accommodation to helping them remotely roll out prepaid expense cards and expense management platform to travelling workforces. Get in touch at roomex.com.

꼭 Training & Recruitment

Job spotlight

Gareth Devine

Senior project manager (PFI service director), Aura

MAKING THE TRANSITION

GARETH DEVINE IS NEGOTIATING PFI SCHEME HANDBACKS. IT REQUIRES SOME CAREFUL HANDLING



You're handling the transfer of PFI contracts. It sounds challenging.

We're in the very exciting phase of establishing our new PFI handback and post-PFI FM service. The first of the PFI contracts drawn up in the 1990s are coming to the end of their lives and there is a raft of considerations which need to be worked through to ensure an asset is handed back to the public sector in a guaranteed condition at the end of the contract is achieved.

When the early contracts were drawn up, there was little consideration for how this would be achieved. There is a growing realisation that the 18-month to two-year process that is suggested (if at all) in the contracts is nowhere near long enough, and that parties need to start planning much earlier to achieve a smooth transition.

There is no 'one size fits all' for the handback of PFI schemes, and it is a complex commission to be delivered in parallel with the day-to-day operation of some highly multifaceted assets delivering critical public services. There is a real need for additional knowledge, skill, capacity and process to allow teams to work together to achieve mutually beneficial outcomes.

PFI is synonymous with controversy. How have things changed?

The 'controversy' originated from a mixture of political ideology where there was always a resistance to increased private sector involvement in public services and a small minority of projects where disputes escalated and were fuelled by publicity. The vast majority of the 700+ PFI relationships in the UK have been successful - delivering and maintaining some fantastic buildings and infrastructure.

But there is a new challenge ahead as the contracts come to an end, with a real risk of new controversy as these relationships fracture as different priorities are pursued in a pressurecooker environment caused by the impending end to the contract. This can easily be avoided, or substantially reduced, if the parties engage early and take the benefit from a more ordered process to plan the outcomes they require. There are opportunities for all if this is done right.

Any wisdom to pass to peers navigating PFI?

Whatever your role is in this environment, your own success and that of the project as a whole is determined by the interaction of the wider team, and a mindset that seeks solutions rather than dwelling on problems. Working with teams and fostering a collaborative environment in which mutually beneficial outcomes can be realised will be critical as we enter this new phase of the PFI journey.

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Splendid isolation

Elizabeth Hardwick-Smith examines how best to manage employee engagement during this period of extended remote working



With the ongoing pandemic we won't be able to all return to the office in one big rush for the sake of our own safety, so we must ensure people

strategies are in place. Our circumstances allow us to examine business practices and to think about opportunities for new ways of working, so that we may recover and thrive.

Flexibility is not just about people having their requests considered, but also thinking about new ways of being an agile employer to foster a healthy work-life blend.

True employee engagement is about empowering your staff members and giving them a real purpose within the organisation. One-to-one time with line managers will make sure that employees do not feel unsupported and professional development is still being addressed. Celebrating successes together and encouraging virtual staff catch-ups foster the sense of community many of us associate with the office space.

We need trust in our employers and how they are responding to the latest guidance. Regular updates on what the latest government announcements mean for your business and your staff will help to manage anxieties around the return to work.

As well as this, employers that can show empathy with staff will help foster a relationship of trust, making staff feel valued. Remembering to say thank you and acknowledging work well done while remote ensures that people also feel like they're visible and part of something bigger.

Ten tips for employee engagement:

- 1. Provide regular one-to-ones and line management support
- 2. Use technology to encourage social interaction between peers
- 3. Communicate and celebrate successes
- 4. Provide listening opportunities for staff
- 5. Consider flexibilities individuals may need
- 6. Provide signposting to additional and external resources such as support helplines and mental health services
- 7. Introduce surveys to measure engagement and inform actions
- 8. Ensure access to professional development opportunities
- 9. Communicate regularly what latest updates in the pandemic mean for the business and staff
- 10. Acknowledge and reward your staff for hard work where possible.
- Elizabeth Hardwick-Smith is director of HR and training at Pick Everard.













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