MCALPINE’S RETAIL THERAPY
HOW THE CONSTRUCTION MANAGER OF THE YEAR REVAMPED A WEST END LANDMARK
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Contents

News
04 News in pictures
06 Data: JCB hits an all-time high
08 CIOB Code of Quality Management

Opinion
10 Priorities, practicalities and politics
CEO Caroline Gumble looks ahead
10 Charles Egbo on mental health
11 Feedback: Readers’ views

Construction Manager of the Year Awards
14 Overall Winner and Refurbishment & Fit Out
18 Residential Under 7 Storeys
20 Residential Over 7 Storeys
22 Restoration
24 Primary Education
26 Schools
28 Higher Education
30 Office
32 Public & Infrastructure
34 Healthcare
36 Leisure

Health & Safety
38 Mental health in construction
Tackling a crucial industry issue

BIM & Digital
44 Digital Construction Week 2019
What to see at this year’s show
48 Design drainage digitally
Using ACO’s QUAD software

CPD
50 How laser scanners work
Update your surveying skills

Legal
56 Defect disputes
Hochtief-Volker v Atkins

Community
58 Building control qualifications
59 Building Equality at Pride
61 Hereford Cyber Security Centre
63 Diary dates
64 Winvic at Rushden Lakes
65 UK Construction Week

Training & Recruitment
66 Mentoring CIOB members
An industry journey from Romania

Switchboard: +44 (0)20 7490 5595
Editor: Will Mann, 020 3865 1032
will.m@atompublishing.co.uk
Associate editor: Neil Gerrard, 020 3865 1031
neil@atompublishing.co.uk
Production editor: Sarah Cutforth
Art editor: Heather Rugeley
Community editor: Nicky Roger
Advertising manager: Dave Smith 0203 665 1029
Key account manager: Tom Peardon 0203 665 1030
Credit control: Eva Rugeley
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firstname@atompublishing.co.uk

Editorial advisory board
Mark Beard FCIOB, Ann Bentley, Ian Eggers, Peter Caplehorn, Harvey Francis, Professor Jacqui Glass FCIOB, Paul Morrell, James Pellatt, Nick Raysmford, Richard Saxon, Andy von Bradsky, Phil Wade

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B+K installs first modules at University of Football Business

Bowmer + Kirkland has craned the first of 438 offsite-manufactured modules into a new £54m student accommodation scheme in London’s Wembley. First Way Campus, a 678-bedroom student accommodation scheme, is being developed by Cole Waterhouse to provide accommodation for the University College of Football Business (UCFB) and Unite Student Living. The pre-manufactured modules, which make up the bedrooms, kitchens and corridors of the residential areas of the project, will continue to be lifted into place at a rate of six per day, with the last modules being installed by January 2020.

Barhale brings in PPE to 'support religious diversity'

Barhale subsidiary BCS Group has launched a range of culturally appropriate personal protective equipment (PPE) designed to support religious diversity, in what it claims is a UK first. The company says the collection of workwear, designed by Leo Workwear specifically for women, is recognition of the fact that women now make up 14% of the sector’s workforce. The new PPE includes culturally appropriate tunics, to allow women of all religions to feel comfortable at work, and maternity wear (pictured). The clothing has been trialled at Barhale.

Sisk uses block-lifting robots in European first

John Sisk & Son claims to have become the first contractor in Europe to introduce robotics to construction projects after investing €150,000 (£136,000) in a new type of lifting robot – but has insisted that it won’t replace human workers. The robot, known as a Material Unit Lift Enhancer (MULE), was developed by the New York-based company Construction Robotics. It is now operational at Sisk’s residential Wembley Park EOS site in London.
**NEWS**

**Hinkley Point C cuts lorry loads with new jetty**

The first shipload of material to be used in the construction of Hinkley Point C nuclear power station has docked after a 500m-long jetty at the site was declared fully operational. The MV Aastun, sailing from Bristol Port, was carrying 6,000 tonnes of sand. Each delivery is estimated to keep around 300 lorry loads off Somerset’s roads and client EDF Energy claimed that the use of ships will eliminate around 100,000 lorry loads over the lifetime of the jetty.

**Aecom builds 3D-printed graphene signalling arch**

Aecom has built a 3D-printed arch from a graphene-reinforced polymer, designed to bring down the cost associated with installing digital signalling systems on transport networks. The 4.5m-high arch sits over rail tracks and eliminates the need to attach new digital equipment to existing infrastructure. Aecom employees developed the technology to replace the traditional bolt and screws method of deploying digital systems in tunnels, which takes four shifts to install. The CNCTArch only takes one shift to install and doesn’t bolt to any existing infrastructure.

**News in quotes**

**“Bitterly disappointed”**

Scottish government health minister Jeane Freeman responded to news that an error in a 2012 NHS tender document has ended up delaying Multiplex’s £150m Edinburgh children’s hospital by a year, after problems with the ventilation system.

**“People respond differently to traumatic events”**

Andy Brierley, technical director of drainage and wastewater specialist Lanes Group, explained why supporting staff suffering from stress by employing a trauma risk management system used by the Royal Marines on the battlefield “makes huge sense”.

**“Rising their lives”**

The conclusion of University of Greenwich research which found high-rise construction workers aren’t taking evacuation alarms seriously enough. In trials, instead of heading for an exit, a third spent more than a minute finishing tasks.

**“This fire demonstrates the need for sprinklers in residential buildings”**

Jane Duncan, chair of the RIBA Expert Advisory Group on Fire Safety, renewed its call for sprinklers in all new residential buildings after a blaze destroyed a four-storey block of flats in London.

**The Art of Building 2020 is set to launch**

The 2020 edition of the CIOB’s annual Art of Building competition is open for entries on 28 October this year. Finalists will be announced on 16 December and winners revealed on 27 January 2020. A judges’ prize of £1,500 is awarded for the best photo, as well as another £1,500 prize for the best photo chosen in a public vote. Meanwhile, a limited run of 200 numbered copies of The Art of Building 2019 is set to be published next month, showcasing a collection of photographs submitted to last year’s competition.

To order a copy, go to: https://artofbuilding.org/book

**CONSTRUCTION MANAGER OCTOBER 2019 | 5**
Buyers report sharpest drop in new work for 10 years

Construction buyers reported the sharpest drop in new work for a decade in August, according to the latest figures from the IHS Markit/CIPS UK Construction Total Activity Index, which registered 45.0 in August (where 50.0 represents no change). Tim Moore, economics associate director at IHS Markit, said: “Domestic political uncertainty continued to hold back the UK construction sector in August, with survey respondents indicating that delays to spending decisions had contributed to the sharpest fall in new work for over 10 years.”

JCB’s market share hits all-time high

Construction equipment manufacturer JCB’s international market share has hit an all-time high of 18% in 2018, as it unveiled sales of £4.1bn, up 22% on the year before. Machine sales increased to 96,246 for the year, well above the 75,693 it sold in 2017. India remained JCB’s largest market during the year. The company has invested in a £65m factory in Gujarat, which is due to open in 2020. It is also investing £50m in a new factory to manufacture cabs for its machines in Uttoxeter, Staffordshire, which will open in autumn 2019. JCB has 22 factories around the world, including 11 in the UK.

News in numbers

£1.9bn
The total value of insurance claims accounted for by fire in the construction sector worldwide over the last five years, according to a study by Allianz Global Corporate & Specialty. It is the biggest cause of financial loss in insurance claims, at 27% of all claims.

£88bn
The size of HS2’s ballooning budget was revealed by transport minister Grant Shapps after a review by HS2 chairman Allan Cook. The first phase, between London and Birmingham, is likely to open up to five years later than planned, between 2028 and 2031.

1.4%
The size of profit margin achieved by Mace in 2018, as group turnover rose 19% on the year before to £2.35bn. Mace is targeting a margin of 2.5% by 2022 through innovation and a focus on engaging and inspiring its people.

£46.3m
The amount Shaylor Group owes to creditors, having fallen into administration in June this year. Unsecured creditors, which include trade creditors, who collectively claim to be owed £19.2m, are likely to receive nothing.
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“Quality, or rather the failure of quality, is arguably the most important issue facing the construction industry today”

Paul Nash, CIOB

CIOB launches Code of Quality Management

The Chartered Institute of Building (CIOB) has published its Code of Quality Management, which aims to provide a single point of information on construction quality management for construction professionals to improve quality.

The publication of the code follows nearly two years of work by the CIOB’s Construction Quality Commission, which was launched in response to a report into defects that led to the closure of a number of Edinburgh schools. The commission’s work was given a new urgency after the Grenfell Tower fire in June 2017.


The commission, led by a group of CIOB past presidents, worked with CIOB members and other industry organisations to identify the main issues either promoting or preventing the delivery of quality in construction.

Paul Nash, chairman of the commission (pictured), said: “Quality, or rather the failure of quality, is arguably the most important issue facing the construction industry today. Our research identified an underlying cultural issue in the industry. Quality was being sacrificed to achieve targets. I hope this document provides practitioners with the tools and processes needed to deliver quality on construction projects.”

Quality management course

The commission’s work also resulted in the launch of a course in Construction Quality Management last year. This is aimed at construction managers and looks at setting and meeting quality objectives and the relevant processes, legislation and compliance. There will also be a MOOC – a massive open online course – on quality, going live later this year, which will be free to construction industry professionals.

In addition to driving the Construction Quality Commission’s work forward, the CIOB also collaborated with the Royal Institute of British Architects (RIBA) and the Royal Institution of Chartered Surveyors (RICS) on the Building in Quality initiative last year, which includes a free-to-download digital tool, the Quality Tracker, designed to improve the quality of outcomes in the construction industry.

Caroline Gumble, CEO of the CIOB, said: “I’m delighted that the work of the commission has achieved so much and been such an important part of the necessary conversation around quality in our industry. In talking to members and partner organisations, I’m also pleased that there is a real collective appetite to continue driving forwards to raise standards, promote best practice and now implement the findings of the commission with this new code, with a real sense of urgency.”

The new Code of Quality Management is available to download as a pdf from the CIOB’s website.

CIOB backs call for infrastructure to support new homes

The way housing and infrastructure are delivered needs to be more aligned and strategic if the government is to deliver on its housebuilding programme. That was the key recommendation of a new report from the Institute of Civil Engineers (ICE) launched in September, which was also supported by the Chartered Institute of Building (CIOB).

The ICE’s annual State of the Nation report makes a total of 10 recommendations which it believes will help bring the two sectors together. They include the creation of regional infrastructure strategies across England to better ensure effective integration of infrastructure and housing planning across boundaries at local, regional and national levels.

The report also suggests the government should amend the Development Consent Order process to enable larger-scale housing developments to be built. And it recommends that the next National Infrastructure Assessment should identify options for futureproofing new and existing housing stock to ensure suitability for the future.

In particular, it advises of the potential to consider how housing and infrastructure can be delivered to reach the net zero carbon targets, while taking full advantage of appropriate technological advancements.

ICE vice-president Rachel Skinner, chair of the report’s steering group, said: “ICE’s State of the Nation 2019 report comprehensively assesses the ways in which we can better deliver infrastructure and housing in a coordinated and integrated way, which will have long-term benefits for communities throughout the country.”

CIOB CEO Caroline Gumble said: “The idea of the development of integrated regional infrastructure strategies, which include the planning and construction of new housing, could prove to be an important tool in ensuring that government meets its commitment to increase the number of homes available across the country.”
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Priorities, practicalities and politics

RESOURCING CHALLENGES, BREXIT UNCERTAINTY, NEW PAYMENT PRACTICES AND VAT CHANGES – IT’S A BUSY TIME FOR THE INDUSTRY AND THE INSTITUTE, WRITES CAROLINE GUMBLE

The last two months as CIOB CEO have flown by. As you may have read in my first CIOB blog, I can see that this is an organisation with real purpose that affects and will continue to affect the lives of every person who lives and works within a built environment.

It’s been a planned whirlwind in the last few weeks. I made it a priority to understand our membership, what they require from us and the priorities for the sector during the busiest time in the UK’s recent political history. Getting up

Beware Brexit’s impact on mental health

In an industry already suffering from stress, construction businesses should be supportive environments to help staff cope with uncertain times, writes Charles Egbu

Given the current fluidity in our political environment, especially regarding Brexit and implications for businesses, this is likely to impact on staff morale, engagement, stress and anxiety. It is important construction leaders and managers are aware of this and put in place appropriate communication strategies and supportive environments to minimise the impact on staff.

This could include counselling services, mindfulness training, flexible working or time off at work. Many progressive construction businesses are placing workplace wellness at the core of their business, and duly recognising the importance of their staff (see page 38).

But others need to improve the level and quality of training and awareness initiatives that exist in the general area of mental health. This includes training and educating staff on the availability of mental health programmes and signposting – confidentially and respectfully – where they can find support.

A “coaching approach” helps to foster an environment and culture of trust and openness between managers and employees.

Staff can then speak and discuss their issues, worries and levels of stress in a supportive, confidential and respectful environment. Organisations should also continuously monitor how well their initiatives are working – and celebrate the success stories – but be open to learning from other good practices.

The CIOB’s recently launched survey will help us understand the key mental health challenges that construction managers currently face. In particular, it will allow us to:

● Understand how mental health impacts different sectors of our industry, so we can offer targeted guidance and support.
● Learn what initiatives are in place and which are having the most impact. This can help us create useful guidance for other managers.

● Develop appropriate training and education that addresses the key issues around mental health, allowing organisations to prioritise and allocate resources effectively.
● Share good practices, case studies and useful resources for the benefit of the whole industry.

There won’t be a single solution that addresses all mental health issues, but those who share their experiences through the CIOB’s survey will help others who suffer – from day-to-day industry stresses or the increasing anxiety caused by Brexit.

Take the CIOB mental health survey here: https://mentalhealth2019.questionpro.com

Charles Egbu is pro vice-chancellor at the University of East London and president of the CIOB.
Caroline Gumble is CEO of the CIOB.

“...institute that can help members navigate their projects and businesses through somewhat uncertain waters”

From a number of members that the constant responsibility to be aware of where your business is, where it needs to be and what you need to do to get there is trickier now than ever. Managing an SME requires a combination of leadership and being a team player – you have to know finance, HR, health and safety, marketing and so on. This is in addition to your particular area of professional expertise. Not unique to construction, true, but perhaps more acutely felt in our industry than most, as site work and office work are quite the contrast. Mike Smith, MD of Corniche Construction, and CIOB president-elect Mark Beard, plus his team from Beard, have hosted company visits to help me understand the sector from their perspective.

Also, Brexit is undoubtedly causing uncertainty, as Chris Soffe, CEO of Gleeds Americas and CIOB immediate past president, said earlier this year in CM. The institute believes the best course of action for businesses is to focus on the practical challenges: better recruiting into the industry; paying attention to due diligence; risks across the supply chain; keeping up-to-date on government advice and changes to legislation. Not to mention keeping on top of payment practices requirements and proposed changes to VAT rules.

I thank all members and stakeholders I have engaged with so far for their support and insight. I do not underestimate the importance of the support network CIOB membership facilitates.

There’s a lot to do and this is just the start. Watch this space.

Caroline Gumble is CEO of the CIOB.

CONSTRUCTION MANAGER OCTOBER 2019 | 11
Water Management
Advanced Manufacturing Building | University of Nottingham

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WE KEEP WATER MOVING
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Creating for the Future

Nottinghamshire is steeped in manufacturing history. Home to the invention of the knitting frame by William Lee in 1589, an invention which provided a solution for factories to produce fabric more quickly and efficiently. While the accidental discovery of tarmac by Edgar Purnell Hooley, patented in 1902 brought people to central Nottingham on the stronger, smoother roads. A much improved travel experience for all who used them.

The University of Nottingham continues this tradition, investing in research for manufacturing processes to meet the challenges of the future. The Advanced Manufacturing Building provides a specially designed space, a challenging city centre site constrained by roads and rivers.

The surrounding roads bring researchers from throughout the world, collaborating inside the specialist facilities. Swiftly removing surface water, ACO KerbDrain keeps the roads running efficiently, while discreet slot drainage surrounds the fountains outside ensuring pathways remain clear. Like the researchers inside, they work tirelessly meeting the requirements of their demanding roles.

We worked in the engineering to make the journey smoother. We know the difference it makes.

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Construction Manager of the Year Awards 2019

Sir Robert McAlpine’s Joseph McNeil is Construction Manager of the Year for 2019, in his first Project Manager role, after turning around a high-profile shopping development in London’s West End. It means a double celebration for the famous old company, which is also celebrating its 150th birthday. CM reports on all this year’s winners.

MCALPINE’S RETAIL THERAPY ON OXFORD STREET

Sir Robert McAlpine’s Joseph McNeil is Construction Manager of the Year for 2019, in his first project manager role, after turning around a high-profile shopping development in London’s West End. It means a double celebration for the famous old company, which is also celebrating its 150th birthday. CM reports on all this year’s winners.

Above: Sir Robert McAlpine’s retail refurbishment at The Plaza, Oxford Street, London.
Joseph McNeil MCIOB
Construction Manager of the Year 2019
Gold winner Refurbishment & Fit Out
Sir Robert McAlpine

Project: 120 Oxford Street, London
Scope: Structural reconfiguration and refurbishment of part-occupied five-storey building
Programme: 82 weeks
Client: Sirosa
Contract: JCT 2011, with CDP
Value: £10m

Sir Robert McAlpine marks its 150th anniversary by taking the coveted Construction Manager of the Year award for 2019 – after its project manager on a London shopping centre, in his first major role, successfully delivered a scheme which the company hadn’t been expecting to build.

The contractor’s original bid for The Plaza, a retail refurbishment on Oxford Street, was passed over in favour of a rival who had priced more keenly. But after the rival went into administration, just two weeks after starting on site, McAlpine was offered the job instead.

Joseph McNeil took on his first role as project manager without any prior knowledge of the scheme. With the lower three storeys of the building vacated, the hoardings up and the client keen to get the works restarted as fast as possible, he mobilised his team and got the early works packages moving.

McNeil challenged the demolition methodology – in a building that had sensitive neighbours as well as remaining tenants – of diamond saw cutting without percussive breaking. His proposal to use hydraulic crunching instead achieved substantial programme and cost benefits, as well as low levels of noise, and allowed a contract agreement to be finalised.

Another early challenge was managing an incoming tenant’s requirements, which conflicted with the specification for the screeding. McNeil’s proposal of a mix of repair works, levelling compounds and new screeds – backed up by independent consultant’s testing of which existing screeds could be retained – represented a significant saving on the tenant’s original request for the removal and replacement of all existing screeds. It also accelerated the programme, allowing for earlier unit completion and tenant occupation.

Working with his supply chain, McNeil was able to offer improvements on the design team’s proposals. The most significant was for the reconfiguration of the building’s main power supplies to feed the new retail units: by reusing some elements of the existing low-voltage...
Refurbishment & Fit Out

Not many construction managers get the chance to install an exact replica of a 3,500-year-old pharaoh’s tomb. But that was just one of Graham Leigh’s technical feats on this museum refurbishment that went so well that the client granted this local boy the accolade of hanging his portrait permanently in its gallery of Bolton legends, alongside boxer Amir Khan and footballer Nat Lofthouse.

On a 1930s building with a leaky roof, his value engineering included reducing spend on air-handling units by creating thermal models to identify where existing units could be left in place and where new ones needed to be installed.

Another major saving was on the roof, where 326 glass skylight panels had numerous cracks where water seeped through. Realising some panels had been deliberately blocked as some rooms below needed to be dark store spaces, Leigh fitted slates over these areas, keeping the project within budget while pleasing the planners.

For the pharaoh, Leigh hung the 3.5m replica from a suspended ceiling using structural wires, following extensive weight and deflection testing to ensure the ceiling was not overloaded.

Infrastructure (switchboards, isolators and cable runs), he reduced the scope of the new works and saved costs.

The direct benefit the power solution brought the client fostered a relationship of trust and was one of the drivers for the extensive contract growth (over £3m in variations). Combined with defect and snag-free delivery on time and on budget, it has also resulted in McNeil’s appointment as leader of a team to deliver further opportunities for the client.

Graham Leigh MCIOB
Construction manager
Willmott Dixon

Project: Bolton Central Library Museum
Scope: Upgrade of roof and creation of new exhibition spaces
Programme: 60 weeks
Client: Bolton Metropolitan Borough Council
Contract: NEC option A
Value: £5m

Other finalists
Rob Brown MCIOB
Willmott Dixon Interiors, Imperial College Library Building, London

Joe Hacke
Rise Management Consulting, Royal Opera House, Covent Garden

Ronan McGrath MCIOB
mac-group, River House, Belfast

Alex Mastroddi
ISG Construction, Moss Side Leisure Centre and Library, Manchester

Philip O’Brien MCIOB
Willmott Dixon Interiors, Twickenham East Stand Development

David Packham MCIOB
BAM Construct UK, Coal Drops Yard, King’s Cross
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Andrew Connell, Project Manager, Energize Electrical Services Ltd

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**Project:** NICAD  
**Location:** Newcastle  
**Architect:** GSS Architecture  
**Approved contractor:** Chemples Ltd  
**PV installer:** Energize Electrical Services Ltd

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Residential Under 7 Storeys

James Howlett’s achievement on this complex four-storey residential build was rooted in the technical design.

Despite the constraints of the Channel Tunnel rail link and water utility infrastructure below the site, an overground railway running just 3m away from the works, steep slopes and a nature conservancy designation, he found innovative ways to deliver.

Howlett used load tests to identify how to build a 150m-long block safely just 4m above the railway tunnel. The technical solution, which made the project viable, was new to Telford Homes: a lightweight steel frame on a concrete raft foundation that eliminated soil movement near the tunnels. The steel frame also required a shorter programme than traditional concrete.

Logistics management was also key, with tower cranes not an option due to the proximity of the railway and the weight they would impose on the Eurostar tunnels. On the long and narrow site, Howlett coordinated mobile cranes, deliveries and services to avoid site paralysis, despite having a single access point onto a busy road.

Carl Brierley’s innovations on this residential development of a five-storey and an eight-storey block began with preconstruction, where he used BIM to re-engineer the structural slabs across all floors. Reducing slab depths cut the amount of concrete used by 10% and decreased the rebar by 40%. He eliminated over 2,000 lorry trips by crushing and reusing spoil on site.

Brierley changed the west-to-east envelope construction to a vertical wrap, with weather protection across the floorplates to achieve rapid watertightness and release the internal fit out. His mitigation ultimately brought project completion on time. All this despite losing five weeks of lost hook time at the start due to a faulty jib.

Other finalists
Ryan McShane MCIOB
McAleer and Rushe, Isambard Court (Block E) & Durham Wharf Drive (Block F), Brentford
Daren Milne MCIOB
McCarthy & Stone Retirement Lifestyles, Augustus House, Virginia Water
Rori Williams
WRW Construction, Gaer, Newport

Category presented by Anja Meinhardt, artistic director, Justice in Motion
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NHBC House, Davy Avenue, Knowhill, Milton Keynes, Bucks MK5 8FP.
Residential over 7 storeys

Richard Ingram MCIOB
Project manager
Watkin Jones

Project: Exchange, Bridge Street, Cardiff
Scope: Construction of 27-storey tower block with 477 student apartments
Programme: 94 weeks
Client: AIG
Contract: JCT D&B 2015 with amendments
Value: £39m

Richard Ingram had 12 years under his belt working on residential towers, but this 27-floor scheme was by far the biggest thing he had ever built.

Besides the 90m height of the 477-bed development, other challenges included managing logistics on the landlocked site and a project team 140-strong at its peak.

On the concrete frame, Ingram realised the contractor’s traditional build strategy of pouring a slab, sitting the vertical elements on top, then pouring the next slab was fine for a lengthy programme on a low-height building with an envelope infill system – but not for this tall building with unitised facade. He appointed a new contractor able to build jumpform, with its fast core-and-slab construction.

For the curtain wall, Ingram appointed a Croatian contractor, after being impressed with its previous schemes on a visit to Zagreb. The offsite-manufactured cladding, with insulation prefitted, was installed from inside using a spider crane as panels arrived on site. This accelerated fit out, contributing to an estimated five-month reduction in programme.

Paul McGibbon had to build this 106m tall residential tower on a footprint entirely filling the site, cheek-by-jowl with railways, busy roads and two other projects on adjacent sites.

He had to manage several setbacks – the first when the foundations failed. With 450mm CFA piles chosen for the foundations on problematic ground, the pile breakdown operation revealed necking and soft cores all the way down, and half the piles failed subsequent design load tests.

It left him with little option but to discard the work that had already been done, install 1,050mm piles, and revert to a full raft foundation, incurring a nine-month delay.

Another issue was a crane leak spattering mineral oil over two facades of installed cladding, requiring replacement of all mastic joints to the precast columns.

McGibbon worked through these challenges and introduced innovation such as slipforming the core, because of limited storage on site, which allowed the single tower crane to be installed on the roof rather than being jacked up through the building.

Other finalists
Anthony Blackledge MCIOB
Mace, Victory Plaza, Stratford
Gerald Ward MCIOB
Bennett Construction, FiftySeven East Kingsland, London
Mark Wolverson MCIOB
Willmott Dixon Construction, Gateshead Heights, Harlow Green
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Restoration

★ Jason Hartnell MCIOB
Project lead
Kier Construction

Project: Middlesbrough Town Hall
Scope: Refurbishment of Grade II-listed building
Programme: 68 weeks
Client: Middlesbrough Council
Contract: JCT
Value: £7m

Jason Hartnell's innovations at Middlesbrough Town Hall began before the build phase, where he identified £400,000 of savings needed to take the project forward.

Hartnell’s full survey of the building found huge quantities of materials that could be salvaged for reuse, including mahogany feature panels, hardwood skirting boards, floorboards and doors, all of which had been down for replacement.

Surveying the existing slate roofs, which were to be replaced with new and reclaimed slates, he noticed that nearly all of them were still in good condition and if removed carefully could be reused.

The ornate steel structural beams were also due for replacement, but loading tests organised by Hartnell proved they would be fit for purpose if retained, saving time and cost.

Under the carpet in the back of house areas, Hartnell found old terrazzo floor tiles, which he recommended refurbishing rather than laying down new carpet – providing commercial savings and retaining existing features.

Hartnell not only brought the works within the budget scope, he also brought in on time a project that was at one point 11 weeks late.

Anthony Dowling’s refurbishment of this listed theatre got off to an inauspicious start, with the discovery during the enabling works of far more extensive asbestos than originally supposed. Used as sound and fire insulation in the former BBC studios, the asbestos strip took almost a year.

Dowling used the time improving buildability for the main works. He also had to organise an archaeological investigation, after the original palace foundations were discovered, plus a redesign of the floor support structure.

Another headache was bringing the project within budget, which required shrewd value engineering. He rejected a costly temporary roof, instead installing a sacrificial single-ply membrane over the original felt to provide a dry environment for repairs below. He also replaced 1,900 sq m of brick paving for the east court with polished concrete.

When several roof trusses were found to be rotten, he mitigated the delay that propping the trusses would have caused by installing the permanent structural steelwork already designed for the timber node points. He then had the rest of the steels manufactured and installed, allowing critical activities inside the building to continue.
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Primary Education

**Steve Laughton MCIOB**  
Project manager  
ISG Construction

**Project:** Wynyard C of E Primary School, Billingham, Teesside  
**Scope:** Construction of 2,300 sq m two-storey school  
**Programme:** 52 weeks  
**Client:** ESFA/Church of England Trust  
**Contract:** JCT D&B  
**Value:** £5m

Land deal delays pushed the site start back to the middle of January on this school project, so Steve Laughton had to spend the winter months organising a major cut and fill on a sloping site, plus waterproofing and groundwater management.

By maintaining the land drains from previous site use and forming the attenuation swales within the bulk earthworks programme, he soon had a dry and workable site. Laughton also brought forward the sports field and landscaping in the programme to prevent the site becoming muck-bound.

Clever savings he identified included testing the cut formation of the access road which allowed a reduction in its stone fill buildup. He also sequenced the temporary works so he could reuse the crane mat and site access ramp to form the footpaths around the buildings.

With the original design creating an unnecessarily large void in the basement, Laughton took 12m out of the retaining wall by running it in a straight line. The materials savings generated from this paid for installing a floor slab, drainage and perimeter in the area, creating an additional internal space.

He delivered the school two weeks ahead of the contract programme, in line with the budget, and with zero defects.

**Other finalists**  
Peter Adams MCIOB  
Jerram Falkus Construction, Hounslow Town Primary School, London

Warren Hough MCIOB  
ISG Construction, Beaver Road Primary School, Didsbury, Manchester

Matthew Lewis MCIOB  
Kier Construction, Penygarn Primary School, Pontypool

Andy Lock MCIOB  
BAM Construct UK, St Mary Magdalen C of E School, Greenwich Peninsula Campus, London

Adam Walker MCIOB  
ISG Construction, Hunslet Moor Primary School, Leeds

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**David Boyle**  
Project manager  
Morgan Sindall Construction

**Project:** St Nicholas’ Primary School, Bearsden, Glasgow  
**Scope:** Construction of 450-pupil school  
**Programme:** 94 weeks  
**Client:** East Dunbartonshire Council  
**Contract:** Bespoke D&B for public-private joint venture  
**Value:** £9m

Boyle avoided night working for the powerfloat finishing of the concrete floor slabs by using a new free-flowing, self-compacting concrete product, therefore eliminating the need for noise management in a residential area.

Once on site, his innovations included diverting the telecoms and electricity cables running under the site during school holidays to avoid disruption to the existing school.

Boyle had to deal with a change in Scottish building control requirements, which caused a seven-week delay while he brokered an agreement for building warrants.

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Once on site, his innovations included diverting the telecoms and electricity cables running under the site during school holidays to avoid disruption to the existing school.
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Photo by Jack Hardy Photography
CONSTRUCTION MANAGER OF THE YEAR AWARDS

Schools

Andy Pritchard MCIOB
Construction manager
Willmott Dixon

Project: Woodmansterne School, London
Scope: Construction of four-storey block
Programme: 68 weeks
Client: Lambeth Borough Council
Contract: JCT 2011 D&B
Value: £21m

Andy Pritchard delivered this new-build block eight weeks early, 10% faster than the contractor’s benchmark, defect-free and with a very young team.

With some pupils in temporary accommodation, he split the programme into seven sectional completions to allow the school a phased move into the new building. Every sectional completion was achieved on time or early, and all were defect-free.

Pritchard’s temporary waterproofing strategy allowed the internal works to start early, with the drylining complete and the M&E installed on the ground floor by the time the concrete was being poured for the fourth floor roof.

More time was gained by his redesign of the concrete frame to introduce precast columns, twin wall and staircase. Use of roll-out reinforcement mesh for the slab reduced the number of steel fixers needed from 10 to two and further shrank the programme.

At 33, Pritchard was the eldest of his team, who toured other Willmott Dixon sites to borrow best practice ideas. These included the “plot production method”, common in hotels and housing: tracking work items by trade, room by room, so that any errors are flushed out before they spread through the project.

Kevin Knight MCIOB
Senior project manager
Kier Construction

Project: Maria Fidelis School FCJ, London
Scope: Construction of 1,000-pupil replacement school
Programme: 132 weeks
Client: Education Funding Agency
Contract: Contractor framework D&B
Value: £25m

Kevin Knight employed great technical ingenuity on this merger of split-site upper and lower schools into a replacement building on an expanded upper school site.

Besides the logistics challenge of the site’s tight boundaries, there were also restrictions below ground, with concrete piles ruled out to leave enough clearance for the Crossrail station and tunnels under construction below the site.

Knight’s solution, which minimised disruption to the existing made ground, was to build the school on a concrete raft on top of 1,500 crushed stone pillars. The strategy integrated shallower pad foundations into the thickness of the raft slab and reduced the amount of material that had to be excavated.

Another of his initiatives speeded up the frame installation by using precast concrete columns and walls. It reduced programme and concrete deliveries.

Knight’s stakeholder engagement strategy involved robust noise, dust and vibration monitoring stations, with noisy works reduced or suspended at agreed times. When the school was unhappy with the decant, due to a lack of outside space while the existing upper school was demolished, Knight resequenced the works.

Other finalists
Rhodri Bowen MCIOB
Willmott Dixon Construction, Ysgol Caer Elen, Haverfordwest

Jerome Curran MCIOB
Farrans Construction, Chichester Free School

Atholl McKay MCIOB
Balfour Beatty, Lochside Academy, Aberdeen

Mike O’Dell MCIOB
Mid Group, Robert Clack School, Dagenham

Dwayne Rice MCIOB
Farrans Construction, Marjory Kinnon School, Bedfont
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Higher Education

★ Rob Cooper  
Project leader  
Laing O’Rourke

Project: The Beecroft Building, Oxford University  
Scope: Construction of 10-storey (five below ground) science building  
Programme: 129 weeks  
Client: Oxford University  
Contract: JCT  
Value: £44m

In a high-profile site opposite the Grade I-listed Keble College Chapel, Rob Cooper sank a 10-storey tower clad in bronze, glass and copper halfway into the earth so that physicists could probe the most basic properties of nature.

With five storeys of basement, extending 17m down, Cooper had to construct structurally isolated “black box” lab spaces. The highly serviced labs have to allow temperature control to a tolerance of +/-0.1 degrees, plus observe stringent vibration isolation criteria for nano-scale experiments. Throughout the project, Cooper had to undertake vibration tests at agreed hold points with a specialist.

Cooper’s clever value engineering helped achieve the cost plan. He changed the main balustrade material from solid oak to solid tulipwood, staining it to achieve the desired effect.

Six months before handover, the joinery supplier’s factory burned to the ground, along with timber items for the project. To help get the factory back up and running, Cooper brought his supply chain in to help so the scheme was able to reduce the time lost to just three months. He finished on time and on budget.

★ Nick White MCIOB  
Project manager  
Wates Construction

Project: National Horizons Centre, Teesside University  
Scope: Construction of three-storey science facility, completed in 55 weeks  
Client: Teesside University  
Contract: JCT 2016 D&B  
Value: £11m

The planned removal of vast quantities of earth contaminated by Japanese knotweed threatened to stall this biosciences research centre build, until Nick White made a radical proposal: reuse the soil as structural material.

After discussions with the Environment Agency and the designers, this approach resulted in £400,000 of savings, with all contaminated material kept on site, and the contract starting on time and within budget.

Other efficiencies identified by White included prefabricating the main elements of the bespoke cantilevered overhang roof, cutting down on high-level welding and support systems. He reduced site cutting and wastage in making brick panels by producing a schedule to get as many cuts as possible from full-length bricks, forming the panels off site and delivering them on a pallet – reducing brick wastage to below 2% compared with an anticipated 15%, while improving quality and safety.

The project was 100% bespoke, with highly specific M&E setup and extensive fit-out coordination required for purified water, specialist lab gases, gas production facilities and lab pressure dependencies, a package totalling £6.5m. White handed over this challenging project defect-free within a budget that he had made achievable.

Other finalists
Simon Allen ICIOB  
Mace, The Student Centre, University College London  
Tony Fitzgerald MCIOB  
Morgan Sindall Construction, Collaborative Teaching Laboratory, University of Birmingham  
Nick McQuaid MCIOB  
Bowmer and Kirkland, Waterside Campus, University of Northampton  
Howard Monsen MCIOB  
Kier Construction, IQ Building, University of Wales
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Office

Nicholas Donovan MCIOB
Project manager
Kier Construction

Project: 33 Foley Street, Fitzrovia, London
Scope: Remodelling of office, construction of additional floor and two-storey rear extension, plus fit-out of four floors
Programme: 86 weeks
Client: Kier Property
Contract: JC T D&B
Value: £17m

An important early win for Nick Donovan on this office cut-and-carve was negotiating with the council a full pavement closure to accommodate a scaffold gantry during the entire build. This saved weeks in the demolition programme, as well as being the safest option. The original plan to remove 75% of the internal structure looked like blowing the budget, so Donovan rationalised the structural alterations to reduce the demolition.

He brought the steelwork contractor to site to discuss concerns flagged up after the strip-out works, which showed the design team’s assumptions did not match up with reality. Existing metal decks were at differing heights, requiring new floor-slab connection points to the precast lift shaft. The design was amended to change column locations, deck orientation and the connection details.

Donovan also spotted that manufacturer lift specifications were potentially overgenerous. By identifying a more space-efficient cabin and downsizing the shaft he added 18 sq ft per floor – a 2% increase in lettable space.

Graham Mercer was faced with substantial technical complexities on this major refurbishment on London’s “Silicon Roundabout”. These included extending the floor plate on two sides, building three new storeys, forming two new lift shafts and refurbishing the four existing shafts, and replacing the cladding.

When time was lost through client variations, Mercer innovated to regain programme. He designed the cladding to allow temporary waterproofing to the perimeter, so fire-stopping and acoustic barriers could be installed before the project was watertight, and constructed bunds over floor service openings so that fit-out could progress without risk of water damage from above.

His replacement of the intended stick-based cladding with a unitised version speeded up the construction programme and laid down a guaranteed date for releasing the toilet fit-out without additional scaffolding.

Mercer also encouraged his team to come up with ideas. These increased the net floor area by extending the perimeter glazing out from the slab edge, changing boarded structure finishes to skim finishes, and making the drylining hug the ductwork.

Other finalists
Daniel Anderson MCIOB
Structure Tone, London Fruit & Wool Exchange

Andy Clark MCIOB
Brymor Construction, Guildford Business Park Unit 2

Andrew James MCIOB
McLaren Construction, New Bracken House, London

Nick Moore MCIOB
Mace, 70 St. Mary Axe, London

Gareth Williams MCIOB
Willmott Dixon Construction, Aurora Building, Bristol
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Public & Infrastructure

★ Martin Middleton MCIOB
Construction manager
Willmott Dixon
Construction

Project: Lancashire Constabulary
West Division HQ, Blackpool
Scope: Construction of police HQ
with 42-cell custody suite
Programme: 80 weeks
Client: Lancashire Constabulary
Estates
Contract: NEC, option A
Value: £25m

Martin Middleton delivered an
impressive £400,000 budget reduction
on this two-block police HQ thanks mainly
to a clever materials management plan.
He decided to build the 42-cell block
off site in precast reinforced concrete
to give greater certainty on costs and
time, then ditched the original plan to
evacuate and construct a new car park
from scratch, instead building it up
from the existing surface, crushing and
reusing all underground obstructions.
This avoided the hefty cost of trucking
25,000 tonnes of waste off site and
bringing in new aggregate.
Further saving came from jettisoning
the architect’s use of natural
ventilation, an expensive feature. After
consulting with the client, Middleton
specified opening windows instead.
He also changed specification to
deliver the complex facade, with angular
forms originally intended to be precast
concrete. Pointing out that concrete was
extremely heavy, Middleton suggested
kitchen worktop mainstay Corian: it
could be formed into complex shapes,
was hard-wearing but easy to repair, and
could be installed as thin rainscreen.

Other finalists
Brian Amos MCIOB
ISG Construction,
Public Realm,
Central Square,
Cardiff
Simon Burkitt
MCIOB
Galliford Try,
Aircraft/Amphibious
Vehicle Escape &
Survival (AAVUEST)
Training Facility,
Yeovilton
Kenny Hale MCIOB
Beard Construction,
The Science
Oxford Centre &
Wood Centre for
Innovation
Astrit Hoxha MCIOB
Telford Homes,
Bow Garden Square,
London
Jason Hunt MCIOB
Galliford Try,
AIWC, Bristol
Nigel Johnston
MCIOB
Fabrite Engineering,
104 Paper Storage
Building, Imperial
War Museum,
Duxford
Dermot Parkinson
MCIOB
BAM Construct UK,
UK Hydrographic
Office, Taunton
Tony Richards
MCIOB
BAM Construct UK,
AB Dynamics,
Bradford on Avon
Colin Tilley
Willmott Dixon
Construction,
Birchin Way
Custody Facility,
Grimsby
Louis Whittington
Morgan Sindall
Construction,
Ramsgate Fire
Station

★ Jason Bowen MCIOB
Senior site manager
Kier Construction

Project: Trago Mills, Merthyr
Tydfil, South Wales
Scope: Construction of
warehouse and retail store
Programme: 80 weeks
Client: Trago Mills
Contract: JCT 2011 D&B
Value: £40m

On this project to construct the largest
single retail unit in Wales, with a linked
warehouse, Jason Bowen’s project
management skills were given a
stern test.
His value engineering of a project
£2m over budget at concept design
stage achieved the client’s financial
goals without compromising the
scheme. Changes to the air handling
units and associated pipework took
£1m out of the services cost, while the
masonry construction of the three
showpiece towers was replaced with
a steel frame clad in 20m-tall fibreglass
panels fabricated off site.
But his biggest call was calling a halt
to the flooring works, five weeks before
completion, because of fumes and vapour
coming from the installation operations
of the resin flooring specialist.
In the ensuing five-day stoppage,
Jason Bowen identified that the health
and safety data provided for the resin
was incorrect, reviewed the rapidly
supplied correct data, and addressed the
safety concerns by installing temporary
ventilation in the areas being laid and
by monitoring toxic gas levels.
Having resequenced other areas
during the downtime, he was then able
to have the resin floor completed on
time as well as safely.
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**Healthcare**

★ Matt Davis MCIOB
Project manager
Kier Construction

**Project:** The Greenwood Centre, Kentish Town
**Scope:** Construction of 3,600 sq m adult social care centre
**Programme:** 99 weeks
**Client:** London Borough of Camden
**Contract:** JCT 2011 D&B, with amendments
**Value:** £17m

Matt Davis was working on his first concrete frame and his first basement construction with this three-storey social care centre. He made the project deliverable by taking £1.5m out of the over-budget cost plan. A planned hydrotherapy pool in the basement was scrapped, reducing the basement size and taking £1m out of the build costs, while removing a major risk to party walls and existing buildings. Extending one of the lifts into the reduced basement allowed him to remove one lift altogether.

Following longer than expected groundworks, which delayed the basement, Davis began the internal fit of the social care centre’s other wing earlier, allowing more time for the basement. This move prevented the programme slipping back five weeks.

Throughout, he had to work within a footprint so tight the bricks were double- and even triple-handled due to lack of laydown space. Daily co-ordination meetings, online delivery booking and careful allocation of tower crane and hoist time got the project through, on time as well as on budget.

★ Jonathan Cottrell MCIOB
Project lead
Skanska

**Project:** Intensive Care Unit, Walsall Manor Hospital, West Midlands
**Scope:** Construction of 18-bed critical care unit
**Programme:** 88 weeks
**Client:** Walsall Healthcare NHS Trust
**Contract:** D&B
**Value:** £7m

Jonathan Cottrell project-managed this 18-bed critical care unit, part of a larger PFI contract, next to the hospital’s A&E department.

The 700 sq m refurbishment combined with a 500 sq m new-build had a lengthy list of stakeholders – ward manager, the nursing team, microbiologists, the infection control team – who had to be consulted during design development and construction delivery. Cottrell coordinated the design through workshops and used BIM to detect potential service clashes.

His value engineering included replacing external access to the new plant room with internal access via the existing plant room. He also optimised the thermal envelope and M&E plant to reduce energy demand.

He avoided disrupting the hospital’s day-to-day activities by implementing noise, dust and vibration controls, and regularly liaising with the stakeholders. And he laid down a strict inspection and sign-off regime for all finishes and services, with built-in hold points and the use of tablets to record inspections.

Cottrell’s careful planning ensured successful integration of the delivery, installation and commissioning of the specialist medical equipment.

**Silver**

Other finalists
Nadeem Chaudhry
Kier Construction, Emergency Assessment Centre, Wexham Park Hospital, Slough

Damon Cutler MCIOB
Wates Construction, The Quadram Institute, Norwich

Jamie Jackson
Vinci Construction, Phase 8 Development, Burnley General Teaching Hospital

Matthew Littlewood MCIOB
Willmott Dixon Construction, Sterile Services Department, Royal Liverpool and Broadgreen Hospital

Daniel Marsh MCIOB
BAM Construct UK, The Intra-operative MRI/Hybrid Cardiac Theatre (MRIHCT), Leeds General Infirmary

Category presented by Caroline Gumble, CIOB chief executive
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Leisure

🌟 Nick Preedy MCIOB
Construction manager
Willmott Dixon
Construction

Project: Sports and Wellness Hub, University of Warwick
Scope: Construction of 1,550 sq m leisure centre
Programme: 86 weeks
Client: University of Warwick
Contract: NEC 3
Value: £37m

Nick Preedy’s testing technical challenges on this Coventry leisure centre included installing a 17m-high climbing wall, coordinating a large steel frame, managing complex roof interfaces with three different products and seven different levels. He had to lay five different types of gym flooring to allow for varying activities while maintaining the visual cohesion of the whole floor, and build a 25m-long 12-lane swimming pool 5m above ground.

Preedy redesigned the groundworks to get the cut and fill balance right. Although his design involved moving 40,000 cu m of material, repositioning a precast retaining wall with no impact on internal spatial sizing resulted in zero waste leaving the site and saved £1m.

With the contract sum still £250,000 over budget, he substituted a more cost-effective solution for the original design of steel-supported precast planks on the upper floors. Changing the floors to metal decking meant adding extra support beams but the total weight reduction allowed for a lighter frame. It also speeded up the steel erection, which was completed five weeks earlier than estimated.

🌟 Oliver Caunt MCIOB
Construction manager
Willmott Dixon
Construction

Project: Village Urban Resort, Bristol
Scope: Construction of five-storey, 153-bedroom hotel and leisure club
Programme: 63 weeks
Client: Village Hotel Club
Contract: JCT D&B
Value: £21m

On this hotel project, Oliver Caunt faced a squeezed programme, when the client asked for a two-week reduction so it could open the gym, while another six weeks were lost to bad weather, where high winds imposed 186 hours of crane downtime.

Caunt raised plot productivity by driving efficiencies between trades. He ditched the spray-on plaster finishes for the bedroom walls, which would have sealed off 15 bedrooms at a time from other trades, opting for a traditional plaster skim instead. This opened up more workspaces for other trades.

Other innovation and engineered value included switching from a partly prefabricated plant room to full prefabrication, a move which took eight weeks off the installation time and improved quality.

When some of the client’s fit-out trades missed their well-flagged slot, Caunt stood his ground, putting their task on hold so other trades could take up their own scheduled slot. Those who missed their window were allowed to return to the site and complete their works during a “relief period” each night. Caunt delivered the project on time and defect-free.
What is R&D Tax relief?

R&D Tax relief was introduced by the Government in 2000 to encourage innovation in UK businesses and to allow innovative businesses to reclaim some of the costs invested in qualifying R&D.

The UK Government is actively trying to encourage businesses to look into the scheme and with an average SME claim being worth just under £54,000, R&D tax relief is the single biggest incentive of its kind.

CIOB and RIFT: Partners in Innovation

When RIFT announced our partnership with the Chartered Institute of Building earlier this year, we committed ourselves to seizing this opportunity to seek out, celebrate and reward the most forward-thinking work of one of the UK’s most passionately innovative industries.

The construction sector, by necessity, is in the business of pushing back boundaries and overcoming obstacles. The solutions to construction’s everyday challenges and problems benefit more than just any individual company. In a very real sense, innovation in construction forges the future of Britain, affecting every aspect of how we’ll live and work going forward.

Every year, the industry becomes more efficient, more effective and less wasteful – all thanks to innovation. Even so, just 3% of R&D Tax Credits claims come from the sector. As the UK pushes forward with bold new plans for 30,000 new homes a year by 2025, making sure that innovation always pays will be the key to meeting future demand.

That’s the mission RIFT has set itself – and our partnership with the CIOB has a vital part to play. The CIOB’s Construction Manager of the Year Award scheme is a fantastic way of throwing a powerful spotlight on innovation in construction.

In total, 80 managers have reached this year’s finals, following a comprehensive judging process that included paper applications, site visits and face-to-face interviews. As sponsors of the Leisure category for 2019, RIFT has been amazed at the range of projects, concepts and accomplishments on display.

It’s genuinely inspiring to see the elite of the industry at work, and a great honour to play a role in recognising them on a national scale. By highlighting the best that UK construction has to offer, we’re helping to bring the importance of innovation into sharp focus as an inspiration to all.

Julie Barry New Business Manager
Email: JBarry@RIFTGroup.com Mobile: 07908 542441

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MENTAL ILLNESS HAS EMERGED AS ONE OF CONSTRUCTION’S BIGGEST HEALTH AND SAFETY CONCERNS. AHEAD OF WORLD MENTAL HEALTH DAY ON 10 OCTOBER, CM LOOKS AT THE ACTIONS LEADING CONTRACTORS ARE TAKING – AND THE RESULTS

Construction workers are more likely to take their own lives than any other profession, according to the Office for National Statistics. In 2016, the figure was 454. The rate is more than three times the national average for men. Faced with these grim statistics, contractors have begun taking action to improve their workers’ mental health (see boxes).

Charles Egbu, president of the CIOB, has made the issue a central theme of his term. The institute is currently running...
a survey on mental health and Egibu, pro vice-chancellor at the University of East London, hopes the data will point towards practical solutions.

“I’ve had the displeasure of having three very close friends in the industry who have lost their lives and committed suicide,” he says. “When you are close to this and see how it affects families, communities, and impacts on the dreams and promise of the children of those who live with mental health conditions, you can’t help but feel impacted.”

Egibu has researched mental health over the past 20 years and says there is no doubt about the scale of the problem and that it is “complex”.

“I believe effective leadership should create an environment where people are open and allowed to air their views, where there is a culture of taking responsibility,” he says. “There’s no one solution that addresses these issues but those who share their stories do help. What’s most important is the support; that’s what individuals need and cry out for.”

Charity Mates in Mind has worked with the CIOB to raise awareness of mental health. Managing director James Rudoni agrees with Egibu that allowing people to feel comfortable speaking out is crucial.

“Getting people to open up about mental health continues to be the most important is the support; that’s what individuals need and cry out for.”

Laing O’Rourke energises crane operators

Successful Select trial to be rolled out across business

Laing O’Rourke recently ran an “energy” pilot in its Select plant business after identifying a high trend of mental health incidence in tower crane operators, due to long working hours, rigid shift patterns, isolation and living away from home. One operator, Nicky Fitzgerald, “was concerned about the impact of my job on my family”. Another, Casey Elsby, said she “would get stressed and was quick to argue”, while aware that “operating the crane is safety critical”.

During the six-week study, which started with an energy “audit” questionnaire, workers wore an activity tracker, which also measured heart rate, blood oxygen, stress levels and sleep.

“One workers recognised physical issues they wanted to address, including feeling unfit, bad eating habits and body pain due to constant sitting and bending,” explains Silvana Martin, health and wellbeing leader at Laing O’Rourke. “They realised ‘what you take up the crane is what you will eat’, so took healthier foods to work. New exercise regimes were introduced such as yoga stretches before a shift and a “crane workout” using resistance bands.

“The wearable device helped the team identify and manage factors causing stress, with lifting technicians using breathing exercises and taking breaks to reduce stress and emotion.”

The results have been impressive. Fitzgerald says: “Now I do a full body workout of stretches for 10 minutes daily to improve physical health, which has made a huge improvement in how I feel. Small changes have made a big difference, I have much more energy in myself, and more time for my family.”

Elsby adds: “The project has made a big difference to my energy levels.”

Martin reports a 15% energy improvement in the six workers. “Their time spent in ‘high stress’ went from an average of eight minutes per day by the end of the intervention,” she says.

Insights from the pilot are now being shared across Laing O’Rourke.

CM reader panel views on mental health

“There’s no one solution that addresses these issues but those who share their stories do help”

Charles Egibu, CIOB

“An improving area but still lacking. Mental health support initiatives should be made mandatory via the Health and Safety at Work Act and CDM process.”

Paul Bussey,
AHMM

“Remove the stigma. My current role involves working with the fire authority. Their work recognises camaraderie is essential for their wellbeing as well as their safety. The firefighters are encouraged to discuss their experiences and are offered counselling or further help.”

Sue Hanford,
Surrey Council

“Recognise the stresses imposed on the professional team: the consultant who has been committed to deliver by a hierarchy with inadequate supporting resources, within unrealistic timelines. This is likely to impact mental wellbeing through unrealistic expectations.”

Christine Gausden RD,
University of Salford

“There is an inability to assess mental health in the workplace. It should be possible to have closed door consultations within a business that would remain anonymous if the individual wanted it.”

Scott Usher,
Spie UK

“Mental health issues are compounded by the industry being fragmented. Large organisations have resources to support their employees but the SMEs rely on the NHS so mental health issues go unidentified and treated.”

Peter Egan, project engineer,
Royal Engineers

Statistics. In 2016, the figure was 454
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immediate and effective starting point,” he says. “We cannot underestimate this important first step – helping to provide clear language, create general awareness and help people to recognise that everyone has mental health the same way that they have physical health.

“Enabling workers to recognise the signs in themselves, while simultaneously enabling them to recognise changes in behaviour in others, is at the heart of many stories we’ve heard about the unexpected positive response organisations have had when engaging their staff with this issue.”

Kier has recognised the stresses its highways workers can face and this year produced a series of hard-hitting safety videos looking at the impact of workplace incidents. Maintenance operative Gary Hodgson, who says he used to be known as “the hard man around the depot”, struggled with mental health after an accident in 2017. His impact protection vehicle was struck by a vehicle travelling at 69mph, injuring his neck, shoulder and lower spine. He was off for a year.

Hodgson says he felt “fine” on returning but, after undertaking routine maintenance work, “started to feel anxious and panicked – I felt like I couldn’t breathe, and I started crying – I learned afterwards that I was having a panic attack”. He saw a counsellor who diagnosed anxiety and post-traumatic stress disorder (PTSD) and is back at work and feeling “much better”.

“I still have worries about getting back in an IPV and haven’t been in one since, but my managers and colleagues have been really supportive and I’m so grateful to them,” he adds.

Kier Highways now has 151 mental health first aiders (MHFAs) and runs “walk and talk” clinics and mental health first aid drop-in sessions. Its Smart Motorway M23 project, with 10 MHFAs and a 24/7 helpline, won a Considerate Constructors Scheme (CCS) Ultra Site Award for Workforce Wellbeing.

“Attitudes to poor mental health have traditionally been negative,” says Steve Crofts, its head of SHE. “In male-dominated environments, this stigma can be especially pronounced, with men not wanting to appear weak or vulnerable.”

“The Safety in Mind videos show everyone how easy it can be to slip into a dark place. We hope these films make people pause and think, and be more open and understanding to others that may going through a bad time.”

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Getting people to open up about mental health continues to be the most immediate and effective starting point”

James Rudoni, Mates in Mind

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Rudoni says it is also important workers are involved in shaping a company’s approach.

“Training is an important component, but this needs to be hand-in-hand with creating safe physical spaces to have conversations,” he says. “That may mean a breakout area so a conversation can happen in the margins.”

Mates in Mind has worked with over 300 construction organisations but Rudoni wants to reach three-quarters of the industry by 2025. While there has been welcome progress, clearly construction still has some way to go.

Seddon knows about mental illness all too well, after being shocked when Jordan Bibby, one of the contractor’s painters and decorators, took his own life in 2017. “He never told anyone how he was feeling; mental health is still massively stigmatised, meaning that many of those who suffer do so in silence,” says Liz Groundland (pictured), head of SHEQ at Seddon. “We knew we had to do something to change this.”

Seddon consulted with its staff and asked how the firm could help. It realised that simply asking someone if they are okay can have a massive impact, as it encourages people to talk and ask for support, says Groundland. “This is at the heart of Jordan’s Conversation, our mental health toolbox initiative we started a year ago,” she says. “During workshops people said they wanted to protect things in their lives such as ‘walking my daughter down the aisle at her wedding’ and ‘playing football with my children’.”

Seddon asked workers to consider these factors when managing risks and looking after each other on site. It simplified its health and safety approach to cover three imperatives:
- Have you read and understood the Risk Assessments and Method Statements (RAMS)? If not, don’t start work.
- Housekeeping: a clean, tidy workplace is a safe one.
- Changing behaviours: take five seconds before you start work and if it doesn’t look or feel safe, it probably isn’t.

“We aimed to introduce a new way of thinking about health and safety – vitally, that physical and mental wellbeing should be treated with parity,” says Groundland.

Seddon has seen encouraging results. It reported 12 RIDDORs and 97 non-reportable accidents in 2017. One year later, this had reduced to four RIDDORs and 73 non-reportable accidents.

Jordan’s Conversation toolbox sessions were delivered to more than 400 people employed by Seddon and in the supply chain. “Improvements can always be made, and as we embrace mental health awareness alongside physical care, we hope to see a lasting shift,” says Groundland.

Rudoni says it is also important workers are involved in shaping a company’s approach.

“As we embrace mental health awareness alongside physical care, we hope to see a lasting shift”
Liz Groundland, Seddon

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DIGITAL CONSTRUCTION WEEK 2019 TO BE ‘BIGGEST EVER’

The biggest and newest companies working to revolutionise the construction sector will offer live demonstrations of their pioneering technology, products and services at the UK’s leading exhibition for innovation and technology in the built environment.

Ollie Hughes, event director of Digital Construction Week, taking place at London ExCeL on 16-17 October, explains: “Digital Construction Week is back for its fifth year and it’s already on course to be its biggest ever edition. As well as a long list of top exhibitors and the show’s extensive seminar programme, there’s also a host of additional features, larger seminar theatres and a brand new conference arena for visitors to enjoy.

“We’re thrilled to be welcoming so many new names to the show floor, including SAP, Unit4, GCP Applied Technologies, Deltek, CEMEX Ventures, Cyviz, Geomni UK, Graitec, Make Real, NavVis, Tech Soft 3D, Onwave UK, SierrnSoft, Nutanix XiFrame, EcoDomus, BIMobject, Alice Technologies, Excitech, Allplan, nPlan, Invicara, Murphy Surveys, Pix4D, and more.”

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To see the full exhibitor list, visit: www.digitalconstructionweek.com/exhibitors.

In addition to the central exhibition and the range of choice content on offer (over 160 hours of content-rich sessions delivered by more than 300 expert speakers across 11 theatres), the show also boasts a wealth of other features.

The DCW Onsite Arena is a replica construction site where exhibitors and partners will showcase their technologies “in the field”. Running in partnership with Bluebeam, the arena will feature a series of live demos and “walkarounds” with the Bluebeam team, offering visitors the opportunity to get to grips with the latest technology linking from the office to the field.

Drone Drag Racing is also back for 2019. Visitors will have the chance to sign up and take flight in the show’s drone racing competition, enabling them to learn about drones in the built environment while having a little competitive fun. It’s free to enter and those who finish top of the leaderboard will win a drone of their own.

Also returning for 2019 is the Start Up Zone, which will bring together new exhibitors offering a selection of up-to-the-minute technologies and concepts with the potential to solve some of the industry’s biggest challenges. They’ll offer live demos and tutorials so visitors can get their hands on the latest technology and equipment.

At the After Hours Drinks Reception visitors can catch up with speakers and exhibitors they’ve seen through the day, meet up with colleagues and network with like-minded professionals. Drinks will be served to all guests on the exhibition show floor on Wednesday 16 October from 4.30pm to 6pm.

The event enjoys the support of more than 40 key industry organisations, businesses, associations, publications, training bodies and charities. Headline partners for the 2019 event include BAM, Bluebeam, Construction Innovation Hub, PlanGrid and Procore. Among the show’s sponsors and industry partners are HP, BIMobject, myConsole, Viewpoint, bimstore, UNIFI, Bentley Infrastructure, Allplan, Revizto, CITB – Construction Industry Training Board, Graphisoft and Kier Group.


Hughes says: “Our partners and supporters represent tens of thousands of professionals working across the digital construction industry. We’re delighted that they have shown so much support for the event and we look forward to welcoming them, and their members and partners, to Digital Construction Week for two days of innovation, education and networking.”

Register for your free exhibition and seminar pass

Digital Construction Week takes place at London ExCeL on 16-17 October. For further information, and to register for a ticket to attend, please visit www.digitalconstructionweek.com/register.
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ACO WATER MANAGEMENT HAS DEVELOPED NEW, FREE-TO-USE HYDRAULIC DRAINAGE DESIGN SOFTWARE CALLED QUAD. NOW IT IS HOLDING A SERIES OF FREE WORKSHOPS WHERE ATTENDEES CAN EARN CPD POINTS AS WELL AS WORK THROUGH A PRACTICAL, REAL-LIFE SCENARIO, USING THE SOFTWARE. KEITH OLDHAM, NATIONAL TECHNICAL CONSULTANT AT ACO WATER MANAGEMENT, EXPLAINS

Getting channel drainage design right is crucial to a project’s success in both the short and longer term. There is real opportunity to futureproof any project by designing the necessary ongoing maintenance and providing an allowance for climate change. If there isn’t sufficient consideration early on for how surface water will be managed, the results can be extremely costly – in both time and money.

Surface water expertise
ACO Water Management has helped pioneer the management of surface water, providing contractors, engineers and specifiers with a complete product portfolio suitable for applications as diverse as retail and commercial development to major national transport and infrastructure projects.

ACO’s surface water design expertise has been sought for a range of applications in significant UK projects, including the Olympic Park in London, Heathrow Airport Terminal 5 and the current Midland Metro Alliance tram expansion across Birmingham and the West Midlands.

The range of water management services offered by ACO assures industry-leading sustainable drainage performance and environmental protection.

What is ACO QuAD?
ACO QuAD is the latest generation of ACO’s hydraulic design software and will be taken on the road as part of a series of workshops across the UK and Ireland for the first time. The cloud-based software benefits from a host of user-friendly features, all of which can help take time out of – and improve the overall efficiency of – the drainage design process.

Keith Oldham is national technical consultant at ACO Water Management
With the end application based firmly at the heart of the software, users of QuAD will be invited to first choose from a variety of options which best describes their project (domestic, pedestrian, highways, industrial, and mixed-use). From here, they will be able to select the size of their project and automatically calculate a variety of different hydraulic project data.

Unlike competitor models, ACO QuAD can factor in angled or irregular surface areas – not just rectangular shapes – to provide a much more accurate specification.

Another unique benefit is the ability to integrate Google Maps into the design program, meaning users can input their site’s exact location and automatically receive the rainfall intensity for that area. This is coupled with the ability to calculate the run-off coefficient, based on the permeability of the chosen surface (of which a number can be selected, ranging from grass to asphalt) and surface storage calculation options. Designers will be able to create a highly accurate hydraulic drainage design in a matter of minutes.

QuAD can be used alongside ACO’s Visualiser program, to provide engineers with an insight into the look of the finished installation.

Additional functions include the option to choose point in-flow, calculate channel resilience and anticipated maintenance schedules, and optional attenuation tank volumes where applicable.

Crucially, the software is highly secure, and the designs will only be shared with ACO if the user makes a conscious decision to do so.

With the focus of the tool firmly on design, ACO is also able to offer a consultation service, should the user wish to discuss their project with one of ACO’s Design Services team. Any design can be easily exported for inclusion in the project’s design folder.

**What is the ACO QuAD Roadshow?**

To help contractors and engineers get to grips with the free program, ACO will be taking its QuAD software on tour for a series of free workshops. ACO’s expert design team will be at five locations across the UK and Ireland:

- London (22 October)
- Doncaster (29 October)
- Birmingham (13 November)
- Dublin (21 November)
- Glasgow (28 November)

Attendees will be able to earn CPD credits through the QuAD CPD, while they will also complete a practical session, where they will use the software in a real-life scenario.

The benefits of attending are clear. As well as improving personal hydraulic design skills, the software helps the end user to efficiently and accurately design surface water management schemes for any project. By attending the workshops, users will be able to design drainage to meet the specific requirements of the project in line with any size, shape or catchment area.

The workshop will also allow visitors to understand how to calculate the correct size for attenuation tanks, as well as creating maintenance schedules for long-term resilience.

**How can you sign up to the QuAD Roadshow?**

If you are interested in signing up to the QuAD Roadshow, you can book your place by visiting [www.colab-cpd.co.uk/events.php](http://www.colab-cpd.co.uk/events.php) and selecting your preferred location. Each location is limited to just 30 people, so you are encouraged to book early to avoid disappointment.

The support received won’t end at the workshops. All attendees will be offered the opportunity for ongoing support in their office, via the phone and online.

For more information on the QuAD software, visit [www.aco.co.uk/quad-hydraulic-design-2.0](http://www.aco.co.uk/quad-hydraulic-design-2.0).
LASER SCANNERS HAVE HELPED TO REVOLUTIONISE SURVEYING IN THE CONSTRUCTION INDUSTRY, ALLOWING THE CREATION OF COMPLETELY ACCURATE 360-DEGREE POINT CLOUDS OF ANY GIVEN AREA. BUT HOW DO THEY ACTUALLY WORK AND WHAT DOES THE FUTURE HOLD IN STORE FOR THE TECHNOLOGY? THIS CPD, IN PARTNERSHIP WITH TOPCON POSITIONING GB, EXPLAINS

3D laser scanning is the process of analysing a real-world object or environment to collect data on its shape and possibly its appearance, using a laser to measure and capture the surroundings at high speed.

A laser is fired out and for every surface that it hits a point in space is recorded. At the same time, the scanner will record the reflectivity of the surface to give an intensity value. A built-in camera also provides the ability to colour each of the points that have been recorded. As these points are captured at high speeds, a very dense point cloud of data can then be created quickly and efficiently.

Laser scanners work via line of sight, meaning that, on a typical project, multiple scans need to be taken from different vantage points to ensure a complete data set. Topcon’s latest scanner, the GTL-1000, makes this easy as it has all the features of a robotic total station (which can be operated remotely) combined with a fully functional laser scanner. This equips the user with the ability to use and establish a survey control network (geographic positions, specified relative to a fixed reference) as well as register point cloud data.

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In less than two minutes it can produce a complete, 360-degree, locally registered point cloud of an area.

As well as speeding up data capture and processing time, the time savings are very apparent in the long term as well. Utilising the GTL-1000 along with Verity software, it is easy to identify potential issues long before errors occur on site – finding out something may have been installed incorrectly early in the construction process eliminates the costly knock-on effects this may bring, saving time, money and reputation.

This means an engineer can be out on site in the morning scanning the latest installed elements, analyse the scan data and then be back out on site before lunch with a list of deviations that may have been identified. Without technology like the GTL-1000, a process like this would be measured in days rather than hours.

Reduced costs and resources

One of the biggest savings when it comes to the latest generation of laser scanners is time. Traditionally, to orientate scan data, engineers would need to use robotic total stations to set up and orientate scan targets. These targets would then need to be scanned with a laser scanner. With a combined unit, engineers won’t need to set up in the same location twice – it can all be done in one swift movement, potentially halving site time.

Having one device is also more cost-effective than having two separate ones – in fact, having two pieces of equipment can cost up to 50% more. There are different technology combinations available on the market, but the cost savings are still significant when a combined device is used.

Adopting the innovative technology

Topcon is providing GTL-1000 user training for any adopters of the innovation, and for engineers already familiar with traditional onsite setting-out, this training is minimal.

With only three clicks to initiate the 3D laser scan, it does not take long for site engineers to be fully acquainted with the whole process. Even if the team doesn’t have previous experience with total stations, it’s easy to learn how to use the equipment within a short space of time.
SETTING THE STANDARD FOR SCAFFOLDING

The NASC is the national trade body for access and scaffolding in the UK and has been setting the industry benchmark for nearly 80 years. Our full contracting members are among the best in the business, accounting for the vast majority of the UK’s scaffolding spend – with a total annual turnover in excess of £2 billion – and are independently audited every year.

For demonstrably safe, skilled and compliant contractors it has to be NASC.

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Make sure those carrying out scaffolding operations on your site are qualified to do so with our FREE scaffolder card A1 site poster. Email enquiries@cisrs.org.uk for your copy today.

www.cisrs.org.uk
Within the software, the device’s scan data can be quickly compared to design models, highlighting any deviations captured and allowing immediate rectification. The software shows variations from design visually and numerically, across horizontal and vertical axis as well as twist and deformation variations.

The GTL-1000 was designed to fit within a streamlined workflow solution to deliver usable scan data faster than any previous process. When used in conjunction with Topcon’s MAGNET Collage, the data can be exported in any number of formats including, but not limited to, RCS/RCP, E57, LAS and PTS.

The scan data taken out of MAGNET can be used with any software that can support point cloud data. The file size of the data is also relatively compact, making the transfer of data and information easily manageable.

The speed of this data transfer is also significantly increased – construction validation using the GTL-1000 workflow is proving to be at least four times faster than traditional methods.

“Working with retro targets
The Topcon GTL-1000 works with any target in the same way a total station does. It works with retros, prisms, temporary and many other types of survey control. As well as having the ability to use retro targets already established on site, engineers will also be able to establish new ones.

Despite the GTL-1000 being packed with powerful technology, this device is rugged and compact. It weighs only 7kg and fits into one case, making it easy to carry around site, transport, set up and operate. The GTL-1000 also uses ultrasonic motors, saving space and weight.

Software to bring verification to life
Combined with MAGNET Collage and ClearEdge3D Verity software, the GTL-1000 provides a clear visual indication of construction quality to minimise the impact of mistakes before they become expensive problems.
Are you in control of your projects? Do all stakeholders have access to relevant data? Do your projects stay within budget and deadlines?

No? Well, you're not alone… But there's a solution!

Our cloud-based, private and encrypted platform provides total control and transparency in all your projects and facilities. With a digital twin of each building, all question marks are erased and replaced by higher productivity, sustainable processes, smooth communication and bigger profits.
When defects arise, it is often debated whether it is a design or workmanship issue. When both are at fault, complications arise. This issue arose in a recent case and the contractor decided to commence proceedings against its designer.

Kent County Council had engaged Jacobs Engineering to design two new dual-carriageway roads, the A256 and A299, in east Kent. Hochtief and Volker Fitzpatrick were appointed JV principal contractor and in turn appointed Atkins to complete the design elements. Atkins’ scope of work included the permanent civil and structural design for the Cottington Road Bridge and the Cliffsend Underpass.

Following completion of the bridge in 2011, surface settlement of the carriageways on the north and south sides of the approach embankments was discovered, forming localised depressions. Between 2012 and 2014 remedial works were carried out.

The underpass was completed in March 2012. A month later signs of leakage were discovered including rust staining on the headwall beam and the west end of the underpass, icicles above the carriageway and fine cracking to the concrete face of the headwall. In June 2013, remedial works were carried out.

The JV issued proceedings against Atkins for breach of contract and negligence in carrying out the design of the structures. Damages of £802,475.35 were claimed for remedial works to the bridge and £122,559.82 for the underpass.

The bridge works
Experts for each side referenced guidance for the use of chalk fill and drainage relevant to the bridge works. The recommendations included provision for sub-surface drainage to remove water that may permeate through the pavement layers of roads. It was explained that when chalk was compacted to form a fill, like in this case, the permeability of the material is reduced and this can cause collapse compression following wet conditions. This meant that chalk fills needed to be protected against water inundation.

Here, the design was revised over time from a graded granular fill to one that included an impermeable layer and chalk fill that did not incorporate drainage around the edges of the membrane to transport water away. It was claimed that Atkins intended that the membrane was built to a 1:40 fall that would enable drainage but this was not actually specified on the drawings.

But the situation became more complicated because the JV did not follow the design precisely. So what contributed to the defect? Mrs Justice O’Farrell held that the compression of the chalk fill was caused by excessive water penetration due to Atkins’ failure to design adequate sub-surface drainage for water accumulating on the membranes and percolating into the chalk fill. She said Atkins’ bridge design was inadequate, negligent and in breach of the subcontract because it was responsible for the design, it failed to follow industry guidance and the risk of collapse settlement of chalk fill was a widely recognised risk Atkins should have been aware of.

The justice also agreed with the damages claimed for the remedial works, which she described as reasonable and necessary.

The underpass
However, the underpass yielded a different result. It was alleged that the water ingress was caused by Atkins’ inadequate waterproofing design. But photographs of the as-built works confirmed there was grout interjected between the underside of the headwall beam and the deck. This had displaced the fill but created voids between the grout and the beams. There were also steel sheets that should have been removed from any gaps to facilitate grouting to fill the gaps and create a watertight seal.

The experts felt additional waterproofing measures should have been specified but the grouting workmanship contributed to the water seepage. The justice found that this was a specialist activity, saying if the JV had any concerns it should have raised them with Atkins, but failed to do so. She therefore dismissed this claim. So in the event, it turned out both design and workmanship were at fault, leading to a costly dispute.

Theresa Mohammed is a partner at Trowers & Hamlins.

Theresa Mohammed
Trowers & Hamlins

Defect disputes: Hochtief-Volker v Atkins

When defects arise, it can be tricky establishing whether design or workmanship is to blame, writes Theresa Mohammed
The Future of the
Construction Manager

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

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CIOB works with LABC to boost qualifications in building control

A COLLABORATIVE INITIATIVE IS STANDARDISING LEARNING AND DRIVING STANDARDS

The final piece in a three-year programme by Local Authority Building Control (LABC) to identify the competencies of local authority building control staff, standardise learning and introduce new specialist qualifications is complete, following the recent launch of Wolverhampton University’s BSc (Hons) degree in Public Service Building Control Surveying.

With the support of the CIOB, the University of Wolverhampton and the Institute of Fire Engineers (IFE), LABC set up the LABC Trailblazer Group. Together they created the now nationally recognised and approved building control apprenticeship standard.

The move comes after the Hackitt Review called for clarification of the role of building control in the new building safety regulatory regime.

LABC has also rolled out a suite of qualifications in partnership with the CIOB and the University of Wolverhampton: a Level 3 certificate, a Level 4 and 5 diploma and the recently launched levy-funded Level 6 BSc (Hons) apprenticeship degree, all in public service building control.

Over the past three years LABC has invested more than £1m in competency and learning. As well as the qualifications, it identified over 1,000 Level 6 surveyors and is validating their competency to work on higher-risk projects with an IFE-backed assessment which sees around 100 surveyors a month examined.

It is in the final stages of developing another set of CIOB Level 6 diplomas in subjects including enforcement of regulations and standards, and fire safety in complex buildings.

LABC deputy chief executive Lorna Stimpson said: “We took the bold step of modernising how we did things by creating an online platform to make learning accessible to our network of 3,500 building control professionals. We introduced an ISO-backed quality management system to standardise our practices and started developing our Ofqual accredited Level 4 and 5 public service building control qualifications - the first cohort of 68 diploma students started in August last year.

“And this year we’ll see around 100 people join up for the degree, with a further 100 joining up for the certificates and diplomas.”

“Wolverhampton: a Level 3 certificate, a Level 4 and 5 diploma and the recently launched levy-funded Level 6 BSc (Hons) apprenticeship degree, all in public service building control.”

Lorna Stimpson, LABC

58 | OCTOBER 2019 CONSTRUCTION MANAGER
Building Equality – an alliance of construction companies working to build LGBT+ inclusion – completed its annual marches again this year with events in Manchester, Salford, Leeds, London, Birmingham, Glasgow, Bristol and Newcastle.

Building Equality members from more than 25 construction, engineering and built environment organisations were at Exchange Square, Manchester, during August Bank Holiday, showcasing the accessibility of the industry to LGBT+ individuals and other minority groups.

It was the north west’s largest show of equality, diversity and inclusion the industry has ever seen.

And in the organisation’s second Leeds Pride event more than 200 people from across the construction and property industry – double the number from the previous year – joined a parade that was witnessed by a crowd of around 55,000 spectators lining the route through the city.

The entry was supported by 17 organisations – including the CIOB – representing a broad cross-section of the construction and property sectors. Marchers were accompanied by a rainbow-coloured JCB digger, which was a highlight of the parade.

Building Equality’s presence at Leeds Pride marks another significant step in a rapidly growing movement to advocate LGBT+ inclusion across the industry. The organisation recently celebrated its fifth successful year marching at London Pride as well as making its debut in Newcastle last year and in Manchester two years ago.

Following Manchester Pride in 2018 Building Equality decided to become a catalyst for change on issues that LGBT+ individuals still face within the sector.

To both educate and encourage positive conversations around sexuality and gender identity, the alliance has already rolled out bespoke free resources, including the LGBT+ inclusion toolbox talk and poster campaign, which have been designed to facilitate inclusion on both construction sites and in offices.

Several organisations are supporting Building Equality for the first time and are beginning to establish their own LGBT+ networks. Over the coming months, those with established networks will support these initiatives to further grow.

Building Equality will organise further events in Leeds over the coming year.

To get involved or for further information, please contact liliana.leirosanchez@arup.com.

A rainbow-coloured JCB digger was a highlight of Leeds Pride
**Conference**

**Mental health event tackles ‘unseen epidemic’**

**YORKSHIRE HUBS’ CONFERENCE RAISES KEY ISSUES**

Shocked by statistics on mental health in construction and other industries, the Yorkshire hubs of the CIOB presented a morning conference in September on preventing, spotting and dealing with mental health issues.

With leading specialists and personal stories, the Mental Health: Are You Aware? event aimed to provide professionals and managers with the tools they need to tackle this unseen epidemic.

Caroline Gumble, the CIOB’s new chief executive, gave one of her first speeches to members on some of the ways in which the CIOB plans to help improve support for mental health in the industry – a key focus for Professor Charles Egbu’s year as CIOB president.

The programme featured an example of personal experience of mental health difficulties, highlighting the importance of discussing this topic openly, plus ways to improve good mental health for all and the key early warning signs to watch for in colleagues.

A panel session allowed audience members to ask their own questions about dealing with mental health issues to a panel covering different perspectives, including a solicitor, a Mental Health First Aider and a representative from construction mental health charity Mates in Mind.

The event was sponsored by Galliford Try with speaker sponsorship from Cardinal and Hays Recruitment. It will soon be available to watch back as a webinar via the CPD portal.

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**Novus**

**Climbing high to raise funds**

**CIOB AND NOVUS MEMBERS SCALE SCAFELL PIKE FOR HOMELESS CHARITY**

This summer CIOB and CIOB Novus members from Manchester, Liverpool and Cumbria climbed Scafell Pike, the highest peak in England, in aid of the Embassy bus charity.

The event was organised by the Manchester and Liverpool Novus Group, after its success climbing Snowdon the previous year.

The event was sponsored by Galiford Try with speaker sponsorship from Cardinal and Hays Recruitment. It will soon be available to watch back as a webinar via the CPD portal.

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**EPIC CYCLE CHARITY EFFORT**

**Member of CIOB Diversity Inclusion Special Interest Group Christina Riley is cycling from Land’s End to John o’Groats to raise money for four charities.**

Riley, who is a senior planner with Kier and vice-chair of the firm’s LGBT+ & Allies Network, is raising funds for the Terrence Higgins Trust, Mermaids, British Heart Foundation and Great Ormond St Children’s Hospital.

“This is my third time [taking part in Ride Britain], but my first post-transition,” explained Riley. “It is going to be tough: I cover 970 miles over nine days.”

The epic test of endurance started on 7 September.

To donate visit https://uk.virginmoneygiving.com/ChristinaRiley.
Midlands members are invited to join Speller Metcalfe for a visit to learn about the new Cyber Security Centre in Hereford. The mid-construction visit takes place on 8 October.

The centre, which will be located at Hereford Enterprise Zone’s Skylon Park, is being developed in partnership by the University of Wolverhampton and Herefordshire Council.

Constructed using cross laminated timber (CLT), the building has been designed to BIM Level 2 and to meet BREEAM Very Good certification.

The Cyber Security Centre will support three main areas:

- Accommodation for businesses working in the cyber security sector with potential space for up to 20 tenant businesses, creating 185 additional jobs for the county.
- Secure training and educational facilities to provide specialist cyber security training for businesses and organisations.
- A base for undertaking research in cyber security. The centre will have laboratories which will enable users to simulate cyber attacks and test responses in a secure environment.

PPE is required for this visit: hi-vis vest, trousers, hat and boots.

Contact: gfloyd@ciob.org.uk

Obituary
Belfast vice-chair Philip Corr

On 6 April Philip Corr, vice-chair and events champion for the CIOB Belfast, sadly passed away as a result of a heart condition. He was 41 and married with four children.

A native of Cookstown, Corr worked as a project manager for Titanic Quarter and was a founder member of the Titanic Quarter Cycling Club.

Gary Blair, chair of the CIOB’s Belfast Hub, said: “Philip was highly regarded in the industry and was recognised as a very capable professional. Since joining the committee, he demonstrated leadership skills from the outset, and was duly elected vice-chair of the Belfast Hub in January. “Philip epitomised membership of the CIOB. He promoted the science and practice of construction for the benefit of society, always with a positive attitude and a smile on his face. Philip continues to be sorely missed by all.”

Understanding NEC4 was the subject of a recent panel event organised by CIOB’s London Hub and hosted by Decipher. Another seminar will be held at its Leeds office on 17 October.

Like any contract, the latest NEC form isn’t without risk, particularly for those less familiar with it. Some may be tempted to treat it as they would JCT or another standard form. That would be very risky, as it operates in quite a different way. The CIOB seminar aimed to help people spot the key differences.

Often criticised by lawyers for its simple language, NEC4 is no different to NEC3 in that respect. It has retained its “plain English” approach. But many solicitors suggest this creates opportunity for ambiguity. Where ambiguity exists, there is opportunity for dispute.

Notable changes include the requirement for a quality management system. There are more detailed options for implementing BIM, and changes to party names. The Risk Register is now an Early Warning Register. For commercial people and lawyers, it’s worth noting that dispute resolution has changed. Many law firms have produced handy guides.

Also of note is the change created by the “Healthy Buildings case” (Northern Ireland Housing Executive v Healthy Buildings [Ireland] [2017] NIGB 43). This means that assessing compensation events in NEC contracts is now different. If you have to assess (or prepare) a compensation event for time, after the event, it’s likely that known facts will be taken into consideration. This was not thought to be the case before the decision.

In any discussion, the thorny question of z-clauses seems to arise. Employers (or clients) will often seek to reallocate and shift risk using z-clauses. Entire papers are dedicated to the use of and risks of using these clauses.

Garima Singh of Turner & Townsend notes a shift towards changing terms relating to termination. The aim is to make it easier for the employer to terminate a contract. This should be something to look out for when signing up to an NEC contract.
Scottish success

DAVID PHILP EXPLORES ITS PIVOTAL ROLE

The construction industry will generate nearly 3,000 new jobs a year for the Scottish economy between now and 2023, a report from the CIOB has revealed. The report, which examined the construction industry’s impact on the Scottish economy, was launched at a parliamentary reception in Edinburgh as part of the CIOB’s annual Members’ Forum in June.

Ahead of the launch, David Philp global BIM/IM consultancy director, Aecom, posted a blog which picked up the opportunities Scotland offers.

“Scotland’s construction industry has a pivotal national role to play, shaping the future of our diverse built environment, improving place-making and the lives of our citizens who use them,” he said. “We are a major contributor to our national economy with a total gross value added (GVA) of 6.1% to the UK economy (a wider 10-15% when considering offsite activities such as design, consultancy services and manufacturing of construction products etc) which equates to about circa £116bn annually.

“You could say our diverse 170,000 workers (10% of all Scottish jobs) and 45,000 related businesses punch well above their weight, with almost a multiplier of £1 spent on construction output equating to £3 generated in our economy. Construction also plays major part in securing Scotland’s international competitiveness through the export of innovative construction services and knowledge.

“Walking around our cities and towns, however, there is a noticeable lack of tower-cranes which would suggest either a declining pipeline or a shift in end market investment from vertical to horizontal infrastructure. Despite this visual lead indicator, and despite Brexit-related issues, it is forecast positively that construction in Scotland remains resilient and is expected to expand, albeit weighted towards new housing and infrastructure projects.”

Read the full blog at www.ciob.org/blog/seeing-success-construction-scotland.

Site visit

Durham members can visit university’s Mount Oswald site

INTERSERVE’S £80M PROJECT IS TAKING SHAPE

Members in Durham are offered the chance to visit Mount Oswald – the £80m Interserve project to develop new college and student facilities for Durham University.

The Mount Oswald project involves construction of a new home for John Snow College and a brand new college – South College – together totalling 1,000 student bed spaces.

On the site to the south of Durham city, there will also be a hub building, with an events hall, music practice rooms, a practice room, a yoga/dance studio, a launderette and a faith room, and a multi-use games area (MUGA).

The hub and MUGA are scheduled to come into use this summer and the first students will move into the residential facilities for the academic year 2020/21.

Most of the new buildings are now taking shape on site and internal works on some blocks are well under way.

The scaffold has been fully removed on blocks A3 and A4 and the team is starting to put in the furniture and interior fittings.

Works are now commencing on the external hard landscaping on the courtyards near A3 and A4. The dry lining works and internal fit out, including furniture installation, is ongoing in blocks A1 and A2.

The heart building for each college will house college facilities and administration services. At the John Snow College heart building, the steelwork has commenced, while that for South College is starting to take shape. The steelwork and roof is in place and work on the steel framing system (SFS), which makes up the walls of the building, is ongoing.

On the university hub building the works on the external facade are now nearing completion. The team is continuing with final fix mechanical (M&E) works and the final floor and ceiling finishes are being installed.

On the new South College the cluster flat blocks B3, B4 and B5 are progressing well. Work is continuing on the precast concrete system that makes up the cluster flats. The new buildings are constructed using precast insulated architectural finished sandwich panels which make up the external walls. These are made off site then fitted together on site – almost like a large-scale version of flatpack furniture.

In the new South College townhouses, B1 and B2, the team is now at fit-out stage and is starting to install the new furniture in the bedrooms.

Installation of the mains services around the site is continuing.

The visit takes place on 11 October at 2pm. Contact: dmoore@ciob.org.uk
Events

Diary dates

HIGHLIGHTS OF THE CIOB CALENDAR FOR THE COMING MONTH. FOR MORE EVENTS VISIT CIOB.ORG

VAT: Major Changes to Construction and Building Services
8 October, 6.30-8.30pm, Warrington
From 1 October 2019 the way VAT is accounted for in the construction industry is due to change dramatically. It will now become the responsibility of the recipient of specified construction services to account for the VAT rather than the supplier. This will have an impact on up to 150,000 businesses in the sector.

The aim of this event is to raise awareness of the VAT reverse charge for building and construction services to allow businesses to comply with the new regulations and take necessary action to reduce the impact on their businesses.
Contact: Nbreaksppear@ciob.org.uk

Ilke Homes factory visit
17 October, 11-1pm, Knaresborough
Recent reports have indicated that the government’s target of building 300,000 new homes to 2020 will not be met without modular building.

Ilke Homes’ factory in Knaresborough, Yorkshire, is part of the drive to design and build modular homes. It can install up to six homes per day, and has a goal of delivering 2,000 precision-built homes a year within two years to help tackle the UK’s chronic housing crisis.

The method is not reliant on increasingly hard-to-find construction skills. In the company’s modern factory, homes are expertly manufactured by staff trained by Ilke, which has created more than 500 new jobs in Yorkshire.

This visit is a rare opportunity to see the innovative building methods at work in this modular factory and learn about the product.
Contact: csymourn@ciob.org.uk

Taking a Look at Mental Health
10 October, 6-9pm, London
What is mental health? We will look at this question as well as the issues facing those working in the built environment. Industry experts will look at various aspects of mental health, including research, the benefits of addressing mental health within a workforce, what is happening in the industry and personal experience with mental health.

The presentations and discussion will be followed by networking, drinks and food.
Speakers include: CIOB president Professor Charles Egbe; Laura Burke, senior health and safety advisor, Laing O’Rourke; and Mark Coleman, chief executive, the Coleman Group.
Contact: bgrange@ciob.org.uk

A similar event is being held in Plymouth on the same day.
Contact: nebbens@ciob.org.uk for details

The UK’s first Passivhaus leisure centre
17 October, 5-7.30pm, Exeter
Kier Construction has invited CIOB members to a site visit and CPD for the UK’s first Passivhaus leisure centre.

Please bring work boots. Kier will provide hard hats, hi-vis jacket and gloves. All visitors must wear trousers. No shorts/skirts will be allowed.
Contact: Nbreaksppear@ciob.org.uk

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Contact: csymourn@ciob.org.uk

Stronger Together: Tackling modern slavery in supply chains
22 October, 9.30am-5.30pm, Bristol
This interactive one-day workshop allows participants to understand the prevalence of modern slavery within the construction sector, their responsibilities and best practice associated with tackling it.

Forced labour and labour trafficking are hidden crimes undertaken by exploitative individuals and criminal gangs. Detecting cases within the UK construction sector are escalating. Many businesses are not aware that this exploitation may be taking place within their operations and supply chains today.

Developed with the Chartered Institute of Building (CIOB) and delivered by experts from the construction sector, this one-day participatory course will ensure you are informed and equipped to address forced labour, implement good practice and minimise the risk to your business.
Contact: Nbreaksppear@ciob.org.uk

Events
From left to right: Retail and restaurant options at Rushden Lakes; Richard Black, Winvic project manager; the waterside development in a Site of Special Scientific Interest.

Me and my project

The big shop

WINVIC DELIVERED COMPLEX DESIGN, CIVIL, INFRASTRUCTURE, BUILD, LANDSCAPING AND FIT-OUT WORKS AT RUSHDEN LAKES RETAIL AND LEISURE DESTINATION. PROJECT MANAGER RICHARD BLACK TELLS US WHAT HE LEARNT

It’s hard to fully explain the enormity of my role as project manager on this three-phase, three-year project for LXB Retail Properties and The Crown Estate, but if I tell you the completed Rushden Lakes comprises 48 retail units, totalling 450,000 sq ft (41,800 sq m), across four terraces, that’s a start.

In addition, the majority of the retail brands – plus five leisure providers and around 20 restaurants and cafes – used specialist fit-out contractors, fluent in delivering their brand visions. This meant the lines of communication could never fail, the timeline of staggered fit-out handovers had to be perfect and base element variations had to be planned a long time in advance to fully meet each retailer’s intricate designs.

My team had to get into a retail mindset and work closely with the retailers to understand every requirement. Glazing, cladding, escalators, digital screens and future mezzanine installation requirements all affected how we worked before a single piece of steel was erected, and we executed over 400 end-user variations in the first phase alone.

The programming was therefore atypical from start to finish: sequencing had to harmonise with upcoming activity, to allow trade progression and effect sectional completions. A sectional goal approach gives you focus – from design to procurement – and regular achievements boost everybody’s drive, especially on a project like this when the finish line can sometimes feel far away.

Successfully liaising with circa 70 fit-out contractors and working safely in a live retail environment are things I’m very proud of. I can honestly say we truly worked as one team and always worked things out to resolution collectively.

I’ve not worked on a single project for such a length of time and I’d love to look after another huge scheme. I seized every opportunity to learn how other contractors work and share knowledge.

Another highlight was visiting each retail unit once completed. To see all the branding, products and customers, and to hear that the stores were trading well was really rewarding, and the eight-storey cinema really was something. I remember installing over 100 sets of precast stairs only too well!

I particularly enjoyed the interaction we had with The Wildlife Trust to find solutions to environmental challenges. The 200 acres (81ha) of Nene Wetland is a Site of Special Scientific Interest (SSSI) and to marry this hive of nature with a retail and leisure scheme using a 1.5km nature trail and visitor centre is unique. It has been great to hear comments from visitors.

An exceptional built and natural environment, an unusually large number of key stakeholders and a complex programme with many variations – a PM couldn’t ask for a better project.

Rushden Lakes by numbers

Phase one:
- Three terraces, 33 retail units, 380,000 sq ft (two-storey M&S, Primark and House of Fraser)
- Waterside restaurants, visitors centre, boathouse and management suite
- Highways works, car parking, lakeside boardwalk and 1.5km nature paths

Phase two
- Two terraces, 28m-high eight-level cinema, four leisure units, 13 restaurants, five retail 40,000 sq ft (3,716 sq m)

Phase three:
- Garden Square – 10 boutique retail units 33,000 sq ft (3,065 sq m)
- Biodiverse green area for relaxation, play and pop-up events

“The eight-storey cinema was really something. I remember installing over 100 sets of precast stairs only too well”

Richard Black, Winvic
UK Construction Week: Wellbeing, sustainability and innovation

UK CONSTRUCTION WEEK (UKCW), NOW IN ITS FIFTH YEAR, IS BACK WITH A BANG AND TAKING ON ALL THE BIG ISSUES FOR THE CONSTRUCTION INDUSTRY

UKCW, held at the NEC on 8-10 October, is an all-encompassing show and one not to be missed. From diversity and skills to modern methods of construction (MMC), from mental health advice to sustainability, UKCW is tackling it all.

Straight-talking on mental health
With mental health a key priority for the sector, the Mind Your Head mental health and safety campaign is launching at UKCW. Designed to promote mental wellbeing for those working in the industry, with a particular focus on men who are at greater risk of suicide, the campaign is designed to be straight-talking, no-nonsense and accessible.

As part of the campaign, Carwyn Lloyd Jones, the creator of the Tiny House at last year’s UKCW, will be using his talents to create an artistic installation of swings to encourage open discussion about mental health.

“A new Innovation Zone has been established – a non-sales environment where visitors can explore new ideas, learn and be inspired”

There will also be a range of seminars discussing the unique challenges of mental health in the sector. On the main stage on Tuesday 8 October, ‘Wellbeing in Construction: Tackling work-life balance, mental health and diversity’, will be chaired by Dr David Hancock, head of construction – Infrastructure and Projects Authority at the Cabinet Office.

On Wednesday 9 October, join Jane Leech, public health development manager at Public Health Portsmouth, for ‘Maintaining good mental wellbeing is a skill, a skill that we and our workplaces can learn’. Kevin McAlister, founder of Lift Your Wellbeing, will discuss ‘Constructing a wellbeing culture’. And join Brian Parker, business development manager at AFI Group, for ‘Mental health in the workplace – an industry perspective’ in the Working Well Together theatre.

Sustainability in construction
This year, UKCW is placing sustainability at the heart of the show. Firstly, a new app will guide visitors around the show, replacing the printed guide. This alone will save five million sheets of paper.

Coming to UKCW 2019 is Mission Sustainable. The mission is to encourage exhibitors and visitors to be as eco-friendly as possible. Examples include: a reduction in single-use plastic at the catering points; water fountains around the show and use of refillable bottles encouraged; return of lanyards and badges for reuse; travel by public transport or car share encouraged; and use of reusable exhibitor show stands.

Also new is the Electric Vehicle (EV) Arcade outside Hall 12. As EV adoption gathers pace, charging points will become mandatory in new homes, and prime minister Boris Johnson is keen for the UK to lead the world in EV adoption. The EV Arcade will showcase the options on the market, including leading providers of charging points and renewable energy in this field.

Innovating for the future
With disruptors now present in many different markets, UKCW is shining a spotlight on the serious change-makers in construction. The aim is to promote productivity, speed, quality, sustainability and social cohesion, showing how innovation can create new value and stop the short-term, purely cost-driven race to the bottom.

A new Innovation Zone has been established in partnership with the Construction Innovation Hub – an organisation focused on transforming construction through digital and advanced manufacturing technologies. The Innovation Zone is a non-sales environment where visitors can explore new ideas, learn and be inspired.

UKCW is one event with many sections, including Build sponsored by Easy-Trim, Building Tech, Civils, Energy and HVAC, Surface and Materials, and Timber. It also features Concrete Expo (8-9 October only) and Grand Designs Live (9-10 October only).

Single registration at www.ukconstructionweek.com, gives access to all areas of the show. For information follow @UK_CW or search for the hashtag #UKCW2019.
GAINED IN TRANSLATION

LUCIAN GEREÅ WAS BROUGHT UP IN ROMANIA – WHERE HE WAS A MATHS 'CHAMP'. HE MOVED TO THE UK IN 2005 AND IS NOW A SITE MANAGER WITH JOHN SISK & SON AND A CIOB MEMBER ENGAGEMENT CHAMPION

Tell us about your career path?

I studied in Sibiu in Transylvania in Romania, where I graduated university with a specialism in IT programming.

In 2005 I moved to the UK to Wembley and took a job in construction as a chainman. I quickly grew to love my new home, colleagues, family and culture. I discovered a passion for both construction and languages, though it was hard to learn the difference between formal English and English slang particularly working on site. Now, I can say I am a proud British citizen.

I quickly progressed in construction and became a site engineer in the first six months. After 11 years of using state-of-the-art construction equipment and with an exceptional level of training and site-based experience I became a site manager. I was then encouraged by my construction manager to apply to become chartered in the CIOB.

What does being a CIOB mentor involve?

I became a member engagement champion with the CIOB. We developed with other committee members a CIOB mentoring programme.

As a mentor, I provide support, encouragement and inspiration to members during and following CIOB progression. We meet them where they currently are in their professional development and take them as far as they wish to develop. This is such a rewarding role. I love seeing members develop in confidence and knowledge, then eventually, become chartered.

What are your own aims and career ambitions?

I want to continue to assist and mentor construction learners and professionals. Creating a supportive community of professionals is crucial to the success of both individuals and the industry.

Since becoming a committee member at CIOB London, I have forged links between different people – including working with the chair of the British Psychological Society to collaborate on events.

Life is a continuous change and development process. We can always become a better version of ourselves. I strongly believe that the legacy we leave is by how we empower and improve our new generations by building and creating a better future.

Island initiative

Marc Burton, chief executive of Channel Island operations, Garenne, on a schools initiative to get construction onto the curriculum

We are involved with our JV partner Sir Robert McAlpine in a large infrastructure project. As part of our bid we put forward a legacy strategy with a large emphasis on promoting careers in construction.

As part of this, I was introduced to Alison Watson from Class of Your Own, who had written a STEM-based learning programme, Design Engineer Construct! (DEC). Straight away, I knew this was the opportunity for the industry to be on the school curriculum and give us the opportunity to develop working relationships with the schools.

The client, Government of Jersey, loved it, as did Skills Jersey, and we set about establishing a pilot programme for DEC with one of the secondary schools on the island.

DEC is fantastic as it allows students to use Revit to develop BIM models and produce feasibility proposals for a project of their choice. This is high-quality work, putting into practice STEM-based subjects, which in turn improves their marks in the subjects.

For our pilot programme we had 22 pupils studying DEC Level 1. The course is run after school every Tuesday evening and all 22 have completed the Level 1 studies.

Working with Skills Jersey, DEC is now recognised as a GCSE equivalent in Jersey. We have been promoting the success of the pilot to other schools: we will have one school joining the programme from September, plus a further school and Highlands College offering Level 2 and 3 from September 2020.

Skills Jersey has also introduced Primary Engineer into the nursery and primary schools – over 700 pupils have access to the course.

In the space of 12 months we have firmly put construction on the school’s curriculum – establishing a pathway right from nursery schools through to getting a master’s degree in construction through our local college.
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