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THE IDEA FACTORY, SHENZHEN, CHINA

A key office scheme in Shenzhen by MVRDV reuses the best of a former textile factory and adds rooftop zones surrounded by bamboo walls

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FROM THE EDITOR



Groucho Marx famously said ‘I wouldn’t want to belong to any club that would accept me as a member.’ With a similar sentiment, but from the other side of the coin, I suggest that we would be suspicious of anyone who would really want to be Prime Minister at the moment, given the seeming impossibility of success for the current occupant of No. 10.

Somehow, to keep her party happy Liz Truss has to square the circle of cutting taxes, and giving millions of people the support they need through one of the most demanding winters the UK will have faced. Capped energy bills of £2500 are still a huge increase for many families and individuals, not to mention those who might see their mortgages endangered as the interest rates continue to escalate.

While house price rises have arguably been over-inflated for decades, and a rebalancing is due, that doesn’t mean there won’t be considerable collateral damage, and a big welfare bill, in the meantime. The UK’s productivity (a multi-faceted thing) lags behind that of many European competitors, and inflation shows little sign of slowing.

But let’s try and find some positives. Truss’ bright-eyed growth plan relies on a big programme of ‘supply side reforms,’ to boost business, from deregulating planning permission to loosening of restrictions in financial services, and the oil and gas sector – including more gas extraction in the North Sea, and pursuing fracking. While some of these are more widely controversial than others, oddly the one that might cause most consternation among Tory ranks in many constituencies is the planning reforms.

Will they really have the courage to seriously open up the ‘green belt’? Often, despite the name, those hotly disputed (often violently so) areas are far from green, and are simply the ‘edge of a town.’

The notorious ‘mutant algorithm’ brought in to speed planning in 2021, brought down the Tory candidate in the Chesham and Amersham byelection. Conservative-voting locals were virtually up in arms at the spectre of their Buckinghamshire properties plummeting in value thanks to new developments.

The other changes, such as fracking, won’t go down well in leafy areas either, but the planning reforms might be where they really have to work on ‘hearts and minds,’ or if not, the pockets of disgruntled voters.

The problem is, will Liz Truss survive into 2023, and if not, will her successor pick up the baton of these hoped solutions to a host of UK problems? Or will, as ever, a new administration mean reinventing a set of shaky wheels?

James Parker, Editor



ON THE COVER...

The Idea Factory in Shenzhen is an office scheme by MVRDV which includes a roof full of open air spaces surrounded by a living bamboo wall
Cover image © Xia Zhi

For the full report on this project, go to page 34



HEALTHCARE

HKS collaborates on Cleveland Clinic outpatient refurb scheme

Architects HKS have collaborated with US healthcare provider The Cleveland Clinic on the refurbishment of office space in a 19th century building into the first Cleveland Clinic outpatient centre in London.

Located at 24 Portland Place in the ‘Harley Street Medical Area,’ the six-floor, 28,000 ft² building, which includes 17 consultation rooms, is now open.

The brief for the outpatient facility was to provide clinical services including heart and vascular, respiratory, and neuroscience sub-specialties, plus outpatient diagnostic imaging. The internal design focused on creating a “positive, safe, and welcoming space that is simple to navigate with plenty of natural daylight,” said the architects.

HKS said that converting the building presented challenges which included structural loading and installation access for imaging equipment, and a narrow floorplate which restricted options for circulation routes and patient flows. Structural reinforcement was required for imaging scanning rooms, and the slab below the scanning rooms had to be strengthened. The existing facade was structurally reinforced and carefully dismantled for equipment installation and returned to its original condition.

Repurposing the existing building to its new clinical function while maintaining its main elements (structure, vertical circulation, and facade) “significantly extended the life of the building and eliminated the need for a new build,” said

the architects. A sustainable approach was also taken in the choice of materials. Timber wall panelling, rubber flooring and natural stone were all chosen due to their “low end of life environmental impact.” Existing bricks were also retained and reused as much as possible, otherwise reclaimed bricks were used.

Jane Ho, regional practice director of health at HKS, commented: “24 Portland Place is a brilliant example of how existing building stock can be repurposed to minimise environmental impact and protect the heritage and character of places, while delivering much-needed services in urban environments like central London.”

Design consultant partners included WSP as MEPH engineers, and Waterman Group as structural engineers.

MIXED USE

PIN London completes concrete and brick mixed use in Hackney Wick



Rubber Studios, a mixed-use four storey development comprising open plan studio space and residential units has reached completion in Hackney Wick.

Designed by PIN London, the building provides flexible living spaces as a “response to the new trends of working from home,” said the architects. The four residential units in the building’s upper levels are accessed by an external, timber-shuttered concrete staircase. The apartments feature 2.7 metre ceiling heights with “above average” amenity spaces as well as a “part green, part amenity space” rooftop.

The ground floor includes 1,350 ft² of private open plan studio space and a courtyard garden with bamboo planting, plus full height sliding glazed frontage, timber flooring, and exposed concrete finishes to walls and ceilings.

The residential section has a set back, black brick exterior, while the office section is clad in exposed concrete with a timber-shuttered finish. The outside “provides contrast in colour and material emphasising different use classes within the project,” said the architects.

Guvenc Topcuoglu, founder of PIN Studio said: “The two main materials, brick

and concrete, are replicated internally in the form of exposed concrete ceilings, and the exposed block work at the staircase, displaying the beauty of raw structural materials both internally and externally. The dual aspect units further enhance the natural daylight and natural ventilation internally.”

Since the 2012 London Olympics, Hackney Wick has grown in popularity, with many large scale housing projects appearing in the area. The architects commented: “Small infill sites such as this provide an opportunity to maintain and enhance the character of the local area.”

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EDUCATION

Pioneering outdoor primary school by Wimshurst Pelleriti

What's claimed to be the first primary school in the UK designed to operate outside all year round has been completed in Morden, south London, by architects Wimshurst Pelleriti.

Liberty Woodland School in Morden, south London, opened in late 2021, while building work was still underway. The school offers "pioneering nature-based learning" and teaches environmentalism as a core subject. It aims to "reinterpret the way the next generation learns and understands their role in protecting the natural world."

Wimshurst Pelleriti worked in collaboration with the school's founder, Leanna Barrett, and landscape designer Dan Pearson, to create a "transformational learning environment" in the grounds of the Grade II listed Morden Lodge. The project also includes what is thought to be the first use of a ground source heat pump at a UK education facility, installed by ISO Energy into the River Wandle which runs through the site.

The school's grounds accommodate multi-purpose structures which have been adapted into "indoor and outdoor" learning spaces. They include a two storey artists residence within a 19th century stable block, a pottery studio, an outdoor gallery



to exhibit children's work, a greenhouse, potting shed, artist's atelier, animal housing, a tool/woodcraft workshop, and science lab, as well as both indoor and outdoor "classrooms" for project work, music and playing.

The design team "retained and enhanced" the existing structures and landscape, as well as introducing new "light touch" elements. The architects commented: "We minimised changes to the listed fabric, respecting existing trees and implementing reversible additions such as boardwalks and light timber structures."



Throughout the design, attention was also paid to minimising the raw materials required for each building and "streamlining the structures to achieve maximum efficiency, while also reducing offcut waste by only employing off the shelf lengths and widths."

The material palette comprises sustainably sourced douglas fir timber, weathered corten steel and polycarbonate roofs and verandas, "reflecting the agricultural history of the site as an orchard, and blending into the simple aesthetic of the outbuildings that surround the listed lodge."

EDUCATION

CLT Scott Brownrigg school completes in Aberdeen

Construction of the £16m, Scott Brownrigg-designed Milltimber Primary School in Aberdeen has completed. Designed for Aberdeen City Council, the new facility offers increased capacity for 434 pupils and an additional 60 early learning and childcare (ELC) places, ensuring that pupils in the growing catchment area can continue to attend their local primary school with other children from their community.

The design is conceived around "strong sustainable and placemaking principles," said the architects. It includes a cross-laminated timber structure which was "chosen for its aesthetic, durability, and



sustainability credentials."

Four teaching pavilions are arranged to provide classrooms with "safe, direct access to the outdoors," while the reception and assembly hall form a "formal frontage to the public-facing side



of the school". Enhanced outdoor play spaces and PE facilities "promote health, fitness and wellbeing, and improved opportunities for outdoor curricular learning and social interaction," Scott Brownrigg added.

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RESIDENTIAL

Rio reconnects Cardiff to the bay with new BTR scheme

Rio Architects is designing the next phase of Rightacres' ongoing redevelopment of the former Brains Brewery site at Central Quay in Cardiff city centre. Located alongside the River Taff, the development comprises "high-quality build-to-rent apartments while protecting and retaining the Brewhouse, its iconic chimney and inherited cultural heritage," said the architects.

Having gained planning approval in June this year, Rio's designs work with the masterplan to retain the landmarks as a "focal point for the city." "The residential towers as well as their "commercial plinth" will reference the colours and textures of the Brewhouse materials and complement the historic building," said Chris Taylor, senior associate at Rio Architects.

The design brings about an opportunity for the extension of the city centre to the south of the main train station, and is the latest of several Rio-designed schemes within the wider Central Quay masterplan to receive planning approval.



It is also the first of a series of linked riverfront developments that provide a "much-needed connection between the city centre and Cardiff Bay." It will create new "urban green infrastructure along the eastern bank of the river, and provide the opportunity for a brand-new neighbourhood lifestyle within the heart of the city," said the architects.

The design and riverfront walkway,



including connected cycle routes, will "enhance the public realm" with improvements to biodiversity, drainage and potential flooding impacts within the area. In addition, the chimney and Brewhouse will be "made accessible to the general public as they have never been before," and the scheme connects to existing road, foot, and cycle networks as well as rail and water infrastructure.

MIXED USE

Scott Brownrigg design submitted for mixed use Maker's Yard canalside scheme in north London

Plans for Makers' Yard – a new mixed commercial and residential use scheme on Commerce Road in Brentford – have been submitted for planning. Designed by Scott Brownrigg for developer Euthenia Developments (a joint venture between BlackOnyx and Brookworth Homes), the scheme is intended to regenerate an underused brownfield site along Grand Union Canal to provide 111 high quality new homes, amenity and improved public realm.

"Building upon a long history associated with the production of goods and transportation, provision of 2,396 m² light industrial space encourages residents to reconnect with the site's industrial heritage," said Scott Brownrigg.

The proposals include two residential blocks, ranging from five to seven stories

in height, that will "wrap around" a raised central landscaped courtyard, sheltered from the road. The scheme also provides the community with a landscaped and accessible link to a proposed "railway park," which is being developed along a derelict train line adjacent to the site. A materials palette of multi-toned brick with metal work detailing has been suggested to reflect the traditional masonry work found in the surrounding area.

Provision of flexible, light industrial units along the ground floor will "activate the frontage" along Commerce Road. Above, a mix of one to three bed homes for private sale and affordable rent, each with access to a private balcony, are designed to accommodate people of all ages.



Residents will be able to enjoy access to the private central courtyard that will include places to "socialise, rest and play," and a series of biodiverse green roof spaces, which will provide opportunities to grow produce.

The scheme design adopts a 'fabric first' approach, and other sustainability measures include water reduction systems, rainwater harvesting and heating via an air source heat pump. The development is predominantly car free, providing a small number of disabled only spaces and cycle storage to encourage more sustainable modes of transport.

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SITE LINES

A renewed focus on sustainability

All sectors are having to strike the tricky balance between addressing the climate crisis and navigating a pessimistic economic outlook. Thomas Pearson from Arup looks at an example of renovation and renewal in hospitality as one solution



GRAND DESIGN

The Grade II listed Birmingham Grand Hotel reopened in 2011 following a major refurbishment designed by Arup, including restoring stonework, and remedying decayed building fabric – the project shows how sensitively reusing an existing building can be a sustainability ‘win’

The built environment is a key emitter of carbon and greenhouse gases, for example, hotels account for around 1% of all global carbon emissions. It's now widely reported that 80% of the building stock we will be using in 2050 is already in existence, so the hospitality as well as the AEC (architecture, engineering and construction) industries must prioritise decarbonising the structures in situ.

Fortunately, the AEC industry is at the vanguard of innovation. As part of this, it needs to reflect on the best use – or rather reuse – of buildings, with renovation a key tool.

In Spring 2021, the Grade II listed Birmingham Grand Hotel reopened, nearly two decades since it last shut its doors. Originally built in the 1870s and one of the best surviving examples of Victorian architecture in the city, the hotel had fallen into a state of disrepair since ceasing trading in 2002. Despite this, the building was listed in 2004. Shortly after, problems with its stonework led to a crash-deck scaffold being assembled around the upper floors to catch falling debris.

In 2010, Arup was brought on board by Birmingham agent Hortons' Estate to explore cost-effective options to stabilise and

restore the facade stonework, which was hidden behind years of unsuitable repairs. Within our conservation architecture practice, we place particular importance on the original materials of a listed building. In this case, the decay was so widespread that repairing the Grand Hotel's facade demanded technical innovation, design creativity and painstaking craftsmanship.

We were tasked with solving three key challenges to help repair and restore the hotel. This saved the building from demolition, which continues to stand tall as a landmark of Birmingham's heritage, highlighting the key role of renovation in sustainable construction.

Solving hidden problems

Upon initial inspection, the facade's masonry was found to be unstable and soft – so much so that, in some places, it could be torn by hand. A thick build-up of cement, paint, bitumen and resin had also trapped moisture within the stone behind, and masked its decay.

The original design brought with it further issues. These included incorrect weathering details that were absorbing rainwater rather



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than pushing it away. Furthermore, the materials were not suitable, with the stone itself of poor quality, meaning it was inappropriate for use in areas of heavy exposure.

This was clearly unsafe for human use. However, the necessary work of stripping away the coatings and stabilising the damaged stonework was set to significantly eat into the finished surface of the facade. This would have altered the carved details on the facade, creating a misshapen appearance. We needed to balance preserving the original look and feel of this landmark building, with the severity of the repairs needed.

In response, we developed a set of conservation principles to carve into the surviving stone, effectively re-setting the entire building envelope backwards. This helped to reinstate the original grandeur of the facade, without changing its outward aesthetic.

Recreating the finish

Renovation required the facade to keep its original finish and key identifying features. In tandem, we wanted to ensure the use of new materials was kept to a minimum to avoid waste, thus reducing the renovation's environmental impact.

Solving this aspect of the challenge demanded detailed understanding and meticulous planning. Point-cloud surveys of the facade were therefore taken before and after the coatings were stripped. This allowed the team to specify where and how each individual flat area should be finished. This information was then translated into a set of small elevations for use by the masons on site, showing how far each block should be dressed back, to fit into the overall arrangement.

Decorative details were re-carved *insitu*, as far as possible, to recreate the entire ornate finish of the building, while in turn keeping the quantity of new stone to an absolute minimum.

Supporting local trades

For sustainability to have as broad an impact as possible, it cannot just focus on environmental effects. While this plays a vital role, the industry must also focus on the social outcomes.

The project supported businesses and craftspeople from the region, sourcing both labour and materials locally. This included stonemasons from Midland Conservation, who carried out repairs using traditional tools and techniques, working by hand to conserve almost every piece of decorative as well as most of the plain ashlar stone. This work led to Historic England describing the scale and traditional nature of the stone masonry repairs at the Grand Hotel as unique – in 2015 at least – for a non-ecclesiastical building.

Looking forward

Our structural engineers were subsequently involved in redesigning the internal structure too. This involved the construction of a new full height central circulation area and a steel structure for penthouse suites.

Overall, these repairs and renovations have reimaged and reinvigorated the Birmingham Grand Hotel for future generations to enjoy. This project perfectly exemplifies how the industry can have a positive impact on the environment – using local experts and materials, avoiding unnecessary waste and stabilising a heritage structure. As such, it serves as a template for others in the industry to make do and mend wherever possible.

Thomas Pearson is an associate at Arup



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ASK THE ARCHITECT

As sustainability and innovation partner at Pollard Thomas Edwards, Tom Dollard says the practice has an “ever evolving zero carbon culture.” Here he explains what drives him, such as the Building for 2050 initiative with AECOM and Galliard Homes

WHAT MADE YOU WANT TO BECOME AN ARCHITECT?

Before my last year of school, I had a summer holiday working as a labourer on a large construction site. The work was very physical and I wasn't really cut out for it, but I noticed the intriguing drawings onsite and the process of constructing, and this got me thinking about design. The next term at school, I did some drawings inspired by my site work, and we visited some local historic “architecture,” which included Fountains Abbey in Yorkshire with its inspiring

visitors centre by Ted Cullinan. I loved the combination of art with the technical, and so my art teacher encouraged me to apply to architecture school. Funnily enough, more than 10 years after that site visit, I actually did my Part 3 when working on a project with Ted at Cullinan Studio.

WHAT DO YOU LIKE ABOUT IT MOST NOW?

I still love the fine balance between technical and artistic, and searching for the “joy” in every project. Every day is a new challenge, as I work on a wide variety of projects at all scales and stages, including

research into the newest materials, products or processes.

WHAT IS THE HARDEST PART OF YOUR JOB?

Working to retain the “joy” while working on large delivery projects with main contractors.

ARE YOU CONFIDENT ON THE UK'S PROGRESS TOWARDS MORE SUSTAINABLE BUILDINGS?

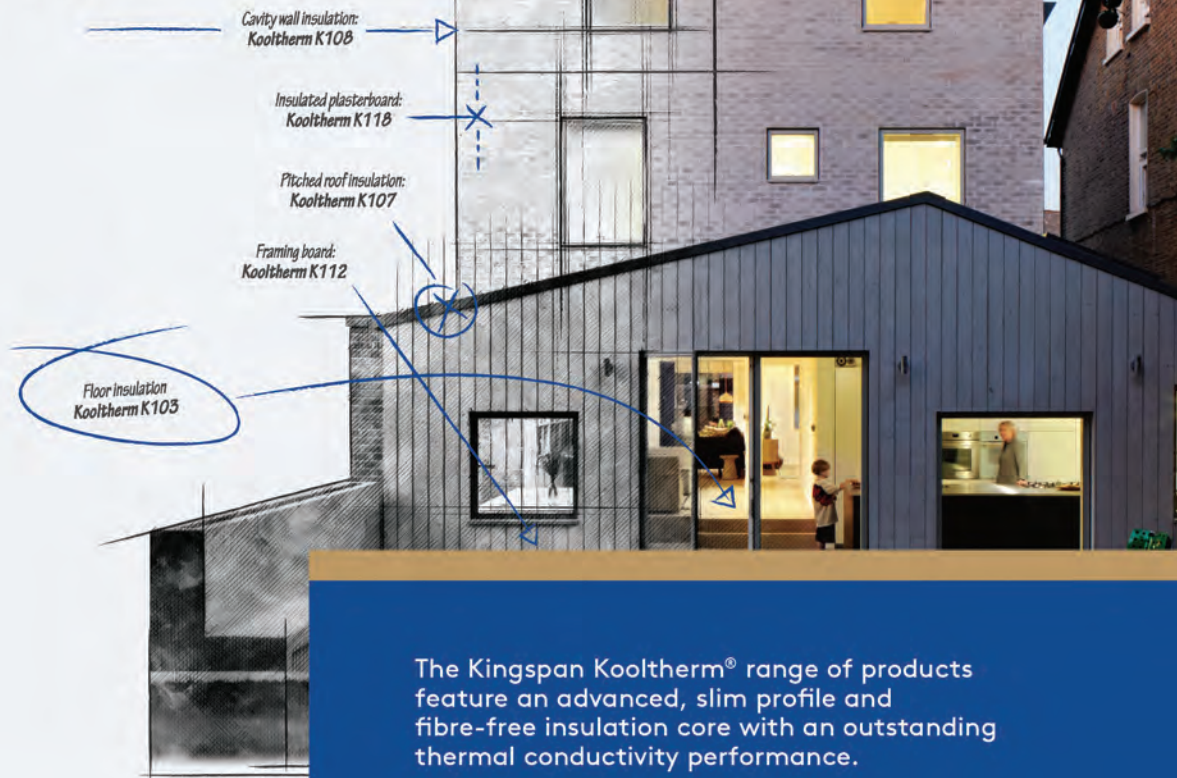
I think we have a good theoretical position, but delivery and performance “in use” is something completely different which we need to monitor and improve.



THE BUILDING FOR 2050 TEAM

(L-R): Steve Harper (Galliard Homes), Tom Dollard, David Ross (AECOM), Lord Callanan, Don O'Sullivan (Galliard Homes), Heidi Collocott (AECOM), Emma Svilar and Julian Harper-Brown (Galliard Homes)

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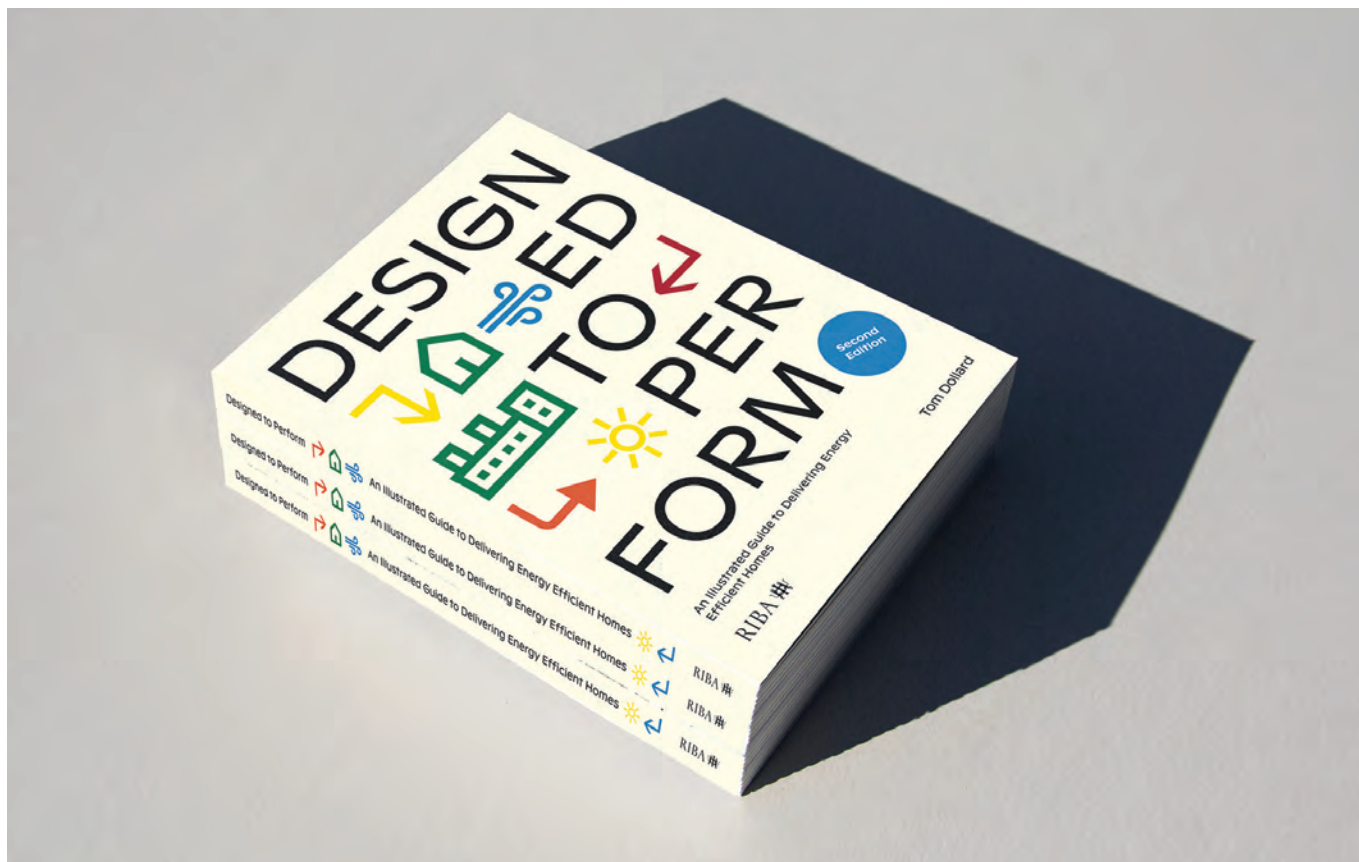


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WHAT IS YOUR PROUDEST PROFESSIONAL ACHIEVEMENT?

Publishing my book “Designed to Perform” – now in 2nd edition – which attempts to address our progress towards better performing buildings.

IS PROPER EVALUATION OF COMPLETED BUILDINGS’ SUSTAINABILITY GENERALLY VERY DIFFICULT TO DO?

Building Performance Evaluation (BPE) is becoming a lot easier and cheaper to do. Monitoring and verification technology has improved in the last few years, as has education and skills. Industry bodies like the Building Performance Network and the Good Homes Alliance have produced really useful guidance, and the publication of BS40101 on BPE has been a tipping point. The industry has struggled to carry out significant amounts of building performance evaluation in the past, and has relied on Government funding – such as in the case of a project I’ve been working on, Building for 2050 (www.buildingfor2050.co.uk). The primary barrier is a culture that does not want to go back to revisit completed buildings, and indeed there

is no incentive to do so. There are many other minor barriers to BPE, including cost, insurance and legal, but these can all be overcome. Unfortunately, the result of not doing enough BPE is that we don’t know how our projects are performing or how people use them.

WHAT IS THE KEY THING THAT NEEDS TO HAPPEN NOW TO HELP UK CONSTRUCTION DRIVE TOWARDS NET ZERO?

Incentives (grants and regulation) for BPE – which is a key part of the net zero definition.

WHAT’S YOUR CURRENT FAVOURITE MATERIAL FOR DESIGNING BUILDINGS?

Any material that is re-used or upcycled from the site or nearby. A recent re-used site timber for flooring and cladding. I’d love to use more re-used materials on our new projects, and have been inspired by projects and companies doing this in Amsterdam.

ARE YOU MORE INTERESTED IN REALISTIC THAN IDEALISTIC SOLUTIONS?

I think I prefer realistic solutions, but we need a balance. I generally

don’t like idealistic solutions that will never be delivered.

DO YOU THINK WE NEED TO AVOID ‘MAKING THE PERFECT THE ENEMY OF THE GOOD’ WHEN IT COMES TO PRODUCT SUSTAINABILITY CLAIMS?

There is a lot of greenwash out there, so architects need to be really robust in any specification and check the certification. EPDs should be mandatory, as they illustrate all the key data you need to know and help with our embodied carbon calculations.

WHAT’S YOUR BIG SHORT-TERM GOAL?

After five years of research, we are going to finish Building for 2050 later this year, when the final report will be launched. Next year I would like to continue my research work with DLHUC and BEIS on Part L and the Future Buildings Standard. I also plan to finish writing up my thesis with Leeds Beckett University, to achieve a Doctorate in Engineering (EngD) in sustainable construction.

Tom Dollard is partner of sustainability and innovation at Pollard Thomas Edwards





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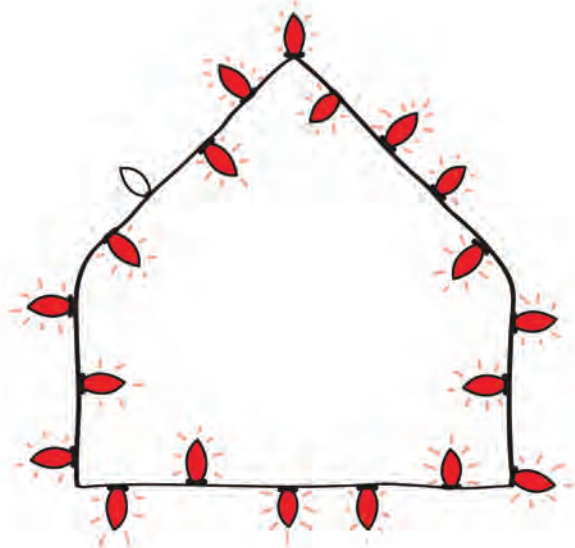
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Lecico Bathrooms have announced a new partnership with Propelair – designers and manufacturers of the world's lowest water-flush toilet that works on existing drainage. From the 1st of October 2022 Lecico Bathrooms will become the exclusive UK distributor of Propelair products.

The importance of addressing climate change and water scarcity within the UK construction industry have been evidenced recently by consultations with the UK government on water labelling, changes to Part G of the building regulations, and challenges related to recent water shortages. Lecico Bathrooms are looking forward to playing a lead role in addressing these challenges.

Propelair toilets are the highest performers under BREEAM's water efficiency guidelines and use on average 84% less water than standard toilets. The proven technology which can be retrofitted to existing drains has been adopted by over 200 customers, and over 4,500 units are now installed across a wide range of commercial buildings.

Engineered specifically for commercial, public, and heavy footfall premises, the Propelair system connects conveniently to existing plumbing systems.

Antony Thompson – Managing Director at Lecico Bathrooms commented: "We are very excited by the opportunities the partnership with Propelair will present over the coming years, and it highlights our commitment to addressing the sustainability challenges faced by our industry."

"The Lecico Bathrooms team are looking forward to continuing to build on our recent success and we are certain that the addition of the innovative range of Propelair water-saving toilets into our growing portfolio of bathrooms products will accelerate our growth."

David Hollander – CEO of Propelair commented: "As sustainability continues to become an essential strategy for businesses in the UK, we have partnered with Lecico to meet the growing demand for our hygienic, water-efficient toilet."

"Propelair has seen growth in our installed base in recent years. A UK partnership with Lecico, an established bathroom manufacturer, was a logical next step to ensure we provide excellent



service to current customers in the UK, while also satisfying increasing demand from new customers."

"Internationally, Propelair will continue to grow its presence in South Africa and the Gulf, selling directly to customers and

working with select distributors."

To find out more about Propelair please visit the websites.

www.lecico.co.uk

www.propelair.com/uk

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3. When the flush sensor is activated **water** enters the pan to wash it, followed by **air** from the unique patented pump. The air cannot escape due to the sealed lid. This pushes out the entire contents of the pan to give a powerful, reliable flush.
4. The remaining **water** fills the water trap.
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TWISTING TOWER, CHONGQING, CHINA AEDAS

Now completed, the Aedas-designed office project for the Chongqing Gaoke Group, located in the Jiangbei District of Chongqing – stands at 180 m tall. Using a simple, elegant form, the design – which is “influenced by the northern light,” said the architects, creates a “twisting shape up the tower to form double-curved surfaces on the building facades.” Aedas added: “Vertical lines accentuate the minimalistic form and through the effect of reflection and refraction from the glass create a design statement that celebrates light as the major tool to define architecture.” They commented that while the facade shines in the sunlight, “When night falls, it showcases reflections that allude to the dancing figure of a ballerina.” The podium roof twists along its full length, “echoing with the geometry of the tower and maintaining a consistent architectural style.”

To achieve a “very smooth transition” of the glass facade, the design uses double-curved cold formed glass instead of the more common faceted method. Expected to be one of “the most twisting towers in the world,” the maximum twisting angle is up to 8.8° per floor, surpassing the existing super high-rise tower in the world by nearly 1.5 times. The area of the hyperbolic curtain wall is approximately 8,000 m², and the number of hyperbolic curtain wall panels is reckoned to be “as many as 1,709.” Innovative facade technology from facade engineer RFR “enabled the precise execution of such a challenging design,” said the architects.



ALBANIA JEWISH MUSEUM, ALBANIA KIMMEL ESHKOLOT

Israeli architecture firm Kimmel Eshkolot has officially announced its being commissioned as the lead architect for the forthcoming Albania Jewish Museum in the old city of Vlorë, a prestigious museum symbolising the history of the Jewish community of Albania. In keeping with its sustainable approach to architecture, Kimmel Eshkolot will make the most use of the existing structure instead of a new-build, utilising the thermal qualities of the original thick stone walls. Most of the new stone construction will be with a local stone from Albania, apart from an outdoor area which will be clad in Jerusalem stone from Israel. The museum will exist as a cultural hub and will trace the history of the Albanian Jewish community from the early Roman era up until today, while emphasising the story of Jews in Albania during World War II. Based around three key elements, the building will consist of a preserved historic house with three contemporary additions above and below ground; a connecting pavilion; and an open-air room, entitled the “Besa Space.” Each of the structures are carefully positioned to enable pedestrian routes from Perlat Rexhepi Street and Ceno Sharra Street. Through the creation of several unique spaces, ranging from flexible exhibition rooms to public areas, the museum will rejuvenate the square and extend itself to the city of Vlorë, contributing to the city’s civic development. Construction is due to begin in Q4 2022 and is scheduled for completion in 2025.



VALLEY SKYSCRAPER, AMSTERDAM MVRDV

The “geology-inspired, plant-covered” Valley, designed by MVRDV for developer Edge, is located in Amsterdam’s Zuidas neighbourhood. Comprising three towers of 67, 81, and 100 metres high, and cantilevered apartments, it was named the ‘best new skyscraper in the world’ in the 2021 Emporis Skyscraper Awards. The design combines offices, shops, catering, cultural facilities, and apartments in one building, with the green valley that winds between the towers on the fourth and fifth floors accessible to everyone via two external stone staircases. “Valley is an attempt to bring a green and human dimension back to the inhospitable office environment of Amsterdam Zuidas,” said the architects. On the outer edges of the building is a shell of smooth mirrored glass. Inside, the building has a more natural appearance, “as if the glass block has crumbled away to reveal craggy rock faces inside replete with natural stone and greenery,” commented MVRDV.

Sitting over the three-storey underground car park, offices occupy the lower seven floors, with apartments beginning on the eighth floor. Much of the building is open to the public: from the publicly accessible footpath that zig-zags up to the central valley from the street level, to the Grotto, an atrium that forms a covered street on the first floor. This space is connected to the outside by two large skylights that double as shallow water pools in the ‘valley level’ above; its natural stone flooring, walls, and ceilings is the same stone used on the surfaces of the valley and towers. The cantilevers of the towers include eleven ‘special’ steel sections bolted to the concrete building “that take the overall appearance to the next level.”

MVRDV created digital tools to ensure every apartment had “adequate light and views,” and facilitate the apparently random pattern of over 40,000 stone tiles of varying sizes that feature on the building’s facades. Landscape architect Piet Oudolf created a “biodiverse” design that used more than 271 young trees and shrubs and approximately 13,500 smaller plants.

The building’s energy performance is 30% better than local regulations require, it has received BREEAM-NL Excellent certification for the commercial spaces, and the residential area scored an 8 out of 10 on the GPR Building Scale, a Dutch measurement tool that scores buildings across five themes of energy, environment, health, quality of use, and future value.

GUOSHEN MUSEUM, SHENZHEN, CHINA ROCCO DESIGN ARCHITECTS (RDA)

Rocco Design Architects (RDA) was one of three finalists selected from 12 international practices in a design competition for the Guoshen Museum, part of an “ongoing campaign to build new landmark cultural projects for Shenzhen.”

The client, Shenzhen Qianhai Development Corporation, set three goals, said RDA: “The design should express the essence of traditional Chinese culture, reflect the character of traditional Chinese architecture, and embrace the spirit of Shenzhen as a cosmopolitan city.”

RDA’s proposed design houses galleries in three interlinked, tube-like volumes, which reach across six stories. Suspended above the lobby and finished with ‘scaloped’ walls, the galleries create a “dynamic sculptural presence,” said the architects. “They draw visitors up through the building in a sequence alternating between enclosed display areas and open gathering spaces.” Between each floor, the galleries lead out onto planted, open atria that overlook the lobby and give varying vistas of Qianhai Bay and the Shenzhen skyline.

The scheme “called for a facade that responds to the climate,” and the architects used a “semi-transparent metal scrim that defines the edges of the building and blurs the inside.” The facade was designed to maximise natural light and ventilation, and make the museum appear from across the bay as an “elegant, rectilinear volume that glows from within.” By treating the galleries as a “building-within-the-building,” the design “makes possible the multi-storey, glass-lined lobby spaces while maintaining the light and environmental conditions required in the galleries.” The atria that link the galleries are open 24-hours a day and double as venues for events and installations.



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The A. Proctor Group, synonymous with technically advanced thermal, acoustic and membrane solutions for the construction industry, has further extended its RIBA Approved CPD seminar collection. Aimed at architects, specifiers and contractors, attendees will receive technical advice from A. Proctor Group technical experts, providing the latest guidance on British and European Standards, compliance with Building Regulations, and learning on how to maximise performance and avoid potential failures. Each seminar is available as an in-person seminar provided within practice or as in-depth Online Learning material to support individuals with their Continuing Professional Development. The full list of seminars is provided below and can be booked via the RIBA CPD website or from the A. Proctor Group website:

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Iain Fairninton, the technical director at A. Proctor Group adds: "Through the CPD series, we aim to provide technically accurate learning based on best practices, innovation, and project examples to help individuals make informed choices when specifying product solutions for their projects."

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GET THE "LOW DOWN" ON THE PERFECT OFFICE ENVIRONMENT



As Britain returns to the office post-pandemic, AET Flexible Space has developed a new CPD presentation to help architects deliver on all the key drivers that affect commercial building design. The educational module focusses on the concept of underfloor air conditioning – UfAC – widely employed across the EMEA (Europe, Middle East, Asia), especially in other countries with similar climates to the UK. It covers the evolution of the system over the past 30+ years, how best to apply the principles of UfAC to the design of a building, both refurbishment and new build, and the numerous benefits of "going under floor" can bring. Explains Karl Strauss, head of sales at AET Flexible Space: "Due to the pandemic, office design is in a state of flux. Spaces increasingly need to adapt to change. Indoor air quality and employee health & wellbeing are rising up the list of priorities. Regulations too are placing higher demands on building services, to deliver better performance, for less energy. The pandemic has shown we CAN adapt to change, and find better ways of doing things, a sentiment that is echoed throughout the CPD, when it comes to designing air conditioning systems.

Ultimately, static, conventional air conditioning solutions will struggle to meet the needs of the occupier. It's time the industry changes the way it thinks about how designing office spaces to deliver a sustainable answer for everyone involved- designer, developer, owner, occupier." The UfAC CPD can be booked by contacting AET Flexible Space. 01342 310400

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NEW RIBA-APPROVED CPD FOR SPECIFYING RENDER FOR MMC SOLUTIONS



Architects and specifiers can access a new CPD on selecting the correct render system for MMC solutions.

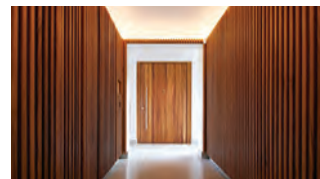
The CPD, titled "*Modern Render Systems for Framed Construction and Other MMC Solutions*", has been created by Saint-Gobain Weber to help specifiers understand what they should be looking for from a technical perspective to ensure the render systems they choose deliver the required performance.

As well as covering fire safety and sustainability performance, the CPD provides an overview of common MMC options and the aesthetic considerations of these types of projects. It also details the practicalities of installing the render system as well as maintenance.

Kelvin Green, senior product marketing manager, said: "Render is a popular finish and it's important to understand the different options depending on the type of construction. With MMC being less carbon intensive, this CPD also explains how render makes a genuine contribution to sustainability goals as well as the health and well-being of the occupants of the building."

Weber's commitment to training is widely recognised in the construction industry. This new CPD joins a growing library of resources available to help understand the benefits of the type of systems and solutions that Weber's technical teams can deliver to specifiers. mail@netweber.co.uk
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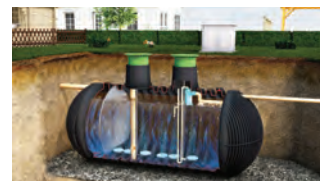


Urban Front are now presenting the '*Specifying Hardwood Timber External Doorsets*' CPD workshops online and can accommodate up to 20 participants for each webinar date. The objective is to enthuse and inform architects about specifying hardwood internal and external doors. Seminars last an hour and count for double points for architects and architectural assistants. The CPD shows photographs of specifications and settings and includes demonstrations. Attendees will also be able to ask questions throughout.

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WASTEWATER TREATMENT CPD LAUNCHED BY GRAF UK



A CPD that explains the issues around wastewater treatment and advises on the options available has been launched by Graf UK. The 50-minute presentation delivers "Wastewater wisdom", ranging from the fundamentals to the latest regulations and issues via a mix of "live" presentation and videos. It also explains how the impact of nutrient neutrality is now widespread throughout England and Wales, with Natural England and Natural Resources Wales clamping down on developments until such time as they can prove they are nutrient neutral. To watch the CPD please visit the website. bit.ly/GRAFCPDWebinar
www.grafuk.co.uk



BUILDING
RENEWAL

**MUSEUM PLACE
WASHINGTON DC**

Writing a new history

Part restoration of a disused historic school and part new build, Museum Place sees Beyer Blinder Belle create a new residential and cultural destination in the heart of the US capital. Roseanne Field reports



Situated in the Southwest district of Washington DC, Randall Junior High School was built in 1906 for African American students, in a city that was at that time racially segregated. Two significant wings were added in 1927, before the school closed in 1978. The building then went through various uses including a high school career development centre, a homeless shelter, and artist's studios.

In 2006, the building was purchased from the City of Washington for \$6.2m by Corcoran Gallery of Art, who had the intention of redeveloping it. The project fell through following the bankruptcy of the developer's equity partner, and so in 2010 the site was purchased for \$6.5m in a joint venture between Tesis Development Group and The Rubell Family, called TRSW.

Due to its long tenure educating African American students, the school was added to the DC Inventory of Historic Sites – an official list of historic locations within the District of Columbia – in 2007. The organisation

stated that it is “one of the few extant buildings associated with the pre-urban renewal history of south west Washington”, with the 1927 wings in particular “illustrating an important aspect of the history of African American education”.

The DC Inventory of Historic Sites added that the building “serves as a reminder of the cultural and social role that schools played in the 20th century development of African American communities” and “exemplifies early design standards for school building, reflecting the transition in the school system from elementary schools to junior high schools”. It was also added to the National Register of Historic Places in 2008, an official list held by the United States federal government.

In 2019 another developer, Lowe, acquired control of the development from TRSW, proceeding with the project in another joint venture – this time with Mitsui Fundosan American. They appointed Balfour Beatty as the design-build contractor and Beyer Blinder Belle



Architects & Planners (BBB) as architects on the project.

The project is designed, says Lowe, to be a “cornerstone in the transformation and revitalisation of the Southwest and Capitol River districts of Washington DC”. The developer adds that its prominent position near major attractions as well as a variety of shopping and dining options “positions it well for a mix of uses”. Mark Rivers, executive vice president of Lowe explained the design team’s goal as to “preserve the historic school, and create an arts and cultural anchor in the Southwest neighbourhood, a designated Arts District.”

Design imperatives

Bearing the historical importance of the school in mind, it was essential to obtain design approval from both the Historic Preservation Review Board (HPRB) – a government body that advises the Mayor on historic preservation in the District of Columbia – and the Advisory Neighborhood Commission (ANC), a body

comprising locally elected representatives whose role is to be the “neighbourhood’s voice” advising the District government. Both the HPRB and ANC unanimously approved BBB’s plans for the restoration of the school.

Although the school (the original brick main building plus the added east and west wings) were to be preserved and restored, some demolition work on other parts of the building was still required, which was undertaken by Balfour Beatty in summer 2020. This included elements seen as of “lesser historic value”, situated behind the main building and wings, making way for the new build aspects of the project.

With necessary demolition work completed, construction was ready to begin on both the restoration and new build aspects of the development; which will collectively be known as Museum Place. It will comprise residential space, a museum, and creative workspace, totalling over 500,000 square feet of usable space.

The Rubell Museum will be located

Both the HPRB and ANC unanimously approved BBB’s plans for the restoration of the school



in the central and east wing of the former school. The east wing will house a collection of contemporary art – including paintings, sculptures, photography, and installations – owned by its namesake, the Rubell family. The lower level of the central block will display work by local artists and the public, dubbed the community’s “cultural living room.” Comprising a total of 31,000 m², it will also include a bookshop and cafe with an outdoor dining terrace. Entrance to the museum will be via a “dynamic and inviting” glass addition to the east wing, which BBB says will “enrich street activity”

to benefit the project and community. Residents under the ANC umbrella will have free admission.

The school’s west wing – the West Randall building – will provide 18,000 ft² of “creative workspace.” It was designed with a variety of potential tenants in mind, including cultural institutions, coworking businesses, nonprofit organisations, as well as ‘technology incubators’ aimed at helping startup businesses. Lowe’s Rivers comments: “A new mix of uses at the former school provides the community and general public with an important cultural touchstone.”



The remaining space on the site created by the demolition of the less significant additions to the school will be home to Gallery 64, a 12 storey, U-shaped building comprising over 18,000 ft² of residential space. Residents on the top floors will benefit from unrestricted views of local landmarks including the Capitol building. Located within three blocks of two metro stations, Museum Place will also feature a substantial two storey underground parking facility.

Gallery 64's U-shaped form will occupy the west, north, and east parts of the site, with the former school on the south

side. This will create a central landscaped courtyard with access for residents, workers and museum visitors.

The designers BBB describe it as being formed in the manner of “building blocks,” comprising nine blocks stacked around the site. The first six floors on the east and west sides, behind the school building, are “cut at an angle, directing people in towards the central courtyard.” This is also where the entrances will be located, with some of the ground floor units also having private entrances and private outdoor space along the streetside. The six floors above this span from the centre of the north side, stretching round to slightly overhang the inner part of the “cut angle,” featuring a heavier use of glass. Overall, Gallery 64 has been designed with the most dense parts of the structure at the rear of the site, as far away from the historic building as possible in order to allow it to “continue to appear as a separate building and maintain the character of the existing streetscape.”

The residences at Gallery 64 will comprise 492 studio, one, two, and three-bedroom apartments. There will also be 19 two-storey townhouse-style homes which, says BBB, will “activate the street with increased pedestrian connectivity and visual interest”. 20% of the apartments – 98 in total – will be designated as affordable, defined in the US as households earning no more than 80% of the area's median income.

The “mixed income” accommodation will include a number of amenities for residents. There will be an array of social spaces on the rooftops, featuring fire pits, outdoor kitchens and grilling stations. There will also be a dog walking area and “resort-style” pool with a food and drink service.

Internally, there will be a large communal lounge with a fireplace, along with a games room and fitness centre. The ‘creative’ theme from the museum is continued into the apartment buildings, with residents also having access to “maker spaces” and a sound studio.

The lower levels will include balconies and overhangs, included to complement the private gardens offered to residents of the ground floor units. They will also “provide a sense of human scale at the street level”.

Rivers describes Gallery 64 as a “unique residential option”. He says: “With the new museum as the cornerstone of the mixed-use development, Gallery 64 will be infused with art and culture, from its interior design to its resident programmes.”

Residents on the top floors will benefit from unrestricted views of local landmarks



The project is designed to be a “cornerstone in the transformation and revitalisation of the Southwest and Capitol River districts of Washington DC”

Materials

The old school building was an “institutional interpretation of the Georgian Revival” style, faced with red brick and a limestone trim, say the architects. BBB wanted the new buildings to contrast and act as a backdrop to the historic ones, which is why they chose more contemporary materials, including glass and metal panels.

To offer a further counterpoint to the old school, the windows and glass of the new buildings have been intentionally arranged in an “irregular and informal” composition, as opposed to the “carefully arranged facades” of the brick buildings.

Internally, Gallery 64 has been designed to be minimalist, “taking its design cues from art galleries.” Polished concrete floors will feature throughout the lobby and communal areas alongside “minimal, simple details, in order to provide a neutral backdrop for the original artwork that will be installed.”

Landscaping & sustainability

The central courtyard forms a key part of the development, serving as a social meeting place. It will be connected to the surrounding area via access points at the south east and south west corners of Gallery 64. Various “asymmetrical” planting areas will be used to break up the

space into different areas, as well as offering privacy for the residential entry points.

As well as the courtyard, landscaping streetside has also been carefully considered, developed by landscape architects Oehme, van Sweden (OvS). I Street (one of the Southwest district’s “primary corridors” and the street onto which the old school faces, will see existing trees retained and others added to maintain its character. An existing brick retaining wall will also be repaired and rebuilt, edged with a planter. A series of stairs and accessible ramps will lead visitors up to the building.

First Street and H Street, on the west and north sides of the development, will also be locations where the project will “maximise green space”. The private gardens and terraces of Gallery 64 will be sited along these streets, enclosed by a combination of green screens and brick walls – chosen to echo the character of the neighbourhood.

As part of the project’s ambition to hit sustainability targets, green roofs will be installed throughout, – including on top of Gallery 64, as well as on the seventh floor balconies. Alongside this, the development will have rainwater harvesting, “urban forestry best practices”, and feature a “substantial” solar panel installation.

Gallery 64 has been designed to LEED Gold standards, and the renovation of the old school buildings to comply with LEED Silver guidelines. LEED (Leadership in Energy and Environmental Design) certification is awarded by the U.S. Green Building Council. The system considers several elements of a project, including a reduction in contribution to climate change; promoting sustainable and regenerative material cycles; enhancing community life; enhancing human health; protecting and restoring water resources; and protecting and enhancing biodiversity and ecosystems.

Projects are awarded a number of credits, with a different percentage allocated to each of the elements, with the total credits resulting in a certification ranging from Certified through to Silver, Gold, and Platinum.

Construction on Museum Place started in 2020 with the necessary demolition of the old school buildings and the beginning of the renovation. Gallery 64 construction began in April 2021, and it’s anticipated the whole project will be completed by the end of 2022/early 2023. Developer Lowe’s Rivers sums up the project: “This is a positive addition to the historic neighbourhood. ■

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BUILDING
FILE

THE IDEA FACTORY
SHENZHEN, CHINA

Thinking outside the box

A revitalised former textile factory has been transformed into a modern office building, introducing a new mix of private amenities and public realm to Shenzhen in south eastern China. Jack Wooler speaks to Lorenzo Mattozzi of MVRDV on the brief for the Idea Factory, and the practice's response



Instead of demolishing or rebuilding the disused industrial site in the Shenzhen district of Nantou, from the beginning of this project the intent from both client and architect was always to preserve the original structure of the former textile factory.

Part of an ambitious, larger refurbishment plan for what is a historic neighbourhood, the Idea Factory is a collaboration between the Bureau of Public Works of Shenzhen Municipality Nanshan District and the Urban Research Institute of China Vanke (part of Shenzhen Vanke Development), to create 12,600 m² of office space for both the institute, and also for private rent.

Despite this use class, the “distinguishing

features of the project are public in nature,” says architect MVRDV, with a stairway cutting through the six-storey building, leading to a rooftop with a series of “rooms” enclosed by living bamboo walls, offering a variety of amenities and activities.

All this has been wrapped inside a new facade – set back from the edge of the structure, with open loggias that reach around the whole building. The structure has been retained from its former use, exposed in parts to show traces of the building’s history.

Roots

Nantou itself has deep roots as an ancient settlement, but is now described as an



The Idea Factory is intended to be the keystone of the creative cluster of the Nantou masterplan, highlighting the three main goals of the local regeneration

‘urban village’ within the Shenzhen conurbation, dwarfed by the skyscrapers that surround it.

The Idea Factory is the largest project in a number of renovations proposed by developer Vanke, and as such it was key that the design not just maximise floor area and preserve aspects of the building’s history, but also that it represented this wider regeneration.

The twin axes of Nantou’s revitalisation are its two main roads that form a cross, splitting the city into four quadrants. Along these ‘arteries’ are concentrated the key historical and cultural artefacts and buildings of the area.

In the south-western quadrant, a “cultural and creative market” is planned, to “foster the themes of design and consumption.” In the north-eastern quadrant, a “creative factory” is planned, “where design and technology meet,” as the project’s designers put it. The Idea Factory is the main hub of this latter cluster, hoped to gather startups and young creative companies, and help them to flourish.

The wider context

MVRDV has had a “long-standing professional relationship” with Vanke, and when 16 of its buildings within the neighbourhood were to be refurbished across these quadrants – including the Idea

Factory – MVRDV were commissioned as one of a “renowned” group of international architects brought in to realise the plans.

The Idea Factory is intended to be the “keystone” of the creative cluster within the Nantou masterplan, highlighting the three main goals of the local regeneration – the strengthening and giving value to the characteristics of the ancient city, the promotion of the neighbourhood as a key interconnected development within Shenzhen, and the promotion of cultural and creative activities.

Approaching the project from this wider context – MVRDV having been involved from the project’s inception, alongside local practice Bowan Architecture – the team had to not only achieve these characteristics, but do so with a “sensitivity towards a sustainable and cost effective approach,” says MVRDV.

According to Lorenzo Mattozzi, an Italian architect with over 17 years of international professional experience, and now associate at the practice and project leader of the Idea Factory, the practice has been involved from “concept to construction.”

Despite this, he tells me that MVRDV only had a “minor” role in supervising construction and procuring materials, via its Shanghai branch. He explains that the practice was focused primarily on the



overall concept, and the striking design of the rooftop terrace, as well as tying together the common areas of the building.

Throughout his experience working in China, he says that overall, he has seen few “notable” differences in procurement: “Sometimes the decision process might be less linear and forward than in other markets, however once construction begins, it compensates for lost time.”

Revealing the past

“Although the factory is somewhat alien to the history of Nantou, it belongs to its brief, and recent, industrialisation,” begins Mattozzi, discussing how the team began the design process for the Idea Factory. “It is therefore part of the historical changes that define Nantou today.”

According to the architect, the team’s initial sketches aimed to be both “respectful and playful,” with the practice interested in preserving the building’s history while “opening it to the public, via making it more porous,” and providing access at ground and rooftop levels.

He tells me the facade design was a response not just to the surroundings, and the “brutalist expression” of the original structure, but also to the climatic conditions. “On the one hand we wanted the original structure to honestly reveal itself, in all of its historical scars; on

the other hand we wanted to reduce overheating, by pushing the glazing inward and using the concrete slabs as shading.”

“In other words,” he says, “we reveal the past, while hiding from the light.”

The result of this is a series of continuous, open loggias that wrap around the entire building, providing circulation that the practice hopes will enable chance encounters with colleagues, and foster a “dynamic creative environment.”

The only slightly incongruous, and “playful” element, as Mattozzi puts it, is a tube-like structure housing the main public staircase, which is clad in timber.

“Here,” he says, “the public staircase connects the plaza to the roof terrace and literally breaks the barrier between private and public space.”

Carving an entrance

Users enter from the small public square facing the building on the ground floor, through the ‘wooden tube’ that marks the public entrance, and which then carves its way through the building. Internally, the staircase is clad in mirrors and bright neon signs, creating an aesthetic reminder of the early days of Shenzhen’s urbanisation.

On the fourth floor, the end of the staircase protrudes out of the opposite facade in a semi-circular, timber form. This provides users with a chance to take in



OPEN SPACE

Despite being an office building, key areas such as the bamboo-enclosed rooftop zones are open to the public
© Xia Zhi



**ABOVE**

A semicircular, timber-clad form terminates the public staircase at the fourth floor, providing views

ABOVE RIGHT

Located on the rooftop are various different seating areas, as well as amenities like a gym, dance floor and tea house



the view of the surrounding streetscape – before continuing up to the roof.

Upon exiting the staircase, users are greeted with a “green bamboo landscape,” which is described by the architect as “packed” with amenities and activities.

This space is arranged to form a maze, that divides the rooftop into different rooms, each hosting a different activity: including a glass box for performances and events, a variety of seating areas, a gym, a trampoline, swings, a tea house, a dining room, a dance floor, and even an oversized chess set.

According to the designers, the roof also makes the project more sustainable – both ecologically and socially – the bamboo providing cooling to roof spaces, and supporting biodiversity within a dense urban environment, while the activity spaces provide social and leisure benefits in a neighbourhood that has reportedly been disadvantaged in the past.

Materiality & design

For the building’s interior, Mattozzi tells me the practice was commissioned to design only the common areas and circulation spaces.

Focusing on the materiality of these elements, Mattozzi explains that while the project is characterised by its use of concrete and glass on its exterior, on the

interior wood was an important material – highlighting key elements of the building such as the public staircase and other public zones.

Alongside this, he details that the combination of colourful ceramic tiling, mirror surfaces and neon lights were specified to turn what would normally be simple linear spaces into “eventful paths.”

“The main concept,” he says, “was to bring inside the vernacular housing and street language of Shenzhen, by adopting elements that do not usually belong to office or interior spaces.”

Similarly to the public staircase on the facade, for instance, “even in the interior” the practice wanted to bring “wondrous and disruptive design elements that might inspire the creativity of users.”

Additionally, the practice’s contribution to the interior design also included wayfinding and graphical elements: “It was important to us how the building communicated internally to its users and externally, towards the neighbourhood. We eventually also designed the logo for the building.”

Performance & optimisation

According to Mattozzi, the team kept the construction process “relatively simple,” and as such, there were few challenges during these stages.



“The design of the public staircase and the activation of the rooftop however,” says the architect, “required significant optimisation and reinforcing of the original structure to support the insertion of the staircase and the additional weight brought in by the bamboo” – not a simple process.

In terms of design for sustainability, Mattozzi explains that at MVRDV, “sustainability practice does not only consider energy and consumption requirements, but also social, ecological and environmental aspects.

Bearing this in mind, the refurbished building of course has lower embodied carbon emissions than a new building, but it also reduces energy consumption by reducing overheating along the facades and providing internal cross ventilation, in what the practice claims is an innovative design.

Additionally, the green rooftop is already increasing the area’s biodiversity; the bountiful bamboo providing habitats not just for insects, but also for small animals, plants and fungi. In addition, the inherent absorption of carbon dioxide is a further plus in an urban area.

Mattozzi adds: “The publicly-accessible roof terrace, with its amenities and activities, also promotes an active life and social engagement: a safe haven for urban ecology and urban life.”

A display of possibilities

Now completed, the Idea Factory displays the wealth of possibilities offered by disused, dilapidated buildings that some consider beyond their usual lifespan.

Not only was the team able to make use of the existing structure, but its utility was increased – adding an extra floor and weaving it into the public realm of Nantou, benefiting all who live around it.

“The building has quickly become the creativity hub that was meant to be: a manifesto for the whole refurbishment of Nantou,” says Mattozzi, looking back on the project’s success since completion.

“New and young companies, together with the Urban Research Institute of China Vanke, have made the Idea Factory their home – the public and accessible ground floor and roof terrace are already points of reference for the entire neighbourhood and the building is used day and night, throughout the whole week.”

He concludes his thoughts on the project by considering what the finished project means to him, as well as its impact on the practice moving forward: “The result is inspiring to us,” says Mattozzi. “It shows that good, small, even simple, design can bring great positive social change to a community – and we hope to replicate this in our future projects.” ■



Now completed, the Idea Factory displays the wealth of possibilities offered by disused, dilapidated buildings that some consider beyond their usual lifespan

Decorative column casings – Covering up with Encasement

Decorative architectural casings are now a common feature in contemporary building design as they provide a versatile, effective and stylish method of concealing structural steelwork, concrete support columns and building services.

The combination of practicality, versatility and aesthetics have been at the centre of the wide range of projects undertaken by the Encasement Ltd, covering many business sectors including retail, education and healthcare, as well as hotel, sport & leisure and commercial refurbishment and building or re-purposing projects.

The range is completed by Metza, which is a specialised solution for use with mezzanine floors that provides up to 2 hours fire protection to the floor support columns. Whilst all Encasement's column casing are suitable for interior use, Polyma and Forma are also widely used for exterior projects, due to their inherent weather resistance and durability.

Available in aluminium or stainless steel, Forma casings can be specified as circles, with diameters from 250 mm up to 1,000 mm, plus square, rectangular or hexagonal forms, as well as unique custom profiles. The choice of finishes is also extensive. In addition to



Premier Inn Cardiff Bay

Key to this project diversity is the number of options available to specifiers. These include several materials, as well as an array of finishes and the ability to select from standard shapes and sizes or create bespoke manufactured designs.

As a result, Encasement casings have been specified and installed by many well-known brands, including Porsche; TATA; Premier Inn; Kia Motors; Halfords and Tesco together with a wide range of retail outlets, hospitals, universities, leisure projects and office buildings across the UK.

The company's products include the pre-formed plywood Circa and Quadra ranges, together with the Forma metal range. Alongside these, the Polyma GRP and Gypra GRG casings are moulded from glass reinforced polymer and glass reinforced gypsum, respectively.

RAL colour PPC coating options, numerous brushed, anodised, embossed and textured finishes are also available.



Birmingham Dental Hospital



Kia Motors' London Showroom

Durability and colour choice are also features of Polyma GRP moulded casings. This method of production allows a high degree of design versatility with shape; size and colour options all open to specification to meet bespoke project requirements, as well as standard profile options.

Projects, such as Kia Motors' flagship London showroom, Premier Inn's recently completed hotel in Cardiff Bay and Birmingham's Dental Hospital, illustrate the versatility of 'Polyma' and 'Forma' column casing solutions and suitability for bespoke solutions.

Circa and Quadra plywood casings are designed purely for interior use and are manufactured from UKTR compliant sustainably sourced timbers. Within each range, circular and square profiles can be specified in a wide range of sizes, as well as extended circles and rectangular profiles that use additional pre-sized infill panels to give greater design versatility.

A wide choice of finish options is available with decorative high-pressure laminate (HPL) being the most popular. In addition to resisting damage, scuffs and scratches, HPL provides specifiers with an extensive range of finish options, including plain colours, wood grains and metallics, as well as textured and real wood veneers. Circa is also available as an unfinished plain casing for on-site painting and decoration.

Among the many Circa installations are Liverpool University, Gateshead International Stadium and Gatwick Airport's South Terminal are major installations while typical Quadra projects include Farnborough College 6th Form Centre, Worksop Bus Terminal and the Dame Kelly Holmes Sports Centre.

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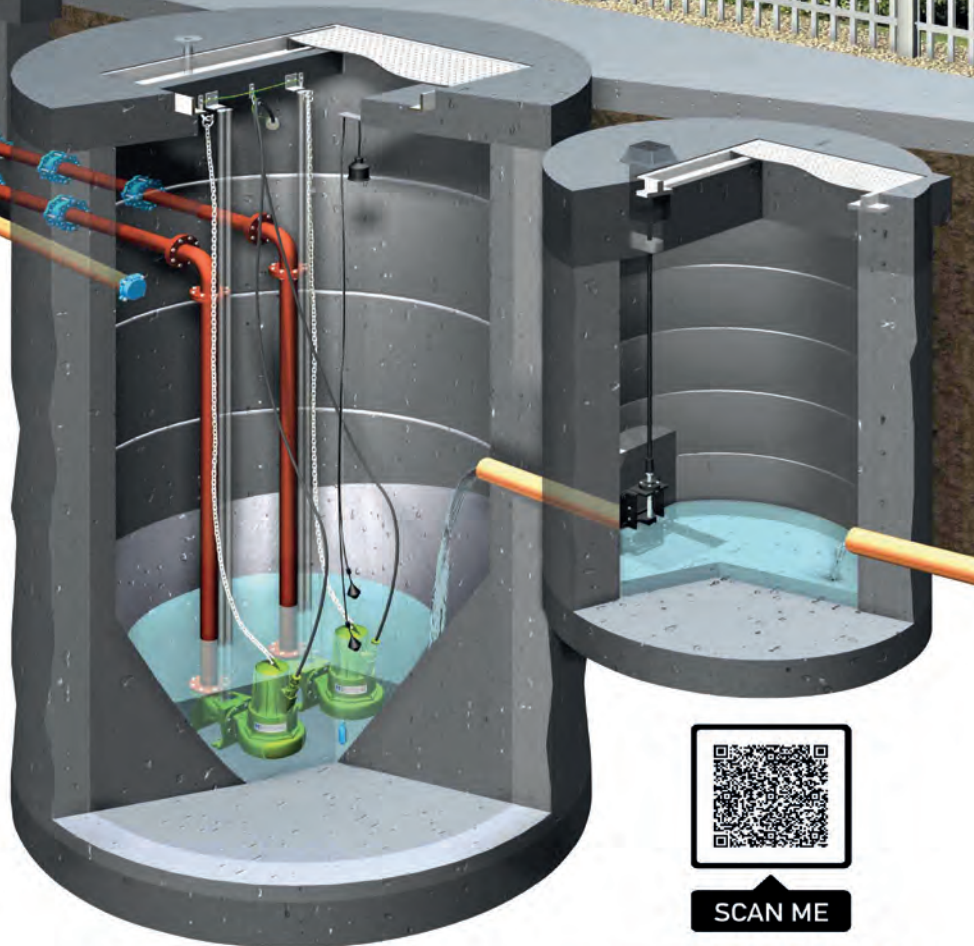
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Educational Nordic Copper

The architectural clarity of a new teaching facility at Gresham's School in Norfolk – incorporating panels of Nordic Brown Light pre-oxidised copper alongside full-height glazing – typifies an innovative approach to education.

Enabled by Sir James Dyson, a former pupil at the school, the centre for Science, Technology, Engineering, Arts and Mathematics (STEAM) education is a state-of-the-art structure at the heart of the School campus. WilkinsonEyre's design develops and refines the evolving STEAM building typology, and follows a modern aesthetic integrating industrial components with landscaping and low energy systems.

The two-storey exposed steel frame envelopes a mixture of large panels: some glass and others Nordic Brown Light pre-oxidised copper – either opaque or with square perforations adding transparency whilst screening glazing behind. Some of the panels are set back within the structure, introducing landscaped open areas which can be used for outside teaching. Integrated planting blurs the

boundaries between outside and in. The thoroughly modern building remains sympathetic to its historic context and its scale reflects that of the 1916 school chapel across the lawn. Meanwhile, the patterns in the oxidised copper panels mirror the decorative flint details on the chapel elevation.

Yasmin Al-Ani Spence, Director at WilkinsonEyre, said: "This building will provide contemporary teaching spaces for the investigation of the sciences and the arts simultaneously, enhancing critical thinking and promoting innovation. The building itself – through the clarity and honesty of design and construction – becomes a teaching tool in its own right."

With an area totalling 4,000 m², teaching spaces are generous and filled with light. They include classrooms, laboratories, workshops, an auditorium and open-plan common spaces able to host a variety of teaching and learning uses. An inviting and interactive internal courtyard, doubling up as circulation, features an arts hub, seating area, and IT point and facilities, further reinforcing the integration of art, design, and science.



Photo: Peter Landers

The building is equipped with the latest technology to ensure the highest levels of teaching, from robotics and Artificial Intelligence to programming and machine learning. The building will also provide greatly improved opportunities for the outreach programme which Gresham's runs with local schools.

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Newton opens new distribution centre



Newton Waterproofing, one of the UK's leading independent designers and suppliers of guaranteed waterproofing systems, has opened a new distribution centre in Leeds, giving customers in the north of the UK quicker and easier access to the company's extensive range

of waterproofing products, technical services and delivery options. Opening its doors this month, the Newton Northern Distribution Centre will supply customers with the company's complete range of structural waterproofing and damp proofing products.

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Alsan 770 Updated BBA



Soprema's BBA for the Alsan 770 liquid applied waterproofing flat roofing system has recently been updated to include zero falls and blue roofs and the inclusion of a warm roof scenario

with Sopratherm G insulation. In addition, the system is included in the Fire Annex of the certificate and is classified as Broof(t4) in accordance with EN13501-5: 2016 and therefore is unrestricted with respect to proximity. A 2-component high performance PMMA based resin, Alsan 770 is used with a reinforcement fleece to create a seamless, durable and reliable waterproofing membrane.

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CaberDek weatherproofs flooring



CaberDek, from West Fraser (Trading as Norbord), is ideally suited to the UK's unpredictable climate, being that it combines the company's market leading particleboard flooring with a tough, waterproof and slip-resistant film. Compliant with BS EN312: part 5, CaberDek creates a safe working platform thanks to the waterproof, heavy-duty film, which is also resistant to the

sudden impacts, puncture and tear risks to be encountered on any building site. When applied in accordance with the instructions, CaberDek has full BBA approval for 42 days exposure.

uk.westfraser.com

Sophisticated bespoke brick details



Comprising a total of 404 new homes, commercial space and public realm spaces, Southmere Village Phase 1B will bring to life an area of former economic deprivation.

IG Masonry Support provided many of its products to brickwork contractor Landmark Brickwork and main contractor Durkan, to

help achieve the architect's vision. IG Masonry Support was able to provide bespoke designs with a quick turnaround. Durkan and Four Point Architects were highly impressed with the level of detail in the technical details provided by IG Masonry Support.

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Operator in hiding

An automatic swing door operator that is completely hidden from view has been introduced by GEZE UK.

The UFO NT is the new underfloor automatic swing door drive. It boasts a much wider range of capabilities and features than its predecessor including manual use via the Smart swing function.

Providing maximum transparency and meeting aesthetic and access demands the UFO NT is hidden in the floor and so overcomes the problem of a limited area at the top of the door frame, perfect for use with glass facades or listed or historical buildings with structural limitations, or where automatic doors are required but with an operator that is not visible.

The UFO NT can be used on any type of door – glass, wood or metal and is especially suitable for use where vandalism could be a problem as the operator is fully concealed. It is also suitable for retrofitting.

It provides compliance with the demands of the Equality Act and the building standard BS EN 8300. Developed from the robust and efficient GEZE Powerturn operator the UFO

NT has a higher IP rating (IP 67) making it suitable for external doors, and a higher closing force than its predecessor size EN1 – EN4. In addition, it can operate leaf widths up to 1,250 mm on external doors and 1,600 mm on internal doors, and leaf weights up to 125 kg, surpassing the older unit in all areas of performance.

The Smart swing function enables large doors to be operated manually with ease, though if the door is manually opened at high speed the operator will apply motor resistance to slow it down. Using a redundant spring system, the Smart swing function allows the operator to be fully motor-controlled until power failure or fire alarm activation.

The versatile UFO NT underfloor operator is suitable for use with GEZE Cockpit and building management systems.

Andy Howland, sales and marketing director of GEZE UK, said: “The aesthetically pleasing UFO NT is perfect for use in all types of buildings. Its versatility as an automatic swing door provides safe, efficient and convenient means of opening and closing a door yet the Smart swing allows it to be



used manually with ease, its location in the floor makes for an attractive, unhindered door set.”

To find out more about the UFO NT email GEZE UK, or for more information about the company’s comprehensive range of automatic and manual door closers visit the website.

info.uk@geze.com
www.geze.co.uk

Garador's offer co-ordinating side doors for easy garage access



With garages today being used to charge electric cars and to store everything from gardening equipment to wine, as well as being adapted into home offices and gyms, having easy access into a garage makes a lot of sense. Garador's range of garage side doors offer the ideal solution for anyone wanting quick and easy personal entry into their garage. The doors have been designed and engineered to offer smooth reliable functionality plus high levels of security and durability. They include a number of key features such as door stays, rubber seals on all sides and a 20 mm base threshold for added convenience and weather protection plus fully hidden hinges to further enhance the security of the door. Garador's garage side doors open outwards to ensure internal garage space is not compromised. These useful doors come in both high-grade steel and quality cedar timber and in a wide range of designs and colour finishes and can be fully co-ordinated with Garador's latest up and over garage door models. Find out more about Garador's range of garage side doors by calling the company or visiting the website.

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A steel window survey from ASWS



Associated Steel Window Services is offering a valuable survey service to property owners, contractors and architects. Known for their large, prestigious projects in the capital like Bush House and Hackney Town Hall, part of ASWS's company ethos is the continual support and guidance for clients. ASWS has seen a rise in the number of

landlords and architects employing the company's services to obtain detailed, expert guidance they can submit with tender information packages to help them secure accurate costs for their projects.

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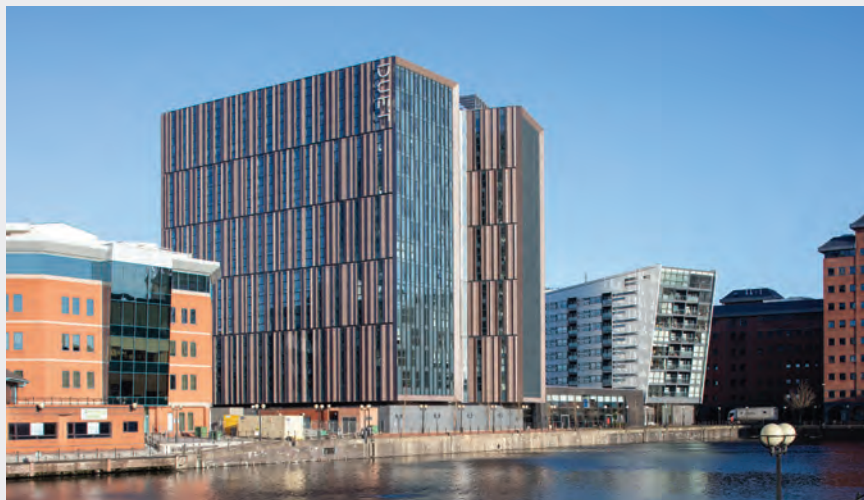
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Mancunian melancholy



Two fifteen-story residential towers, like a pair of ballerinas, soar upwards high above the northernmost Salford Quays in Manchester. Slender backs linked together, they fan out towards the water and have earned the title the “Duet”. Anyone who moves into one of these apartments in the middle of the new Media City is part of the transformation and economic boom which, over the last twenty years, has seen Manchester change from an industrial city with high rates of unemployment into a trendy location for the creative, cultural and media industries. The city of subcultures has long since become a strong location for financial and service sectors, and has to offer appropriate housing. So, the Duet offers higher-priced accommodation with a

sophisticated but youthful and fashionable interior. The tower’s facade, in glass and ALUCOBOND® tray panels, falls into angular folds and, like the position of the two buildings themselves, responds to its location. Because however much Manchester may change, one thing remains the same: there is less sunshine here than in other parts in England. Autumn brings grey skies and rain; sunshine hours are rare during this time. Thanks to mild temperatures, this does not change even in winter. So those who can afford to, make the most of the scarce sunlight by opening their apartments up to face south and stretching upwards high above the horizon. People living on the higher floors of the towers on the Quays, therefore, are less likely to be affected by autumnal



melancholy. The angled, fan-shaped facade, featuring floor-to-ceiling glazing on all the south-facing surfaces, allows more light to flood into the apartments and offers exclusive, uninterrupted views all the way to Manchester United’s stadium over the lower neighbouring buildings. At the same time, the orientation of the two towers ensures a good deal of privacy in the apartments. Incidentally, the ALUCOBOND® tray panels in three different shades of red and with different levels of gloss, echo the city’s colour palette: the dominant tone in Manchester is reddish-brown, like the naturally aged, different hues of brick. This duet of glass and ALUCOBOND® unites both: the old, rust-red Manchester, as well as the new one, with its glass clad skyscrapers.



Paul Herbert, Sales Manager
07584 680262
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PROJECT DATA

Project: Erie Basin, Manchester
Architect: Sheppard Robson Architects, London
Fabricator: Premo Fabrications, Newton Aycliffe
Installer: FK Group, Altrincham
Facade System: Tray Panels on bolts
Year of Construction: 2019
Product: ALUCOBOND® A2 solid special colour
Photos: John Kees Photography

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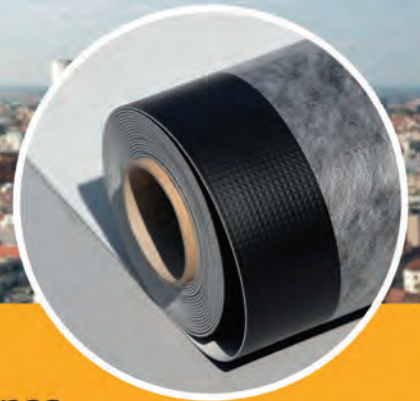
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BUILDING TRUST



Cradle to zero

Mike Vaczi from Soprema UK discusses how applying circular economy principles in roofing specification can help achieve net zero

As part of the UK Government's 2021 strategy to achieve net zero in the built environment (meaning the amount of carbon emissions associated with a building's usage and construction stages must equal zero or negative), working to achieve this in roofing has become a top priority for specifiers as well as suppliers.

The importance of early engagement with supply chains during building design has never been so important, especially when developing ethical and sustainable specifications to incorporate a Cradle-to-Cradle (C2C) strategy.

C2C unites many principles beyond simple material reuse – these include everything from safe sourcing to renewable energy usage and social fairness. But how can architects and specifiers apply this thinking when it comes to flat roofing design?

Product selection

Thinking differently about products during roofing specification, and working collaboratively with the supply chain, can pay dividends when trying to achieve sustainability goals. Working closely with an experienced and accredited manufacturer from the outset and selecting the most suitable materials for the roofing project, is paramount.

In the mission to achieve greener credentials, it's advisable to seek out manufacturers with cradle-to-cradle certifications which recognise their products worldwide, as part of responsible purchasing. For example, one of our membranes has been awarded a bronze certificate by the Cradle-to-Cradle Products Innovation Institute, following a series of thorough investigations by a jury. Five specific performance categories are considered; material health, product circularity, clean air and climate protection, water and soil stewardship, and social fairness.

Early engagement with supply chains will ensure the best ethical and environmental specifications are developed, while also creating a robust and durable solution.

During the design stage, roofing material characteristics, qualities and build-up all impact sustainability goals.

Bituminous membranes

Bituminous flat roofing products are available that fit the bill when it comes to cradle-to-cradle specification. One BBA, Broof and EN certified membrane solution consists of a double bitumen coating with fire-retardant additives and a composite polyester reinforcement. The plastomer modified bitumen (TPO) upper side has a high mechanical resistance and is UV-resistant, while the elastomer modified bitumen lower side and the overlap ensures excellent adhesion.

Products like this are often specified in roofing as an upper layer within a single or multi-layer waterproofing system, where fire retardant properties are required. In some cases, the upper surface is finished with granules and the overlap and lower surface are protected by a 'thermofusible' film.

Quality specification

But it's not just certifications that architects need to look out for to help improve sustainability. C2C accreditations, for example, are just one element of a broader framework of efforts that manufacturers should undertake.

When it comes to responsible sourcing, using products made from recycled materials, such as insulation from recycled polystyrene, is also important. In addition, some manufacturers offer 'natural' insulation materials – such as Pavatex, which is made from wood residues from sawmills. Also, old bitumen roofing membranes can be recycled into new roofing products and asphalt for use on roads.

Manufacturers should be looking at the wider impact of their materials on the health of other organisms, too, ensuring they do not contain hazardous chemicals such as heavy metals. Of course, this is not achievable with all products, but bituminous membrane solutions for flat roofing design for one do comply.





During design stages, architects should also consider the product's circularity; is it reusable, and can it be part of a 'closed chain'? Product manufacturers need to provide information on how much CO₂ their products emit through the production process, as well as the company's commitment to clean air policies. Water consumption during manufacture is also a key factor in achieving C2C standards.

Employee working conditions and wellbeing also contribute to sustainability goals – which is perhaps surprising to some. In addition, manufacturers' relationships with customers, suppliers and employees should be characterised by integrity and respect. Being responsible for all aspects of safety regulations in everything they do, while providing workplace opportunities for employees to grow and excel, creates a happy and inspired workforce. This ultimately delivers better customer service.

A greener outlook

When specifying products, aside from the appropriate C2C accreditations, BBA approvals and adherence to mandatory testing, it's also advisable for specifiers to look outside the box and consider the manufacturer's business as a whole

Working collaboratively with the supply chain can pay dividends when trying to achieve sustainability goals

when adhering to circular economy principles. For example, we are a member of the Liquid Roofing and Waterproofing Association (LRWA) which holds extremely strict membership criteria. Specifiers can thereby ensure that the highest standards are continually being met within roofing and the wider construction industry.

Sustainability has been a hot topic for some time, but its importance is only going to grow. With the target to achieve net zero in carbon emissions by 2050 outlined last year, partnering with an experienced and trusted manufacturer is one step that specifiers can take towards a sound and sustainable product selection, which will benefit the building landscape for many years to come.

Mike Vaczi is technical manager from Soprema UK

Office refit? Go to the wall to minimise energy costs, maximise floor space



Gilberts Blackpool has a pioneering ventilation solution, that optimises sustainable natural resources and cuts energy consumption. It has the added benefit of optimising useable floor space, and removing the need for suspended ceilings or exposed building services thus delivering an uncluttered working environment aesthetic. The solution is Gilberts' MFS stand-alone, hybrid ventilation solution. Essentially a natural ventilation unit that can operate solely on fresh air, it includes a quiet, low energy fan to supplement airflow only as conditions demand (such as the recent heatwave). Installed through the external facade or window (or the rooftop), Gilberts' MFS mixes 'used' internal and fresh external air to ventilate the internal space providing free cooling with heat recovery and no risk of cross contamination. A mixing damper within modulates airflow to allow the new, fresh air to mix with the warm exhaust air, thus extracting its heat without the need for an exchanger. The integrated low energy fan energises to blend the internal air, ensuring an even distribution of airflow, controlling CO₂ levels without stratification.

01253 766911 info@gilbertsblackpool.com

Domus Ventilation's new interactive website



Domus Ventilation, manufacturer of market-leading ventilation systems that save energy and improve indoor air quality, has launched a new company website featuring an innovative interactive 'show home' which enables visitors to see product solutions for types of properties and individual rooms.

domusventilation.co.uk provides clear, easy access to the most popular content, including Domus Ventilation's comprehensive product range, and has introduced new sections providing an overview of the company's specific ventilation solutions and services. vent.info@domusventilation.co.uk

6 Series from ESi



ESi Controls has launched its top of the range, 6 Series WiFi Programmable Room Thermostat, offering the latest in heating control for homes and commercial premises here in the UK. Fully OpenTherm compatible, this new range of controls allows full control via the room thermostat or via a mobile phone or tablet, with a range of features to impress even the most demanding specifier, installer or homeowner. The new 6 series complies with all relevant directives, incorporates the latest in energy efficiency technology and is OpenTherm compatible for installers using OpenTherm in their installations. It comes with a three year warranty.

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A guide to low carbon heating

Joseph Raftery from Samsung Climate Solutions gives architects the lowdown on the specification and installation of heat pumps

One of the central conundrums to solve in architecture over the next decade will be how our homes can be sustainably built, without compromising on the design aesthetic of the property. The fast-approaching Future Homes Standard of 2025, which will rule out fossil fuel heating in all new build developments, means that there has never been a better time to start incorporating low carbon heating into property designs.

As architectural designer (and brand ambassador for Samsung heat pumps) Charlie Luxton points out, “There are two areas of focus in low carbon buildings: reducing energy consumption in construction and occupation. Any remaining demand for heating or cooling then needs to be met with renewable or low carbon sources.”

“In practice, during construction means using low embodied energy building materials that are long lasting but also designing buildings with a ‘loose fit/ long life’ ethos so that they can be easily adapted for different uses over many years. In occupation it means lots of insulation combined with airtightness and optimising for solar gain while mitigating against overheating to drive down heating/cooling and lighting requirements.” Luxton adds: “Finally, heat pumps can be used to provide what heating or cooling is required.”

Rapid innovations rippling through the sector from both an energy efficiency and design perspective, make low carbon heating more viable in both the retrofit and new build architectural space. This innovative method includes taking a fabric first approach to property design, determining the potential heat loss of a building as well as calculating its heat load, to ensure final designs are fitted with appropriate low carbon heating systems.

How do ASHPs work?

An air source heat pump (ASHP) is a low carbon heating system for domestic heating and hot water. Traditional gas boilers operate on fossil fuels whereas ASHPs

When properly maintained, an ASHP can be as much as 500% efficient

use electricity and energy available from passing ambient air over a heat exchanger. Energy cannot be created, just exchanged, and heat pumps have a particularly clever way of doing this – the fan takes the energy from the air, uses it to heat a liquid (R32 refrigerant, which has less environmental impact than others) into a gas. This transfers the stored heat energy to heat a home and its hot water tank, then the liquid re-compresses and the cycle repeats.

Why choose a heat pump?

Entirely powered by electricity, when properly maintained an ASHP can be as much as 500% efficient, compared to an average of 92% efficiency for gas heating systems. Typically, for every kW put in at an ambient air temperature of 7 degrees (average for the UK), you would expect to get around 5 kW thermal output to heat a home and its hot water. This COP (coefficient of performance) means in simple terms that the heat output is more than the electricity input; therefore a heat pump can increase the energy efficiency of any home.

As we look towards the future, as the primary source of electricity in the UK shifts in favour of renewables like wind, hydro and solar PV, air source heat pumps offer a viable low carbon option to help the UK meet its ambitious net zero ambitions in the domestic heating sector.

This technology has been around for decades, and is backed by an industry that is driving change and spearheading innovation. As government targets such as the Future Home Standard 2025 and the Heat and Buildings Strategy (October 2021) take effect, complemented by the Boiler Upgrade Scheme for retrofit projects, an architectural focus on low carbon heating





Rapid innovations rippling through the sector from both an energy efficiency and design perspective, make low carbon heating more viable in both the retrofit and new build architectural space

can only be a positive development for businesses in this evolving sector.

Key low carbon design considerations

It's tempting to frame conversations about low carbon heating solutions from a technical or mechanical perspective, but it's important to consider them from a design point of view too. The latest air source heat pumps are sleeker and more aesthetically pleasing, allowing them to be a feature of a home without disrupting the design. Plus, there are a few different ways in which they can be incorporated, depending on the end design vision.

A heat pump can be accompanied by a hot water tank, but many of these can fit where the traditional tank would sit – in a utility room or airing cupboard. Highly developed control systems, including Wi-Fi kits and apps such as SmartThings, means that homeowners can also monitor their energy use and control a two-zone heating system remotely via a smartphone – while conforming to Part L requirements – in one neat box. This allows low carbon heating systems to blend into homes seamlessly, while offering full flexibility to homeowners in the face of an uncertain energy climate.

Outside of the home, the outdoor unit can be placed in a variety of locations. While floor-mounted on an exterior wall of a property is the most common option, this can be incorporated through a designated area on the side of the house for the unit. Homes can be sustainable, energy efficient and beautiful all at once with this type of innovative heating solution. There are also a variety of other options depending on the build; the outdoor unit can work well on certain roofs with enough flat space, allowing the pipework to go straight down to the tank inside the house. There's also the possibility of wall mounted units if there is sufficient space on an outside wall without windows or other disruptions.

While low carbon heating systems may seem like a recent development, the technology has long since been proven reliable and more energy efficient than other heating options. Now is the time to develop this into unique design visions for the UK's future housing stock – not just to help prepare properties for the future, but to leave a positive environmental legacy in everything we build.

Joseph Raftery is heating product manager at Samsung Climate Solutions

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Every breath you take

Paul Williams from Domus Ventilation addresses the critical need to remove air pollutants from homes, and how the Healthy Homes Bill might just hold the key to unlocking cleaner air for all

In May of this year, the Healthy Homes Bill received its first reading in the House of Lords. The Bill aims to transform the regulation of the built environment by making provision for the delivery of healthy homes and neighbourhoods that support the physical, mental and social wellbeing of residents.

The Bill outlines a wide range of key aspects that impact the health of a home, including fire safety, liveable space and adequate storage, natural light, inclusivity, accessibility and adaptability. Further aspects include reduced carbon emissions and resilience to climate change, security, noise and light pollution, indoor and ambient air pollution, and thermal comfort, as well as access to sustainable transport and walkable services.

It's a long list, and while advances have been made in a number of areas, we are far from where we need to be if we are to deliver truly healthy homes. This is certainly the case when it comes to the matter of air quality, both internal and external.

How clean is our air?

In 2021, the UK was found guilty by the European Court of Justice of "systematically and persistently" breaching air pollution limits. The Government's latest data shows that NO₂ limits are being exceeded in 33 out of 43 air quality assessment zones. The other main offender when it comes to air pollution is PM_{2.5} (concentrations of particulates). The legal limits in the UK are set nearly twice as high as the level that is recommended by the WHO. Even with this raised rate, over 35% of local authorities had areas with unsafe levels in 2018, which equates to more than 22 million people living in areas with unsafe levels of PM_{2.5}.

Exposure to air pollution is a serious threat to health, with known links to lung disease, heart disease, dementia and strokes. According to NHS England, 30% of preventable deaths are due to non-communicable diseases specifically attributed to air pollution.



And it's not just our physical health that suffers, but also our economic health; Defra estimates the economic cost from the impacts of air pollution in the UK at between £9bn and £19bn every year.

Planned environmental, transport and clean air policies are in place which could reduce air pollution levels to within the WHO recommended interim target by 2030, but only if they are implemented now, and in full.

The danger within

External air pollution entering our homes is not the only issue to contend with when it comes to indoor air quality. Building fabric, such as insulation – and countless building Products – emit potentially harmful pollutants into our air. Volatile organic compounds (VOCs) are some of the most common as they are found throughout building products, including paints and finishes, carpets and flooring, pressed wood products, and adhesives.

The Healthy Homes Bill states: "all new homes should not contribute to unsafe or illegal levels of indoor or ambient air pollution." This translates as 'choosing healthier building materials and products.'

There is currently a distinct lack of standards for the control of indoor pollutants, although the recently revised Building Regulations Approved Document

We are far from where we need to be if we are to deliver truly healthy homes





F now includes guidance on indoor air pollution, including exposure limits and times for carbon monoxide (CO), as well as NO₂, formaldehyde (CH₂O) and TVOC.

Removing air pollution from homes

As laid out in the Healthy Homes Bill:

“all new homes must be built to minimise, and where possible eliminate, the harmful impacts of air pollution on human health and the environment.”

In order to achieve this, good ventilation is essential to disperse pollutants. As recognised in Building Regulations, this is best achieved through mechanical ventilation systems, with the most effective being Mechanical Ventilation with Heat Recovery (MVHR). These bring fresh air into the home and extract stale air, along with the pollutants.

However, if properties are located in areas with high pollution levels, the MVHR systems are actually bringing polluted air into the home and, although they come equipped with standard filters, these can only do so much. Building Regulations advice is to locate intake grilles away from the direct impact of the sources of local pollution, but this is not always possible or effective enough. Installing a

powerful carbon filter to the MVHR system would be a more effective approach. One available product for example is applied on the supply leg of the ducting, to prevent up to 99.5% of NO₂ pollution from entering a home.

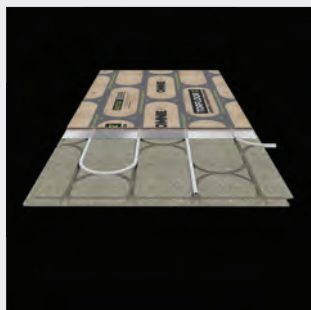
Mechanical ventilation systems not only address air quality in terms of removing pollutants, but they are also highly effective at preventing condensation and subsequent mould formation; dealing with overheating in the more airtight new homes we now build; and even in reducing airborne virus transmission. So even if we meet all our goals and bring external air pollution down to WHO acceptable guidelines, mechanical ventilation remains an important aspect of a healthy home.

The next step

The Healthy Homes Bill is now at Committee stage, so has a long, long way to go and, as a Private Members' Bill, will face an uphill battle. But if it is able to survive the journey, it could be a genuine game changer in how we approach and regulate our built environment.

Paul Williams is product manager at Domus Ventilation

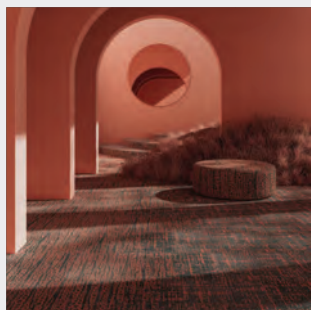
TorFloor 2® takes integrated underfloor heating to a new level



While many in the industry believed that the original TorFloor panel represented the optimum in terms of integrating underfloor heating pipes into a quick-to-install structural flooring panel, UK based manufacturer OMNIE has taken both the practicality and the performance to a new level with the introduction of TorFloor 2®. The new generation TorFloor 2® evolves from the market-leading TorFloor® predecessor by adding a 6 mm thick chipboard upper panel with pre-foiled aluminium heat diffuser. Crucially both panels feature matching routed channels to perfectly align around the 12 mm water pipe, while the printed upper face clearly indicates the pipe's position and the points where screws can be safely fixed. Not only does this arrangement greatly reduce the risk of the pipe runs being accidentally damaged when floor coverings are installed or replaced, but the location of the routed channels places the warm water pipes closer to the surface: delivering faster warm-up times. This design means that an output of 50 W/m² can be achieved with a flow temperature of 41° Centigrade.

01392 363605 www.omnie.co.uk

Inspired by nature: new Artcore by modulyss



Artcore is modulyss' latest soft flooring concept, built to shape and transform spaces like never before. Inspired by transitions seen in nature, Artcore includes four different patterned collections – all Cradle Certified® Gold – that offer an opportunity to rewild the interior world, creating unique patterned transitions that reconnect us with nature, restoring balance and wellbeing. Artcore is inspired by the transitions that modulyss designer Joris Peutz noticed in nature – the space between two states, where a material or an environment changes from one thing to another. The way a forest turns into a meadow. The way the city gives way to the country. The boundary where tree bark becomes covered in moss. “During the pandemic, I felt the world was going through a transition like never before,” says Peutz. “I began to find similar transitions in the outside world: transitions between nature and man-made, transition in nature itself. Patterns that quiet the mind and are able to create a sort of sanctuary through their unique shape or dimensions.” The Artcore collection consists of four different designs: Core, Mezzo, Litho and Etch.

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Troldtekt v-line is cutting edge

Troldtekt's award-winning 'design solutions' range has been extended with the addition of the new v-line variant.

v-line 1way and v-line 2way both comprise panels with either 6 or 10 longitudinal grooves milled into the surface of standard 25 mm Troldtekt panels. The v-line 2 has the addition of transverse grooves every 1,200 mm where the ends of the panels meet



giving an added character to the pattern on the ceiling and the ability to create more intricate designs.

Cut into a V shape, the grooves in the panels have a more discreet look than that of the traditional deeper-cut offerings in the 'design solutions' range which are more pronounced and distinctive and use a thicker 35 mm panel.

The ability to have milled lines in a classic, thinner Troldtekt panel means they are easy to handle and competitively priced but still have the same aesthetic and visual appeal. They are a perfect accompaniment for retail, office and residential environments where acoustics need to be controlled.

Certified Cradle-to-Cradle at Gold level, Troldtekt's natural and inherently sustainable panels offer high sound absorption and tactile surface, coupled with 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.

Panels can be supplied in the FSC® 100% category (FSC®C115450) contributing to



a building's BREEAM, DGNB and LEED rating. In addition, because the panels are a natural, breathable material that can absorb and release moisture they are allergy friendly and have been awarded an Allergy Friendly Product Award by Allergy UK.

Samples, case studies and technical guidance are available from Troldtekt.

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Quantum Flooring a Winner in CFJ/CFA Awards



The CFJ/CFA Awards are always a highlight of the Flooring Industry calendar, giving those in the industry a chance to meet with, and celebrate, colleagues from across the UK.

This year, it was held on the 9th of September at Coombe Abbey, and as ever it was a great show. Even better for Quantum Flooring Solutions, they were judged the winner of one of the major categories. Everyone at Quantum is delighted to win

in the Profiles and Trims Manufacturer/Supplier of the Year category at the 2022 CFJ/CFA Awards. As an independent flooring accessories manufacturer, it really does represent a fantastic team effort from all at the company, and they are very proud of the achievement.

Quantum would like to thank everyone who voted for their nomination in the category, the independent industry experts who judged them the winner among stiff

competition, and the event sponsors. Congratulations to the other companies and individuals who won awards, and indeed to all of those nominated in every category.

And thank you of course to the CFJ and the CFA for putting on this brilliant event year after year. Quantum will see you all there in 2023!

0161 627 4222
www.quantumprofilesystems.com



Luceco shines brightly at university

Luceco has recently relit the United Arab Emirates University in Al Ain, the oldest university in the UAE. Seven buildings within this vast educational establishment have now enjoyed the benefits of cost effective, energy efficient lighting solutions from Luceco. The newly lit facilities included a host of Lecture rooms, Circulation spaces, Laboratory, Library, Canteen, and Auditorium. Luminaires used included Climate IP65 rated fittings, LuxPack Batten, Atlas Bulkhead in both standard & emergency versions, Eris HighBay, Guardian floodlights, standard and DALI driver variants of the Eco LuxPanel Backlit and one of Luceco's signature luminaires, the Platinum. Platinum downlights were chosen for this education setting due to its high performance, a 220 mm diameter downlight with an efficacy up to 132 Lm/cW, featuring a unique swing tab design ensuring installation is quick and easy. Recent enhancements to the recessed Platinum include a further optimised heatsink and a reduction in bezel thickness from 6 mm to 2.5 mm on a standard IP44 bezel as well as being magnetic.

01952 238 100 www.luceco.com

How is the all-in-one BLANCO UNIT so clever?



Drink. Prep. Clean. That is the motto BLANCO has set out when uniting the hub around the kitchen sink, tap and waste bin area. Everything needed in the busy space is all in one place with the BLANCO UNIT which creates a space-saving, timesaving, creative place. There are many benefits for homeowners when they decide on the BLANCO UNIT. And it's great for retailers too in terms of sales and marketing opportunities. Customers can choose items from the BLANCO range to suit their kitchen style and budget.

www.blanco.co.uk/unit

A warm and welcoming workplace



Colours inspired by the natural environment, combined with the outstanding performance of Forbo Flooring Systems' luxury vinyl tile (LVT) and carpet tile solutions, have helped AMH Workspace create an uplifting working environment for Furniture Clinic's new HQ, which 'brings the outdoors indoors'. "Our design team focussed on products which emphasised nature and helped to provide a 'bridge' to the outside, to improve wellbeing and productivity through the use of woods and biophilia," explained Heather Baxter, AMH Workspace's Business Development Manager.

01773 744 121 www.forbo.com/flooring/en-uk

Roll on sustainability

Paints and coatings can deliver sizeable sustainability benefits to a building project. Peter Howard from Dulux Trade outlines some of the top considerations for specifiers

To meet net zero targets and customer demand for more sustainable building practices, it is important to recognise that sustainability is no longer just a 'nice to have' – it is an essential requirement for all projects. As such, there is a need to consider every element of the build, from the building structure itself right down to the finishing, decorative touches.

When considering the environmental impact or benefits of a project, paints and coatings are often overlooked. However, their role is critical to protecting and preserving surfaces which are both key principles for making buildings more sustainable.

The importance of water-based paints

While water-based paint has always been considered better for the environment, historically, the challenge for professionals has been whether this means compromising on quality and durability, causing some to stick to old-fashioned solvent-based products.

However, the industry has transformed water-based paint technology and the products available on the market today will offer the equivalent properties to solvent-based – with the added benefit of lower VOC content. Due to this, water-based products are better for both applicators and occupants as they reduce application time and disruption to the end customer as rooms do not need to be out of action or ventilated for long. This is particularly important for premises with vulnerable occupants such as care homes, hospitals, and schools – as well as projects across the housing, leisure and student accommodation sectors that may have strict deadlines to ensure minimal disruption. As a space gets back to operations much quicker, customers also benefit from cost and time efficiencies.

Think beyond water

While paint manufacturers remain focused on ensuring that their water-based products deliver on colour and appearance, they are



also interested in how they can be used to preserve buildings and reduce the need for regular maintenance work that can drive up costs over a building's life cycle.

As such, specifiers should be considering paints that stand the test of time to meet their client's longer-term needs. For example, paints with scuff resistance or anti colour-fade technology can make a space look beautiful for a much longer period of time. Also look for solutions that can be easily cleaned, to enable building owners to easily maintain surfaces without the need to re-decorate regularly.

Choose a product that will support your sustainability accreditation

Sustainability is often driven by accreditation schemes such as BREEAM or LEED and, as such, using products with the right certification is key. We provide architects and specifiers with guidance on which of our products will meet accreditation points for their project.

It is also worth bearing in mind that paints and coatings can often be one of the easier things to get accreditation points on. We always recommend considering

Paints and coatings can often be one of the easier things to get accreditation points on



Many decorative paint merchants offer paint can recycling schemes – and leftover paint can be donated to good causes

these elements as early on in a project as possible – but they are also the ideal place to start if you are already mid-way into a build and need to think about other ways to integrate sustainability to get the right level of accreditation.

Supplier collaboration

It is important to work with a supplier you can trust and can work hand-in-hand with. Some suppliers can support all manner of accreditations and data requests – including colour matching and

design, technical specification, and meeting accreditations. Some are also able to look at the carbon footprint of a painting project or programme over its lifecycle and provide insight on alternative options to support project managers in making more sustainable decisions.

It is also important to consider how sustainable measures can be taken once the project is complete. For example, many decorative paint merchants offer paint can recycling schemes – and leftover paint can be donated to good causes like Community Repaint, so nothing need go to waste.

Think about the bigger picture

Finally, one aspect of sustainability that it is always important to look at is the bigger picture of the effect of design on occupants. For paints and coatings this means thinking about the decorating process as a whole. Part of doing this with much lower impact, for example, is using colours that will inspire occupants, in addition to ensuring contractors are using long-lasting water-based products, and are making use of can recycling and leftover paint schemes.

Peter Howard is sustainability lead at Dulux Trade

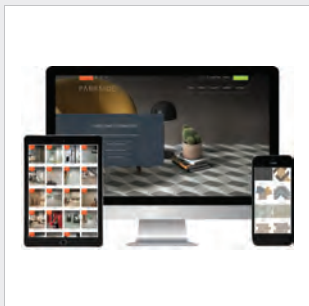
Imperfection proves perfect for Oktra's office



IVC Commercial's Imperfection Bruut premium carpet planks have been installed in the headquarters of Oktra, one of the UK's leading office design and build companies. The 6 St Cross Street, London office of Oktra is not just home for the fast-growing and dynamic company but also a destination and showcase of office design for its customers. An exemplar of a modern, high-functioning workspace, the office's ground floor basement was recently refurbished to accommodate a new materials library, meeting rooms and extra open plan desking for Oktra's growing team. Naturally, Oktra turned to its own highly qualified and experienced design team to create the new area. For its choice of flooring in desking, collaborative areas and meeting rooms, the office design and build specialist selected IVC Commercial's new Imperfection Bruut carpet planks. Dominic Dugan, Creative Director for Oktra selected two colourways of Bruut, using the mid-grey of 911 and the lighter 959 to denote areas of activity and provide navigation through the ground floor basement area. A total of 595 m² of carpet planks were installed by Oktra's own fit-out team.

01332 851 500 www.ivc-commercial.com

Parkside improves your tile specification experience



Finding the right tile for your project is now easy with Parkside's new website. Whatever your specification mission, the new Parkside website makes it easy to find the right answer from a choice of over 20,000 commercial tiles. Whether you're a commercial designer, architect, tile contractor or residential developer, parkside.co.uk is developed to support your specification journey through its advanced segmentation. So, if you need a technical or specialist solution, design tile or just want the best in sustainable choices; visiting Parkside's new website is the best place to start. With tiles searchable by product, collection or project category, the new website's systems kick-in to finetune your selection by colour, size, finish, slip-resistance and recycled content. The result is a selection of tiles that meet the needs of your project in just a few simple steps. Samples of selected products can be ordered directly through the website for fast delivery. For technical solutions from Strata Technical Tiles, the new Parkside website is the place to start your journey. Strata Technical Tiles will help you to achieve the best specification for projects.

0116 276 2532 www.parkside.co.uk

XL-ent floor tiling with new BAL XL Floor One

BAL – market-leaders in full tiling solutions – have launched a new and improved flexible thick-bed tile adhesive for large format floor tiles.

Replacing BAL Pourable One on its range, BAL XL Floor One is a significant upgrade with XL-ent extended open time and XL-ent working time – taking some of the stress out of large format floor tiling.

Extended open and working times of the gel rheology of XL Floor One mean the adhesive remains wetter, smoother and creamier for longer – making for XL-ent workability.

BAL XL Floor One is easy to work with and apply and with an extended pot life of 90 minutes and open time of 60 minutes, fixers can confidently spread over larger areas for ease – have plenty of time to adjust tiles as they work – and ensure they have no product wasted by going off.

A true “overnighter”, BAL XL Floor One can be grouted in 6 hours, ensuring fast track project completion the next day.

Mixed with a reduced water content of just 4 litres per 25 kg bag, BAL XL Floor One



holds its high-gel shape when trowelled with ribs sitting proud even up to 25 mm without any slumping – yet ribs will collapse easily when tiles are vibrated or twisted for solid bed coverage.

Crucially this means that back-buttering is not always required with flat backgrounds and tiles!

If needed, BAL XL Floor One can be built up to 25 mm bed depth for levelling small areas or patch repair – while also making it perfect for uncalibrated natural stone where consistent bed depths can't always be achieved. With a flexible and strong bond,



BAL XL Floor One is also suitable for laying BAL Rapid-Mat or BAL Flexbone VARied uncoupling mat when spread with a 4 mm notched trowel.

Water and frost resistant, and with large bed-depths, BAL XL Floor One is BAL's recommended tile adhesive for laying porcelain, ceramic or natural stone on external concrete beds.

Even on tamped concrete, BAL XL Floor One provides excellent coverage for 20 mm porcelain pavers and other external tiles.

01782 591100 www.bal-adhesives.com

Enrich experiences with dynamic textures



Enriching spatial experiences with dynamic textures, Immersion is the new carpet tile collection from IVC Commercial. Transposing the impact of digitisation on human existence into three-dimensional textures, IVC Commercial's Immersion carpet tile collection creates a more involving experience in work and living spaces. The carpet tile collection uses the world's first carbon negative carpet yarn, Thrive® matter. Available in Alternate, Liberate and Animate; Immersion's palette of smart tones enriches sculptural textures for a carpet tile that adds intrigue and sophistication. Alternate examines the blurred boundaries between our digital and physical lives in a generative high-low pattern enhanced with tone-on-tone colour. Expressing the pursuit for digital freedom, Liberate's layered texture is enhanced by tonal combinations that highlight its roaming 3D effect. Animate is inspired by the digital worlds of gaming, bringing a vibrant and dynamic layered texture with tone-on-tone colour. The collection is available in 18 mix and match colourways across all three designs that can be used together to support zoning and navigation, and with other IVC Commercial carpet tiles.

01332 851 500 www.ivc-commercial.com

Mapei systems join exquisite stoneCIRCLE marble spec at Harrods Shoe Heaven



A stunning marble installation – spanning walls, floors and columns – has been completed at Harrods Shoe Heaven, by stoneCIRCLE, using a Mapei installation system. The prestigious project at the iconic London department store is part of an ongoing refurbishment by stoneCIRCLE, with the latest phase commissioned by Jaysam Contractors Ltd. Marble finishes specified included a Crema Martel floor finish, featuring Grigio Stardust inlaid in interlocking geometric patterns and Nero Marquina borders. During installation, stoneCIRCLE used anti-fracture membrane, Mapetex System and flexible lightweight adhesive, Ultralite S1. The adhesive features a low dust, non-slip formulation and an extended open time – especially suited to a natural stone installation. It also contains over 30% of recycled material. stoneCIRCLE completed the installation with Mapei Ultracolor Plus colour reference 132 Beige 2000 – an anti-efflorescence, quick-setting and drying polymer-modified grout, with water-repellent DropEffect® and mould-resistant BioBlock® features – and mould-resistant silicone sealant, Mapesil LM.

info@mapei.co.uk www.mapei.co.uk

Masterful Oak Surfaces from UNILIN Panels



With Master Oak, UNILIN Panels has created a decorative surface that looks and feels just like oak. Through technological leaps in the way it makes decorative panels, UNILIN Panels has added definition and detail and textures that go deeper than ever before. At the heart of this innovation lies UNILIN Timber Touch Technology. Regular HPL and melamine-faced panels only have around three or four depth levels which limits how much texture can be applied the surface. The new press plate behind UNILIN Timber Touch Technology allows for 64 different depth levels for 20 times more texture than regular surfaces. Giving Master Oak its impressive feel, so that it has the touch of real oak – from rough to smooth and everywhere in-between – the technology is also responsible for its uniquely matt finish with almost absent shine levels for a natural ‘unfinished’ effect. Yet it’s not just the surface of Master Oak that is extraordinary. UNILIN’s digital printing technology is also unique in the industry. A patented coating applied to the digital paper ensures that Master Oak has more colour-play and depth, as well as better sharpness and contrast.

info.panels@unilin.com www.unilinpanels.com

Keeping in the warmth



A well-insulated loft hatch is more important now than ever before. **Premier Loft Ladders** explain what to look for. 1: *The amount of thermal insulation provided by the loft hatch* – You should be looking for a U-value of less than 1 W/m²K. 2: *Is the loft hatch airtight?* – Check that the loft hatch is sealed and certified with a Class 4 air permeability rating.

3: *Air permeability around the outside of the hatch box* – Minimise the amount of air that escapes around the outside of the hatch box. Seal the installation gap and fill with insulation. For more, visit www.premierloftladders.co.uk/insulated-loft-hatch-and-ladder

sales@premierloftladders.co.uk www.premierloftladders.co.uk

New Rituals in the kitchen with Keller



The popularity of the industrial-style kitchen continues apace and Keller has, once again, come up trumps with the newest addition to the collection, Dark Rituals. The overall scheme incorporates, and combines, weathered materials, black, metal and stone. The door fronts used in the Dark Rituals model, pictured here, are the Nottingham in matt black oak along with the new Bolton door in stainless steel – for the ultimate in industrial chic. Keller is well known for offering the widest range of colours (1950 NCS) and finishes in the kitchen furniture market.

www.kellerkitchens.com



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The reality of fire safety

The question for fire resistance in cavity closers is how to achieve tested 'safer alignment and confinement' onsite, says John Shillabeer from Cavity Trays

Buildings should be constructed to eliminate or minimise as much as possible, all potential fire and fire safety risks likely to arise. In theory this should be a fairly straightforward undertaking, but in practice the building envelope can present both designer and builder with considerations that are not always immediately obvious.

Cavity wall construction relies on the external leaf (that can become saturated with rain) from not coming into contact with the inner leaf that is required to be kept dry. Wall ties are shaped to structurally link the skins and prevent rain tracking across to the inner leaf. The cavity successfully separates and isolates the two. But in the event of a fire, both air and fire can be drawn through the cavity within all the external walls of the building, fuelling combustion.

The question arises of whether there is an optimum way of protecting the external envelope at one of the most frequently occurring features – where it is punctuated by window and door openings? Such openings present the designer and contractor with the usual heat-loss and damp-transference considerations, but with multi-occupancy and numerous other structure categories, also the additional important requirement to protect against fire and fire transference.

Fire-resistant cavity closers

Fire-resistant cavity closers are an accepted way of addressing window and door reveals. A typical closer contains a non-combustible thermal and fire-resistant core that straddles the cavity, effectively linking both skins. Such closers provide passive fire protection. Applied to all four sides of an opening, the completed installation provides a level of fire resistance, commonly 30 or 60 minutes.

To establish the number of minutes, closers are subjected to testing at a fire research facility. These do a good job – one can accept they want to get it right, and accordingly best practice construction is witnessed. Products interface squarely,



correctly and consistently. But if one looks at actual onsite building tolerances, they are different, prompting the question of whether currently-accepted site tolerances adversely affect the performance of fire-resistant cavity closing?

Are such tolerances compatible with those required with a fire-resistant closer, bearing in mind closer and masonry must interface consistently and without gaps, to perform? Construction tolerances accepted by various authoritative bodies vary, but in general building, the following are commonly witnessed;

(External skin)

- ± 8 mm maximum deviation in any length of wall up to 5 metres
- ± 8 mm storey height (up to 3 metres)
- 8 mm max, plumb in any storey up to 3 metres
- 4 mm max, external reveals over 1 metre

(Internal skin)

- 3 mm max, out of level over 1.5 metres – 5 mm beyond 1.5 metres
- 3 mm max, reveal is permitted to be 3 mm out of vertical over 1.5 m – 5 mm beyond 1.5 metres.
- 5 mm out of square is permitted for reveals up to 250 mm deep.

Optimum performance of any fire-rated closer is dependent on correct

The relationship between a fire resistant closer and masonry should match those under which the test results were achieve



incorporation. Put simply, the relationship between a fire resistant closer and masonry should match those under which the test results were achieved. Cavity wall openings constructed to the varied tolerances shown above differ from those used by testing stations and are unlikely to replicate the test results.

Testing stations qualify their test results relate only to the behaviour of the specimens of the elements of construction under particular conditions of test and do not reflect actual behaviour in fires. All openings in cavity walls should be formed squarely and uniformly, observing best practice to fulfil the objectives and requirements of Building Regulations Approved Document Part B.

Benefits of metal ties

While core functionality relies on continuous interfacing, core longevity can be aided with the use of stainless steel metal ties as opposed to plastic ties securing the closer to the masonry. Metal ties that project through the closer body and continue into the actual protective core itself, can extend the period the resistant core is anchored and held in position when fire is attacking. Core continuous

interfacing and core retention being the objectives. The building fabric should be constructed so that there are 'no reasonably avoidable gaps within various elements, at the joints between elements, and at the edges of elements such as those around window and door openings', as stipulated within L1A 5.9.

A site agent of many years standing perceptively summed up a parallel situation; "When you buy a new car, the manufacturers often claim a number of miles per litre, and I do not doubt such a figure is honestly produced, albeit dependent on a featherlight foot on the accelerator, well inflated tyres etc. Real everyday driving is different."

Fire testing establishments and bodies such as the BBA quite understandably do not provide warranties. It is down to those constructing the building to aspire to the highest standards to get it right. While one continues to witness variable masonry tolerances, one questions whether building envelope fire resistance will actually provide the intended level of protection in the event of a serious fire? Compliant construction should leave nothing to chance.

John Shillabeer is director at Cavity Trays

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Series 61 (S61) is the latest smoke control damper to come to market from **Gilberts**. The single 'door sized' S61 compliments the company's established, successful UKCA certified and CE marked Series 60 (S60) smoke evacuation damper. The new S61 has been designed, tested and certified to EN1366-2, EN1366-10 and EN12101-8 in both open-to-closed and closed-to-open (with its associated grille attachment). It has attained ES classification for integrity and smoke in air leakage tests, exceeding current legislative requirements and guidance. As its counterpart Series 60, S61 is manufactured from galvanised steel and will provide up to 120 minutes' smoke and fire integrity. Providing up to 1 m² geometric free area within a 800 mm x 1,920 mm opening list size, S61 delivers a unit specifically to suit mechanically ventilated smoke shafts, with its enhanced air leakage reduction. Front access actuators and grille alignment brackets further simplify installation, operation and maintenance. All Gilberts' products – standard lines and bespoke solutions – are designed, developed, manufactured and tested in accordance with BS EN ISO 9001:2015 quality standard.

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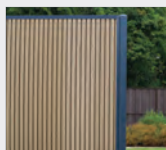
Pyroguard launches Online Product Selector



Pyroguard, part of the Technical Fire Safety Group and the leading independent provider of fire safety glass, is pleased to announce the launch of its new Product Selector, providing a fast, easy to use and more efficient online user experience. Freely available for use on the fire safety glass manufacturer's website, this new online tool saves customers and specifiers time, provides instant access to results and ensures that the right product is chosen for the intended application.

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Birkdale launches new Urban Slatted Panel



Birkdale, one of the UK's leading manufacturers of gate and fencing accessories, has added the new Urban Slatted Composite Panel to its popular DuraPost® range. The panel mimics the appearance of timber and offers a modern and maintenance free option. Crucially, the new panel also means customers can now purchase everything they need to complete a fencing installation from the DuraPost® range. The Urban Slatted Composite Panel achieves the ideal balance between the beauty and character of timber and the high performance of a modern, composite system.

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Defence by design

Planned legislation will make safety installations mandatory for entertainment venues, but Mark Stone from Securiscape says architects working on projects in all sectors should take a leaf from its book

The cost of living crisis and pandemic may have dominated the headlines in recent months, but the Government's ongoing efforts to protect the population from physical harm from terrorists and extremists have continued in the background.

Unsurprisingly, much of the thinking has concerned the ways in which the built environment can be designed to protect members of the public going about their daily lives. This is not a new concept, but there is new impetus thanks to the planned introduction of Protect Duty, the new legal requirement that aims to make entertainment venue owners and event organisers responsible for keeping people safe from terrorist attacks.

This is being introduced in the wake of the Manchester Arena bombings in 2017 and was formerly referred to as Martyn's Law. Martyn Murray was one of those who died, and whose mother has campaigned for greater protection for concert-goers.

The new law acknowledges that – unlike some sports grounds or on public transport – there has been no requirement to take steps to prevent similar incidents to that which happened at Manchester, or the terror incident at the Berlin Christmas market in 2016. These would include installing security measures such as HVM (hostile vehicle mitigation) barriers, having an action plan or giving specific training.

It's hoped this will make people safer when they attend a pop concert, Christmas market or outdoor festival. It reflects a wider movement that is taking place whereby a growing number of organisations, including property owners, local councils, insurers and local counter-terrorism officers, are already mindful of the need to consider the same HVM measures for all manner of buildings and developments.

Not only that, but they are being encouraged to consider such measures at the planning stage rather than, as is often the case, when a development project is nearing completion and, in some instances,

getting close to being handed over.

Installing safety devices is not impossible at this stage but it is far from ideal. For a start, retrofitting products and digging up freshly-laid paving is more expensive than installing the features during the hard landscaping in the first place, and this can be problematic if underground services are present just where a defensive installation needs to go.

And then there is the effect on the look of the scheme. Many times we have been called in and an architect's beautifully conceived scheme has been altered because a row of bollards or concrete barriers have had to be added at the last minute to ensure safety.

Solutions

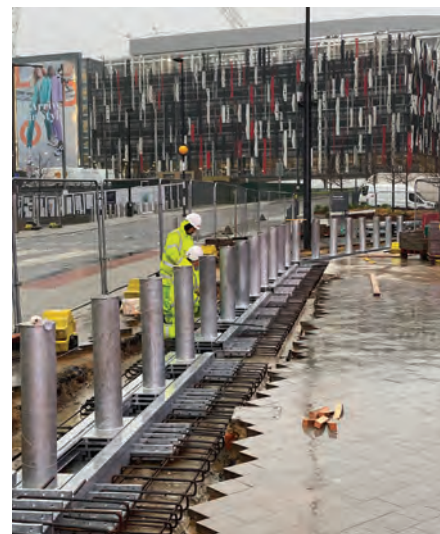
The good news is that our industry is extremely flexible and, in my view, is one of the most innovative industries at work in the UK today in this area. This is because of the way in which it has found solutions that are able to offer the desired amount of performance without turning a public space into a fortress.

There is always the need to balance cost with aesthetics, of course, and bollards will always be popular, but many products are available that, properly installed, will offer a defensive capability without sticking out like a sore thumb.

This is where being able to plan early comes in handy. Road layouts designed to slow traffic and prevent a vehicle from getting up speed, low walls and strategically planted sculptures can all offer an easy, cheap and inconspicuous defence mechanism to foil an attack.

Then there is specially designed street furniture which blends form and function with protection. Bike stands, seats and street planters, all of which should be crash-tested to the PAS 68/IWA 14 standard, can be used to create a 'ring of steel,' as long as they are placed in such a way that a vehicle cannot simply weave around them.

They don't have to be concrete either: high-tech lightweight products which



Part of the recommendation of the Protect Duty legislation is that architects should undertake a threats, vulnerabilities and risk assessment (TVRA) approach to identify risk





Low walls and strategically planted sculptures can all offer an easy, cheap and inconspicuous defence mechanism to foil an attack

harness the laws of physics rather than simple bulk and weight are available in a range of finishes, including brushed steel, decorative concrete and patinated brass.

While a row of hastily installed bollards can detract from a design scheme, they can alternatively be supplied in a range of finishes, including heritage designs sympathetic to conservation areas.

Some also have the extra bonus of being movable – either manually or via a power source – so that a row of bollards can do the job of an arm or gate barrier, meaning that vehicles can be prevented from gaining access but pedestrians or cyclists can pass straight through.

All of these innovations are the result of many years' development, often thanks to architects, counter-terrorism security advisers (CTSAs) or representatives from

the Centre for the Protection of National Infrastructure (CPNI) requesting new solutions to specific challenges.

Part of the recommendation of the Protect Duty legislation is that architects should undertake a threats, vulnerabilities and risk assessment (TVRA) approach to identify risk, with experts able to advise them on the specification, supply, installation, deployment and servicing of HVM equipment, and we believe that this should be standard across all industries and developments.

Incidents of people using vehicles as weapons are thankfully rare, but vehicles still pose a threat through drink-driving, accidents, ram-raiding thieves and protesters aiming to use damaging property to make a statement.

There is never anything more important than safety and during its consultation period Protect Duty received widespread approval, but if HVM is to work – and to spread beyond the entertainment and hospitality sector – then incorporating it into schemes as early as possible will work best for everybody involved.


Mark Stone is managing director at Securiscape



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'Protect Duty' report from Heald



With the security industry preparing for the pending 'Protect Duty' legislation to come into action, a new report by security manufacturer Heald Ltd based on Freedom of Information requests sent to over 420 UK councils' reveals current and assigned spending ahead of the upcoming legislation. According to Heald's insights, only seven UK councils have currently spent or assigned budget to implement measures ahead of the 'Protect Duty' coming into action. Please visit the website to read the report.

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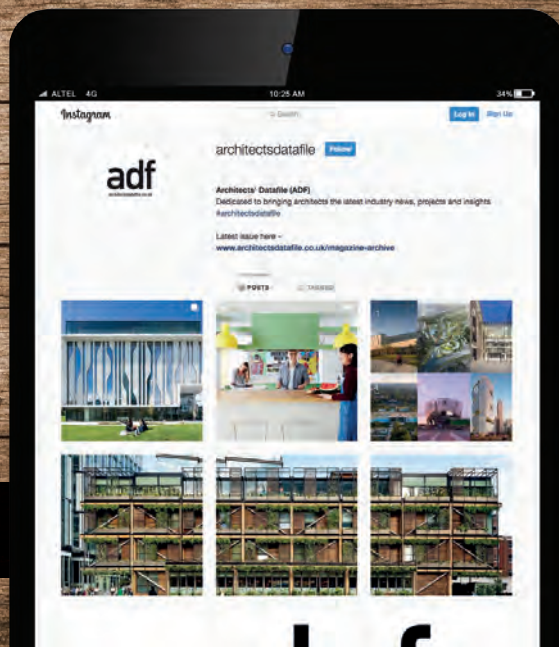
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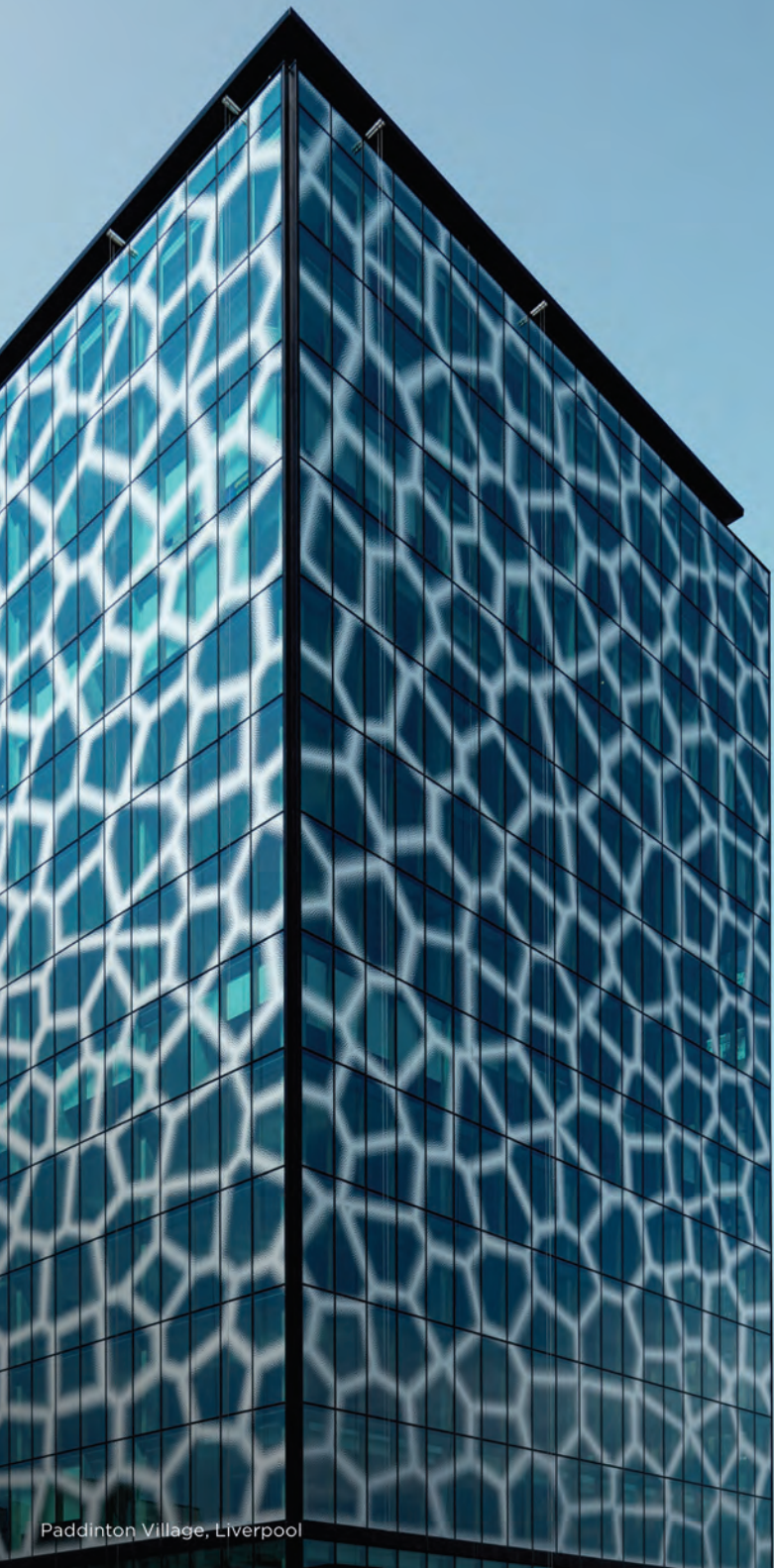
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