



THE GREEN GIANT HOW CAN THIS 180-HECTARE WINVIC PROJECT BE NET ZERO?

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Speedy progress at the super sewer

Aerial view of the Tideway site at King Edward Memorial Park, Shadwell, east London. Once operational in 2025, the Thames Tideway Tunnel will prevent 95% of the sewage spills that currently flow into the river.



Dancing with the stars

CIOB member and MP for Walsall North Eddie Hughes was joined by pop legend Sandie Shaw at a recent event for the All-Party Parliamentary Group on Music. Hughes is a member of the group, which provides a discussion forum between the music industry and parliamentarians.

Katy Dowding has been appointed president and CEO of Skanska UK, the first woman to hold the post in the company



First dispatch from Europe's biggest brick factory

The first two batches of Cheshire Red multi bricks have been dispatched to Taylor Wimpey from the biggest manufacturing plant in Europe. Forterra's new Desford factory in Leicestershire has a production capacity of 185m bricks per year.

Vorks underway at the new Museum of London

Sir Robert McAlpine has been officially appointed construction manager of the new Museum of London at the old Smithfield Market. The Grade II-listed building designed by Victorian architect Sir Horace Jones will retain around 70% of its existing structure.



Katie Kelleher joins the CPA

Crane operator and social media influencer Katie Kelleher has joined the Construction Plant-hire Association in the newly created role of technical and development officer.



CIOB appoints six trustees

The institute's nominations committee has now completed the assessment of trustee applications













▲ Clockwise from top left: Clint Kissoon, Noel McKee, Rachael Keeble, Peter Egan, Paul Young and Paul Vega

Rachael Keeble, Noel McKee,

Paul Vega, Paul Young, Peter Egan and Clint Kissoon will formally join the CIOB Board of Trustees at this year's AGM later this month.

Keeble, McKee, Vega and Young were elected unopposed to fill the four elected trustee vacancies earlier in the year. McKee and Young are current trustees. This decision was approved at a Board of Trustees meeting in February. The nominations committee proposed two further candidates, Egan and Kissoon, who were also selected.

The six trustees bring a breadth of expertise to the board. Keeble is a project management consultant, McKee a business development manager, Vega a quantity surveyor and project manager and Young is the head of operational excellence at Equans. Additionally, Egan is a sustainability and resilience specialist and Kissoon is the education chair at the Construction Institute of Canada.

The Board of Trustees is legally responsible for the management of the institute.

Proud to be part of CIOB

In a recent interview with *CM*, Vega spoke about the benefits that becoming a fellow has brought to his career and encouraged other professionals in construction to join the institute.

CIOB Awards postponed

Due to a shortage of entries across all categories, the institute has decided to postpone the CIOB Awards until spring 2024. The new entry deadline is 31 August 2023. Those who have already submitted their entries have been contacted and will have their entry automatically included in the Spring 2024 judging process. "I became a fellow at the age of 34 and I would encourage others to become a fellow early enough in their career so that it can make a difference and is not something that is left to the latter part of their working life," Vega told *CM*.

"Becoming a fellow definitely improved my confidence and future career opportunities. I think knowing you have achieved fellowship changes your mindset."

Keeble joined CIOB to contribute positively to the construction industry. She has held the role of chair of the CIOB 2030 Vision Group and was a London Hub committee member for over two years.

"A lot of the CIOB mission statements align with my own values," Keeble told *CM* at the time. "I really enjoy working in the industry."

Members' Forum in Liverpool

This year's CIOB Members' Forum will take place between 25-29 June 2023, in Liverpool, UK.

The forum provides a platform for members to discuss matters of importance for CIOB and the global construction sector.

Some of the sessions will also be held online to allow members to join virtually.

Details of the venues and programme will be published on membersforum.ciob.org.

CIOB said: "We know this news will be disappointing to those who have entered. But we are excited to hold these awards in spring 2024, giving the industry more time to take part and celebrate the remarkable achievements of the people who make construction great."

For more information about how the postponement of the awards might affect you, visit awards.ciob.org.





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Construction influencer advocates for creating a 'safe space' online

Social media platforms should be used more to facilitate difficult conversations, according to one industry leader. By **Cristina Lago**

Danny Clarke, commercial director

at the National Federation of Builders and high-profile construction influencer, believes social media can be a valuable professional tool, allowing users to engage on a range of issues.

LinkedIn is Clarke's platform of preference for relationship-building, to understand audiences and trends, and to keep up to date with new developments in construction.

"With LinkedIn, you can focus on specific industries through the search fields. You don't get that in other social media platforms," he said.

However, Clarke warned about the risks of staying in a bubble within

construction. "It's really important to have a balanced viewpoint and step back to look at what's happening in other areas – for example, the EDI space in other industries – to take those good practices and use inspiration," he added.

Clarke's advice for people interested in using LinkedIn is "to post for yourself rather than others".

"Yes, having a popular post gives you a sense of dopamine release, but it doesn't necessarily get into your audience or get people talking about what they are genuinely passionate about," he said.

One of his most popular posts came around a year ago, when he

▲ Of the social media platforms Clarke prefers to use LinkedIn for its focus on specific industries As long as your opinions are based on facts and you are not racist, homophobic, ableist, ageist... It's OK to have a view of something. Disagree with an opinion, but don't make it personal Danny Clarke, NFB

wrote in support of women getting time off during their periods and asked others about their opinions. He was immediately lambasted by people who questioned his views about the issue due to his lack of lived experience.

"I've never experienced it – I get that. But as an ally, we shouldn't stop talking about it," he insists. "Just because I've never experienced a broken leg, it doesn't mean that I cannot empathise with someone with a broken leg.

"We should be creating a safe space where it's OK to talk about things that make people uncomfortable."

Clarke insisted social media users should not be discouraged by negative comments, while keeping interactions civil. He said: "As long as your opinions are based on facts and you are not racist, homophobic, ableist, ageist... It's OK to have a view of something. Disagree with an opinion, but don't make it personal." **Read more about how construction influencers are using social media to make a positive impact in the industry at www.ciobpeople.com.**

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Construction input costs are reducing, but it's still a supplier's market

Although input costs are easing, construction clients still need to position themselves as attractive buyers and work collaboratively, writes **Pablo Cristi Worm**



After the headwinds construction has faced over the past 12 to 18 months, it is a relief for many that input costs are starting to trend downward as energy and material prices begin to alleviate.

Panic buying in Europe last year, primarily caused by the conflict in Ukraine, drove steep increases in wholesale energy prices in 2022 but the situation has now stabilised. Gas storage is at 85% of EU capacity as spring reduces the need to heat homes and workplaces.

A milder winter has largely helped to avoid a crisis. Reduced demand for liquified natural gas (LNG) from China, due to lockdown restrictions, has helped moderate global market prices. By extension, this has eased bulk prices in the UK.

For construction, the reduction in energy input costs gives a glimmer of hope that inflationary pressure will lessen. At the same time, construction output is also experiencing a cooldown. The Construction Product Association downgraded its forecast for the construction industry from a fall of 4.7% in its winter report to a decrease of 6.4% in its spring 2023 release.

Suppliers are unlikely to be willing to pass on cost reductions to clients while the situation remains turbulent – instead needing to price in the risks and secure their margins Additionally, the sales of readymixed concrete, delivery of bricks and concrete blocks and sales of sand and gravel are all trending downward. Lower input costs and decreasing demand suggest industrywide cost reductions that have long been hoped for could be on the horizon.

Amid a highly volatile geopolitical climate, there are chances that the prices could surge again next winter. Systemic solutions to the energy crisis have not yet fully emerged – while efforts to increase energy efficiency helped bring down prices, supply is still constricted, and major planned LNG projects are not due to be completed until later this decade.

However, for disinflation to take place, construction – and the economy in general – will need to see less uncertainty. Suppliers are unlikely to be willing to pass on cost reductions to clients while the situation remains turbulent – instead needing to price in the risks and secure their margins. Furthermore, there is some price stickiness as a result of suppliers stocking up at higher prices and not passing those savings on to the supply chain.

The Department for Business and Trade's (DBT) 'All Work' material price index increased by 8.7% on the year in March, down from 10.6% in February. While inflation has decreased, the price of materials continues to rise and is currently 34.9% higher than it was in January 2022, prior to the onset of the Ukraine conflict. Nonetheless, some of the factors that kept wider price inflation high in 2022 are beginning to lose intensity. The World Bank expects commodity

Percentage decrease in brick deliveries in March 2023 compared to its post-pandemic peak in January 2022 – which is a leading indicator of a cooling construction demand

Gas and electricity prices: forward delivery contracts – weekly average



prices to fall by 21% in 2023 and remain mostly flat in 2024.

To benefit from the cooling pressure and reductions in costs, clients must acknowledge this is still a supplier's market and position themselves as attractive buyers. Strong and effective partnerships with a supply chain can be achieved in many ways but may be as simple as paying invoices on time and being transparent in engagement and negotiation. Clients should take a hands-on approach, talk to suppliers and understand how they can work to balance risk and lower costs together.

By working collaboratively, showing a full understanding of constraints in the market and bringing a willingness to overcome them together, clients will be more likely to achieve better relationships and lower costs. Pablo Cristi Worm is an economist at Turner & Townsend.

Construction materials price indices performance





Caroline Gumble

What's next for associate and incorporated CIOB members?

The ACIOB and ICIOB grades will close in 2025, but there are new routes for those wanting to move to chartered status, writes **Caroline Gumble**



Nearly 10 years ago, after

consultation with members, CIOB took a decision to bring entry to our non-chartered associate and incorporated grades to an end. Those grades will close completely in June 2025.

Many of our ACIOB and ICIOB members have been with us for a long time and have been supportive members and excellent examples of professionalism. We, as an institute, do not want to lose those members for want of a clear route to move to chartered status from their current grade.

As we promised back in 2015, we have worked to create new routes to chartership, some of which are specifically for those wanting to move from the ACIOB or ICIOB grades. ▲ Applicants with substantial experience can progress to the PR assessment You may have come across our Accreditation of Prior Experiential Learning (APEL) scheme, created for those who do not currently hold a level 6 (degree level) qualification but who have substantial and valuable experience.

This scheme involves a straightforward verbal assessment of how learning and knowledge gained meet the academic requirements of membership, allowing the applicant to progress to our professional review (PR) assessment with support from your APEL provider. This offers a different way to go about obtaining chartered status if you've focused your career on experience.

APEL is only available to associate or incorporated members who hold With our mentoring scheme, we can offer support to those members by connecting them with other members who have been through the process

current membership and is only open until March next year.

Those who do hold a level 6 qualification are ready to go through the PR process and can take the next step to become chartered. With our mentoring scheme, we can offer support to those members by connecting them with other members who have been through the process. Plus there is also now a simplified means of converting to applicant status and starting down the PR route.

We recognise there will be a small proportion of our non-chartered members who have recently retired or are thinking of retirement. We will work with those members who wish to retain their connection to us in retirement, even though they do not hold a chartered grade.

I'm also glad to have this opportunity to thank all the mentors and hub members in the CIOB community who are supporting their colleagues and peers on their journey to chartered status. **To talk about options to move** from being ACIOB or ICIOB, please contact our customer services team by phone at 01344 630700 or at customerservice@ciob.org.uk.



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Kate Walker The Diabetes Safety Organisation



Managing the risks of diabetes in construction

Ahead of Diabetes Awareness Week this month, **Kate Walker** looks at the safety, compliance and productivity risks for construction companies not aware of their legal obligations to workers

Some 7% of the UK population is

now living with diabetes. This means construction employers are at increased risk from workers having hypoglycaemic (low blood sugar levels) and hyperglycaemic (high blood sugar levels) episodes where they can suddenly become incapacitated or pass out.

Modelled data from the Diabetes Safety Organisation based on CITB figures shows that the construction industry could be losing over 64,000 hours a week due to non-severe 'hypos', potentially costing the sector approximately £670,000 weekly.

Diabetes events are also likely to be a contributing factor to slipping

and tripping accidents – the single most common cause of major injury in UK workplaces.

The legal implications of diabetes risks

Construction companies must be aware of key legal requirements around diabetes because it is a known and foreseeable risk. For example, employers need to ensure so far as is reasonably practicable that they manage the risk and put in place appropriate controls and mitigations under the Health and Safety at Work etc Act (1974).

If diabetes contributes to a workplace accident and an employer has taken no steps to



If an employer has taken no steps to assess and reduce the risk, the employer will have committed a criminal offence assess and reduce the risk, then the employer will have committed a criminal offence and face a significant fine.

Diabetes is classed as a disability and this needs to be taken into account with the Equality Act, such as making reasonable adjustments to help staff effectively manage their diabetes.

The DVLA applies strict rules for people who manage their diabetes with insulin, including a requirement to test blood glucose levels every two hours while driving. The Health and Safety Executive say the same rules would apply off-road to all plant and vehicle operators.

What is a 'Diabetes Safe' company?

'Diabetes Safe' companies are those that take concrete steps to minimise and prevent the risks associated with diabetes. Construction organisations already working with us to be Diabetes Safe include Balfour Beatty working on Lower Thames Crossing, Kier Highways and the Civil Engineering Contractors Association.

Being Diabetes Safe means managing the immediate risk of diabetes in the workplace, such as accidents caused by hypos. It also involves supporting employees with diabetes to manage their condition at work and prevent its escalation.

Diabetes Safe workplaces prevent diabetes across their workforce through simple steps such as training and awareness. It is evident that if diabetes is understood and well managed there are many business benefits that will positively impact people and profits. • Kate Walker is the chief executive officer of the Diabetes Safety Organisation.

Feedback A selection of readers' comments about news and issues in the industry from across the CIOB community



CM April Quality of residential construction in the UK Paul Constable MCIOB

I am a retired construction professional and would like to raise my concern at the apparent lack of quality control over residential construction. I hear so many stories of first-time buyers moving into new properties and being confronted with no end of problems which in my opinion should have been identified by the developer before handing over the property.

Recently I saw on the news that there is talk of identifying 'professional snaggers' which housebuyers can employ to find any faults with their newly acquired properties. Is this not a reflection on how poor quality control is within the industry at the current moment?

For years, industry bodies have been patting themselves on the back with all the advances in management practice, quality assurance, quality control. However, in reality the housebuilding sector seems to be going backwards.

CM 16/03

Hackitt sets out new performance framework for construction products

Loy Gusthoff

A build-up of an external wall can react differently to fire under different circumstances.

A combination of products for various systems can make the difference to a non-combustible external wall and a combustible external wall, notwithstanding its attachments.

The justification of materials used in an external wall must not just rely on the testing of individual components but also the testing of unstandardised and standardised external wall systems prior to their construction. The inspection during the installation of the external wall system is also a significant part of the process and must be recorded at every stage.

If designers wish to provide future high, medium and low-rise buildings outside the norm, the need for fire safety and the saving of people's lives would need to meet stringent laws with no wiggle room. Buildings should be built so that should there be a fire, the risk of the external wall causing fire spread is non-existent.

Failure to do so should be seen as a failure of the designers and the

O Share your views on the latest industry issues by posting comments online at www.construction management.co.uk or by emailing the editor at construction-management@atompublishing.co.uk

construction team. Such failures should be met with stringent fines that would ensure failure is not a possibility/acceptable.

CIOB People 09/05 Attracting the workforce of the future

Steve Kell What about thinking about the work-life balance

element? In construction. we work the workers too hard in terms of hours. Early starts with late finishes make for extremely poor output in terms of productivity.

Psychologically, the workforce is tired and disillusioned. The UK construction industry is bottom of the table in terms of productivity across other European countries.

Incentivise the workers with shorter hours with fewer breaks. Get in and get gone: Saturday morning 'job and knock' type approach during the week.

It would require a step up in management to plan and organise the work. If the client isn't content with early finishes, then move to a two-shift system.

Fewer hours for the worker but more productivity for the client and business seems a no-brainer to me. Sadly, nowhere in this article or the government's strategy for the future is the workforce incentive to work addressed.

 Winvic's work on the 180ha site next to the M1 includes shifting
 4.8m cu m of earth

The green giant

How can a 180ha construction project be net zero? **Kristina Smith** travelled to the Segro Logistics Park Northampton to ask contractor Winvic

M1, a massive new logistics hub is under construction. Covering an area of 180ha, this is the Segro Logistics Park Northampton, and will house seven huge warehouses with a total floor area of 465,000 sq m.

ear junction 15 of the

Contractor Winvic Construction has the £122m civils and infrastructure package, which involves shifting some 4.8m cu m of earth, building a new bypass for the nearby village of Roade, upgrading junctions with the motorway and main roads, creating a new rail freight terminal, constructing a road bridge over the West Coast Main Line, installing a footbridge over the new section of rail and even jacking a 98m-long services tunnel under the M1.

"It is the biggest project in our civils and infrastructure division at the moment," says Winvic project director Scott Martin, whose construction management team comprises 36 staff, distributed across six work areas. But it is not just the size and scope that make this project interesting. It is the fact that Winvic is delivering the civil and infrastructure elements of the park to be net zero in construction. The warehouse builds will be net zero too – although Segro has yet to award those contracts.

For Winvic, the emphasis for this project is not on headline-grabbing carbon reductions but on ensuring that its carbon accounting and management is rock solid.

"This is the first net zero project we have undertaken in civils and infrastructure and, rather than saying we want to try innovative new things, we have gone back to basics to understand where the carbon sits and work with our supply chain to reduce it," says Arun Thaneja, Winvic's technical and sustainability director.

Winvic has set itself the ambitious target of achieving net zero carbon by 2025 for Scope 1, 2 and 3 emissions, which covers a company's direct emissions, those for the energy it uses and emissions up and down the value **Project facts:** Segro **Logistics Park** Northampton **Client: Segro** National Logistics Contractor: Winvic Contract: NEC3 Option A Cost: £120m Programme: January 2021 to April 2024 Contractor's designer: BWB Engineering Specialist geotechnical engineer: Hydrock Farthworks contractor: **Collins Earthworks** Surfacing: Toppesfield Onsite concrete batching: Sitecrete Concrete slab: Stanford Flooring Service tunnel: Active Tunnelling

chain. As someone who sits on a UK Green Building Council working group covering carbon offsetting and pricing, Thaneja is determined to ensure that everything is transparent and verifiable – which has been no mean task.

Thaneja's dedication looks like it may already be paying off. With a few net zero projects under its belt and an innovative real-time carbon calculator almost ready to go live, Winvic can certainly claim that it knows its net zero stuff.

Immense earthmoving

The fact that it takes over an hour to tour the logistics park, and its many elements, in a site vehicle conveys the scale of this project.

The earthmoving effort has been immense. Martin points to a coppice, sitting high above us, which was once the ground level; up to 10m in depth of earth has been taken away in places. At the other end of the site, the difference between the bottom of one of the large SuDS attenuation pond and the embankment above it is some 27m. ▶

Winvic has the £122m civils and infrastructure package for the logistics park



Even the ruts from the articulated dump trucks are huge. The army of trucks ferrying earth around the site weigh in at 104 tonnes when loaded, says Martin. "Some of the excavators are the biggest outside commercial mining," he adds. Currently there are around 70 pieces of plant, although there have been as many as 120.

Train and road connections

Winvic started on site with its main 168-week contract on 4 January 2021 and has already handed over several elements of the project, including two of the plots at the south end of the site, some sections of access road and the 14ha strategic rail freight interchange which will be operated by Maritime Transport.

The logistics park has been designated a Nationally Significant Infrastructure Project (NSIP), which means that it has been granted planning permission by the government through a Development Consent Order, rather than going through the usual local planning application process.

The strategic rail freight interchange, which incorporates a vast slab containing 22,000 cu m of concrete, will be able to receive containers from 16 trains a day, each up to 775m long.

Trains will travel to the park from the West Coast Main Line via the Northampton loop, arriving at the

It is challenging, because everything must be done in line with Network Rail processes and procedures – which is important because it is safety critical Scott Martin, Winvic Seven huge warehouses, which will also be net zero, are to occupy the site



terminal travelling at 40 mph – which is unusual, says Martin. They will then slow down as they travel down a spur to stop and reverse into the terminal for offloading.

Winvic's contract includes the construction of 4.5km of track, with Network Rail working at the perimeter of the site to make the connection into its line. "We have a tripartite agreement where there are works being undertaken by Network Rail concurrently with ours to meet the programme," says Martin.

That means daily coordination meetings between supervisory staff and monthly progress meetings. "It is challenging, because everything must be done in line with Network Rail processes and procedures – which is important because it is safety critical," says Martin. "We are working in collaboration to ensure delivery on time." The goal is to jointly commission the new line in the second quarter of 2024.

Network Rail is just one of the major infrastructure stakeholders that Winvic must work with on this

project. The extensive upgrades to junctions 15 and 15a of the M1, improvements to the A45 and the creation of safer junctions along the A508 have required close cooperation with National Highways and West Northamptonshire Council.

The Roade bypass, a project within a project, required further close liaison with Network Rail. The bypass includes a 264-tonne steel bridge, now installed over the West Coast Main Line and waiting for its deck to be waterproofed. The 1.6m-diameter services tunnel beneath the M1, completed in October 2022, required extensive monitoring of the carriageway above and, again, liaison with National Highways.

Earthworks strategy

From a logistics perspective, one of the biggest headaches has been executing the earthworks, says Martin, since a large proportion of the ground here can't be handled when wet due to its composition.

"Because the ground has a high sulphate content, that precludes us

from using lime to reduce the moisture content," he explains. "Cementitious materials react with the sulphur to give a swelling effect that can cause an increase in volume of up to 400%." This has limited earthworks contractor Collins to working for only five or six months of the year.

The strategy for the earthworks has been to keep it all on site, which has helped lower the carbon footprint of the scheme. Much of it is being moved into 2.5km of embankments – or mechanically stabilised earth retaining walls – around the western, northern and eastern perimeter of the site which will serve to shield the development from its neighbouring villages. As well the sulphate rich Oadby Till, a soft clay, there is Whitby mudstone on the site and limestone deposits in one area, which will be redeployed beneath the new bypass. The earthworks walls are made up of layers of Whitby mudstone and geogrid with reinforcing mesh at their faces, tied into the walls with anchors.

On entering the site, the trains will be shielded from view by the earth walls, with the trains passing through a tunnel at the north-west corner of the site. Winvic has constructed the tunnel – in-situ concrete for the base and walls and precast T-beams for the roof – ready for earth to be piled over the top of it. There are twin tunnels, although only one will be used initially with the second one constructed to allow more trains to run in the future.

But what is net zero?

Winvic is working to the UK Green Building Council's definition of net zero, which says that projects must first cut between 30% and 40% of embodied carbon emissions, before offsetting. And offsetting must be through verified schemes, either the Gold Standard or Verified Carbon Standard (VCS), explains Thaneja. The aim is to achieve a mix of investment in social, ecological and renewable schemes. ►



A steel bridge
 was installed over
 the West Coast
 Main Line for the
 Roade bypass

36 Cui pro ach red car

Currently the Northampton project is achieving a 36% reductions in carbon emissions

The Segro Logistics Park Northampton was Winvic's first net zero civils and infrastructure contract awarded, although it has subsequently won two more, says Thaneja. One was the Ascent Logistics Park in Leighton Buzzard, handed over to Firethorn Trust in September 2022, with both the civils and infrastructure and buildings achieving embodied carbon 30% below 2020 benchmarks. This was a much smaller affair, however: 10ha delivered in 12 months.

Winvic's first ever net zero project with Segro was a warehouse building on its East Midlands Gateway logistics park, a speculative 18,580 sq m cold store warehouse handed over in November 2021. Winvic, which also delivered the infrastructure and civils work for the East Midlands park, later built a 55,740 sq m distribution unit there for Maersk, completed in December 2022. Maersk is aiming for this to be net zero in operation, as well as in construction.

The biggest challenge for any net zero project currently is the lack of verifiable data, says Thaneja. "We need to find the baseline with the supply chain," he explains. "We have done their carbon assessments for them to work out what reduction measures we can achieve."

Winvic has 230 supply chain partners and has worked with the top 75 – in carbon emission terms – to work out baseline emission Winvic is building a rail freight terminal as part of the project



We want the majority of projects to have an iPad link to tell them the carbon emissions in real time Arun Thaneja, Winvic data and then look at how to reduce emissions. Many product suppliers did not have Environmental Product Declarations (EPDs) which provide embodied carbon information, as these are costly and lengthy to obtain. Winvic has worked with its suppliers and EPD provider BRE, to obtain EPD information for some 70-plus products.

Winvic has also been developing an in-house Al-based carbon calculator which can be linked to a BIM model, with Innovate UK funding. The Al allows the raw data to be taken from the model to give an initial carbon calculation, using data from previous projects, which is then updated as the design and construction progresses.

"By October, we want the majority of projects to have an iPad which is linked to the platform in our head office and which will tell them in real time what the carbon emissions are," says Thaneja. Currently the Northampton project is achieving a 36% reduction in carbon emissions. ►

Good luck to this year's shortlist!

We're delighted to be sponsoring the **Digital Collaboration of the Year Award** at this year's prestigious Digital Construction awards. We would like to wish all the semi-finalists the best of luck for the finals, and we're looking forward to celebrating with you all in July!





Measures for reducing carbon on the Northampton project, compared to a 2020 baseline, have included using fly ash and slag to replace some of the cement in concrete, with the proportion varying by the application but at an average of 35%. Batching concrete on site reduced embodied carbon due to transport, as well as reducing waste.

Plant was initially running on hydrogenated vegetable oil (HVO) but after concerns were raised about HVO's palm oil content, Winvic went back to the drawing board with Collins, looking at which bits of kit could be replaced by hybrid diesel and electric and how they could change practices to burn less fuel. The site cabins are powered by a Hussh Pod hybrid generator.

Most of the drainage will be made from material recycled from milk bottles. Although the manufacturer has been selling these for a few years, Winvic had to work with it to work out the embodied carbon up to delivery on site, since it did not have an EPD. "We can now assess 97% of our bills of quantity for embodied carbon," says Thaneja. "There are some items that you just can't achieve verifiable data for, such as mastics or cleaning products."

Winvic has already purchased VCS and Gold Standard carbon credits – for reasons of transparency, explains Thaneja: "Some people wait until the very end of the project and are selective about what they assess. I want everything to be verifiable and auditable by a third party."

From brown to green

Although much of the park is still a muddy brown colour, pockets of greenery are emerging. Landscapers are already busy at work and must install no fewer than 60,000 trees, 20km of hedgerow and 30,000 shrubs by the end of the contract. The finished development will boast 32ha of park and grassland.

There are around five months' worth of earthworks left to do, says Martin, which should mean that Earthworks have been kept on site, to help lower the carbon footprint of the scheme everything is in place by the end of 2023. Roade's bypass should be largely complete by the autumn, with some work continuing into early 2024.

We don't know yet who the tenants for this vast logistics park will be and how far they will wish to go down the net zero road. We do know that Winvic would be very willing – and able – to accompany them on their journey.



We can now assess 97% of our bills of quantity for embodied carbon Arun Thaneja, Winvic



CV: Scott Martin, project director, Winvic

Scott Martin began his construction career in 1996 at the age of 17 working as a technical assistant for Lincolnshire County Council, where he received a good grounding in all things civil engineering.

When the council joined forces with Babtie Group – now Jacobs – in the late 1990s in a publicprivate partnership, Martin gained experience on site as an assistant resident engineer and, as he says, found his calling.

From 2001, Martin has worked for civil contractors and as a freelance project manager, moving to Winvic and his current role in early 2021. "I just enjoyed being on site more than being in a design office," he says. "I enjoy the cut and thrust of building schemes."

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CONGRATULATIONS TO ALL OF THE SHORTLIST

Best use of Data on a project

WEARENIMA.IM

Develon has unveiled a cab-less prototype excavator

Remote control and retrofit

From cab-less excavators to autonomous dump truck fleets, the construction equipment sector is helping create a more efficient and greener industry, as **Peter Haddock** finds out

he construction equipment sector's progress towards machine autonomy gathers pace with each year.

ConExpo in Las Vegas, held every three years, is a global showcase for the industry and the 2023 event displayed the latest digital technology coming into the market, from both established players and emerging disruptors.

Operating from your office

Caterpillar, the world's largest construction equipment manufacturer, demonstrated how it is now possible to remote control an entire earthmoving fleet from the comfort of your office. The Cat Command Station enables the user to work remotely in a comfortable, seated 'virtual cab' with familiar controls and machine displays, which can be located on site or on the other side of the world. This 'non-line of sight technology' means operators can work side by side in an office, with the working environment offering obvious benefits in terms of health and wellbeing.

The machines come complete with onboard technology such as 3D machine control – which helps operatives accurately position earthwork machinery based on 3D design models and GPS systems – and E-Fence safety systems, which automatically stop excavator motion



The Cat

Command Station

allows operatives to work remotely

in a 'virtual cab'

We have made autonomous operation a reality, especially for those tasks that need to be performed in areas that are not accessible Stephane Dieu, Develon within a predefined work area to avoid hazards.

This technology is already being looked at by major contractors in the UK, including Balfour Beatty. Sean Scarah, plant and logistics director for its asset and solutions division, says: "It's not just about diggers anymore; it's about a connected site where 3D machine control and autonomous plant help to deliver a project. This will help us on our journey to net zero.

"To succeed, we all must work more collaboratively together with equipment providers as well as supply chain partners, IT specialists and, of course, clients."

A cab-less excavator

Another manufacturer making waves is newly rebranded Develon, formerly Doosan. It has unveiled a cab-less prototype dozer and excavator – the Concept-X2 – which shows how equipment can look when a cab isn't needed. Controlled by remote operators, the machines combine machinecontrol technology with artificial intelligence, giving them the capability to be fully autonomous.

Product specialist Stephane Dieu says: "With our Concept-X2 platform, we have now made autonomous operation a reality, especially for those tasks that need to be performed in areas that are not accessible or have high safety risks.





"The equipment itself is part of a complete site solution. This revolves around a control centre which runs onsite analysis and vehicle control. By automating the construction site survey with 3D scanning, in future users will be able to maximise productivity by establishing the most efficient work plan.

Aerospace specialist Moog has retrofitted autonomous technology onto an older skid-steer loader, shown here at ConExpo 2023

"In addition to the control centre, specialist sensors and cameras monitor the job site and the performance of the whole machine, even reporting on machine health data to predict the remaining life of key parts and functions."

Retrofitting autonomy

With an eye on the environment, industry newcomer and motion control specialist Moog Construction has demonstrated how to retrofit autonomous technology onto an older skid-steer loader. A division of precision aerospace component manufacturer Moog Inc, the Moog Construction team has created a completely autonomous solution.



3D machine control and autonomous plant will help us on our journey to net zero Sean Scarah, Balfour Beatty



Moog's kit of parts – which includes processors and specialist sensors like LiDAR (light detection and ranging), GPS, ultrasonic and cameras – can be fitted to a machine with the system linked directly to a controller area network (CAN bus).

This kit of parts then links via wifi or a mobile network to Moog's remote operations centre, through cloud software. For greater accuracy, the machine can be linked through a local base station.

The project's 3D model is then uploaded on to the machine. This can be done remotely, and new updates added whenever needed. In addition, thanks to the LiDAR data capture, 'as built' work updates can be relayed back to a control centre in real time.

Moog sector specialist Thomas Greier says: "This is a new approach to autonomy that is very scalable. Because it's a modular solution, you can transform a whole range of existing kit into autonomous equipment. "This is great for monotonous or dangerous applications. For example, we have been trialling it in commercial solar farms to deliver panels and have seen a dramatic reduction in breakages. In addition, equipment owners who don't want to put brand new equipment into dangerous applications can simply retrofit the solution to an older model."

Autonomous truck fleets

Articulated dump truck (ADT) manufacturer Bell Equipment has spent the last four years developing autonomous technology for ADTs and reports that this is now at the 'adoption' stage with a UK client.

Bell Equipment product manager Brad Castle says: "Right now we are working closely with one of our UK customers. They are a leading mobile plant supplier and earthmoving contractor that has a large existing fleet of Bell ADTs, and they are looking to initially install an autonomous system onto two B30E trucks for a quarry application.



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Delivering net zero with digital innovation

category at the **Digital Construction Awards**

Congratulations to everyone on the shortlist

Initially, they will be introducing autonomous ADTs on two of their sites as part of a continuous drive to improve safety."

Bell currently works with two approved autonomous service providers: Xtonomy, based in Europe, and Pronto AI in the United States. Xtonomy's autonomous haulage systems (AHS) for mining and industrial applications feature a manufacturer-agnostic and interoperable platform.

Xtonomy uses a complex radar-based system to deliver continuous site and object mapping, with minimal manual interaction, and is well suited to 'multiple load and dump sites'. In addition, the advanced in-cab display and supervision screens can be easily integrated with other equipment on site to provide a fully autonomous offering.

"The beauty of both systems is the flexibility they offer," says Castle. "Bell provides a standard cab with no extra hardware taking up space, to create an environment where manual, remote or autonomous operation is interchangeable.

"This means that once an ADT has finished a contract on an autonomous site, the sensory and control system can easily be removed and the truck either fitted with a new system for another site or be used in a manual operation." Bell provides a standard cab with no extra hardware taking up space, to create an environment where manual, remote or autonomous operation is interchangeable Brad Castle, Bell Equipment

▼ ADT manufacturer Bell is trialling its autonomous ADTs on a UK worksite





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The tech predicting when potholes appear

Car-mounted mobile mapping could transform the approach to pothole repair, explains **Peter Haddock**





y the time you see a pothole, the cost of repair is already

substantial. But what if you could predict where one would appear and how to repair it properly?

That's the aim of new vehiclemounted technology developed by Leica Geosystems which can map out whole stretches of road in minutes and identify where potholes are likely to develop.

The mobile mapping solution is already being used by geospatial surveying specialists such as Severn Partnership. It could help cut the local roads maintenance backlog in England and Wales, which hit a record £14bn in 2023, an increase of 11%, according ▲ Geospatial surveyors use mobile mapping to create an overlay of the road surface, documenting any deterioration to the Asphalt Industry Alliance's annual survey.

Leica's new Pegasus TRK 700 Neo scanner captures over a million points of data per second. The technology combines highly accurate specialist scanners and sensors packaged into a lightweight module weighing just 18kg that one person can lift into place using a





As the Pegasus solution does some of the processing for us, when we return to the office we can simply upload this information into our software and start analysing Ben Barnard.

Severn Partnership



specially designed carriage. This hardware is also robust enough to travel on uneven surfaces while mounted to the roof of a vehicle.

And, instead of just capturing data, the control unit in the Pegasus TRK is equipped with the latest generation hardware architecture. This includes a dedicated AI module that processes the imagery on the go, to make realtime capture possible. All the data is then stored instantaneously, in this case, to SSD drives housed inside the car and connected with a robust data transfer cable.

Al is also leveraged in postprocessing, where the point cloud is automatically classified into dedicated classes such as roads, pavements, buildings, vegetations, poles, barriers and various additional classes. And this is where the team at Severn Partnership can use this technology to identify the first signs of potholes, the fine cracks appearing in the asphalt.

Ben Barnard, Severn Partnership commercial director, said: "It would normally take days or weeks to scan a road using traditional methods and you would also have to organise road closures to protect surveyors doing the work.

"With mobile mapping, you can drive at the same pace as normal road-users, capturing all the data you need in real-time. As the Pegasus solution also does some of the processing for us, when we return to the office we can simply



upload this information into our software and start analysing.

"This is a process we can repeat on the same stretch of road over different intervals in time, creating an overlay map of the surface and documenting any deterioration. Because this can be done on any stretch of road it can also help contractors and local authorities to identify packages of work that can be done in one visit. Equally, it can help to prioritise resources to the most important repairs."

What lies beneath

Where mobile mapping can identify cracks and measure existing potholes, it is what lies beneath the surface that creates a lot of problems. It's also why stubborn potholes keep coming back.

Barnard says: "Pothole repairs are expensive, and without knowing what is causing the problem you can use up valuable resources and time. This is where groundpenetrating radar can play a really important role in understanding what type of repair is needed. ▲ The car-mounted Leica technology in action

 Mobile mapping can identify cracks and measure existing potholes "We often pull a Leica Geosystems Stream UP ground-penetrating radar behind our vehicle at the same time as using the Pegasus. This allows us to see below the surface and use data to create heat maps that help to identify the depth of a repair needed to get rid of the pothole," he says.

"For example, most repairs are patch repairs to the surface course, but if there's significant damage below this, a repair may need to go all the way down to the damaged sub-base course.

"And if you have a section of road showing similar issues, you can delve into the root cause of the problem and schedule the appropriate maintenance."

















Digital Construction Awards race hots up

Major industry projects including HS2, the Elizabeth Tower and Everton's new stadium head the shortlists for this year's Digital Construction Awards



Revizto 🗱 BIMcollab G GRAITEC

ier and Aecom lead the field of nominees for the Digital Construction Awards 2023. Kier either leads or features among seven shortlisted entries, including twice in the Best Application of Technology category for the £400m HMP Millsike for the

Ministry of Justice and the £16m Plymouth Crematorium. HMP Millsike also features on the shortlist for Digital Collaboration of the Year, while the crematorium

also appears on the Digital Innovation in Productivity shortlist. Kier is also shortlisted for Digital Contractor of the Year.

Aecom is shortlisted four times. twice for its part in the Water For Life Hampshire project led by Mott MacDonald with Southern Water.

Both superstructure and facade specialist PCE and GIS specialist Esri UK also feature on four nominated entries. Also notable are Arcadis, BIS Consult, Buildots, Graham and Skanska, with three nominations each.

The new Everton stadium by Laing O'Rourke is shortlisted for both

Digital Collaboration of the Year and Digital Innovation in Productivity.

Another high-profile project is Sir Robert McAlpine's conservation of Elizabeth Tower: it is shortlisted for Digital Construction Project of the Year.

Meanwhile Hinkley Point C features on the Digital Innovation in Health, Safety and Wellbeing shortlist.

View the shortlists in full on the Digital Construction Awards website. There are no shortlists for Digital Construction Champion of the Year and Digital Rising Star of the Year: winners will be revealed at the 4 July dinner at the Brewery in London.

Expert judges

The awards attracted more than 140 entries, of which 62 have been shortlisted across 10 categories. They were judged by a panel of impartial industry leaders, representing a wide spectrum of expertise.

They are run by Digital Construction Week (DCW), CIOB, Construction Management and BIMplus.

Construction Management editor Will Mann and DCW co-founder Ollie Hughes said: "We received many

We received many compelling, high-calibre entries, and we thank the judges for the time they took to review them Will Mann, CM, and

Ollie Hughes, DCW

PROCORE

compelling, high-calibre entries, and we thank the judges for the time they took to review them.

"To make it on to one of the category shortlists is a victory in itself: we salute all the shortlisted entrants and wish them good luck for 4 July."

Join the industry's best

You can join them by booking your places at the awards.

The Digital Construction Awards celebrate best practice and reward innovation in the application of BIM and digital technology in the built environment sector.

Awards sponsors include the Association for Project Safety, BIMcollab, Bluebeam, Graitec, nima, Procore Revizto and Sir Robert McAlpine. digitalconstructionawards.co.uk

Shortlist

Best application of technology

Sponsored by Everwarm Building a smart estate for Manchester Foundation Trust. **BIS Consult with Manchester University NHS Foundation** Trust, Morta, Esri UK and Concerto

 Component tracking in complex supply chains: HMP Millsike. Kier with PCE, Ministry of Justice and Ynomia

 Designing in efficiencies – how augmented reality has streamlined the design process. McAvoy Group with Korec Group Digital Thumbs Up. L Lynch with Safety Shield Global

 Heathrow Airport – Water Leak **Detection Solution. Ramtech** with Mace. Heathrow Airport and Wingate

- Local ID. Faithful + Gould
- Plymouth Crematorium. Kier
- WholeHouse. Travis Perkins

Best use of data on a project Sponsored by nima

 Baird Family Hospital & Anchor Centre Aberdeen, Graham **Construction with NHS Grampian** Digital transformation for EKFB information management on HS2 Phase 1. Laminar Projects with EKFB (Eiffage, Kier, Ferrovial and BAM Nuttall)

- Information management tool. NG Bailey
- Roval Bournemouth Hospital. Buildots with IHP (Vinci Construction/Sir Robert McAlpine) and University **Hospitals Dorset NHS** Foundation Trust

Skanska Costain Strabag JV and Esri UK: Smart permit to dig on HS2. Esri UK with SCS JV, HS2

 Using AI and ML to facilitate sustainable city design at Arup with Amazon SageMaker. **Amazon Web Services** with Arup

Delivering net zero with digital innovation

Sponsored by Sir Robert **McAlpine**

 Al-based embodied carbon calculator. Winvic

 DAISY: early-stage multiobjective optimisation using artificial intelligence to reduce carbon when it matters the most. WSP

• Digital twin modelling for climate-resilient housing. IES Skanska's transformational journey to net zero through redefining the 5D+ BIM dimension. Skanska Solibri Inside. Nemetschek

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 Winners celebrate at the Digital Construction Awards 2022

Comedian Russell Kane entertains the audience at the 2022 Digital Construction Awards



Group (Solibri, ALLPLAN, Graphisoft and Vectorworks) • Transport & logistics. EPD Insulation Group

Digital collaboration of the year Sponsored by Bluebeam

 Baird Family Hospital & ANCHOR Centre Aberdeen. Graham Construction with NHS Grampian
 Component tracking in complex supply chains: HMP Millsike.
 Kier with PCE, Ministry of Justice and Ynomia

• Kidsgrove Station – managing risks from legacy mining. Arcadis and Esri UK with Galliford Try and Network Rail

• M42 Junction 6 improvement scheme. Skanska

• The People's Project – New Everton Football Stadium. Laing O'Rourke with BDP and Solibri

• Water for Life Hampshire. Mott MacDonald with Southern Water, Stantec, Aecom, WSP and Arcadis

Digital construction project of the year

Sponsored by Revizto

• Conservation of Elizabeth Tower. Sir Robert McAlpine with Strategic Estates – UK Parliament and Purcell Architects

Park East. Buildots with

Wates and Orbit Homes South • 40 Leadenhall Street. Glider with Mace, Arcadis, Make Architects, M&G Real Estate, Nuveen • The digital journey from construction through to facilities management. Symetri with Stepnell and the University of Worcester • The IMA digital pods. IMA Architects

• Water for Life Hampshire. Mott MacDonald with Southern Water, Stantec, Aecom, WSP and Arcadis

Digital consultancy of the year

• Building a smart estate for Manchester Foundation Trust. BIS Consult

Bond Bryan Digital

• Digital transformation of a global bank's property function. CBRE Digital Advisory

Evolve

• Digital transformation for EKFB information management on HS2 Phase 1. Laminar Projects

ONE Creative Environments

Digital contractor of the year Sponsored by Procore

- Browne Digital
- Site Centric & Graham asset intelligence digital transformation programmes. Graham

- Digital by default. Kier
- Mott MacDonald Bentley
- PCE
- Let's get digital. Taylor Woodrow

Digital innovation in asset management

• A19 Norton to Wynyard. Atkins with Balfour Beatty and National Highways

• Better building information management. Faithful + Gould with Atkins and the Government Property Agency

Building a smart estate for Manchester Foundation Trust.
BIS Consult with Manchester University NHS Foundation Trust, Morta, Esri UK and Concerto
ONE Engage. ONE Creative Environments with Totus Digital
Innovating with scan to BIM to meet the Golden Thread.
Orbit Housing with Parametrix
People-operated plant managed service desk.
Aecom with Anglian Water and Balfour Beatty

Digital innovation in health, safety and wellbeing Sponsored by APS

• People-operated plant managed service desk. Aecom with Anglian Water and Balfour Beatty Digital ladder permit system on Hinkley Point C.
 DataScope Systems with NNB Temporary Works
 Paterson Building. Imtech
 Engineering Services
 Autobraking on dump trucks: intelligent autonomous collision avoidance systems.
 L Lynch with Safety Shield
 Global and SCS JV

 HARM Zero at Manchester Aquatics Centre. SaferSphere with Manchester City Council and Kier Regional Building Northwest
 The future of modern contracting: Winvic's VR health & safety training.
 Winvic Construction

Digital innovation in productivity

Sponsored by Graitec • Buildots

- HMP Full Sutton. PCE with Ynomia
- Enquiry process improvement.
- BAM with Bidwork
- Field-derived automated reporting. Taylor Woodrow

• The People's Project – New Everton Football Stadium. Laing O'Rourke with Trimble, Kashec and FAB Formwork and Reinforcement

Plymouth Crematorium. Kier

Digital construction champion of the year

Sponsored by BIMcollab Recognises an individual who has played a key role championing digital transformation on a project, in an organisation, or an industry sector, during their career.

Digital rising star of the year

Sponsored by CIOB Recognises an individual who has been in the construction industry for five years or less and has used digitalisation, digital methodologies and/ or technologies to achieve excellence in their work.

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CONGRATULATIONS TO ALL OF THE SHORTLIST

revizto.com

Going digital from the ground up

A traditional Canadian earthwork contractor hired CIOB candidate member Caia Yeung to help move from unreliable paper-based systems to full digital project co-ordination. She shares her story with **CM**



he construction boom currently under way in Toronto has put pressure on companies

to improve how they handle information. Everyone is stretched and old, paper-based systems are slow and prone to error. This leaves companies vulnerable to marginkilling mistakes and delays. My employer, Orin Contractors, is an earthwork company specialising in excavating and landscaping. We're subcontracted to help with the Finch West Light Rail Transit project to build an 11km light railway with 18 stops running along Toronto's Finch Avenue West. The scope of our contract includes road excavation ▲ Software is used to track earth movements on site

and construction, landscaping and building retaining walls.

Orin decided to digitalise its processes a few years ago, and hired me in the summer of 2022 to fulfil a hybrid role that combined site planning with digital pioneering. I'm one of several new hires working with senior leaders and Orin's IT department to move the company into the digital age. Together, we implement new technologies and work out new ways of using them to improve our productivity.

It was an interesting decision to hire me. I had no construction experience; I trained as a town planner. But as someone who sits between the Millennial generation and Gen-Z, technology is second nature. Clicking, scanning, tapping and scrolling are my four main daily workouts!

The way we were

Orin used to print all construction drawings, including revisions, and stack them on a big drawing board that occupied some 10% of the project office space.

This presented a number of issues. Revisions were not always up to date and, if an incorrect drawing ended up with the construction team, there was a high risk of incorrect work, leading to expensive rework. We'd waste lots of time travelling from site cabin to the work area just to verify that work done matched the latest revisions provided by the consultants.

Paper also means cost. Printing is expensive and, when details change daily in a large infrastructure project, getting documents printed, delivered, replaced and disposed of added significant administrative overhead.

Paper and water don't mix, so, given the weather in Toronto, where you can experience four seasons in one day, unless you're laminating all drawings (more cost), you might need to print the same drawings over and over.

Much can go wrong

Foremen and site supervisors used to write critical information – about material deliveries, site inspections, site visits and manpower and weather-related information – in their individual notebooks.

If another staff member needed the information, they'd have to locate the notebook and be able to read the foreman's writing, trusting that the information is correct.

In a decentralised and fragmented industry like construction, a reliance on paper can make it difficult to manage the contract well.

Take time and material work orders (T&Ms). They pertain to work that falls outside the scope defined in the contract, which is either requested by the client or is needed because of unanticipated site conditions. T&M forms need to be collected from the team and submitted to the client weekly, and the client must approve the T&M before you can do the extra work. Much can go wrong when this process is paper-based.

A lack of information on the T&M form, work completed before being approved by the client, or a failure to submit the T&M form in the first place can all result in delays or extra work not being claimed.

What we are doing

Orin now uses a raft of software applications to make sure information flows to where it's needed, when it's needed. They include:

- Procore, for construction
- project management;
- SiteDocs, for safety
- management and inspections;
- Bluebeam, to review
- documents and drawings;
- SoilFLO, for tracking earth movements;
- Smartsheet, for document sharing;
 Sage, for accounts
- payable/receivable; and
- SmartUse, for sharing drawings. All drawings, including revisions, are saved on Procore and SmartUse, which can be accessed by mobile devices or desktop computers. No printing is required as all senior staff have been given tablet computers allowing them to review large-scale drawings with ease.



▲ Caia Yeung was employed to help move Orin into the digital age

We'd waste lots of time travelling from site cabin to the work area just to verify that work done matched the latest revisions provided by the consultants Caia Yeung, Orin Contractors

A similar process applies to material specifications, which allows the team to order the correct material with confidence and to plan work better as they understand the dimensions, weight and other properties of a material to ensure proper storage and handling.

No more notebooks

Now, digital daily logs let teams instantly access information that was formerly hidden away in notebooks. It can be used to create reports on productivity levels, material quantities, reasons for a delay and more.

The SiteDocs application brings all safety information – inspection forms, safety certifications for workers and incident reporting, for example – together in one portal.

Entering data live on SoilFLO lets us track all soil transported to and from the site. This generates accurate reports for environmental regulatory bodies.

Although we're at the early stages of digitalising our processes, we're already seeing the benefits of better project communication and coordination. There's less confusion, frustration and stress.

Caia Yeung MSc is a CIOB applicant. Hamza Momade MCIOB, project manager at Orin Contractors, contributed to this article.

Fire regulations for commercial roofing

In this CPD, Garland UK explains which fire regulations you should be aware of in regard to commercial roofing

n May 2018, Building a Safer Future, the final report of the Independent Review of Building Regulations and Fire Safety – more commonly known as the Hackitt review – was published. It laid out more than 50 recommendations to create a more robust regulatory framework for the building industry as a whole, with particular focus on fire safety.

The government began conducting consultations within the industry to work out how to implement these effectively. This has led to incremental updates to the Building Regulations by introducing new legislation, such as the Fire Safety Act 2021 and the Building Safety Act 2022.

This has significantly changed the regulatory rules and responsibilities for fire safety in a relatively short time. With the release of the latest amendments to Approved Document B on 1 December 2022 and its six-month transition period soon to expire on 1 June 2023, it is essential to get up to speed with the current fire regulations and how they apply to commercial roofing.

Approved Document B

Approved Document B (ADB) explains how to fulfil the requirements for fire safety in the Building Regulations. It is divided into ADB Volume 1 (*Dwellings*) and Volume 2 (*Buildings* other than Dwellings). Requirement B3: Internal Fire Spread (Structure) and Requirement B4: External Fire Spread dictate the requirements that apply to the building envelope, external walls and roofing.

ADB's last full update was in 2019 in an attempt to make the document easier to understand and to introduce the new Regulation 7(2) of the Building Regulations, which banned combustible materials in or on external walls of the newly defined 'relevant buildings'.

In most cases, combustible materials should also not be used on the newly defined 'specified attachments', which include elements attached to the external walls of a building, most notably balconies.

The Liquid Roofing and Waterproofing Association (LRWA), National Federation of Roofing Contractors (NFRC) and Single Ply Roofing Association (SPRA)



In most cases, combustible materials should not be used on 'specified attachments', which include elements attached to external walls, most notably balconies have produced a useful guidance document (*Changes in regulations* and Approved Documents relating to fire safety for flat roofs on 'relevant buildings' in England) to clarify the changes. It was amended in 2020 and in December 2022.

Relevant building

A 'relevant building' is any building that is 18m above ground level and contains one or more dwellings, an institution or a room for residential purposes. It now also includes student accommodation, care homes, sheltered housing, hospitals, dormitories in boarding schools, hotels, hostels and boarding houses.

In fact, for all intents and purposes, no residential building above 11m from ground level can now use any combustible materials in or on external walls.

Specified attachments

'Specified attachments' is a new term that has caused a great deal of confusion: what should be considered a flat roof, and what should be considered a balcony? It appears to contradict the European ►



In association with



When a fire compartment wall forms a junction with the roof structure, the roof covering must be classified to BROOF(t4) and extend 1,500mm on either side of the wall

Commission Directive 2000/553/EC and Regulation 7(3) if the definition of a balcony is deemed to include an insulated roof. The flat roofing industry, working with other relevant bodies, has come to a common understanding, which is now also mirrored in BS 8579:2020 *Guide to the Design of Balconies and Terraces.*

Attached balconies are differentiated from roof terraces in that they are not habited and conditioned spaces. They are usually bolted to or cantilevered from the external wall. Also included are most inset balconies. For the purposes of ADB, balconies are not deemed to be roofs unless designated to provide means of escape.

For areas that are correctly deemed to be balconies, that is, 'specified attachments' on 'relevant buildings', non-combustible material must be used. However, there is an exception made by Regulation 7(3) that excludes the waterproofing membrane from this requirement.

Termination of roofing materials

This exception has caused another serious area of confusion: how do you safely terminate a roof or balcony where it abuts a wall. Again, the LRWA, NFRC and SPRA guidance document has resolved this issue.

Insulation used as a thermal break on the face of a wall or abutment is exempt from the non-combustible ban provided it is no thicker than 60mm and does not go higher than

Balconies and terraces



Table 10.1 Reaction to fire performance of external surface of walls (simplified)

Building type	Building height	Less than 1,000mm from the relevant boundary	1,000mm or more from the relevant boundary
'Relevant buildings'		Class A2-s1, d0 or better	Class A2-s1, d0 or better
All 'residential' purpose groups	More than 11m	Class A2-s1, d0 or better	Class A2-s1, d0 or better
	11m or less	Class B-s3, d2 or better	No provisions
Assembly and recreation	More than 18m	Class B-s3, d2 or better	From ground level to 18m: class C-s3, d2 or better
			From 18m in height and above: class B-s3, d2 or better
	18m or less	Class B-s3, d2 or better	Up to 10m above ground level: class C-s3, d2 or better
			Up to 10m above a roof or any part of the building to which the public have access: class C-s3, d2 or better
			From 10m in height and above: no minimum performance
Any other building	More than 18m	Class B-s3, d2 or better	From ground level to 18m: class C-s3, d2 or better
			From 18m in height and above: class B-s3, d2 or better
	18m or less	Class B-s3, d2 or better	No provisions

A 'relevant building' is any building that is 18m above ground level and contains one or more dwellings, an institution or a room for residential purposes





150mm above the finished roof level or walking surface. If, for any reason, the thermal break goes higher than this, or crosses an internal fire compartment line, non-combustible insulation must be used.

Requirement B3

Fire compartmentation is used internally to stop fire spread throughout a building. This basically entails separating the building into compartments using fire-resistant walls, floors and doors, so that the fire is contained within a single compartment in the event of a fire.

When a fire compartment wall forms a junction with the roof structure, the roof covering must be classified to BROOF(t4) and extend 1,500mm on either side of the wall. The roofing substrate or deck must be classed A2-s3 d2 or better.

In buildings under 15m high from ground level and purpose groups 1, 2, 3 or 5, other than 2(a), a substrate of B-s3 d2 or worse can be used. In all cases, fire-stopping is to be carried up to the underside of the roof covering.

Requirement B4

B4 sets out the requirements to prevent the external spread of fire for external walls and roofs. It states that: • The external walls of the building shall adequately resist the spread of fire over the walls and from one building to another, having regard to the building's height, use and position. • The roof of the building shall adequately resist the spread of fire over the roof and from one building to another, regarding the use and position of the building.

The outermost material used for external walls must meet the combustibility requirements in Table 10.1 (see simplified version on p40). The distance to the boundary

The Fire Safety Order places responsibility for fire safety in buildings on the 'responsible person'. Depending on the circumstances, this can be the building's owner, manager or occupier



of the property, its height and use dictate materials that can be used.

For roofs, Requirement B4 sets out in Table 12.1 the required classification that the roof covering must achieve. The distance to the boundary of the property determines this. Only the highest classification BROOF(t4), can be used unrestricted on any building.

Fire testing classifications

CEN/TS 1187:2012 Test methods for external fire exposure to roofs dictates four test methods to determine a roof's resistance to external fire exposure. Test methods 1-3 are widely used across Europe, with only the UK using method 4, which incorporates two-stage testing and is more rigorous.

BS EN 13501-5

BS EN 13501-5: Fire classification of construction products and building elements. Classification using data from external fire exposure to roof tests sets out the required performance that the roofing system must attain to get its classification, with BROOF(t4) being the best and FROOF(t4) the worst performance, as shown in the table on p42.

Fire Safety Order

The Regulatory Reform (Fire Safety) Order 2005 (also known as the Fire Safety Order) is a UK law that sets out the fire safety responsibilities >

BS EN 13501-5 fire classification

BROOF(t4)	 No penetration of the roof system within one hour. In a preliminary test, after the withdrawal of the test flame, specimens burn for less than five minutes. In the preliminary test, the flame spread less than 0.38m across the region of burning.
CROOF(t4)	 No penetration of the roof system within 30 minutes. In the preliminary test, specimens burn for less than five minutes after the test flame withdrawal. In the preliminary test, the flame spread less than 0.38m across the region of burning.
DROOF(t4)	 Roof system is penetrated within 30 min but not in the preliminary test. In the preliminary test, specimens burn for less than five minutes after the test flame withdrawal. In the preliminary test, the flame spread less than 0.38m across the region of burning.
EROOF(t4)	 Roof system is penetrated within 30 min but not in the preliminary test. Flame spread is not controlled.
FROOF(t4)	No performance determined.

of building owners and managers and the steps they must take to reduce the risk of fire and protect people in the event of a fire.

The Fire Safety Order applies to most non-domestic buildings in England and Wales, including:

• workplaces, such as offices, factories, and warehouses;

public buildings, such as schools, hospitals, cinemas and museums;
residential buildings, such as flats, hotels, hostels, boarding houses;
assembly and leisure buildings,

such as places of worship, community halls and sports stadiums;

shops and retail premises; and
mixed-use buildings.

Single-family homes are not covered, although it does apply to



Garland UK

standing seam

metal roofing

project for the

education sector



multi-occupancy houses in multiple occupations (HMOs). The Fire Safety Order places responsibility for fire safety in buildings on the 'responsible person'. Depending on the circumstances, this can be the building's owner, manager or occupier.

The responsible person is responsible for:

• Ensuring that the premises reach the required standards.

• Providing employees or occupants with adequate fire safety training, which would include:

- Induction training on fire awareness;
- Periodic refresher or extra training where the level of fire risk increases as a result of changes in operations;

• Training to support people in meeting their fire safety duties – for example, keeping 'responsible people' up to date; and

• Training to build appropriate skills such as fire risk assessment, fire warden or using fire extinguishers.

• Conducting a regular fire risk assessment to:

• Identify the fire hazards.

- Identify people at risk.
- Evaluate, remove or reduce the risks.
- Record your findings, prepare an emergency plan and provide training.

• Review and update the fire risk assessment regularly.

It's important to note that these are general responsibilities, and the specific requirements can vary. More information is available from the government's *Fire Safety in the Workplace* site.

How can roofing be upgraded?

If, while conducting a fire risk assessment, you discover that your roof is not up to standard, a number of potential solutions are available.

Cold-applied liquid roofing systems can be applied to most roofing surfaces without needing a full roof replacement. They can be installed quickly and will immediately reclass your roof to a BROOF(t4) standard.

If there are issues relating to the fire compartmentation where it joins the roof, then internal works would need to occur.

▲ Flat roofing by Garland UK for a residential building in Bristol

To test yourself

on the auestions

on the right, go to

management.

co.uk/cpd-

modules

www.construction

CPD Questions

1) How many metres above ground level does a building need to be to receive 'relevant building' classification?

a) 18m

b) 19m c) 20m

2) Which Approved Document provides guidance on ways to meet fire safety Building Regulations?a) Approved Document A

- b) Approved Document B
- c) Approved Document C

3) What is fire compartmentation?
a) Fire compartmentation is used externally to stop fire spread throughout a building
b) Fire compartmentation is used internally to stop fire spread in the roof of a building
c) Fire compartmentation is used internally to stop fire spread throughout a building

4) Which BS EN 13501-5 roof system classification is provided when there is no penetration of the roof system within 60 minutes?

a) BROOF(t4) b) CROOF(t4) c) DROOF(t4)



'A subcontractor is causing us delays. What can we do?'

This month's contract clinic question comes from a project manager frustrated with a non-performing subcontractor on a NEC4 contract. **Stuart Bosley** explains the options

THE QUESTION

I am a project manager of a construction project under an NEC4 contract. I am dealing with a major problem caused by a key subcontractor who has failed to meet their obligations, leading to significant delays.

Despite our attempts to address the issue directly, the subcontractor has not responded positively. Even threatening termination has not motivated them, making termination seem like the only option left. Our primary concern is the impact on stakeholders and the increased costs of retendering. What can I do?

THE ANSWER

Managing subcontractors is a complex and challenging task. The decision to terminate a subcontractor's contract should be made with great care. You will need to consider the contractual provisions. Also think of the likely impacts on the business's financial and reputational standing.

The case of *Struthers and another v Davies* highlights the critical importance of adhering to contractual protocols before considering termination.

Clause 16.1 of the NEC4 contract states you must inform the subcontractor of any concerns and allow adequate time to propose a resolution. If the subcontractor's response is inadequate, you may issue an early warning to make them aware of the possible outcome of their non-performance.

The court in *Henia Investments Inc v Beck Interiors Ltd* held that the contractor had the right to terminate the subcontractor's contract after providing adequate notice of non-performance. The subcontractor's inability to present a credible programme or plan to address non-performance was deemed a repudiatory breach of the contract.

In response to the question, you could consider the following three solutions.

Negotiate a resolution

Direct, face-to-face negotiations at the right level are a means of resolving issues quickly. The process requires a refined The decision to terminate a subcontractor contract

contract should be made with great care degree of emotional intelligence and pragmatism to guide strong personalities towards resolution. A tailored approach to every matter is required. Taking a break from the project or meeting to gather thoughts is often a good idea.

Is the subcontractor experiencing difficulties completing tasks? Have they already been notified under clause 16.1? If so, it is strongly advised you adopt a proactive approach.

This can be achieved by participating in their processes and workshops. Demonstrate a genuine commitment to the common goal. Aim to foster an environment where all parties can find common ground. This approach can result in successful collaboration and positive outcomes for everyone involved. Giving space to process the situation is crucial.

Unforeseen circumstances, such as supply chain disruptions caused by political changes, may also lead to unexpected delays. Other contractual provisions may be available in such cases. These include clause 60.1(4), which allows for additional time in the event of a compensation event that is beyond the control of the contractor or subcontractor.

Issue a formal notice of non-compliance

If the subcontractor is unresponsive or unwilling to cooperate, and all other collaborative efforts have been exhausted, escalate the situation by issuing a formal notice of non-compliance under clause 91.2. The project manager must provide written notice to the subcontractor. The notice must state that they are not fulfilling their contractual obligations.

For instance, if the subcontractor is not completing their work on time or to the required standard, issue Question for contract clinic? Email construction-management@atompublishing.co.uk



Aim to foster an environment where all parties can find common ground. This approach can result in positive outcomes for everyone involved

a notice of non-compliance. The subcontractor must then respond and propose a solution to resolve the issue. If the subcontractor still fails to comply, the project manager can consider terminating the contract by following the necessary steps.

The court in Jacobs UK Ltd v Skidmore, Owings & Merrill LLP held that the architect had the right to terminate the contractor's contract. This was after issuing a notice of non-compliance due to the contractor's failure to follow the architect's instructions. The court concluded that the contractor's non-compliance represented a material breach of the contract.

Terminate the contract

As previously stated, terminating a contract should be a last resort. However, it might be necessary if the subcontractor's non-performance is classified as a compensation event under clause 60.1(19) or as a material breach of contract under clause 91.1.

Direct negotiations are effective in establishing rapport and overcoming obstacles. However, effectively managing subcontractors calls for a nuanced approach. An approach that combines firmness and adaptability. Maintaining open and transparent communication is crucial for positive working relationships and achieving project goals. • Stuart Bosley is managing director (Quantum & Project Advisory) at DeSimone.



'Emails are no substitute for a face-to-face'

Professionalism, standards and strategic planning are watchwords for Craig Battye FCIOB, divisional director – pre-construction at ISG Construction

What made you go into construction?

It was a little bit of an accident, but I'd done some work experience with the local authority and the CITB through a mutual acquaintance and I found I really enjoyed the insight that my work experience gave me. I liaised with the CITB more closely and after my GCSEs I joined a local well-established family construction business to start my future career.

What do you remember from your first project?

All I really remember was thinking how many moving parts there were and all the different workstreams interfacing with each other but requiring separate actions and decisions all to keep pace with the programme. I thought I'd never get used to the pace – that soon changed with a little bit of advice and lots of practice.

What was the best advice you were given?

The best practical advice was "Make a plan". As my career developed as a construction planner, this was very apt, but any new strategy/ task starts with a plan. Probably the longest-lasting management advice was "Talk to people". It's a people industry and emails and e-chats are not substitute for picking up the phone or having a face-to-face.

How do you think becoming a fellow has helped you in your career?

Delivering professional standards continuously reminds you of the importance of what we as construction professionals do and, more importantly, how we do it.

From the fellowship application to my everyday working, how I conduct myself and what standards are expected of me has been clearly demonstrable in my work, my teams and my successes – all of which are attributable to the standards required of FCIOB.

Is there a specific project or achievement you are most proud of?

Far too many to mention! But I have always enjoyed the challenging projects where the team dynamics have been the main reason for delivering the project, no matter the circumstances.

I have had several instances in my career where against all the odds and despite the naysayers we've delivered the project on time. The PFI Leeds schools with Mowlem falls into this category.

Is there anything in your career you would do differently now?

I often wonder why I didn't get more involved in the CIOB regionally earlier in my career, as it has acted as a mentoring tool in my management style and professional development ever since.

Who do you most admire in the construction industry, past or present?

Our ongoing ability to impact people's lives for the better, whether it's delivering new transport infrastructure, hospitals or schools – these all leave a lasting legacy that we can be proud of. More recently the way the industry continued to

Craig Battye FCIOB CV

Employment: • ISG Construction Divisional director - pre-construction, UK Construction Major Projects, January 2021present Pre-construction director, UK Regions – North, 2017-2021

National pre-construction and procurement director, Beaumont Morgan Developments, 2016-2017

• ISG Construction (North) Pre-construction

manager, 2014-2018 Regional planning

manager, 2008-2014 ● Planning

manager, Taylor Woodrow, 2008

• Senior planning manager, Carillion, 2004–2008

Other experience: • CIOB Trustee since June 2021 Education:

NVQ Level 4
 Construction
 Contracting –
 Planning

deliver during the pandemic was a credit to the skill and hard work of a determined workforce.

What advice would you give to someone starting in construction today?

Develop a 'sponge' mentality and learn all you can through not being afraid of asking plenty of questions. Use all the great repositories of learning out there (CIOB Academy) to enhance your knowledge and skills for work you have been tasked with to undertake or manage.

What one thing would you change to make careers in construction more appealing?

I think a lot more must be done with shining the light on the positives of the industry and how we promote ourselves in the public eye and subsequently at schools. There have been very negative perceptions of the industry through major national scandals – and rightly so – but a lot of good is delivered by the industry which often goes unsung.

What has changed the most about construction since you've been working in it?

It has to be the evolution of digital technologies in construction and how that has had a positive impact on stakeholder engagement, design development and review, and quality delivery into construction. Digital construction permeates all I have always enjoyed the challenging projects where the team dynamics have been the main reason for delivering the project, no matter the circumstances Craig Battye FCIOB,

Craig Battye FCIOB, ISG Construction



elements of construction delivery and there is plenty of development and benefits still to come during my career.

What's the most valuable training you've received and why?

I have received lots of excellent training and continue to do so but I think my executive management training at Carillion and ISG has been the most useful – in particular, the ability to move my thinking and application to a more strategic position.

With this insight, my management approach and planning approach to projects, tasks and initiatives have had greater success because the strategic goals were considered long before the methods and solutions were developed.

Do you have a motto that applies to your work and, if so, what is it?

Plenty that I cannot repeat here – but I'd like to think "Everyone works with me, not for me" underlies my commitment to get stuck in, but always as part of a bigger team pulling together to deliver the same goals.



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CIOB Community



Indonesian university scoops 2023 Global Student Challenge win

Askara Victoria beats nine runners-up and will present its winning submission to industry leaders at the CIOB Members' Forum

For the past few months, 10 teams from around the world have been competing in the Global Student Challenge, showcasing their ability to develop practical solutions to real world problems. This year's winner was announced in April: Universitas Indonesia – Askara Victoria.

The other finalists were Chongqing University, China; Nottingham Trent,

UK; Tunku Abdul Rahman University of Management and Technology, Malaysia; Sheffield Hallam University, UK; Taylor's University, Malaysia; Tongji University, China; Universitas Tarumanagara, Indonesia; University of Wales Trinity St David, UK; and Western Carolina University, USA.

"It's been a really exciting year for GSC," said Kate Macbeth, CIOB ▲ Askara Victoria, the winning team from Universitas Indonesia They showed exceptional submissions by presenting a technically sound solution focusing on lean principles, novel innovation and a low-carbon approach Judges, GSC 2023



director of marketing and digital. "The new format has given us a far greater depth of understanding of the students submissions and their interpretation of the brief."

She continued: "The diversity of entries from teams around the world focused on subjects close to CIOB's heart including environmental sustainability, quality and safety and the skills needed to make a construction company. Using Sim Venture Validate opened up the competition to creativity and gave students a taster of what a real life pitch would be like."

The judges said of the winning team: "They showed exceptional submissions by presenting a technically sound solution focusing on lean principles, novel innovation and a low-carbon approach. They demonstrated excellent participation and confidently addressed technical enquiries on concrete and energy harvesting solutions.

"Their solution emerged more holistic, balancing commercial, technical and sustainable considerations. The judging was close but Universitas Indonesia demonstrated the winning combination of innovation, technical prowess and teamwork."

The team are attending the Members' Forum event in June where they will present their winning submission live to industry leaders from around the world.

▼ Waterford graduates receive their certificates of excellence

Maidstone professionals enjoy awards and entertainment

TV's Matt Dawson entertains guests at Maidstone Hub's annual Construction Professionals' Dinner

Awards, magic and rugby were

highlights of the recent annual CIOB Maidstone Construction Professionals' Dinner, attended by companies and professionals from Kent and throughout the south east.

Maidstone Hub chair Oma Megbele MCIOB welcomed guests including CIOB senior vice president Sandi Rhys-Jones FCIOB.

The event included the announcement of the CIOB Maidstone Emerging Talent and Motivational Leader Awards.

The Emerging Talent Award went to Scott Dennett from Willmott Dixon.

Lauren Shields from Kier was announced as the Motivational Leader winner. The award was presented by Carol Turner, wife of Steve Turner FCIOB, in whose memory the award was given. Congratulations go to the other finalists, Serafina Ammirato from Kier and Esraa Hassanain from Invvu Construction Consultants for the Emerging Talent, and Charles Kenward MCIOB from Kent Construction Consultants for the Motivational Leader Awards.

Magicians Peter Lee and Guy Wade Young enthralled guests with tricks and illusions. The after-dinner entertainment was provided by Matt Dawson, who regaled everyone with tales ranging from his rugbyplaying days as an international player for England, to his long tenure as team captain on Question of Sport, reaching the final of Strictly Come Dancing and winning Celebrity Masterchef.

Over £2,000 was raised for CIOB Assist at a raffle.



Maidstone Hub chair Oma Megbele MCIOB welcomed guests including CIOB senior vice president Sandi Rhys-Jones FCIOB

Maidstone
 Hub chair Oma
 Megbele MCIOB
 and guests





CIOB presents excellence awards in Ireland

Graduates recognised at SETU Waterford

The Department of Architecture & Built Environment at SETU Waterford hosted CIOB recently.

CIOB was at Waterford to present certificates of excellence to recent graduates from a number of the department's construction management programmes, which are accredited by the institute.

The awards recognise excellence in academic achievement in these programmes.

The winners were:

• Jordan Kinch: BSc (Hons) in Construction Management & Engineering;

• Shane Quinn: BSc (Hons) in

Construction Management; and Michael Cullagh: MSc in

Construction Project Management.

Programme leaders Brian Graham FCIOB and Anne Marie O'Connor MCIOB presented the winners to the invited guests, noted the contributions they had made during their time at SETU and wished them well in their future endeavours.

Derek Cassidy FCIOB, chair of the Republic of Ireland Hub committee, presented the winners with their certificates.

Cassidy commended them for their "hard work and dedication in pursuing their studies, which ensure that we continue to have highly qualified construction managers leading the Irish construction sector".

New graduates include new TechClOBs

Two TechCIOB graduates receive their awards alongside new MCIOBs at a ceremony in Painters' Hall in the City of London

The CIOB graduation ceremony

held in March was the first at the new venue of Painters' Hall, London. As well as the new MCIOBs, two graduates were receiving the new grade status of TechCIOB. The latest
 CIOB graduates
 at Painters' Hall

MCIOB

Waseem Ahmed Jeannie Ambrose Jazib Azam Steven Ballard Robert Beke Paul Bettles Adam Bowey Suet Shan Chung Chris Clarkson Shane Cleaver Darren Cocker Patrick Connolly Madalin Croitoru Charles Dumenya Shamim Eceolaza **Dave Forde Matt Griffin** Phillip Hall Mark Hepplewhite Mohammed Laguda **Trevor Lee-Can Dovydas Lilis Ben Macey** Shayne Marples **Sarah Martins Daniel Murphy** Muhammad Naeem

James Parry Ivo Pilkis Mike Potter Lee Riding Donna Jane Robinson Mark Seaman Richard Talbot Will Underwood Alan Walters Leslie Walton Don Webb

TechClOB

lan Gregory Stephen Smith



Ambitious young professional



Networking at the TL Birmingham launch last year led to a new role for Titus Akpan A new Tomorrow's Leaders (TL) champion has demonstrated the powerful networking opportunities that can result from CIOB events. Titus Akpan is the TL champion for CIOB in Birmingham – a role that also led to him securing a position as trainee project manager with the Coleman Group. A CIOB student member,

A clob student member, Akpan completed an engineering degree in Africa, then a master's at Birmingham City University in Construction Project Management.

While studying, he attended site visits in Birmingham and the TL launch event last October, where he met Mark Coleman FCIOB, a past Birmingham Hub chair and CEO of event sponsor the Coleman Group. This opportunity led to his new role. Speaking of his TL role, Akpan said: "I am happy to make the most of this unique opportunity, and to have a clear direction to deliver excellence and set new standards within the region."

CIOB Midlands & Eastern Region is recruiting TL champions. To find out more please contact gfloyd@ciob.org.uk or visit www. ciob.org/tomorrows-leaders.



Site visit to HS2 Curzon Street

Health and safety focus on station tour

A CIOB site visit to the new HS2

station in Birmingham will take place on 22 June. The visit will be combined with an overview of HS2's new health and safety strategy.

Birmingham Curzon Street station will be the first brand new intercity terminus station built in Britain since the 19th century. The goal is to create a railway designed, built and operated to the highest health, safety and security standards.

The station will be net zero carbon in operation, with the latest eco-friendly design and sustainable technologies, including capturing rainwater and utilising sustainable power generation. Over 2,800 sq m of solar panels are located on platform canopies.

Steve Fink, head of HSE operations at HS2, will combine an overview of the safety work with a chance to get up close to the new railway as it rises out of the ground. **This site visit will be run by HS2** and **BBV. For details and to register contact: gfloyd@ciob.org.uk.** ▲ Birmingham's new HS2 station will be net zero carbon in operation

The station will be net zero carbon in operation, with the latest eco-friendly design and sustainable technologies

One to watch

Hattie Thompson

Sustainability consultant, Hoare Lea

Why did you choose construction as a career path? What else might you have done?

All of my family work in the built environment sector so I have grown up with an interest in construction as a career path.

I studied BSc Biomedical Science as my undergraduate degree and intended to pursue a career in medical research. However, my interest in buildings took over and I ended up working for a contractor.

I then signed up to study MSc Sustainable Environmental Management and completed this alongside working in the sustainability team at Hoare Lea, where I work now. Construction is a really rewarding sector to work in, as you can see the projects you are working on coming to life on site.

What are your ambitions for your career?

I am passionate about all forms of sustainability, and particularly the social and environmental impacts of the built environment, so I want a career where I can directly influence these elements.

My intention is to build a career as a sustainability consultant collaborating with project teams working towards a more equitable and low-carbon built environment. I have a particular focus on ensuring inclusive design principles are embedded into sustainability ambitions. In addition, I am working towards achieving chartered environmentalist

status with CIOB.

If you could change one thing about the industry what would it be and why?

I would like to see more diversity in the industry. I am a member of South West Women in Construction and the Hoare Lea Gender Balance Network Group as I want to address the gender imbalance seen in the construction industry.

What do you do in your spare time?

I am an active person and play for a local hockey team so most weekends I am playing in a match. I also like to run, swim and play badminton. If I'm not doing something active, I like to be creative, and enjoy drawing and watercolour painting.

I have a particular focus on ensuring inclusive design principles are embedded into sustainability ambitions

Together, we can achieve more

Our prestigious Chartered Fellows are united by a common goal - to raise the bar for building excellence across the sector. By becoming a Fellow, you will join the ranks of the industry's most inspirational professionals, and play your part in creating the future of the built environment.





CIOB The Chartered Institute of Building

THI



CBC supplies a state-of-the-art funeral director's ceremony room

Greendale Construction creates new block with cloistered terrace in Dorset

Poole-based Chartered Building

Company (CBC) Greendale Construction has handed over its most recent major contract: a ceremony room block for a funeral director in Ferndown, Dorset.

The build was for AE Jolliffe & Son, a branch of Douch Family Funeral Directors. Greendale had previously completed the major renovation

FLOS at Coventry draws crowd

Northampton Hub CPD explores the biggest changes to Building Regs in 40 years of Douch Family Funeral Directors' Lesley Shand branch at nearby Corfe Mullen in 2018.

The 70-week contract was completed over two phases and included demolition and removal of a number of dilapidated outbuildings, service buildings and a chapel. Construction of the new 460 sg m

ceremony room block included the



Over 50 people came to hear a CPD talk held recently by CIOB's Northampton Hub at the circular lecture theatre in Coventry University. Tom Reynolds MCIOB (pictured) from MES Building Solutions and

▲ The new block houses the ceremony room and facilities cloistered terrace – a timber-frame structure on traditional strip footings with beam-and-block ground-floor slabs. Groundworks included bridging over Wessex Water deepwater drain systems which criss-crossed the site.

The flat roof, built to falls, has secret parapet gutters, two layers of ply, glued and screwed to create a structural diaphragm – on which, and over hard Celotex insulation, a single-layer roofing covering system was applied. White aluminium pressed metal copings feature on the parapet walls.

The new block houses hearse and funeral vehicle garaging, staff areas and back-of-house facilities, while the ceremony room features a slatted timber acoustic ceiling and sophisticated lighting and AV.

Greendale also extended and refurbished the original house. Major remodelling occurred on the ground floor of the old property. The modern extension juxtaposes against the old, and offers private chapels with a client and family door entry system and service facilities.

The client and architect's brief was to create a clear wide sightline from the old building across the new gardens to the new ceremony room, so the Greendale team relocated incoming electrical supplies and undertook structural work to create a wide corridor/atrium, making an open and welcoming space.

Paul Servadei from NHBC spoke on 'Why FLOS?: The biggest change to Building Regulations in 40 years'.

Following the publication of new standards for Parts F, L, O and S of the Approved Documents, this CPD provided the audience with a better understanding of why the changes have been made and how they can be achieved.

It provided a snapshot of the requirements and an insight into some of the challenges they will bring.

North-east students impress at Newcastle student challenge

Hartlepool College was this year's winner at the Newcastle Hub's 2023 Student Challenge



College won Best Innovative Idea

Gateshead

CIOB CEO and president take trip to Ireland

Dublin visit includes graduation ceremony





▲ From top: As well as visiting sites, Yam and Gumble attended the CIOB Ireland graduation

CIOB president Michael Yam and CIOB CEO Caroline Gumble spent a week in Ireland recently, meeting Irish CIOB members.

Yam visited TU Dublin and had a tour of the new Grangegorman campus. Further site visits included a 'mission critical project' in Dublin and a large commercial development in the Grand Canal Dock area.

The dignitaries also attended the CIOB Ireland Graduation 2023 which took place in the Law Society of Ireland, Dublin, in April.

The ceremony included graduations of the first two Ireland-based TechCIOB members.

The Newcastle Hub 2023 Student Challenge was held at Hartlepool College of Further Education at the end of March.

Teams came from Hartlepool College, Gateshead College and apprentices from RE:GEN Group. However, it was a home win, with the Hartlepool College team taking the top spot.

The winning team consisted of Emily Fullen, Hannah Wilson, Georgia Smith, Molly Yews, Keaton Hogg and James Thompson.

Gateshead College won the trophy for Best Innovative Idea, and Jake Smith from Hartlepool College won Best Leader.

The challenge was to erect a six-storey office building to accommodate the client's HQ on the existing surface car park bounded by Strawberry Place and Strawberry Lane in Newcastle. The site comprises 0.24 ha to the south and east of The Strawberry public house.

The teams were informed that the building would comprise 8,480 sq m

gross internal office floor space with ground-floor meeting rooms and cafe, basement car parking (15 spaces) and cycle parking (100 cycle spaces) and associated landscaping to the boundary areas.

The teams, working as consultant and contractor, were to advise the client if its needs for the development could be met. They were required to look at the site layout, construction methods, delivery, building constraints, sustainability and the 'new normal'.

The teams had four-and-a-half hours to produce a presentation to two teams of four building experts, who volunteered to assist and judge.

Throughout the day, the teams had construction professionals on hand who acted as mentors.

All of the teams were commended on the level of work they had carried out. Judge Paul Young FCIOB, a CIOB trustee, said: "The presentations were fantastic, especially given the very limited time available."



The teams had four-anda-half hours to produce a presentation to two teams of four building experts, who volunteered to assist and judge



Elecosoft launches new collaborative task management tool

Asta Connect eases project teamwork

Elecosoft, a specialist international

provider of software and related services to the built environment, is proud to launch Asta Connect: a new collaborative task management tool within its award-winning Powerproject solution.

Asta Connect solves the challenges of short-term onsite planning, collaboration and daily activities progress by connecting project teams with the overall master construction schedule, capturing commitments and delivering key insights on projects to empower decision-making.

Asta Connect enables trade contractors, project managers, contract managers, trade and site managers ('last planners') to centrally coordinate daily and weekly work plans. It assists them in understanding roles and responsibilities, collaborating on agreed tasks, viewing progress and seeing the impact of their actions on other disciplines through a simple visual interface.

Asta Connect is designed to simplify the adoption of 'lean construction' - pioneered in the 1990s - to improve construction design and planning reliability and coordination between trades. With construction projects adopting lean practices three times as likely to be ahead of schedule and two times more likely to be under budget (Lean Construction Institute), there's good reason to get started.

David Simpson, global product manager at Elecosoft, says: "Our customers are increasingly adopting last planner and lean principles. The benefits of fostering collaboration and driving accountability are reducing waste and avoiding unnecessary expenditure on rework.



Users can import project plans from master scheduling software like Powerproject or create a new master schedule to connect everyone involved with the overall objectives of the project

David Simpson, Elecosoft



"We are therefore pleased to support this trend by launching Asta Connect to provide a critical online gateway for multistakeholder collaboration while supporting the industry's shift towards lean principles.

"Asta Connect users can import project plans from master scheduling software like Powerproject or create a new master schedule within the Asta Connect programme to connect everyone involved with the overall objectives of the project.

"Digital whiteboards enable project stakeholders to visualise short-term works, improving workflow, generating buy-in from all project disciplines - and, being a digital platform, it provides key data insights to empower decision-making and support continuous learning and improvement."

Jonathan Hunter, CEO of Eleco, comments: "Customer centricity is core to our strategy and over three decades we have been working with the most experienced and talented construction planners in our industry to shape and develop our planning solution, Powerproject. Most of those experts use the name Asta when referring to Powerproject, which was the original company name prior to its acquisition by Eleco in 2006.

"2023 is a year that we celebrate nine years of being voted the best project management and planning software in the UK, and to demonstrate our attentiveness to customers as well as our portfolio approach, we have chosen to reintroduce the Asta brand with the release of Asta Connect." To find out more about Asta Connect, visit Asta Connect® – Collaborative Task

Management Tool - Elecosoft.



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Diary dates

Highlights of the CIOB Calendar for the coming month

Site visit: The new School of Physics, Engineering and Computer Science, University of Hertfordshire

▶ 7 June, 3-5pm, Hatfield Join CIOB Hemel on a tour of the new School of Physics, Engineering and Computer Science (SPECS) Building at the University of Hertfordshire.

This major project will result in the largest single building at the university, which is scheduled to open in the spring of 2024.

The striking, steel-framed building will extend over 15,000 sq m and is set over five floors. It will be grouped across four separate internal houses divided by a central atrium.

Modern methods of construction and offsite manufacturing will be utilised to deliver high-quality sustainable solutions.

The building is aiming for a BREEAM Excellent rating as part of the university's climate vision goals. This will include delivering on water reduction, biodiversity, carbon management and air quality commitments. Contact: pfrith@ciob.org.uk

Sustainable Leadership in Construction

8 June, 8.30-10am, Park Farm Hotel, Hethersett, Norfolk Join Professor Saul Humphrey FCIOB, who will be talking about sustainable leadership in the construction industry.

Good leadership is critical to the success of all organisations, but following the latest IPCC report, recognising and addressing leadership in the context of sustainability has never been more critical.

Understanding that the built environment is responsible for up to 43% of the UK's carbon footprint allows us to understand the problem.

Leading the sector to deliver more sustainable solutions can add value(s), avert climate disaster and enable purpose-driven solutions to benefit all. **Contact: sshort@ciob.org.uk**

Neighbourly Matters

20 June, 6.30-8.30pm Leyland Golf Club, Leyland This presentation is by Vince Rimmer of Propvisory chartered building surveyors, Lancashire. Neighbourly Matters is a specialist area of surveying practice involving the owners/ occupiers of adjoining or nearby properties. This deals with property rights and development works which impact neighbours.

An overview of more specific areas of practice will be discussed, including:

- access rights;
- boundary disputes;rights of light; and
- ngnts of light, and
 party wall matters.

Contact: byounis@ciob.org.uk

HS2 Curzon Street: Raising the safety bar

22 June, 1-2.30pm, Birmingham Join us as we combine a visit to the site of the first brand new intercity terminus station built in Britain since the 19th century with an overview of HS2's new health and safety strategy. For more details see Community, p51.

HS2 Curzon Street station will be net zero carbon in operation, with eco-friendly design and sustainable technologies. The railway aims to meet the highest health, safety and security standards.

This site visit will be run by HS2 Ltd and BBV. Steve Fink, HS2's head of HSE operations, will give an overview of the safety work. **Contact: gfloyd@ciob.org.uk**

Maidstone Tomorrow's Leaders Construction Karting Cup 2023 22 June, 6-9pm,

Sittingbourne, Kent This well-attended and popular competition is once again taking place at the Bayford Meadows Karting Circuit in Sittingbourne.

It is an ideal evening to network with colleagues while competing in a friendly (although hard-fought!) race on one of the country's premier outdoor floodlit kart circuits.

The event will commence with a drivers' instruction briefing at 6.30pm followed by the racing. There will be ample opportunity to network with your fellow racers in between races.

A meal will be served during the evening. Either individual entries or teams of three are very welcome.

Costs: kart – £250 (maximum three drivers); individual place – £85. The cost includes racing, the use of all safety equipment,

a meal and drink. The event is sponsored by Teampol, which has generously sponsored this event for five years.

Contact: blawrence@ciob.org.uk

For a full list of events and to register visit www.ciob.org/events.

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