The RIBA Journal February 2025 Vol 132 Issue 02

MacEwen Award 2025
Our crop of community-building projects

Tackling fee undercutting

Spec: doors and windows

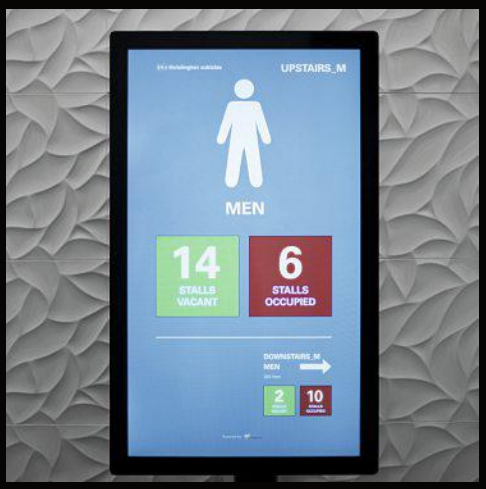
Stonemason Pierre Bidaud

The RIBA Journal
February 2025
£15/€30/US$35

ribaj.com

thrislington cubicles

uk +44 1244 520 677 sales@thrislingtoncubicles.com
usa +1 833 878-4747 usprojects@thrislingtoncubicles.com
dubai: +971 4387 1357 mideast@thrislingtoncubicles.com



think smart

We love to design products that last, with an eye on the future, such as our new Smart washroom cubicle.

Smart elevates the washroom experience for building users and provides real-time occupancy data to building owners, offering potential cost savings and increased public safety.

Please call us at our office local to you, as per details at the top of the page, to see how our washroom expertise can help you.

Scan to watch a video of Smart in action
www.thrislingtoncubicles.com/smart

1 Buildings

JIM STEPHENSON

On the cover
Nyth, Bangor, by Manalo & White, highly commended for this year's MacEwen Award. Photo by Kristina Banholzer

2 Intelligence

ALLIES AND MORRISON

3 Culture

PIERRE BIDAUD FOR STONEMASONRY COMPANY

'My delight at being selected as a competition winner very rapidly turned to fear'
Patrick McEvoy on the life and death of his competition-winning dachshund memorial
ribaj.com/competition-with-dog

MIX Paper from responsible sources FSC® C017177
WORLD LAND TRUST™ www.carbonbalancedpaper.com CBP016762
abc Average issue circulation 24,034 ABC audited June 2024
RIBA

Architecture at its best – making a difference to society. Give us your take on the MacEwen Awards

The depth of board to achieve an R-value of 6.250m²K/W – rounded up to the nearest standard depth.

The world's thinnest inverted roof insulation just got thinner.

U-value chart

Depth of insulation required

U-value req. W/m²K	Quantum® (mm)	Extruded (mm)	Expanded (mm)
0.15	60	220	235
0.14	70	230	255
0.13	70	250	275
0.12	75	270	295
0.11	80	290	320
0.10	100	320	355

Sample range of U-values based upon a typical roof terrace construction with a 200mm concrete substrate and product Lambda value as noted.

ProTherm Quantum® PLUS+

- BBA Agrément Certified 20/5769.
- Satisfies NHBC requirements Chapter 7.1, flat roofs & balconies.
- Robust coating. Patent protected.
- Can be used within a system that meets Broof(t4) fire requirements of Building Regulations Part B.
- Suitable for zero falls under hard or soft landscaping.

Radmat® building products

www.prothermquantum.com

Tel: 01858 410 372 • Email: quantum@radmat.com

BBA APPROVAL INSPECTION TESTING CERTIFICATION CERTIFICATE 20/5769

Bracken House, FT Building, London.
Due to the proximity to St. Paul's Cathedral, there was limited height available for insulation on this extensive refurbishment. To meet the required 0.18W/m²K U-value within the existing 75mm insulation zone, **ProTherm Quantum PLUS⁺ Hybrid** was used with **ProTherm Quantum PLUS⁺ Pure** over the existing concrete plinths.

ProTherm Quantum®

Bespoke Rooflight Solutions

Project Architect: Henning Stummel

THE ROOFLIGHT CO. COTSWOLDS

01993 833 155
therooflightco.com

Certified B Corporation

1: Buildings

MacEwen award

MACEWEN AWARD 2025
ARCHITECTURE FOR THE COMMON GOOD
ribaj.com/macewen-awards

There's a strong argument that almost all architecture aspires to work for the common good, whether hospitals and housing or prisons and power stations, and often makes dramatic impacts on society in the process. So what is it that differentiates the projects that the MacEwen Award has been celebrating over its 10 years?

Almost invariably, the key component is a mutual willingness of architect and client to push at the edges of what a typology can be, what it can do. Whether it's a temporary structure on a village green or a new wing for a major institution, immediate briefs are fulfilled, often in pioneering ways, but the projects also spill over into communities, finding synergies and sympathies that multiply their value. In doing so, they evolve their typology while inspiring all of us.

Last year's winner – Hope Street, Southampton, designed by Snug Architects – is a great example, exploring better ways to assist and generate opportunities for women caught up in the justice system. You'll read about this year's winner in a few pages but it shares that passion, overcoming similar challenges around financing, planning and inertia to reimagine its sector and improve lives.

Looking through all the entries was this year's perspicacious jury: Kathy MacEwen, planner and daughter of Anni and Malcolm MacEwen, after whom this award is named; Robyn Poulson, associate at BDP London; Steve Wilkinson, associate at James Gorst Architects; and Mike Worthington, founding director of People Architects (previously a director at Snug).

Many thanks to them all and also to BDP, which has generously supported the award over many years. And, of course, to all this year's entrants, encompassing a gratifyingly diverse range of practices scattered across the country. ● **John Jervis**

FOTOHAUS

Below Severn View Park Care Home, Caldicot, by Pentan Architects, the winner of this year's MacEwen Award.

Ticket to ride

Halifax's new bus station, by Stephen George & Partners, is an unusually ambitious piece of civic infrastructure

Words: Chris Foges Photographs: Daniel Higham/Overvue

Follow a natural desire line through the old wool markets of Halifax and you are delivered precisely to an entrance of the Yorkshire town's new bus station, in one of three historic stone buildings integrated into the complex.

Approach along busy Market Street, and the process of arrival is equally intuitive and welcoming. A gentle slope descends to the main entrance below an angular portico; behind glass walls, a broad concourse drops gently away, filled with people waiting for their ride or simply choosing the station as a pleasant place to meet. The ease with which the station has settled into Halifax, and the air of calm within, belie complex problems solved to deliver an unusually ambitious piece of civic infrastructure by architect Stephen George & Partners (SGP) and engineer AECOM.

The smooth synthesis of several key principles in the design impressed MacEwen Award judges. 'It's a project with so many pluses: biodiversity, accessibility, heritage,' said juror Kathy MacEwen. 'It's an unusual but crucial investment by the council – public transport can have a huge impact and transformative power.'

The new terminus replaces one built in the 1980s – well-received at the time but with features that later proved problematic. Lightweight bus shelters were in long, serried strips, creating multiple risky crossing points, while the dispersed facility allowed antisocial behaviour in remote corners. Moreover, its layout produced a plethora of steps, kerbs and other obstacles.

'In public transport there has been a strong shift to accessibility,' notes SGP partner Alistair Birch, a seasoned designer of bus stations, 'but the problem here is that Halifax is built on a hill.'

Porticoes denote the entrances.

1 Main entrance
2 Sion School entrance
3 North entrance
4 Concourse
5 Travel Centre
6 Staff
7 Retail
8 Café
9 Toilets
10 Changing Places bathroom
11 Drivers' room
12 Future development
13 Bike store
14 Café terrace

Top Triangular roof windows illuminate concourses meeting at the Travel Centre.

Consultation with local accessibility groups fed into initial concepts and detailed design

That topography is cleverly negotiated by a Y-shaped plan and a 1:28 sloping concourse that traverses the fall of the site, dropping 4m along the length of its two main arms. As all buses pull up to the largely glazed facades below a sheltering roof canopy, it's only at the tertiary northern entrance that passengers might cross a roadway.

The needs of visually impaired and deaf passengers were considered alongside those with limited mobility, for instance in the clear marking of exits in a poured resin floor. Consultation with local accessibility groups fed into initial concepts and detailed design. 'We felt that was important and the client embraced it,' says Birch. One result was the inclusion of the town's only Changing Places bathroom, for use by any severely disabled person. Those groups were also given pre-opening tours in order to spread the word through the community.

Sustainability was another central concern. Most striking is the biodiverse green roof, which helps to attenuate rainwater run-off – a notable plus in a

bus station where swathes of asphalt are unavoidable.

Some smart thinking increased the environmental benefits further: a light sedum mat covers the canopies that cantilever 5m over bus stands, and is counterweighted by a heavier wildflower meadow on the main concourse roof, reducing the amount of steel required. Viewed from high ground, the stepped, verdant roofscape blends happily with wooded hills beyond the town.

Equal care was taken to tie the building to its architectural context. Slabs of sandstone lend warmth and weight to facades. Inside, this is echoed in a durable wainscotting of porcelain tile. Where the main concourse meets the 19th-century Sion School – a former chapel and Sunday school, now a grand second entrance and staff rooms – a glazed collar discreetly articulates the junction of old and new. Two other listed buildings on site have also been subtly revamped and given ancillary uses.

Walking around the bus station with Birch, I hear of many challenges, such as the cost-driven switch from structural timber to steel. There was also the anticipated discovery of human remains, and a bus operator's unexpected purchase of vehicles with doors in the wrong place, requiring rapid redesign of bus stands. The greatest puzzle, he says, was how to allow continued operation of the station throughout construction.

The new structure adjoins the former Sion School, now a station entrance.

Credits
Client West Yorkshire Combined Authority
Client partner Calderdale Council
Lead designer Stephen George & Partners
Lead contractor Wilmott Dixon Construction
Pre-construction engineer and post-contract project manager AECOM

IN NUMBERS

£16.7m
Contract cost

1,860m²
GIFA

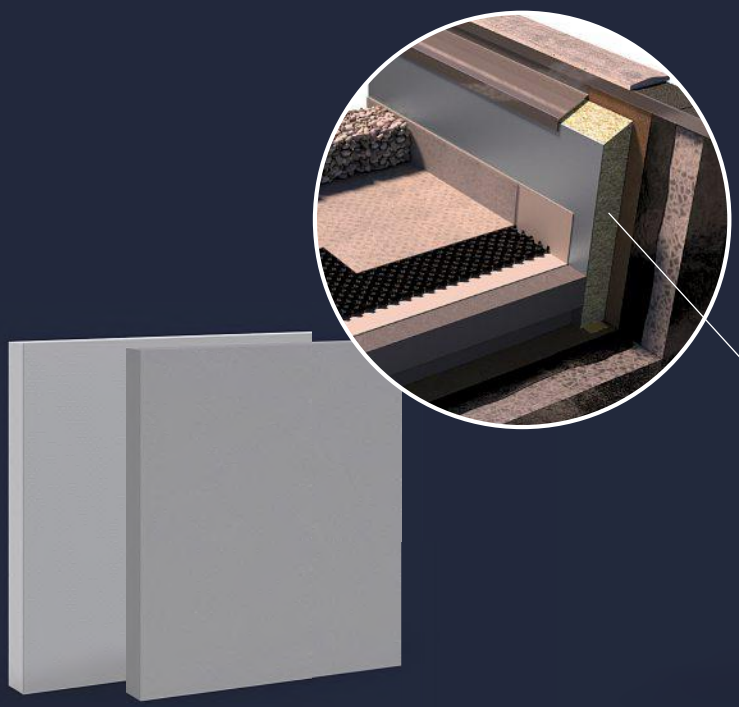
800
Daily bus movements

Solutions show the intelligence that characterises the scheme as a whole. The ticket and information office in the centre of the building provides a point of orientation and easy surveillance of the whole concourse. Bins and bike stores are tucked neatly into the cleft of the Y, below an open-air café terrace. The café itself has been deliberately oriented into the terminus, promising better custom than its outward-facing predecessor.

User feedback is being collected but, anecdotally, the new station has gone down well. On a Monday lunchtime, the place hums with activity. 'It's a lot more secure, more comfortable – much nicer,' says one member of staff. The mayor and local MP have trumpeted its contribution to the town centre – both architecturally and economically, as the bus station reinvigorates the high street. For 15,000 daily passengers, travel has been much improved but the benefits of good design will be felt far beyond.

Below For safety and security reasons, sliding glass doors only open when a bus is present.

Below right Landscape works around the station include planting and the closure of one road.



Approved Document B: **RockFace A2** Certified for use in buildings 18m and above

EPS & XPS CORE ✖

ROCKFACE A2 ✔

NON-COMBUSTIBLE UPSTAND BOARD

- Meets the latest requirements of The Building Regulations 2010, Fire safety Approved Document B.
- Suitable for insulating the external face of compartment walls in flat roof systems.
- Meets the thermal and fire performance requirements for balconies on relevant buildings.
- Will not develop smoke or promote flame spread when directly exposed to fire.
- Manufactured from stonewool with a factory laminated cementitious face.
- Fire tested; Euroclass A2-s1, d0 rating to BS EN13501-1:2108 certified by Exova Warrington.

NOW AVAILABLE CUT TO SIZE

RockFace A2™

Radmat® building products

For more product information visit:
www.radmat.com

A2 FIRE TESTED

Harella House: reviving a heritage building with energy-efficient glazing

Piercy & Company's transformation of a Clerkenwell textile factory into a modern workspace uses Cantiflix's innovative glazing to help drastically cut carbon emissions

Once a 1930s textile factory and warehouse, Harella House has been transformed into a modern workspace that achieves an impressive 47 per cent reduction in carbon emissions. This renovation, designed by Piercy & Company and delivered with BW: Workplace Experts, masterfully combines heritage preservation with energy efficiency, made possible with Cantifix's innovative glazing solutions.

The project faced a common challenge: how to retain the character of a historic building while meeting modern sustainability goals. Cantifix partnered with the architects to prove that older structures can indeed achieve contemporary energy standards. The result is a workspace where industrial heritage meets modern functionality, and where light, temperature and energy efficiency are seamlessly balanced.

Central to the renovation is Cantifix's use of SECCO's OS2-75 steel-framed windows, designed to achieve low U-values through the use of dummy transoms and spacer bars. These details are essential because they allow for the use of large glass panels, improving energy efficiency. Smaller glass sections, such as those found in traditional multi-pane windows, tend to have lower performance. For the front entrance, the SECCO EBE high-security range, automated with TORMAX pivot drives, provides both style and accessibility. On the lower ground floor, steel profiles in T and L shapes enhance the building's 'industrial chic' aesthetic, blending authenticity with modern design.

This Brooklyn loft-inspired workspace is more than just visually striking. The energy-efficient glazing plays a vital role in maintaining internal comfort while reducing environmental impact. The success of the project is reflected in its recognitions: a 2022 Dezeen Award long-listing for small workspace interiors and a Merit win in ARCHITECT's 2023 Architecture & Interiors Awards.

Harella House is a testament to the possibilities of blending heritage and innovation, offering a blueprint for future projects that aim to balance sustainability with timeless design.

cantifix

Below Industrial heritage meets modern sustainability at Harella.

Below right Reviving heritage with energy-efficient glazing solutions.

www.cantifix.com
For further information send us an email
info@cantifix.co.uk
or give us a call 020 8203 6203

Extra volume

Studio Weave's Lea Bridge Library Pavilion and Garden Studio in east London has given the library a broader community role

Words: Eleanor Young

Photographs: Jim Stephenson

Above The building steps up and over the tree roots at one end, naturally separating the linear space.

Right The external platform formed by the building's curve around a mature tree creates a new play space.

The way this library extension captured its next-door green space impressed the MacEwen judges. On a chill wintery day the plants are not the showstoppers, but trees do dominate the small park that Lea Bridge Library in east London looks out onto.

As babies are bounced on knees to a singalong in the extension, it is easy to see how the plentiful space, connection with nature and scalloped timber lining can allow parents, carers and babies themselves to breathe more deeply and happily.

'I applaud the council in their vision to transform the library and garden into playing a broader role in the community,' says judge Kathy MacEwen.

The original red brick Edwardian library building didn't connect with the run-down square of green behind it. A locked door and wall saw to that. Instead, it steadfastly maintained its civic duty facing onto the busy and rather weary Lea Bridge Road.

The pocket park wasn't such an asset either. Studio Weave's founding director Je Ahn wore his steel toe capped boots on his first visit to protect him from discarded needles.

urban | front®

#doorcouture

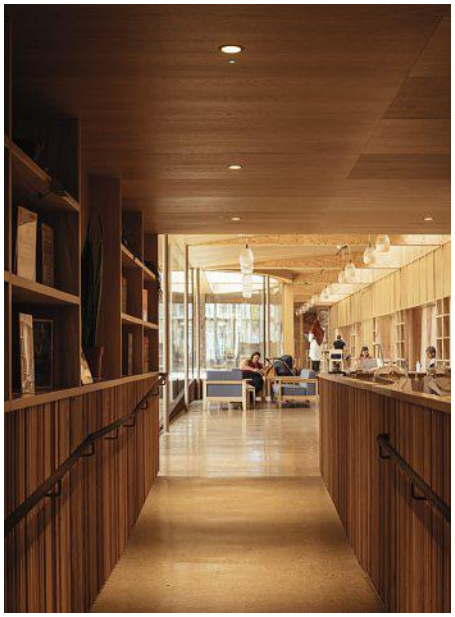
+44(0)1494 778787
info@urbanfront.co.uk
www.urbanfront.com

Section

The extension, which Ahn refers to as a 'lean-to', has breathed new life into a library that was more shut than open and had only 3,000 visits a month. That number is now up to 12,000, matched by longer opening hours and around 150 events each month. Yes, there has been investment, and with the new flats alongside the River Lea there are also more people living locally. But it is not simply those and space that have made a difference. It is also beauty.

The budget, including £411,000 from the Greater London Authority's Good Growth Fund and £600,000 from local developers, didn't look like it would allow for any beautiful flourishes; in fact they seem to have arrived serenely from the very restrictions of the site. By borrowing the cloak (and structure) of the party wall, the building saves as much as 30 per cent of the potential cladding needed. It also sets up a strong relationship with the garden, which has been reworked and replanted. By working around –

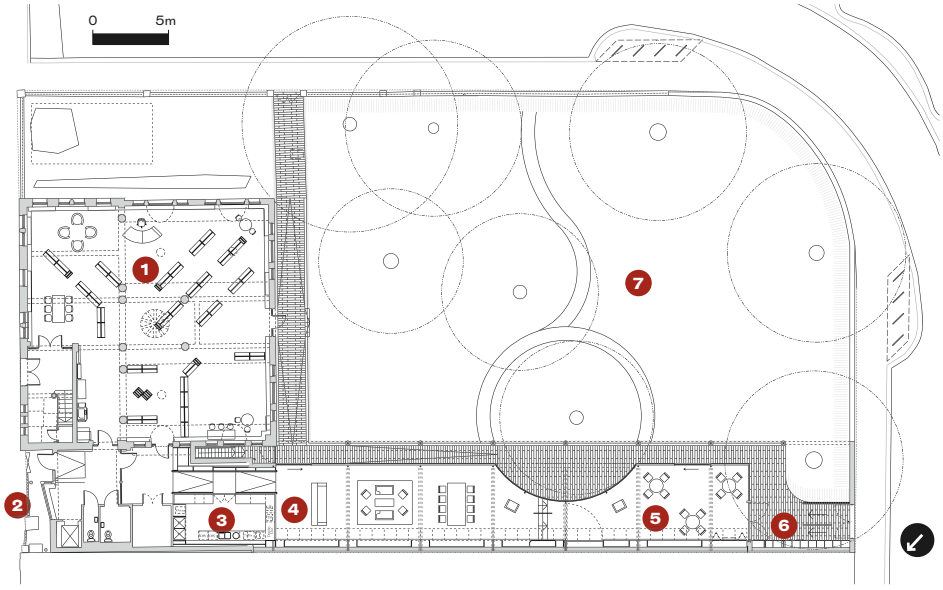
Below The ramp alongside the kitchen is enlivened by shelving.



Right Stories and rhymes for babies is a regular event.

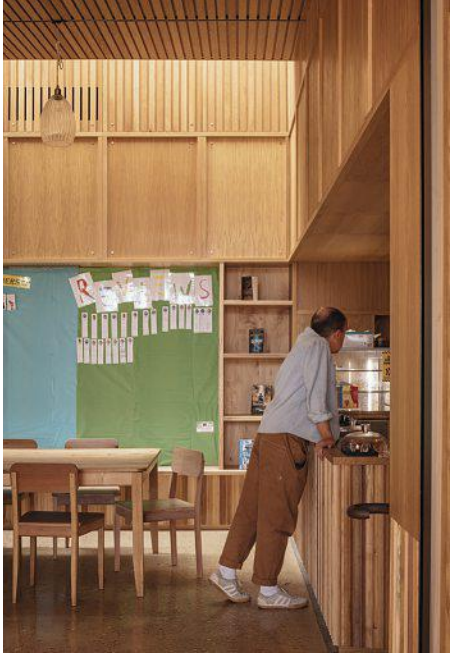
Ground floor plan

1 Existing library
2 Existing street entrance
3 Kitchen
4 Café and event space
5 Separable event space
6 Alternative event space exit
7 Garden



IN NUMBERS

234m²
GIA



'pinching in', says Ahn – and 'stepping up' over tree roots with lightweight foundations, the design saved money on extensive ground works. Accommodating the trees also created the curves and modulations that, inside and out, give this building great character and lightness.

Inside, an exploration of waste from trees felled in public streets and parks has diverted 25m^3 of timber from a short life as woodchips to a warm interior. Working with skilled joinery subcontractor Sebastian Cox and a router, a series of slim scalloped timber profiles of many timbers – from London plane to sequoia and Turkey oak – came to line the walls, giving it an unexpected sense of quality for a modern local authority library. This matches the chairs, sofas, tables and banquettes, also made from these London trees.

In this space with its curves, nooks and shelves, with quieter and noisier tables, events can be hosted, coffees and lunches savoured, yoga lessons run and kids coached for exams by their dads. I sat with other laptop users, enjoying the view, the timber details and the general hubbub on a winter afternoon as parents stayed on with young children to eat lunch and people met to share a coffee. Rooflights bring in extra light and allow natural ventilation.

A series of slim scalloped timber profiles gives an unexpected sense of quality

Above The spaces are beautifully top-lit.

Bottom left Doors at the far end of the pavilion allow events to be run autonomously to the rest of the building.

Bottom right A colonnade runs the length of the pavilion.

Credits
Architect and landscape architect Studio Weave
Client London Borough of Waltham Forest
Fitted joinery and furniture Sebastian Cox
Structural engineer Timberwright
Services engineer and surveyor NPS London
Horticulture Tom Massey Studio

Alpa Depani, head of strategic planning and design at the London Borough of Waltham Forest, which commissioned the project, is clear about its achievements and benefits. 'The Lea Bridge Library extension is a warm and generous addition that responds with care to both the existing historic building and the garden with its mature trees,' she says. 'It embeds sustainable principles and has been transformative in terms of opening up the possibilities for community life and activity, as proved by its popularity with a range of our residents.'

The once-unloved piece of parkland bounded by the library buildings, old and new, has been an important focus of the project's second phase. The monoculture of muddy grass has been replaced with curving beds of climate-resilient planting with the emphasis on edibles – think herbs rather than tomatoes – assisted by landscape designer Tom Massey. But equally important are the groups helping to maintain it, building a culture of involvement, creativity and community alongside the activities of the building.

'This project drew me in,' said judge Mike Worthington. 'It is certainly beautiful but also shows how libraries can adapt to remain as a centre for community interaction.'

Ideas and planning service for architects

Find a lot more inside.
For outside.

markilux designer awnings “Made in Germany”.
With markilux project you gain access to an exclusive service taking you from the initial idea to the completion of the project.
Discover your possibilities at **markilux-project.com**

More Info?

german brand award 24 winner | Brand

The Major Brands in Germany 2023

markilux most innovative brand 2017

DESIGN AWARD 2024

reddot winner 2024 | e.g. markilux pergola style

markilux
The best under the sun

Virtuous circle

Revoe Public Square has been co-conceived, designed and constructed by Blackpool residents

Words: Flo Armitage-Hookes Photographs: Ecaterina Stefanescu

Revoe Public Square is a place for meeting, chatting, playing and hosting events.

'Apart from the tower, there's nothing touristy about this part of Blackpool,' explains Lee Ivett, who runs University of Central Lancashire's live-action studio Other People's Dreams. Although the iconic tower peeks over rooftops in the Revoe neighbourhood, the leisure industry and seafront are a world away. The area faces significant deprivation, has few green spaces and is home to a range of disparate communities.

Until recently, a fenced-off wasteland lined the high street, following demolition in 2020 of the George Hotel pub – 'a rough but loved establishment'. Pressure to transform and open up the space was growing. Today, a new temporary public square on the site, co-conceived, designed and constructed by residents, is fostering collaboration, agency and hopes for the future.

A 30m² circular platform is the eye-catching centrepiece. Octagonal and square tiles of decking boards and bespoke concrete terrazzo form a patchwork surface which sits on a raised timber frame. A round cut-out creates a perch for sitting while a wooden ramp provides access from existing paving. Up close, you can trace patterns of broken bottles, shells and flecks of demolition debris in the coloured concrete. Pinks and burgundy echo the red brick of the lost pub, while blues and yellows evoke the nearby sea and sand. It's a bit scraggly in places, but charming and well used. It's already hosted a circus-skills workshop, choir, café, poetry

1 High street
2 Platform
3 Houses
4 Playground
5 Community centre
6 Revoelution

DONNA HANNIGAN

Kids enjoyed a circus skills workshop on the platform during Revoe Fun Day last August.

DONNA HANNIGAN

readings and the National Gallery's Art Road Trip. Day to day, it's a place for meeting people, chatting and playing. I'm told that the ramp is used as a bike track and fashion runway by kids.

The project is a collaboration between Other People's Dreams, resident-led group Revoelution and socially engaged arts practice LeftCoast. On my visit, I'm met by members from all three groups despite the bitter cold. Our conversation is peppered with waves from locals, nods at passers-by and people joining the group. There's clearly warmth and familiarity between stakeholders here and I'm surprised to learn that the public engagement rate is as low as 10 per cent at nearby community projects.

However, Ivett and Ecaterina Stefanescu of Other People's Dreams have certainly been doing things differently. Their approach blurs the distinction between designer and client and predetermines very little. During meetings, their role was to stimulate discussion, step back and later explain the implications of ideas. Local Joyce Folkett remembers her initial scepticism. 'We thought, oh yeah we'll get an architect and they'll come up with some dopey ideas … but instead he just sat in a corner and listened to people.'

Below Although Blackpool Tower is visible from Revoe, it's a world away.

Credits
Client Revoelution
Client and neighbourhood producer LeftCoast
Technical team University of Central Lancashire
Design team and fabrication Other People's Dreams (Grenfell-Baines Institute of Architecture), University of Central Lancashire

There's no masterplan, each design decision is incremental and, once realised, informs the next. 'We do a bit, we stand back, we see how it goes, then we do a bit more, stand back and see how that goes,' explains Ivett. Action is encouraged over inertia, experimenting over speculating. Yet each small step can quickly respond to suggestions or issues raised by residents. The scheme is ambitious but firmly rooted in what locals want from it and the realities of ongoing occupation.

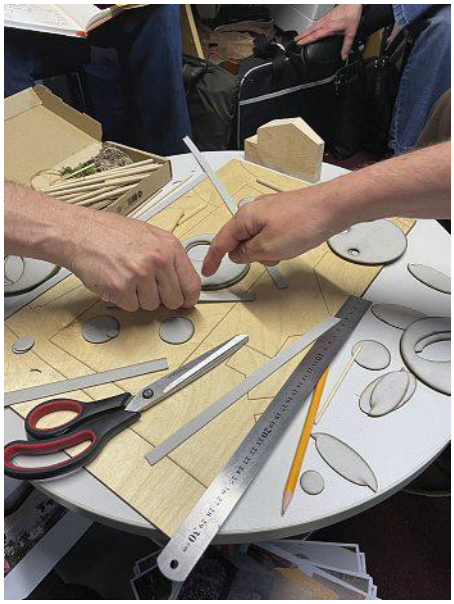
Next to the platform, a wooden market stall is being tested, designed to be easily slotted together, taken down

'We do a bit, we stand back, we see how it goes, then we do a bit more, stand back and see how that goes'

and stored. If it works and the markets are well attended, the elements will be cast in metal for longevity. If it doesn't work, the wood will be used somewhere else in the project. There's a refreshing practicality to it all.

When it's too cold to keep huddling on the platform, we retreat inside to Revoelution's base, which borders the site. Palms clasping cuppas, the group chats animatedly about making the concrete terrazzo blocks. Residents were stirring, pouring, grinding and polishing over the course of a month in the back garden. Revoelution's Simon Lawton fondly recalls how people crowded around buckets, advising 'put a bit more red in!' However, Stefanescu emphasises that the activities didn't rely

'It's important that people meet each other for the first time during a positive activity, not a negative one'



Right The design emerged through interactive workshops and experimentation.

JAMES WALMSLEY

Below A pop-up art studio occupied the site during the National Gallery's Art Road Trip.

on language and that new skills were shared by showing and doing, enabling asylum seekers, the local Romanian community and other non-English speakers to participate. 'It's important that people meet each other for the first time during a positive activity, not a negative one,' she says.

Although wonderfully DIY, the method drew on expertise from technicians at the University of Central Lancashire. Ivett would ferry back concrete samples each week for discussion in Revoe. The terrazzo is sturdy, durable and lends pockets of grandeur to the platform. The project straddles both art programming and architecture, delivering value through process and a built, usable outcome.

Since these photographs were taken, a large circular planter has been added to the front of the site and there are plans for further additions. 'It will continue to evolve … and try to creep towards permanency,' asserts Ivett. The temporary nature of the project has been liberating, allowing for experimentation and tempering initial trepidation. Although there's not a set end date for the scheme, the land is owned privately and all structures need to be easily dismantlable. However, LeftCoast's artistic director Laura Jamieson is adamant that the work, knowledge and relationship-building achieved will not be lost and should directly inform upcoming regeneration plans. 'This is the underground knowledge that they simply don't have,' she says.

The public square – or circle – has compellingly shown the need for civic spaces in the area and their generative potential. It achieves well beyond its meagre budget, increasing the capacity of existing community spaces, bringing together different groups, providing agency in the public realm and hopefully sparking future projects. The site has not encouraged antisocial behaviour as some feared, nor has it been vandalised. It has been created by and for the users rather than by a well-wishing external entity. Other People's Dreams, Revoelution and LeftCoast are working in ways that are woefully rare and there is much to be learnt from them.

The judges were particularly impressed by the space's informal possibilities. 'It's always open, visible and public,' said Steve Wilkinson. 'It can be active even in passive ways.'

Robyn Poulson concurred. 'It feels embedded in the place and can be used for performances, gathering, playing or sitting,' she said. 'It's a catalyst for further activities and creation.'

Right Demolition debris flecks the terrazzo panels.

Above left to right Residents got stuck in making the concrete terrazzo.

Colours were chosen to echo the sand, sea and George Hotel pub.

The construction process connected communities without the need for language.

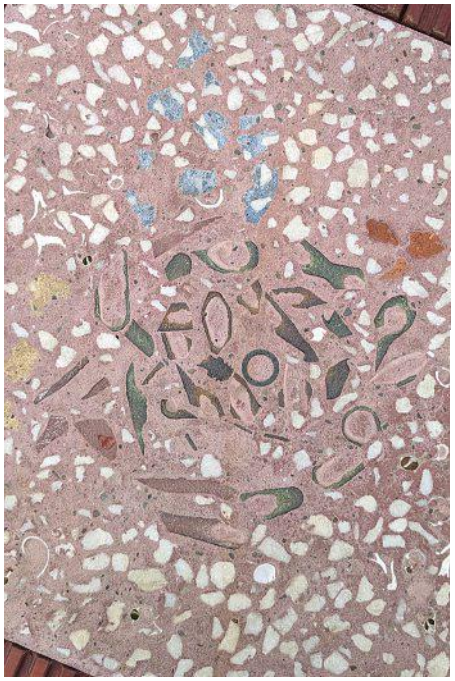
IN NUMBERS

£18,000
contract cost

30m²
circular platform

19
bespoke terrazzo panels

20+
local volunteers



FLO ARMITAGE-HOOKES

Dramatic incubator

Manalo & White has converted a Bangor church into Nyth, a new home for Welsh language theatre company Frân Wen

Words: Jan-Carlos Kucharek Photographs: Kristina Banholzer

Below A new entrance area, green room, cellar workshop and mezzanine have transformed the church.

Right The green room beneath the nave of the church is one of the flexible new spaces created.

MANALO & WHITE

Half-lost in the driving rain, Bangor University's Arts Building still cuts an imposing figure from its hill. Designed by Henry Hare, its library, hall and squat tower of dark Cefn stone are blurrily framed against the backdrop of the Menai Strait and the Irish Sea's insinuated broadness beyond.

The road to Frân Wen, a Welsh language theatre company, runs along the foot of its escarpment, the long, austere face of the Collegiate Tudor building glaring down before the taxi turns east down a narrow lane to finally meet the brightly lit west window of the former St Mary's Church, now Frân Wen's Nyth building. You'd expect its rubble walls to be running below supporting this expanse of 19th-century stained glass. Instead, a proscenium arch of steel and cut stone not only creates a bright, welcoming, glazed entrance but intimates the nature of its new iteration. A supersize letter fills each of four full-height glazed panels, boldly evident as the driver pulls up. 'Never been down this road – what is it?' he asks curiously. 'It's the home of a Welsh theatre company,' I reply. 'I see,' he says. 'Nyth – that's a nice name for it,' he says. 'It means nest.'

Frân Wen creative director Gethin Evans and executive director Nia Jones are sitting in a cosy and warm but currently quiet kitchen area, as I recount this interaction. 'Taxi drivers have turned out to be a curious way for getting our message out to the community,' says Evans. 'During our Olion production – let's call it a Welsh Punch Drunk, set across the whole of Bangor – actors and creatives were turning up in cabs for rehearsals and it felt like there was suddenly a growing understanding of what we do here.'

What it isn't, he stresses, is just a theatre. 'I describe this place as a lab where communities and artists can try stuff, using theatre as a way to explore, experiment and discover, and via that process, to make work. When it's ready, off they go out of this building to their schools, localities or the touring network.'

Nyth has been designed by architecture practice Manalo & White, well-seasoned in low-budget arts projects, and it feels as though, from the outset, Frân Wen sought to embed itself in its community's social history.

Putting on a production the size and ambition of Olion didn't just appear like the rain. Jones explains that Frân Wen 'was started in 1984 by five actors as a Welsh-language theatre and education company, liaising with local schools to put on plays, albeit in a "didactic" way'. But steady growth saw it become a charity in 1995, helped by a handy but ill-suited Anglesey base. Soon, it would come to the attention of Arts

Above The new mezzanine space creates added dramatic potential for the space.

Below Secondary glazing to stained glass windows delicately blurs the original religious iconography.

Council Wales, which, says Jones, 'was keen to encourage more creativity and interaction and enable it to do its own shows as well as schools' outreach'. As she summarises their 2018 drive to secure more funding on the back of its own £600,000 pot, it becomes clear to me how pivotal Jones was in making the case for the investment that would allow Frân Wen to turbocharge its social mission.

An initial £1.8 million Arts Council Wales grant was augmented by the Welsh government's Transforming Towns drive, with more funding from the Heritage Lottery Fund among others and just over half a million pounds became nearly £5 million. Well before this was secured, the aim was that the charity should regenerate a building in this small but culturally significant university city. HP Horner's Grade II-listed Gothic church had been abandoned since 2014 but, along with its church yard, was purchased in 2019 by the charity for £150,000. Since opening, Nyth has been a home for schools and local arts and support groups. But Evans points out that its social impact isn't just with community cohesion and upskilling kids, but with over 280 artist freelancers using it too 'as one of the key producers of professional theatre in Wales'.

Engaging with Manalo & White was, says Jones, 'hugely inspiring and productive'. Evans spent his first day in his role interviewing the shortlisted architects with her. What the project manager saw as Manalo & White's 'unorthodox' tender document, which he had to point out, only piqued the interest of a client used to unorthodox approaches of its own. 'Other presentations seemed a bit lazy by comparison,' recalls Evans. 'The work they showed us was curious and quirky, and we knew we wanted something playful and dynamic born out of a genuinely collaborative design process.'

The practice didn't disappoint. Cleared of its pews, the nave and side aisles of old church have been transformed into a single open rehearsal and performance space, the self same pews deconstructed and turned into timber wall linings for the space and low-level seat storage. A state-of-the-

Credits
Client Frân Wen
Architect Manalo & White
Structural engineer engineersHRW
M&E engineer Collaborate + Create
Quantity surveyor Pulse Consult
Project manager SP Projects
Main contractor Grosvenor Construction
Fire engineer Allwedd
Heritage consultant Dave Jump
Theatre consultant Plann
Access consultant Access Included
Landscape consultant Tirlun Barr
BREEAM consultant Encon Associates
Art and inclusivity co-ordinator The DisOrdinary Architecture Project
Artist Robin Edward

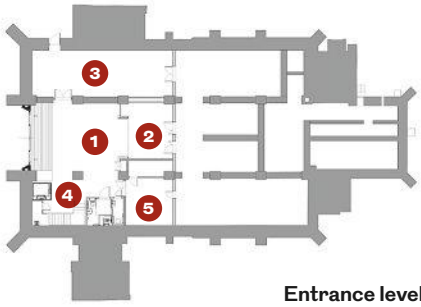
Above The triple-height entrance becomes a space for drama and engagement.

Below A very much needed equipment storage space leaves the main nave clear.

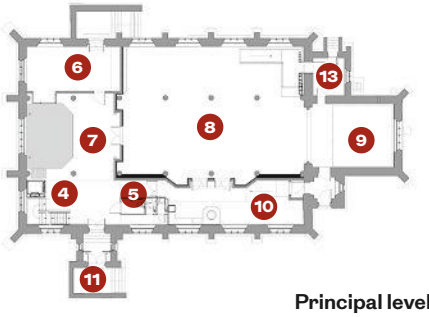
art adjustable lighting rig meanwhile, hangs (and slides!) from the trussed timber roof above a new timber sprung floor (aisle ceramic tiles have been reused elsewhere). Architect Takuya Oura agonised over acoustic wall lining panels, whose lovely scalloped form, inspired by removed organ pipes, optimised sound attenuation. Meanwhile, 'reverse' faces, cut from the same foam, line kitchen area walls, helping save on the contract sum. Dealing with equipment became a no-brainer. What was mooted to be a chancel workshop area was, due to difficult stepped level changes, turned into a storage space, separated from the nave by another one of the huge black curtains that elegantly compartmentalise the space.

Oura worked with theatre designer Plann on the complex labyrinth duct attenuation on mezzanine side walls for the passive heating and ventilation strategy. This, together with double-skin, fair-faced, locally sourced block walls and crafted steel secondary glazing, lets Frân Wen go big on sound without disturbing local residents.

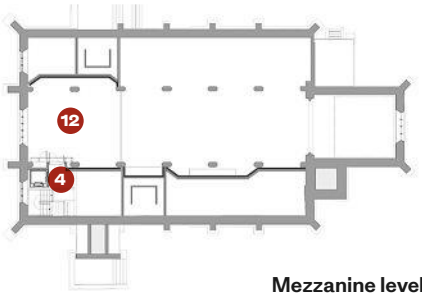
The biggest intervention, however, was the radical proposal to dig out and underpin below the west window, to create a double-height space that not only resolves the accessibility requirement in one move but unifies it with the former 'ground' level and existing, stepped south porch. Sizeable bi-parting doors beneath that steel and stone proscenium now lead into a large entrance with lift and meeting room/



Entrance level



Principal level



Mezzanine level

1 Entrance/reception
2 Green room
3 Cellar workshop
4 Lift
5 WCs
6 Office
7 Upper lobby
8 Nave perfomance space
9 Chancel storage area
10 Kitchen
11 Original south entrance
12 New mezzanine
13 Tech/IT room

IN NUMBERS

£2.97m
Construction cost

705m²
Total area

£4,213
Cost per m²

Carefully thought-out acoustics in the main nave allow for full productions without disturbing local residents.

‘It’s the most exciting space I’ve ever worked in given how it seems to enable everyone who uses it’

green room beyond; and, to the north, level access to the church’s old cellar, which, with its exposed rubble walls, has been converted into a new workshop space. In the entrance, a huge single pier of rubble stone marks the position of one of the church’s columns, above. Jones still recalls being aghast when she first saw huge diggers clawing away brutally at the ground below the window’s tracery, wondering if they had made a serious error. No one thinks that now; the connectivity and creative potential this realised has been transformational. Evans is convinced the dark, dungeon-like nature of the cellar space alone informs how actors choose to express themselves within it.

The MacEwen Award judges acknowledged this intellectual rigour when they chose to highly commend Nyth. ‘The architect struck a balance by confidently responding to the brief with an elegant intervention that doesn’t compete with the church architecture,’ said judge Mike Worthington, while Kathy MacEwen noted: ‘They seem to have truly worked with and listened to its young people to create a something special for them.’

Evans would like to add to that, describing his excitement catching the buzz in the kitchen area with all the different groups that might be might be in Nyth at any one time. ‘I’ve never been in a building like it,’ he says. ‘It’s the most exciting space I’ve ever worked in given how it seems to enable everyone who uses it. There’s nothing like it in Wales, and I know work produced here this year could not have been made without it. The artists and young people love it.’

MORGAN O’DONOVAN

Top right The kitchen space offers potential interactions between different user groups.

Right The new entrance creates space for drama and play both inside and out.

Creating timeless designs with artificial trees and foliage

FireSilx provides a practical high-quality alternative to natural trees and plants in your architectural design

FireSilx
FLAME RETARDANT FOLIAGE

Bringing natural trees and foliage into your architectural design can present challenges. From a construction perspective, you need to consider light, space, drainage and hydration. Even if you get those right, you still face the environmental impact of water consumption. The solution? High-quality, custom artificial trees and plants.

A brand you can trust

FireSilx has been manufacturing and supplying replica trees, flowers, and foliage for over 25 years. In that time, they've built a world-class reputation for premium-grade products with an incredibly realistic appearance.

Part of the TreeLocate family, they've long been the preferred supplier for interior designers, landscapers and architects globally, with their products specified by practices and organisations including Foster + Partners, Emaar, Four Seasons and Cracknell.

Their extensive range includes everything from small tabletop orchids to towering Majesty palms. They are used in leisure and hospitality venues, aviation hubs, commercial properties and retail spaces internationally.

Above Two custom replica olive trees were created and installed using FireSilx alongside foliage across six floors at Sharjah Research, Technology, and Innovation Park (SRTI Park), UAE.

To learn how you can use FireSilx in your next project, visit www.firesilx.com

Bespoke solutions

In addition to off-the-shelf products, FireSilx creates bespoke solutions to meet any specification. From Arboretum™ museum-grade trees to maintenance-free green walls, their skilled artisans have the expertise to bring your vision to life.

Fire safety first

Artificial trees come with their own set of challenges, with fire safety being a top concern. FireSilx incorporates IFR additives directly into the fabrics and raw materials during assembly, making them 100 per cent fire retardant right down to the core. This ensures every component is flame-retardant at a molecular level. In contrast, other fire-retardant options are post-sprayed or dipped. This makes the foliage sticky, gives unreliable coverage, and needs to be recoated annually. FireSilx's flame-retardant properties guarantee lifetime protection.

Meeting global safety standards

As fire codes and regulations vary internationally, FireSilx foliage has been certified to comply with even the strictest requirements, including BS EN 13501, DIN 4102 and many more.

Sense of familiarity

Severn View Park is a dementia care home that avoids an institutional feel in favour of providing a sense of familiarity and self-determination

Words: John Jervis Photographs: Fotohaus

Set amid an incipient housing estate outside Caldicot in Monmouthshire, Severn View Park Care Home consists of four low-lying villas enclosing a wide courtyard with a large gable-roofed hall at its centre. On approach, this assembly could be a farmyard, a yoga spa or perhaps a religious retreat. Coming closer, its high-grade brick, untreated timber and careful landscaping confirm an impressive level of ambition in form and aesthetic.

Each single-storey villa acts as an independent household for eight residents with dementia, fronted by its own small garden to act as an orientation point. Residents have an unusual freedom to roam around the planted courtyard, with its 'sensory' and 'activity' zones and a flock of chickens. Inside, this care is evident everywhere. A simple hall for hats and coats leads to a long space, roughly 25m by 6m, broken down into four smaller areas to provide intimacy while maintaining sightlines. At one end is an open household kitchen, then a large 'farmyard' dining table with a comfortable snug alongside if people want a calmer environment for meals, conversation or rest. At the centre, opposite the entrance, are colourful high-backed armchairs and a lifelike electric fire surrounded by open brickwork. Finally, there is a wallpapered lounge with seating, television and built-in shelving. The entire space feels homely,

Below The Barrow, a village hall at the centre of the courtyard, is a hub for both care home and community.

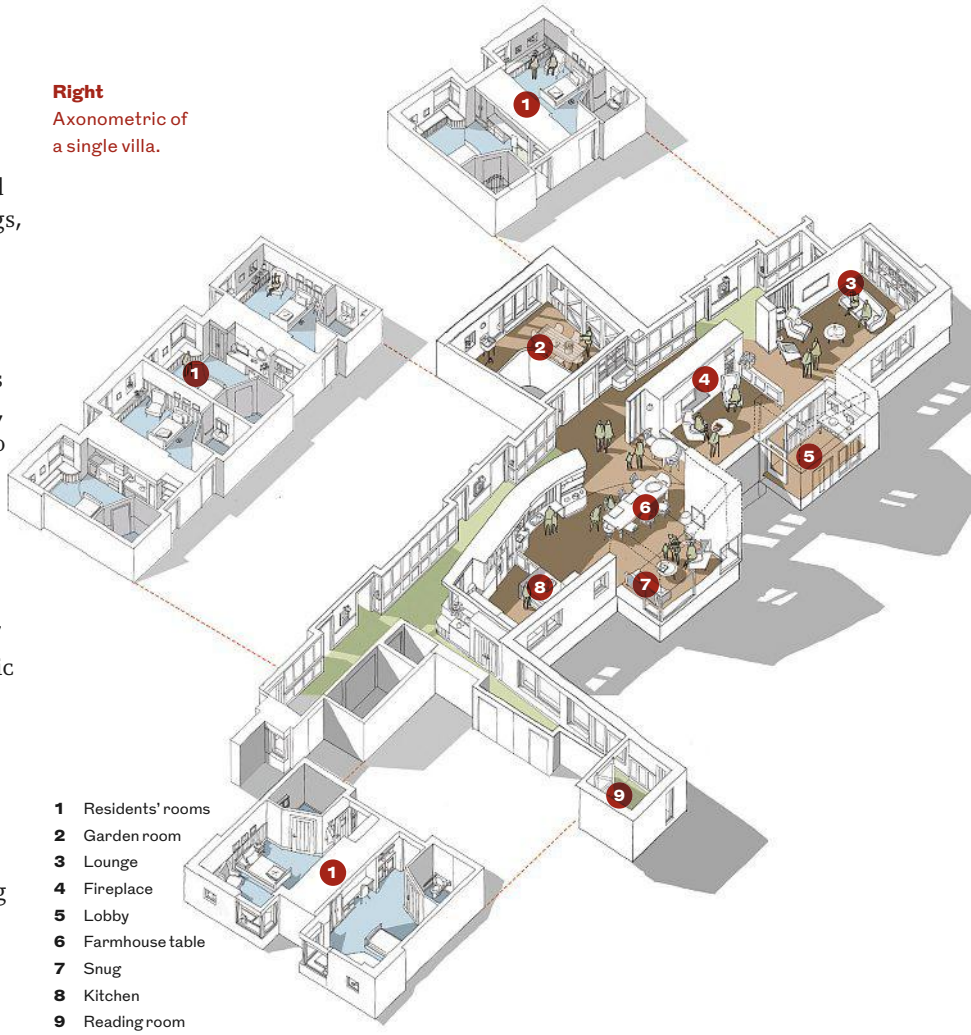
with a generous scattering of plants, ornaments and, when I visit, Christmas decorations.

The driving force behind the relocation and reimagining of the home's well-loved but outdated 1960s predecessor in Chepstow was Colin Richings, integrated service manager at Monmouthshire County Council. Throughout the seven-year process, his philosophy was consistent. 'It's all about trying to live well with dementia,' he says, 'and to achieve that you need the same ingredients you and I need: a sense of purpose, of involvement, occupation and attachment, a sense of comfort – to care back. And above all a sense of familiarity, an emotional resonance with the space.'

Pentan Architects has achieved this mix with sensitivity, invention and necessary pragmatism. The Cardiff-based practice has a strong record in the care sector, and responded closely to Richings' brief to produce an effective yet attractive domestic space. Enjoying the cheerful clutter that has built up since his last visit, associate director Dafydd Tanner says: 'We already knew what the private sector wanted but here we went back to square one.' Some of the resulting changes are small, others substantial, but all contribute to the desired familiarity, reducing distress for incoming residents and lessening the risk of isolation.

To this end, institutional qualities have been minimised in residents' rooms. The en-suite, storage and facilities are integrated and

Right
Axonometric of a single villa.



1 Residents' rooms
2 Garden room
3 Lounge
4 Fireplace
5 Lobby
6 Farmhouse table
7 Snug
8 Kitchen
9 Reading room

The courtyard garden promotes activity and provides sensory stimulation.

IN NUMBERS

c £8m
contract cost

c £3,400
cost per m^2

2,350m^2
GIA

13m^2
communal space per resident

316
PV panels

unobtrusive, while a tall L-shaped window provides generous natural light and views out to the large garden behind each villa. Beneath, a long window seat provides a social space, enhanced by carpeting and a lowered ceiling, which can be personalised with cushions, plants and personal items, creating the relaxed setting for conversation absent in so many such rooms. On a small note, the position of the bed has also been altered, with residents not immediately visible from the corridor. Richings explains: 'Safety is always key, and it's the watchword of relatives, but it's not necessarily the only benchmark of quality of life. There should be risk in everybody's life and that goes for people living with dementia too.'

A few other examples of care: the wide, gently curving bedroom corridor has a small sitting room at one end for private conversations or quiet reading, one of the villa's diversity of spaces giving residents the freedom to be who they want to be. Opposite the main entrance is the garden room, hosting art, craft and gardening classes, as well as family gatherings. This leads out to the main household garden with its beds, allotments and polytunnel, tended by residents, volunteers and a charity, Growing Space. At the other end of the corridor, the link to the adjoining villa contains staff rooms, storage and large laundries, keeping noisy services and utilitarian equipment out of the way.

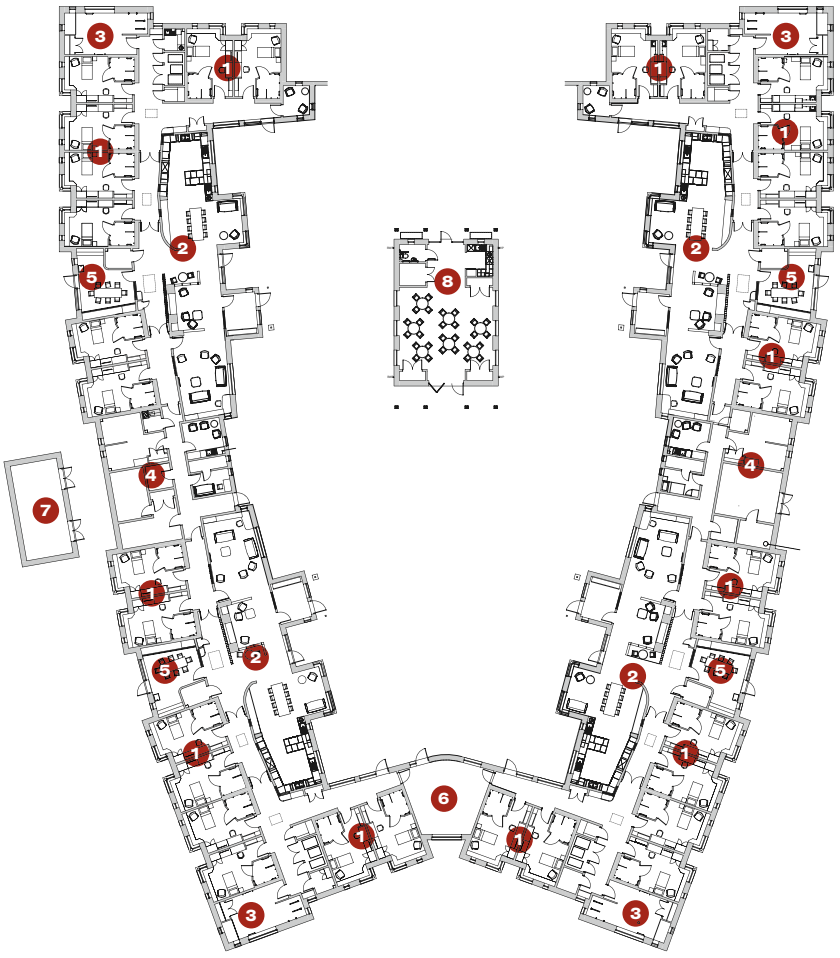
But there is an equally important change at Severn View Park, one that is fundamental to its philosophy and synergistic with its architecture. Rather than staff specialising in caregiving, domestic or kitchen roles, uniform-free 'household staff' now undertake all tasks, living as much as possible among the residents. This required buy-in from all employees, and the process was not without challenges, especially for those long

Above left Each villa is divided into a series of domestically scaled forms.

Above right Household gardens are being cultivated around the external perimeter.

Left The design focuses inward to the village hall.

Right Seating gives views of activity in the courtyard.



Floor plan

1 Residents' rooms
2 Living spaces
3 Assisted bathroom
4 Staff rooms, storage and services
5 Garden room
6 Cinema room
7 Plant
8 The Barrow

0 10m

established in roles with specific skill sets. By and large, the transition has been successful, with most appreciating the new variety, as well as the closer relationship with residents. Other outcomes include more social contact between staff, greater flexibility around rotas and holidays, and easier recruitment for these more rounded roles. It's an approach to staffing that mirrors the 'butterfly' model of dementia care with its more personal, family-like mindset. Its success is perhaps best seen is the kitchens. Usually inaccessible in such homes, here they become part of the communal space, bringing familiar sights, sounds and smells into daily life, with the farmyard table acting as a social centre. Deputy head of care Kim Wallace says: 'The staff sit down and eat lunch with residents at the tables – it's great to see them all together. They're used for craft and cooking too – everyone's been joining in, doing a lot for Christmas, making decorations, peeling carrots or mixing cakes. And when you start smelling the food, that makes a real difference.'

In our discussions, the MacEwen Award jury was particularly affected by this aspect, with Mike Worthington of People Architects saying: 'I'm really struck by the reframing of relationships between staff and residents living together. It's a home not an institution. It fills me with hope.'

Staff also made significant contributions during two years of consultation. For instance, a cinema room was inserted at the top of the courtyard to provide safe internal access to all villas, and now hosts film showings and exercise groups. More conspicuous is the Barrow, the hall at the centre of the courtyard, which is large enough to accommodate everyone for Sunday dinner. It also hosts numerous events and classes, all visible

Left Residents' rooms are personal rather than institutional.

Below A different pair of contrasting colours is employed in each household.

through its large windows, filling the entire home with vitality. It was only added when staff pointed out the lack of a gathering place in the original plans. 'I was just a bit obsessed by the household model, reducing the scale, keeping it domestic,' Richings admits. 'I hadn't sufficiently considered the need for all the residents to come together as one.'

The Barrow has proved key to achieving another ambition. Those from the surrounding estate are welcome to use it as a much-needed community space, holding parent-and-baby groups or craft fairs, so long as those in the home can be involved too. Wallace says: 'You see the residents dancing, sitting outside together in summer, listening to the brass band rehearse each week, enjoying local children coming to read to them.' Drawing on Irish practice, the intention is to make the home part of the local community, giving the latter a sense of ownership, an emotional attachment to its life and residents, forged through shared experiences.

Severn View Park survived design-and-build – and Covid – more or less intact, aided in part by the committed support of the Welsh government, which funded roughly 60 per cent of the total cost, viewing the home as a flagship for its integrated support and living programmes. Some low-hanging fruit did suffer – the Barrow's proposed 'crinkly tin cladding of a traditional village hall' was ousted for a Scandi-barn functionality. The contractor was responsible for the surrounding estate, hence the suburban entrance and reduced glazing, but became increasingly invested in the success of the project, a dedication since rewarded by industry praise.

As we leave, Tanner says with justifiable pride: 'I can't quite believe this was built.' And it may well be challenging to replicate Severn View Park in its entirety. Richings reflects: 'For us, it has been about demonstrating a different model. I don't think a private care-home provider is going to build a space like this but they can create different spaces so people can remain individuals in a group-living environment, and they can implement community integration, they can look at staffing – any of these make such a difference to wellbeing.'

There are difficult choices to be made around design models for dementia care homes, particularly as incidence increases. As someone with epilepsy, and thus a significantly higher chance of developing dementia, I may not be entirely objective, but it seems clear to me that the optimistic example of Severn View Park should now be adopted as the yardstick for dementia care in this country.

Above left The farmhouse tables have become lively focal points in each household.

Above right L-shaped windows offer unobstructed garden views and create social spaces.

Below left Garden rooms for craft and horticulture lead to dedicated gardens.

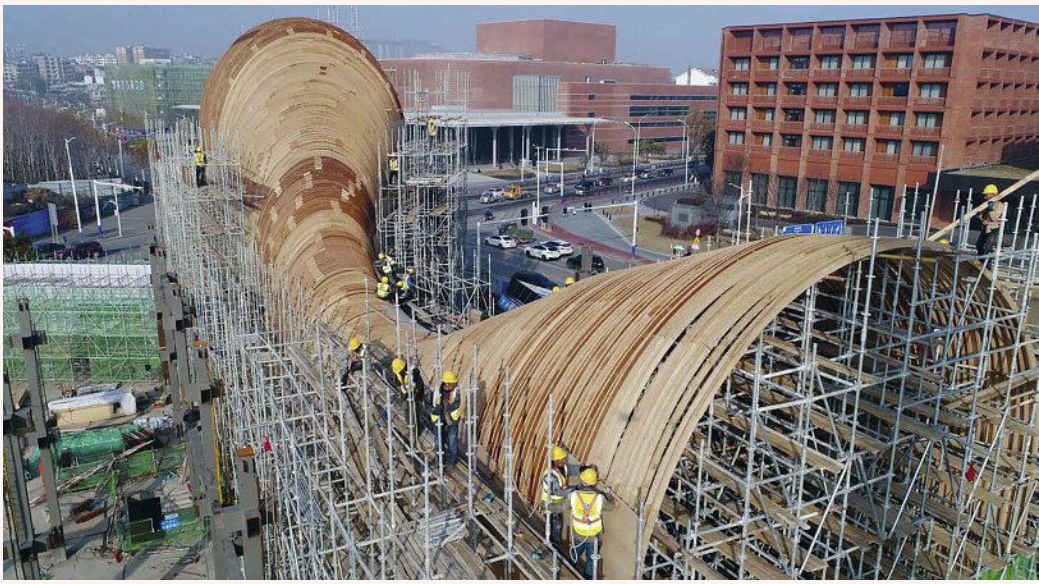
Below right Exposed brick around the fireplace reinforces the domestic atmosphere.

Credits
Client Monmouthshire County Council
Architect Pentan Architects
Contractor Lovell Homes
Engineer Intrado
M&E engineer McCann and Partners
Landscape architect The Richards Partnership
Planning consultant Asbri Planning
Fire consultant Green Hat Consulting

In Jingdezhen, China, historic preservation shapes a modern architectural marvel

An ancient ceramics factory takes a new shape as Taoxi Mingzhu, a modern mixed-use complex. Discover the challenges and innovations behind this architectural feat. By Betty Wang

This is an edited excerpt from an article that originally appeared on Design & Make With Autodesk, a site dedicated to inspiring construction, manufacturing, engineering and design leaders. Scan the QR Code to read the full article.



- Jingdezhen, China, is renowned for its porcelain – and also for Taoxi Mingzhu, a bold renovation of an abandoned ceramics factory into a mixed-use complex.
- The inventive design posed challenges for its construction, including wave-like arches, a detailed arcade and complex steel structural elements.
- The design was realised using advanced digital technologies, including BIM, 3D visual simulation, CNC engraving and milling, 3D lofting, 3D scanning, mixed reality and cloud collaboration.

Above Taoxi Mingzhu's steep, curved surface called for mapping each centimeter with 7,000 cross-views. Image: China Construction First Division Group Huajiang Construction Co Ltd.

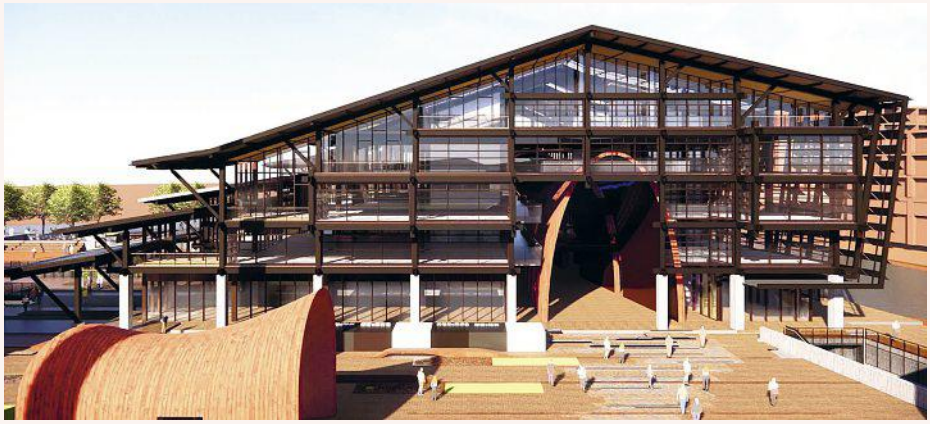
Jingdezhen, an ancient and vibrant city in China, is world-renowned as the 'porcelain capital' thanks to its millennia-old ceramic craftsmanship and deep ceramic culture. Today, in the heart of Jingdezhen, a new building project is getting a lot of attention. Taoxi Mingzhu is a renovation of the old Jingdezhen Ceramic Factory, which is transformed into a multi-use complex with stores, artists' studios and civic spaces.

With its open and interconnected feel and unique architectural style, Taoxi Mingzhu has become a new calling card for the Taoxichuan area, connecting the ancient and the modern, space and people, and history and modern art. After completion, it will be a landmark building, connecting the city's public spaces and contributing to the development of Jingdezhen's tourism and culture.

Under the direction of Cui Kai, one of China's top architectural masters, this abandoned industrial site has been transformed into a multifunctional architectural complex with a total construction area of about 42,800 square meters and a complex, irregular, wave-shaped arch structure. The centerpiece is a colourful, tiled, exposed-concrete arcade that runs through the building, like a 'swimming dragon' wandering through the revitalised Taoxichuan area.

AUTODESK

More stories at Design & Make With Autodesk
For more information and technical support, visit autodesk.co.uk



Left Building Taoxi Mingzhu's central arcade meant precisely laying 360,000 tiles.
Image: China Construction First Division Group Huajiang Construction Co Ltd.
Below Taoxi Mingzhu, a renovated ceramic factory, is transformed into a mixed-use space.
Image: China Construction First Division Group Huajiang Construction Co Ltd.

Transforming an abandoned factory

Behind the beauty of the innovative design and construction is a challenging journey by the project's construction team, China Construction First Division Group Huajiang Construction Co Ltd. The project's engineering highlights include its irregular, steep, curved surface, which is 24m high and more than 70m long. Achieving this unique shape means every centimetre of the building represents a unique curvature change, with more than 7,000 cross-sectional views. The project posed an unprecedented challenge to the construction team, incorporating a complex steel structure, varied landscape paving, colourful glazed kiln tiles and the extensive use of new materials, processes, and technologies.

Looking back on the project, Wan Renwei, director of China Construction First Group subsidiary the BIM Center, says that it was the 'true application of digital construction technology' and 'full connection between design and construction' that made the construction of this complex and unusual-shaped building possible.

Huang Yong, chief engineer of China Construction First Division Group Huajiang Construction Co Ltd, says: "Without the simulation and emulation of digital technology, the modelling of unusual shapes based on Revit, and the many applications of various 3D scanning technologies, this kind of masterful construction of unique and complex shapes would be difficult to achieve.'

Precision and artistry

To create the distinctive shape of the building's curved arcade, the project team used BIM technology to carry out 3D modelling, carefully constructing a digital model of the curved keel, then numbering, dividing and laying it out. To ensure precise changes in the curvature of the keel, the team used a string-laying robot to carry out precise checks. The project team used visual programming and modelling technology to design the formwork system of the cast-in-place structure, and realised the automatic sorting of the embedded glazed tiles using BIM.

Through the use of Autodesk tools, including Revit, Dynamo and Navisworks, the 3D design results were applied to the automatic processing of the formwork and the glazed brick and site construction. The team also verified and optimised the design plan through the comprehensive application of the model in depth, which ensured the precision of the curved surface, the feasibility of the design, and the accuracy of construction.

MacEwen Award shortlist

Seven other projects were shortlisted for this year's award, ranging from schemes for schools and colleges to a floating events venue and a woodland education space

KILIAN O'SULLIVAN

Alfreton Park Community Special School
Alfreton, Derbyshire
Curl la Tourelle Head Architecture for Derbyshire County Council
Contract cost: £13.2 million
GIA: 3,000m²

Alfreton Park is a community special school for pupils ranging from 3 to 19 years old, offering specialist teaching in a safe, supportive environment. Its new single-storey home, designed by Curl la Tourelle Head Architecture, follows a natural ridge in the tree-lined site, with a barn-like appearance appropriate to its agricultural setting – the pitched roofs create light, open spaces within.

The plan accommodates a diversity of activities, from trampolining to physiotherapy, in state-of-the-art teaching facilities. Wide, accessible corridors offer views into classrooms and include breakout spaces, with colour acting as a wayfinding device. Deep overhangs give the classrooms sheltered outdoor spaces while parkland views connect with nature. Green zinc cladding reflects the surroundings, with matching hard-wearing terracotta tiles facing onto outdoor teaching areas. The adjoining community centre has deep red cladding to clearly signal its location.

Client and community meetings were held throughout the design process, as well as consultations with pupils, staff and parents. The result is an adaptable, resilient design, with the community wing acting as dining hall and sports space by day, and hub for residents and local groups by night.

Headteacher Josie O'Donnell notes the reduction in bad behaviour and the improvement in communication and happiness among pupils. One of them, Ryan Jones, comments simply: 'This school changed my life.'

Above Vibrant red zinc highlights the community wing.

Below Creative activities are clustered where the wings meet.

Lucy Cavendish College
Lady Margaret Road, Cambridge

R H Partnership Architects for Lucy Cavendish College, University of Cambridge

Contract cost: confidential
GIA: 2,965m²

With its new buildings for Lucy Cavendish College – the most diverse college in Cambridge, and the first to admit over 90 per cent of students from state schools – R H Partnership Architects has provided this fast-growing institution with a much-needed, inclusive and sustainable heart. As part of a masterplan exploiting the potential of the college's restricted site, pressing needs for undergraduate accommodation have been answered with 72 fully accessible en-suite rooms and a welcoming, non-institutional air.

Clear, easily navigable circulation routes are provided inside and out, with level access across the site and sufficient space for people with diverse abilities to move freely. Inside, enhanced accommodation bedrooms – two with adjoining carer rooms – ensure equal access for all. The design also incorporates sufficient flexibility to accommodate a variety of physical, cognitive and learning needs, and is future-proofed to cater for evolving technologies.

Above Pitched roofs, clay tiles and red bricks reflect and enrich the context.

Below Light fills the accessible café-cum-study area.

The new buildings complement their conservation-area surroundings, yet are highly insulated, meeting Passivhaus standards. The choice of materials balances reduced embodied carbon with longevity and recyclability – the structure is primarily cross-laminated timber – and post-occupancy evaluations reveal one of the lowest energy-use intensities for student housing in the UK.

This pioneering approach to accessibility and sustainability in higher education has been achieved in consultation with health and welfare charity Leonard Cheshire, and with stakeholders including students. The result helps to extend the opportunity for a world-class education beyond a privileged few, improving social inclusivity, nurturing the potential of under-represented students, and unlocking their aspirations to achieve positive impacts across society.

NICK GUTTRIDGE

DRIFT, here at Stranmillis Weir, introduced a new public space at two locations on the River Lagan.

JOEL AVERTY

DRIFT, Belfast

OGU Architects + MMAS + Matilde Meireles for Belfast 2024 (Belfast City Council)

Contract cost: confidential GIA: 54m²

Commissioned for the Belfast 2024 cultural festival, DRIFT floated at two neglected stretches of the River Lagan during August and September, provoking curiosity about the waterway and its cultural history – often perceived in utilitarian terms – and highlighting possible interconnections with the city. Constructed entirely of scaffolding and reusable or biodegradable materials, the structure was designed for adaptability. It was first installed at Stranmillis Weir in south Belfast, then partially disassembled, towed downstream and rapidly rebuilt in the city centre in a different form. At both locations, the Lagan intersects with human-made processes, allowing visitors to engage with the complex exchanges that result.

DRIFT acted as a public space for visitors during the day while also hosting events delving into the river environment, from plant workshops and concerts to bat detection and stargazing.

In addition, sonic artist Matilde Meireles created a series of works exploring the multisensory nature of the two sites, harnessing phenomena usually excluded from human perception – such as underwater life, atmospheric phenomena and electromagnetic interference – to convey the interdependencies between ecosystems and urban life.

Both a transient artwork and a strategic project, DRIFT acted as an instrument to generate meaningful and potentially transformative citywide conversations about the relationship between the city and the river, providing a reservoir of knowledge about the feasibility of creating a series of new public spaces.

Significant challenges were overcome, requiring co-operation between public, private and third-sector organisations and the creation of a new company. But for a few days, people could step out onto the Lagan, explore these untended waterside areas, and enjoy a multisensory experience usually reserved for rowers alone.

OGU ARCHITECTS

ELYSE KENNEDY

Left Listening to harpist Gráinne Meyer at the Moving on Music event.

Right DRIFT offering a moment of peace on the waterfront in Belfast city centre.

Kensal House Community Rooms
North Kensington, London
Studio Sam Causer for SPID Theatre
Contract cost: £2.4 million GIA: 306m²

The thoughtful refurbishment of Kensal House Community Rooms, designed in 1936 by Edwin Maxwell Fry and Elizabeth Denby, has revived the social heart of the surrounding housing estate and ensured it is accessible to all.

In 2005, youth theatre charity SPID (Social Progressive Interconnected Direct) was invited to occupy the derelict Community Rooms and run theatre workshops to help integrate residents and foster a strong sense of community. The space was cold, suffered regular flooding from leaks above and was riddled with ad-hoc services and modern alterations. Furthermore, it was no longer easily accessible to pushchairs and wheelchair users, following the replacement of a sloping path with a car park in the 1960s.

After the theatre raised nearly £4 million of public money, work could finally begin to conserve the historic features of the Grade II*-listed centre and ensure it was fit for modern use. Studio Sam Causer resurrected the original layout, reinstated lost glazing and openings and integrated discreet modern services and facilities. A new lift, staircase and level-access ramped corridor have also been installed.

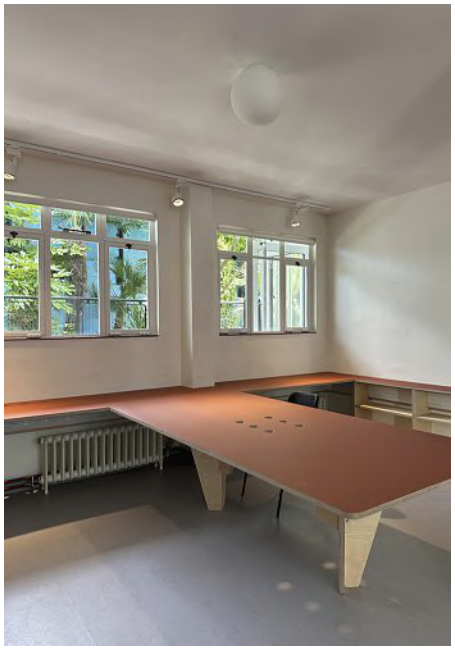
SPID reopened the Community Rooms in autumn 2024, and now delivers a free programme of workshops where people can develop passions for heritage and progress, learn new skills from each other and advocate for positive social change. The Community Rooms were intended to be a place for residents to be together, to learn from, support and enjoy each other. At last, after decades of neglect, they are once again fulfilling this aspiration.

EESHITA AZAD

Above Youth theatre charity SPID delivers workshops in the revived space.

MORLEY VON STERNBERG

Below Modern services have been integrated and a level-access ramped corridor installed.



STUDIO SAM CAUSER

Below right After years of neglect, the Grade-II*-listed centre now serves the community.

Heathlands School Classroom Building, St Albans

Manalo & White with Richard Lyndon Design for Heathlands School

Contract cost: £850,000

GIA: 250m²

This innovative two-storey classroom block at Heathlands, the UK's largest sign-language school for deaf children, was co-designed by Manalo & White and deaf-architect-led practice Richard Lyndon Design to create a supportive, stimulating learning environment shaped around the needs of pupils who have all too often had to adapt to existing and unsuitable buildings.

Its striking green facade, given texture by timber battens of varying widths, enlivens a previously underused corner of the campus, now freshly landscaped. For those signing as they walk, wide balconies and generous liminal areas provide the necessary space while the bold yellow of door frames and windows attracts attention in peripheral vision. The absence of corridors aids both conversation and navigability as well as ensuring that the best use is made of the site's footprint.

The block's six classrooms have access to outdoor teaching areas, which offer a calm space to recover from the fatigue associated with extended periods of lip and sign-reading. A horseshoe desk arrangement allows pupils to sign both to one another and to the teacher, while soft blue and green surfaces contrast effectively with a variety of skin tones, enhancing communication while contributing to a tranquil atmosphere.

Students were closely involved throughout the design process, resulting in a building that responds to their lived experiences and possesses the vibrancy and playfulness they requested, while meeting all their needs. Heathlands is expanding to meet growing demand, and this valuable first step to transforming its campus will help students feel valued, supported and welcomed.

Above Carefully chosen colours, multiple windows and acoustic panels all aid communication.

Left The covered walkway provides ample space for conversation, and access to the newly installed lift.

Right Bold colours are complemented by a pitched roof with photovoltaic panels.

RACHEL FERRIMAN

The Clearing
Lesnes Abbey Woods, London
WonKy for the London Borough of Bexley
Contract cost: £140,000 GIA: 76m²

The Clearing is a magical outdoor education space within an ancient woodland and public park in the London Borough of Bexley. It teaches sustainable forest management, nature conservation and traditional woodworking skills through workshops and events and gives children access to natural green space.

Its interactive centrepiece is a large ex-military parachute, which can be erected to create an all-weather outdoor classroom and meeting place. Setting it up is a communal activity. With the aid of a catapult, the parachute is slung over a cable hung between the trees, then participants work together to draw and tether the parachute to a circle of wooden posts, carved by local volunteers into woodland motifs suggested by local school children.

Facing the posts, an old shipping container opens up onto a demonstration stage and is flanked by a small square tower and store room. Inspired by the fishing-net lofts of Hastings, the tower stores and dries the parachute and also houses monitoring equipment so birdsong and other data can be recorded. It is lined internally with plywood and clad externally in Cor-Ten steel with a translucent GRP lantern.

The sheltered external store has sawtooth Cor-Ten cladding on the walls and roof and securely stores a treadle-operated pole lathe and shave horse, used for a woodlands greenwood workshop.

Architecture practice WonKy worked closely with custodians and users to co-design the project. The result is resourceful and uses sustainable materials, such as chestnut and oak coppicing from the surrounding woods, to minimise its carbon footprint.

Top left The parachute is stored in a tower inspired by Hasting's fishing-net huts.

Above Erecting the outdoor classroom is a communal activity.

Below The Clearing allows people to experience nature and learn.

JIM STEPHENSON

Birmingham Settlement Nature and Wellbeing Centre
Ladywood, Birmingham
Axis Design Architects for Birmingham Settlement
Contract cost: confidential
GIA: 130m² plus landscaping

The Nature and Wellbeing Centre is a safe and sociable hub, which offers wellbeing and outdoor activities for local communities in a densely populated and diverse inner-city area. The site was a dormant playing field until 2018 when it was adopted by Birmingham Settlement, a charity that tackles social disadvantage by creating opportunity.

Designed in collaboration with Axis Design Architects, Phase 1 opened up the space for regular activities and provided sheltered spaces and facilities in the colourful Red Shed community café. The building is constructed primarily of clay blocks, timber and cellulose insulation, creating a new form of low-carbon masonry wall build-up. This is combined with airtight construction, mechanical ventilation and ground-source heat pumps with boreholes sufficient for future phases. Its bold form creates a striking visual impact, which can be seen beyond the site boundary.

Phase 2, completed in 2024, added geodesic domes to promote horticulture and biodiversity education, a rainwater harvesting pond, an amphitheatre for performing arts, lighting, bike charging points and public access from the nearby Edgbaston Reservoir. An orchard was also established with spaces for overnight urban camping, a children's natural play area, community grow plots, hotbed composting bays and initiatives to build awareness about climate change and natural resource depletion.

Over the summer, the site hosted the second Neighbourhood Futures Festival, attracting over 1,500 visitors and collaborating with more than 30 community partners to offer four days of learning, fun and creativity.

The project has created a unique and revitalised community asset, which promotes a more socially and ecologically positive future.

Above The centre is a safe and activity-rich outdoor space in an inner-city neighbourhood.

Below left Geodesic domes facilitate environmental education.

Below The bright red community café provides shelter and facilities.

BIRMINGHAM SETTLEMENT

marmox fireboard

Fire Protection • Sound Absorption • Thermal Insulation

INTERNAL OR EXTERNAL

Render or Plaster

- A1 Fire Protection
- Sound & Thermal Insulation
- Thin & Lightweight
- Easy to Cut & Install

A1 CERTIFIED

Available in 20, 50 & 100mm. Use on masonry, wooden or metal structures!

marmox

Waterproofing & Insulation Solutions

W: www.marmox.co.uk **T:** 01634 835290 **T:** sales@marmox.co.uk

BUILD ONSITE FLAT PACK

COMMERCIAL MVHR UNITS ASSEMBLED ON-SITE

*BlauBuild RV 1200HE successfully installed within the Royal Albert Hall

BLAUBERG UK

VENTILATION

CERTIFIED ISO 9001:2015 COMPANY

2: Intelligence

LAST FACADE STANDING
CHRISTOPHER TURNER, VICTORIA & ALBERT MUSEUM

In December 2017, one of the two blocks of Robin Hood Gardens (1968-72), Alison and Peter Smithsons' brutalist housing estate in Poplar, east London, was demolished. At the time of writing, the remaining one is being knocked down. The utopian scheme, the first of a series of planned 'landcastles' with which the Smithsons hoped to revive the East End, had been denied listed status and condemned in 2009, despite a rigorous campaign to save it. On the eve of demolition, the V&A, in a gesture of last resort, decided to preserve a 9m-high section of the facade, including a 5.5m-wide portion of 'street in the sky' as well as some interior features, including modular plywood fittings designed by the architects.

When V&A East Storehouse, designed by Diller Scofidio + Renfro, opens in the Queen Elizabeth Olympic Park on 31 May, visitors will encounter the fragment suspended over a large atrium. This substantial piece of architectural salvage was deemed an important example of brutalist heritage, worth preserving for future generations – a significant example of work by the Smithsons, post-war British architects who had an international reputation through their writing as much as their building. The rationale for collecting it also incorporated its history as a cause célèbre of the conservation movement, thus relevant to the museum's interest in urbanism. Through this fragment, and the original vision (and fate) of the estate, the story of social housing in Britain from the 1950s to the present can be told.

At Storehouse, visitors will be able to walk along a section of 'street in the sky' and enter the lobby areas of two flats, as well as watch Do Ho Suh's specially commissioned panoramic film, which uses time-lapse photography, 3D-scanning, drone footage and photogrammetry to reveal the layers and textures of the interiors, creating a constantly moving meditation on home, memory and displacement. Oral history recordings produced with residents will document the experiences and perspectives of the people who lived there, while a film co-produced with local creatives is intended to spark conversations around social housing and city-living today. Visitors will be challenged to consider the Smithsons' ambitious vision for society and the role architecture plays in shaping it, and to reflect on the kind of city they want for their future.

'On the eve of demolition, the V&A decided to preserve a 9m-high section of Robin Hood Gardens' facade, including a 5.5m-wide portion of street in the sky'

Left Christopher Turner is keeper of art, architecture, photography and design at the V&A, London, and recently curated the exhibition Tropical Modernism: Architecture and Independence.

VICTORIA&ALBERT MUSEUM

Intelligence is officially approved RIBA CPD. Look out for icons throughout the section indicating core curriculum areas.

Overseas income helps push revenue to over £4bn

While revenue growth hasn't kept up with the rising costs of running a practice, a surge in overseas work could help turn things around for UK practices, says RIBA head of economic research and analysis Adrian Malleson

Procurement & contracts

During 2024, rapidly rising practice revenue from overseas bolstered the UK's status as a leading service economy and improved our global trade balance.

It's been a turbulent few years, during which we've seen political turmoil, weak economic growth, a minor recession, spiking inflation, raised interest rates, interminable planning delays, intense fee competition, client hesitancy and an underinvested public estate.

With that as the business background, architecture practices have too often struggled to secure fees that reflect the professional value they bring.

Nevertheless, the findings of the RIBA Benchmarking show revenue grew strongly in 2024 – to £4 billion. That practices were able to increase revenue in such difficult times shows a core of resilience and adaptability running through the profession.

Above Hugh Broughton Architects' specialism in remote projects has lead to numerous projects in Antarctica.

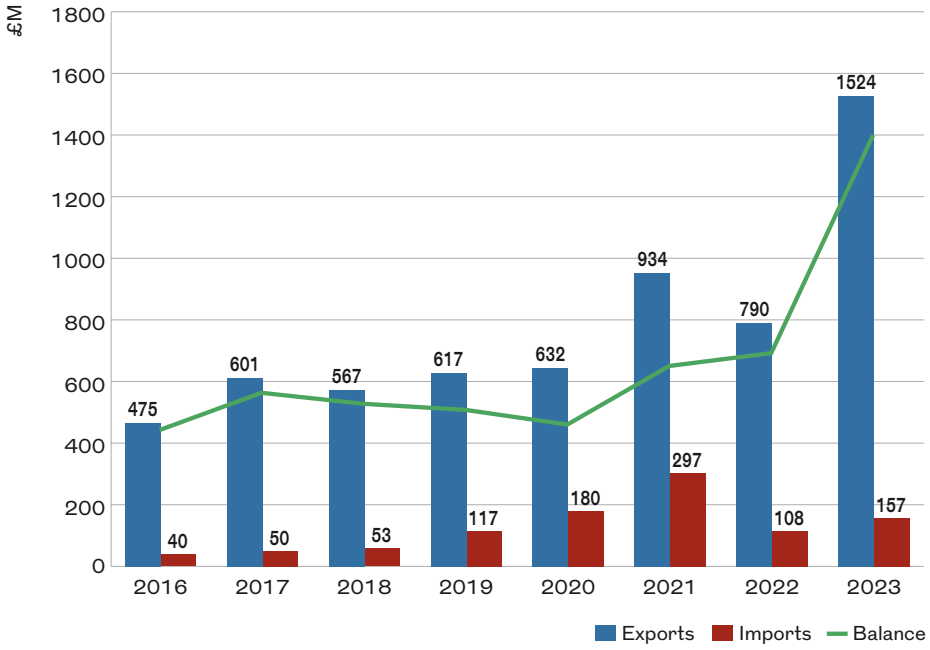
But revenue growth hasn't been enough to keep pace with rising practice costs. Payroll, insurance, premises and IT costs have all been on the increase. Revenue may have risen by 13 per cent but profits have fallen by 2 per cent.

However, amid the often-difficult domestic landscape, one area of growth stands out: exports. The profession is thriving in international markets and 2024 saw a surge in UK architecture overseas – a surge that fits with the UK's strength in the service and creative industries.

UK as a creative/service powerhouse

The UK is a powerhouse of international trading in the service and creative industries. And UK architecture is

Value of architectural services' international trade



among the growth leaders.

Of the UK's total economic output, 81 per cent comes from our service industries, far outpacing traditional sectors such as manufacturing and agriculture. The service sector includes global-leading businesses from banking, insurance and consultancy. These businesses are spearheading international trade and the UK is now the world's second-largest service exporter, with only the US ahead.

But not all those providing overseas services are bankers. There is another, sometimes overlooked, but powerful service sector: the creative industries. Embracing sectors including advertising, fashion, film, music, publishing and video games, these industries employ 2.4 million people and make up almost 6 per cent of the UK economy (compare that with 0.6 per cent from farming, for example).

While integral to the UK construction industry, architecture is also a global creative industry. It has an enviable international trade balance and exports are rapidly growing. Latest estimates of UK global trade in services from the Office for National Statistics value exports in architectural services at over £1.5 billion, with imports at just £150 million. And that export number has seen giddying levels of growth – a 220 per cent rise since 2016.

The most significant export markets for UK architecture are the USA, Canada, China and the Gulf states. Each buys over £100 million of UK architectural services annually. Saudi Arabia is a rapidly growing market with UK exports now totalling over £300 million. Another surprisingly significant market is Poland. As one of the fastest growing economies in the EU, with relatively low debt and an economy growing by more than 3 per cent per year, its UK exports exceeded £100 million in 2023.

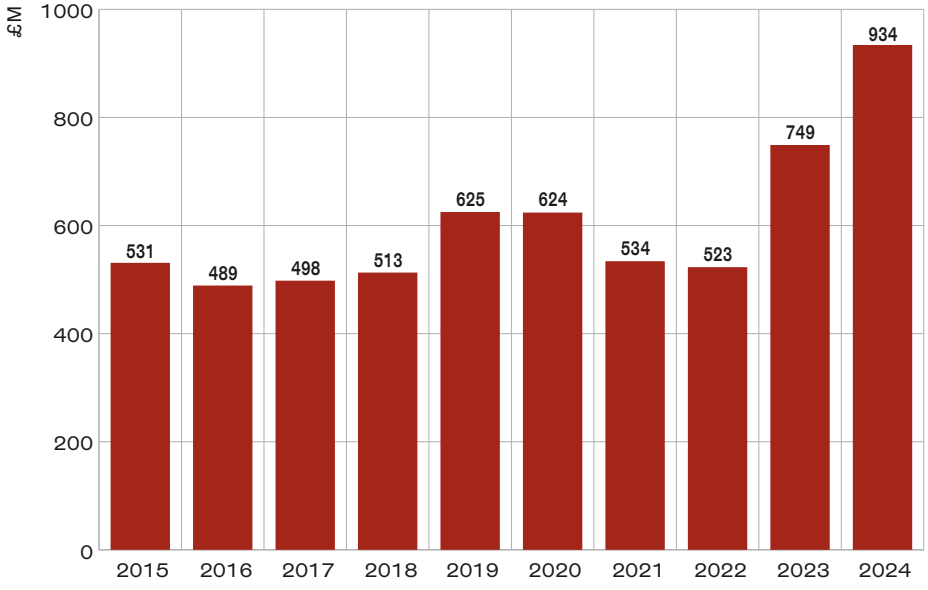
What's more, the value of UK architecture to the UK economy is greater than can be counted in the trade balance. Like many creative industries, architecture is an expression of the UK's talent for innovation, design and originality. The creative industries give the UK a global status greater than its economic heft alone and help to attract foreign investment, talent and visitors.

Overseas revenue drives growth

Based on the detailed submissions from RIBA chartered practices (thank you), the annual RIBA Business Benchmarking survey provides a high-resolution snapshot of the business of architecture. RIBA chartered practices are leading the architecture export growth. The latest RIBA data shows overseas revenue grew to £934 million in 2024, an increase of almost 80 per cent within just two years. Nearly one in four pounds (23 per cent) of practice revenue now comes from overseas.

The big four export regions are North America, the Middle East, Asia and Europe. Despite Brexit, 2024 saw

Value of RIBA chartered practice exports



MATT HUGHES

the EU grow in importance, accounting for 47 per cent of exports and bringing in £439 million of revenue.

Chartered practices are not restricted to these big four though, having a truly global reach and gaining work from every continent. The most important markets now may not be so significant in the future. Emerging markets show promise. Across the world, low and middle-income countries are urbanising at pace, bringing a burgeoning need for sustainable and resilient cities – many of which are yet to be built.

The early signs of future growth are already here. Africa's urban centres are the most rapidly growing cities in the world, and Africa, although making up only 6 per cent of overseas revenue, has seen its fee values more than double.

However, international revenue is not evenly shared among chartered practices. London continues to be a global hub for architecture with its global population and diverse talent pool, its advantages of agglomeration, and its long history of design and creative excellence. This is reflected by the fact that 89 per cent of overseas revenue is generated by London-based practices. But being based outside London is no bar to international work. Take Ryder. While based in Newcastle and with a strong regional presence, it has a track record of successful international projects.

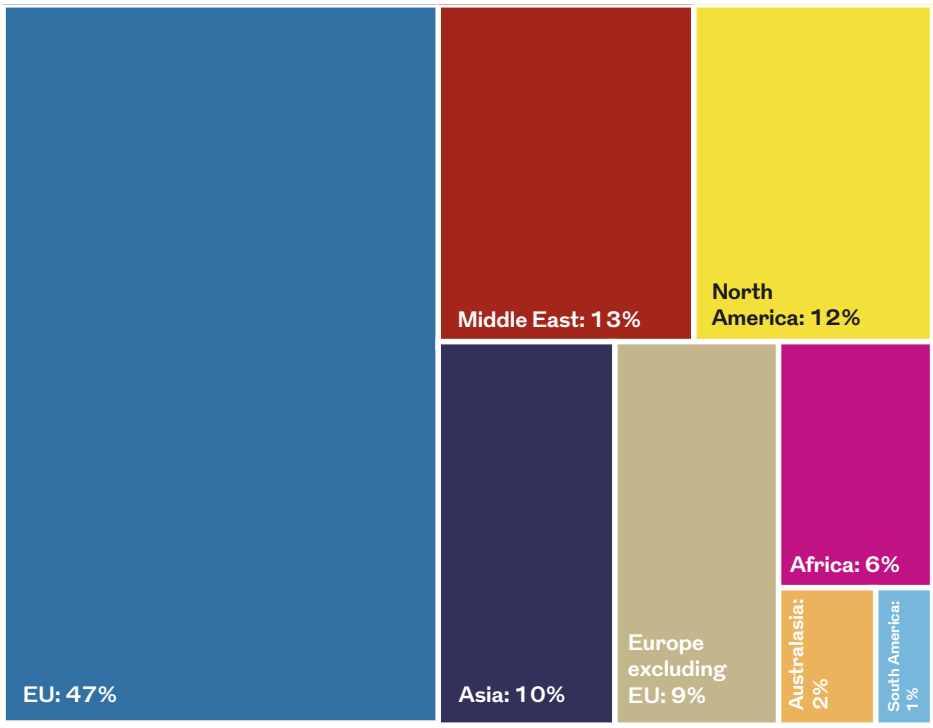
EMA PETER PHOTOGRAPHY

Above Founded in Newcastle, Ryder works across the world, including on this project, the Houses of the Ones Belonging to the Saltwater, at Canada's University of British Columbia, in collaboration with Hotson Architecture.

International work is also concentrated among larger practices. Those with 100 or more staff generate over 80 per cent (£760 million) of overseas revenue. But again, size is no bar to looking overseas for revenue growth. Take Hugh Broughton Architects. While not one of the very large practices, it has successfully developed an international presence as a specialist in polar buildings.

Percentage of practice export revenue by export region

Total £934 million



A look ahead

Even though the global geopolitical outlook looks increasingly precarious, international demand for UK architecture is set to remain strong. Urbanisation will drive global demand on a vast scale, and sustainable and resilient design will increasingly be needed. The UK's current standing in creative, sustainable design is a firm foundation for future work, with London remaining a global hub for architecture and the creative industries.

At home, the adoption of new working practices and new technologies, such as AI, may increase productivity. Should we get the hoped-for stable economy, falling interest rates, planning system reform, investment in our public estate and uptick in new house-building then some overdue tailwinds will ease the profession's challenges.

Looking ahead to 2025, chartered practices anticipate revenue growing by 8 per cent and costs rising by 6 per cent. If this turns out to be correct, profits will be rising, if only slightly, for the first time since 2019. Let's hope so.

HARCOURT TECHNOLOGIES IRELAND LTD

Could 3D printing boost housing supply?

Above The three social homes printed by COBOD's BOD2 machine are the first to meet a new ISO standard for 3D-printed construction.

Housebuilders are increasingly turning to large-scale 3D printing to deliver low-cost homes, but do the reported benefits around speed and reduced labour and waste add up? Stephen Cousins reports

Sustainable architecture

Design, construction & technology

Once famous for manufacturing the hardest bricks in the world – used to construct the Empire State Building and Sellafield nuclear power plant – the town of Accrington in Lancashire is now spearheading a very different type of innovation on a vacant plot in its town centre.

Work is underway on what is set to become the largest 3D-printed housing development in Europe. The scheme, for not-for-profit developer Building for Humanity, will create 46 eco-homes for homeless veterans and low-income families.

The mix of two-storey houses and three-storey apartment blocks is being constructed using a giant mobile printer in an automated process expected to cut costs by 25 per cent compared with traditional construction.

Accrington isn't the only place where the cost-saving benefits of large-scale 3D printing (also known as 3DCP) are being explored as a way to deliver affordable homes, social housing and housing for the homeless.

Harcourt Technologies, the UK distributor of large-scale printers made by COBOD (Construction of Buildings on Demand), has delivered three social homes in Dundalk, Ireland, in the first social housing project to meet a new ISO standard for 3D-printed construction.

Meanwhile, the US has multiple additive manufacturing projects under its belt, with on-site printers used to deliver social housing in Mexico and Texas. A recently started project at the Community First! Village in Austin will build 100 homes for the homeless. The University of Maine's Advanced Structures and Composites Center (ASCC) is also about to start work on a nine-home neighbourhood for the homeless, exploiting a convergent manufacturing process involving factory-based 3D printing.

As governments worldwide struggle to deliver quality homes in sufficient numbers using existing approaches, they are increasingly turning to advanced construction technologies, such as panellised or module off-site prefab and 3D printing.

Analysis by Heriot-Watt University in 2018 identified the need for 90,000 new homes for social rent in England each year up to 2031, yet in 2021/22 only around 7,500 were supplied. Last year, housing associations in England cut their planned spending on new affordable homes by 9 per cent.

HARCOURT TECHNOLOGIES IRELAND LTD

In last year's US presidential election, housing affordability emerged as a key issue with a survey finding that 69 per cent of Americans were 'very concerned' about the cost of housing.

Proponents of 3DCP claim it can deliver significant cost savings thanks to speedier construction, reduced on-site labour and reduced waste.

The Accrington development aims to reduce waste by 60 per cent. Its mobile printer, supplied by France-based Constructions-3D, only adds materials where they are needed, layer by layer. The printer is positioned on the floor plate and prints the walls from inside the building.

The three social housing units in Dundalk were constructed using COBOD's gantry-mounted BOD2 concrete printer, which piped out a specialised concrete formula to match a digital plan.

Printing the cavity walls, instead of using bricks and concrete blocks, took just 12 days and, says COBOD, enabled the project to be completed 35 per cent faster than if using conventional methods – in 132 days rather than 200.

Around half of the time savings came directly from 3D printing the load-bearing double cavity system; the rest from the precision of 3D construction, which allowed for the seamless integration of components, such as partition walls, floor systems and trusses.

COBOD International's founder Henrik Lund-Nielsen tells RIBAJ: 'In conventional construction, one or two centimetres of deviance is normal, but here we are talking mere millimetres of deviance between what it should be and how it is. It means you can save a lot of time.'

The 10cm-thick walls do not require any conventional reinforcement and were printed in compliance with both EN206, Eurocode 6 for unreinforced masonry construction and ISO/ASTM 52939:2023, the new international standard for additive manufacturing.

Aside from speed and precision, Lund-Nielsen points to the labour savings of 3D printing. However, he adds that cost benefits around reduced waste on site are only noticeable when scaling up to higher-rise schemes, where it's possible to reduce the volume of concrete and reinforcement needed to meet structural requirements.

> Printing the cavity walls enabled the project to be completed 35 per cent faster

THE ADVANCED STRUCTURES AND COMPOSITES CENTER, UNIVERSITY OF MAINE

Above The BOD2 is a gantry-based printer specially designed for printing large on-site objects at speeds of up to 250mm/s.
Top The BioHome3D 600 sq ft (56m^2) single-family unit is a bio-based 3D-printed home.

'On low-rise, where the structural forces are so limited, it's more difficult to find savings,' he says. 'You have to go five or six storeys.' To date, 3D printing projects in Europe have not been allowed to go this high.

House prices in the US have skyrocketed since the pandemic, and the combination of an ageing workforce and issues with hard-to-reach job sites has caused a significant labour shortage.

The University of Maine's ASCC aims to tackle these two issues with a new composite manufacturing process involving what's thought to be the

world's largest polymer 3D printer, designed so that fewer people can build more homes.

All the elements for a prototype 600 sq ft (56m^2) single-family home, including the floor, roof and walls, were printed at ASCC's factory using a unique extruded waste material made from locally sourced wood fibre and bio-resin, before being transported to site.

In an effort to scale up the process, the university has invested in a new 'research factory of the future', which this year will begin printing a development of nine homes for the homeless. It aims to make the process cost-competitive with regular stick-built construction.

According to ASCC executive director Habib Dagher, using sustainably sourced waste wood and bio-based resins to print the homes will significantly lower the cost of construction and provide benefits for the environment.

'We have a sustainable source of biomass, and these homes allow us to lock in carbon, creating carbon storage and sequestration units,' he tells RIBAJ.

The university's gantry-mounted printer is able to print elements up to 18m long, 6.7m wide and 3.4m high, and the end effector can be switched to perform processes that include 3D printing, continuous fibre tape laying, 'pick up and place' operations and other machining and robotics.

The multi-use system was devised, says Dagher, to overcome the challenges associated with regular concrete printing, whereby 'you print the walls, but you still have to put the roof together, do the electrics and insulation and finish the home on the inside'. These involve 'a lot more labour processes on site, which drives up costs and slows things down'.

Additive manufacturing, as with other technologies conceived to increase automation, has serious implications for a range of skilled and unskilled workers employed in construction, from bricklayers and carpenters to architects and engineers.

Some have raised concerns about the technology's suitability for building homes. James Rose, director of the Institute for Smart Structures at the University of Tennessee, says most commercial 3D-printed housing projects in the US are being delivered in concrete – 'a carbon and water-intensive material which, due to its weight, currently makes it difficult to print overhead enclosures'.

THE ADVANCED STRUCTURES AND COMPOSITES CENTER, UNIVERSITY OF MAINE

Above The gantry-mounted system at the University of Maine's Advanced Structures and Composites Center is capable of carrying out multiple construction manufacturing processes, not just 3D printing.

Other materials seem to offer more flexibility, says Rose. 'The architects Ron Rael in the US and Mario Cucinella in Italy are experimenting with site-sourced clay, which holds promise for carbon reduction, offers lower cost, and has proved to be adaptable to complex vaulted enclosures.'

Paul Shepherd, deputy director of the Digital, Manufacturing & Design Research Centre at the University of Bath, says additive manufacturing is great if you want to build something in a complicated shape that can be built up in layers, but asks: 'How many low-cost refugee houses need an architectural expression of a curved wall when you can quickly make them using flat elements?'

Shepherd was principal investigator on a Bath research project to robot-manufacture a 'thin shell' concrete vaulted floor slab with 60 per cent less embodied carbon than an equivalent flat slab. He claims the 'sweet spot' for 3D printing is in an off-site environment, rather than on site. 'You've got the control, you can ensure repetition and quality control, then ship pieces to site and bolt them together, rather than having to wait for things to set,' he says.

Lund-Nielsen counters that COBOD's on-site approach offers benefits over precast because factory-made elements are typically over-engineered and contain too much reinforcement, for example including rebar used to lift panels from moulds onto trucks and then unloading them by crane. He says COBOD's process only puts reinforcement into the columns, not the walls, and the volume of rebar is dictated by the height of the building.

'For ages, construction has made structures that are unsustainable, using too much reinforcement and too much concrete, which is because of the method of fabrication,' he says.

With global research efforts and real-life deployments of large-scale 3D printing accelerating, surely a conclusive answer on the technology's long-term viability in construction can't be far away.

UNIVERSITY OF BATH

Left Researchers at the University of Bath made a robot-manufactured 'thin shell' vaulted floor slab with 60 per cent less embodied carbon than an equivalent flat slab.

Meeting data centres' evolving needs

With the demand for data centres continuing to increase, a RIBAJ webinar heard the insights of architects and manufacturers specialising in this growing sector

SNHA, A WOOLPERT COMPANY

The rise of big data, digital transformation and streaming as well as the accelerating march of artificial intelligence all add up to one thing: a ferocious demand for ever more data storage and processing. In the next five years, data centres, the engine rooms of these activities, will see significant growth with global data-centre capacity projected to double.

In September, Amazon Web Services announced that between 2024 and 2028, it was planning to invest as much as £8 billion in building and operating data centres in the UK alone. In the same week, the UK government unveiled proposals to designate British data centres as 'critical national infrastructure' at the heart of its drive for economic growth. This designation places data centres on a par with water, energy and emergency services, ensuring more government support.

But it's not just about building more of these facilities. Their design is becoming more and more complex as designers ensure they are flexible enough to adapt to fast-paced changes in technology, and to more stringent sustainability standards.

There is also a trend to site data centres in and around urban areas, which can mean retrofitting existing buildings to meet their specialist needs. This brings a whole new array of challenges to the table – not least making data centres more attractive to communities they sit among.

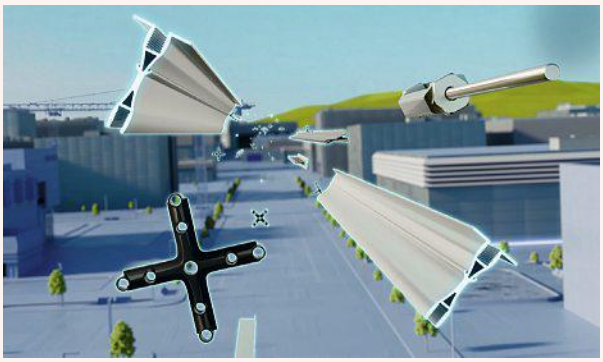
How designers might help create data centres for this shifting landscape was the subject of a RIBAJ webinar held in November in association with Tate, which specialises in floor-to-ceiling solutions for data centres. The event, Future Proofing Data Centres, saw expert speakers address a number of technical issues and challenges, covering space use, load capacity, cooling solutions, energy efficiency, resilience and social value.

Kicking off the event from the London office of data centre specialist architect SNHA were Benedict Hassell, associate and technical lead, and Irene Agudo Marques, senior architect and project lead. SNHA has specialised in data-centre design since 2011, growing from two to fifty-five employees. The two began by providing an overview of data centres, talking through the evolution from small on-site server rooms to large industrial-scale facilities. As might be expected, these latter sites are stiff with servers and IT equipment, cooling mechanisms and back-up generators. However, they also need a range of ancillary spaces.

'There can be up to 200 people working on a data-centre campus,' said Agudo Marques, 'and those people require office spaces, canteens, meeting rooms and other wellness spaces.'

Her colleague emphasised the importance of scaling sustainability strategies to meet global, regional and local needs. Clients' demands for renewable energy, water use and embodied carbon must be matched

GENSLER



TATE

Above Work in progress on a current data-centre design by Gensler.
Left Award-winning Fort Worth Data Center, Texas, designed by SNHA, a Woolpert Company.
Right The new Tate Grid+ LEC structural ceiling has an increased load capacity with optimised new design profile.

to regional regulations, climate conditions and the availability of low-carbon materials, said Hassell.

'For example, in Europe, each country needs to develop its own interpretation of how to plan to meet the Energy Performance of Buildings Directive and there will be national sustainability requirements. And then for the sites themselves, there are going to be the needs of local communities, increased biodiversity and so on. There's also social and economic sustainability to think about. If you're in a region where there is a lot of good mass-timber product available, you could look at using that if the local regulations allow you to.'

Hassell and Agudo Marques shared case studies of how they applied these multi-scale sustainability strategies, such as leveraging district heating systems in cold climates and designing biodiversity-enhancing landscapes. They explained that it was much easier to use 100 per cent renewable energy in Nordic data centres because the grid there is already much greener. The greater adoption of district heating systems in the Nordics meant their waste heat could help the heating of nearby communities. This was not usually possible currently in the UK.

Madeleine Hilton, managing director at Gensler's Birmingham office and a senior leader in its EU critical facilities and data centre team, highlighted her firm's approach to designing data centres that are not only technically functional but also positively integrated into their surrounding communities. 'This has led to innovative facade designs, landscape interventions, and public amenities that transform the perception of data centres from anonymous big boxes to positive, place-making assets,' she said.

Hilton illustrated how Gensler is using techniques like articulated cladding patterns, green walls and urban parks to create data centres that are visually engaging and environmentally responsive. Agreeing with other speakers, she stressed that there is no one-size-fits-all solution, but rather a need for agility and adaptability to respond to the unique conditions of each site and community.

'We aim to be respectful of local context and to go with communities on this journey capturing benefits of jobs, revenue, heat recovery and public spaces,' she said. 'Creating parks, playgrounds and nature reserves can strengthen a sense of inclusion for a local community.'

Asked in the panel Q&A about adapting existing buildings, Hilton said Gensler had been involved in the conversion of industrial buildings into data centres for some time and this had brought challenges. 'Naturally, you can drive greater efficiency if you are designing a bespoke building,' she said. 'With a conversion, we have to deal with the existing structure. Whether you can put plant on the roof is an important question, and you might end up using more of the site to place some equipment on the ground instead. However, we are now seeing conversion of inner-city high-rise office buildings, and that's much more demanding. You must deal with the power supply that's available, and also understand how you can reuse or manage the heat gains from the building. I think we'll continue to see this trend as we can reduce latency by putting data closer to where it's needed.

Tate Europe specification manager Gus O'Rourke said innovation in product design was an important factor in future-proofing data centres. To address adaptability, Tate has developed structural ceiling solutions that enable modular, flexible reconfiguration of data halls. The products also meet the performance requirements of increasing server densities and heavier loads through rigorous testing and third-party validation, he said, adding that Tate has led the industry in reducing the embodied carbon of its materials, contributing to the sustainability of data centre projects.

O'Rourke also emphasised Tate's role as a trusted partner working closely with architects and designers to develop solutions addressing data centres' evolving technical and operational needs.

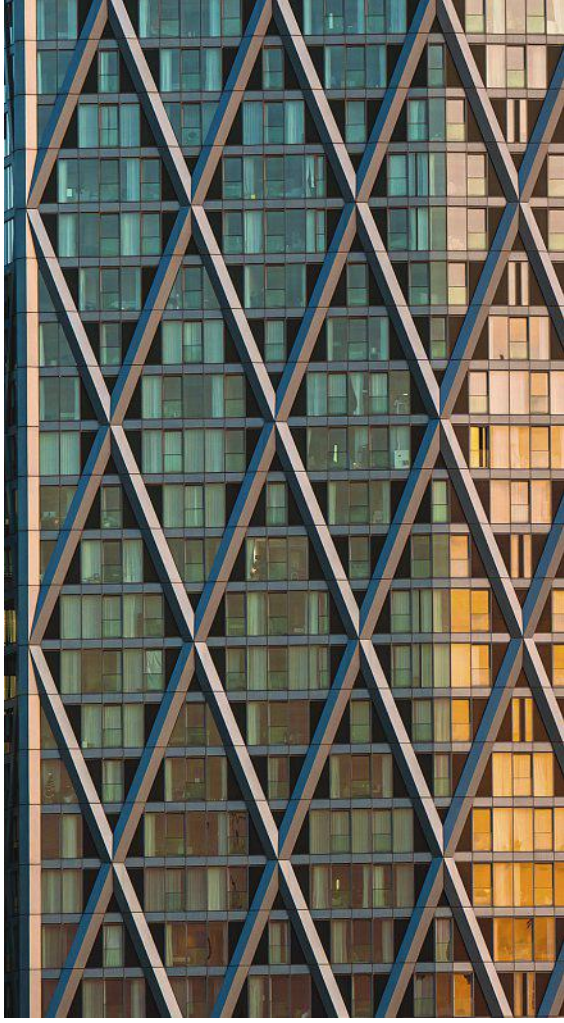
As the pace of change in the technology accelerates, so will the evolution in the design and engineering of these facilities. Architects are well placed to lead the way. ●

How to handle being undercut on fees

With practices reporting losing work to 'impossibly low' fee bids, it is increasingly important to set out the true value of the services you are offering, write Stephen Brookhouse and Peter Farrall

Procurement & contracts

Legal, regulatory & statutory compliance



A significant number of architects have approached the RIBA regarding other practices undercutting them with what look like impossibly low fee bids. Has this happened to you? If so, it is worth considering the following questions:

1. Did the client select the successful bidder purely on price without properly assessing the quality of the bids?

2. Did you define the scope of service you proposed to deliver and identify any qualifications to your bid?

3. Did the client explain the project brief? If not, did you attempt to discuss this with them?

4. Was your fee bid calculated on an objective basis to reflect the estimated resources required to deliver the project with an allowance for profit and risk?

If your answer to any of these questions is 'yes', then it was probably best you did not secure the commission since a lower fee would almost certainly have lost money – or worse, your practice might have embarked on a project with poor definition and, therefore, a high degree of risk.

Of course, things are not always this simple. Fee negotiation is about the grey areas. In our research for the updated Good Practice Guide: Fees book, we spoke with a wide variety of practices and a number of common themes emerged. These ranged from the basics of calculating your baseline costs and breakeven point, to clearly communicating the scope of services. A recurring comment was that the profession needs to explain the value of the services it offers – to all stakeholders.

Further soundings confirm that the pressure on the fixed and variable costs of delivering a professional service is now even greater – from the increases in professional indemnity insurance and National Insurance to the rising costs of maintaining competence, particularly in the area of building safety. Practices are now experiencing the true resourcing costs of implementing the statutory reforms brought in under the Building Safety Act – and not just with high-risk buildings.

> For most architects there will be pressure to win work – but not at any cost

It is ever more important to understand the true costs of running your practice by taking a critical view and interrogating historical data within the practice when estimating fees for new projects. Now is the time to review your breakeven point, whatever the size of your practice. It is important to be confident about the accuracy of your project costs and calculate your fee by critically assessing the resources needed to deliver your services. Marginal gains are under our control and have a direct impact on the bottom line. The proportion of staff costs to overheads can change. Look at the utilisation or 'non-productive' rates. 'Over delivery' can be an issue at different stages for many practices. We all want to provide the best service for our clients, so focus on where you add value.

Competitive bidding is a fact of life for most architects and there will be pressure to win work – but not at any cost. Being confident about the fees you put forward requires you to constantly monitor the projects you are delivering

CHUNYIP WONG/ISTOCK

Above Fees have to match the resources needed, otherwise the slide away from breakeven can be rapid. Istock

and understand what the real costs are to the office. This also allows you to flag up when resources are being expended on tasks that did not form part of the original brief. In this situation there may be opportunities to discuss additional fees with the client. This is why it is important to have an agreed professional services contract and be aware when the scope is being exceeded due to factors beyond your control.

Skilled negotiation is also important. It is a misconception that this is something that follows the fee bid. Negotiation starts with a clear idea of the 'what-if' scenarios and what to allow for profit, risk and the value you add to the project. Inevitably, having estimated your resourcing and breakeven point, these are the areas with most flexibility.

Where do you pitch your bid? Winning a job below cost will contribute to turnover in the short term. It may position the practice in a new sector or with a new client but it is not sustainable in the medium or long term. (Think of recent contractor failures.) The strong message from practice is not to win the 'race to the bottom' by cutting the level of resourcing so that it is below the true cost of delivering a professional service. Cutting costs by deploying junior staff with insufficient levels of competence, expecting excessive unpaid hours or winding down your service to the point where you are no longer delivering a professional service all carry a high degree of risk. Attempting to go back to the client cap in hand when these actions fail and you are running out of cash arguably contravenes professional standards and the requirement to resource projects fully. It may also reinforce the client's expectation of low fees, making it more difficult to regain a viable negotiating position in the future.

In this perfect storm it is worth remembering that it is not in the client's long-term interest to negotiate down to a point where it risks the delivery of a successful project. If you lose a bid, then ask for feedback. It gives an insight into their thinking. What criteria did the client apply? Often, we hear practices concluding they could never match the winning bid on cost alone. However, clients sometimes come back when they realise that the service provided by that winning bid is not satisfactory. Part of our negotiation position has to be to communicate the principles on which we base our fees, including the risks we manage and the value we add. We bid at the point of greatest uncertainty in a project and it is essential to leave room in your contract to renegotiate when the scope and programme change.

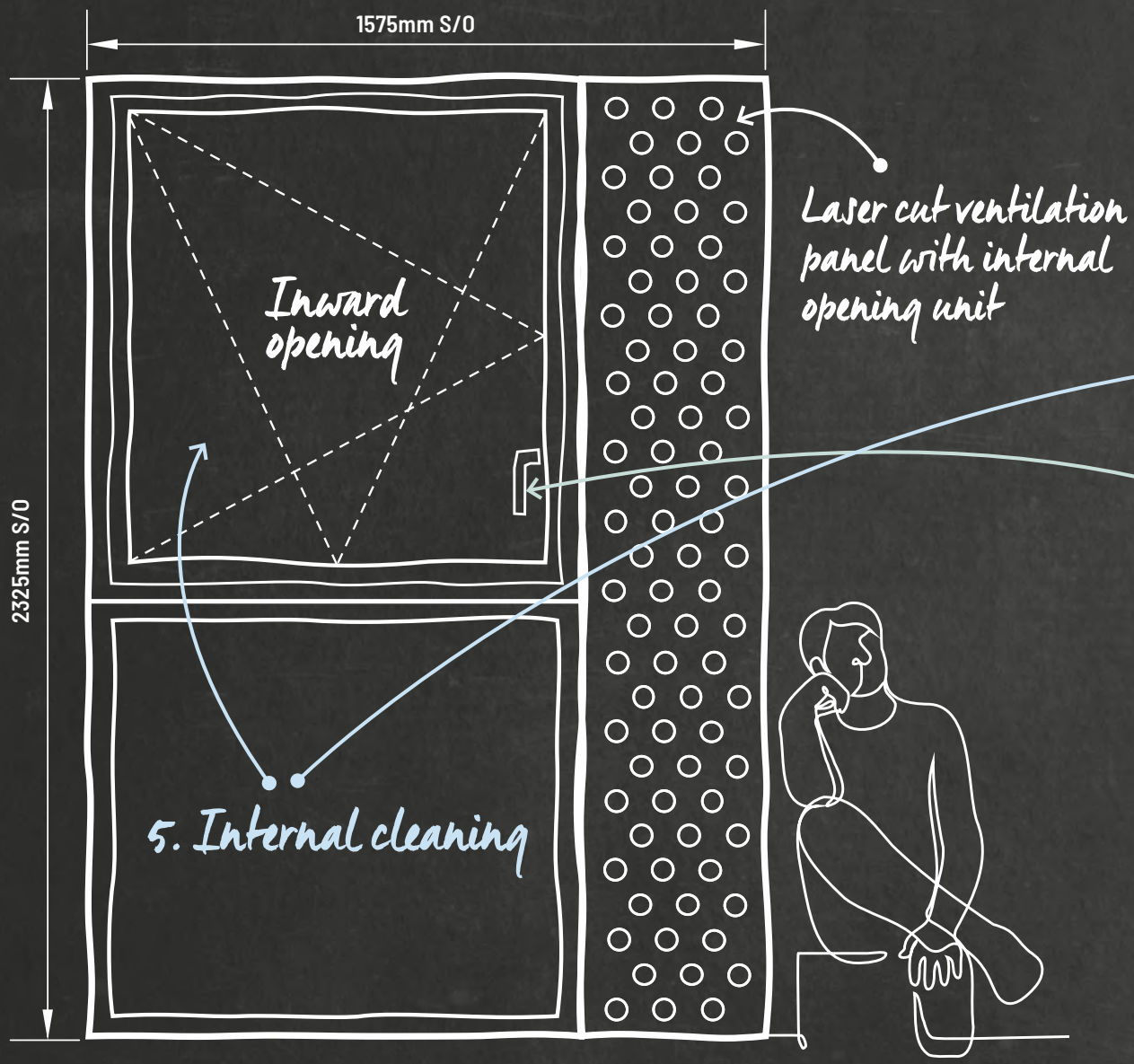
Finally, the complex, fluid statutory regime provides opportunities to deliver services where we add greater value – including the new principal designer role or offering complex planning advice – which will set your practice apart. ●

Negotiation starts with having a clear idea of the 'what-if' scenarios

Good Practice Guide: Fees, written and edited by Stephen Brookhouse and Peter Farrall, RIBA Publishing, 2024

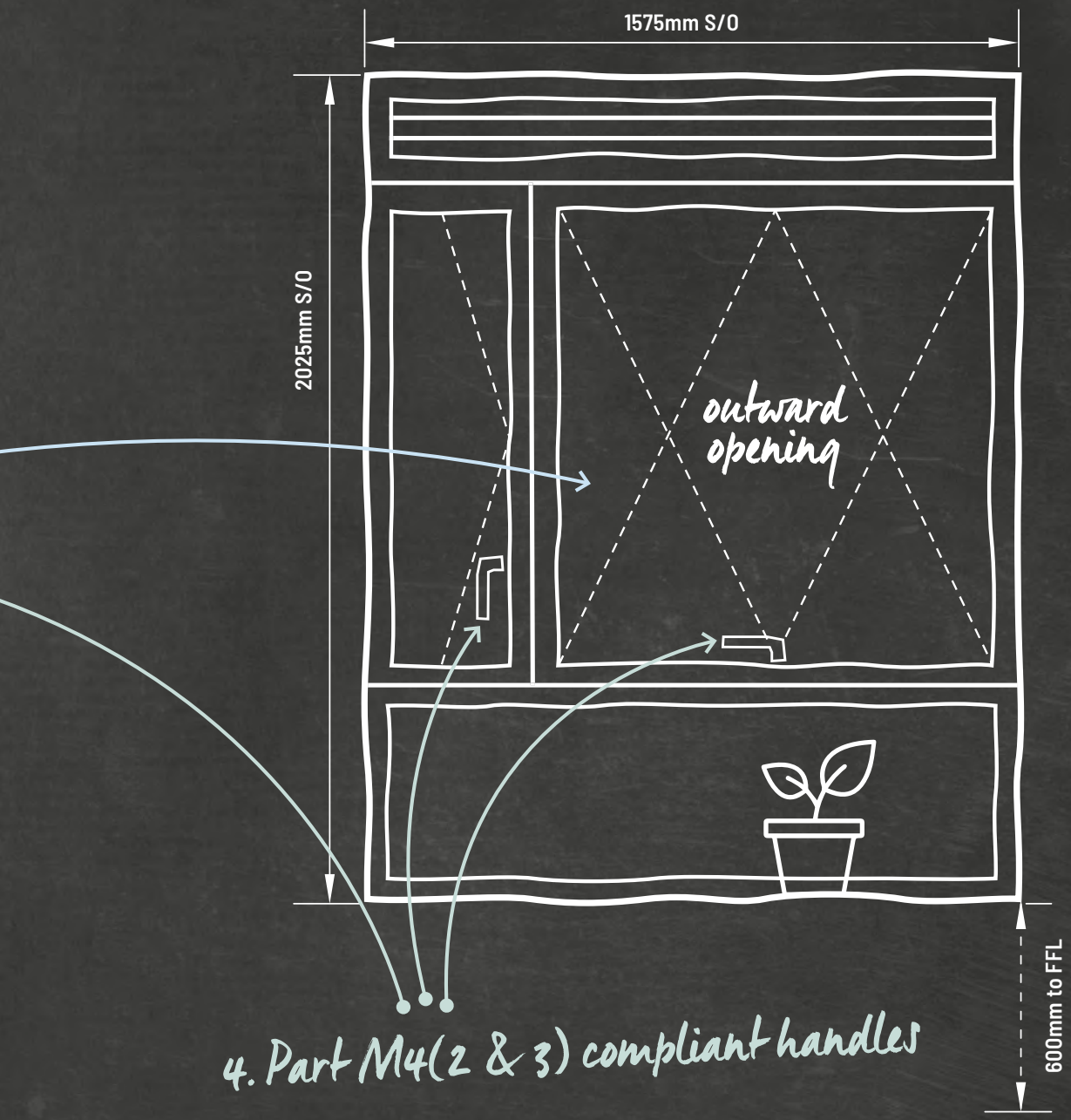
Pondering the key issues of **window performance**

At VELFAC, we know that meeting requirements of various building regulations, low-energy targets, and acoustic performance can be a challenge for many projects. That's why we have designed different window products to help specifiers achieve their ambitions, whilst also providing solutions to the thorny problems that regulations can bring. Come and talk to us to get advice on glazing, configuration and performance, and we will help you realise your vision.



VELFAC · Phone: 01480 759 510 · Sales Enquiries: sales-support@dovista.com
www.VELFAC.co.uk

1. Part O & F compliant ventilation solutions
2. U-values approx. 0.9W/m²k
3. Acoustic performance up to Rw43dB



4. Part M4(2 & 3) compliant handles

VELFAC®

The Waterman looking south. The architect designed the east elevation more like curtain walling than traditional load-bearing masonry.

Warehouse party

Fathom Architects' retrofit and refurb of four Clerkenwell warehouses creates extra space, order – and fun – while improving thermal performance, writes Jan-Carlos Kucharek

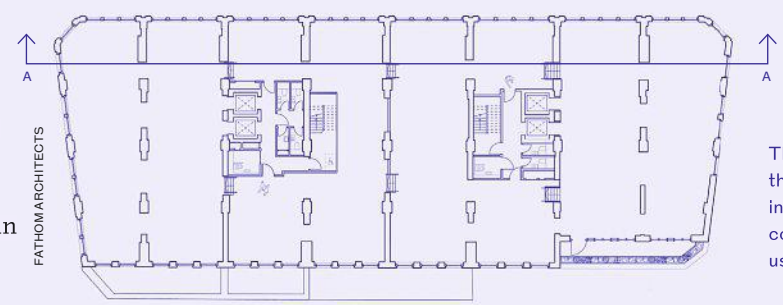
Set within the Clerkenwell Conservation Area, the Waterman is an ambitious reimagining of four 19th-century warehouses on Farringdon Road separated by masonry party walls. Over the years, it had undergone piecemeal conversion, leaving it with a confusing array of tenancies, no cohesive identity and a highly inefficient single-glazed building envelope that bled energy.

Architect Fathom was taken on by client BGO to turn the building into a work space that not only suited the needs of modern tenants but delivered a markedly better thermal performance. A replacement fifth floor and new sixth-floor extension have increased gross internal area by 900m^2 to over 6,500m^2. The refurbishment celebrates the building's industrial heritage while creating cosy, club-like reception and meeting areas at ground. Upper floors, in addition, have exterior balconies.

New section

Section showing four consolidated floor levels, better experience at ground, improved amenity at lower ground and added floors and communal roof garden.

Typical floor plan

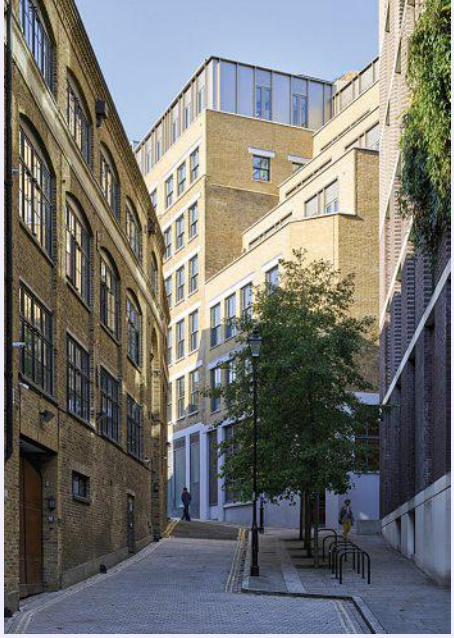


The plan showing how the two cores have been instrumental in floor level consolidation, with the use of double-sided lifts.

Installing high-performing but contextual windows and cladding was a key aspect of Fathom's challenge but not the only one. Associate Tom Bulmer speaks of the difficulties of this sizeable building retrofit. The practice was appointed in 2019 when the building was tenanted and, he says, it was difficult to ascertain the precise condition of the structure, not least because its timber floors, masonry party walls and cores stagger down more than 3m from its west to east ends.

'It was a narrow deep plan – quite inefficient and hard to let – so we wanted to make them as open as possible,' he explains. 'We connected them across the length of the plan, reducing the cores from four to two. With the four original double-bayed buildings, each 7m bay stepped relative to the next but they have now been rationalised to four stepped levels connected by two circulation cores with double-sided lifts, making each level accessible.'

The result is that level changes are now significant – up to 1m in places. Reconciling these changes with the existing heritage openings – which could not be altered – leads to some shifting relationships of sills to floors throughout.



Above Rear elevation looking up from Crawford Passage. To avoid planning concerns, new external terraces sit within the former building line of what was a more recent, curved mansard.

IN NUMBERS

6,500m²
net internal area

79%-85%
net/gross ratio improvement

3t
original glass repurposed as Ecorok

Credits
Client BGO
Architect Fathom Architects
Interiors (coworking) Fettle
Contractor Ambit
Project manager Blackburn & Co
Structure Bridges Pound
Services GDM
Cost consultant RLB

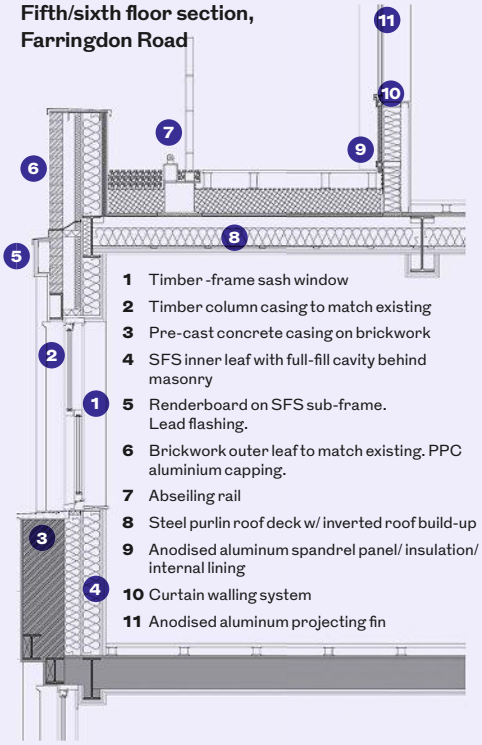
At entrance level, Fathom had to drop the timber/steel floor in places, which meant lowering the lower ground concrete floor slab to maintain head heights there.

Of interest is that Fathom's successful planning application, including new external terraces within the built line of an incongruous curved roof addition on the rear elevation, contained a proposal to replace all 360 single-glazed timber sash windows with double-glazed ones.

Fathom director Justin Nicholls explains that their condition was bad and the carbon saving argument was just too compelling. 'The modern replacements specified reduce energy consumption by 4.55 kWh/m2/year – paying back the embodied carbon from replacing the units within six years,' he recalls.

Given the size of windows and scale of the job, Bulmer says it came down to a couple of firms to supply the performance-specified units, with Gowercroft Joinery winning the job with subcontractor JPJ installations. All upper floors have been fitted with its Chatsworth timber-framed double-glazed sliding sash windows with a traditional weights and pulley system. The high level of grey paint finish could leave you thinking they are aluminium

Fifth/sixth floor section, Farringdon Road



FATHOM ARCHITECTS

The sixth-floor Kawneer anodised aluminium curtain wall to the rear bears laser-cut motifs taken from the main elevation.

MARTINA FERRERA (3)

sections but the feel of the sashes as they slide up leaves you in no doubt. 'They said we were the first firm to specify black cord!' adds Bulmer.

Given the large surface area the main elevation glazing has solar coatings, with a g-value of 0.4. Limiting solar gain was important – first to fourth floors are passively ventilated with mixed-mode used on fifth and sixth floors. Bulmer explains that, with sill levels as low as they are, it meant installing double restrictors that only allow sashes to open up 100mm, but adds: 'If purge ventilation is required, there's a limiter that keeps sashes within the 470mm opening allowed under the 2005 Work at Height Regulations.' Things were less complex at ground floor where Hardwick timber-framed double-glazed flush casement windows were specified at the front. To the rear, original shopfronts were kept but reconfigured where needed to suit new access and MEP requirements.

The sheer size of the sashes at lower levels (up to 1.28m x 2.7m) is such that, when it came to installing doors on the rear elevation to access the new exterior terraces, planners had to relent on their desire for timber frames. 'The frame size was so big it would have looked incongruous with the sash windows,' says Nicholls, 'so we went a Kawneer AA720 aluminium door system'. On the sixth floor, meanwhile, a Kawneer AA100 curtain walling system cladding system on a steel frame is fitted with tilt-and-turn windows to allow for cleaning. Kawneer AA720 cladding is used on the fifth-floor terrace externally, with its windows expressed internally like the original punched openings elsewhere and with an 800mm sill level, which the client preferred for space planning purposes. While it emulates the original rear elevation, Fathom seems ambivalent about the result. But it had fun specifying the gold anodised AA100 curtain walling system with 120mm laser-cut motifs emulating the original stucco ones found on the Farringdon Road elevation.

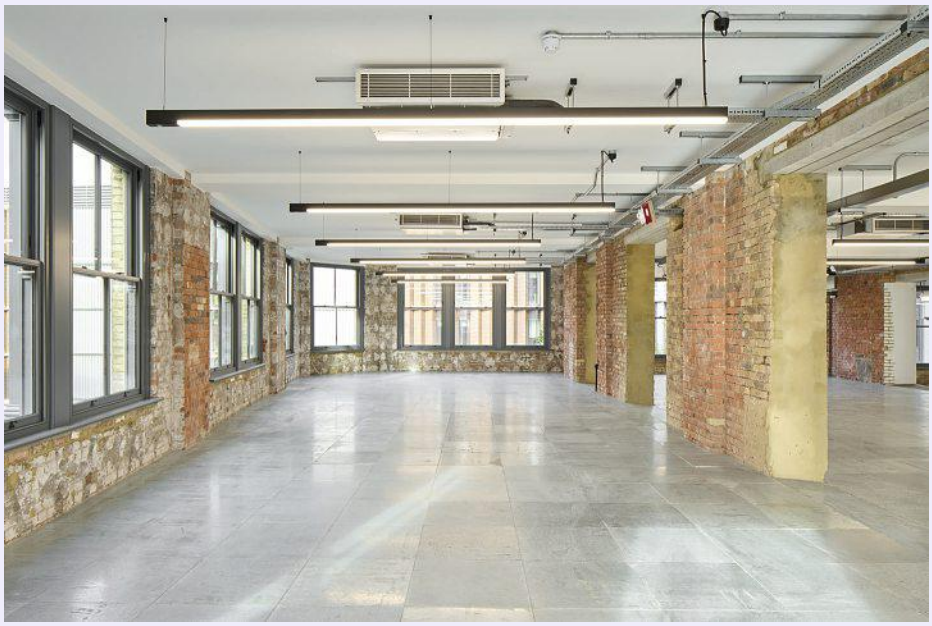
At roof level, a 4m x 2.5m rooflight above the south escape core is in fact a huge bespoke door, which slides open via an actuator if the fire alarm is activated. Supplied by Glazing Vision, it's an elegant alternative to a standard fire escape door and offers the client future flexibility when it comes to possible split tenancies being able to access the terrace from this core. It's low height kept planners happy too.

Interior designer Fettle was responsible for the fit-out of the members-club-like common areas at ground floor level, with glazed partition walls supplied by Fusion Partitions, which also supplied effective Contempo Glide sliding acoustic pocket doors. But Fathom was responsible for some of the internal material reuse and circularity, repurposing 3 tonnes of original glass into Ecorok terrazzo style worktops for kitchen areas, as well as the recycling of 5,000 bricks, nearly 200m^2 of timber flooring and 2.3 tonnes of structural steel within the build. It also specified recycled raised floors, a decision it says was a significant factor in its carbon mitigation under BREEAM.

FATHOM ARCHITECTS

Bulmer says carrying out the definitive survey after the design-and-build contract was signed led to a lot of 'discoveries', meaning contractor or client had to absorb the costs. Nicholls thinks 'ideally it should have been a construction management contract – though it would have meant pushing risk back onto the client'.

But the practice is now modifying work processes. At its latest retrofit job in Mayfair, Nicholls says it is colour coding drawings to show whether aspects are surveyed, taken from other info or just plain guessed 'in the hope that we can pre-empt those discoverables!'



MARTINA FERRERA (2)

Above The hefty, bespoke roof-level sliding rooflight acts as an emergency escape.

Left New office spaces maintain a distinctly 19th-century quality.

Below The 7m-wide, sash-lined bays can feel more like curtain walling.

CRITTALL®

THE **ORIGINAL** STEEL WINDOW AND DOOR MANUFACTURER

- High quality hand-crafted steel windows and doors built to last a lifetime.
- Versatile design customised to suit any commercial or residential project.
- Iconic slim sightlines achieve impressive thermal performance.
- Sustainable windows and doors made from high grade, recycled steel.
- Steel window and door heritage spanning over 175 years.

MADE IN BRITAIN

Discover the **real** Crittall Windows today.
www.crittall-windows.co.uk

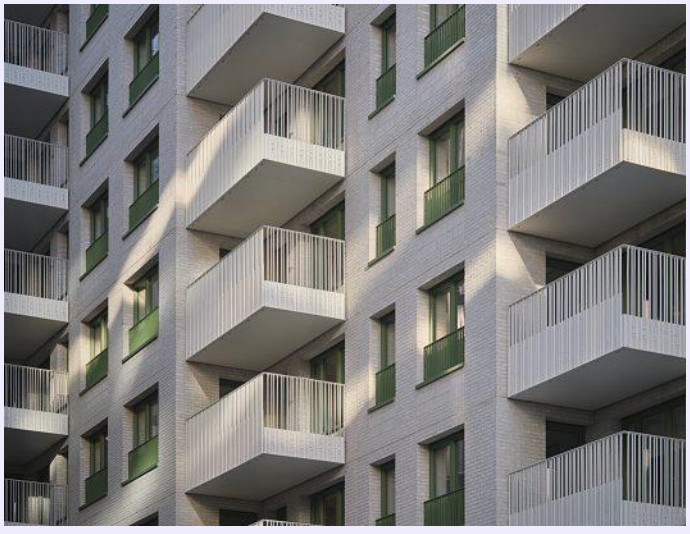
T: 01376 530800

Capella east elevation to Lewis Cubitt Park comprising market sale apartments

BILLY BOLTON

All clear at King's Cross

The 14-storey Capella is one of the last residential schemes in London's King's Cross masterplan, with 120 market sale homes and 56 social rented flats. Allies and Morrison partner Angie Jim Osman and associate Arpad Toth discuss the choices made for its doors and windows



ALLIES AND MORRISON

IN NUMBERS

21,840m²
GEA

176
apartments (33 different types)

32%
social rented

0.39m²K
thermal perfomance over facades

48%
reduction in carbon emissions via link to KXC district energy network

↙ Affordable homes to the south

Affordable units face out onto Keskidee Lane in close proximity to the office building opposite. To safeguard privacy and to offer views of Lewis Cubitt Park, we staggered units to face east. These flats have full-height doors and offer park views from their balconies, affording dual aspects to nearly all of the social rented units. Deep reveals to doors and windows ensure flats do not have undue heat gain, verified by thermal modelling by our sustainability consultant, Hoare Lea. Though smaller than on the market sale east elevation, the Nordan windows are still generous, measuring 2.3m wide by 1.8m tall. Windows have raised sills sat above brick soldier courses and low balustrades. As these are larger, family units, we were mindful of the everyday domestic mess that just happens. Higher sills keep this out of sight and give greater levels of privacy with less overlooking to bedrooms.

ALLIES AND MORRISON

↑ House on south-east corner
Part of the complexity of this project was in ensuring the aesthetic compatibility of the Nordan doors and windows with the Wicona Wictec 50 curtain wall cladding system used elsewhere on the building – for rooftop penthouse units for instance. It reminded us of the importance of control samples, helping us resolve performance requirements with the required aesthetics and material quality. The two-storey penthouse units are prominent, notably on the south 'gable'. As it was double height, at 5.93m, we used the Wicona aluminium system but stiffened with a small steel section cloaked in its frame profile and with bridging over the door openings. In some instances, Kawneer doors were also installed with Wicona cladding on the full-height ground floor retail and entrance area glazing.

BILLY BOLTON

↓ Ground-floor sale amenity
At ground level, with market sale and social rented lobbies as well as retail units, it was important for us to optimise the relationship to the park and maximise views into as well as out of the block. So we were keen to increase the visible light transmittance on the glass, minimising external reflectivity, and wanted to keep the detailing simple and crisp. With the need to provide air intake and venting to retail units and lobbies, a plenum is situated above the glass behind the horizontal clerestory louvres. Structural uprights are concealed behind the horizontal band of louvres for the elevation to appear minimal and well detailed. On a smaller scale, we use a similar approach for the apartments' assisted ventilation. Hidden above door frames and windows you'll find a concealed air intake hidden within a slot detail in front of an insulated plenum box. It's a triumph!

BILLY BOLTON

← Upper level two-storey house
The two-storey penthouse units give a full idea of what we achieved elsewhere. All doors have level thresholds to balconies with porcelain tiles running through and out to give visual continuity. You can see the steels covered by the Wicona aluminium sections here, helping achieve the dramatic double-height internal volume, overlooked by the mezzanine level. Above the beam is the cladding and below are the Nordan composite windows and terrace doors. We insisted the glass had a visible light transmittance of greater than 0.68 with minimal external light reflectance and 0.46 solar energy transmittance (g-value) and, for consistency, that both systems came from the same glass supplier.

↑ Sale flats and entrance on east
We won the competition for the project in November 2020 and designed the building on behalf of Argent (now Related Argent) for Stages 1-3. We were then novated to the contractor, Laing O'Rourke, at Stage 4a for detailed design. The client was keen that the external envelope of prefabricated scalloped and brick-faced concrete panels was detailed by us as the contractor had advance ordered them and had to comply with their fabrication time slot as part of its cost bid. We chose cream concrete and green-painted windows to both give lightness and to respond to the vibrancy of its park setting. Apartments with large bolt-on balconies create depth and texture on the principal elevation, and here we specified generous full-height timber composite windows and doors from Nordan's Ntech range with a bespoke textured polyester powder coating. The double-glazed composite aluminium units gave optimal thermal performance over the facades – achieving 0.39 W/m^2K – as well as the internal qualitative warmth of painted white timber. For the green colour, RAL 6011 HR, we chose a matt silicate finish by IGP, which gave a greater depth of colour than standard PPC finishes. This was a prerequisite in awarding the contract to Laing O'Rourke and Nordan.

ALLIES AND MORRISON

Credits
Client KCCLP (Argent now Related Argent)
Architect Allies and Morrison (overall design and affordable homes)
Interior design Johnson Naylor (market homes and ground-floor amenity)
Executive architect Chapman Taylor
Cost consultant Gardiner & Theobald
Project manager BuroFour
Structure and civil engineering Ramboll
Services engineering Hoare Lea
Landscape Todd Longstaffe-Gowan
Contractor Laing O'Rourke

Costed

Nicola Sharkey, UK insights and research lead at Gleeds, advises on costs

Recovery and growth are forecast for the UK market for doors and windows in 2025, following a period of economic headwinds influencing demand. Increased construction activity and housebuilding initiatives along with general rising demand for energy-efficient building materials will see a strong pipeline for such products, with composite products and aluminium expected to be dominant material choices.

The following rates cover the supply and installation of doors and windows, including frames, architrave, standard medium-quality ironmongery and appropriate finishes.

DOORS

EXTERNAL DOORS

Softwood doors	**£ each**
Standard external softwood doors and hardwood frames; doors painted; including ironmongery	
Matchboarded, framed, ledged and braced door, 838mm x 1,981mm	650-850
Flush door; cellular core; plywood faced; 838mm x 1,981mm	700-900
Heavy duty solid flush door single leaf	1,400-1,750
Single leaf; emergency fire exit	1,850-2,500
Steel doors	**£ each**
Standard doors	
Single external steel door including frame, ironmongery, powder-coated finish	1,225-1,600
Single external steel security door including frame, ironmongery, powder-coated finish	2,500-3,500
Bullet-resistant doorset Single, 1,000mm x 2,100mm steel doorset overclad with decorative ply veneer	5,000-6,250
Overhead doors	**£/m2**
Single skin; manual/electric	225-275 / 375-450
Electric operation standard lift, 42mm panels	300-350
Rapid lift fabric door, external, electric operation	1,150-1,500
Dock shelters	**£ each**
Curtain mechanical shelter; extruded aluminium frame; 2 side curtains, one top curtain; double-layered high-quality polyester, coated on both sides	1,600-2,000
Inflatable mechanical shelter; hot-dipped galvanised surface treatment, polyester painted, top bag with polyester fabric panels; side bags with polyester fabric panels;	5,000-6,250
uPVC doors	**£ each**
Entrance doors; residential standard; uPVC frame; brass furniture (spyhole/security chain/letter plate/draught excluder/multipoint locking)	
Overall 900 x 2,100mm half glazed	650-800
Overall 900 x 2,100mm half glazed; WER A-rated	675-850
Overall 900 x 2,100mm half glazed; coloured	750-925
Automatic glazed entrance doors	**£ each**
Automatic revolving door; 2.1m diameter, 2.2m high; clear laminated glazing; 4nr wings; glazed curved walls	40,000-60,000

INTERNAL DOORS

The following rates include for the supply and hang of doors, complete with all frames, architraves, typical medium standard ironmongery set and appropriate finish

Standard doors	**£ each**
Cellular core and architrave softwood; aluminium ironmongery (latch only)	
Single leaf; moulded panel; gloss paint finish	350-450
Single leaf; sapele-veneered finish	400-600
Purpose-made doors	**£ each**
Softwood panelled, lining and architrave; aluminium ironmongery (latch only); brass or stainless ironmongery (latch only); painting and polishing	
Double leaf; four panels; mouldings	1,250-2,000
Hardwood panelled, lining and architrave; aluminium ironmongery (latch only); brass or stainless ironmongery (latch only); painting and polishing	
Double leaf; four-panelled doors; mouldings	2,375-3,000
Fire doors	**£ each**
Standard fire doors; cellular core; softwood lining; softwood architrave; aluminium ironmongery (lockable, self-closure); painting or polishing	
Single leaf; oak veneered; 30-min fire resistance; polished	650-850
Double leaf; oak veneered; 60-min fire resistance; polished	1,750-2,250
Ironmongery sets	**£ each**
Stainless steel euro locks; push & kick plates; signage; closures; standard sets	
Office door; non locking; fire rated	425-525
Standard bathroom door (unisex)	375-450
Accessible toilet door	225-275

WINDOWS

Softwood windows	**£/m²**
Standard windows	
Painted; double glazed; up to 1.50m²	550-700
Painted; double glazed; over 1.50m², up to 3.20m²	450-600
Purpose-made windows	
Painted; double glazed; up to 1.50m²	850-1,050
Painted; double glazed; over 1.50m²	725-950
Hardwood windows	**£/m²**
Standard windows double glazed; stained	1,200-1,500
Purpose-made double-glazed windows; stained	1,500-2,000
Steel windows	**£/m²**
Standard double-glazed windows; powder coated	775-1,000
Purpose-made double-glazed windows; powder coated	1,350-1,850
uPVC windows	**£/m²**
Windows; standard ironmongery; sills, factory glazed, low-e, double glazed	
WER A-rated	300-450
Extra for colour finish to uPVC	75-100
Composite aluminium/timber windows	**£/m²**
Purpose-made windows; stainless-steel ironmongery	
Fixed windows up to 1.5m²	400-475
Fixed windows over 1.5m² up to 4m²	350-425
Outward opening pivot windows up to 1.5m²	900-1,050
Outward opening pivot windows over 1.5m² up to 4m²	425-525
Aluminium windows	**£/m²**
Window system of glass sealed units with 6.4mm low-e coated inner pane, air-filled cavity and 6mm clear annealed outer pane	
Ribbon construction windows 1.5m high	750-900
Punched hole windows fixing into prepared apertures by others	825-1,000

WE HAVE »YOU« COVERED

- Expert fire performance consultation for compliant product selection
- Precision wufi analysis to assess condenstaion risks
- Accurate U-Value calculations for optimal thermal efficiency
- Specialised design service for ventilation systems
- Comprehensive & precise technical documentation
- Up-to-date guidance on building regulations
- Thorough onsite inspections & continuous follow-up support

TECHNICAL SUPPORT »

Partel

Save energy. Build smart.

CONNECT:

WWW.PARTEL.CO.UK

EXTERNAL & INTERNAL USE

BREATHER & VCL MEMBRANES
THERMAL BRIDGING BLOCKS
TAPES, SEALANTS & ADHESIVES

Spatial beauty and surprise: designing bespoke houses

A PiP webinar featured presentations on three of the houses shortlisted for the RIBA House of the Year 2024

Designing a bespoke house is one of the more enviable architectural commissions, as webinar chair Jan-Carlos Kucharek pointed out at the start of a PiP webinar on the design of individual private homes.

The event featured presentations on three of the six houses shortlisted for the RIBA House of the Year 2024, including the winner, Six Columns by 31/44 Architects. All, said Kucharek, produced moments of 'spatial beauty and surprise' while responding to both the sites and their clients' wishes.

First, architect Alan Power of Alan Power Architects set the scene with insights from his forthcoming book At Home in the City: Domestic Architecture for Challenging Urban Sites. Due for publication in 2026, it considers how architects work with difficult sites to reinterpret the idea of home, creating experiential spaces that transcend the limitations of their contexts.

The book features homes drawn from across the globe. In Whitechapel, east London, Power's practice has maximised the potential of a constrained conservation area site to create a two-storey house behind a protective perforated brick boundary wall with just a glazed lantern visible above. This presides over the main living space, which features a dramatic diagrid timber ceiling. Power also gave a fascinating insight into two intensifications of the 20th-century typology of PH (horizontal property) houses in Buenos Aires, units with patios reached by common circulation. Kohan Ratto created PH Scalabrini Ortiz, a three-storey house on the 30m^2 plot of a former caretaker's house. Another, PH Lavalleja House by Constanza Chiozza and Pedro Magnasco, includes a terrace over a neighbouring roof – both were only possible through close and clearly fruitful collaboration with neighbours.

JASON ORTON

Above Farmworker's House – agricultural language externally; everyday grandeur internally.

The book is in part, says Power, 'a provocation for the UK' that challenges 'conservatism' and 'lack of imagination'. He'd like to see a 'fundamental change' in the way authorities approach development.

The following three case studies showcased both rural and urban houses:

Christopher Taylor, co-founder of Taylor Hare Architects, presented The Hall, a sensitive upgrading of a Grade II*-listed, 16th-century residence and associated barns in the Kent Downs, realised over nearly eight years. He described how the practice took time to understand the history of the site before formulating its approach. This included the removal of unsympathetic additions to reveal the original structure and the thoughtful introduction of new-build elements, including a pool house and additions to link the cluster of repurposed barns. The practice opted to repair and restore where possible, while introducing gestures of craftsmanship such as handrails made by a local blacksmith.

Hugh Strange of Hugh Strange Architects presented another rural property, Farmworker's House, an agricultural courtyard house in the north of Cornwall. He described how the house referenced both the main farmhouse and a decade-old livestock barn. The new house is nestled opposite this barn in the far corner of a field, with a robust outer wall addressing the barn and day-to-day farm activities. At the rear, the domestic realm is arranged around the courtyard.

The external wall is deliberately simple and robust, constructed from thick clay blocks with lime render on the outside and lime plaster inside, with a Douglas fir structured pitched metal roof on top. The longevity of the base structure contrasts with that of the internal divisions: serviced stud walls carrying lights, sockets and sensors, envisaged as changing when required.

Set in the contrasting urban setting of Crystal Palace in south-east

NICK DEARDEN

Above left Taylor Hare's extension has created new, dramatic domestic spaces.
Above right Six Columns has an internal complexity that only really manifests once you have passed beyond the formal threshold.

London, Six Columns was designed by 31/44 Architects' William Burges as his own family home. He talked eloquently about both the self-build rollercoaster of 'horror, terror, stress, borrowing money' and the evolution of the design and its many references, from Peter Aldington's Turn End house in Haddenham to Mies' Barcelona Pavilion. Burges describes enjoying the ordinary, and designing the house to be modest with a familiar form while making a positive contribution to the city.

'You can add a house that allows you to look back at the street and appreciate the qualities of the other existing houses,' he says.

The idea of a house that is 'quietly bold' appealed, and this certainly comes through in the presentation. Carefully considered external materials include a Wienerberger brick plinth and dark, veined marble at the entrance. Inside, there is a robust interior aesthetic of exposed materials and structure – an unfinished vibe that allowed for adaptation.

'We wanted to see, to feel the making of the building,' he said.

But there is also variety, with the inclusion of more secluded 'farmhouse' style snug spaces.

The three case studies were interspersed with presentations from the sponsors. Clara Vicedo Peñarrubia, an architect at the international promotions department of ASCER – Tile of Spain, described the sustainability credentials (a lifespan of 50 years) and versatility of ceramics produced by its member manufacturers, whether used for facades, floors or walls. This diversity was illustrated by a succession of new-build and refurbishment case studies including RG House by Summumstudio in Madrid, where porcelain on the floor, wall and staircase contributes to the minimalist aesthetic, and GRX Architects' Casa Isabel la Católica refurb, which makes extensive use of 10 x 10cm white tiles.

Amanda Hughes, ergonomics and ageing solutions expert at Blum, made a compelling case for designers to take heed of the rapidly ageing demographic, and design accordingly. In kitchens, for example, this includes the use of drawers rather than cupboards and effortless opening mechanisms. The current mode of kitchen, she says, doesn't foster ageing in place.

Summing up, RIBA Journal's Kucharek talked about the common threads of elemental simplicity and a consciousness to materiality that run through these exemplar house projects. And while all have their own complexities, the architects have clearly risen to the challenges with aplomb. ●

French + Tye Photography

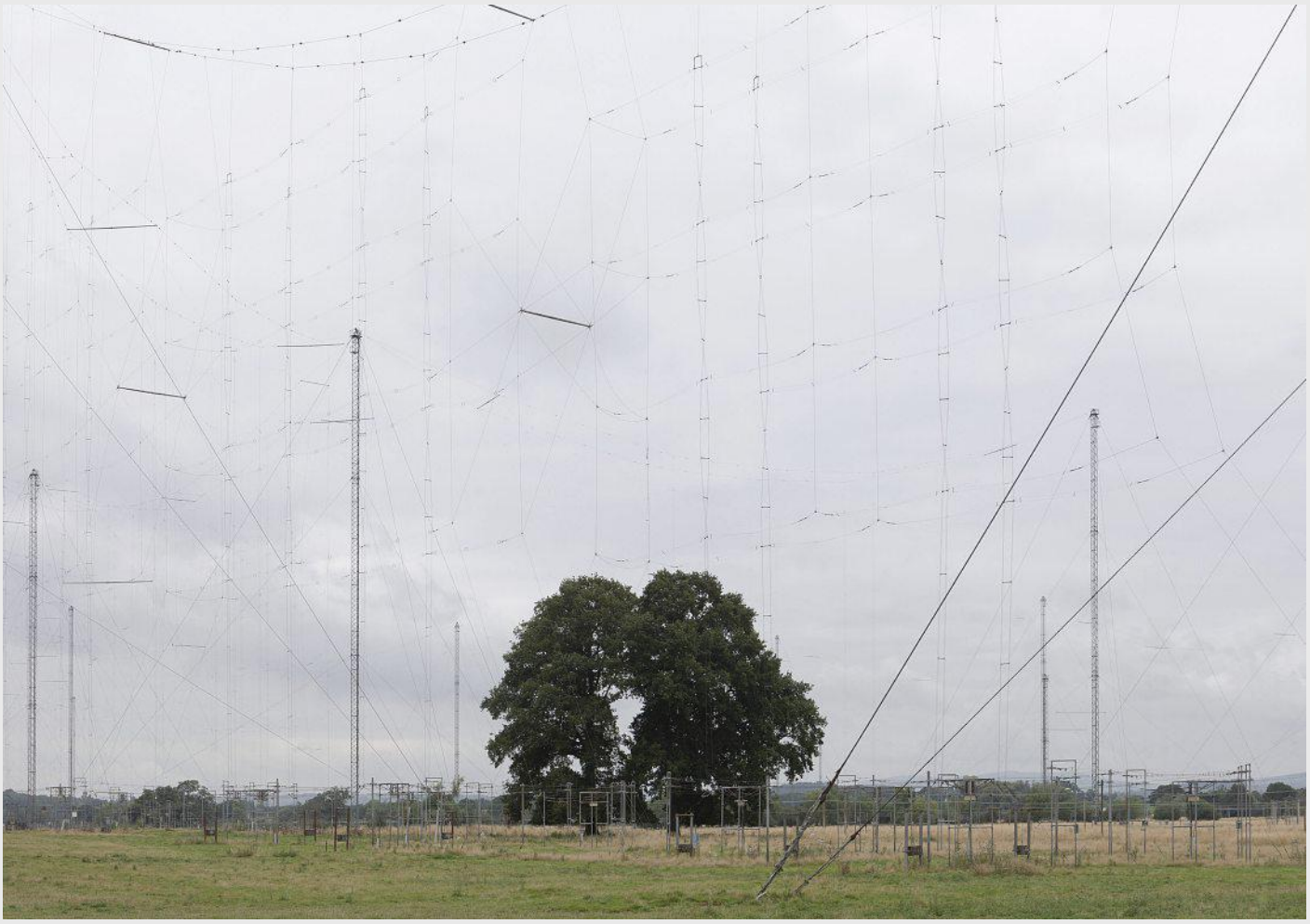
FRAMED TO PERFECTION

Introducing W20-A, the most thermally efficient and secure steel slimline window on the market. Proudly made in Britain.

Windows I Doors I Partitions I Shower Screens
01903 718808 I enquiries@fabco.co.uk
fabco.co.uk

FABCO

3: Culture



Rachel Ferriman Curtain Array, 2021
Canon 5Dmk4, lens 24-70mm 2.8L

As an 18-year-old art foundation student, Rachel Ferriman recalls a 1998 trip to Berlin when Mies van der Rohe's Neue Nationalgalerie 'blew my mind'. Admittedly, she was from a small Oxfordshire town, had only visited London on day trips and this was only her second time abroad. Still, a year from pursuing a fine art photography BA, she knew a good thing when she saw it.

Later taught at the London College of Printing by artist photographers Tom Hunter, Claire Strand and Anna Fox, she had insights into not only how to produce images technically but to consider the image itself – what it was showing and what it might be suggesting. Maybe this nascent skill was triggered by her seeing Mies's work 'sitting on its plinth in open space, where despite being large and heavy, it seemed delicate to the point of weightlessness'.

Woofferton's Curtain Array surprised her, driving round a rural Shropshire bend. It was built as a BBC shortwave transmission station in 1943, and what took Ferriman's breath away was its array of 15 steel lattice masts, up to 100m in height, holding up 26 tensile wire curtains – 'such a fragile, beautiful, unexpected thing sitting in the landscape'. In the Cold War, its sheer size meant it could overcome the robust frequency jamming from behind the Iron Curtain. Now it stands at the fringe of obsolescence as Ferriman hints at its hidden layers. ● **Jan-Carlos Kucharek**

'Can more regulations help make better buildings? Looking at the bulk of buildings completed in the first half of the decade, the answer seems be no'

The deadening effect of navigating regulations

A rationalisation of local policies could help give us better homes, says Eleanor Young

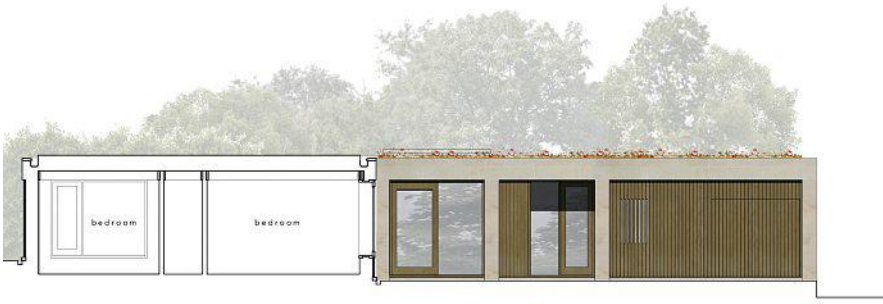
How big are your bedrooms? How often have their design dimensions resulted in triggering rules on additional car parking? Take one real example: an architect designing their own house; a tight site of backland garages; a local authority on the cusp of declaring a climate emergency.

As James Grayley discussed his modest three-bedroom house in a pre-app meeting with planners, it emerged that the room sizes on the schedule of accommodation, and the plan's neatly delineated double beds, triggered the requirement for four car parking spaces – despite being on the local bus route and a mere 15-minute walk to the city centre. The house was submitted for planning with smaller bedrooms and just two spaces. It is not the only time Grayley has seen the quality of a home diminished to circumnavigate unhelpful regulations.

For many architects, interrogating and mastering local authority planning requirements is a significant part of design. And that is once you have found where the core strategy, placemaking plan and all the policies sit on the council's website. Grayley estimates days rather than hours at the start of each project spent listing out the relevant policies in each new area the practice works in. There is not even a standard format. Pre-app meetings may or may not even include a design to discuss. They always centre around understanding local policy and whether a project would, or could, be policy compliant.

I am a great believer in local decision-making. Local authority plans have allowed adaptions to local conditions and sometimes been more radical – say on energy-saving requirements and sustainability standards – than central government would dare to be.

I am also a great believer that originality is born from constraints.



But there can be too many constraints with a disproportionate impact. Each design tests if policies and regulations can operate together to make better buildings and places. Looking at the bulk of buildings completed in the first half of the decade, the answer seems be 'no'.

There is a deadening effect from the time and ingenuity spent navigating an extensive and varied national landscape of regulations. Think of almost any new-build block of flats you know. Does the site lift your spirits? Does the plan spark an enthusiasm for life within them? Combined with concerns for net-to-gross and the complexity of contracting, it takes a superhuman effort not to follow the path of least resistance.

In December, we had the government announcing the reintroduction of mandatory housing targets and confirming the definition of grey belt with immediate effect. Perhaps a directive standardising how local policies are navigated could be one more small and decisive action from the Ministry for Housing, Communities and Local Government, giving us not just more homes but also better ones.

This issue we have brought our technical coverage into the main issue of the magazine in the form of 'Spec' articles. You can spot them by their indigo tint. A little reminiscent of the old dyeline printing of drawings, we thought.

ONLY ON RIBAJ.COM

Snøhetta's 'manifesto on collectiveness' is a visceral multilayered sketch

Hong Kong in sketches
ribaj.com/hong-kong-sketches

Above James Grayley Architects' RIBA award-winning Claremont Road house.

STEPHANIE WUNDERLICH DRAWING JAMES GRAYLEY ARCHITECTS

Ultra-realistic **wood decors**

All the aesthetics of wood, plus exceptional properties, at an affordable price.

Polyrey® laminates offer a wide range of performance features to make your interior design projects remarkable. Discover the authentic beauty of Polyrey® woodgrain decors – combining the realism of wood with the durability of HPL.

Tel: +44 (0)1923 202 700

www.wilsonart.co.uk/polyrey

polyrey®

A WILSONART COMPANY

The case for creative destruction

The strength of an institution can be in its ability to reinvent itself for a changing world, says Muyiwa Oki

I've been thinking a lot lately about the strength of institutions – how they endure, how they fade and how they can be reinvigorated for a changing world. Why Nations Fail, a book by Daron Acemoglu and James A Robinson, explores how prosperity often hinges on an institution's willingness to open itself up to something they call 'creative destruction'. They argue that societies (and by extension, professional institutes like ours) flourish when old structures are replaced by new, more dynamic and inclusive frameworks.

Creative destruction isn't tearing down for the sake of chaos. It's more a natural clearing of old debris to make room for growth, giving way to innovative ideas and fresh approaches. This constant renewal means that expertise doesn't get hoarded by a handful of gatekeepers; instead, it circulates, multiplies and evolves. This is how new technologies emerge, how social norms become more equitable, and how entire fields – architecture included – can reinvent themselves to meet a changed world outlook.

By extension, a thriving institution's ability to embrace 'creative destruction' can extend into its product – in our case, great architecture. Architecture is no stranger to the concept of reinvention. At RIBA, we're guided by the Way Ahead framework – a pathway that outlines what it means to be a truly competent architect in the 21st century. Competency is no longer defined solely by one's ability to produce blueprints or specify materials. Instead, it includes cultural literacy, collaborative engagement, technological fluency and an understanding of the social and environmental consequences of one's work.

This new approach also recognises the importance of specialisations. Some professionals will push the boundaries of parametric design, others will focus on heritage conservation while others will do great things in policy development or practical research. Each path is valuable and each contributes to the richness of our field.

Moreover, RIBA is taking steps to ensure architectural training and practice align with current and future needs. We're actively considering lessons learned in areas like health and life safety – critical given the introduction of the Building Safety Act – while ensuring climate literacy and social responsibility are embedded in our education frameworks. The message is clear: architects must be versatile, adaptable and profoundly aware of their impact.

Left The RIBA Health and Safety Test is now mandatory for all chartered members who design buildings built in England.

In this spirit, we have recently collaborated with the Construction Skills Certification Scheme (CSCS) to refine our safety and competency testing. The RIBA Health and Safety Test, now mandatory for all chartered members who design buildings built in England, covers a broader spectrum of issues: personal safety on sites managed by contractors, greater attention to pre-construction risks, and enhanced coverage of designers' duties and design risk management. Our goal is to create a testing regime that can be used to gain professional services providers (like us) access to site, and ensures they are well-prepared to engage responsibly at every stage of a project. I urge all members to take this test now.

Later this year we will launch pilot assessments for the mandatory competencies of climate literacy and ethical practice.

Like buildings, institutions need regular maintenance and sometimes a complete overhaul. By leaning into creative destruction, inclusivity and adaptability, RIBA is forging a path. We want the architectural profession to do more than just survive; we want it to thrive and make a tangible difference to society. The strength of our institution lies in our willingness to transform, learn and lead.

DIGITISING ARCHIVES

Last month, RIBA announced it will receive Bloomberg Philanthropies' Digital Accelerator support to help safeguard its architectural collections. By digitising and preserving materials, RIBA will create a cutting-edge archive platform, ensuring accessibility for future generations while advancing innovation across architecture and culture.

STEPHANIE WUNDERLICH PHOTO: ISTOCK

RIBAJ/Future Architects Film Competition 2025

Reach your audience with creativity and storytelling, make your name as a visual communicator and win a prize

Are you a student or early career professional? Have you got something to share with the profession and beyond? If so, you're in luck. The RIBA Journal is giving you the chance to enter a short-film competition run in collaboration with RIBA Future Architects, a community established to inform and inspire emerging architects. It is open internationally to entrants studying for, or in between, Part 1, Part 2 or Part 3, and aims to showcase the best up-and-coming visual communicators in architecture.

In past years, this has been a writing competition. But given the increasing importance of film in capturing, promoting and understanding the built environment, we've flipped the script. This year, we're asking you to turn your hand to filmmaking and produce a video of less than two minutes that would be suitable for social media platforms.

Choose one of three themes:

Making buildings

How can film be used to reveal what goes into the realisation of architecture, or the material and spatial qualities of buildings? Submissions might focus on details, the design or construction process, or getting under the skin of a building.

After architects

How can a story of inhabitation enhance our understanding of architecture? Entries might explore how buildings and public spaces are used in expected or surprising ways, or show how the use of space could inform future design.

In practice

What stories about architectural practice could engage an audience, either within the profession or beyond? Can you reveal something about the creative process or the qualities of a studio? Can you communicate urgent issues facing architects in their working lives?

Pick up your camera, phone or stylus and start creating. Films could be lo-fi or crisp, witty or serious in tone and feature long pans or fast pace frames. The judges hope to see a wide range of approaches and will be looking for visual interest, an engaging choice of subject, strong storytelling and inventive use of the medium. Winning films will receive a prize and be showcased by RIBA Journal. We look forward to watching your new releases.

DEADLINE: MONDAY 7 APRIL 2025, 2PM

FOR MORE DETAILS AND TO ENTER NOW, GO TO: RIBAJ.COM/FILM-COMPETITION

UK-based French stonemason Pierre Bidaud explains why he wants to democratise the use of stone as a low-carbon alternative to concrete

Words: Jan-Carlos Kucharek Portrait: Justin Ince

The New Stone Age

If Pierre Bidaud tells you 'it's good sourcing structural stone from Portugal, as it's the cheapest in Europe and has very good lead times', then you would be best heeding the advice.

Since the French stonemason made the UK his home a quarter of a century ago as creative director of his Stonemasonry Company, he has been at the vanguard of a drive to push the use of structural stone – a zeal belied by his otherwise warm and affable demeanour. But make no mistake, along with the likes of Portland supplier Albion Stone, Scottish Borders stone supplier Hutton and Norwegian granite company Lundhs – all professional members of The Stone Collective – Bidaud is on a mission to create a 'New Stone Age' in this country.

A love of the material is in his bones. Bidaud has been a stone guildsman for 30 years, spending the first decade of that time crossing France to learn his craft before a year working at Gloucester Cathedral in 1994 saw him fall in love with the 'parametric purity' of English gothic.

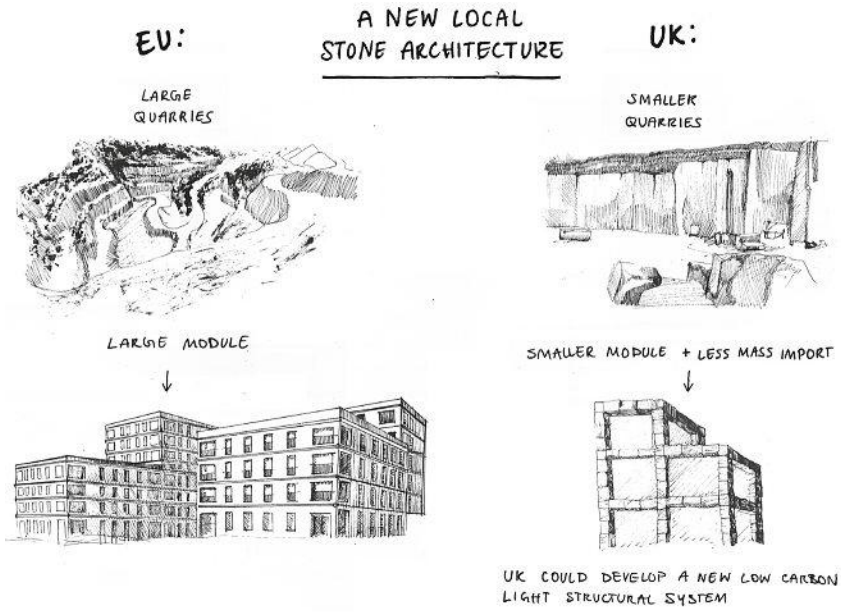
His knowledge of working stone is matched by his appreciation of its architectural context. Viollet-le-Duc and Pugin are casually dropped into a conversation in which he'll rue Adolf Loos' championing of stone veneers and express his love for Eric Parry's structural stone projects and Hopkins Architects' Portcullis House. The latter, he says, 'epitomises the new gothic'. In his whistlestop tour of the typology, he co-credits Peter Rice for the post-tensioned stone at Renzo Piano's stunning Padre Pio church in Italy, and Arup's Tristram Carfrae for ongoing restoration and innovative stone works at Gaudí's Sagrada Familia in Barcelona.

A stunning scale model – in stone, naturally – of his firm's stair for a private house by Foster + Partners in Antalya, Turkey, takes pride of place at the foot of the stone flight in his Clerkenwell

office. A stone's throw away, Bidaud collaborated with engineer Webb Yates to realise Groupwork's 15 Clerkenwell Close. Nominated for the 2021 Stirling Prize, its simple trabeated frame looks about as close to Abbé Laugier's 'primitive hut' concept as we've come since the picturesque. And with his ongoing interiors work abroad for high-end clients like LVMH and Hermes, Bidaud is a man at the top of his game.

But this doesn't stop him being grounded. Bidaud's aim is to democratise the use of stone and make it accessible to all as a low-carbon, affordable alternative to concrete. 'Clerkenwell Close involved just 100m^3 of stone; 10m x 10m and 1m deep,' he says. 'If you imagine that in concrete, it would've been a very different proposition, with steel rebar and aggregate generating far more embodied energy.'

It's a logic expounded in his company brochure, where he illustrates stone's carbon benefits against other materials, as well as ways of integrating structural stone, both structurally



Above Illustration of vernacular solutions depending of the quarry's output.

Below Large split limestone ashlar for a structural wall.

SOFIA NASE

PIERRE BIDAUD FOR THE STONEMASONRY COMPANY

and thermally, into projects of all scales.

He paints a picture of subterranean circularity. 'The care given to stone extraction is more nuanced than just blasting it away, as with concrete,' he emphasises. 'In France, where a lot is quarried underground, spaces created can be used to host data centres, cultivate mushrooms or even store cheese.' But France's belief in its craft 'guilds', centuries old and nurtured after two world wars, combines with a construction industry that's far more geared up to using stone.

He has learned from the likes of Paris-based OnSITE Architecture, Gilles Perraudin and Studiolada, trailblazers who have earned a reputation by realising a host of housing, schools and winery projects nationally, and is now working with Carl Svenstedt and Swiss firm Archiplein. 'France is as tuned-in to the economics of structural stone as concrete and steel ones,' he informs me, 'so using it is both viable and affordable.'

While Bidaud is stimulated by working in the UK, where he says engineering design is developed via proving your case rather than France's more homogenising, code-based approaches, he admits there remain many challenges to large-scale adoption of structural stone, the primary one being contractual relationships.

'The issue in the UK is the power of the main contractor in design-and-build projects,' he says. 'Once through tender stages, they have far more power to dictate things and tend to rely on their established supply chains, with stone suppliers already doing good business selling them stone facing slabs to add onto concrete or steel frames.'

But it's not just UK construction industry inertia, it's that the government has consistently failed to invest. 'It has been rubbish at developing the kind of stone apprenticeship and training schemes that are commonplace in France,' he says. 'People are disassociated from means of production and don't know how things are made,' he says. This has led to a culture of contractor hegemony. 'They can say a lot of stuff to scare clients but if we can bring surety to the process, it neutralises those threats,' he says, adding that prefabrication itself puts paid to any 'lack of skills' or the 'too expensive' argument.

Prefabrication, it appears, is his magic bullet to overcome entrenched perceptions of structural stone as prohibitively expensive; that and having architects manage their expectations of the homogeneity of a natural material.

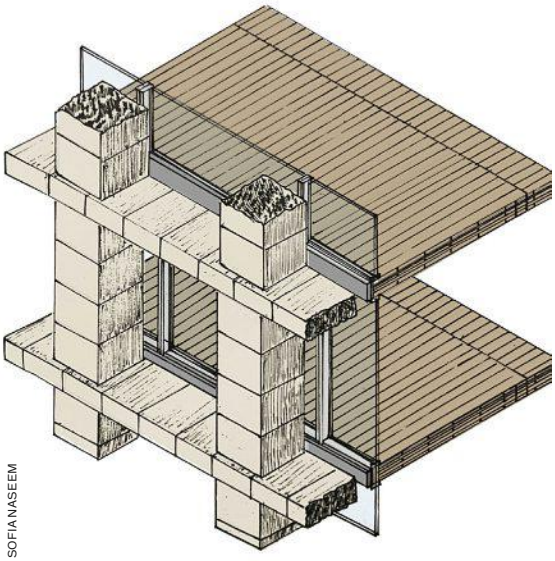
THE STONEMASONRY COMPANY

'Clerkenwell Close in concrete would have been a very different proposition'

Above Structural stone wall formed of unloved stone, Cambridgeshire.

Below Stone staircase prefabrication. New wire-cutting technology allows for 100 per cent use of material.

THE STONEMASONRY COMPANY



SOFIA NASEEM

Left Study for an exoskeleton using an augmented stone system.

Below Demonstration of augmented stone use with reinforced prefabricated limestone.

Bidaud cites the example of 80 per cent of quarried material being rejected as stone facing due to not being the 'right' colour. That, he emphasises, has to stop. 'Lutyens would have used most of the stone he quarried unless it had fissures in it,' he says. 'If it's mechanically sound then it should go in the building.'

And how does one prove that mechanical soundness? Bidaud thinks the way forward may lie in the latest developments in ultrasound tomography, which can be used to check stone for flaws and allow it to be graded, allaying fears for engineers and specifying architects.

It's also about breaking down stone module sizes to optimise structural integrity and post-tensioning them together using steel rods, as Arup did at Sagrada Familia. 'It means you use the stone's intrinsic strength while minimising waste,' he says. But it's also about shifting the engineering bar that's dictated by concrete and steel. 'We need to reconsider if we really need 60mPa concrete performance for a three-to-four storey housing development,' he says.

Curiously, Bidaud also envisions the future of structural stone as an invisible one. With land-based wind farms a government priority, he believes we might learn from 18th-century lighthouses and use granite foundations for turbines instead of concrete ones.

In the meantime, Bidaud needs to address concerns on stone's footprint and the critical aim of specifying locally. And France, he informs me, remains a test bed for that.

'In a free market, they'll undercut each other to win work so you'll find stone shunted from all over the country – even abroad,' he says. But it seems they are learning from more bullish Portuguese quarries now offering cost stability at scale over time, avoiding the fluctuations that might otherwise hinder stone uptake. But as long as the UK industry default is steel, concrete and perfectly formed stone slivers, such benefits won't be offered.

For Bidaud, this inertia is bound into the industry's misguided perception of a material that, he firmly believes, can be used economically – in both structural and monetary terms – in buildings of up to 10 storeys. But it'll take a quantum shift before it does.

'It thinks in terms of cathedrals and pyramids rather than the cottage, barn or warehouse,' he says. 'We must address the skills gap and prefabrication to challenge concrete's market domination. It's never been about the cost.'

HENRY WOIDE

futurebuild

04 - 06 March 2025 | Excel, London

making a

POSITIVE IMPACT

on the built environment

Introducing Impact - the theme driving Futurebuild 2025. Impact reflects our shared commitment to positive change in the built environment, with a focus on sustainability and innovation. By visiting Futurebuild 2025, you'll not only experience this transformation but also take part in it.

Discover cutting-edge solutions, connect with industry leaders, and gain the tools and insights to make a meaningful impact in your work and beyond.

Register today

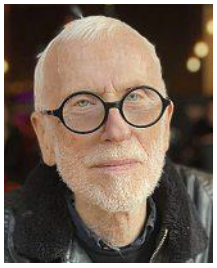
IMPACT NOW

www.futurebuild.co.uk

@FuturebuildNow /FuturebuildNow /FuturebuildNow /FuturebuildNow FuturebuildNow

by EASYFAIRS

The co-founder of shedkm helped redefine urban regeneration while also being a committed educator



Dave King 1938–2024

Dave King's legacy spans more than six decades. As an architect, educator and co-founder of shedkm, his influence is visible in all aspects of the profession.

Dave was born and grew up on the Wirral, spending his youth sailing at Hoylake and studying in Chester before attending Manchester University. Following graduation, he worked for LAG Prichard before joining Denys Lasdun's office in 1965. There, he contributed to significant projects such as the University of East Anglia campus and the National Theatre. In 1970, he moved to Arup Associates before taking up a lectureship at the Liverpool University in 1976. He also set up in the city, establishing a practice from his home- with former student Rod McAllister – as King McAllister.

Together with Gerald Beech, they designed the now iconic studio space at Liverpool School of Architecture (1986). Integral to the school's identity, the green carpet, castellated beams, exposed ventilation system and central staircase have been an inspiration and teaching exemplar. The building stands as a testament to Dave's approach to design and education, combining functionality with lasting aesthetic impact.

A further commission to design the university's Student Services Centre and Guild reflects the practice's emerging architectural language, with its distinctive brick forms and aluminium brise soleil.

Dave's commitment to refining these architectural ideas led to the co-founding of shedkm in 1997, alongside Urban Splash developer Jonathan Falkingham and former student James Weston. Dave's approach came to be recognisable across a body of projects; carefully crafted, contemporary and playful with a bold use of colour.

At shedkm he helped to redefine urban regeneration, offering a new perspective on how innovative architecture can engage with both history and community, particularly in his beloved Liverpool, where his projects included Matchworks, Collegiate and Southport Pier Pavilion.

As a teacher, Dave was characterised by a hands-on approach, full of energy and insight. He taught at Liverpool University from 1976 to 1986 and again from 2014 to 2024, with an interim role at Liverpool John Moores University.

Dave's approach to educating was both kind and direct, with an unwavering belief in and support of future generations. He pushed his students to think critically and to relentlessly pursue properly resolved solutions. Unlike many architects who transition from practice to academia, Dave remained deeply engaged in both. After turning 60, he returned to full-time practice while continuing to find the energy to teach.

In 2012 and in support of shedkm's expansion to London, Dave moved to the Barbican, a location well-suited to his love of modernism. He continued to educate via Liverpool University's London campus as well as to sail and ski, and was always at the forefront of design and technology, whether it was being one of the first to own an iPhone, embracing the delights of a Brompton bicycle, or in his distinctive eyewear.

Dave inspired generations with his passion for design, his insights and his great love of life and the new. He reminds us that design and life sit side by side, and that they do and should inform one another. He leaves a profound personal and professional legacy.

Hazel Rounding, managing director of shedkm, and Iain Jackson, professor of architecture at Liverpool School of Architecture

IN MEMORIAM

Peter Frank Stonebridge
ELECTED 1962, CLWYD

Andrew Richard Walker
ELECTED 1986, FIFE

To inform the RIBA of the death of a member, please email membership.services@riba.org with details of next of kin

RIBA COLLECTIONS

Old Nahe Bridge
Germany, circa 1300

Inhabited bridges are unique and fascinating structures, successful crossovers of engineering and architecture. They were built in several European countries, mostly between the 12th and 16th centuries, as a way of increasing the provision of residential and commercial units in walled cities, which had no capacity to expand. Italy arguably claims the two most famous inhabited bridges – the Ponte Vecchio in Florence and the Rialto Bridge in Venice – but the highest number were probably built in France. In Britain, the Pulteney Bridge in Bath is a fine example, while the original London Bridge was crowded with houses and shops. Among Germany's inhabited bridges, the Old Nahe Bridge in the spa town of Bad Kreuznach is one of the most picturesque. The stone bridge itself was built in around 1300 to connect the two settlements on either side of the river Nahe, while the houses were added in the 15th century. Part of the bridge was destroyed by German troops in 1945 and then rebuilt in concrete but, fortunately, the arm featured in this photograph of 1880 survived. ●

Valeria Carullo

Editor
Eleanor Young

Deputy editor
Jan-Carlos Kucharek

Managing editor
John Jervis

Contributing editor
Chris Foges

Assistant editor
Flo Armitage-Hookes

Publishing director
Helen Castle

Corporate partnerships/ sponsorship
Richard Tomlin
+ 44 (0) 207 496 8329
John Ward
+ 44 (0) 207 307 3673

Advertising sales
Jennifer Collins
Content Media Services
+44 1625 667583
Jennifer.Collins
@contentms.co.uk

Advertising and digital production controller
Barbara Tognini

RIBA marketing
Leona Tomeckova

Production
Richard Blackburn
Jane Rogers

Sub editing
Simon Aldous

Design
Linda Byrne
Richard Krzyzak

Telephone
+44 (0) 20 7307 3735
Email
firstname.surname
@riba.org

Subscribe to RIBAJ:
Print + Digital
UK £180 ex VAT
RoW £225 ex VAT
Digital £90 ex VAT
subscriptions.ribaj@
riba.org

RIBA Journal
ribaj.com
Published by RIBA
1834 Ltd
Registered office:
66 Portland Place,
London W1B 1AD

Printed by Warners
Midlands plc

SonaSpray fc in grey in Oscar Acoustics' SonaSpray Training Academy. ©Antonia Stuart.

CPD - detailing of acoustic finishes

Book your 2025 CPD with Oscar Acoustics. Available online or in person.

"Many thanks for a riveting presentation on acoustics. It's an area I advise in as an architect, so completely relevant and of interest.

Best CPD this year!"

★★★★★

01474 854 902
www.oscar-acoustics.com

OSCAR acoustics

maxlight x lazenby

@maxlightltd
T: 020 8896 0700
E: sales@maxlight.co.uk
333A Western Avenue,
London W3 0BE

@lazenbyltd
T: 01935 700306
E: info@lazenby.co.uk
24 Whitby Avenue,
London NW10 7SF