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SPRINGFIELD MEADOWS, OXFORDSHIRE

A collection of 'carbon positive' homes

SHENZHEN BAO'AN AIRPORT

Grimshaw leads a mangrove-inspired masterplan

VILNIUS RAILWAY STATION

ZHA is making new connections in Lithuania

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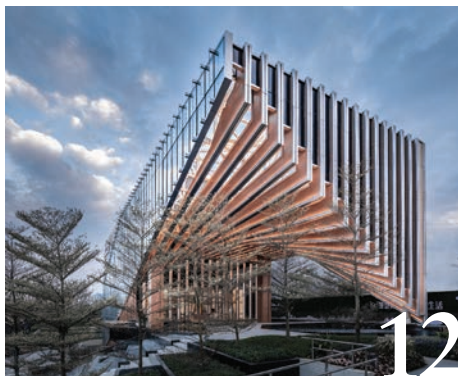
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Managing EditorJames Parker
jparker@netmagmedia.co.uk**Publisher**Anthony Parker
aparker@netmagmedia.co.uk**Editorial Coordinator**

Shelley Collyer

Editorial Assistant

Laura Shadwell

Editorial Contributors

Jack Wooler

Studio Manager

Mikey Pooley

Production AssistantsGeorgia Musson
Kim Musson**Account Manager**

Sheehan Edmonds

Sales Executive

Steve Smith

PR ExecutivesSuzanne Easter
Kim Friend**Managing Director**

Simon Reed

Advertising & Administrationt 01435 863500
info@netmagmedia.co.uk
www.architectsdatafile.co.uk**Press Releases**

editorial@netmagmedia.co.uk

Subscription CirculationEnquiries
info@netmagmedia.co.uk**netMAGmedia Ltd**Cointronic House
Station Road, Heathfield
East Sussex, TN21 8DF

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FROM THE EDITOR



As we return to normality post-pandemic, commercial building owners and office tenants have their work cut out persuading staff to return fully to the office, particularly in major cities. Staff have become used to the home working/office mix, and are making it work for their and their businesses' efficiency.

Some tasks require face to face collaboration, but a lot of tasks benefit from the lack of distraction that a home office can offer, despite its shortcomings. Most staff want to do their job to the absolute best of their ability, so the chance to flex the location in which they work to best facilitate that is a really valuable offshoot of the otherwise terrible disruption – and worse – that Covid has brought.

And staff are in short supply in many commercial industry sectors, so companies need to fight harder to attract the best, for example in financial services, where Brexit has also taken its toll. That's why, with increasing awareness of climate change, and how good office design can help, staff are being enticed to offices using green design and wellness elements as much as other incentives to attract staff. Proponents of building wellness standards believe that the return on investment is measurable.

There are a record-breaking 1.2 million job vacancies across the UK currently, so it's a seller's market like never before. Biophilic design, and wellness, are buzzwords, but they are also established components of the case for sustainable buildings – particularly for the younger generations of office workers. They are a cohort of people acutely tuned in to the likes of Greta Thunberg, and who by the same token, have a desire to be part of organisations which are displaying strong environmental credentials.

Our Industry Viewfinder survey of architects (reported on page 38), is well-timed as it canvasses views on Sustainability and Wellness in Commercial Buildings. As you will see in the Whitepaper we have produced, architects are firmly behind the idea that commercial clients are prioritising sustainability and wellness, in their efforts to get staff back to cities. A full, in-depth version of our Whitepaper can be requested from our website.

Another organisation harnessing research and data to help support their output is architectural practice HawkinsBrown, and the fruits of this work is often found in regular contributions to *ADF* from partner Nigel Ostone. In this issue, Nigel concludes his in-depth look at the reasons behind, and best practice for, persuading your clients to enter a Pre-Construction Services Agreement. We like to think that such practically focused, unique content helps us to stand out from the competition, while offering you useful business tips.

Our Industry Viewfinders (the result of a partnership with research organisation Edge Insight) provide a similarly unique sample of what the industry is thinking on a key current issue. They are supported by not only sponsors active in the area, but also Building Insights podcasts we are now conducting (available at the major outlets). These Industry Viewfinders might reinforce what you already know and believe, but they might also reveal something you didn't know about how your peers are feeling.

Also in this issue, look out for the Futurebuild Preview, as the event is back with a vengeance for 2022!

James Parker
Editor

**ON THE COVER...**

Japanese architect Sou Fujimoto created a 9,000 m² museum in Budapest with a completely translucent facade, nestled amongst the trees in a city park

Cover image © Palkó György

For the full report on this project, go to page 30



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HEALTHCARE

RIBA prize-winning Bangladesh hospital designed to tackle climate change

A remote community hospital in Bangladesh, designed by Kashef Chowdhury/URBANA, has won the RIBA International Prize 2021, which the organisation describes as “architecture’s highest global accolade for design excellence and social impact.”

Set in a water-laden landscape in south-west Bangladesh, near the border with West Bengal, the “sustainable and low-cost” Friendship Hospital delivers essential healthcare services to the local communities of Satkhira. According to the RIBA, it “provides a medical lifeline for thousands of people in an area of the coast that was heavily affected by a major cyclone in 2007.”

Praised for the “care and humanity at the heart of its design,” the building responds innovatively to the challenging environmental conditions, due to rising sea levels impacted by climate change, said RIBA.

The project was commissioned by NGO ‘Friendship,’ who have worked with the architect on several projects in the country on their mission to “empower rural communities through social innovation.”



Images © Asif Salman Courtesy of URBANA

The Grand Jury described the hospital as embodying an “architecture of humanity,” and being an “exemplar of innovative architecture that addresses critical global

issues – unequal access to healthcare and the crushing impact of climate breakdown on vulnerable communities.”

Saltwater has encroached inland making the groundwater saline, forcing all adjoining agricultural lands to be converted for shrimp cultivation. The building’s design responds by incorporating a canal to collect rainwater, to prevent water-logging as the saline groundwater is unusable for most practical purposes and draining is required from increasingly frequent rains. This water channel also helps with micro-climatic cooling as summers get hotter.

Architect Kashef Chowdhury said: “I am encouraged that this award may inspire more of us to commit, not in spite of, but because of limitations of resources and means, to an architecture of care both for humanity and for nature, to rise collectively to the urgencies that we face today on a planetary scale.”

The RIBA concluded: “The Friendship Hospital is an inspiring example of how architecture, even on a modest budget, can strengthen and empower remote rural areas.”



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IN MEMORIAM

Richard Rogers 1933 – 2021

Richard Rogers (aka Baron Rogers of Riverside), one of the UK's most renowned architects of the 20th and 21st century, and particularly famous for celebrating buildings' structure, has died aged 88.

Tributes have been paid from across the industry, including from Rogers' long-time collaborator Lord Norman Foster, who said he was "so deeply saddened by the loss of my oldest and closest friend." Rogers originally studied at Yale University with Foster, who said he was "a kindred spirit." They worked together in the late sixties, before going into independent practice.

Major buildings completed by Rogers include the Lloyd's Building, Millennium Dome, Channel 4 headquarters, the Leadenhall Building ('Cheesegrater'), and British Museum in London, as well as the Pompidou Centre in Paris, Heathrow Terminal 5, the European Court of Human Rights in Strasbourg, Senedd Building in Cardiff, and Three World Trade Center in New York City.

Rogers was born in Tuscany, to an Anglo-Italian family, in 1933, and was not initially successful in school, eventually being diagnosed as dyslexic. He achieved his Diploma in 1959 and joined SOM in New York after leaving Yale in 1962. Returning to England in 1963 he formed Team 4 with Norman Foster, Su Brumwell and Wendy Cheesman, and Rogers and



"Rogers was gregarious, outgoing, generous and possessed an infectious zest for life"

Norman Foster

Foster would go on to gain a reputation for so-called "high-tech" architecture.

Rogers joined forces with Renzo Piano, winning the commission to design the

Pompidou Centre, his most globally famous building, in 1971. Founding a new firm with Marco Goldschmied, Mike Davies and John Young in 1977, he continued to design key buildings, the practice becoming Rogers Stirk Harbour + Partners in 2007 with offices in London, Shanghai and Sydney.

Rogers pursued urban planning ideas for London avidly, including a Royal Academy exhibition in 1986, 'London As it Could Be,' which contained never-to-be-built proposals that would have transformed a large part of central London. He was invited by the Government to set up the Urban Task Force in 1998, and was chair of the GLA panel for Architecture and Urbanism, and chief advisor to London Mayor Ken Livingstone from 2001-2008.

Norman Foster commented: "Rogers was gregarious, outgoing, generous and possessed an infectious zest for life. His buildings are a social mirror of that personality – open, welcoming and, like his wardrobe, elegantly colourful."

Rogers used technology "always as a means to the social agenda," said Foster, adding that the late architect "championed cities as a committed urbanist," including as an advisor to mayors and government, or as a writer. He was a "tireless supporter of the compact, sustainable, pedestrian-friendly city and a passionate opponent of mindless suburban sprawl."

EDUCATION

Strong shortlist revealed for Oxford University

Oxford University Development – a £4bn joint venture between the University of Oxford and Legal & General Capital – has revealed the shortlist of five teams for the second stage of its international design competition.

The firms who have made the shortlist are competing to become the masterplan team for the University's £1bn, 190-hectare mixed-use Innovation District at Begbroke, to the north of Oxford.

The lead consultants of the shortlisted teams are: Allies and Morrison, Carlo

Ratti Associati, Grimshaw, Hawkins\Brown, and Prior + Partners. The shortlist was selected by the jury panel from 40 entries. All shortlisted teams scored highly against the Stage 1 criteria of "creative ability, problem definition, collaborative thinking, communication skills and the overall diversity and inclusivity of the team."

Anna Strongman, CEO of Oxford University Development, said: "We were inspired by the high quality of the entries and excited by the potential

of Begbroke outlined by the teams. We look forward to engaging with the shortlisted teams to explore ideas further in Stage 2."

The winning design team will set the design intent for a project that will "transform the area" around the University's Begbroke Science Park, said the joint venture. The project will also create a community of up to 2,000 "quality homes," together with new schools, a public park and a nature reserve.

Eventim Apollo's stage refurbishment by Harlequin Floors



Experts in stage building and performance floors

Last year one of the UK's largest original theatres, the Eventim Apollo in Hammersmith, went through a complete stage refurbishment carried out by the expert installation team at Harlequin Floors.

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MixC Dongguan Songshan Lake District



Zijing Paradise Walk, Hangzhou, China

AWARDS

Accolades for four LWK + Partners projects across China

LWK + Partners has announced that four of the studio's projects in China have received 'Honourable Mentions' in the 15th International Design Awards 2021.

The MixC Dongguan Songshan Lake District Mixed Use Development in Dongguan received Honourable Mention in the Conceptual category. Designed by Ferdinand Cheung's team, this mixed-use project "seeks to serve the community with high-quality apartments, plenty of energising public spaces, and convenient commercial facilities," said the architects.

Zijing Paradise Walk, Hangzhou received Honourable Mention in the Retail, Shops, Department Stores, and Malls category.

Also designed by Ferdinand Cheung's team, this shopping mall takes inspiration from the local Hui-style architecture with a culture and wellness theme, and features a diverse mix of retail and community amenities housed in interlocking spaces. The shifting and cantilevering of forms not only offer a series of hanging gardens, but also generous sheltered space along pedestrian sidewalks.

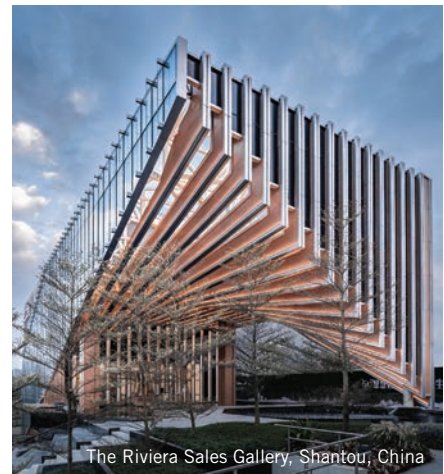
Aoti Vanke Centre, Hangzhou received Honourable Mention in the Commercial Building category, with Ferdinand Cheung's team again commended. The project is designed around a central courtyard and "reinterprets the

podium-tower typology by rotating each level of its elevated podium to a different degree to create myriad walk spaces for people's enjoyment."

Lastly, the Riviera Sales Gallery in Shantou received Honourable Mention in the Museum, Exhibits, Pavilions and Exhibitions category. This project "impresses visitors with a bespoke facade design inspired by the elegant form of traditional Chinese folding fans, giving rise to a picturesque envelope," said the architects. "The building mass is strategically subtracted to open up a wide, progressive archway for a slanted roof that descends from height towards the water."



Aoti Vanke Centre, Hangzhou, China



The Riviera Sales Gallery, Shantou, China

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CULTURAL

WGP Architects completes community space for Ipswich theatre



Images © WGP Architects

WGP Architects, working with the New Wolsey Theatre and developer Charterhouse, have completed a community resource which is accessible to the

Topped by a gold-coloured roof, The Creative Communities development known as NW2 has been designed to be “accessible to the diverse communities of Ipswich and offers a vibrant gateway to the town centre.”

It will house the theatre’s “youth and participation” activities in an accessible building featuring a “participation space,” offices, a meeting room, editing suite and Changing Places facility, “making sure everyone feels welcome and included,” said the architects.

Financed by the owner of the site, Peter de Savary – to the tune of £2m – the project

also includes a “reimagining of the public spaces that surround the theatre.” A newly created Theatre Square, formerly a water feature on top of the underground car park, offers an outside performance space.

In an urban area within the 1960s inner ring road, the theatre square was once part of a wider site of civic importance.

However with the police station, magistrate courts and nearby council offices now demolished, the area had suffered from gradual decline over many years.

The new building needed to be “simple, legible and economical,” said the architects, but it also needed to “capture some drama in order to reclaim the space and assert a new chapter for the theatre.” According to the firm, “robust materials and bold finishes” were used, including a “black

rubber skin” wrapping the building and a distinctive cantilevering gold canopy to represent a theatre curtain.

The architects added: “Adaptive reuse was a recurring design theme, in addition to more typical sustainable technologies. The bays coincide with the structural bays of the car park beneath, negating the need for complex structural adaptations.”

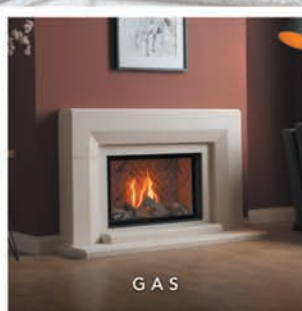
A highly insulated, panelised timber superstructure “made assembly fast and efficient,” said WGP. The steel projecting canopy to the front of the building was designed for “maximum material efficiency” with engineers Price and Myers reportedly using the circular geometry to “design out anything other than the 5 mm folded steel plate to support the cantilever.”

WGP later assisted the theatre with the refurbishment of their existing theatre lobby and waiting area. This included the enhancement of the theatre curtilage with the design and installation of a balcony terrace overlooking the new theatre square and new tensile canopy to shelter people watching external performances.

The theatre square forms the first phase of a larger 60,000 m² redevelopment that will include shops, flats and leisure facilities.



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EDUCATION

HOK-designed Research Centre opens at Glasgow University

The University of Glasgow's new Advanced Research Centre (ARC) has opened on the university's new campus in the city, designed by HOK.

Researchers, technicians, professional staff and post-graduate students are now working in the centre, which is a "centrepiece" of the university's development on the Gilmore Hill campus, and one of the first buildings to be completed.

The 16,000 m² building will house around 500 academic and student researchers from across all four university colleges: Social Sciences, Arts, Science and Engineering, and Medical/Veterinary and Life Sciences. The design addresses the university's three aims of "enabling interdisciplinary research, fostering collaboration and communication, and supporting wide-ranging engagement

among researchers, students, industries, policy makers and the general public," said the architects.

Gary Clark, HOK's regional leader for science and technology added: "To solve today's challenges, universities must incorporate their local communities, nurture ties with industry to foster research and innovation, and encourage interdisciplinary collaboration among students and faculty from diverse backgrounds. The centre accomplishes these goals by combining informed design with the latest insights into problem-solving and teamwork."

HOK drew inspiration for the ARC from the university's existing campus, the Gilmorehill Campus Masterplan and the surrounding historic buildings of Glasgow. The building forms the west side of a new square within the expanded campus and



features a "civic-scale frontage" with terracotta panels and fins set within a cast stone frame. A public route connects the new university square to the "West End community." The architects commented: "This permeable streetscape displays the internal activities of the ARC to the outside world, supporting the university's intention to be transparent in its community."

Designed to address functional needs and "spur engagement," the ARC features a large central atrium filled with natural light and includes a cafe and multipurpose engagement space. It includes exhibition spaces to display research, a custom-built space for "immersive technologies (VR/AR)," and seminar spaces available to anyone from the university community.

NEW APPOINTMENTS

Bond Bryan makes board moves

Architect firm Bond Bryan has recently announced three internal promotions; Matt Hutton will now lead the practice as CEO alongside new board members Steve Maslin as commercial director, and Peter Severn as director in the London studio.

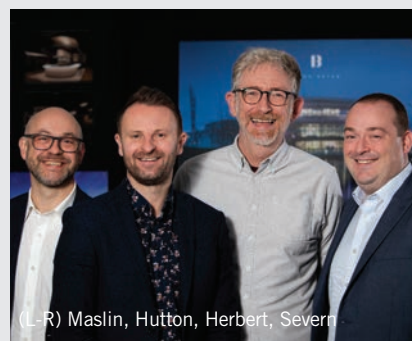
Matt Hutton has been a director at Bond Bryan for several years and is now working nationally across all sectors. A key aspect of his role will involve "promoting the firm's culture, leading on communications and ensuring continued commitment to sustainable design," while meeting RIBA's 2030 Climate Challenge targets.

Matt said, "I am really looking forward to sharing more about our people-focused

design ethos through our 'Circular Thinking' methodology, that puts sustainable design at the forefront of our engagement processes. We want to ensure that all of our projects are more successful and more sustainable than the last, be it socially, environmentally, or economically."

Having been responsible for numerous high-profile projects within Bond Bryan, Steve Maslin will "continue to lead the brand, working with key education and other public sector clients."

As one of the firm's residential and MMC experts, Peter Severn will be focusing on Bond Bryan's expanding residential and commercial portfolio



(L-R) Maslin, Hutton, Herbert, Severn


within central London, as well as developing their nationwide interior design offer.

This announcement coincides with main board director Jonathan Herbert leaving his position as managing director to "focus on the continued development of the further and Higher Education client base."

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VIEW POINT

In the second of two articles, Nigel Ostime of Hawkins\Brown provides a comprehensive guide on managing a Pre-Construction Services Agreement to get the best outcome for architects and their clients

In last month's edition, I explained what a Pre-Construction Services Agreement (PCSA) involves, as well as setting out the benefits and explaining some of the potential pitfalls for architects and their clients. In this article, I explain how architects can get the most out of a PCSA for the best project outcomes.

The key areas of procurement, programme, cost, value engineering (VE), change control, coordination and design information must all be carefully considered from the outset when it comes to a PCSA. So I have considered these factors in turn.

Procurement

You need to speak to the client early on about procurement, and the approach they intend to take. Where appropriate, advise on alternative routes. Hold early discussions about the PCSA process, including agreeing with the contractor at the outset the aims, the activities to be undertaken, and the programme for these.

You should advise when a project requires more specialist input, or if it has a significant subcontractor design package. Use single stage tendering on completed Stage 4 information for less specialist projects, so that costing is more straightforward. Ensure the client is aware of any further specialist input required in the next stage.

Define early on which, if any, subcontractors will be involved in the PCSA, and confirm the intention that they will be retained for the project, so that their early input is not lost or overwritten. Also, confirm the preferred suppliers and how they should be engaged with during the PCSA (not just verbally in tender interviews). Request that the PCSA team is the contractor's build team, as this is often not the case.

Identify what the real benefits of having the contractor on board could be for the



UCL QUEEN SQUARE INSTITUTE OF NEUROLOGY AND UK DEMENTIA RESEARCH HEADQUARTERS

The project due to complete in London in 2024 has benefitted from good collaboration between design team and contractor during the pre-construction phase © ISG

project and make them deliver against those as a priority. Document the aims of the PCSA with the client and the project manager to understand what they are looking to get out of the process and make sure the contractor signs up to them.

Programme

At the outset of the PCSA, ensure you agree with the contractor the scope, the DRM (Design Responsibility Matrix), and a programme which identifies what is needed and when, and then monitor progress on a regular basis.

Don't revisit packages until the end, but review the programme and make sure

realistic time is given for coordination and detailed design. Allow a review period once all design work is complete, and remember that IRS (Information Release Schedule) dates are key to the contractor. Be open from the outset that coordination time is required during the PCSA before tendering, and that the overall programme needs to facilitate this.

There are some potential issues to avoid within the PCSA programme itself:

- Be careful the contractor does not try to change the DRM after it has been agreed with the client
- Beware of where the package review timetable only allows, say, two days

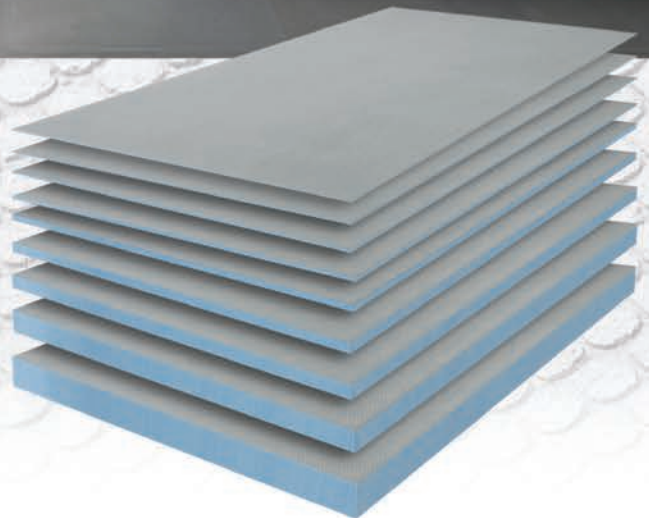


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You should advise [the client] when a project requires more specialist input, or has a significant subcontractor design package

Nigel Ostime, Hawkins\Brown

between reviews, which is not enough time to bring in benefits that the contractor is supposed to bring

- Watch out for time allocated to the Stage 4 design programme but based on the tender events schedule; this can give too little time for coordination.

Cost

The cost plan is often not made available, but try to get visibility of it, to be able to analyse it and determine whether it is realistic, and get cost under control. An initial cost plan that is based on Stage 3 can lead to Stage 4 design development (after the design should have been fully coordinated and frozen) and this can be difficult to explain to the client, so ensure early dialogue about what is legitimate design development and when the design should be fixed (ie at the end of Stage 3).

Possible cost pitfalls:

- Be wary of the need for coordination post tender and the contractor raising concerns over cost as a result
- Keep an eye out to check that the cost consultant is properly resourced and being pro-active
- Beware of provisional sums that push the design risk into the next stage and often end up being much more work when they are agreed later on.

Value engineering

The programme for VE should be separated from the main flow of work and identified as a separate fee. As the onus is on cost, the VE/cost review programme needs to be integrated into the design process. There should be a final cost and a VE review/cost analysis period after the contractor cost is



UCL Queen Square Institute of Neurology and UK Dementia Research Headquarters © FTP

submitted. Trying to revisit packages already issued while you are preparing the next ones causes problems.

The PCSA is effectively continuous value engineering, and there needs to be flexibility in the programme to allow for this. Programme in cost reviews for each package, and the process for agreement. Consider not just the additional work from VE but also the level of information needed, such as in the facade. Also, when agreeing performance or quality VE changes on their own (not as part of a coordinated solution), be aware that this could have an impact on later work when integrating into the developed design.

Change control

The change control process must be set up from the outset and be managed by the contractor. There must be clear definition of what is design development, and what is a change. Items not drawn in Stage 3 can be seen as a change, as they are not costed.

Coordination

Focus on coordination with MEP and structures, before package information is progressed. Difficulties occur where the planning application has been submitted without a fully coordinated design being developed, and this can lead to issues where the PCSA immediately follows on. Exercise caution and aim to submit sufficiently detailed planning applications with fully coordinated designs (you may need to

accept this is not possible if the client wants to minimise the scope of the pre-planning design activities).

Design information

Be wary of issuing a preliminary detail and the contractor taking it as final and making assumptions based on it. Sketches are the right way of illustrating PCSA proposals, to make it clear they are not to be adopted as the comprehensive solution. Include a 'PCSA discussion' watermark onto these types of study. Derogations which cannot be captured on official drawings need to be clear and concise; sketches or markups are better – written schedules often have grey areas, and ambiguities.

Separate teams need to progress the design and variations from the PCSA process; otherwise it will cause disruption. Note that Qs and contractors do not always understand 4a and 4b; it's important to lay out the ground rules.

In order to get the PCSA to work, all parties need to approach it as the buildability exercise it is intended to be, with an agreed programme and contributions defined from all parties. Architects and other designers should guard against the potential prolongation of PCSA periods, as it can take a lot of time, and therefore cost, to support them.

Nigel Ostime is partner and project delivery lead at Hawkins\Brown

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Jason Lebidineuse of Scott Brownrigg (L) Michael Davis of JLL (R)

Stream of consciousness

With even greater proliferation of film and TV content across a growing range of streaming platforms since the pandemic, there's huge demand for sustainable production facilities in the UK. Jason Lebidineuse of Scott Brownrigg and Michael Davis of JLL explain the opportunity for architects

One of the key findings of a 2021 report published by JLL, 'Reel Estate – Film and TV Studios as an Investment,' was that demand for "new studio capacity, services and facilities has never been greater, with more than double the current amount of permanent stage space in the UK needed to meet it."

The increase in the streaming of films and TV series has only been amplified during the pandemic, and has seen the need for space to produce more content soar. Renowned for its talent pool and famous studios, the UK is a dominant player in Europe for film production and has therefore seen the demand for studio space intensify.

Film production is a highly adaptable and creative industry; we must ultimately mirror these qualities in facilities

Sustainability is becoming an increasingly important factor in achieving production companies' ESG (Environmental, Social & Governance) objectives. It is recognised that while creating temporary studios resolves timing issues associated with limited studio space, in order to be truly sustainable we need to be looking



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The challenge for project teams is the ability to bring facilities to the market quickly enough to align with studios' production programmes

towards creating high-quality, permanent space that can not only flex to meet future need, but also contributes positively to wider society. Bringing thousands of highly skilled jobs, improved sustainable infrastructure, and significant new revenue to local areas, studios are increasingly becoming a catalyst for regeneration across the country.

What was historically considered as the ideal site characteristics for a film studio (essentially large, flat and located near west London) is now in short supply, so developers are broadening their horizons to see how they can adapt, and make alternative sites in a range of new locations suitable for filming. Herein lie the opportunities for architects.

Space & reuse challenges

To serve the rapid increase in demand for space, the built form needs to be flexible and adaptable to cope with changing requirements. The challenge for project teams is the ability to bring facilities to the market quickly enough to align with production programmes.

Some production companies turn to temporary facilities as a solution, converting existing sites and buildings from industrial use into modular studios in just a few months. These temporary solutions offer a quick and flexible fix to the problem but they pose challenges in terms of sustainability, can be costly to reuse, and are unlikely to meet future building safety standards.

Permanent stages are often deemed a more cost effective solution, but finding the right site for a new facility can be tricky; large, flat sites with existing infrastructure resilient enough to cope with traffic associated with film production are scarce in the UK.

Projects tend to undergo a vigorous planning process, and taking the time to engage key stakeholders is crucial. The planning process can have a significant impact on how quickly a project comes into fruition, and ultimately how conducive the design is for requirements once the studios are finally built. We focus on providing clients with the flexibility to cater for a range of production companies and output. Film production is a highly adaptable and creative industry, we must ultimately mirror these qualities in the facilities we provide, at the same rate, if not faster, as the industry moves forward.

Design pointers

Production companies need different things, so flexibility and space are key. The spatial arrangement must be able to flex as advancements in technology change the way in which the industry operates.

Most facilities require a warehouse-type building with ample ceiling heights, plus a range of studios to the right ratio of workshop and office support for content creation. Ample external space is also important in order to deal with the circus of film production, including parking for large vehicles and deliveries and storage space for the dismantling of sets.

Following a recent expansion in digital CML, such as special effects, augmented reality and gaming in the UK, there is also a growing trend where larger players are looking to relocate from Central

London bases to established catchments for digital creativity. Ideally, they are looking to co-locate alongside production studios in open, campus-style offices with contemporary design and amenities.

Studio sustainability

A demand for sustainable solutions is becoming increasingly important – clients want studios that will stand the test of time. Tenants want to occupy facilities with clear carbon reduction plans and that champion the use of renewable energies to align with their own sustainability goals.

We should be advocating carefully thought-through, permanent solutions that are flexible and adaptable for the future. This means being designed with the circular economy in mind, the right site selection and orientation, and best practice on materials.

The challenge is how to build sustainably, while still meeting the fundamental need for more studio space across the UK, and within a short timeframe. We can design permanent facilities to provide flexibility and with quality materials that will stand the test of time, but there remains – in some cases – an immediate need for temporary facilities to meet demand for content. This makes designing for circulatory crucial, but does present an opportunity to create 'pop-up' studios that can be dismantled and reused or repurposed elsewhere.

Case study: Shinfield Studio

Designed to BREEAM Excellent standards, Shinfield Studios in Berkshire provides a new purpose-built film and television studio that can flex to the changing requirements of each production. Workshop space and offices will support 18 sound stages, ranging in size from 16,000 ft² to 40,000 ft², an on-site screening facility, which can host post-production work, as well as screening the latest releases, and supporting local film clubs and theatrical groups. The design adopts a fabric first approach, use of air source heat pumps and photovoltaic arrays (PV), and avoids use of fossil fuels. Through the integration of low and zero carbon technologies a typical reduction of 20% carbon emissions is estimated, double the level required under the council's existing policy.

Four sound stages have already been completed and are now in operation, with a Disney production confirmed to start within the next few months. A further nine are due by the end of 2023, with completion of the entire 18 stage facility by the end of 2024.

Future challenges

We all have a unique part to play in helping to futureproof the industry, but fortunately our clients are increasingly becoming the key driving force behind a demand for innovative and sustainable solutions that can flex to meet future need. With this demand starting at the top, these priorities trickle down the supply chain, helping keep the entire project team aligned in achieving the same vision.

Utilising renewable energy on site will become a requirement for all future planning applications. Investing in photovoltaic panels, green roofs and sustainable energy technology like air source heat pumps will be key in moving towards a net-zero carbon future.

As film studios tend to work at a third of capacity at any one time, there is scope to harness intelligent building management systems such as Digital Twin technology to minimise energy use and enhance operations throughout the year. ■

Jason Lebidineuse is a director at Scott Brownrigg, and Michael Davis is head of London Unlimited at JLL

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ASK THE ARCHITECT

With extensive experience in arena and stadium design, John Rhodes of HOK explains what drives him, and how the pandemic has forced designers to 'futureproof' major facilities



John Rhodes, design principal and director of sports + entertainment at HOK

WHAT MADE YOU WANT TO BECOME AN ARCHITECT?

I think I have always wanted to be an architect. My life was filled with drawing from an early age and I probably spent an unhealthy amount of my youth building dens, borrowing tools and constructing things. So, coming from a practical family, the balance between art and science that architecture offered seemed a justifiable natural outlet for my creative indulgences. This has served me well as I am still allowed to continue my passion for drawing and creating things while still appearing to have a grown-up job!

WHAT DO YOU LIKE ABOUT IT MOST?

The diversity and scale of the problems we face is always invigorating, one day defining an urban plan philosophy on a macro scale, the next solving a tricky thermal bridge connection. The eclectic range and mix of skills needed means there is always more to learn. Plus, the linear nature of the process always means the journey is interesting and fresh. A good design solution comes from a good understanding of our clients' needs.

We sometimes have the opportunity to add beauty and even magic to the world. How many professions allow you to do that?

WHAT IS THE HARDEST PART OF YOUR JOB NOW?

The growing contractual squeeze on the profession. We are seeing a worrying trend of unseen third and fourth party collateral warranties being loaded on the design team for matters well outside our scope.

HOW HAS THE PANDEMIC CHANGED THE DESIGN APPROACH TO SPORTS ARENAS?

Before the pandemic, sport and entertainment venues were becoming the vanguard of the intersection between the physical and digital world. After the pandemic we now have to transition back from the digital to physical world. New trends such as in venue pre-ordering and grab and go service have now become the norm in day-to-day life, and will have a much larger role to play in stadium hospitality.

Technology will continue to be augmented in our experience. Sports teams





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will want to create more diverse revenue streams, leveraging their unique position within communities beyond a reliance on match day revenues.

The transition to cashless venues has happened with the pandemic fast tracking some of the technology innovations that are now being seen as the 'norm.' Enhanced ventilation, and reduced touch points will be design enhancements that will continue, as we continue to design venues with safety and wellbeing at the core.

Above all, I think we have all missed the communal enjoyment of watching sport and live entertainment together. Once the variants have passed, we will all be keen not to take such live experiences for granted and get back to hanging out with the tribe in wonderfully atmospheric venues.

WHAT DO DESIGNERS NEED TO CONSIDER TO 'FUTUREPROOF' MAJOR SPORTS FACILITIES AGAINST THE ENCROACHMENT OF DIGITAL SOURCES?

Focus on the experience of the event goer, how they can engage authentically with the sporting performance, and fully enjoy that unique experience of watching together and knowing that you were there when history was made.

DO YOU THINK GENUINELY SUSTAINABLE MATERIAL APPROACHES ARE VIABLE FOR SUCH LARGE STRUCTURES?

Yes, sustainability has to be at the forefront of innovative design. This is not just the

right thing to do, it makes financial long-term sense and is increasingly important to sponsor's, naming rights partners and the fans themselves.

Sports and live entertainment venues have their own unique sustainability challenges – big spans, large amounts of embodied energy, peaks of usage and complex mobility plans. Any opportunity to address these challenges needs exploration, including innovative use of renewable materials such as CLT (Cross Laminated Timber).

We are particularly interested in exploring the sustainability benefits of the deep refurbishment of heritage venues, such as the Avicii Arena in Stockholm. Reusing as much of the existing venue as possible rather than building a new one is a very effective sustainability strategy.

WHAT IS YOUR PROUDEST ACHIEVEMENT PROFESSIONALLY?

Watching Bruce Springsteen open Leeds Arena – which I helped to design – was pretty special, while it was a privilege to be part of the team that helped secure the Dubai World Expo for Dubai.

WHAT IS THE KEY INNOVATION IN THE INDUSTRY THAT YOU WOULD LIKE TO SEE?

I would like to see a more collaborative contractual landscape, a 'black box thinking' environment where the industry works closer together to solve some of the big challenges we are facing, such as climate change.

WHAT'S YOUR CURRENT FAVOURITE MATERIAL FOR DESIGNING BUILDINGS?

Like children, I am not sure it's appropriate to have a favourite. Albeit with the carbon and sustainable advantages of timber, CLT has real opportunities to fulfil its potential in the next few years, if insurance challenges are resolved.

DO YOU TEND TO BE MORE 'ATTENTION TO DETAIL' OR 'BIG PICTURE'?

Ironically, I like both and in particular flexible strategies rather than singular solutions. It's often the bit in the middle that I sometimes find others are better equipped to drive.

WHAT DO YOU HOPE TO DO MORE OF IN 2022?

See more live sport and entertainment, (and keep up the lockdown wild swimming!)

IS DIPLOMACY SOMETIMES AN ARCHITECT'S MOST IMPORTANT SKILL?

I agree, as designers we are often used to dealing with varied parameters, such as the natural typography, the solar path, complex briefs, and spatial adjacencies, but in situations where persuasion is our only weapon, the key parameter is often diplomacy (and a great idea).

John Rhodes is design principal and director of sports + entertainment at HOK





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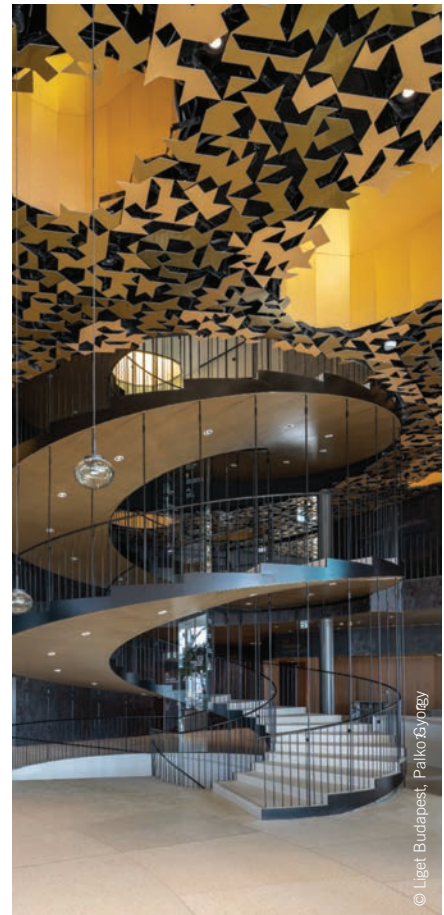


DATONG ART MUSEUM, CHINA FOSTER + PARTNERS

Datong Art Museum – a new cultural destination in China designed by Foster + Partners – has opened to the public. The building is a series of interconnected pyramids emerging from below the earth with the gallery spaces sunken below ground and surrounded by landscaped plazas. A succession of spaces dedicated to education and learning, include a children's gallery, media library, archive and art storage facilities.

The entrance is via a winding sequence of ramps, which lead down into an open, sunken plaza – which also provides an amphitheatre for outdoor performances. Visitors enter at a mezzanine level that reveals an overview of the Grand Gallery, 37 metres in height and almost 80 metres long. Further exhibition spaces are placed around the museum's perimeter on a single level. The four interconnected roof pyramids increase in height and fan outwards towards the four corners of the cultural plaza. Natural light enters through roof lights at the apex of each pyramid. The design of the roof creates a "vast, flexible column-free volume below," said the architects. The roof is clad in naturally oxidised curved steel plates that "give a three-dimensional quality to the surface." The panels are proportioned to suit the large scale of the museum, and their linear arrangement "accentuates the pyramidal roof form." Foster + Partners added: "By sinking the building into the new plaza, the design relates in scale to the neighbouring cultural buildings, while maximising the internal volume."

The building's passive design "responds to Datong's climate". High-level skylights take advantage of the building's north and north-west orientation, while minimising solar gain and ensuring the optimum environment for the works of art. Sinking the building into the ground, plus a high-performance enclosure, further reduces energy needs.



HOUSE OF MUSIC, BUDAPEST SOU FUJIMOTO

The 'House of Music,' a museum designed by Japanese architect Sou Fujimoto, recently opened. A 9,000 m² structure nestled amongst the trees of the city park, the museum has been described as "an ambitious rethinking of a 21st century museum space." Designed as a "continuation of its naturalistic park setting," the architects used 94 custom-manufactured, heat-insulated and undivided glass panels to create a "completely translucent" facade which "blurs boundaries between indoor and outdoor space." The building's undulating roof structure, designed with nearly 100 crater-like holes in the surface, was inspired by sound waves, and varies in depth, allowing trees to "slip through" while channelling light into the bottom level of the building, said the architects. Granted BREEAM certification, the building is equipped with a "special heating and cooling system," said the architects. Native and low water-intensive plant species have been used, and rainwater from the roof and green areas will be collected and drained to the local water reservoir and nearby city. The building will act as a performance venue, as well as providing a library, workshop and exhibition space.



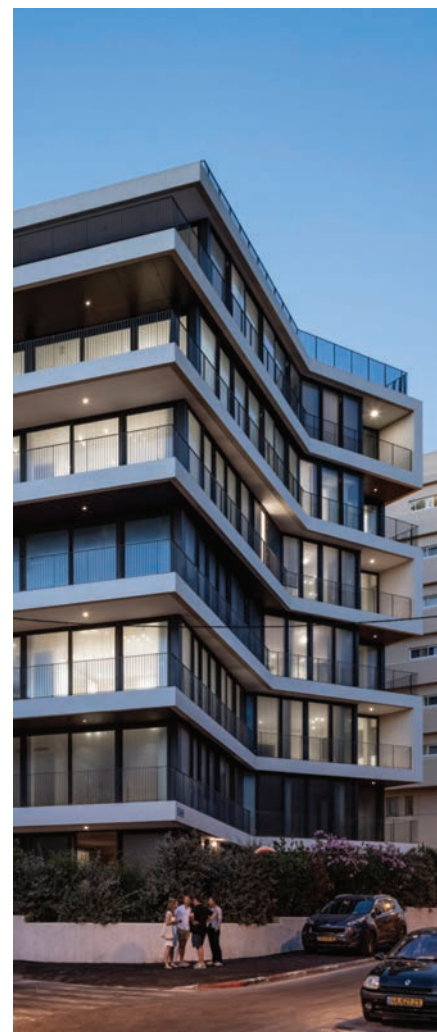
STOCKHOLM CENTRAL STATION DESIGN COMPETITION FOSTER + PARTNERS

A team led by Foster + Partners in collaboration with Marge Arkitekter has been revealed as winners of the competition for the development of Stockholm Central Station in Stockholm. The winning design, put forward by the team which includes LAND Arkitektur, Thornton Tomasetti, Ramboll, Wenanders and TAM Group, will bring several modes of transport together in a single integrated transport hub, while prioritising pedestrian areas and creating a “new mixed-use urban district.” Luke Fox, head of studio, Foster + Partners, said: “As the world’s collective focus shifts to more sustainable ways of living, working and travelling, it is vital that we enhance and redevelop our transport nodes and repair and connect the urban fabric around them.” Located at the heart of the city, Stockholm Central Station caters to more passengers than it was originally designed for with future plans to increase the number of trains coming into the city. The new district, largely built over the existing tracks, will re-link the surrounding streets to create an “active, friendly, and safe public realm that will stitch together the east and west sides of the city, improving passenger connections across Stockholm, without impacting the historic skyline.” Pye Aurell Ehrström from Marge Arkitekter, said: “It is fantastic to be involved in redefining Central Station’s role at the heart for Stockholm, while at the same time providing new additions that reference the surrounding streetscape of traditional Klara block architecture, respecting the cultural values of the city.” Planning consultations are scheduled for the project in 2023.



NORTHERN EXTENSION OF METRO LINE 14, PARIS ATELIER ZÜNDEL CRISTEA (AZC)

Design studio Atelier Zündel Cristea’s (AZC) main objective when designing the northern extension of the Metro’s line 14 was to “relieve the saturation of line 13.” Four new stations have been built, at Pont Cardinet, Porte de Clichy, Saint-Ouen, and Mairie de Saint-Ouen, connected by 5.8 km of tunnel tracks. The extension serves some 96,000 additional inhabitants in the districts of Clichy-Batignolles and the inner suburban towns of Clichy and Saint-Ouen-sur-Seine. The depth needed for the platforms required that they be very thickly moulded, to 1.5 metres. Supplying the materials to this depth was difficult, said the architects, and the installation of certain elements – such as installing wall tiles – required ‘cathedral-style’ scaffolding. The building’s structure relies on vertically moulded walls, stabilised by horizontal stays and slabs. The walls were poured first, after which the ground was dug out to create a volume 30 metres high, 130 metres long and 22 metres wide. The depth influenced the positioning of the stairwells, with the main spaces arranged and designed based on the principles of “simplicity and robustness,” said AZC.



MAPU 5 RESIDENCE, TEL AVIV BAR ORIAN ARCHITECTS

Bar Orian recently unveiled its latest project, ‘Mapu 5’, a new-build residential property located in the heart of Tel Aviv’s White City. Unusual both in size and shape, it is three times larger than a typical plot in the district, and positioned so that the balconies benefit from sea views. The home is built over five stories atop a ground floor garden apartment, with an upper floor that steps back from the front. According to the architects, the facade is a “contemporary interpretation that merges the ‘zeitgeist’ balconies of the early 1920s and a dichotomous concept of a sunken or projected balcony, blurring the relationships between the exterior and interior of each residence.” The result is a “more sculptured, asymmetrical form which frames landscapes.” Humid weather conditions required framings to be screwed, rather than welded, and window sills were concealed in plaster. HPL boards and aluminium systems were used for most facade surfaces.

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West Fraser launches a new Architects' page – including details of annual competition



For the past six years, West Fraser (formerly Norbord), has partnered with RIBA Journal to hold an annual competition that challenges architects to use the industry's most popular OSB brand, SterlingOSB Zero. With a different brief each year, the competition has been hotly contested by some of the industry's most creative architectural practices, all vying to win the top prize of £2,500.

The interest from architects in West Fraser products, and the company's environmental credentials, has led to the development of a specific architect hub on the website uk.westfraser.com/resources/architect-support.

The new page details the competition as well as providing tailored information such as CPDs, downloadable product datasheets and BIM objects. The architect can also order product samples.

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INDUSTRY VIEWFINDER

Sustainability & wellness in commercial buildings

The pandemic has left a question mark over the future of urban commercial environments such as offices and retail settings. As a result, designing spaces which promote a broad set of sustainability benefits, including employee wellbeing, is now in the spotlight, as a means to bring staff back to workplaces.

However, lockdowns have also triggered a greater focus on sustainability and wellness, with companies resetting or refocusing their priorities, as well as consumers and commuters similarly reassessing how they want to live and work. Workplace tenants are facing a perfect storm of stiff competition for staff, compounded by the move away from commuting to offices, and pandemic-based health and safety concerns for buildings going forward.

Sustainable buildings also make economic sense in the commercial sector. A 2013 report by the World Green Building Council suggested that certified 'green' buildings could add a 30% premium compared with 'conventional' counterparts, and also found that BREEAM certification in particular could increase rental rates by up to 24.9%.

There has been much speculation that 'public' buildings, post-pandemic, must change to offer safer, better ventilated spaces, while also helping building owners such as retailers return to profit. The question is, how can this be done practically and efficiently? And in the past few years, sustainability has become the focus of much construction and product innovation, accentuated by climate change, plus the UK's legally-binding pledge to hit net zero carbon in 2050. It is also increasingly demanded by the staff that office tenants are looking to attract. One of the many drivers within sustainability – one

which is increasingly coming to the fore in workplaces, is wellness.

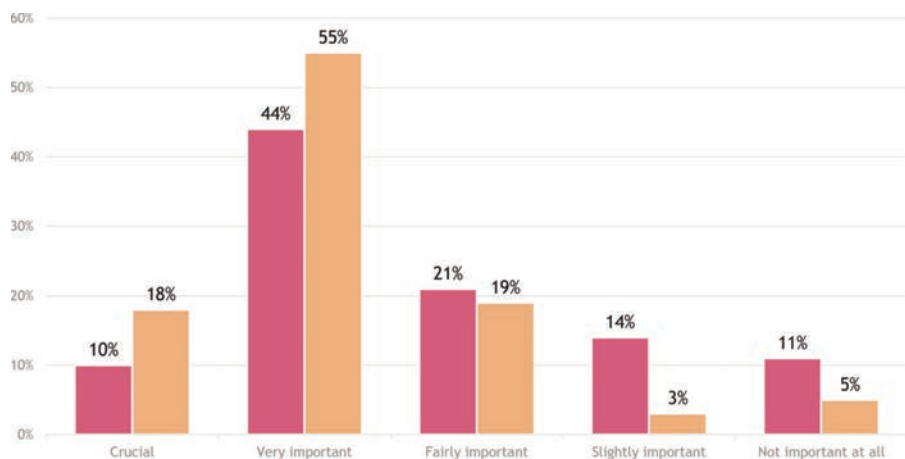
This more human-centred concept is being harnessed by building owners to offer the promise of not only happier staff in healthier environments, but reduced costs from sickness, and higher retention and productivity. It is being viewed as a sustainability metric at least as important as whether the correct air-tightness or lighting efficiency is being achieved.

Air quality, space, light, noise levels, balancing distraction and isolation, quality of furniture, access to the outdoors – perhaps individually simple components, but difficult to optimise in many settings. However, the commercial sector, from individuals and as corporate entities, is growing its awareness of what people need from buildings to do their job properly. And many companies are aware of how it can impact them, both in terms of staff happiness and therefore retention, but

55% of survey respondents believed staff wellness was 'very important' for their clients in terms of attracting office staff back to cities, post-pandemic

also a measurable financial driver, i.e. increased productivity.

It's self-evident that a valued workforce is likely to feel more engaged, motivated and happy. However, the degree to which investing in environmental sustainability factors such as good Indoor Air Quality (IAQ) can assist productivity is increasingly backed up by scientific research. Studies such as on the effect of air quality on cognitive state are beginning to offer compelling proof of



"How important is building sustainability and employee wellness in attracting office staff back to cities for your clients?"

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"What is the most important business case for mainstream workplace clients for investing in staff wellness and building sustainability?"

the importance of environmental factors for workplace efficiency.

Audience research

The increased interest in sustainability and wellness in the commercial sector is corroborated by an Industry Viewfinder audience survey *ADF* undertook (together with Edge Insight) of architects, 52% of whom were working on offices, as well as 25% in retail, and 23% in industrial projects. Also, 27% had been involved in a commercial project whose brief 'explicitly prioritised sustainability,' and 23% in one which 'explicitly prioritised wellness.'

A key finding was that investing in employees' wellness was a priority for clients in bringing workers back to offices, post-pandemic, with over half of respondents believing that it was "crucial." Wider sustainability qualities of buildings were also key for clients in retaining staff.

The research also looked at the importance being placed on sustainability, post-pandemic, in attracting workers back to buildings, versus that of more specific wellness criteria, across office, retail and industrial sectors. The study also revealed the biggest drivers for clients investing in their buildings' sustainability and staff wellness, plus how those investments have benefitted clients' businesses, as well as the key components for success, and their attitude towards current standards in achieving the goals.

The challenge

With the explosion in demand for commercial space in urban centres like London in the early years of the 21st century, there was also a growth in Corporate Social Responsibility (CSR) commitments to increasing sustainability. In recent years, major commercial clients have continued to compete fiercely to find the best employees, including using their buildings' attributes, and normally in major cities. Post-pandemic, this challenge has been compounded by staff preferring home working, or leaving their posts having reassessed their priorities.

The UK's net zero target, which was brought under a bright international spotlight recently as the country hosted COP26, is going to be the key challenge across construction for the next couple of decades. Sustainability is a very broad church, but how workplaces perform both against client criteria and user expectations, in a changing demographic scene where people are acutely aware of climate footprint, is one of the biggest factors for stakeholders including clients, workers and customers.

Sustainable returns

There is a strong financial case for sustainability improvements in commercial workplaces; aspects that directly affect clients' bottom line include reductions in artificial lighting and long-term maintenance, durable materials that need

fewer replacements, savings on energy and water bills, and reduced cooling requirements. However more intangible benefits include employee satisfaction (although costs of recruitment and retention can be measured), company reputation and customer trust.

Our survey of architects found that clients had some compelling business case reasons for investing in building sustainability and staff wellness. Top of the list was staff retention, possibly reflecting the current crisis in staffing and the need to persuade workers to come back to offices post-pandemic. In total, 53% of our respondents picked staff retention as the "most important business case for mainstream workplace clients for investing in staff wellness and building sustainability."

Not far behind, however, was energy costs, in the context of a growing energy price crisis. Of our architects surveyed, 49% picked this factor, but interestingly a substantial cohort of 41% chose productivity as a key reason for their clients to invest in sustainability. Also, the ability of multinational clients to apply a single approach to their commercial buildings (with users' needs being similar globally), was picked by 37% of respondents. Meeting and promoting CSR goals received 28% of votes, and recruitment 22%.

Respondents reported that clients they had worked with in commercial schemes had seen productivity rise in new builds or improvements (53% saying this was the case), and only 14% said this hadn't been found.

In addition, staff happiness was reportedly improved according to 53% (versus 15% saying this hadn't been recorded). As a result, retention was improved according to 40% (although 23% said it hadn't been affected), and recruitment by 37%.

Clients investing in sustainability & wellness

The most striking finding of our architects' survey was that 55% of respondents believed that wellness for staff was 'very important' for their clients in terms of attracting office staff back to cities, post-pandemic. A slightly lower number picked sustainability as 'very important,' but still a healthy 44%. However somewhat surprisingly, 14% of respondents said that



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sustainability was ‘not important at all’ for their commercial clients in this context while only 10% voted for sustainability as ‘crucial’ (18% saw wellness as ‘crucial.’)

By contrast, when it came to how clients were prioritising wellness against sustainability in general for commercial projects, the emphasis was firmly on sustainability in offices, according to 40% of our respondents, as opposed to 27% saying that wellness was a higher priority.

According to our survey respondents, the top factor for contributing to employee wellness in commercial buildings was air quality (71% said it was the most important element). Next in line was natural lighting (59%), followed by noise levels (42%)

Sustainable design approaches

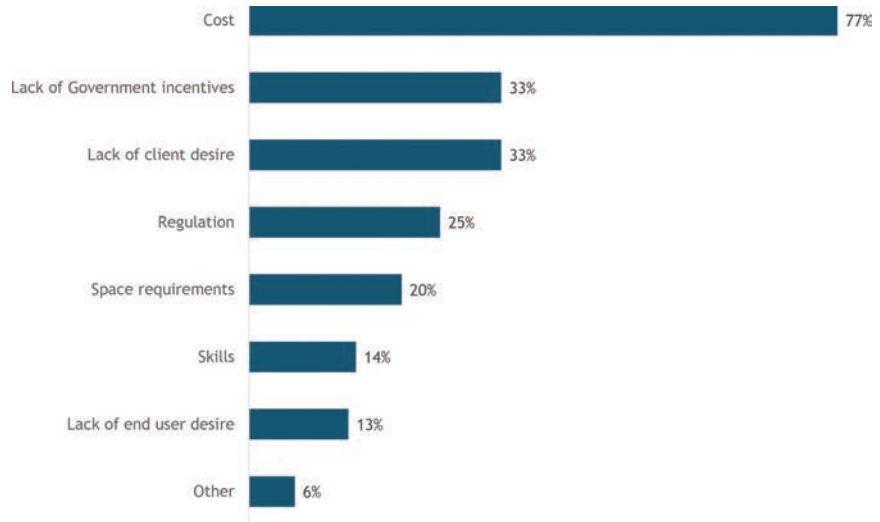
Design approaches to reducing buildings’ energy use and carbon footprint are well established across the commercial sector, from offices to retail to industrial spaces. Using natural daylight to offset artificial lighting requirements, including green roofs and solar PVs, maximising insulation have all proven to make a substantial difference. And renewable tech such as heat pumps, geothermal heating, rainwater harvesting and boreholes are more mainstream options for architects and clients.

However, genuinely ‘passive’ design approaches to enable buildings to harness solar gain, prevailing breezes, and stack ventilation – and provide thermal mass benefits – could be fewer and further between in commercial buildings. The first Passivhaus office in England wasn’t completed until 2011, although there has been a steady stream of schemes since then.

Healthy building standards

There is increasing evidence across the workplace sector in particular that sustainability and wellness accredited buildings benefit their owners in the form of increased rental rates and sales value for developers and owners, as well as productivity and job satisfaction. BREEAM, LEED, and The WELL Building Standard each offer building owners different types of accreditation. They all represent a ‘stamp of quality’ for staff and reassurance that clients are prioritising wellness, health and sustainability.

WELL was launched in 2004, as the “first globally applicable standard on the



“What is the main barrier to building more sustainable commercial properties?”

relationship between buildings and humans, especially human health.” It is now operated by the International Well Building Institute (IWBI), which has reported “skyrocketing demand” for accreditation of workplaces post-pandemic. It is also promoting the standard as a tool for futureproofing premises as we ‘learn to live’ with Covid.”

IWBI believes that buildings accredited to WELL “help employees achieve more, increase the quality of work produced, decrease absenteeism and increase connection with the employer.” Other claimed benefits include recruiting better talent, reduction in staff turnover, increased revenue, reduced medical and healthcare costs, and increased “perceived physical and psychological health.”

From our survey, just over a third of respondents (38%) said that sustainability certification was ‘occasionally’ a client requirement in the commercial projects they had worked on. Only 28% said that it had never been a requirement, and 9% said that it was always required.

BREEAM was overwhelmingly the most used method for respondents, with 48% saying they have used BREEAM New Construction on a commercial project, and 31% saying they’d used BREEAM Refurbishment & Fit Out. Next in line were Passivhaus (26%), BREEAM In-Use (22%), with WELL used by 15%, LEED by 10%, and other standards such as the RICS’ SKA

rating being used by 15% of respondents.

Using standards positively affects the level of specification (in terms of client budget) on commercial projects, according to our respondents, however only 17% said it was ‘greatly affected’: 35% said it was ‘moderately affected,’ and 14% said it was ‘not affected at all.’

The use of standards also helps coordinate a design team to focus on sustainability goals in a thorough, systematic way in projects, and gives designers and clients a common point of focus. As one commenter in our survey points out, this “consciousness raising” has the added benefit of “leading to demands for higher standards in projects.”

Conflicts & conundrums

Shortcomings within the standards have been identified over the years, e.g. presenting conflicts for designers in themselves and within projects. One issue cited by a respondent to the survey was that clients would “chase the easy points.” Another added that in masterplanning terms, the point system “favours certain building types over others, which may not encourage the optimum commercial/retail/housing mix for a given area.”

Another said that the current standards failed to tackle “fire testing of innovative materials including timber-based and cradle-to-cradle products.” In terms of

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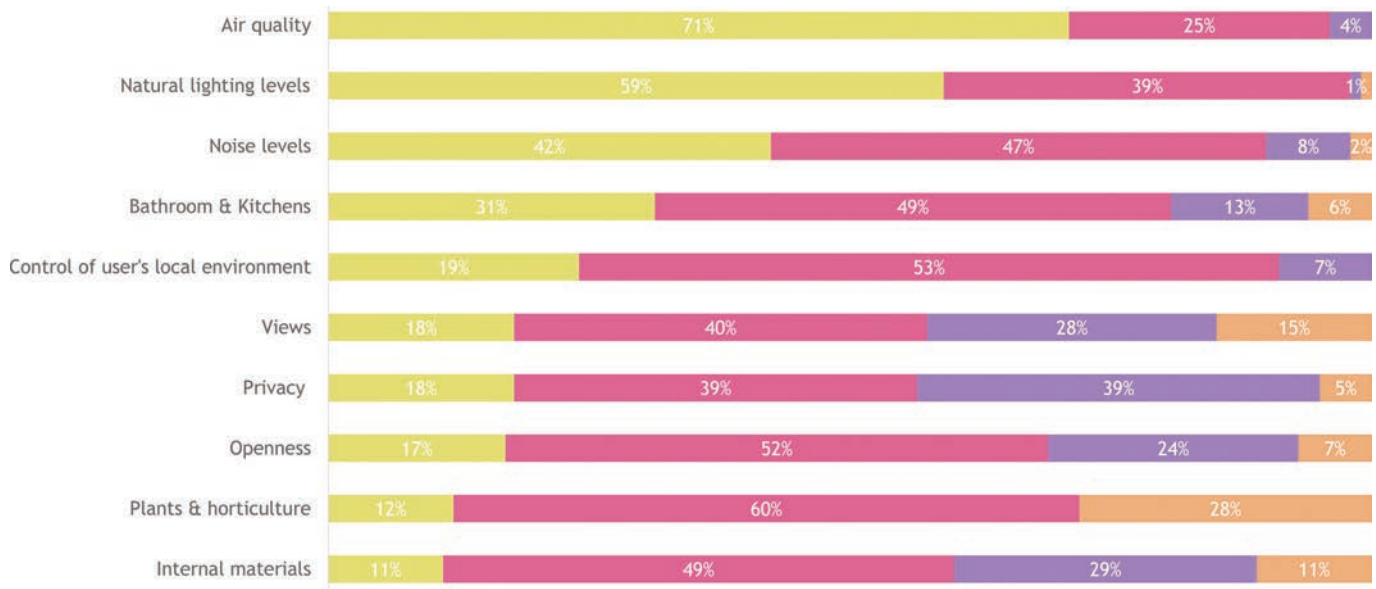
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"How would you rate the following elements in terms of importance for employee wellness?"

■ Most Important ■ Fairly Important ■ Not Greatly Important ■ Least Important

conflicts within teams, one respondent said that these (unsurprisingly) occurred "around budgets" in the main, and in "understanding the value of sustainability."

Helping clients, helping architects

Further benefits of using sustainability standards for project teams were highlighted in our survey findings, with verbatim comments including a wider project team benefit of using standards being that "people feel that they are contributing," and that there is "more focused specification of products." Additional comments on the benefits included "user satisfaction," "client satisfaction," "pride for the client and being able to make some contribution," and that "client viewpoint of the company improves," emphasising the importance of more intangible, reputational and CPD aspects of showing environmental responsibility. The differentiation possible for building owners would also mean it could "attract a wider base of potential tenants," said one respondent, another adding that the result would be a "happier workplace."

Applying standards could also help in "controlling costs," and "if it's done right, mean less maintenance on the overall building," said one respondent.

Another user mentioned that "better performance, better longevity, and more resilience" were compelling benefits.

Despite the differing remit of the commonly used standards overall, there is some overlap. This has led IWBI, for instance, to allow WELL credits to be switched with BREEAM, assisting project teams as they drive towards overall holistic improvements for staff and clients.

Barriers to investment in sustainability & wellness

Despite the compelling benefits for clients and architects, our survey found several barriers which are holding sustainable schemes back. First in the list, and unsurprisingly given the recent impact of Covid on businesses, is cost of improvements, chosen by 77% of our respondents.

The next cited issue was 'lack of Government incentives' (chosen by 33% of architects surveyed as a barrier to investment). One commenter said: "Whole life costs are key to the circular economy, but Government policy has scarcely begun to address this."

Further barriers to surmount were 'lack of client desire' (33%), 'regulation' (25%), 'space requirements' (20%), 'skills' (14%),

and lastly, 'lack of building tenant/user desire' (13%). One respondent commented that a "fractured silo approach" to the M&E element of projects was a further barrier which needed addressing.

Clearly the case still needs to be strongly made that investing in sustainability and wellness is a business benefit, and not just a 'nice to have,' even in these straitened times.

Conclusion: a post-pandemic future

As we come to the end of the pandemic, building owners are looking to deliver more sustainable, healthier commercial spaces on a whole raft of criteria, from building-only attributes, to those which directly affect staff too. This is what it will take to attract the best staff, and the most loyal customers, in future.

The downtime has meant a resetting of goals in many cases, and a new urgency to produce better buildings for people, which will bring them back to workplaces. As well as making them safe for staff, workplaces will increasingly be designed with general sustainability, as well as more human-centric wellness aspects to the fore, to help support this goal.

For the full version of this whitepaper, please visit www.architectsdatafile.co.uk/whitepapers

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Casings for transport hubs from Encasement

When it comes to durable and decorative casings for transport projects, Encasement's extensive range has them covered, whether it's an airport, train station or bus terminus. The company's column casings and building linings provide wide choice of materials and finishes, allowing a broad range of specification options.

Encasement's Circa and Quadra column casings are for use specifically on interior applications and allow increased versatility as they are available in a range of standard dimensions or can be specified in bespoke shapes and sizes. Manufactured from pre-formed plywood and usually finished with a tough high-pressure laminate (HPL), they are regularly specified for transport hubs and related applications.

Column casings from the Forma metal and Polyma GRP ranges can be specified for both interior or exterior use, as their inherent weather resistance, durable materials and exceptionally wide choice of finishes allows even greater design freedom and versatility.



The new Coventry Train Station

While standard sizes are available in both ranges, they are also ideally suited for casings with bespoke shapes and dimensions, as Forma is manufactured from aluminium or stainless steel and the Polyma range is produced from moulds, enabling them to meet individual project requirements.

For many transport hubs, their interior walls also require a combination of protection and aesthetics to resist accidental damage and minimise maintenance requirements while providing a decorative finish in areas, such as waiting rooms, foyers, check-ins and self-service ticketing zones.

Encasement's Vecta building linings range is designed to meet these diverse requirements. They are bespoke manufactured and can be specified in a range of materials, including natural, brushed, anodised or PPC coated metal, as well as compact laminate wall linings, which are available in a wide palette of colours. They can also incorporate custom images or graphics for unique interior design or branding solutions.

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Welcome back Matt



GEZE UK is delighted to welcome back Matt Gregory as specification manager for the north. Matt will be responsible for assisting architects and specifiers with compliant solutions for all products in the GEZE range which includes automatic doors, window technology and manual overhead door controls. In addition, he will produce detailed and risk assessed NBS specifications which are supported with BIM objects and present GEZE's RIBA approved CPD to help architects and specifiers expand their knowledge. Matt first joined GEZE in 2017 and after a spell outside the industry he returns to the company bringing with him extensive knowledge of entrance systems and automatic doors from his time as Automatic and Industrial door engineer and previous sales management experience. Said Matt: "I am pleased to be back working with GEZE and their respected and varied product range, they have a strong brand and excellent reputation in the door industry. I look forward to working closely with architects and specifiers, creating strong collaborations with them and providing a quality service."

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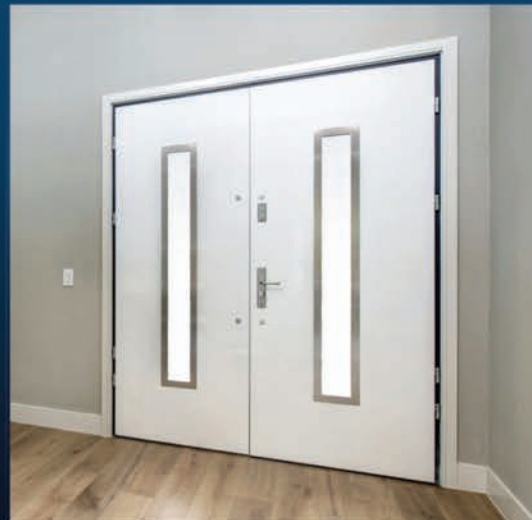
Harrison Thompson & Co. Ltd. achieve CHAS Advanced Accreditation



Harrison Thompson & Co. Ltd, manufactures of Yeoman Shield Wall & Door Protection products and Yeoman Rainguard Rainwater Systems, who have held CHAS standard rating for many years, have been recently awarded CHAS Advanced Accreditation. This advanced certification meets with pas91 requirements and demonstrates Harrison Thompson's competence as a company in important core areas such as Health & Safety, Environmental Impact, Sustainability, Financial Standing along with Equal Opportunities and Diversity. It also removes the need in supply chains for many different pre-qualification modules to be undertaken therefore saving time and money for both clients and contractors alike.

Harrison Thompson Director, Phil Christopher commented: "CHAS Advanced is a great investment for our company which allows our clients to immediately assess and have confidence in our proficiency and compliance in regards to Health & safety, Quality and Financial procedures."

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Introducing Secure Vue, the new battery powered solution from ESG, which makes it possible to install LCD privacy door vision panels of up to 0.5m² with no mains wiring.

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Secure Vue is invaluable in applications such as custodial and medical doors, where internal room monitoring is essential, while still allowing privacy for occupants at critical moments. Interior designers and homeowners will also love the possibilities this offers in domestic settings.

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Entries for Schüco Excellence Awards are now open

The ninth annual Schüco Excellence Awards will take place this summer, for which project applications are now officially being accepted.

The well-established Schüco Excellence Awards for Design and Innovation, run in association with Architecture Today, recognise exceptional projects completed with Schüco systems all over the UK and Ireland. The deadline for entries is 27th April 2022.

Architectural designer and television presenter, Charlie Luxton will reprise his role as host for the awards event at The Banqueting House in London's Whitehall on Thursday 30th June 2022.

The Awards receive recognition across the industry, as was demonstrated by the landslide amount of entries for the 2021 Awards, increasing the number of entries for the second year running. Winning entries demonstrate the very best contributions from design and specialist contractor teams, and the Schüco facade, window and door systems



used in the project.

Entries are judged on creativity, innovation, technical expertise and collaboration to deliver architectural intent. This year's judges comprise esteemed past judges and previous award winners, including Ingrid Petit, associate at Feilden Fowles; Steve Mudie, partner at Alinea Consulting; Fiona Scott, director at Gort Scott; Carol Patterson, director at OMA; Harry Montrésor, partner at the Montrésor Partnership; Pankaj Patel, director at Patel Taylor; Innes Johnston, senior partner at Max Fordham; and Architecture Today editor Isabel Allen, who will Chair the judging.

The ten categories for the 2022 Schüco Excellence Awards, which have been updated since last year, are: Commercial and Mixed Use development; Cultural building; Education, Health and Leisure building; Refurbishment and Adaptive Reuse project; Individual house; Individual house improvement; Residential development; Specialist contractor, Steel project and Sustainability.

Visit the awards platform to enter a project into the Schüco Excellence Awards 2022.

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CERTIFIRE approval for TECTUS Hinges

SIMONSWERK UK is proud to announce that the TECTUS range of concealed hinges has been approved for the Warrington fire CERTIFIRE certification scheme.

CERTIFIRE is an independent third-party certification scheme that assures fire protection products' performance, quality, reliability, and traceability. The scheme is recognised by regulatory authorities worldwide, it is an internationally respected mark of fire safety and one of the most authoritative in the industry.

Following stringent tests and further assessments, the TECTUS is the only CERTIFIRE approved multi-axis concealed hinge on the market.

Robin Guy, managing director says: "The certification is a fantastic asset to the range; it gives both our customer and the end-user the confidence and reassurance that the products carry the mark of a reputable third-party certification body. It gives assurance as to the performance of the products, particularly following the understandable



stringent requirements on products to meet additional fire test standards due to recent tragic events. The certification underlines SIMONSWERK'S commitment to the highest quality standards and the products performance reliability".

SIMONSWERK are one of Europe's leading Hinge Manufacturers with a history spanning more than 130 years in the manufacture of brass, aluminium and stainless-steel hinges for doors and windows. The range includes the renowned fully concealed TECTUS hinges and the popular TRITECH solid brass hinge with concealed bearings.

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Find wedi on stand F32 at Futurebuild 2022

Wedi is and has been the industry leader of innovative tilebacker solutions in Europe for over 38 years. At the core of the business is the continued drive to adapt and develop its products and system solutions to meet the ever growing challenges of the construction industry.

Primarily focused on 100% waterproof wet room solutions, wedi is more than able to handle requirements for offsite POD manufacturing, even for the spa & wellness industry. Dedicated to people and the environment, wedi is a certified EcoProfit operation with certified energy (ISO 50001), environmental (ISO 14001) and quality (ISO 9001) management systems. Its products are manufactured with 100% green energy and with at least 25% recycled XPS foam material in a completely environmentally friendly process.

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light weight meaning less transportation weight and lower carbon footprint as a result. Committed to its present clientele, to future generations and nature, wedi continues to set high standards in the tilebacker industry.

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FUTUREBUILD STAND NO F32

JACKON is 'Future Homes ready' at Futurebuild stand H50



At Futurebuild this year JACKON will be promoting the fact that it is Future Homes ready. The company's building systems are ready for the rigorous new u-value targets for new-builds, when these come into effect in 2025 as part of the Future Homes Standard. JACKON's THERMOMUR® ICF and JACKODUR® ATLAS ranges already meet or exceed the new targets for thermal insulation. The THERMOMUR® 350 Super range – currently the company's best-selling range in the UK – already achieves 0.15 for walls with no added materials, and the JACKODUR® ATLAS system can be designed to achieve 0.11. Visitors to the company's stand at the Show will be able to find out more about the benefits that JACKON's 60 years' expertise in XPS and EPS manufacturing can bring to your construction project. JACKON building systems make a positive contribution to the construction of highly energy-efficient buildings due to very low energy inputs required for heating or cooling. More information on JACKON's products is available on the company's new website.

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FUTUREBUILD STAND NO H50

Panasonic's new efficient Cold Chain Units



Panasonic Heating & Cooling Solutions has expanded its CR Series line-up of Cold Chain Condensing units with the addition of the medium and low-temperature 4HP units. This growing range of high-quality refrigeration solutions, powered by the natural refrigerant CO₂, now provides cooling capacities from 2 kW to 16 kW. The units are an ideal solution for a variety of refrigeration applications including chilled cabinets, cold-rooms and freezers in food retail, hotels, convenience stores, gas stations, healthcare (such as pharmaceutical laboratories), industrial (food processing etc.) and warehouses.

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GBC Green Building Calculator V2



GBC Green Building Calculator V2 is an impartial, easy to use, multi-functional calculator that can make a difference. It can total upfront and in-use costs, energy consumption and carbon emissions. Analyses different building shapes, construction methods, material choices; where resultant demands and emissions can be compared easily. Architects and other professionals now have a way of assessing and creating greener buildings and easing their way into the 'New Normal'. GBC brings 22 years' of environmental know-how to help accelerate the adoption of low carbon building methods and materials.

GreenBuildingCalculator.uk GreenBuildingEncyclopaedia.uk

FUTUREBUILD STAND NO L68

Build towards net zero at Futurebuild

futurebuild
the future of the built environment

Futurebuild, which has championed sustainability in the built environment for the past 16 years (including in its former guise, Ecobuild), returns to ExCel on 1-3 March. It will connect specifiers, decision makers, major brands and start-ups from across the industry

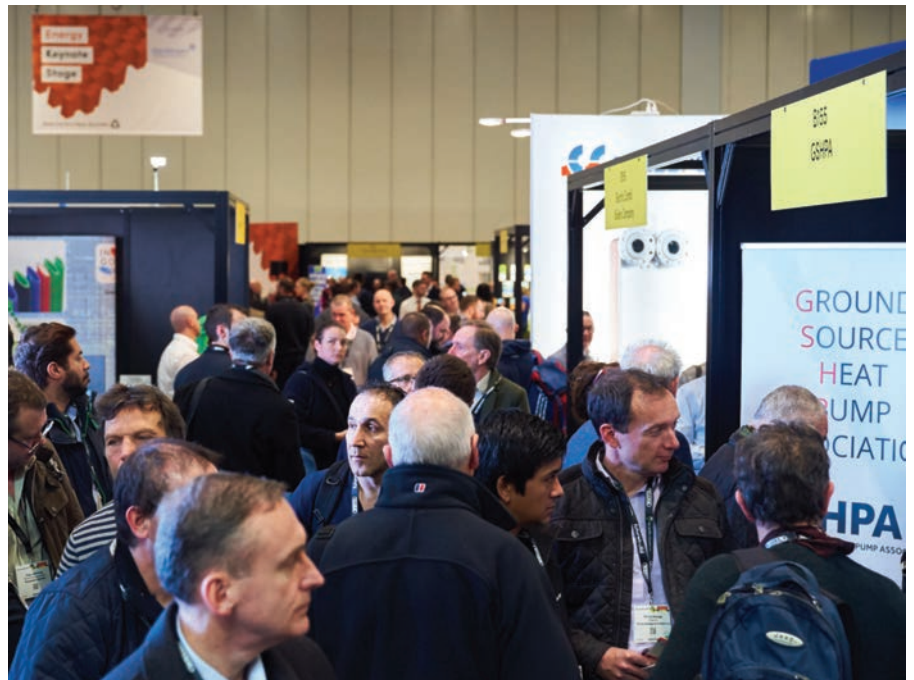
In the aftermath of the COP26 conference, Futurebuild (previously Ecobuild), is perfectly timed to focus on the key issues and actions needed to work towards net zero. The focus is no longer about ambition – it is about delivery. Claimed to be the only event to attract 20,000+ senior professionals from right across the built environment, the organisers say Futurebuild is the “perfect opportunity for the industry to meet and collaborate to achieve the transformational change needed if the built environment is going to reach net zero by 2050.”

Called the “home of innovation,” Futurebuild 2022 will be organised into six sections – Buildings, Offsite, Interiors, Resourceful Materials, Energy and Critical Infrastructure. The Energy section, for example, will unite professionals engaged in designing, specifying, supplying and installing services and products involving energy production and use. Visitors will be able to discover the latest technologies which will decarbonise the built environment by delivering a smart and flexible energy system.

Conference programme

In partnership with the Construction Innovation Hub, Futurebuild 2022's conference programme will explore some of the key questions and issues around closing the gap between net zero ambition and delivery. It invites panels of industry experts to share their experiences on a range of topics, from embodied carbon to investing in education, skills and diversity.

The first day of the conference programme will focus on ambition beyond COP26 and will include a panel discussion entitled ‘In a world where embodied carbon is regulated, what has changed?’ Chaired by



Rt. Hon. Phillip Dunne, MP, chair of the Environmental Audit Committee, this session will consider a future where embodied carbon is “effectively regulated,” and the panel will discuss what impact this would have on the UK's pathway to net zero and the ways in which we design, build and retrofit buildings.

Spotlights

The event will also feature six ‘spotlights,’ which will include a mixture of presentations, discussions and practical demonstrations that will cover the fundamental issues facing the built environment:

- Digital Impact, sponsored by Glider
- Whole House Retrofit, in partnership

Futurebuild (previously Ecobuild), is perfectly timed to focus on the key issues and actions needed to work towards net zero; the focus is no longer about ambition – it is about delivery



- with The Retrofit Academy
- Circular Materials, in partnership with 540 World
- District Energy, in partnership with UKDEA
- Future Installer, in partnership with MCS
- Intelligent Buildings, in partnership with KNX.

District energy and in particular low carbon heat networks are now recognised as one of the cornerstones of delivering decarbonisation of heat – a critical step in the journey towards net zero. The District Energy spotlight will provide visitors with essential knowledge and access to the latest solutions for the decarbonisation of heat.

Collaboration is key

The curated event will showcase over 250 leading brands, the companies who are developing the most innovative technologies, products and solutions. Visitors can participate in the innovation trail, which highlights the event's innovation partners. The Big Innovation Pitch is a competition that celebrates new approaches to the biggest challenges facing the industry. The six shortlisted

innovations will pitch against each other during the event, before one is crowned the 2022 winner.

By bringing together individuals and companies from all areas of the built environment, we can accelerate innovation and provide everyone with access to the products and processes needed to deliver change.

“Now it is more important than ever to meet in person and do business face to face because our exhibitors and attendees are all working towards a common goal – achieving net zero,” explains Martin Hurn, event director at Futurebuild.

If you are interested in visiting Futurebuild 2022, register for your place here:



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FUTUREBUILD STAND NO K43

Bricking the gap between traditional construction and MMC

James Mead, project director at Saint-Gobain Weber, discusses why a move towards MMC doesn't mean the end of brick

With around 70% of the UK's new homes being built with a brick facade, we need to find a way to construct buildings that are traditional in appearance but modern in construction.

The cost of bricks (in terms of freight, emissions, weight, space, and storage), the availability of bricklayers, and Net Zero targets all present their own challenges, which is leading the construction industry to look for alternative methods to build faster, more cost effectively and most importantly, more sustainably. Cue Modern Methods of Construction.

Integrating modern and traditional construction

As we transition from traditional building methods to offsite manufacturing, products within Category 6 (product-led labour reduction/productivity improvement) are set to play a huge part in bridging that gap.

This Category includes "traditional single building products", that are "manufactured in large format, pre-cut configurations or with easy jointing features to reduce extent of site labour required to install", and can contribute to a projects Pre-Manufactured Value (PMV).

Builds will become quicker thanks to the ease and speed of installation. Such systemised products will also help to ensure adherence to the forthcoming uplifts in Building Regulations Part L, which will place

additional requirements on the fabric and air tightness of new-builds, as they can be constructed with this in mind.

And there are already products on the market, usable on new build and refurbishment projects today, such as weberwall brick.

Product innovations

Saint-Gobain Weber's weberwall brick has been developed as a cladding alternative that gives the appearance of brick but can be fitted without the need for specialist labour on site. Once applied, it feels and looks just like the real thing.

It can be fixed more than three-times faster than traditional brick slips and is lightweight, with one sheet of 20 bricks being equal to the weight of one house brick.

As a Category 6 product it can also be combined with MMC builds, so that when panelised and volumetric construction is the norm, the time from project inception to handover is even further reduced.

Futurebuild

There will be live weberwall brick installation demonstrations on Weber's stand (J20) twice per day – at 10:45 and 14:00 – on each day of Futurebuild.

Examples of the different applications that weberwall brick can be used for will be on display, including new build, refurbishment and internal design. The stand will also showcase MMC solutions, using steel and timber frame builds supplied by Saint-Gobain Off-Site Solutions.

Futurebuild attendees will also get an exclusive look at the new photographs of 24-32 Stephenson Way, a recently completed office refurbishment project in King's Cross, London. The client wanted to achieve an exposed brick finish to complement the existing colour scheme, so used weberwall brick in Antique Red Multi with pointing mortar in Buff. It was combined with exposed pipework at ceiling level to create a contemporary industrial look.

For more information on weberwall brick or to discuss a project, please contact Saint-Gobain Weber.

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BENEFITS OF WEBERWALL BRICK AT A GLANCE

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GREEN BUILDING CALCULATOR LAUNCHES VERSION 2

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GBC V2 is MS Excel-based, open-book, a multi-functional design, decision tool and calculator, it adds whole building embodied energy, embodied carbon, sequestered carbon and costs to the existing in-use energy, carbon and costs of Version 1.

GBC V2 calculates Form Factor to help set U value targets, it engages user's choice of regulated, design standards, or campaign targets, including: UK or any national regulations; AECB, CL, CLR, PH, EnerPHit; LETI, ACAN, RIBA, TfL, etc. GBC V2's elemental assemblies allow choice of components, materials or products, checks, confirms U values meet targets or warns if not.

Summary sheet emphasises which elements have disproportionate heat losses to enable review of specification choices.

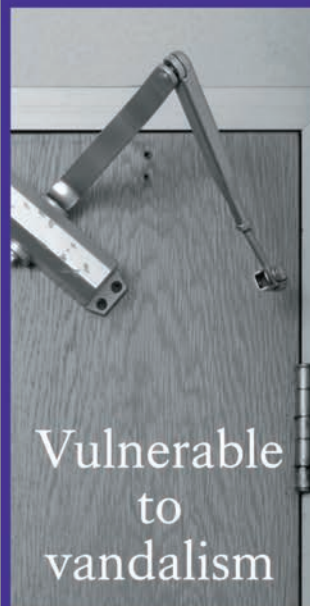
GBC V2 includes a bill of quantities to allow cost planning, quotation collating, tendering; with cost and carbon data, intelligent value engineering is possible.



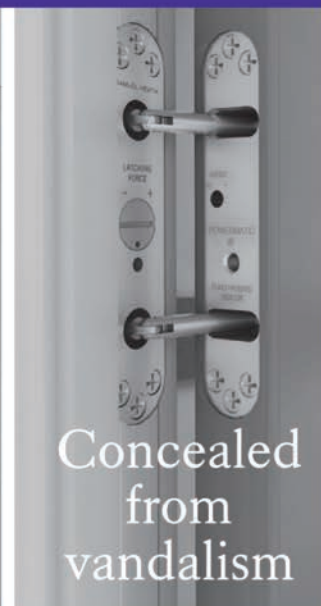
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BUILDING PROJECTS

SPRINGFIELD MEADOWS OXFORDSHIRE

Positive mental attitude

The multi-award winning Springfield Meadows is a collection of 25 ‘carbon positive’ homes in Oxfordshire, designed by Greencore Construction to be the UK’s ‘most sustainable development.’ MD Ian Pritchett tells Jack Wooler how the project was a victory over continual planning obstacles

Zero-embodied carbon; net-zero energy in use; climate positive; ‘One Planet Living Global Leadership’; partnership with BBO Wildlife Trust; all electric-development – when it comes to sustainability, Springfield Meadows is the ‘full monty.’

Designed, manufactured and built by Greencore in their offsite factory, the company says its lime-hemp insulated

timber frame system allowed the 25-home development in Southmoor, Oxfordshire, to be developed to deliver Passivhaus standards at a similar price point to traditional housing, creating what has been labelled “the most sustainable development in the country.”

In the past year, the scheme – offering both social housing and private custom-builds – has received the



appropriate praise for such an achievement from all sides of the housing industry, from OxProp's 'Best Residential Housing Development,' the Structural Timber Awards 'Timber Framed Project of the Year', to Bioregional's 'One Planet Living Global Leader' award, and more.

Despite all the plaudits, Ian Pritchett, managing director of Greencore, tells me that the UK planning system has hampered the project at every turn, losing the company time and money. It even required some elements of the project to be built before full permission was assented, as local dignitaries and national TV stations publicised the project's groundbreaking design as 'the future of housing in the UK.'

As such, the project is both a testament to the way green building can be done in the UK, and a clear display of how the systems behind housing delivery have not yet caught up with the Government's intended aims of decarbonisation.

Walking down the narrow lane to the site, the development's low density is immediately obvious – in fact it's around a third of the typical housing density in the UK, according to its developers, with nine affordable units and 16 open market homes spread across seven acres.

This lane caused one of the earliest setbacks introduced by the planners; its small size caused them to reject any more plots being introduced onto the site. Now, including private plots ranging from a tenth to a half of an acre, the scheme features some very desirable, custom-built homes of around 100 to 300 m² of GIA (Gross Internal Area). The level of luxury was needed to ensure the private homes in particular were economically viable, the social portion comprising nine homes being sold as a whole to housing association Sovereign.

Green groundwork

Alongside the sheer size of the homes, another benefit of its low density was in enabling the road and infrastructure to be designed around the existing trees, including a large oak tree at the centre of the site. The road winds its way around, giving the development a distinctive, curving shape.

The impact of the development was further eased by its unobtrusive, all-electric nature – removing the need for gas works. The SuDS installation, instigated at an early stage, sits under the road, avoiding unnecessary additional groundwork.

Another ‘nature-first’ aspect of the scheme was hedge planting around what is already a particularly green site area hosting native English species. They have been chosen to benefit biodiversity, extending the season for flowers, and producing higher levels of nectars and berries to help wildlife. This effort has been supported and aided significantly by what Greencore claims is the first partnership between a developer and the Wildlife Trust.

Natural verticality

Looking at the houses themselves, the buildings proudly display their use of natural materials, clad in various timber species, including brimstone poplar as well as Siberian and English Larch, but also Kebony ‘modified wood’ cladding.

Pritchett says there was a “very deliberate” decision to mix up the “architectural journey of the site” with different forms. Most of the homes have steeply pitched roofs throughout at 50°, and a few have pitched roofs plus garages with flat roofs, and at the end of the site there are four large, flat-roofed, contemporary villas.

Where the roofs are pitched, they are generally terracotta coloured clay tiles, but where buyers have requested different options (on the custom built homes) – there are variations, such as one grey clay tiled house.

One thing that remains the same across all the roofs however are the extensive solar PV arrays, integrated onto the roofing rather than sitting on top of it, something which allows producing a “less jarring” design than former iterations, says Pritchett.

Much like the majority of the roofs on the development, the homes’ design gives them what Pritchett describes as a “certain verticality” – the team have employed taller, narrower windows than normal – “ending up with an architecture based on portrait rather than landscape.” This is continued in the cladding strips, which are arranged vertically.

Passivhaus principles

Entering the homes, the ground floors are in the main ceramic tiles plus underfloor heating. Oak staircases and joinery help to provide a contemporary, while natural feel to the interior design. Floors above rest on a cross-laminated timber base, which helped make the second phase of the project ‘carbon positive,’ as a result of sequestering significant amounts of carbon within the structure.



In terms of heating, for an all-electric development there are relatively few heat pumps installed – only where custom-build clients have requested them. In general, the homes use direct electric heating and hot water. This is fed directly from the solar arrays on the roof, using any electricity they create in the first instance – before importing it from the grid.

Many of the homes also have batteries installed, meaning that if they aren’t using all the electricity the panels produce. The battery can be charged for later use, and then the surplus imported back to the grid – for which the grid will pay a small fee to the homeowner.

This was a clear display of how the systems behind housing delivery have not yet caught up with the Government’s intended aims of decarbonisation



When it comes to daylighting, Greencore “followed the principles of Passivhaus,” as on all other aspects of the properties – from the high levels of insulation, the triple-glazed windows, high levels of air tightness, and of course, solar orientation.

“Sadly,” he says, however, the UK planning system makes optimum solar orientation “very difficult,” being “far more concerned with following building lines and convention than optimisation.” As such, the design team “did the best they could” to introduce the maximum natural light through orientation, but in the end decided to spend more money on the PVs to compensate for any deficits in solar gain.

Beyond expectations

All of the homes – as all that Greencore builds – have been constructed using the company’s ‘Biond’ building system.

Developed in-house eight years ago, Biond (a play on words combining ‘performing beyond expectations,’ and ‘bio-based’), is a hemp-lime panelised construction system. Pritchett says it’s more flexible than volumetric methods, avoids “copy and paste-looking houses,” and allows the team to deliver higher quality and accuracy of measurement, while avoiding thermal bridging, and minimising any construction shortcomings when compared with generic building methods.

The system employs the natural ‘phase change’ properties of hemp used to perform “much better than its U-values suggest.” The MD adds: “It allows us to build zero carbon houses at the same rate and cost that other people build traditional, Building Regs-compliant homes.

He asserts: “We think it’s the best building system out there, that’s why we’re not prepared to build with anything else!”

Tackling the real challenge

Despite the impressive performance credentials and innovative build methods behind the new homes, Pritchett tells me that the “construction was the easy part.”

“We can do zero carbon houses like shelling peas now; we’ve built about 60 over the last five years, so we know what works and what doesn’t,” he says. “Finding the site, getting the funding, putting it all together – that’s where the real challenge lies.”

Market conditions were one such hold up for the company, heavily affecting cash flow and sales: “The country was just in the process of leaving the EU during the development process, and we were supposed to ‘get Brexit done’ by March 2019, but that didn’t happen, and it proved difficult to make sales in that market, and indeed for the rest of the year.”

After the market returned to some normality (Pritchett says that the General Election producing a majority Government was beneficial to market stability), in January and February 2020 it “proved really buoyant.” However then Covid hit, and lockdown brought “yet more delays, uncertainty, and challenges to the process.”

He decries the planning system as a “great burden” to projects, and one which he has struggled with throughout not just this project, but “in his whole career.”

“We come across it all the time,” he explains. “The system is policed very rigidly and vigorously, but it’s a 10 year old policy, it’s too focused on garden sizes, parking, numbers of bedrooms, and not on carbon, energy and ecology, the things we need to be addressing.”

“It’s just not in line with delivering zero carbon for 2050,” he adds.

Despite the challenges, the planning officers had been “pretty positive” all the way through the process, says Pritchett. He however believes that this was a double-edged sword; because the “planners liked the scheme so much,” they imposed various conditions that they

perhaps wouldn't have if it were a "lesser scheme."

"Because it was such a high quality eco-scheme, they were very strict with us, causing a lot of frustration," Pritchett continues. "First, they took away our permitted development rights – which nearly lost us sales – and then they began drilling down into a lot more of the design than is typical."

The MD believes this pressure caused the team to rush through the planning process in order to meet the unexpected extra demands. As a result of this, he says, there were some missing elements of the project in the early design that needed amending; mostly small changes such as slight window repositioning. One large omission however, was that the solar panels to be installed on the roofs hadn't been explicitly shown at the reserved matters application stage.

Greencore put in an application for 'non-material amendments' to fix these issues, which, at first, the planners agreed to. After eight weeks through the process, however, "when they were just about to approve it," says Pritchett, "they suddenly pulled the rug out from under our feet and said – 'the key effect of the changes is material, and therefore you've got to withdraw this application and submit it as an Action 73 Application.'"

"We wasted two months in that process," he complains, "and then we spent another 13 trying to get the Section 73 approved."

This produced a sequence of bizarre scenarios, where "busloads of councils, local MPs, reporters and more were coming round to say, 'this is the way to build houses going forward,'" and all the while the team was installing the solar panels that were being celebrated – without yet having permission.

"It was a nightmare, we nearly lost the sale of all the affordable houses to this," he adds. "It was a great example of how the planning process is not fit for delivering eco houses for the future – it's really set up for delivering more of the same rather than something different."

Time for change

Moving forward, Pritchett is glad that the project has been so well regarded, but he argues that, if the country is to meet its 2050 Carbon targets, there has got to be "serious movement in policy."

As well as removing some of the planning barriers the company has faced



at Springfield Meadows, he argues that there should in fact be financial incentives for building better.

He suggests, for example, that the Community Infrastructure Levy should be variable, with cost savings for building above the Building Regulations in terms of sustainability.

As an example of success in the past here, he notes the "generous" early subsidies for solar panels, and the "highly lucrative" feed-in tariffs at its inception, which once paid significantly more than at present for any remaining electricity from solar panels sent back to the grid.

"The policies around PVs have shown that, within a 10 year period of growth in the market – during which we saw massive uptake and vastly reduced manufacturing and installation costs – you no longer need huge subsidies."

Whatever the Government does next, however, Pritchett is proud to have "set an example of how development could be done in the future."

"There are still three million new houses planned by the Government over the next 10-15 years," he says. "If everything was built using a system like ours, you'd save about 600 million tonnes of CO₂ emissions – on the pathway to zero carbon by 2050, big numbers like that can't be ignored." ■

"If everything was built using a system like ours, you'd save about 600 million tonnes of CO₂ emissions"



BUILDING
PROJECTSVILNIUS RAILWAY STATION
LITHUANIA

Green connections

A reuse proposal to create a new transport hub in Vilnius was used by ZHA as an opportunity to provide a new connectivity across the city for its inhabitants, as well as improve rail infrastructure and sustainability



The project is integral to the city's ongoing sustainability agenda, which prioritises pedestrians and cyclists

The design for the new railway station in Lithuania's capital by Zaha Hadid Architects (ZHA) will make it an "integrated transportation hub for the 21st century." However, more importantly, it will be a key part of a sustainability-oriented urban improvement scheme which takes in adjacent public space, creating a new visitor destination in itself, and new civic spaces which are "enveloped by nature."

ZHA triumphed in an open international competition for the project in 2021, two years after the practice won a similar contest to design the new rail terminal in Tallinn, Estonia's capital. The competition was organised by the Lithuanian Association of Architects for Vilnius City Municipality and Lithuanian Railways and asked for an "iconic and globally recognisable" scheme to upgrade the station (which connects Lithuania with Belarus and Kaliningrad), but also the central station square and adjacent bus terminal.

The resulting project will not only be a transport hub for national and local rail

services in addition to the new Rail Baltic line that links with Europe's high-speed network, but also a means to resolve the wider urban planning issues caused by current rail infrastructure.

Scheme design

The project is integral to the city's ongoing sustainability agenda, which prioritises pedestrians and cyclists. ZHA's competition-winning proposal, called 'Green Connect,' includes a new 9,500 m² public bridge created over the existing station and railway tracks that connects the Naujininkai district to the south with the city centre and Vilnius old town. The wider connectivity aspect which the design provides, bringing parts of the city together, is arguably its strongest feature.

The bridge is a key part of how the scheme aims to "transform the existing rail infrastructure from a barrier that divides the city into a connector that unites Vilnius," said the architects. The renovation and reuse of the original neoclassical

station has resulted in a “concourse bridge” added above, with pedestrian walkways and cycle lanes. The architects commented that this was a “contemporary reinterpretation informed by the existing heritage building.”

The bridge’s timber roof undulates from a pitched form defined by the existing 9,000 m² station’s triangular pediment into “softer geometries and volumes” that reduce in scale as the bridge descends to street level in the Naujininkai district. A linear skylight runs along its length, and glazed facades provide light and views over the railway tracks, helping “intuitive navigation through the concourse,” said ZHA.

The concourse bridge is 46 metres wide and spans 150 metres across the railway platforms (supported 10 metres above the tracks). The roof’s “fluid forms,” similarly to the roof of the adjacent bus terminal, are constructed in locally-sourced laminated timber.

The project creates a major new feature in the city which should attract locals, even those who aren’t travelling – in contrast to the current rail station, hampered by the presence of various temporary buildings. Gianluca Racana, director at ZHA said: “Our proposals transform the site into a destination not only for those using the transportation hub but also for the city and the local community.”

Clear connections

Removing the temporary kiosks and offices installed over recent decades, the “clarity of the existing station has been restored.” The scheme links the station to the new bus terminal to provide better connectivity for passengers. There will also be an “inhabited landscape” within the park that sits in front of the station; an outdoor “amphitheatre,” plus a ramp leading to a roof terrace on the bus terminal.

Existing car parking in Stoties Square, which sits next to the park, has been moved to a new underground facility. This allows the square and park to become a “vibrant civic space” which can be better used. More than 300 trees and 4,000 m² of landscaping for the project include the creation of tree-lined avenues along main axes, and water gardens for the collection, filtration and purification of rainwater.

Nature-based

Nature-based solutions are “integral to the design,” said ZHA. Green roofs, landscaping and planting will “lower temperatures in summer and provide heat

insulation in the winter.” The urban green spaces provided will give an “interconnected series of natural habitats within the city, which are easily accessible and can be enjoyed by communities throughout the year to enhance wellbeing and interaction.”

The design also incorporates technologies and “depolluting strategies” designed to improve air quality within adjacent neighbourhoods. Annual solar radiation analysis has been used by ZHA to design glazed facades in order to maximise sunlight within interiors in winter and reduce glare in the summer.” This analysis also determined the positioning of photovoltaic panels for optimum efficiency.

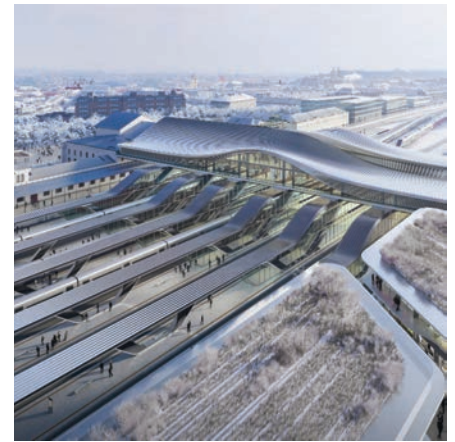
The Mayor of Vilnius, Remigijus Šimašius, commented on the project goals: “We are working to ensure that the entire station district meets the criteria for the city we are developing today: green, comfortable and inspiring.”

The body managing the railway network, Lietuvos Geležinkeliai (LTG) wanted the station and its surroundings to “become a destination providing public spaces with leisure and service areas, convenient connections for pedestrians, cyclists and all those who choose to travel comfortably and sustainably by train,” according to its head, Mantas Bartuška. He added: “We are determined to open and convert the station’s formerly inaccessible industrial spaces for use by all residents.”

Vilnius’ chief architect Mindaugas Pakalnis commented on why ZHA’s scheme won, against many “strong proposals” for the project. “They know Vilnius, and have extensive experience designing detailed projects, including the Rail Baltica railway station in Tallinn.”

He added: “The concept presents a unique, recognisable, contextually appropriate design for the new terminal that creates a network of public spaces of the highest quality and establishes important connections between districts.” He said it also “creates opportunities to convert the former railway maintenance yard and surrounding areas.” The project will now be developed in detail.

ZHA’s scheme for the reuse of the station looks to be a great example of how architecture can resolve several problems at once, in this case creating a “future-proof” transport hub designed with passengers in mind. However, it’s also one that provides a wealth of new public space, and connectivity that improves the wider urban context. ■



The project creates a major new feature in the city which should attract locals, even those who aren’t travelling – in contrast to the current rail station




**BUILDING
PROJECTS**
**SHENZHEN BAO'AN AIRPORT
CHINA**

Rooted in users' experience

Grimshaw is leading a team to deliver a highly-integrated transport hub at Shenzhen airport, in a structure and circulation strategy inspired by mangrove trees

In April 2021, a design consortium led by Grimshaw, and including Mott MacDonald, China Aviation Planning and Design Institute (AVIC CAPDI) and Beijing Urban Construction Design and Development Group (BJUCD) won an international competition to design a new transport hub at Shenzhen airport.

The team selected for Shenzhen Airport East Integrated Transport Hub (which beat a strong set of contenders including ZHA, Foster + Partners and BIG) also includes Schlaich Bergermann Partner (SBP), Atelier Ten and Gross Max.

The client is Shenzhen Metro Corporation, and the sponsors China National Railway Corporation and the Shenzhen Municipal People's Government. The Grimshaw team was announced as winner following an assessment by a bid

evaluation committee of 13 experts in urban planning and design, architectural design, aviation, railway, urban rail, and integrated transportation.

Brief & response

The brief called for an “aspirational vision” for a hub that would “act as a new urban gateway and landmark for the Greater Bay Area,” said Grimshaw. It also set out goals to be “green, intelligent and humanistic,” including integrating the latest technologies with an aim to be a new benchmark for similar projects around the world.

A key design aim was to make the journeys of thousands of daily commuters using the hub as smooth and easy as possible. Grimshaw said the building is designed to provide “effortless transfers between high speed rail and other



public transport modes.” The hub will also provide connections and terminal facilities for passengers travelling to and from Shenzhen Bao'an International Airport, making it “one of the most integrated transport interchanges in the world,” said the architects.

The mangrove tree, which inspired the design, has special significance for the city of Shenzhen, and is also believed to be one of the planet's most effective carbon absorbers. It also helped inspire the circulation concept; the tree's form of a “diverse root ecosystem, which thrives where waterways converge,” led the architects to the efficient design of the passengers' journey, “both above and below ground, landside and airside,” said Grimshaw.

The transport interchange will be a “catalyst for the transformation of the whole east terminal area into a vibrant, people-oriented new commercial and cultural district for Shenzhen.” The masterplan has been designed to promote “intuitive routes” for passengers, as well as “active frontages” and “enriching landscape features.”

The dynamically-designed interiors will give passengers “breathtaking arrival and departure experiences” as they transit through the hub. The flowing architectural forms housing the spaces will help to guide people on their journeys through the largely naturally-lit interchange.

The project is designed to be an exemplar of environmental sustainability and is targeting LEED Platinum as well as Chinese 3 Star rating, through an architectural solution that uses materials

efficiently and maximises repetition of components.

The team developed a strong set of design principles that will enable a “harmonious and unique development delivering operational, experiential and ecological excellence,” said Grimshaw.

Comments

Jolyon Brewis, partner at Grimshaw, commented on the project: “We are often inspired by the transfer of geometries and forms from nature into architecture. We have applied this approach to the masterplan and interchange design at Shenzhen Bao'an Airport. Not only does this have symbolic value for Shenzhen, it has also led us to a solution that is highly efficient. It will be a wonderful place for people to occupy and travel through, and we hope it will lift the spirits of millions of Shenzhen citizens, as well as those who visit this incredible city.”

Anne Kerr, Mott MacDonald China managing director said: “This project is a unique opportunity to create a world class, sustainable and passenger-centric hub.” Dave Richards, Atelier Ten director added: “The design builds on work that we have been doing with the team at Grimshaw for many years on biophilia, form and skin to ‘manage’ comfort and expectations through the manipulation of light, sun and air in the in-between spaces that transport interchanges generate.” He added: “The evocation of biophilic influence through the underlying mangrove forms serves to reinforce the connection to nature in this very busy city.” ■

The mangrove tree, which inspired the design, has special significance for the city of Shenzhen, and is believed to be one of the planet's most effective carbon absorbers



Resapol at the King James project

Resapol recently worked with longstanding customer Bondcote, supplying material for the first stage of repair work at the King James project; repairing two of the overhead rail archways and bridges. The repair was deemed essential as several sites on the project featured exposed rebar, which needed immediate protection to ensure the safety and longevity of the project.

Members of the Bondcote team attended training at a Resapol Training Academy; the session involved in depth presentations and hands on demonstrations of Sika

Monotop®-4012. This was a key influence in their decision to trial the product for the first stage of repair work.

Sika Monotop®-4012 is a cementitious, fibre reinforced, low shrinkage repair mortar that notably contains recycled waste materials which reduces the carbon footprint, making it a more sustainable product option. It is also easy to apply by either hand or wet spray application and is perfect for overhead applications as it features very low shrinkage and does not require a bonding primer, making it the perfect material for this project.

Tom Brown, Resapol's regional sales manager for Concrete Repair, was on hand throughout the process in order to offer technical advice, as well as to arrange delivery of the materials direct to site. The repair work was completed September 2021 and deemed a complete success. Bondcote representatives were extremely impressed by the robust and effective nature of Sika Monotop®-4012, as well as the great service provided by Resapol. Pete Box the project manager at Bondcote had this to say: "Thanks again to everyone at Resapol for all of your kind help with the



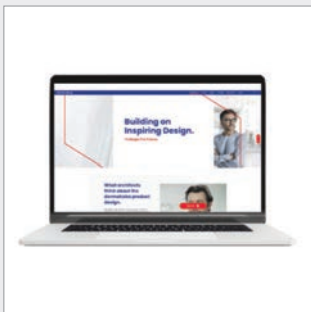
project, the materials and training that you have supplied for us to carry out this first stage of work. As you can see from the photographs, these were huge structural repairs undertaken by Bondcote and the new material worked incredibly well!"

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dormakaba launches online community hub for architects and specifiers



Leading provider of access solutions **dormakaba**, has created a new online community hub for architects, designers and specifiers. As part of the company's wider programme of dedicated architectural support services, the site provides professionals with the tools and resources to transform the way they work with support and technical materials accessible from one central source. As a dedicated strategic partner for architects and designers, dormakaba has launched the new architectural website to provide one central source to easily locate product information, product documentation, certification, CAD drawings and BIM objects, as well as blog articles and case studies from around the world. The dedicated website also features useful information and tools on industry-leading standards and best practice, and extends from product insight to professional development with access to the company's accredited Continuous Professional Development (CPD) materials. This includes dormakaba's series of free RIBA accredited online webinars on industry best practice and specification requirements in the UK.

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Keystone Lintels turn architectural vision into reality at Poole Homes



The thermal properties, structural performance and lifespan of **Keystone's** standard lintels played a crucial role in the design of two bespoke modern homes in a prime coastal position in Dorset. The neighbouring properties in the sought-after Lilliput area of Poole Harbour offer views over Parkstone Golf Club and have been designed to an exceptionally high standard. With double and triple-height ceiling voids, rooflights, high ceilings and over-sized doors, the five-bed homes have been designed by Trinity Architecture in collaboration with developer Towncourt Homes to offer residents a strong feeling of space and light. With the correct specification of lintels, a critical element of a project such as this, the design team turned to Keystone Lintels to meet their structural and thermal requirements. Keystone provided comprehensive technical support and a fast turnaround to ensure the correct lintels were made available onsite via merchant Sydenhams. Manufactured from high quality grade pre-galvanised mild steel, Keystone's single leaf BOX/K 100, BOX/K 75 and SK-90 lintels were specified in accommodating lengths and masonry loads to achieve the architectural vision.

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Fire Compliance on Flat Roofing Systems

Bauder has delivered roofing system solutions on Boston Road, London W7, a new residential development with numerous terraces and inset balconies. The site comprises 333 dwellings, of which 117 are of affordable tenure with the remaining 216 for private sale, and 1200 m² of commercial space throughout three blocks.

The development required a waterproofing system that met the design requirements of the balconies and terraces whilst ensuring that it fully complied with the conditions under the Government's Fire Safety: Approved Document B, as well as making sure the detailing and interfaces with other key trades could be achieved without compromising the system's performance.

Bauder specified BauderGLAS insulation and Bauderflex bituminous waterproofing system. Bauderflex is a heavy duty and robust membrane which can withstand impact, tearing and is resistant to European climatic condition. This bitumen system is suited to new build and refurbishment applications



and has up to 30 years life expectancy, as stated in BBA certificate 10/4744. A significant benefit is the torch-free and safe to torch installation on combustible details which reduces the risk for contractors and clients. Additionally, BauderGLAS insulation is manufactured from specially graded recycled glass (≥60%) and natural raw materials (which are available in abundant supply), has time-tested thermal performance, high compressive strength and most

importantly, is also non-combustible, accompanying the Bauderflex waterproofing system to achieve a non-combustible build-up for this project.

By working closely with Bauder on the specific project requirements set down by their client, Higgins Partnerships were able to provide peace of mind that the products installed met the conditions placed on them by the client's insurers, to fully comply with the strict stipulations under Fire Safety: Approved Document B and achieve B_{ROOF}(t4) certification.

Bauder is a leading international manufacturer of building construction materials providing clients with waterproofing membranes and insulation to make buildings watertight and thermally efficient. The extensive portfolio of Bauder waterproofing, green roofs and photovoltaics ensures the right solution is specified for each project from a single source.

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Magply features in fire-fighting role at Sky Studios Elstree



Magply boards are being used as part of Sky's efforts to create the world's most sustainable film and TV Studios, Sky Studios Elstree. Currently under construction by main contractor BAM and set to open in 2022, the build has recently included the use of 9 mm thick Magply boards as part of a flat roof build up specified for the product's proven fire-protection capabilities and all-round performance benefits. The work on the new production buildings is being carried out by London based Waterproofing specialist, Guaranteed Asphalt Ltd. which is installing their BBA Agreement certified hot melt flat roofing system over a reinforced concrete deck with the Magply boards being used to protect the mineral wool insulation. A total of 900 m² of 9 mm Magply boards was supplied by Shield Membranes Ltd. a leading stockist of the IPP range. Tyler Ellis, the business procurement manager for Guaranteed Asphalt, explained: "We chose to use the Magply boards due to its non-combustible nature and installed the product as part of a non-combustible, Tapered Mineral Wool System called Stonewool by Tapered Roofing Systems."

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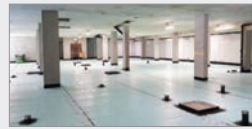


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saving problems and costs later. The West Fraser website contains a handy flowchart to help builders, specifiers and architects choose the right flooring system for every project, coupled with handy installation guides and videos for the individual CaberFloor products.

uk.westfraser.com/resources/help-advice/installation-instructions

Newton integrates with your Plan of Work



Newton Waterproofing has integrated its waterproofing design service with the fundamentals of the RIBA Plan of Work, making it easier for architects to understand the processes involved and the services that they will receive

at each stage. Newton Waterproofing has supported specifiers with its leading technical services since the introduction of structural waterproofing solutions, and now they offer a comprehensive service from initial consultations and design meetings through to site support and guaranteed installation by the company's approved contractors.

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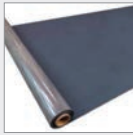
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A Proctor Group launches Wraptite® UV



Since its launch, the Wraptite® external airtightness membrane from the A Proctor Group has been an incredible success and has been specified in a wide range of projects and applications. Now, Wraptite is being extended further with the introduction of Wraptite UV. Wraptite UV is a Class B fire rated membrane that combines the critical properties of vapour permeability and airtightness into one innovative, self-adhering product. Wraptite UV has exceptional water and UV resistance. In addition, the product provides a shadow gap detail behind open jointed facade systems in offsite construction, rainscreen and timber cladding systems.

01250 872261 www.proctorgroup.com

Exclusive distribution rights with MyDek



After years of careful development Blazeboard perfected a mineral composite decking board which achieves an A1 fire rating and in addition delivers many other outstanding features. The product launched originally under the Blazeboard brand but will now be sold exclusively through MyDek under the brand name,

Luxura. John Patsavellas, managing director at Blazeboard says: "As a company focused on product innovation, we wanted to provide exclusive rights to a highly trusted leader in the decking arena."

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Siderise launches mullion overclad system



Siderise Special Products has launched the new SIDERISE® MC System – a decorative mullion liner designed to provide a simple yet robust solution for enhancing the acoustic performance, or acoustic and fire performance, of curtain wall facade systems. Hollow and lightweight aluminium mullions can provide an easy channel for noise to travel between adjoining spaces. The SIDERISE® MC System is an external treatment that is installed over the top of curtain walling mullions where partitions abut. This substantially improves their acoustic performance, with acoustic only and acoustic plus two-hour fire rated versions to choose from.

01473 827695 www.siderise.com

Sto solution brings pocket living to Barking



© Fred Howarth

A residential Pocket Living development recently completed in Barking features highly effective thermal performance and an attractive appearance thanks to an integrated package of insulation and exterior facade products provided by Sto. The company's StoTherm Mineral external wall insulation system, with Sto-Rotofix Plus fixings and Sto Resin Brick Slip facade finish, have all been installed on this town-centre project at Whiting Avenue. The BBA-certified StoTherm Mineral external wall insulation system incorporates extremely durable mineral-fibre boards which provide both outstanding thermal insulation and unrivalled fire protection.

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Schöck connectors for heavy walkways at new Santander UK HQ

Work on the landmark new £150m headquarters for Santander UK, in the business district of central Milton Keynes, is well under way. The development of this exciting, futuristic 44,000 m² project, known as Unity Place, is led by a collaboration between developer Osborne+Co, LOM architecture and design and contractor John Sisk & Son. Scheduled to complete in 2022, LOM's design for the eight-storey building comprises four blocks connected by three atria. It offers generous employee amenities, including a rooftop bar and running track, garden terrace, restaurant, and a health and fitness centre.

An urban workplace ecosystem

Unusually, it also integrates publicly accessible retail outlets, an urban market, community hall and conference and events centre. This invites the wider community to enjoy the space as much as Santander's employees, making it an urban workplace ecosystem. The building is designed to achieve a BREEAM 'Excellent' rating for its environmental sustainability performance and will exceed Building Regulation requirements with a further 20% reduction in CO₂ emissions.

15 tonne walkways demand substantial thermal breaks

One of the many interesting features of the new Santander UK HQ are the green garden bridges, where landscaped walkways link the



Image courtesy of LOM architecture and design

light-filled atria spaces to provide meeting, break out and relaxation areas. There are six of these walkways. Each essentially being an outside bridge which is thermally broken, as it connects to an enveloped, or warm structure. The prevention of thermal bridging is therefore critical at the connectivity points of these structures and with each walkway weighing around 15 tonnes, a substantial structural thermal break connectivity solution was required.

Unique and versatile

The answer was the versatile Schöck Isokorb T type S structural thermal break,

which is the ideal connectivity solution for project applications involving steel-to-steel applications. There are two variants, the T type S-N for tensile force and the T type S-V for transferring compression and shear forces. It is the only approved thermal break product for steel construction that satisfies the load-bearing and thermal insulation requirements of steel design.

Also, being a modular unit, it can be adapted to all profile sizes and load bearing capacity requirements – plus it can be used in both new construction and renovation projects.

All Isokorb products are fully compliant

In addition to its comprehensive range of Isokorb solutions for concrete-to-steel, concrete-to-concrete and steel-to-steel – Schöck also offers a maintenance free alternative to wrapped parapets. All products meet full compliance with the relevant UK building regulations and have the security of independent BBA Certification, which provides NHBC approval. The temperature factor requirement (f_{RSI}) used to indicate condensation risk, which for residential buildings must be equal to, or greater than, 0.75 is also easily met by incorporating the Isokorb.

01865 290 890
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One of the walkways in position



The Schöck Isokorb T type S offers a heavyweight solution

Revisiting Kings Cross – 20 years after installation

Over 20 years ago in July of 2001, plans came to fruition as work began on the Channel Tunnel Rail Link and the restoration and extension of St Pancras Station. What followed was a large redevelopment of the Kings Cross area. The regeneration of the surrounding buildings became a catalyst for further development and in changing the overall perception of Kings Cross.

It was in 2001 when the first area to begin development was the Regents Quarter. This is when George Barnsdale entered the scene, installing approximately 350 sliding sash windows and 40 doors to remain in keeping with the history of the area.

Now 18 years later, the outstanding quality of George Barnsdale's products is evident in how well the windows and doors have stood the test of time. Though some are in need of a good clean, it is evident to see that the timber and the paint finish is still perfectly intact despite no recoating having taken place in that time.

"They have very good thermal and acoustic performance even by today's



standards, with exceptional coating performance. We don't know of any glazing unit failures. In the late 90's we developed a drained and vented glazing system which allows the double-glazed units to perform very well." Commented Stephen Wright, George Barnsdale.

Exceptional long-term performance doesn't only rely on our 4 coat painting process but with good design and paying particular attention to all the smaller details that enhance the life of the coating

One of the main reasons the products are performing so well after such a prolonged period is the paint process which is an



advanced four stage coating system. Superior to most companies' three stage process, the Barnsdale process provides extra protection to the timber and a superior finish.

While our previous case study with the Lincolnshire Gatehouse showing us that George Barnsdale Timber Windows and Doors can look as good as new 10 years after installation in a rural countryside setting, Kings Cross also demonstrates how well George Barnsdale products can look after 18 years in a bustling capital city.

01775 823000

www.georgebarnsdale.co.uk

High performance wins at the iconic home of the British Grand Prix



The completion of a stunning new Hilton hotel at Silverstone is another step nearer and leads the way featuring the superior high-performance Wraptite® external airtightness barrier. The impressive new hotel, located trackside, overlooks the starting grid for the home of the iconic British Grand Prix. Facilities include 197 guest rooms, a rooftop terrace and the offer of race-day hospitality experiences. KKA Architecture designed the hotel, with Metclad Contracts appointed as the specialist envelope contractor for the project. Wraptite airtightness membrane from the A. Proctor Group, specialists in supplying high-performance products to protect buildings, was selected by Metclad to maximise airtightness and energy efficiency, perfectly balanced with the crucial requirements of vapour permeability. Wraptite self-adhesive breather membrane is applied externally, quickly and efficiently as part of the rainscreen system. Incorporating the Wraptite System helps ensure "as-designed" performance. Its inclusion narrows the gap between as designed and actual energy performance whilst reducing the likelihood of possible failures to meet required airtightness levels.

01250 872261 www.proctorgroup.com

Tap into the luxury market with new doors from NÜEVO HOME



After a successful year, bespoke glazing specialist NÜEVO HOME has added a premium range of aluminium bi-folds and patio doors to its product portfolio, helping architects, developers and contractors tap into this luxury and growing market. Designed for large panoramic openings, EvoFold bi-fold doors can accommodate up to 14 illuminating panels as well as inside and outside openings, plus practical lead door and expansive corner bi-fold door configurations. As one of the slimmest aluminium bi-folds on the market, EvoFold has impressive panel widths of up to 1.2 m wide and 3 m high, comes in limitless designs, and can be either double or triple glazed. Meanwhile, NÜEVO HOME's ultra-slim EvoSlide aluminium sliding doors are available with 2 to 6 panels of up to 2.5 m wide and 3 m high, as well as multiple track, threshold and style options. Taking this a step further is the EvoGlide sliding door, which as well as the traditional manual operating system, offers a practical, state-of-the-art automatic motorised mechanism – the ideal finishing touch in luxury home automation.

01753 505125 www.nuevo-home.co.uk

Crittall on the curriculum

School and college authorities that need to improve the learning environment while enhancing their green credentials are turning to leading steel window manufacturer Crittall which has a suite of products to upgrade both external appearance and interior comfort.

The education sector has a massive investment in its built environment and, despite the temporary dislocation caused by the pandemic, remains eager to find ways to keep control of costs and bear down on excessive energy consumption as things eventually return to normal.

Crittall offers a range of windows that are finding favour with the most prestigious educational establishments, in some cases presenting a fresh, modern aesthetic, in others replacing worn out fenestration that replicates a heritage appearance while greatly enhancing thermal performance.

And moving to the inside of the building a range of internal screens can provide for a lighter, more welcoming interior with no compromise to acoustic, security and safety requirements.

Popular among school and college authorities is the highly successful Corporate W20 window with its slender but strong frames. For example, a programme of maintenance and energy efficiency improvement at the University of Sussex has involved the installation of W20 profiles throughout the Falmer campus, outside Brighton. The windows have been installed in four buildings across the site, replacing the Crittall originals dating from when the university was first created in the early 1960s. Two of the refurbished buildings were Grade 2* listed.

At Corpus Christi College, Cambridge, Corporate W20 windows were installed in a modernist, concrete-framed accommodation block, also Grade 2 listed. Meanwhile at the Levine Building at Trinity College, Oxford, the T60 advanced thermally-broken windows have been specified. This profile can mount double or triple glazing to deal with harsher weather conditions and is suited to either new-build or replacement in listed buildings or conservation areas to meet the exacting requirements of local planning authorities.

Greatly improved thermal performance but with a like-for-like appearance was demanded by planners in the north London borough of Enfield when a special school, Durants, decided to expand into an existing classroom block on a nearby site. Original



1950s single glazed steel windows were replaced with new double-glazed thermally-broken steel windows that exactly mimicked the appearance of the originals. Overall U value for the completed project is 1.8 W/m²K based on a glass centre pane value of 1.0 W/m²K. The double glazing incorporates toughened low E glass and an 18 mm argon filled cavity.

Alternatively, the MW40 profile can be specified where superior air, wind or water resistance and greater sound attenuation are required. Offering the same high quality appearance as the W20 range the MW40 profile can accept glass up to twice the thickness as its stable mate. Either double, or even triple, glazing up to 32 mm thick can be installed with a consequent higher level of thermal or sound insulation.

Yet this is achieved while retaining the same slender steel profile for which Crittall products are renowned thereby ensuring maximum light ingress.

In addition to exterior steel windows and doors with their slim profiles Crittall's InnerVision glazed interior screens ensure a seamless transfer of increased levels of natural daylight throughout the building reaching even the most remote working areas.

Solid partitions dividing workspaces can be replaced with glass and the performance of

glazed interior screens can be further tailored to fine-tune levels of acoustic insulation, light transmission, thermal insulation and natural ventilation control to suit individual client's requirements.

Crittall's InnerVision range of glazed internal fixed screens and doors can now be specified for fire rated applications. The steel framed system is compliant with BS476 Part 22 providing 30 minutes (FD30) integrity fire resistance. The profiles match the Corporate W20 exterior window range in appearance and can be supplied as fixed screens, with single or double leaf-hinged doors.

"Steel windows will out-perform other window materials in terms of longevity - evidenced by many that can still be seen in iconic buildings today" states Russell Ager, Crittall managing director.

"The low life cycle cost compared with other window materials, combined with the robustness and material selection to further reduce the burden of maintenance, properly maintained steel windows are expected to last the lifetime of a building.

He continued: "maintenance is very straightforward with just periodic inspection and cleaning required"xs.

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Fireproofing green roofs

Julian Thurbin of modular green roof solutions supplier Wallbarn discusses the issues around ensuring fire performance of ‘living’ roofs and how to achieve compliance

A key consideration for architects working on green roof projects has always been the load-bearing capability of the structure to be ‘greened.’ Once structural integrity is confirmed, it’s been a question of finalising the green roof system or supplier most appropriate for the project. This means choosing intensive or extensive, traditional roll-out, or the more modern approach of prefabricated modular solutions.

However, there is a third consideration that demands examination – green roofs’ fire performance. Evaluating this has become increasingly important in the post-Grenfell years as the fire safety of buildings, their components, assembly, construction methods and management take centre stage.

Well-designed, correctly installed and maintained green roofs can resist the spread of flame. To assist designers in achieving this, the Government has published two key documents: Approved Document B (ADB) and DCLG document ‘Fire Performance of Green Roofs and Walls’. Good practice supports these being considered in conjunction with the 2021 GRO Code published by the Green Roof Organisation.

Regulations

ADB is the main authority and has been updated twice post-Grenfell to reflect recommendations from the Hackitt Report. It is the basis for all fire safety compliance and actions, and details the minimum legal requirements and guidance on how to meet them. The amended document states that a roof system must achieve a European classification rating of B_{ROOF(t4)} when tested to CEN/TS 1187:2012 Test 4 Test Methods For External Fire Exposure to Roofs. The test must be carried out under BS EN 13501-5:2016 Fire classification of construction products and building elements.

In practice this means physical fire tests of the whole roof system to demonstrate B_{ROOF(t4)} is achieved. Self-declarations, adaptations and

interpretations are not acceptable.

Critically, BRE test reports P110472-1001 Issue 2, P110472-1002 Issue 2 and P110472-1003 Issue 1 can no longer be relied upon to prove compliance with the legal requirements of Approved Document B. Stakeholders must demonstrate that the whole “as installed” roof system has a valid fire certificate.

ADB states that a test report to BS EN 13501-5:2016 for the exact construction is key. So if the insulation thickness is changed, the membrane switched or the depth or elements of the substrate/growing medium altered, then the fire certificate may be invalidated. This would mean compliance with B_{ROOF(t4)} requiring possibly thousands of different physical fire tests to take into account the many different scenarios of a green roof build-up.

This is as much an issue for roll-out systems as modular solutions – which are supplied with all elements of a green roof contained within factory assembled trays, removing the element of installer error and creating a standardised product with no variation – because there remains the potential for insulation and membrane specifications to be changed. However, ADB offers a solution via ‘EXAP reports.’

EXAP reports

These state that the test results for the product – tested in accordance with CEN/TS 1187:2012 test method 4 – have an extended application (EXAP) and can be used in a larger range of applications. This extended application is carried out in conformity to CEN/TS 16459:2019 and the application document contains extrapolation rules relevant to the test method and performance of the product. In short it enables the physical test data to be used in more applications than just the physical test.

Designers should be looking for green roof systems that have passed physical fire tests of one hour, achieving B_{ROOF(t4)} and gaining the EXAP Report, meaning their fire classification allows them to be used as



Well-designed, correctly installed and maintained green roofs can resist the spread of flame





The green roof industry is forecast to continue growing at pace, with increasing awareness of the impact green roofs can have on the environment

part of a green roof system with a variety of membrane/insulation build-ups so long as those products also have B_{ROOF(t4)} EXAP. Furthermore, there's an additional assurance architects and specifiers can access; Approved Document B goes on to say that if the green roof build-up from the deck to the finished surface includes a minimum 80 mm of substrate with less than 50% organic content then it can be assumed there will be no spread of fire.

This does mean that the growing medium rules need strictly adhering to. If installers – even accidentally – lay the substrate thinner than 80 mm in a roll-out system it may not comply. Modular systems overcome this challenge because they are pre-filled to standardised levels, some having 100 mm of

super deep growing medium, with the batch-tested mix of substrate consistently applied across the many thousands of trays filled annually. GRO advises that to ensure there is no danger of fire spread or penetration the growing medium for extensive green roofs should be tested in line with BS 8616:2019 and contain no more than 20% organic content by volume (with no peat) and comply with GRO guidelines.

Conclusion

The green roof industry is forecast to continue growing at pace, with increasing awareness of the impact green roofs can have on the environment by supporting biodiversity, managing stormwater run-off, improving air quality, reducing the 'Urban Heat Island' effect in towns and cities and offering sound and thermal insulation benefits. By combining advice from ADB, the DCLG's 'Fire Performance of Green Roofs and Walls' and the GRO Code, designers can be assured of delivering a green roof that is fit for purpose, long-lasting and safe.

Julian Thurbin is director of Wallbarn



State-of-the-art college to benefit from superior airtightness



The superior airtightness performance qualities of the Wraptite® air barrier system from the A. Proctor Group will enhance a new state-of-the-art development at St Dunstan's College – a co-educational independent school in Catford, London. Contractor Willmott Dixon will deliver the new Junior School, STEM building and Sixth Form Hub at St Dunstan's. Phase one includes a new junior school with specialist facilities for art, music and performance, and phase two includes the construction of the STEM Centre and Sixth Form Hub. A vital element of the design and construction is to maximise the energy efficiency of the new buildings: Wraptite airtightness membrane, the only self-adhering vapour permeable air barrier certified by the BBA, will form a crucial part of the solution. The inclusion of Wraptite within the facade will ensure "as-designed" performance, narrowing the gap between as-designed and actual energy performance and reducing the likelihood of potential failures to meet required airtightness levels. Wraptite is compliant with Part B regulation changes and also has BBA approval for unrestricted use in buildings over 18m in England and 11m in Scotland.

01250 872261 www.proctorgroup.com

Schüco launches next generation ADS 65 HD door system



Schüco has released a new generation of its tried-and-tested ADS 65 HD door system for entrances and exits subject to heavy use in residential and commercial buildings. The second generation of the aluminium door system combines increased weathertightness and thermal insulation with complete ease of operation and high stability. Its compatibility with the Schüco modular system, and its different fitting options, offers flexibility in terms of application and design for both newbuilds and renovation projects. Thanks to its new centre gasket system and large insulation chambers, the Schüco ADS 65 HD Gen2 can achieve watertightness to Class 7A, air permeability to Class 4 and wind load resistance to Class C2. Its U-value has been reduced from 2.2 in the previous model to 1.4 W/(m²K) ensuring the door system is compliant with the new Part L building regulations due to come into force in June 2022. The ADS 65 HD Gen2 door system also benefits from a barrier-free level threshold with surface water drainage providing trip-free access. Smart building components, such as Schüco Fingerprint Easy and fully automated electric locks, can also be integrated into the profile system.

01908 282111 www.schueco.com/uk/specifiers/products/doors/aluminium/ads-65-hd-gen2

Bowled over by TORMAX



Delivering easy access for all members and visiting players, Newark Indoor Bowls Centre benefits from two automatic single sliding doors to the main entrance and lobby, as well as an internal swing door. Working with Stag Shopfronts, TORMAX recommended their reliable 2201 operator for the two entrance doors, while the robust TORMAX 1201 operator was specified for the swing door. "Bowls, and particularly the Paralympic game of boccia, are sports that can be played by almost anyone, of any age" confirms health and safety officer for the Centre, Nick Osborn. "Improving accessibility for the less-able, including wheelchair users, was a priority for the Centre, as well as addressing the current need to provide a Covid-aware environment. The new automatic doors ensure we can now welcome all players, with no-touch access being an important bonus." Offering a comprehensive range of in-house designed operators, TORMAX has solutions to automate almost any access point including folding, revolving, swing and sliding entrances. The TORMAX 2201 is quick to install and will operate either a single-leaf sliding door of up to 120 kg or a double set of doors weighing 100 kg per leaf.

sales@tormax.co.uk

Window solution for Part L compliance



With the new changes to Part L of the Building Regulations set to come into effect in June 2022, leading aluminium fenestration solutions provider Senior Architectural Systems is ahead of the game thanks to its patented PRe® window system

which can already achieve U-values as low as 0.71 W/m²K. The unique construction of Senior's PRe® window, which features a high performance expanded polyurethane (PUR) thermal barrier, gives the PRe® system exceptional thermal performance that far exceeds the new lower U-value targets which were confirmed at the end of 2021.

01709 772600 www.seniorarchitectural.co.uk

Increased recycled content and fire resistance



The latest development of Kingspan's unique, self-blended insulation technology, 'QuadCore 2.0', demonstrates that innovation and product performance enhancement do not need to come at the sacrifice of our planet. QuadCore 2.0 is made with a formulation containing a raw

material that uses 40% recycled PET. This innovative formulation has satisfied the requirements for a two-hour fire resistance in third-party fire tests for both insulation and integrity – making it the first closed cell insulated panel system to ever achieve this rating.

quadcore.technology@kingspan.com www.kingspanpanels.co.uk

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www.recticelinsulation.co.uk

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Acoustic panels can embrace the extreme

Recent tests have shown that Troldekt acoustic panels withstand moisture levels up to 98%, even when combined with high temperatures up to 40°C. These latest tests were carried out by the accredited Danish Technological Institute to the European product standard for suspended ceilings (EN 13964).

While the composition of the panels has remained unchanged, this new round of stringent testing reinforces the fact that the panels are suitable for the most demanding of wet, warm and humid environments such as swimming pools, changing rooms and shower rooms.

In these environments, it was found that the panels are dimensionally stable and retain their flatness. This means they do not warp over time, giving them a life span in excess of 50 years.

The panels are inherently robust and durable because the combined strength of the cement coupled with the breathability of wood means the structure does not rot and acts as an anti-microbial surface resisting fungal growth and other microorganisms.



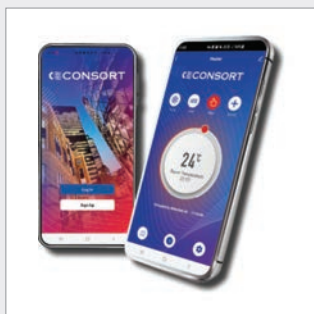
For very humid environments where chlorine is also present, Troldekt offers special structure screws in the highest corrosion protection category. This means it is now possible to have a complete C60 profile system in steel where both the profiles and screws are C5 rated. The screws are also available in all colours to match the panels when installed on ceilings and walls.

Founded on the Cradle-to-Cradle design concept, Troldekt's natural and inherently sustainable panels are available in a variety

of different surfaces and colours and contribute positively to a building's BREEAM, DGNB and LEED ratings. In addition to their high sound absorption and tactile surface, they offer high durability and low-cost lifecycle performance. Available in various sizes and in four grades, from extreme fine to coarse, the panels can be left untreated or painted in virtually any RAL colour.

01978 664255
Troldekt.co.uk

Consort Claudgen launches Consort Connect app

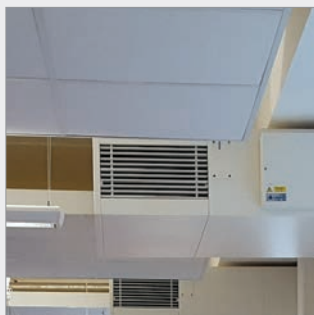


Consort Claudgen have launched Consort Connect app which allows users to have complete control over their heating remotely via their smartphone or tablet. The app is free and downloadable from Google Play or Apple Store.

It can control Consort's Wi-Fi enabled heaters and SL heaters connected to an SLPBWIFI wireless controller. It gives quick access to four operating modes and provides a 7-day timer with 24 heating periods per day. It is easy to set up and users can configure the settings of all connected heaters on the app. Users can also view the energy consumption statistics. Other features include a lock function, open window tracking and response capability, and custom automations. There is a self-learning control ability utilising occupancy and temperature sensors, however, this is only available on the SLPBWIFI controller and Consort heaters with Wi-Fi and occupancy sensor.

01646 692172 www.consortepl.com

Gilberts applies sustainability to value engineering



A win:win situation is available to building services designers and contractors with revisions to Gilberts' ground-breaking MFS hybrid ventilation unit. As part of the company's commitment to continuous evolution to offer better, greener solutions, the stand-alone ventilation, heating and cooling system has been value engineered. Not only is the new version cheaper while retaining its quality and performance, it uses less steel. It also makes it lighter in weight, potentially reducing transport costs structural loadings (and potentially build costs). These make a positive contribution towards its embodied carbon. Being lighter in weight, the new MFS further requires less labour effort to install. These benefits compliment those eco-advantages already within the MFS concept. Gilberts' MFS in effect works as a natural ventilation unit, only using its integral low energy fan to supplement airflow as conditions demand. MFS can be configured to run on 100% fresh air, using a LPHW coil to temper the air to provide Covid compliant ventilation without compromising the internal temperature. Full details of the MFS system can be found at www.gilbertsblackpool.com

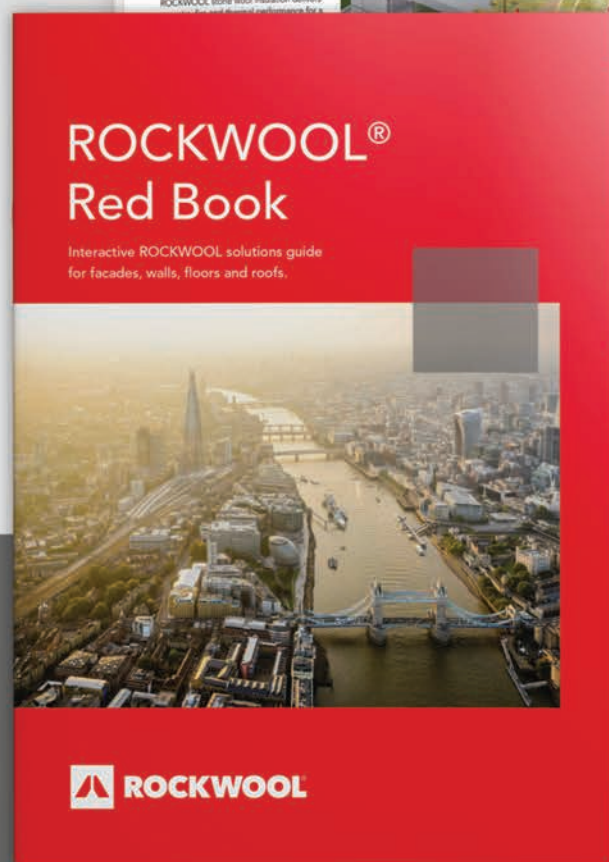
01253 766911 info@gilbertsblackpool.com

The new ROCKWOOL® Red Book now available

The ROCKWOOL Red book is a powerful digital tool that supports the specification of insulation solutions from a single source.

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- Easily navigate to the relevant construction sections to determine the most suitable ROCKWOOL insulation solutions.
- Access the latest information on solutions such as the BBA Certified HARDROCK® range and the External Wall Insulation Dual Density Slab.



Download a copy of
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Red Book now!



rockwool.com/uk/redbook

Building Regulations Update – England

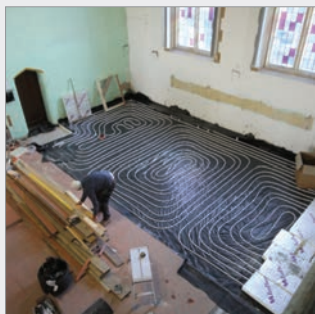


England 2021 Regulations have been released and Scotland & Wales are currently under review. It is the intention that the updates ensure adequate ventilation of all types whilst the energy efficiency of housing is improved at the same time. As the saying goes, ‘Ventilate when you Insulate’. This is all part of the Government’s proposals for the Future Homes Standard, which provides a pathway for highly efficient buildings that are zero carbon ready, better for the environments and fit for the future. Implementation of a full technical specification is scheduled for 2025. There are also proposals being discussed to mitigate against overheating in residential buildings.

Titon welcomes the increased emphasis that has been put on ventilation in both new and existing buildings as per the Building Regulations update, particularly in the current climate. Titon has a user guide section to help explain this.

www.titon.com/regulations www.gov.uk/government/publications/ventilation-approved-document-f

OMNIE UFH systems selected for Porthcawl Church renaissance



A well-attended and progressive church at the heart of a Welsh town is nearing the end of the first phase of an ambitious refurbishment project with improved facilities and as part of the work, a new underfloor heating system featuring the use of two different OMNIE systems will provide a warming welcome for all. Gilgal Baptist Church began planning a three year programme of alterations to transform the main building – the Sanctuary – and then rebuild the adjoining hall. The changes within the Sanctuary include the creation of a function area with kitchen and new toilets, plus various adaptations for those with mobility issues. A modern main entrance will give access to an enlarged reception area, while a new steel mezzanine structure creates additional space for various activities. OMNIE Staple and TorFloor systems, along with a new 50 kW gas boiler will be installed to improve the efficiency of the church’s heating and hot water delivery. Improved lighting and sound systems have also been included to make the interiors a better place for both worship and recreation. A spokesperson for the Gilgal Baptist Church said: “The changes are intended to ensure our buildings are fit for purpose”.

01392 363605 www.omnie.co.uk

Shouting about the new LINEO QUIET



VORTICE is expanding the LINEO range by 43 new models including quiet and energy saving versions. The new LINEO range is the ventilation equivalent of a Swiss army knife, designed to offer an effective solution to a wide range of ventilation demands, resulting

in a powerful tool for both the installer and end user. Powerful, quiet, efficient, are just some of the words best describing the new LINEO QUIET range. The range is acoustically lined making it extremely quiet to run, but it offers high performance rates reducing mould and damp in a wide range of commercial properties.

01283 492949 www.vortice.ltd.uk

Flexible working, flexible office



Over the past 5 years, and due to the increased demand for the flexible space that the post pandemic office requires, the industry has been set alight to the concept. An increasing number of developers, architects, consultants, contractors, and occupiers are all discovering the many benefits to underfloor air conditioning and its key role in offices of today and the future. AET Flexible Space has been working on some exciting projects pre and post pandemic, and can’t wait for the end-users to start enjoying the benefits of these stunning workspaces.

01342 310400 www.flexiblespace.com/flexible-working-flexible-office

Granorte supports UK Network



Cork specialist Granorte is providing improved support for its UK network of retail and commercial customers. Providing some 10,000 ft² of warehouse space, as well as a new sample centre, showroom and offices, Granorte’s new Telford headquarters provide retail and commercial clients with improved service and support. Giving improved stock levels across the company’s range of cork walls, floors, furniture and design objects, the facility is centrally located for efficient distribution across the UK. A larger sample room will help Granorte to process customer requests with improved efficiency, as well as supply a wider range of product samples and product literature. A showroom – open Monday to Friday, 8.30am – 4.00pm, by appointment – displaying Granorte wall, floors, award-winning furniture and display objects, as well as a point-of-sale options for retail customers; is a chance to explore how Granorte can bring the advantages of natural and renewable cork to a wide range of homes and businesses. The new Telford facility ensures that Granorte provides specification and retail customers with excellent service, including UK-based sampling and stock.

01785 711131 www.granorte.co.uk

New Healthcare Sector Guide published by Quantum Flooring Solutions

Quantum Flooring Solutions has published a new Healthcare Sector Guide to showcase its products which are suitable to be fitted in healthcare environments. This digital document highlights the stair nosings and flooring accessories which can help keep healthcare environments as clean and safe as possible.

Quantum products have been fitted in healthcare projects around the country such

as hospitals, care homes and dental surgeries. Many Quantum products are ideal for these environments, as they have been designed to adhere to best practice standards in Building Regulations, BS8300-2:2018 and The Equality Act.

Colour can be a vital part of flooring accessories. For staircases, stair nosings should be as clear as possible in order to assist people with visual impairments. Meanwhile, it may be necessary to have flooring transitions which match the floorcoverings very closely to create a dementia friendly environment. Quantum's wide range of colour choices facilitates these options.

Quantum's capping strips and cove formers offer the opportunity for safe, easily cleaned joints between resilient floorcoverings and wall junctions. Inside and outside corner floormitres help to create a uniform, well fitted flooring, helping to protect both floorcovering and wall from industrial



cleaning machines. They are also ideal for wet room application.

To find out about these products and more, please download Quantum Flooring Solutions' Healthcare Sector Guide, or contact the company.

info@quantumflooring.co.uk
quantumflooring.co.uk



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The
difference
is in the
detail

Vicaima at the forefront of decor trends for 2022

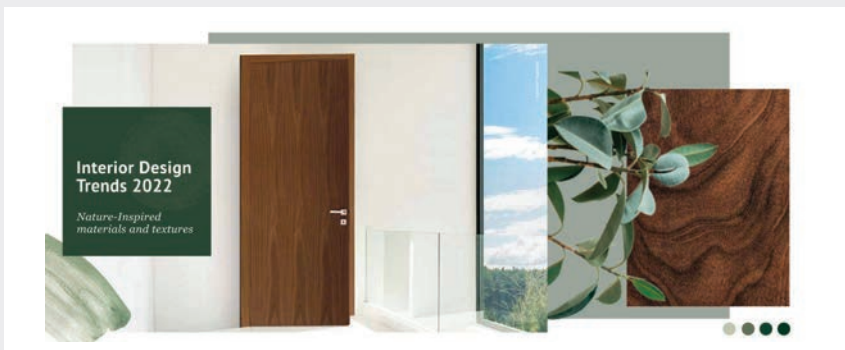
Vicaima unveils the trends that will shape the interior design sector in 2022, reinforcing the importance of the personalisation factor in each project.

The beginning of another year symbolises the closing of cycles and the beginning of others, making room for growth, change and progress. 2022 invites us to open doors and appreciate the light and Nature that surrounds us, bringing fragments of these elements into the interior, without neglecting the importance of imagination and resilience that characterised last year's trends. Vicaima shares the innovations that will dominate the interior design sector throughout 2022, demonstrating that it is possible to follow trends and integrate them into different projects in a customised way.

Nature is transported into the interior

A trend originating in 2021, the incorporation of natural elements in decoration will gain even more prominence this year, being present in colour palettes, textures and decorative elements. Nature-inspired materials and textures create holistic and relaxing environments that promote well-being.

For those that love the visual effect of wood and want to break free from the limitations of the species or shade, the Naturdor® Vision range of finishes is an excellent option, as it brings together wood veneer and the use of technology, allowing you to explore new dimensions of tone and design. Vicaima's Naturdor® Stained Extra finishes also present innovative possibilities for interior projects, through the use of natural wood veneer with striped veining, available in various tones. Wooden panels will also be protagonists as they bring the warmth and comfort of Nature into interior spaces, being particularly trendy in Hospitality projects, where the creation of cosy environments is a must.



Multifunctional and minimalist spaces

In these past couple of years, society was forced to rediscover spaces, making them multi-purpose. In 2022, professionals in the sector will be challenged to design multifunctional rooms, not out of necessity, but because there has been an adaptation of lifestyles. Minimalism has never been so present, showing that little can become much. For the new generation that favours simplicity without neglecting the design component, the "EX70" door collection from Vicaima's Exclusive line may be the ideal choice. This collection stands out for its elegant design and geometric patterns and is available in 5 contemporary models that create a dramatic and luxurious style in any environment.

Very Peri is Pantone's Colour of the Year

Pantone's colour of the year for 2022 is Very Peri, a violet shade that combines the constancy of blue with the energy of red. The shade chosen for next year also symbolises a new stage, as for the first time Pantone created a brand-new colour instead of choosing an existing one. The tone integrates in perfect harmony within the huge palette of Vicaima's Naturdor, Dekordor and Laddor range of finishes, capable of giving subtlety to the spaces that include this new fashionable tone.

Conscious Sustainability is essential

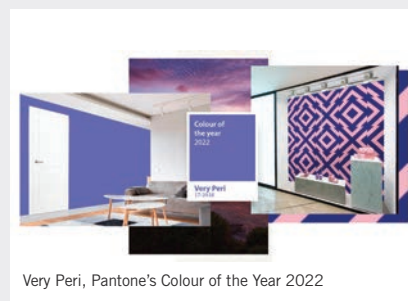
The theme of Sustainability remains firmly on the media's agenda, due to the fact that it is increasingly relevant for the current generation of consumers. The responsible use of raw materials is a growing concern, especially with increased exposure to climate change, influencing the way in which we buy and produce.

In 2022, the production and use of raw materials obtained in an environmentally responsible way will be in the spotlight. This together with product durability being another major customer concern.

Vicaima, as an environmentally conscious manufacturer, promotes the use of technologies and raw materials that minimise environmental impact. All of Vicaima's products are available with FSC® certification, an entity which ensures that the raw materials come from responsibly managed forests. Vicaima also makes sure that wood waste resulting from production is reused and recycled.

Vicaima, national leader and one of the biggest European players in the production of avant-garde solutions for interior and technical doors, wardrobes, panels and furniture pieces, works continuously to bring innovation and respond to the 2022 trends and market demands with distinctive, modern and elegant solutions. The mission to be constantly at the forefront of design remains, along with the search for increasingly sustainable solutions that mirror a robust environmental responsibility.

01793 532 333
www.vicaima.com



Very Peri, Pantone's Colour of the Year 2022



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Laminates / Brilliant Yellow

Senoplast / Denim

Technical / Torfona Natural Oak

Real Stone Veneer / Vienna

Natural Wood Veneer / Titanium Oak Groove Effect

Contact us for more information.

Century House, Premier Way, Lowfields Business Park, Elland,
West Yorkshire, HX5 9HF

T: +44 (0) 1484 658341 E: info@decorativepanels.co.uk
www.decorativepanels.co.uk

Liquid, the recently launched collaboration with Tom Dixon, receives Best Fluid Form accolade

Soft, flowing forms, generous shapes, and a radical departure from the current trend for sharp-edged geometric pieces have won prestigious design community recognition for Vitra and leading British designer Tom Dixon.

The annual Wallpaper* Magazine design awards select the best and most innovative new products, and the Best Fluid Forms award was presented to the new Liquid bathroom collection. Liquid was launched at the end of 2021 and is on display at Vitra's new flagship showroom in Clerkenwell, London.

Contemporary without being of the moment, Liquid is a complete bathroom collection that includes basins, taps, showers, tiles, accessories, and furniture. Inspired by the way water flows, Liquid has soft, curved edges. Pieces can be used together, or single items can be selected as a focal point. Recognising the current consumer interest with slim, reduced



designs, Vitra and Tom Dixon have created the opposite, incorporating fatter, softer lines inspired by elements of pop art. While the overall design is reduced, the functionality is intuitive, so users instinctively understand how to operate products such as taps and showers. The curved shapes reduce the number of hidden spaces, so cleaning is quick and easy – vital in a post-pandemic world.

Vitra's world-renowned manufacturing expertise enabled the design to come to life. "Ceramic can change shape and size when it is fired – especially with large, chunky pieces," explains Vitra's marketing manager for the UK and Europe, Margaret Talbot. "Our expertise and top-level production facilities allowed us to bring Tom Dixon's unique concept to life." Visit the website to explore the Liquid collection.

01235 750990

www.Vitra.co.uk/explore/liquid

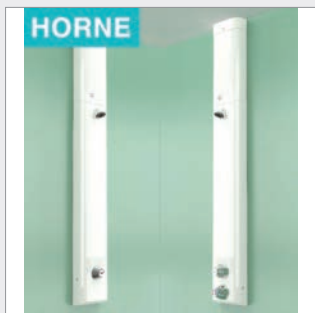
An exploration of colour and shape with an urban edge



Urbancrete is the latest tile collection from Parkside Architectural Tiles, with concrete and stone effects in multiple formats and geometric shapes to create a unique look. Featuring comfort, a brand-new finish that combines the luxurious feel of a matt surface with R10 anti-slip performance, Urbancrete is a porcelain tile collection designed to excel in commercial environments demanding high-quality aesthetics with the durability and easy maintenance of tiles. The collection is centred on two basic surfaces that can be used to create multiple combinations – a concrete effect with an urban aesthetic and an original marble design – in standard formats, mosaics and geometric shapes to give specifiers the opportunity to explore combinations in effect, colour and shape. With options for floor and wall, internal and external use and a range of special pieces, Urbancrete can be used to deliver a unique look across a wide range of project types. Urbancrete is available in comfort, grip and glossy finishes, and meets all the performance requirements for tiles in indoor environments in 6 mm and 10 mm specifications, making it suitable in everywhere from hotels to retail, commercial offices and public spaces.

0116 276 2532 www.parkside.co.uk

Safe Secure Protector



In mental rehabilitation settings – prisons or specialist mental healthcare – showers should meet standards of decency and assist in the delivery of care; providing safe and comfortable warm water for hygiene and wellbeing, while discouraging patients from intentional harm, either to themselves or their environment. Horne pre-plumbed shower panels provide enhanced safety for service users. The painted aluminium extrusion is highly robust, durable and tolerant of intentional abuse or accidental damage. A range of models, specifically designed for secure applications, feature controls and shower head designs that minimise ligature risk. The integral Type 3 (healthcare approved) thermostatic shower valve ensures reliable, consistent, safe and comfortable water temperatures, irrespective of water system demands elsewhere. Users experience a safe, comfortable and calming shower; reducing the inclination for frustrated interference. Fabricated off-site, fully pressure and performance tested, the installation is extremely quick and simple: hang, fix, connect and commission. Easy maintenance (security tool access only) and low-cost spare parts also assist a long and cost-effective operational life.

01505 321455 b.link/SafeSecure

Flexible solutions for changing generations

Ann Boardman of Saniflo discusses ideas for flexible living spaces including flexible bathroom options

It's well known that basements, lofts and unused spaces can be successfully converted into rooms that add value and practicality to a home. Even when a lack of traditional drainage is available, bathrooms and kitchens can be installed up in the attic or down in the cellar thanks to the use of pumps, macerators and lifting stations. These products can take black and grey water waste and pump it away to the nearest soil pipe via narrow discharge pipework which is concealed behind walls, in ceiling voids and under floorboards. However, it's not as widely known that it is equally possible to add facilities, such as showers, to existing bedrooms and other rooms to increase the flexibility of the space.

There are many reasons why adding facilities in this way may be required. Rising property prices make it more difficult for young adults to own their own homes; many find themselves living with their parents for longer while they save. Privacy and independent living top the list for these people. Those with mobility issues, including the elderly, may need to move to a room downstairs in their own homes or in the home of a relative if they can no longer live alone. Care homes are often not an option – due to the expense – and it can often be more cost-effective to adapt a room and have home care.

Flexible bathroom options

Creating a small living area or study area is straightforward. It can also be simple to add bathroom facilities into these spaces to enhance privacy and independence. One solution is the installation of a walk-in shower cubicle that can be easily added against a wall or in the corner of the room by tapping into an existing water supply. The beauty of a cubicle is that it requires no tiling or grout and can be installed right over the top of existing décor.



All-in-one units include a low-level, non-slip tray which is fitted straight on to the floor whilst internal panels slot over the upstands of the tray to create a watertight space. External panels and door, shower valve and shower head complete the assembly. Specialist versions include fold down seats, grab rails and magnetic shower fixtures which are both light and easy to use. As well as being quick to install, cubicles are – importantly – quick to remove once no longer required. A WC and basin can be installed into the same space and one of a number of pumping solutions can take the waste from all fittings if needed. Rectification to the original area is usually minimal and the room can be efficiently returned to its former purpose.

Case studies

One project – for an elderly end-user – included the installation of a shower cubicle, WC and basin along one elevation

Shower cubicles – thanks to simple and quick installation – can provide a flexible solution in all sorts of situations



Supplied as a single package, cubicles can be delivered and assembled ready to use on the same day

of a dining room that was being converted into an accessible downstairs bedroom. The room adjoined the family conservatory which in turn became an accessible dining room to take meals and enjoy time with family. The open plan room retained a spacious, yet private feel and offered bathing independence. Once the room was no longer required, the products were stripped out and the space reverted to its former use.

Another project involved the conversion of a study into a downstairs bathroom for a man who had had an accident that affected his legs. His bedroom was temporarily relocated to ground level and the converted shower room meant he could avoid stairs. He and his partner decided to retain the facility even after recovery, as a second bathroom.

Installation benefits

Supplied as a single package, cubicles can be delivered and assembled ready to use on the same day. They also provide a hygienic solution; all panels have a coating which stops dirt and grime adhering to the surface and eliminates limescale build-up. Because no tiles are required there is no grout to discolour or deep clean.

Thanks to the advantages of self-contained cubicles, they have also become popular in another sector of the market; that of property guardians. Empty buildings are converted into basic living spaces while waiting for change of use permission. The spaces are rented out at cost-effective rents to tenants who effectively 'guard' the properties; making them less prone to squatters and vandals. The installation of shower cubicles in these buildings is a quick albeit temporary solution to providing high quality bathing facilities to tenants.

Shower cubicles – thanks to simple and quick installation – can provide a flexible solution in all sorts of situations.

Ann Boardman is head of marketing and product development at Saniflo

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Norcros Adhesives helps get latest Maggie's centre up and running

Norcros Adhesives has been involved in an impressive new-build project at Maggie's Wirral, part of the national network of Maggie's cancer support centres across the UK and online. Maggie's Wirral is located next to the Clatterbridge Cancer Centre NHS Foundation Trust. Maggie's aims to provide calming and relaxing spaces, as well as therapy for those receiving treatment for cancer, and for their relatives and carers.

As such, the physical design and appearance of their buildings is of key importance to create a welcoming and comforting environment for users of the Centre.

The main contractor on the project was James Carroll Builders Ltd. of Ruthin, North Wales. Norcros Adhesives were able to assist because of the company's experience of supplying products and expertise for similar projects many times in the past. The technical back-up that Norcros offers, the lifetime



guarantee on all its products, and the support available from the sales team on-site really make the difference when it comes to the

installation of large format floor tiles.

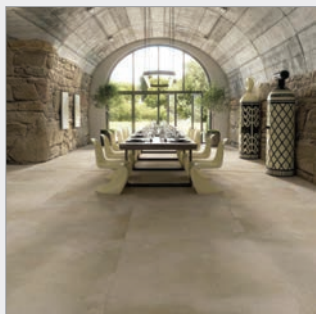
Tiling started in October 2020. The project featured a 70-80 mm sand and cement screed with underfloor heating, which was broken up into 40 m² bays in line with the relevant British Standard on heated screeds.

Vacuuming preceded the laying of the screed, and the surface was primed with Norcros Prime Bond, a multipurpose water-based synthetic SBR polymer, applied by roller. The screed was allowed to dry, and was then buttered using a 4.5 mm trowel and a heat mat was laid, fully embedded in Norcros Porcelain Grey Rapid, using a 20 kg roller.

Large format 1200 x 1200 x 11 mm tiles were laid using Norcros S1 Fibre Reinforced Tile Adhesive in grey, which is a proven adhesive for use especially for large format tiles. Colour-matched grouts and silicone for the seamless expansion joints were specified in accordance with the architect's request.

01782 524140 www.norcros-adhesives.com

Sustainable style solutions from CTD Architectural Tiles



With the need to create greener buildings continuing to colour interior design schemes in the commercial sector, leading tile supplier CTD Architectural Tiles has made it easier than ever for specifiers to find eco-friendly tile finishes and solutions. Working with some of the world's most forward-thinking manufacturers, CTD Architectural Tiles offers a number of sustainable products such as the Yuri range which is constructed with 90% recycled materials. With its industrial-inspired, earthy colour palette, Yuri is a glazed porcelain tile ideally suited for a high footfall area thanks to its versatility and high-slip resistance. Offering extensive design flexibility, CTD Architectural Tiles' full range of recycled tiles provide eco-friendly solutions in a variety of styles, sizes and colours for both floor and wall designs. CTD Architectural Tiles also offers a comprehensive collection of high-quality ceramic and porcelain tiles that have accredited Environmental Product Declaration (EPD) documentation. This provides designers, contractors and end-clients with a detailed breakdown of a product's environmental impact throughout its mining, manufacture, application and disposal.

0800 021 4835 www.ctdarchitecturaltiles.co.uk

No.1 design that is ideal for any bathroom

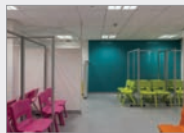


Introducing the new Duravit No.1 complete bathroom series. This is a compact and comprehensive product range that is excellent value for money within the entry-level segment. This is an ideal collection as a bathroom for a first time buyer through to

those working in the project sector. All the products stem from Duravit's new in-house designers are created to enhance the quality of daily life, focusing on what is important to the end user. Duravit No.1 opens up a whole host of combination options, creating the perfect foundation for a range of bathroom plans and requirements.

01908 286680 www.duravit.co.uk

Altro adds colour to waiting area



A chance hospital visit resulted in a refurbishment of the Emergency Department waiting area at Sheffield Children's Hospital, using Altro floors and walls. Ryan Spencer worked with Altro to put forward suitable products to the hospital's art team. The results are making a big difference to staff and to the families using the services. Ryan Spencer was delighted with the results: "Our thanks to Altro for their help with this project. We use their products because they look great, they last a long time, but also because of the high quality customer service that backs that up."

01462 489 516 www.altro.co.uk

Eventim Apollo's stage refurbishment by Harlequin Floors



Last year the Eventim Apollo in Hammersmith went through a complete stage refurbishment plus additional custom stage building with Harlequin Floors.

The Eventim Apollo, formerly the Hammersmith Apollo, is one of the UK's largest original theatres. Designed in the Art Deco style by architect Robert Cromie, it first opened in 1932 and remains one of London's major live entertainment venues.

The Apollo has seen some of the finest live entertainers on stage including The Beatles, Queen, Sir Elton John and Kylie Minogue.

Harlequin started the full stage refurbishment by removing the old vinyl, plywood and original hardwood stage surface. Then the old electrical wiring, and Victorian water pipes that were no longer in use had to be taken out before the installation could commence.

A liquid damp proof membrane was applied and layers of fire-retardant ply were

placed around the metal conduits that could not be removed. The battens were laid to a laser level to ensure a flat surface and had acoustic isolation pads attached at predetermined centres.

The stairs to both sides of the stage were custom-made to keep the tread distance the same and to make sure the height matched.

The stage surface was finished with Harlequin Standfast heavy-duty performance floor. With its slip-resistant surface, Standfast is particularly suitable for permanent installation on multi-purpose stages.

Harlequin also installed a 50 mm strip of white vinyl along the downstage edge of the stage. This is not visible to the audience but helps ensure the safety of the performers by ensuring that they can see the stage edge.

Josh Clague, production manager at Eventim Apollo, said: "With such a busy and varied schedule, it was vital for us that we upgraded our stage to the best industry standard. It's great to know that we now have

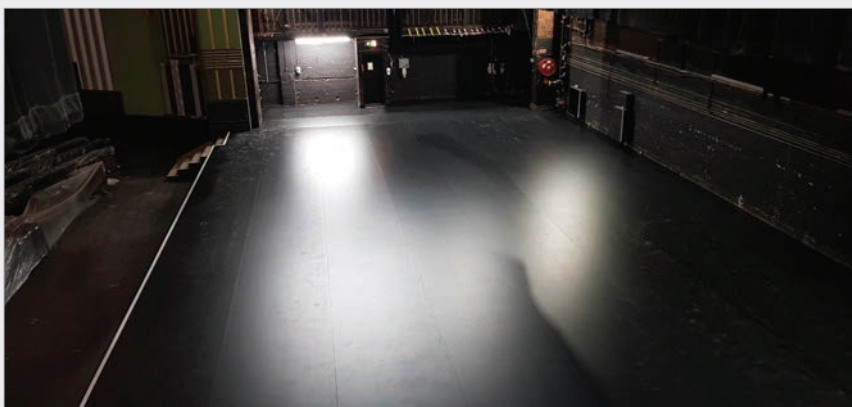
a stage protected and prepared for the next generation of shows and events here at the Eventim Apollo."

Harlequin Standfast is suitable for ballet, contemporary, modern, percussive dance including flamenco, Irish and tap, multi-purpose use, hip-hop, jazz, street, aerobics, television, theatre and for operatic performances.

The Harlequin teams work on a wide range of stage builds and refurbishments, from installing a new top surface to brand-new stage constructions. When an existing stage floor requires refurbishment, Harlequin offers a selection of services including sanding and repainting, replacement of a 'sacrificial' hardboard top layer and stage rebuilding, repair or reconfiguration.

Each stage is different, so Harlequin's bespoke stage building and refurbishment service provides a unique solution every time.

01892 514 888



New hygienic, waterproof epoxy grout wows the crowd at SPATEX 2022

When tiling swimming pools, wet areas or installations that require hygiene protection, an epoxy grout is often the best solution.

ARDEX EG 18 Plus is a new, improved formula three-part epoxy grout that provides a hygienic, durable and impervious finish.

Launched first with great acclaim and interest from architects and contractors at SPATEX 2022 – the UK's dedicated international pool, spa and wellness show which took place last week, ARDEX EG 18 Plus locks the colour within the filler, ensuring improved, longer lasting colour-tones. It also provides for easier mixing and easier application with an epoxy grout float.

Improved rheology ensures the grout holds well in the joints – even on walls. What's more, ARDEX EG 18 Plus cleans off far easier than other epoxys: emulsifying pads are not required (but can be used if preferred). Installers can just clean off with a good quality sponge – even on heavily



textured, anti-slip tiles.

The easy clean-off can begin from just 15 minutes after application, but with a long clean off time of 45 minutes there is no need for installers to panic or rush as the grout is

removed simply by sponge up to 60 minutes after application.

Ideal for swimming pools, bathrooms, hydrotherapy spas, hospitals, domestic and food preparation areas, ARDEX EG 18 Plus can withstand full loads after two days of curing.

After seven days it is resistant to aqueous salts, chlorine water, commercial cleaning agents, dilute mineral acids.

Available in White, Bahama Beige, Silver Grey, Grey and Anthracite it can be used from 2 mm to 12 mm joints – perfect for any installation or design where a hygienic or water impervious grout is required.

Want to find out more about how ARDEX can support swimming pool projects? Why not book onto our Online CPD – Specify Tiling to Swimming Pools – taking place at 11am on 24th February. Book your place via <https://ardex.eventbrite.co.uk>.

01440 714939 ardex.co.uk

Illuminating Springhills



Luceco has recently supplied interior and exterior amenity lighting to Springhills Independent Living Scheme at Outwood, provided by Wakefield and District Housing Limited. WDH is one of the UK's largest social housing providers, with over 32,000 homes across the Wakefield district and the north of England. Atlas circular bulkhead fittings were used throughout the interior with the perimeter of the building lit with Atlas with metal eyelid cover decors. Standard, emergency, and integral microwave sensor versions were used to reduce energy consumption in circulation areas. LuxPanel luminaires were also installed, in particular LuxPanel Circular which is available in 120, 150, 180, and 240 mm diameter options with high performance PMMA light guide. LuxPanel Circular is designed to be recessed mounted in exposed grid or plasterboard ceilings and secured with springs. The fittings were used in communal areas and corridors along with Tempest emergency downlighters with area optic, providing 3 hours non maintained emergency lighting which is an essential element to the lighting of a communal space.

01952 238 100 www.luceco.com

Forbo launches new sports flooring



Having supplied floor coverings for education buildings for more than a century, Forbo Flooring Systems is pleased to announce a new solution, which completes its education portfolio: Sportline multi use. This new high-performance vinyl sheet has been designed specifically for multi-purpose sports and

community halls. Meeting the requirements of Sports England and EN 14904 (P1 classification), Forbo's Sportline multi use collection is safe, durable and low maintenance, making it the perfect solution for school and university sports halls, or local community centres.

www.forbo-flooring.co.uk/sportline www.forbo-flooring.co.uk/education

Be inspired by new BLANCO brochures



The *BLANCO UNIT à la Carte Collection 2022* is a concise, comprehensive 76-page guide to BLANCO's kitchen sink and tap portfolios while *BLANCO UNIT Selections 2022* is a 32-page catalogue detailing a range of stainless steel, ceramic and SILGRANIT® sinks and complementary kitchen mixer taps along with integrated waste solutions. Finally, the *Dealer Guide 2022*, again focusing on BLANCO UNIT solutions, is a 260-page compendium which is designed to arm the retailer network with more detailed information on all they need to know about the BLANCO offerings for 2022.

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Knightsbridge has boosted its collection of pop-up and FASTCHARGE chargers with the introduction of innovative pop-up 'towers of power' that come in a choice of cap finishes and combine sockets with USB outlets. The towers comprise three 13A sockets – operated by an on/ off backlit rocker switch – with in-built dual outlets that supports both Type-A USB and Type-C charging compatible with QC3.0 (Quick Charge) and PD FASTCHARGE. The ports charge 80% faster than a standard 5V DC 2A charger and can deliver up to 50% charge in under 30 minutes with compatible phones.

01582 887760 www.mlaccessories.co.uk

Drawer delights from Keller



Keller Kitchens is well known across the UK's residential and contract markets due to the impressive flexibility in terms of designs, colours and finishes. Finishes comprise veneer, melamine or lacquered while matt, silk, high gloss and structured lacquers are available in over 1950 NCS colours.

The latest innovation is the Merivobox from BLUM which can now be incorporated into any Keller scheme. As standard, the kitchens are equipped with the Antaro drawer box which has been known for years for its high user comfort and beautiful design. The Merivobox offers an alternative if the design demands that extra something.

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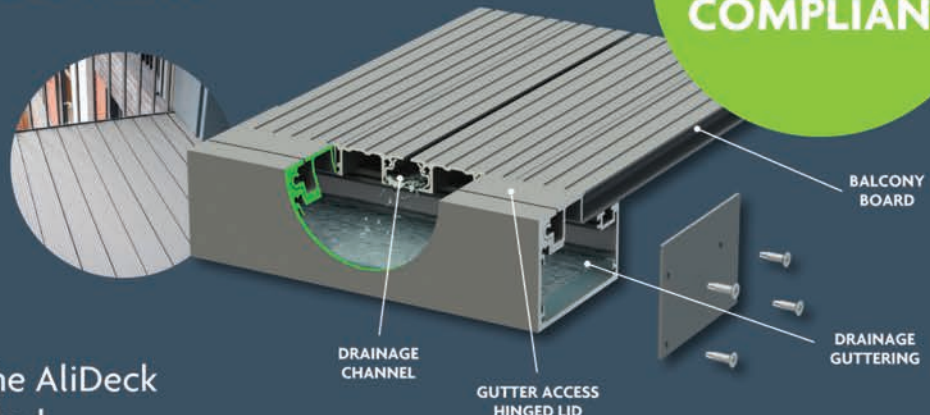
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Untouchable innovation

Geoff Firth of Boon Edam explains why touchless technology is the “evolution of the connected workplace” and discusses futureproofing commercial buildings



There was a time when you wouldn't have thought twice about calling a lift, opening a door, or using a self-check-in kiosk. But perceptions of what was considered 'normal behaviour' pre-pandemic continues to change dramatically, and is likely to shift again in the future. So how can architects and specifiers future proof commercial buildings to support social distancing and touchless entry?

There is no denying that the pandemic spurred massive changes in how business is conducted. Organisations have had to quickly adapt and evolve to survive, and in doing so, they have revolutionised the built environment.

As some businesses prepare to return to the office, designers are increasingly challenged to reinvent and reimagine the workplace. With the threat of Covid-19 still very much present, it is more critical

than ever to have the right systems and processes in place to ensure the safety and well-being of employees.

The route forward? Smarter, healthier buildings.

The first line of defence

For years, touchless technology has slowly become part of everyday life. From contactless payments to smartphone-enabled face recognition, new technologies appear to pop up continually. However, in the workplace, key cards and fobs remain the most widely used method for employees and visitors to gain access to a building or controlled area. As expectations and standards evolve, businesses are now looking to adopt new, data-driven technologies and integrate them into their building's infrastructure to make them safer, healthier, and more efficient.



It is important for designers to consider what design elements and technologies can be used to reduce interpersonal contact



Whether it's a residential, mixed-use, or commercial building, almost everyone enters through a lobby. So, when designing a new building or retrofitting an existing structure, it is important for designers to consider what design elements and technologies can be used to reduce interpersonal contact and the potential spread of infection in these communal areas. Although a traditional key card system is an effective entry solution, it is also one of the most touched surfaces in a workspace.

Touchless access control systems are designed to offer a contactless experience for occupants to freely move through and around a building. They offer the safety and security of current access control systems but eliminate unnecessary physical contact.

A recent study conducted by Honeywell found that 90% of surveyed facilities managers say that contactless building entry and experience is a top priority, although only 35% currently have contactless entry solutions in place. Several areas ranked high across the countries, including creating an inviting and innovative building experience, energy-efficient and sustainable solutions, and improved air quality, but the ability to provide contactless building access topped the list.

When it comes to futureproofing a building, touchless entry is essential. Touchless entrances are not only more hygienic, they make buildings more accessible for all. Many touchless technologies available today can be integrated quickly and easily to make an entrance safe and secure. Facial recognition, gesture control, QR scanners and lift destination control systems, all provide a hands-free, germ-free entry solution for employees and visitors.

Biometric authentication such as facial recognition access control can be integrated to facilitate a touchless entrance. One of the major advantages of facial recognition is not having to wait at the point of entry. The software registers a person's face as they approach and can determine whether to allow access in the time needed to arrive at the door or gate.

The integration of other touchless access control systems with speed gates, like elevator destination control systems, is an effective way to smoothly manage the flow of users within a lift lobby to avoid overcrowding.

In addition to creating a safe and secure workplace for all, the integration of touchless access control can help businesses

establish and analyse access trends, such as peak times and flow rates, and can record timestamped employee entrances and exits. As part of a wider building automation system, it enables organisations to monitor, adapt, and improve building performance which in turn delivers enormous benefits in office function, company culture and business productivity.

Upgrading is easier than you might think

Although the pandemic continues to shape the future of workplace design, it has also driven demand for more urban renewal and heritage projects, transforming existing corporate structures into future-orientated and inviting hubs.

Beyond rethinking the interior design of an office or communal space, it is important to consider that redesigns and retrofits to the internal systems of a building can also offer significant benefits to protect the safety and well-being of occupants. From integrating third-party touchless access control systems to retrofitting revolving doors to low-energy, more sustainable, automated doors, there are countless opportunities for building owners and facilities managers to upgrade their entrances to provide contactless entry.

Revolving doors and speed gates provide significant benefits over traditional swinging or sliding doors in that they effectively reduce physical contact while maintaining a secure environment. Although it may not be practical to replace every swinging or sliding door with an automatic revolving entrance door, it is worth considering how to deploy doors and access gates as part of a layered physical security strategy at the main entry points throughout a building. The features should support both touchless entry and social distancing and should be able to stand the test of time, with the flexibility to offer new solutions should the need arise.

A look to the future

The world is in a constant state of change, and the need for flexibility, not just in design, but in creating a culture that supports this newly elevated need for safety, comfort and control is essential. Regardless of whether it's a new build or regeneration project, touchless technology is helping to enhance the built environment – and it's here to stay.

Geoff Firth is area specification manager at Boon Edam



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Venting about spec quality

Tony Stevens at Bilco UK explains ‘NSHEVs’ – a ‘natural’ approach to ventilating spaces during fires – and factors that architects need to address when considering it



According to The National Statistics Survey for fire and rescue services in England, smoke inhalation is the leading cause of death in fires, and was responsible for 34% of fire-related deaths in 2018/2019. As an architect or specifier, ensuring the right Natural Smoke and Heat Exhaust Ventilator (NSHEV) is installed is paramount to ensuring the product is fit for purpose for the chosen application, and provides the highest levels of safety and compliance.

Understanding the importance of NSHEVs

It is a specifier's responsibility to ensure that the correct product is used in the right context and is manufactured to the highest

quality, affirming the safety of the building for its entire lifecycle.

When a fire ignites in an enclosed space, the smoke rising from the fire gets trapped by the ceiling. It then begins to spread, forming an expanding layer that leaks into any gaps in the floors or walls. This can lead to individuals becoming disorientated, and their vision becoming increasingly impaired, hindering safe evacuation.

NSHEVs protect building occupants by preventing the excessive build-up of smoke and noxious fumes by exhausting the smoke quickly and safely. This reduces the risk of smoke inhalation and damage, horizontal fire spread and secondary ignitions. In the event of a fire, units also improve visibility, accelerating evacuation times and assisting firefighters.

Ensuring constant compliance

When specifying a NSHEV, it should be fully compliant with the Construction Products Regulation 305/2011, CE-marked with a Declaration of Conformity and manufactured to meet the demands of Building Regulations, Approved Document B, BS9999 and BS EN12101-2.

Choosing a smoke vent that meets all of these legislations will help to not only achieve compliance, but ensure the operational reliability and performance of the installation throughout its lifetime.

Customising the design

While ensuring compliance and safety is paramount, there are additional aspects that need to be considered as part of the specification process. There are many options to consider when specifying, from aesthetics, to operations and smoke control. When considering smoke control, it's advised to be in the form of a dedicated management system, or a solution integrated into a wider networked fire alarm system.

A choice of hardware, paint finishes, kerb liners, manual and automated control units,

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open-close switches and rain and wind sensors can also result in the creation of a customised NSHEV, which can ensure the product is fit for purpose for the particular installation environment.

With some simple modifications, such as the addition of a fixed vertical safety ladder, a unit can also provide a means of escape from the roof, or offer access for infrequent maintenance. By using a skylight, the NSHEV can also offer a source of natural daylight to the space below.

Product in practice

Discovering the need for reliable smoke ventilation with a bold yet discreet design, the Riverside Museum in Glasgow required two custom-designed smoke vents to meet strict requirements with regard to building safety regulations.

The museum's iconic design dominates its riverside location, while paying homage to the heritage of its surroundings. Crucial to the museum's flowing design is its roof, which curves and undulates and continues around the east and west sides of the building to constitute the majority of the external structure.

In the event of a fire, NSHEVs improve visibility, accelerating evacuation times and assisting firefighters

The smoke vents were manufactured to a unique specification to create a seamless, aesthetic finish with the museum's distinctive roof, showing that style can also be accomplished alongside safety.

The ideas of smoke clearance and smoke ventilation, like many other fire safety systems, can be complex. However, as 'life-safety' systems, they must be robust and durable, and tested to the industry standard. The design and equipment must be suited to the building type, and installation and maintenance must be done by a highly qualified team to ensure that the systems function effectively when needed.

Tony Stevens is technical estimator at Bilco UK

£92 million student accommodation project receives Advanced protection



Five new towers at the University of Brighton's Moulsecoomb Campus are now protected by a fault-tolerant network of MxPro 5 fire panels from global fire systems leader, **Advanced**. The 13 networked MxPro 5 panels have been installed to protect the five student accommodation towers varying between eight and 18 storeys, which will provide more than 800 student bedrooms as well as ground-floor fitness facilities and amenities for the students' union. MxPro 5 is the fire industry's leading multi protocol fire system solution, certified by FM Approvals to the EN 54 standard. It offers customers a choice of four detector protocols and a completely open installer network, backed up by free training and support. MxPro 5 panels can be used in single-loop, single-panel format, or easily configured into high-speed networks of up to 200 panels covering huge areas. Ease of installation and configuration, as well as a wide range of peripheral, make MxPro 5 suitable for almost any application. Advanced's reputation for performance, quality and ease of use sees its products specified in locations around the world, from single-panel installations to large, multi-site networks.

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Gilberts helps protect twin towers



An "iconic" site that has been transformed into high rise, high specification living for young professionals is a showcase for the latest in modern methods of construction – including its fire protection. The Coventry development – named Elliotts Yard after the automotive business that occupied the city centre site since the 1920s – comprises two separate buildings including a 17-storey tower containing a total 200 apartments. Modular construction techniques were chosen as far as possible to deliver a sustainable solution that simultaneously provided robust acoustic and fire safety performance, including precast concrete sandwich panels and the latest in smoke evacuation – **Gilberts Blackpool's** Series 60 dampers. Smoke control specialist Baiceir recommended installation of a Gilberts Series 60 smoke damper into the fire shafts on each floor (30no in total), with fan skids on the roof of each building to accelerate smoke evacuation. Gilberts' Series 60 is believed to be the only vent of its kind designed and manufactured in the UK. It has been tested to – and passed – all relevant tests ((EN1263-1, EN1363-2). Delivering up to two hours' fire integrity.

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requirements of Approved Document M and do not have to be removed from the door to be adjusted.

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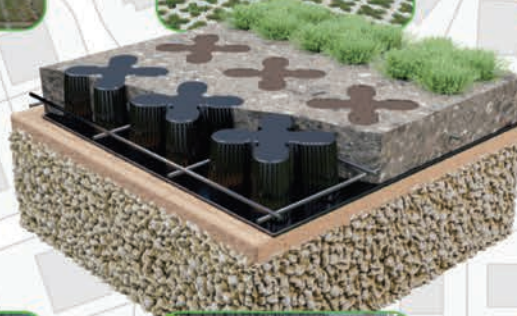
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Purposefully porous

As a SuDS expert, Chris Griffiths of Marshalls explains why he is committed to bringing the approach into schemes using porous solutions to manage surface water in an increasingly challenging environmental context

The latest State of the UK Climate report shows the weather has become wetter over the last few decades, despite annual variation. Between 2011 and 2020, the UK experienced 9% more rainfall than in any period between the 1960s and 1990s. Moving forwards, we're expected to see even wetter winters and drier summers. While summer rains will occur with less frequency, they're likely to be much more intense, according to climate projections.

So where does this leave us when designing flood resilient spaces? And how can we mitigate potential damage and build in resistance to more extreme weather events?

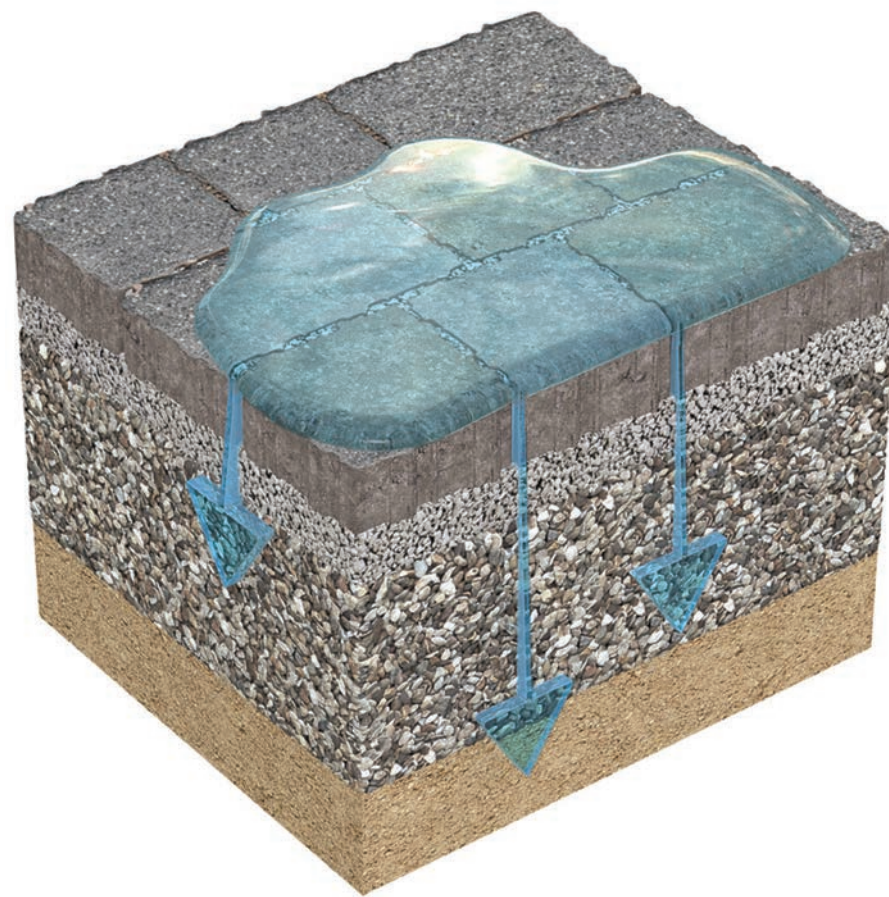
Managing surface water through SuDS

Sustainable Drainage Systems (or SuDS) is a holistic approach for managing excess rainfall. By controlling the passage of water and slowing down surface water run-off, SuDS can collect rainwater at the source. Here it can either infiltrate into the ground or evaporate, helping to minimise future flood events. A mix of guidance and legislation is pushing for greater inclusion of SuDS into urban developments, not just for the proven drainage advantages but for the many other benefits that the systems provide. These include improving water and air quality, supporting biodiversity, and creating more appealing spaces for people to live, work and play.

Permeable paving = source control

Well-designed drainage solutions should consider a range of measures to impact water flow rates, from soakaways and infiltration trenches to rainwater harvesting and permeable paving.

Permeable paving products offer a load-bearing surface coupled with source control attenuation for pavements and roads, car parks or public realm schemes, preventing surface water run-off by



collecting rainfall where it lands. Porous paving solutions provide an ideal dual-purpose SuDS method; encouraging water to soak down through the surface to be stored in a specially prepared sub-base.

As well as cleansing the attenuated water (via both mechanical filtration and natural biological processes) the use of permeable paving also prevents water pooling, avoiding puddles and ice which can present a health and safety risk.

Permeable paving products offer a load-bearing surface coupled with source control attenuation

Tackling a myth

As with all innovations, some initial myths still surround the use of permeable block paving which causes some specifiers to hesitate. One such belief is that the voids on the surface (the specially widened joints between the blocks) will get blocked up with debris within a few years, preventing water run-off and creating a drainage issue.

In practice, this isn't the case. Apart from the evidence of thousands of highly effective, still-functioning systems installed all over the UK, a wide range of academic studies have been published that disprove this myth. These include the 2006 study of Soenke Borgwardt, which found that although infiltration rates do indeed decline over time, after around 10 years they plateau at a level which still provides more than adequate infiltration rates to cope with adverse weather events. The 2018 research report of Luis Santano-Fonedua et al, similarly confirms these findings. This study demonstrates via live schemes that a concrete block paving permeable pavement should continue to provide infiltration rates that exceed the demands of the heaviest rainfall well beyond its design life.

Flood protection to support SuDS

While 'designing in' permeable paving solutions early in the process can make a significant (and very cost effective) impact on water management, specifiers shouldn't neglect other defensive measures. The SuDS standards recognise that all water management systems, philosophies and products should be carefully considered to ensure the most appropriate solution for the job. For example, flood protection methods may be necessary in areas at risk of flooding in lower down catchments, using barrier systems to block water and prevent it from entering or damaging property.

These measures can be permanent (such as retaining walls) or temporary, in the form of flood barriers. Temporary measures should be passive, operating automatically when needed, without manual intervention.

Flooding is the biggest environmental threat facing the UK today. Used in combination, flood defence and SuDS measures bring the joined-up approach needed to tackle it successfully.

Chris Griffiths is head of product sustainability at Marshalls and a Code for Sustainable Homes assessor



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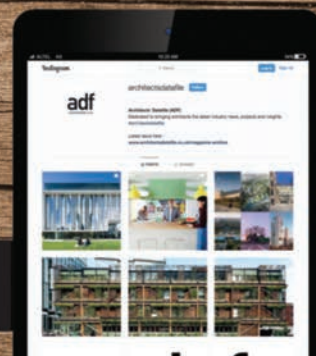
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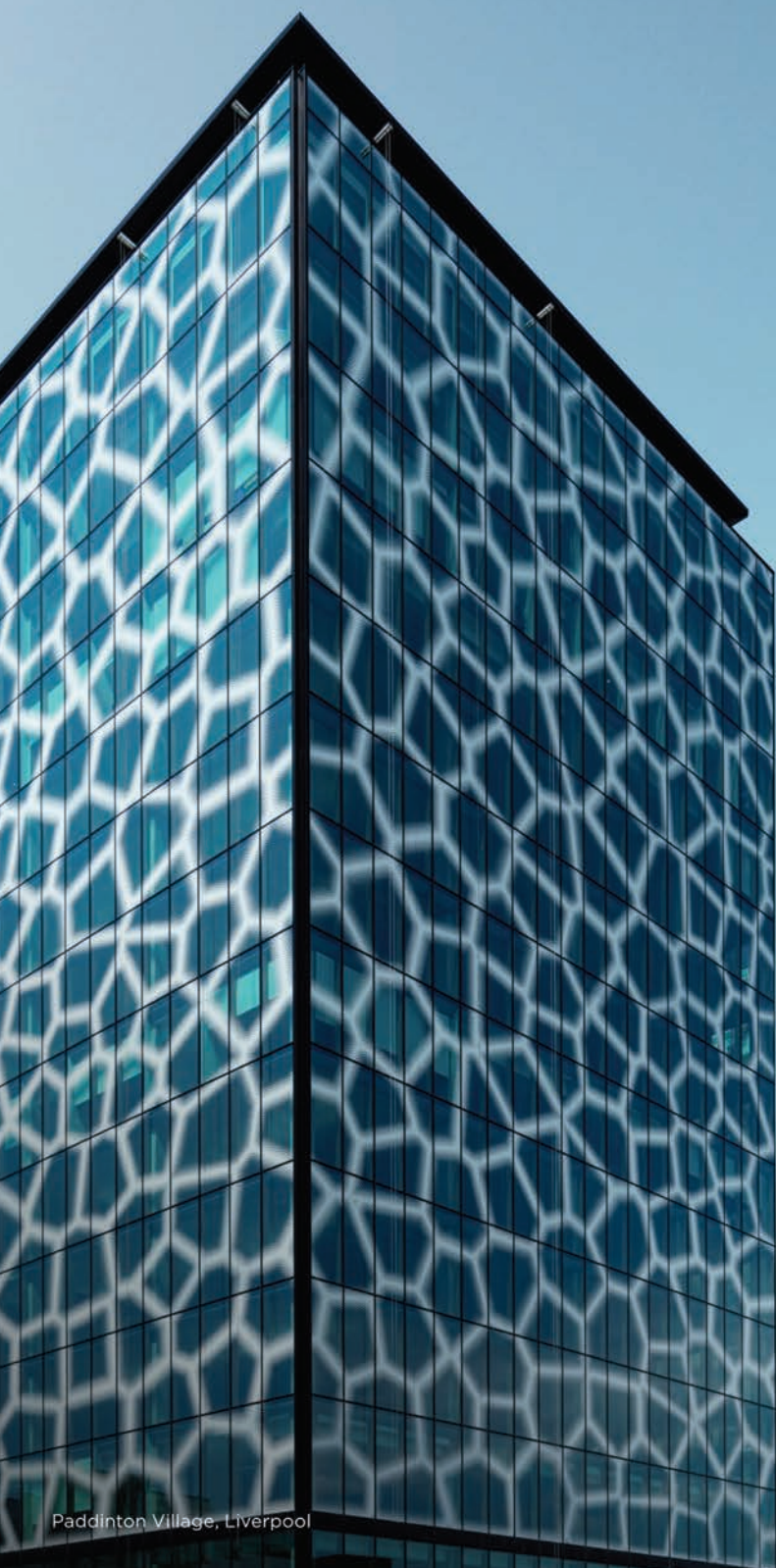
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