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INVENT

14
WASTE NO MORE
The architectural practitioners pushing circular economy limits and turning byproducts into building materials


LEWIS JONES

7 **LEADER**
We can all help foster creativity and innovation through our practice, writes Eleanor Young

8 **TRACING HISTORY**
Belgian studio Gijs Van Vaerenbergh conjures a lost abbey in skeletal Corten steel

10 **TRASH TALKING**
Madelon Vriesendorp's household flotsam makes for a mind-bending new exhibition

33 **SMALL IS BEAUTIFUL**
German photographer Frank Kunert's painstaking architectural miniatures

20
LEVELLING UP
How the sector is embracing unconventional co-design methods to give excluded groups a real voice in discussions on the built environment


JAS LEHAL

26
PROFILE
Dr Olga Bannova, director of the world's only space architecture graduate programme, makes the case for human-centred design


OLGA BANNOVA

30 **SHORT FILM COMPETITION WINNERS**
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ALSO IN THIS ISSUE

BUILDINGS

34 **STIRLING LESSONS**
The teams behind this year's shortlist reflect on their projects

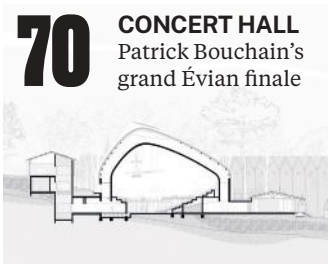
46 **STIRLING AT 30**
Evolution of the prize

51 **MACEWEN LAUNCH**
Submit your scheme

52 **OFFICE**
Eric Parry Architects instils stylish order at a chaotic London site

62 **CULTURE**
Heatherwick Studio and SPPARC's wavy Olympia extension

70 **CONCERT HALL**
Patrick Bouchain's grand Évian finale



PCA-STREAM

SPEC

80 **CASE STUDY**
House of EM expertly frames Shropshire



RICHARD GASTON

90 **MAKING BUILDINGS**
How PLP Architecture shot for biophilic bliss

96 **INSIGHT**
Four facades that express HOK's vision



HUFTON + CROW

98 **CHECKLIST**
External windows

RIBAJ REPORTS

100 Adaptive reuse

102 Healthy workplaces

106 Quiet luxury

108 Bespoke doormaking

110 Minimising falls from height

112 Creating offices worth commuting to

114 Data centre design

MISC

119 **PRESIDENT**
How bursaries benefit the wider profession

121 **OBITUARY**
Humane modern master Peter Ahrends

122 **COLLECTIONS**
A landmark health centre's 1930s chair

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A TACTILE TREASURE
PARABOLIC NOT HYPERBOLIC
TILED AND TIMBERED

Katy Marks on Hundertwasser's KunstHausWien in Vienna
Prototype vaulted CLT floors outperform traditional designs
Recycled plastic and Douglas fir at [Y/N] Studio's Hackney extension

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Cover image: Creating building materials from mollusc shells at Matter Forms

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INVENT

Creativity and innovation are intrinsically fluid and unpredictable things – but each one of us can help nurture them in our places of work through the ways we interact with colleagues and the cultures we contribute to, writes Eleanor Young

There is established, research-based academic literature on the conditions for invention and innovation. You don't have to rely on Heath Robinson, Buckminster Fuller, or even Ted Happold, to show you the path to creativity.

Yet for a profession that relies on those things, perhaps more often badged as creativity and problem solving, it is remarkable how little the conditions to nurture and encourage it are part of the public discourse. In this issue, where we celebrate this year's six RIBA Stirling Prize shortlisters (p34) – and enquire about the learning from their projects – we wanted to look into it more deeply.

Thanks to the nature of the profession, many architects will have grown up into it with the intrinsic motivation required – though we all know that can ebb and flow. On most buildings the nature of the design task ahead is meaningful and challenging – a strong driver towards the creativity and innovation needed along the way.

Psychologist and researcher Teresa M Amabile at Harvard Business School has been a key voice in this field over many years. She speaks of the need for 'nourishers' from managers and the organisation: respect, encouragement, emotional support, and the building of personal connections (you have to get into the detail for the deeper insights, but we don't have the space).

Teresa also talks about the negative impact of blockers in processes and reactions that impede that satisfying – and all important – sense of progress, which leads to disengagement and significant losses to how well a team can deliver. The ways in which managers or colleagues respond to mistakes also affect the extent to which people feel safe to try out new things, she explains.

She uses thousands of diary entries to understand these things. Most of us have to extrapolate from a few conversations with colleagues, friends and family. And validate this with our own experience.

But looking at life stories can also provide some clues. We have taken the chance to understand one earthbound designer, Olga Bannova, who has shifted spheres to design for astronauts in space (p26). We also talk to three people reusing waste as new materials to find out how they have tested and perfected their ideas and processes, using architectural projects and academia to hone them (p14). And we look at how design expertise can be brought together with the knowledge of people with different lived experiences through exciting co-design methods (p20).

I would assert that every building project demands creativity and invention. But the three we critique in this issue are unusual enough to warrant a second look, from Heatherwick Studio's pleated glass (p62) to Eric Parry Architects' City office jigsaw puzzle (p52) and Patrick Bouchain's cosmic grotto of a venue (p70).

The dynamics behind the teams and individuals who brought these creations into being is unknown. Perhaps, though, we can each give our colleagues and collaborators a stronger chance to succeed by borrowing some lessons from Teresa on how to nourish progress.

SPIRITUAL FRAMEWORK

WORDS
Flo Armitage-Hookes

"THE ARTWORK WILL REIMAGINE WHAT WAS, AND STABILISE THE RUINS"

Rising up from ruins and sketched lightly on the landscape, Belgian practice Gijs Van Vaerenbergh has reimagined the heart of an abbey near Hasselt. Slender Corten steel rods suggest walls, spires and trusses, creating a precise yet transparent outline of a church. "Clausura makes the history visible again. But at the same time, since it's very abstract and open, it leaves a lot to the imagination of the visitors" says studio co-founder Pieterjan Gijs.

Once a prominent Cistercian convent, Herkenrode deteriorated during the French Revolution before a fire burned down its central church and cloisters in 1826. Herita (a National Trust-like body for Flanders) bought the site in 2022 to preserve its history and transform it into a multi-use destination – inviting Gijs Van Vaerenbergh to address the emptiness at its core.

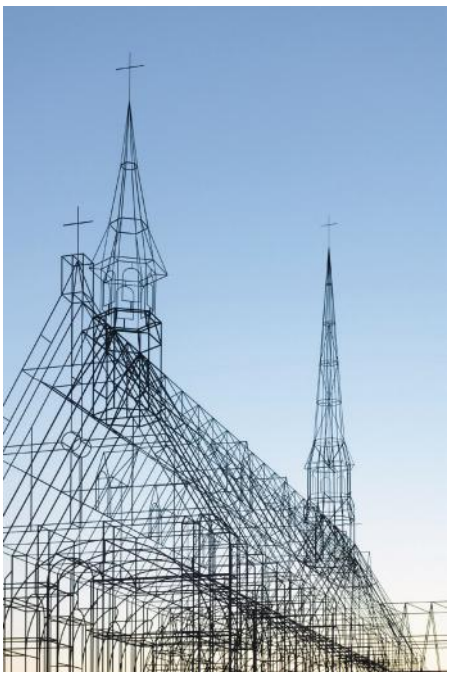
Practice members were keen to convey the scale and configuration of the lost complex, without resorting to a replica. Working closely with historians, they pored over old documents, drawings, and a recent archaeological survey of the foundations to piece together the original design. Sure, there was some filling in of gaps, but that's the freedom of an artwork, Gijs tells me.

Extracting only the key lines and rhythms, the studio then produced technical drawings for the steel rod structure (both co-founders studied architectural engineering).

Fabrication of the church took about a year and opened to the public in June 2026. However, it is only the first of three phases. The second will recreate the adjoining cloisters and the third, due to complete in 2028, will include remnants of an infirmary and dormitory. "The artwork will reimagine what it was, but also stabilise the ruins," Gijs explains.

Clausura is a much-needed focal point for the site; it can be wandered through, enjoyed from afar, or even used as a wedding venue. Yet, it doesn't rewrite history. Gijs Van Vaerenbergh's mirage-like work embraces absence as an essential part of the abbey's story.

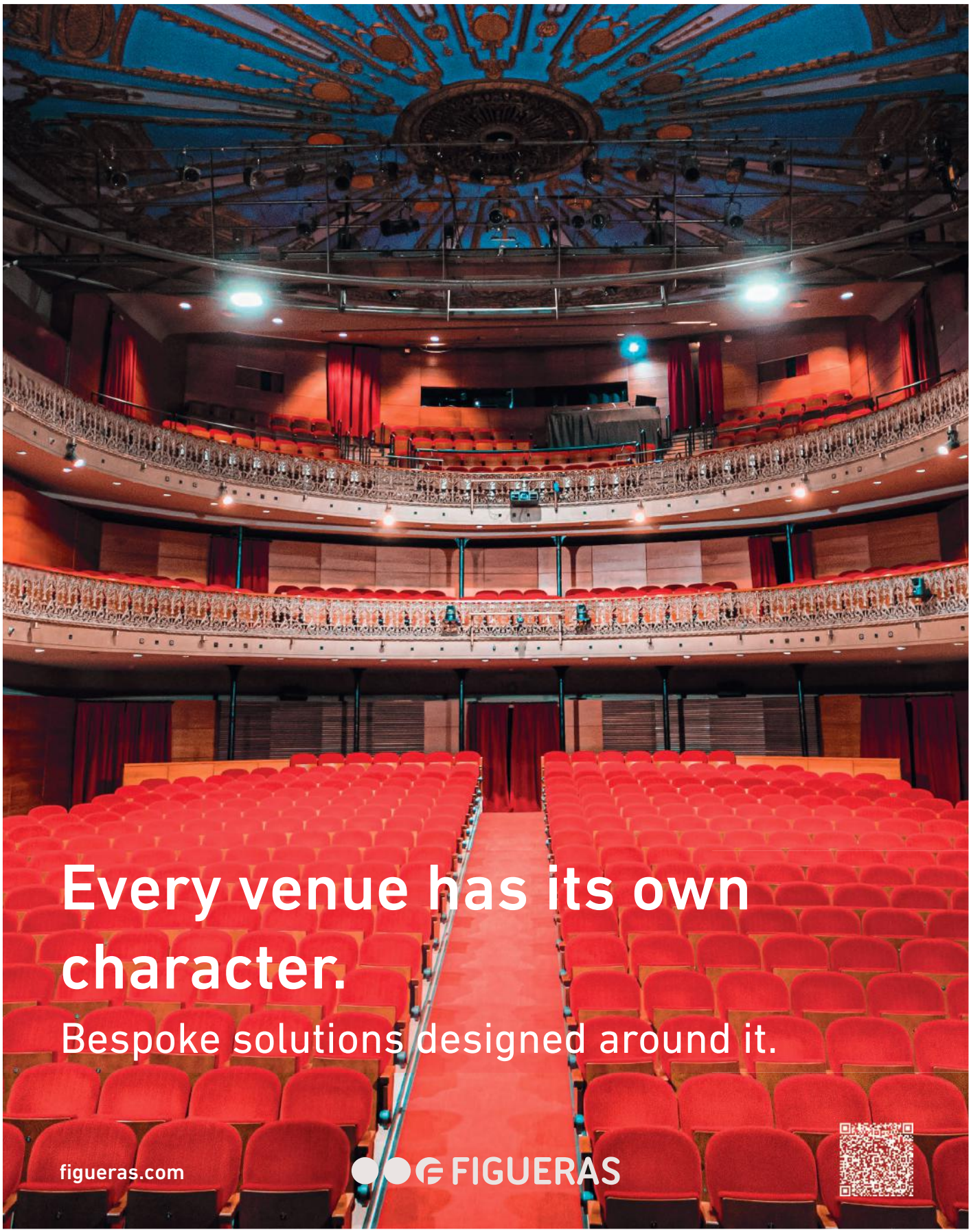
Below: Clausura by Gijs Van Vaerenbergh 'draws' the missing core of Herkenrode Abbey in northeast Belgium. The church, the first of three phases, is 55 x 70m.



JAN DE WILDE



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Opposite top: Pied Piper, centrefold for New York Review of Architecture, 2026.

Opposite bottom left: Visitors to Madelon Vriesendorp: Mind Games at Sir John Soane's Museum.

Opposite bottom right: Priests, c. 2022.

Below: Madelon Vriesendorp in Sir John Soane's Museum.



TILLY BUCKROYD

'One man's trash is another man's treasure' is a phrase Madelon Vriesendorp takes quite literally. Through her eyes, the cardboard bulges of avocado holders become gormless tadpoles, a milk bottle is feathered out into the tendrils of a Chinese dragon, and a row of gutted toilet cleaner bottles bow their bottle-cap heads in subservience to their phones. "I like all the rubbish that I collect," she says. "I can't throw things away – I think they will end up in the sea."

These Franken-objects can be found in Mind Games, a new exhibition at Sir John Soane's Museum commemorating Vriesendorp's 2025 Soane Medal win. A medium-straddling artist perhaps best known as one of the co-founders of OMA in 1975, she joins the ranks – including Denise Scott Brown, Peter Barber and Marina Tabassum – of those the award has recognised for enriching public understanding of architecture.

Mind Games celebrates a half-century of Vriesendorp's knack for discovering latent whimsy in otherwise commonplace objects. This thread weaves from her 1970s illustrations, personifying the infrastructure of her adopted New York, through to humanoid masks cast last year from statue heads passed up from her downstairs neighbour via their balconies.

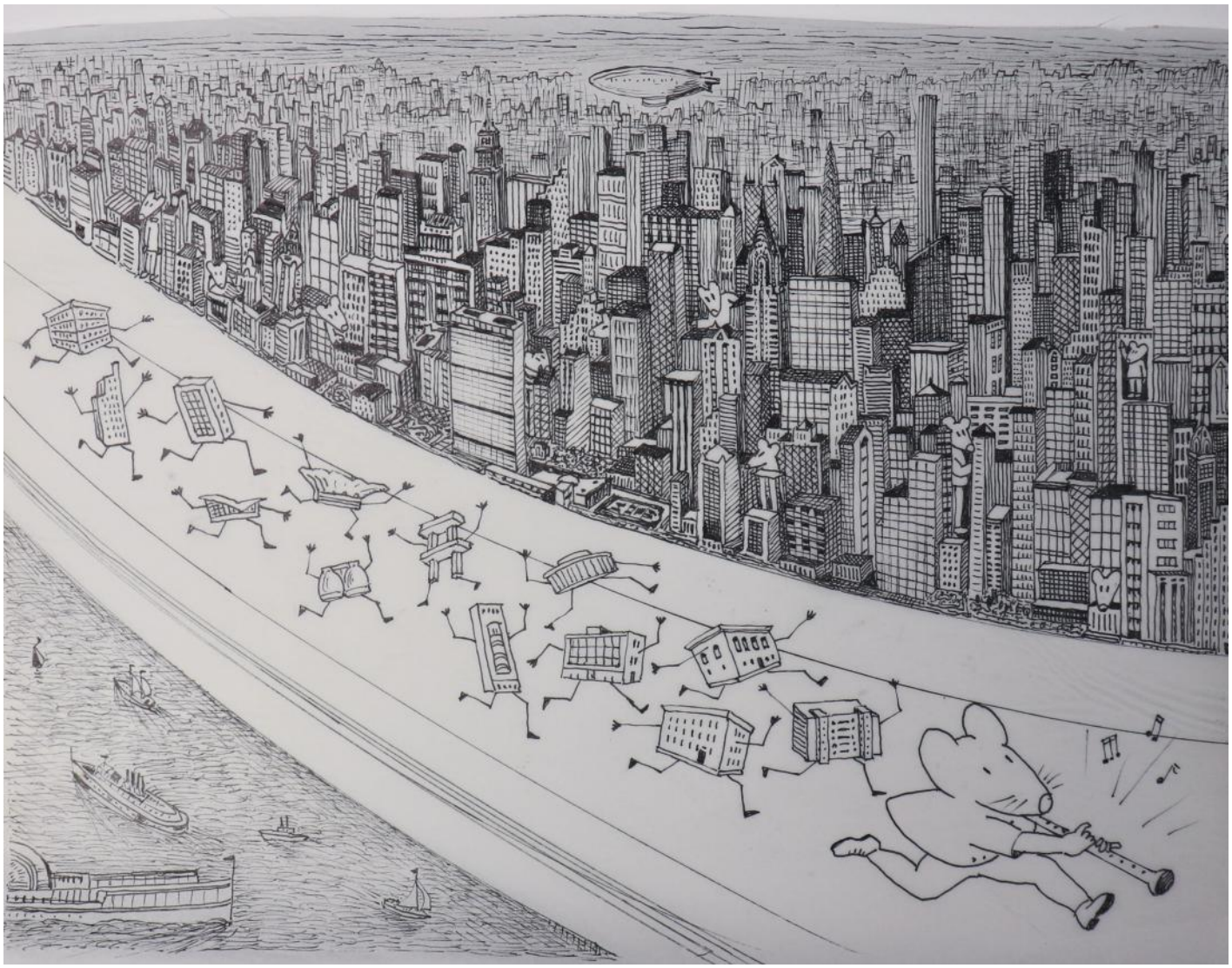
Nothing is safe from Vriesendorp's yen for reinvention, not even herself. The exhibition's contents were selected directly from her house, where her artworks share breathing space with a magpie's nest of trinkets and tchotchkes. In her Soane Medal lecture she described it as the "trash version" of both Soane's museum and Sigmund Freud's study. Far from being precious about her oeuvre, Vriesendorp calls curator Erin McKellar a "genius" for the way she has interpreted a life's worth of objects. "That is the whole point – to let people have their own opinion on everything," she says.

Vriesendorp's taste for higgledy-piggledy interior ambience makes her an apt houseguest of Soane's. But whereas Soane had a penchant for drawings of structures in ruins, the buildings Vriesendorp draws are very much alive: they lounge about, they go for a swim, they stand guard. In the recent New York Review of Architecture 50th edition, they scamper down a street, limbs akimbo, following the magazine's rat mascot – stylised as the Pied Piper.

The Review's cover featured a reworking of her most famous illustration, Flagrant Délit, which was used as the cover for then-husband Rem Koolhaas' Delirious New York. The original portrayed a loose-limbed Empire State Building and Chrysler Building caught post-coitus by the RCA Building; in the 2026 version, we get the aftermath of a ménage à trois between the rat, the Chrysler Building and the Statue of Liberty, a pair of Mary Jane heels (whose, we can't quite be sure) tossed to the floor.

As for her other interior design benchmark, Vriesendorp's affinity for the granddaddy of psychoanalysis is hardly subconscious. The gouache Freud Unlimited reads like a dream you can't quite remember the next day, where the island of Manhattan is imagined as a bed, floating in water with its skyscraper companions, connected to a tangle of ductwork through which subway trains barrel.

The titular mind game, meanwhile, is a psychoanalytic experiment visitors to Vriesendorp's home are treated to, which has been recreated in the museum's Foyle Room. Different groups have been asked to rearrange an assortment of objects, each ascribed two contrasting meanings: a snake is darkness and wisdom, an egg is life and death, a dice is passion and fate. When RIBAJ visits, members of the Soane Museum Youth Panel are the latest to serve themselves up for analysis, arranging a magic bean next to a disconcertingly orthogonal dog. What this says about the spiritual health of the next generation is, as with everything Vriesendorp does, up for interpretation.

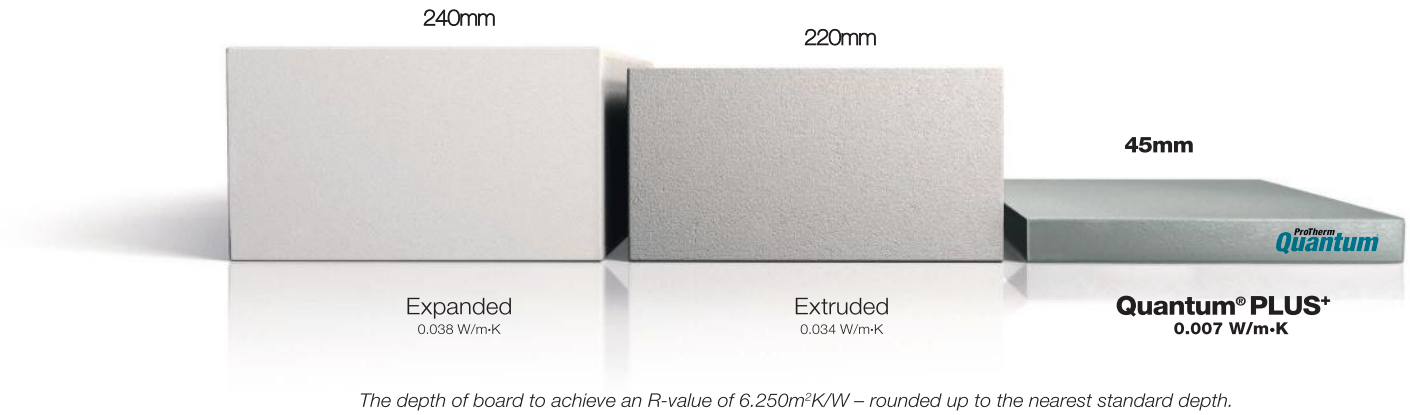


COURTESY OF MADELON VRIESENDORP





GARETH GARDNER (2)



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From ashes to dust – and to discarded mollusc shells – architectural practitioners are refining wildly inventive reuse pathways that see waste products reincarnated as building materials

WORDS
Chris Foges

WILL THE CIRCLE BE UNBROKEN?



Lewis Jones: terracotta and ceramics

Meat and bone meal bottom ash; galvanic sludge; electric arc furnace slag. These may seem unlikely building materials, but the Atlas of Waste (2023) identifies them among myriad opportunities to reuse the UK's mineral refuse. Its author, architectural designer Lewis Jones, has spent more than a decade focused on innovation in materials, with waste as a recurrent theme.

Jones' career began as a founder of Assemble, whose habit of prototyping new materials in buildings was enjoyable but frustrating: "All this effort goes into developing a supply chain, which disappears again if you don't sustain it." The material requirements of Assemble's Granby Four Streets regeneration project in Liverpool gave him the opportunity to set up a commercial workshop there. Once that was established he embarked on a PhD in recycled ceramics, getting ever deeper into materials science – to the extent that viva interviewers asked if this could still be considered architecture.

"It should be," he insists. "A big part of architecture's impact is via the materials we work with. Holistic material literacy is integral to the profession's development."

Architectural thinking also has much to offer in product development, which Jones is doing via his "laboratory", Matter at Hand. That might be by anticipating appetite for novel products, or practical demonstrations of their potential. One example is the range of devitrified ceramic tiles Matter at Hand has developed with Granby Workshop. A commission for 10,000 for Assemble's forthcoming Fourth Corner building's facades justified the cost of certification for exterior use.

The tiles are made of waste glass whose impurities prevent recycling as glass. Heated to a much lower temperature than required for porcelain stoneware, crystals form around the impurities that add strength and patina. Extensive testing of fillers, wastes and reactive additives, as well as production processes, was needed to produce tiles of uniform dimension in bulk.

Ceramics led laterally to another material innovation with scalable potential: poured earth, which Jones is developing with Darwen Terracotta. On a tour of its factory, producing building components such as gargoyles by slip casting, he saw how deflocculants make clay liquid and free-flowing. The idea, he reasoned, could be applied to earth construction, allowing walls to be poured rather than rammed. All sorts of local waste could enter the mix, from demolition aggregate to insulating woodchips from timber sawn for formwork.

"Earth's an amazing material with many benefits," says Jones, "but it's hard work. Our mixes can be delivered to site like concrete, but the cement binder is replaced with controlled clay rheology."

Test pieces shown at Blackburn's recent Festival of Making highlight the beauty and fine precision of poured earth – helping to challenge perceptions – and the partners are planning a prototype building with Lancashire arts project Super Slow Way.

"Over the past 10 or 15 years there has been a lot of investigation of new materials at an artisanal scale," says Jones. "Getting larger companies on board, with their industrial capacity, is the next chapter."



LEWIS JONES (2)

Above: Poured earth exhibited at Blackburn's Festival of Making.

Right: Testing the tile layout for one facade of Assemble's Fourth Corner building; the project will use 8,804 devitrified ceramic tiles developed with Matter at Hand. The tiles are available to order in five colours.

Below: Oyster[Crete] in production.

Bottom: Oyster[Crete] used at Chelsea Flower Show garden Addleshaw Goddard: Flourish in the City, designed by Carey Garden Design Studio.

Mooka Srisurayotin: shells into concrete

"What on earth becomes of the shells of five hundred million oysters?", asked the dramatist WS Gilbert, astonished by the quantity of seafood sold annually at Billingsgate in the 1870s. Thrifty Victorians had answers: the waste was ground up for manure, mortar or road-making. Today, oysters are a more upscale commodity, so it is fitting that architectural designer Mooka Srisurayotin has found a higher-value use for their shells.

Her product, Oyster[Crete], uses the high concentrations of calcium carbonate in shells to replace that extracted from limestone for cement. Comprising around 80% waste, the material is cast and fired into furniture, objects and architectural elements whose visible aggregates and natural colours evoke something mineral, cut from the earth.

While working as an interior designer in New York, Srisurayotin realised that making a meaningful environmental impact required rethinking materials, not just space. That led to a master's at the Bartlett, where her thesis focused on mollusc shells, chosen for their local availability. Although she went on to work in architecture, research continued in her spare time for five years until a 2024 Innovate UK award enabled her to establish Matter Forms as a waste-based manufacturer.

"That was the turning point," she says. "It provided the support and validation to turn a thesis into a business, and move beyond experiments towards viable architectural applications."

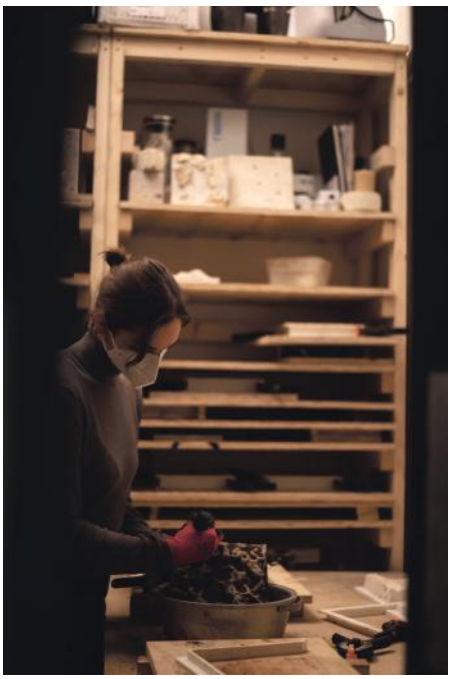
Early research focused on the material itself rather than specific applications: testing different aggregates, binders and shell particle sizes; observing how Oyster[Crete] behaved as it dried, fine-tuning the process. At first, Srisurayotin collected shells from Borough Market, but they needed vigorous cleaning with vinegar. She switched to high-end restaurants, which wash the shells before collection. One restaurant can get through 2,000 oysters in a weekend – hardly Victorian quantities, but enough to produce around 25 tiles.

Matter Forms launched with small, low-risk applications that helped build understanding of the material in use. Displaying homewares in fashion store UJNG prompted the owner to commission a new facade and garden wall in stacked tiles, whose projecting lips and pitted faces recall Frank Lloyd Wright's textile blocks. That led to installations at this year's Chelsea and Badminton Flower Shows: a creamy wall of sand-cast tiles at the former, and paving setts and a smooth countertop at the latter, each attracting further client interest.

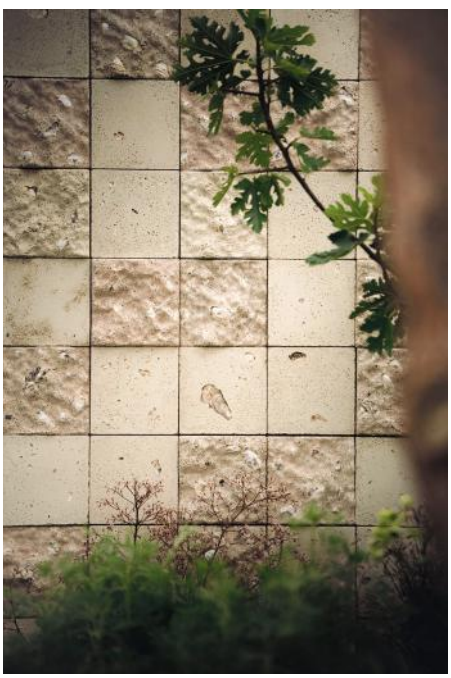
Real-world projects brought new challenges, from production speed to packaging. Srisurayotin's design background proved valuable in developing 3D-printed modular moulds that produce tiles of varying thicknesses, while each installation added practical knowledge – for instance, confirming that graffiti can be cleaned from Oyster[Crete].

Since committing full-time to Matter Forms this year, the learning curve has continued. Technical certification for repeatable and structural applications is a priority. UCL's Hatchery incubator helped with compression testing, and formal third-party certification and a lifecycle carbon assessment are next.

She's also looking past Oyster[Crete] as its growing profile attracts other offers of waste. "Matter Forms was set up to explore a family of materials derived from overlooked local resources," she says. "Ultimately, we want to prove circular materials can be technically credible, commercially relevant and beautiful."



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LOOKING FURTHER

Levent Ozruh: dust and 3D printing

Levent Ozruh, London-based architect and founder of "applied research studio" OZRUH, is using 3D printing to make architecture from waste in its most fragmentary form. What drew him to dust? "It's exciting to have a technology that can create value from something so meaningless, which has lost its original properties to the extent that it's mainly used as a space filler," he says.

Sustainability is one benefit, but Ozruh is interested in the architectural potential of microscopic matter, too. Small particles allow a fine resolution that creates new aesthetic possibilities.

Six years ago, he began looking at architectural uses for 3D printing with virgin quartz sand, but was keen to incorporate waste materials. That led to a collaboration with Pietro Odaglia, a post-doctoral researcher at ETH Zurich who himself has an architectural background. Odaglia had developed a 3D printer based on established binder-jet technology, with an important innovation: his machine can accept a range of grain sizes. "It's a game changer," says Ozruh. "Otherwise, you spend so much time and money on processing that working with waste kind of loses the point."

Dust can come from many sources, from demolition sites to stone quarries; cutting a kilo of marble creates another kilo of waste. The recipe comprises 80% aggregates, 15% metakaolin binder (derived from china clay), and 5% water-based activator. Performance compares well with concrete. Sizeable shells can be printed from small quantities of dust.

The fruits of this collaboration are revealed in an information plinth newly installed beside St Paul's Cathedral, as part of the public realm project From the Thames to Eternity. That opportunity came via CSK Architects' Matthew Barnett Howland, who was creating benches from granite blocks originally laid by Joseph Bazalgette as part of the Victoria Embankment. OZRUH proposed that the offcuts could be turned into the world's first 3D-printed granite structure.

Its surface texture shows the ability to 3D print at different 'resolutions', while its form refers to the geometry of Bazalgette's embankment. "Doing something super straight, super simple with a 3D printer is the hardest thing to pull off," says Ozruh, "because the human mind immediately compares it to stone and asks for the same precision."

Across town, OZRUH showed an assemblage of masonry blocks printed with marble dust at the Royal Academy Summer Exhibition. Such set pieces are being joined by larger projects. The collaborative partnership – which is establishing a spin-off design and build company – has completed an interior facade in India, and is about to begin a Swiss house made almost entirely of dust from a Ticino quarry. That's about as big as it makes sense to go using this technology, says Ozruh. For application at large scale he's looking at public realm design: street furniture can be printed from a city's own waste. Europe alone has thousands of municipalities; their waste streams may prove to be gold dust.

Below: Odaglia's 3D printer at an innovation park near ETH Zurich; it can be set up at any building site or quarry.

Bottom: The granite plinth at St Paul's.



PIETRO ODAGLIA



LLOYD LEE



JAS LEHAL

A WIDER POOL OF VOICES

WORDS
Charlotte Banks

A wave of co-design projects are using unconventional methods to learn from the insights of some of society's more vulnerable groups

Opposite: A participant in WIP Collaborative's sensory audit walk.

In Dundee, four designers are hard at work designing a room. Yet there are no clutch pencils or MacBooks in sight; instead, the group are pressing whatever they have to hand into lumps of clay.

First, the learning disabled designers of V&A Dundee's The Room project make marks with parts of their bodies, leaving thumbprints, handprints, even bite marks. Then come the objects. One of the group presses in their wheelchair, then a Labubu – a fuzzy elfin doll – produces a rabbitesque indent. Overseeing these experiments is participatory spatial designer Finni Porter Chambers, who will translate the imprints into a graphic identity for an installation, opening this month.

The initiative is among a vanguard of co-design projects adopting unconventional methods to generate fresh ideas about how spaces can be.

Much of this experimental strand of co-design emerged in response to questions about how to involve social groups usually excluded by standard methods of consultation. When US-based WIP Collaborative was tasked with investigating how to make New York's public space accessible for neurodivergent people – those with cognitive differences like autism and ADHD – it quickly found that impersonal surveys and architectural jargon were ill-suited to their target audience. "The design tools that are taught in architecture school are not accessible to most people," says WIP Collaborative's Bryony Roberts.

WIP Collaborative invited its neurodivergent collaborators on a walk around their neighbourhood, toting instant cameras. Participants photographed what they saw around them, communicating how each space made them feel by holding up one of three shapes: a cloud (comfortable), a triangle (uncomfortable) or a starburst (extremely uncomfortable). The photos were used as prompts for discussing what more joyful public space might look like.

Participants then played around with a jumble of tactile materials on New York's Louise Nevelson Plaza, constructing makeshift nets to sit next to trees and lying back on foam placed on the ground. These experiments directly informed shapes and positions in a resulting installation, which features cloisters of rope-backed seating and angled wedges to slump across for skygazing, a welcome bulwark against the glass and granite goliaths of New York's financial district.

For Roberts, the installation's pleasing incongruity results from designing with those who don't usually have a say in their surroundings.

"The greatest insights I ever get about

a site are from people who know that space and who do not feel included or welcomed there, because they can see very clearly what's missing," she says.

We Made That co-founder Holly Lewis is equally enthusiastic about prioritising unheard voices in design. "As soon as you start walking around with a buggy, you realise you had no idea the city was so badly designed for somebody who relies on having wheels to get around," she says. "Underrepresented groups may be unfairly prejudiced by not having their opinions in the room."

Last year, We Made That was brought on by Transport for London and the London Mayor's Office for Policing and Crime to develop new methods of assessing women's safety in public spaces. The urban research specialist hired 47 paid community researchers local to each of the five pilot areas and trained them in participatory mapping techniques. This allowed access to more vulnerable groups who might not have felt comfortable talking to an outside researcher. Some of these mapping techniques leaned into the emotional experience of public space, asking participants to describe how they felt when they closed their eyes or to notice the tension in their shoulders.

Lewis says these "experiential, slightly ethnographic" techniques allowed a finer grain of insight, often producing ideas that challenged traditional design logic. For example, women reported that individual seats in Brixton's Windrush Square, likely chosen to discourage groups from loitering, tended to be occupied by lone men watching over other people, which they found far more intimidating.

"You can always be surprised by the knowledge that exists in some of these groups that you weren't expecting," Lewis says. "They're experts in their own experience – I don't know why you wouldn't try and bring that in."

Working with disadvantaged groups may require architects to learn new ways of attuning themselves to others. Back at the V&A Dundee, Porter Chambers' role since January has been to facilitate a series of workshops, each exploring a different element of spatial design, and then to consolidate everyone's ideas into spatial moves.

Some of her co-designers have low mobility or are non-verbal, meaning she has to work closely with them and their guardians to faithfully translate their reactions into design decisions. "The working group have got to know each other and their own verbal and non-verbal cues," she says. "There's a lot of care for each other."

Creating tools to suit communication differences can inadvertently benefit everyone. Katie Gaudion, a senior research associate at the Royal College of Art's Helen Hamlyn Centre for Design, works with



KATIE GAUDION

Left: Katie Gaudion's sensory cards in action.

Below: A community researcher leads a participatory mapping exercise in Brixton, London.



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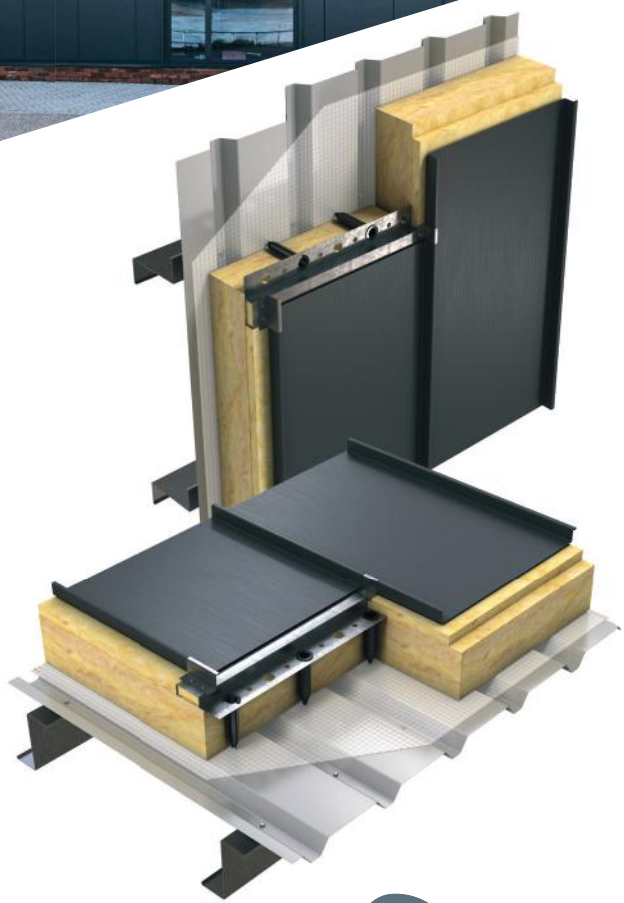
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Vieo



Left: Katie Gaudion's sensory cards in action.

Below: Visualisation of a garden hut for an autistic child, designed using the sensory cards.

autistic collaborators. Many of them have struggled to take part in traditional co-design exercises, either through lacking speech or becoming overwhelmed by the harsh sensory environment and social demands of public meetings.

Together they have created decks of "sensory cards" to help those with limited speech express what they need in their physical environment. The cards depict a range of sensory experience, such as bright light and spicy smells, allowing users to build a profile of their likes and dislikes which functions as a mood board for discussing how to meet everyone's needs. Gaudion has used the cards with a local family to co-design an outdoor room to be a calm space for an autistic child suffering burnout from school.

Though designed with autistic communication in mind, the cards have proved useful to others in understanding how they are affected by design choices, proving particularly popular with offices. She has also seen the cards used as an empathic tool to help office workers understand their autistic colleagues.

Gaudion describes her collaborators as "sensory experts" due to their ability to pick up on small details in their environment, a common trait of autism. "Architects can learn a lot by collaborating with neurodivergent individuals to alert them to things that they wouldn't ordinarily consider," she says. "They can enrich their design practice by thinking in a completely different way about how someone might want to experience a building."

So far, the constructions inspired by these creative methods have been limited to the small-scale or ephemeral – could we soon have imaginatively co-designed buildings? Gaudion suggests that upfront deep engagement before any bricks are laid could avoid subsequent costly retrofitting, although she caveats that with the current challenging development environment, it can be difficult to get clients on board with elaborate, time-intensive procedures.

"Participatory design can be quite messy and people can be really complex, and I wonder if there's a little bit of resistance to it because of that," she adds, "but we need to embrace that more."



KATIE GAUDION (2)

THE FINAL FRONTIER

WORDS
Flo Armitage-Hookes

Human-centred design can be crucial to the success of a mission, says Dr Olga Bannova, director of the world's only space architecture graduate programme

Below: Dr Olga Bannova testing designs in an Extended Reality (XR) Lab.

Opposite: Bannova's ongoing research into inflatables and deployable structures could support long-term habitation on the moon and Mars.



OLGA BANNOVA



OLGA BANNOVA, PAULA DROZDOWSKA, SURABHI SHARMA, MIRO IDEAS²

"We are not rocket scientists, I'm not pretending we are," says architect and researcher Dr Olga Bannova. "But if the human environment is not healthy enough and it's not supporting the crew … then the mission can fail."

As director of the world's only space architecture graduate programme, at the University of Houston, Bannova operates within a staunchly engineer-led field. Yet, for over 25 years, she has been carefully making the case for people-focused designs in space modules, vehicles and bases.

Until now, these spaces have been the realm of professional astronauts. However, with the space economy rapidly expanding – forecast to reach $1.8 trillion by 2035 – and commercial space travel introducing a new mix of users and needs, the space architect is more relevant than ever.

Growing up in the Soviet Union, amid the cultural legacy of the space race, Bannova was always intrigued by the possibilities of interstellar environments. While she is not a fan of the kind of sci-fi "with a lot of shooting blasters", Andrei Tarkovsky's 1972 film Solaris, in which researchers on a space station experience strange psychological phenomena, left a lasting impression on her.

At the time, becoming an astronaut felt too far-fetched so she studied architecture instead; later practising for 12 years in Moscow. Drawn to complex systems, while working on hospitals, apartment blocks and industrial buildings, Bannova decided to pursue urban planning. "[For my masters in 2000] I thought, where else but the US, where all this high-rise architecture is happening," she recalls.

After arriving at the University of Houston, Bannova stumbled across its Sasakawa International Center for Space Architecture (then only offering an undergraduate course) and was immediately fascinated; first volunteering and later becoming a researcher there.

Like most architects, Bannova is working alongside other disciplines and within set parameters to design places for people. However, in space, the starting point is a confined, isolated and pressurised vessel. "You're very limited with volume and mass, so you have to find smart solutions," she says. This involves balancing practical efficiencies, mission aims and the wellbeing of the crew, who can be on board for long periods. Materials, colour and layout choices are made in collaboration with psychologists and physiologists, including from NASA's Johnson Space Center nearby.

Designers rarely know exactly who the crew will be, and therefore their precise needs, but Bannova embraces the challenge. "There are a lot of assumptions, of course," she says, "but it's very important to find some solid ground … We know what systems will be needed and the hardships in general. We need to deal with and design for that."

Closed habitats that simulate isolation are helpful for researching crew behaviour, but haven't yet been used to test designs. Bannova is pushing hard for this to change, while also developing mixed-reality methodologies with her students.

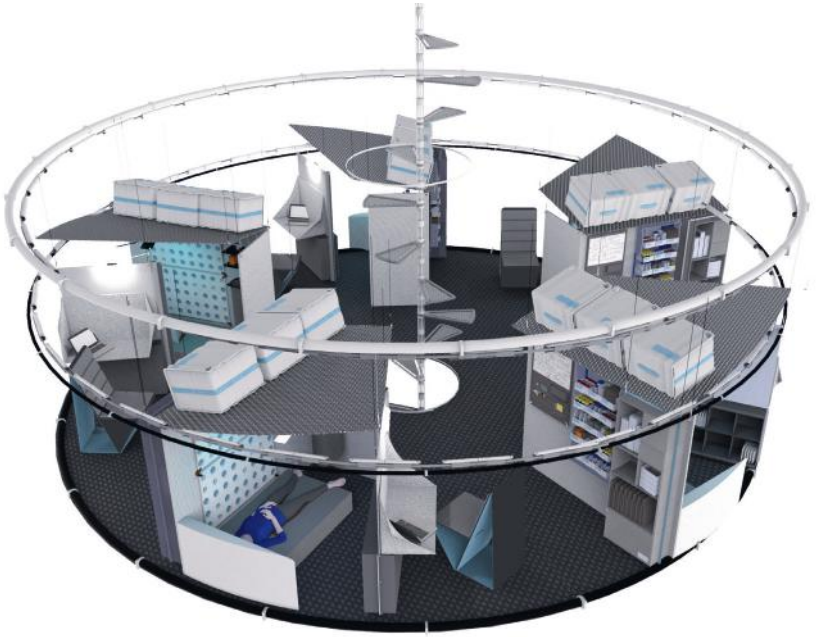
Has Bannova spent time in a closed habitat herself? Not yet. But in 2006 she did do a stint at the US National Science Foundation's Summit Station research facility, located on a glacier in Greenland, and loved it. Unlike in outer space, though, supplies were regularly dropped off.

While we talk, it's clear that Bannova has correctly gauged my space knowledge (scant) and is using terminology that I'll understand – I'm not lost in a fog of acronyms and technical jargon.

Effective communication is a skill that Bannova had to learn fast, but it has



OLGA BANNOVA (3)



served her well. Early on, her designs were often ignored and her questions dismissed by engineers. “You don’t understand this. That’s [just] how it is” were typical responses, recalls Bannova. But rather than arguing, she learnt how to be heard; adopting technical terms and finding hard evidence to justify human-centred design decisions. “If you want your solution, then you need to find the language between you and engineers,” she reasons. “I’m not a native English speaker, so for me it was the double.”

The space architecture graduate programme, which Bannova leads, looks to build interdisciplinary collaboration early on. It attracts a variety of students from across the world with backgrounds in engineering, architecture, industrial design, product design and more.

In the first semester, they’re thrown together in group projects. Bannova smiles as she characterises the engineers as understanding the detail but not seeing the bigger picture, while it’s vice versa for the architects. “[By the end] I think they’re better integrators,” she reflects. They’re certainly employable, with graduates going to work for NASA, Boeing and companies such as Blue Origin (founded by Jeff Bezos) and Axiom Space (which is aiming to build the world’s first commercial space station).

Despite the recent space frenzy, applications to the course haven’t spiked, remaining steady for the last decade. “Usually those who find the programme, they really know what they want and are very driven” explains Bannova.

Her own passion for the field is palpable. She animatedly tells me about meeting the astronauts of the historic 1975 Apollo-Soyuz mission, mimicking the two crafts coming together with her hands against the starry background on her video feed.

Some of her “really cool” current work, funded by a NASA grant, involves investigating packageable structures for inflatable habitats that could be deployed on planet surfaces. These would create additional pressurised spaces for people to undertake research or store equipment during missions.

However, Bannova is most excited by the wider shift towards designing for reuse. “Without being sustainable to some degree, you can’t really live and work in space for a long period of time,” she explains. “You have to recycle the air, recycle the water, that’s very critical.” But, if you could also reuse structures and materials, it would minimise the number of supply missions and amount of waste created.”

It’s a field underpinned by both fantastical ideas and unwavering practicality. Yet, at the heart of most missions, are people. Astronauts need architects and it’s heartening to know that Bannova and her growing cohorts of “integrator” students have their back. And they may just be preventing episodes of Solaris-like mania.

Above left: Within a Soyuz capsule at Moscow State Technical University.

Above right: Design for Mars habitat interior with deployable floor systems, furniture elements and light partitions, 2016.

Below: Working with students in Greenland in 2006 gave Bannova a glimpse of space’s isolation.



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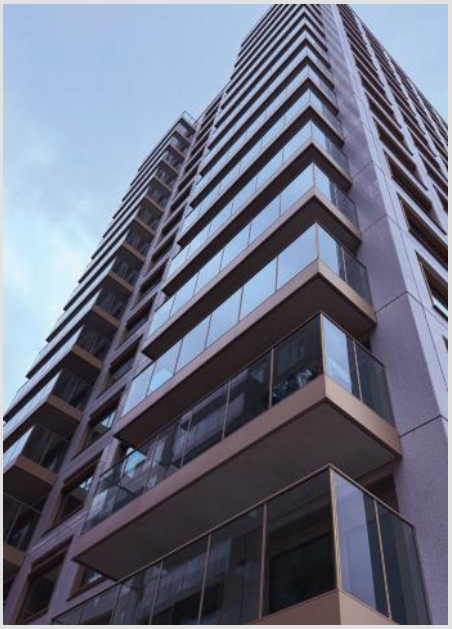
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Opposite: Easy Alu Urban balconies for Jarrom St, Leicester – a modern, fascia-mounted aluminium railing system suited to largescale commercial and residential developments.

Below: Q-railing's Easy Glass® Prime system at Deanston Wharf for Ballymore – A2-s1,d0 fire-rated glass balustrades for safe, compliant residential living.



CINEMATIC CONSTRUCTIONS

WORDS
Flo Armitage-Hookes

From late-night food delivery to hostile design, hard-hitting histories and much more, architecture students and early-career architects submitted a potent mix of short films to our annual competition

Drone shots, archival flashes and a diptych device feature in the winners of this year's short film competition, showcasing the profession's best up-and-coming visual communicators. However, for the expert judging panel – made up of photographer and filmmaker Jim Stephenson, communications consultant Sabine Zetteler and architectural storyteller Mohammed Khizr – it was the stories they told that really made an impression.

The competition asked students and early career architects to produce a video of less than two minutes in response to one of three themes – 'making buildings', 'in practice' or 'after architects'. For the second year, the latter proved most popular, suggesting that many future architects are as interested in a space's afterlife as in its creation.

Evocative subjects included the unseen infrastructure of takeaways, the daily toll of defensive design and local histories submerged by a dam. "The winning films have all successfully taken us into another world, and that is what excellent filmmaking does," said Khizr. However, the panel stressed that this didn't require expensive equipment nor technical perfection. "I just wanted something that held my attention and left me thinking about it afterwards," reflected Stephenson. Zetteler concurred, adding: "I hope this inspires more people to make films and tell stories because you can do it with your phone."

So what were the winning films? Emily Wang's For Your Convenience bagged the top spot and a £250 prize. The POV exploration of late-night food delivery, from cycling through streets to a 'ghost kitchen' and finally a brief interaction at someone's door, created a powerful sense of claustrophobia and captivated the judges. "It's quite an amazing thing to create something that feels self-contained but leaves you wanting more as well," Stephenson said.

Two compelling films each received a £125 runners-up prize. A film by Holly Desmond Fujita hears from Brendan, a man who is homeless, about the impact of hostile architecture on his life. The judges were struck by the film's final question to the viewer: 'Who is this space for?' "The story goes deeper than the visuals and it challenges us," Khizr remarked. In contrast, the other runner-up Sebastián Carvajal captured the fragile floating structures used by marine farmers in Chile with astonishing beauty. "Obviously, lots of things are happening, but it still felt like a quiet, intimate moment with that piece of architecture," said Zetteler. Stephenson agreed, praising the selection and ordering of shots.

A highly commended entry by Gregory Hau remembered the land, histories and even graves flooded over by the Gariep Dam in South Africa, built in 1971. Judges were impressed by the effective contrasting of legal promises with the devastating reality via two screens and the film's clear narrative structure. "It delivered a lot in a very short space of time," Zetteler commented.

Finally, commendations were awarded to two more impactful films. Hadiza Tafida told a history of the River Niger, before, during and after colonial rule, through a mixture of family conversations, archival material and new footage. The judges praised the deft mixing of mediums and thoughtful exploration of memory. "It's really difficult to use archive footage in a film because if you dwell on it too long, it's indulgent and if you don't spend too much time on it, then it's superfluous," noted Stephenson. Nyahalo Tucker took a more lyrical approach, capturing regeneration in Woolwich with a poem; from boarded-up buildings to demolition to people inhabiting newly built structures. The judges all enjoyed the characterful yet punchy verse. "It absolutely cuts the fat and gets right to the subject matter," applauded Khizr.

Watch winning films and the full shortlist at ribaj.com/film-competition

1. For Your Convenience by Emily Wang 2. Brendan On The Bridge by Holly Desmond Fujita 3. Architectures for Regenerative Marine Farmers by Sebastián Carvajal
4. A Debt Burdened by Gregory Hau 5. No Salt in the River but Fish by Hadiza Tafida 6. Regeneration by Nyahalo Tucker
7. Bishop Edward King Chapel by Mark Woulfe 8. Dora's Nap by Francisco Montabes De La Cruz 9. Across Many Hands by Daeun Min
10. The Other Side of Connectivity by Bairon Esquivel Sierra 11. The Boatshed, Grimsay by Immanuel Lavery 12. Dariia – the making by Diana Morozova
13. From Desert to Digital by Johnathan Greenwood, Morgan Arthur 14. revitalization obergasse by Valeria Klein 15. Enjoy Suffolk, While You Can? by Justine Sauri White

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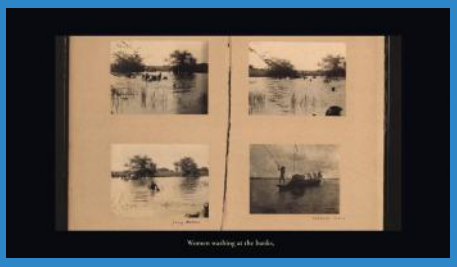
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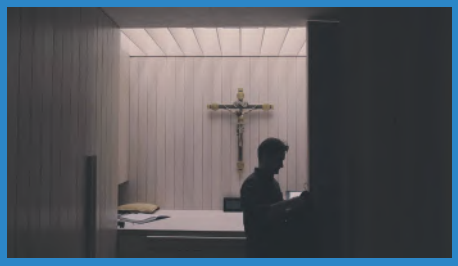
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THE MINIATURIST

Frank Kunert
A Place in the Sun, 2014
Instagram:
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It wasn't always like this. Back in the 1980s, German photographer Frank Kunert was working in advertising, quite accustomed to "staging" interior product shoots under artificial light. But by the 1990s he found himself more absorbed with bringing the world "out there" into his studio, and so began to tell his own stories.

At first, he crafted miniature architectural scenes populated with handmade figures made of modelling clay. But as they became more realistic, he realised he could do without the cast altogether. "What I still find fascinating is that architecture allows you to reveal a great deal about people and so-called civilised life, with all its dark depths and absurd excesses," he tells me.

Creating a single photo takes weeks. Kunert works with foam board, card, wood, even packaging waste, and works into it with multiple paint layers ("patina plays an important role in making the scenes look lifelike"). All the while he is setting up the camera and studio lights around it to create the atmosphere for his life-like compositions.

In this image, Kunert explores the effects of gentrification by taking the concept of overdevelopment to absurd lengths. While he concedes that such encroachment would not ever be allowed under federal regulation, his scaled-down fantasy street view leaves the viewer open to just such a possibility – the historic Rose Garden at the White House was paved over, after all.

And what of this white house? From the country that gave us the Dessau Bauhaus and Stuttgart's Weissenhof-siedlung, is he saying that a style linked to socialism has been supplanted by Modernism as a bourgeois concept?

While Kunert feels there are plenty of progressive examples in Germany that refute this, he concedes "in the case of this particular work, that certainly seems to be the situation". It turns out, in his invented Lilliputian world, that a spade is a spade, however small.

Jan-Carlos Kucharek

LESSONS SHARED

RIBA Stirling Prize 2026 is sponsored by Autodesk

Prizewinning projects can be seen as a little rarefied, so we asked the teams behind the six-strong Stirling shortlist to share lessons the profession can learn from their projects

Pembroke Mill Lane, Cambridge
Haworth Tompkins has retrofitted six buildings and added six new ones to create a coherent quarter for Pembroke College, providing a masterclass on opening up historic institutions



FRED HOWARTH

Think strategically to balance long-term adaptability, sustainability and accessibility

Design adaptable, loose-fit buildings that support evolving educational, social and civic needs

Prioritise deep retrofit, fabric-first sustainability and low-carbon systems over replacement

At Pembroke College, one key lesson was that a project for a 679-year-old institution must do more than meet immediate needs, writes Haworth Tompkins. It must create a robust framework for future generations while strengthening its relationship with the wider community. The Mill Lane development, Pembroke's largest expansion since 1347, combined new and refurbished buildings to provide accommodation, teaching, social and publicly accessible spaces.

It demonstrated the importance of designing for evolving educational models, changing student life, shifting social demographics and a more outward-facing civic role within the city. Accessibility was central to this, not just in technical terms, but in opening up the college, improving legibility and making it feel more welcoming, inclusive and connected to the city.

The main challenge was balancing long-term adaptability, sustainability and accessibility within the sensitivities of a dense, historically layered site. We needed to improve performance and access while respecting the character of existing buildings.

We addressed these challenges through a masterplanning approach centred on stewardship, reuse and loose-fit design. We prioritised deep retrofit where possible, improving existing fabric rather than replacing it, and embedded a fabric-first environmental strategy across the site.

New buildings were designed for high thermal performance and are served by air-source heat pumps and solar panels, creating a gas-free site. The repurposed listed church has become a fully accessible auditorium and public venue, helping to connect the college to the city.

Paddington Square, Westminster

Renzo Piano Building Workshop and Adamson Associates have redefined arrival to one of London's most significant transport hubs, showing how to reprioritise consultation when delivering urban-realm schemes

The first and key lesson from Paddington Square is that successful urban realm projects are rarely the result of a single vision; they emerge through a democratic process that brings together public and private interests around a shared ambition for the city, writes Renzo Piano Building Workshop.

The second lesson is that public realm must come first. Too often, open space is treated as what remains after a building has been designed. At Paddington, the starting point was the quality of the urban experience and the desire to repair and revitalise a fragmented part of the neighbourhood. A decent-scaled piazza allowed both to reveal the entrance of a "hidden" station and to address the complex pedestrian flows from and to that entrance, while providing a new connection to the Bakerloo Line.

A particular challenge was the different aspirations of the site's many stakeholders – expectations from investors, local authorities, transport stakeholders and local communities did not always align. Rather than defending a predetermined architectural solution, the design team remained focused on the broader objective of creating a place that would contribute to the life of the city.

Through dialogue, consultation and continuous refinement, the project evolved to reconcile these distinct interests. The final mix of workplaces, shops and restaurants, as well as the public art programme, addresses the need to animate the neighbourhood throughout the day, to make it a destination. Its massing is the product of consensus rather than imposition.

Finally, the architecture, though radical, creates an essential link with the station by sharing the same DNA. Paddington Square shows how democratic planning, when embraced rather than resisted, can lead to a richer urban outcome and a better public realm.



HUFTON+CROW

Build consensus across stakeholders around shared civic goals, not a fixed architectural vision

Prioritise public realm and urban experience before shaping buildings and development

Refine designs through consultation to balance competing interests and create vibrant places

River Wing, Clare College, Cambridge
Witherford Watson Mann's new wing weaves modern structures into the existing Grade I-listed building, showing a delicacy and deliberation in restitching the fabric and circulation around precious heritage



PHILIP VILE

The River Wing is a long, shallow block stitched onto the back of the ancient Cambridge college, writes Stephen Witherford, director of Witherford Watson Mann.

It expands social and study spaces by adding a new café, but also adds hardworking infrastructure to support the existing college buildings, providing step-free access, means of escape and additional ancillary space.

Along a highly visible and long, tapering edge, where change was contentious and construction access torturously difficult, we carved out a site. Informed by forensic archaeological research, we stripped back piecemeal accumulations and excavated down to the 17th-century foundations to reveal and restore the robust dignity of the battered brick north elevation, gently repairing and cutting into the existing fabric.

In the narrow void, we added a supple but rigorous new structure. The new construction is a laminated oak frame, fabricated off-site, inspired by the extreme constraints and pushed to an economy of means by a committed team. Like a tight-fitting ship in a bottle, the timber skeleton follows the pushes and pulls of the old passage; it choreographs the movement from the central courtyard to the gardens and river.

Hierarchies of material and use have been gently subverted: lightweight wood in place of massive stone, and pale oak, and luminous, verdant light-courts in place of dark-stained panelling. Perhaps as a result, hierarchies of behaviour are suspended there too.

Analyse what new infrastructure could unlock the space

Spend time up front on forensic research to reveal heritage value before designing interventions

Employ off-site fabrication to overcome constrained access and complex construction logistics



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A House at Fairmead, Essex
Sergison Bates' family house on the edge of Epping Forest has lessons for architects designing lower-carbon homes



JOHAN DEHLIN

Perhaps the clearest lesson from Fairmead is that fabric performance and architectural intent need not be in tension, writes Sergison Bates.

Working to a U-value of 0.14 through a 670mm clay block and brick wall build-up, we found that heavyweight, thermally massive construction – often associated with traditional building – is entirely compatible with Passivhaus-level airtightness and insulation, while also ensuring a stable interior environment that has proved itself remarkably cool in the recent heatwaves.

The main challenge was reconciling airtightness and thermal mass with traditional craft. Lime mortar, lime plaster and load-bearing masonry aren't standard Passivhaus components, so verifying the whole build-up's performance required careful checking rather than relying on off-the-shelf details. Detailing junctions – deep window reveals, oversized lintels, cills – without breaking the airtight line took particular care.

We tackled heating and energy holistically: a ground-source heat pump via deep boreholes provides 100% of space heating through underfloor heating, supported by MVHR, rainwater attenuation and roof-mounted PVs linked to battery storage and EV charging.

With the Future Homes and Buildings Standards set to mandate low-carbon heating and tighter fabric standards, Fairmead offers a useful precedent: modelling thermal performance through the Passivhaus Planning Package allowed wall build-ups, glazing and heating strategy to be resolved together, rather than as sequential compliance measures.

Integrate PHPP modelling early to optimise fabric, glazing and heating strategy together

You can combine heavyweight construction and Passivhaus principles

Verify airtightness carefully when combining masonry and lime plaster

Lion Green Road, Coulsdon
Mary Duggan Architects and RUFF Architects' 157-home scheme responds thoughtfully to a complex sloping site, providing clever clues for architects designing suburban housing

Let topography and existing landscape drive form, movement and dwelling relationships

Design privacy through levels, orientation and thresholds rather than fences and boundaries

Use the plan to balance passive surveillance with individual privacy

At Lion Green Road, topography and the mature landscape became the primary generators of architectural form, writes Mary Duggan, director at Mary Duggan Architects. Rather than imposing the familiar suburban syntax of streets, plots and detached houses, the proposal emerged through a close reading of the existing terrain.

The landscape became the organising framework, with changes in level, retained vegetation and the continuity of the ground plane structuring movement and occupation. Section was the principal architectural instrument, mediating the threshold between public and private life.

The project is suburban, not because it reproduces conventional residential typologies, but because it reconsiders the social and spatial values of suburban life. A dispersed constellation of pavilions preserves the primacy of the green landscape as a collective civic ground, lightly inhabiting the site beneath the existing tree canopy.

The absence of streets, front gardens and boundary fences required alternative means of establishing privacy and security, achieved through spatial calibration rather than enclosure. Changes in level, articulated entrances, orientation and overlooking collectively produced defensible space while maintaining openness. The pinwheel plan, organising six dwellings around a shared core, balanced passive surveillance with individual privacy.

The scheme's enduring lessons are that constraint is not antithetical to invention but its precondition, and that architectural quality emerges through collective authorship. Its realisation depended upon the co-production of planning negotiations, design decisions, client ambitions, construction expertise, drawings and material practices.

At a time when housing discourse is increasingly quantified through density, yield and cost, Lion Green Road proposes another measure of value: that enduring economy is achieved not through standardisation alone, but through a situated architecture in which form is co-produced through the reciprocal relationship between landscape, habitation and construction.



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BEAM, Hertfordshire
Bennetts Associates' transformation of a 1970s theatre in Hertford into a community and cultural hub is an exemplar for retrofit and reuse

BEAM combines retrofit along with new-build elements in concrete and mass timber, writes Simon Erridge, director at Bennetts Associates. The retained main auditorium shell, stage and backstage areas make up just under 50% of the total building footprint. The decision to retain and retrofit had carbon and cost benefits but also a profound influence on the building's overall design.

The original 1978 theatre's hexagonal form and malt-house-shaped fly-tower had become a familiar local landmark. Around these retained elements, an additional new-build "wrap" of spaces was required. Our main challenge was to find a coherent form that would unify the existing and new elements. The solution takes five brick-clad blocks with monopitch roofs and tapering plan forms and spins them off the angles of the retained hexagonal core. These new blocks are sized to contain the three cinema screens, studio, café and bars, and enclose a triangular top-lit foyer.

Inside the auditorium, the existing seating was removed for reuse, stalls seating was reset on a shallower pitch, and a new balcony was added to increase capacity from 400 to 550. With very limited space to work with under the roof trusses, it was a challenge to reach the required capacity and retain good sightlines. We added five rows of seating, along with saw-tooth-shaped sections providing additional seating along the sides of the room.

Our research on net zero theatres demonstrates that a fly-tower and main auditorium can contain over 40% of the entire upfront carbon of a typical theatre. BEAM's retention and extensive use of mass timber in the new-build elements helped achieve an overall upfront carbon (A1-A5) total of 602kg/m² – around half that of a typical new-build theatre.

Retain flytowers and auditoriums; they can embody over 40% of a theatre's upfront carbon

Wrap new spaces around retained structures to unify design while preserving local identity

Reuse existing components and use mass timber to cut carbon and maximise performance

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WINNING WAYS

WORDS
Hugh Pearman

This year's Stirling Prize marks its 30th anniversary as British architecture's benchmark for excellence. We recall its original agenda and ongoing evolution

Below left: Future Systems' Media Centre at Lord's Cricket Ground, London; 1999 Stirling Prize winner.

Below middle: Peckham Library, London, by Alsop & Störmer; Stirling Prize winner in 2000.

Below right: Scottish Parliament, Edinburgh, by EMBT and RMJM; Stirling Prize winner in 2005.

The RIBA Stirling Prize, like Sgt. Pepper's Lonely Hearts Club Band, has been going in and out of style, but it's guaranteed to raise a smile. What kind of smile depends on who you are: the rictus response of the all-but-guaranteed winner who's just been pipped by a clear outsider, say, or the delighted grin of the architects who've seen their first high-profile building carry off the prize, bringing with it the promise of more and better commissions. Or the laughter of the audience when the presentation goes pear-shaped.

The outcome is never certain. Even if (perhaps especially if) you were one of the judges, it was remarkable how the inevitable horse-trading could result in the unexpected. Though the oddest instance I ever encountered was when all the judges had agreed the winner, only for the chair to unilaterally change his mind the next morning. Our protestations to the president were in vain. Looking back now, I can see that the best winner that year would have been neither of those anyway, but another (now listed) candidate on the shortlist. Hindsight eh?

It was instructive to read RIBAJ's recent interviews with the five practices who have won the most RIBA Awards since their inauguration in 1966: the one thing they all have in common is great respect for the power of the Prize. I've met excellent and in-demand architects, often



JANET HALL / RIBA COLLECTIONS (2)





ROLAND HALBE / RIBA COLLECTIONS



DUCCIO MALAGAMBA / RIBA COLLECTIONS



DANIEL HEWITT / RIBA COLLECTIONS

Far left: Barajas Airport Terminal 4, Madrid, by the Richard Rogers Partnership; Stirling Prize winner in 2006.

Left: The Laban Centre, London, by Herzog & de Meuron; Stirling Prize winner in 2003.

Below left: Accordia, Cambridge, by FCBS, Maccreanor Lavington and Alison Brooks Architects; Stirling Prize winner in 2008.

Below right: Goldsmith Street, Norwich, by Riches Hawley Mikhail; Stirling Prize winner in 2019.

shortlisted, who are rueful at missing out. You'd think they would hardly care, given their reputations and workload, but they do. As for the younger ones, winning can be transformative.

Glitches have happened, particularly during the early analogue presentation years. Kodak slide carousels. Taped-down trailing cables. Mechanical forward and back buttons. Once a RIBA president rested his arms casually on the lectern, thus depressing the forward button such that that all the slides in all the categories rapidly flashed past, inevitably revealing the winner way ahead of time. Every award, one presumes, has such facepalm moments. And that was before television got involved and the complexities were professionalised, for a while.

Going back to the beginning of the Stirling Prize in 1996, it came into being as essentially a journalistic enterprise. The RIBA Awards did not at first, nor for many years, declare an overall winner. Meanwhile an interloper had come on the scene: the Building of the Year Award devised by Lord St John of Fawsley's Royal Fine Art Commission. I was the architecture critic of the Sunday Times, which publicised and sponsored this: £20,000 went towards the award's expenses. Chauffered limos for the judges, nice lunches, and on one occasion a hired helicopter on a route that required a reserve RAF airfield to be opened up. Lord St John could pull such strings.

And then, RIBA approached me in the form of Chris Palmer and Sarah Gaventa who ran the press office. By then they had their own top prize, a building of the year sometimes called 'The President's Choice' because that was what it was: the President chose it from the national winners. Whatever, this was not cutting through sufficiently. They wanted to do their own properly structured and judged 'building of the year'. Was I interested? I was interested in being able to use an established awards-jury system for the preliminary rounds. I also liked the idea of transferring our £20,000 into a winner's cheque rather than seeing it go on running costs. So we approached the great Jane Priestman, then head of the awards group. We met in Samantha Hardingham and Will McLean's meanwhile-use Crowbar Coffee on St John Street near the Angel, where espressos were served in tiny paper cups amid a very final-year architectural environment. Jane warmly embraced the idea. So I wrote a proposal for my Sunday Times editor, John Witherow, that we should jump from Lord St John's ship to RIBA's. He agreed (the previous arrangement having been under his predecessor Andrew Neil). Things were moving – but we still needed a name.

Back then the Tate's Turner Prize was a TV cultural fixture, with Damien Hirst winning in 1995. The Turner had based itself on the literary Booker Prize, also televised. So now the model was clearly the Tate's, with its famous-artist name. Who could be our architectural Turner?

Sir James Stirling, ever evolving his style, roguishly witty and original in approach, had died unexpectedly in 1992, his practice being continued by Michael Wilford. Anything but an establishment type, he was internationally highly regarded. To establish architecture's top prize in Stirling's name would be, I thought, a fitting memorial. To me, his was also the perfect name for it: a two-syllable name (like Booker or Turner), with the added bonus of being a homophone of 'sterling' with its association of value, purity and strong character.

But you can't just appropriate someone's name. I approached Lady Stirling and put our proposal to her. At first she was dubious, but she consulted – with Wilford especially – and, when he was keen, agreed. With that invaluable blessing and our thanks, we were able to proceed. Mary Stirling was to prove a perceptive and involved critic of the prize year by year. She always felt (remembering how tough it was for architects struggling to get going) that it was better to favour the up-and-coming rather than established names.

I don't think anything was ever formally written down and signed. There was no original memorandum of agreement or set of rules that I am aware of, though I'm happy to be corrected. Owen Luder, then RIBA president, agreed





TIM CROCKER (2)



PHILIP VILE



ROB PARRISH



GREG STORRAR / CC BY-SA 3.0

the idea. Was it discussed in Council? I have no idea. I was an outside journalist, interested only in how this would play out across the pages of my paper.

There was one notable verbally agreed condition, however: that the separately convened Stirling Prize judges need not be bound by the results of the preceding regional and national awards: they had the power to call in buildings they felt had been unfairly overlooked. This happened occasionally in the early years, most notably with the British Library by Sandy Wilson and MJ Long, snubbed in earlier rounds. How could that remarkable public building possibly not be on the 1998 Stirling shortlist? So it was called in. It did not win. It is now Grade I listed.

At some point this call-in protocol was dropped. A shame, because had it been kept RIBA might have avoided the 2016 storm of opprobrium that greeted its equivalent spurning of Grayson Perry and FAT's prodigiously strange and wonderful House for Essex. This was the most outré of all Alain de Botton's 'Living Architecture' high-concept holiday lets. Alas, it was not deemed worthy of even a regional award. This was clearly absurd – as everyone pointed out – but by then the Stirling Prize's flexibility had gone. Rules were rules: no regional award meant no national award meant no Stirling eligibility. Could A House for Essex have won, were it included? I think so, even though only one one-off house has ever nabbed the top prize: Witherford Watson Mann's insertion of a Landmark Trust house into the derelict Astley Castle.

Of course, there have been winners that left me scratching my head in furious bafflement or just indifference. But others have left me cheering. My best of 30 years would include: Future Systems' Media Centre at Lord's; the Accordia housing development in Cambridge by FCBS, Alison Brooks and Maccreanor Lavington; Will Alsop's public library in Peckham; Rogers Stirk Harbour's West London Maggie's Centre; AHMM's Burntwood School in Wandsworth; Haworth Tompkins' Liverpool Everyman Theatre; the Goldsmith Road council housing in Norwich by Riches Hawley Mikhail; the Elizabeth Line in London by a Grimshaw-led team; both Witherford Watson Mann winners, the other being the Appleby Blue almshouse in Southwark.

So, 30 years: the age buildings become eligible for listing. Not coincidentally, it's also a dangerous age for buildings, as shown by last year's demolition of the first winner from 1996, Stephen Hodder's Centenary Building at the University of Salford. The Prize will not be demolished. But more change seems certain.

Above left: Appleby Blue almshouse, London, by Witherford Watson Mann; Stirling Prize winner in 2025.

Above middle: Burntwood School, London, by AHMM; Stirling Prize winner in 2015.

Above right: Astley Castle, Warwickshire, by Witherford Watson Mann; Stirling Prize winner in 2013.

Below: Elizabeth Line, London, by Grimshaw, Maynard, Equation and Atkins; Stirling Prize winner in 2024.



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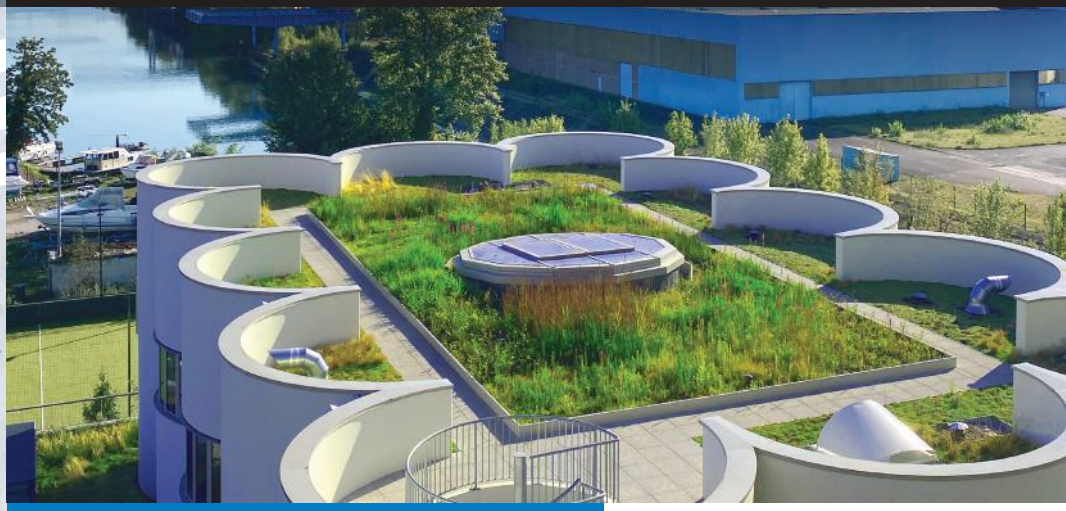
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DAVID VALINSKY

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JUDGES
Anna Liu, Tonkin Liu
Beth Bourrelly, BDP
Kathy MacEwen, planner
Chair: Flo Armitage-Hookes, RIBAJ

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Left: Tonkin Liu's Heritage Quad and Tech Hub in York won the 2026 award.

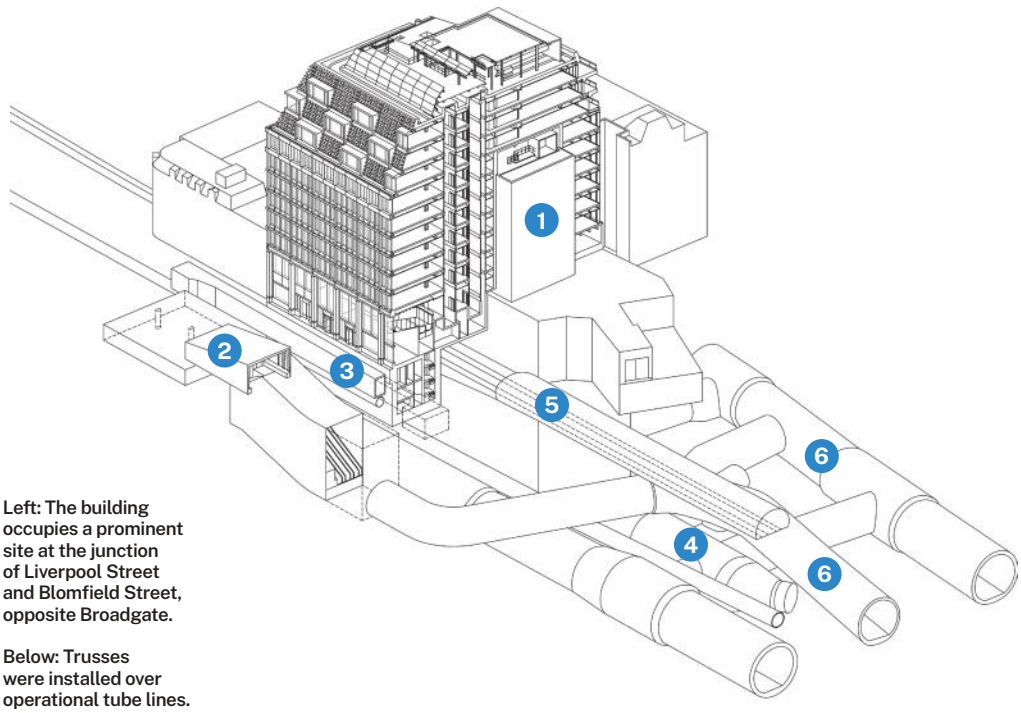

CRAFT BEERS
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PUB FOOD
CASK ALES
ONE

TUNNEL VISION

WORDS
Chris Foges

PHOTOS
Dirk Lindner

At One Liverpool Street, Eric Parry Architects has navigated a web of subterranean hazards while creating an office block of distinction



1 Blomfield Box
2 Elizabeth Line ticket hall
3 City of London utilities tunnel and sewer
4 Disused GPO tunnel
5 Metropolitan and Circle Lines tunnel
6 Elizabeth Line tunnels

ERIC PARRY ARCHITECTS

Left: The building occupies a prominent site at the junction of Liverpool Street and Blomfield Street, opposite Broadgate.

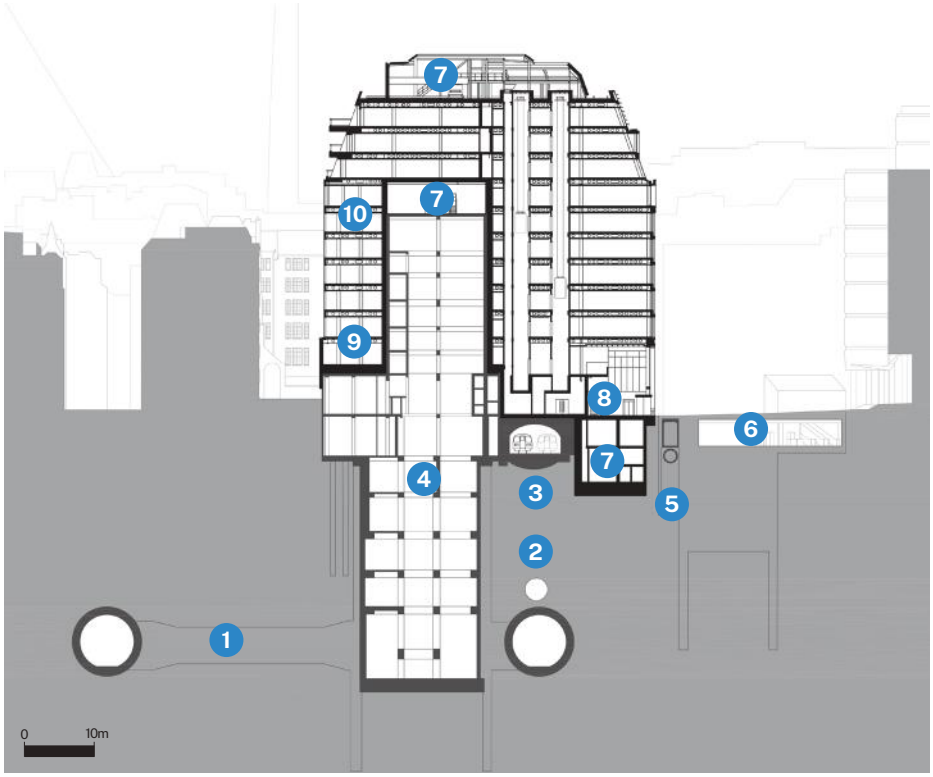
Below: Trusses were installed over operational tube lines.



The Bible gives us the parable of the wise man who built his house upon the rock, and the foolish man who built upon the sand. Eric Parry Architects has built its latest house – or rather, an 11-storey office block – at One Liverpool Street, on top of deep tunnels for Crossrail and shallow cuttings for Victorian tube lines, more tunnels for the disused Post Office railway and City of London utilities, not to mention sewers, an electrical substation and a colossal service shaft. If we look for a lesson in what has grown out of this subterranean tangle, it's that wise clients seek out architects with the skill, confidence and imagination to deliver more than conditions seem to allow.

Standing on Liverpool Street, EPA director Robert Kennett waves away any suggestion that building here might have given a moment's concern during the 14-year project. "No, we'd won it in competition and could see the potential," he laughs. "Although the zone above the tracks is exactly where you'd want a central core, so we had to redistribute all the stuff an office building needs to provide."

The project was made physically and financially viable, he explains, by a joint venture between the developer Aviva – which acquired a humdrum 1980s office block facing onto Liverpool Street – and Transport for London, which owns the newly installed concrete shaft



ERIC PARRY ARCHITECTS

SOUTH-NORTH SECTION

Below: Dormers fabricated in Germany were installed in one piece within a brise soleil mimicking roof tiles. Air handling plant is on the roof. The project achieved WELL Platinum, EPC A, and BREEAM Outstanding.

1 Elizabeth Line tunnels
2 Disused GPO railway
3 Metropolitan and Circle Lines
4 Blomfield Box
5 Sewer and City utilities tunnel
6 Elizabeth Line ticket hall
7 Plant
8 Entrance hall
9 Cycle store
10 Offices



immediately behind. Rising seven storeys above ground and descending to the same depth, the 'Blomfield Box' is enveloped within the new office building.

The steel frame of EPA's building fixes back (delicately) to this monolith, and incorporates giant, storey-height trusses that span over the tracks beneath. With trains operating throughout construction, getting the building up was among the most complicated projects undertaken in the City. At one point, says Jonathan Emmines, operations director at contractor Mace, the half-built frame was a "jelly", with columns dangling in mid-air awaiting the arrival of foundations to receive them through vibration-dampening isolation bearings.

Since only a small basement could be dug, hard against the shallow brick tube tunnel, the requisite cycle storage is at first-floor level, along with the extensive reception spaces that City tenants now expect. Concrete lift shafts coming all the way to ground level were out of the question, so an escalator rises from the street-level foyer to the reception, and to steel-framed elevator banks for the onward journey to offices.

From the street, there's little hint of the complexities the design team has overcome within; no showy celebrations of bold structural feats. Quite the contrary, as EPA has striven instead to ensure that the new building slots into its urban setting with unflustered composure.

Eric Parry talks about it as a "bridge in two senses of the word" – not just over the tracks, but also between the commuter-thronged precincts of Liverpool Street Station to the east, the splashily contemporary commercial architecture of newly rebuilt Broadgate to the north, and the relative quietude of stone-faced Finsbury Circus to the west. The architects' usual inclination to draw thoughtfully from the local context was bolstered by planning conditions: the corner site adjoins three conservation areas and a clutch of fine Victorian and Edwardian buildings.

Squint a little and EPA's building could perhaps be taken for one of those neoclassical neighbours. It has a tripartite composition, with a heavyweight base framed by giant fluted columns, a lighter midsection textured with deep-set mullioned windows and ornate spandrels that rises to an attic storey and, above, a steep mansard roof speckled with peeping dormers.

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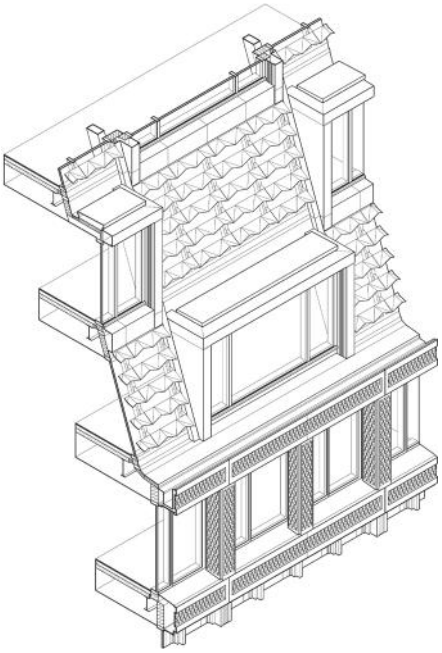
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ERIC PARRY ARCHITECTS

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Focus the gaze, though, and sober-suited propriety gives way to something richer and more ambiguous. The whole envelope, from the column casings to the rooftop 'tilework', is formed from sand-cast or extruded aluminium. There's a direct allusion, says Kennett, both to the decorative wrought and cast ironwork of the trainshed roof over the road and the metal skins of modern office buildings, as well as a hat-tip to the ornate, self-supporting cast iron facades of 19th-century buildings like Donald Judd's home and studio in New York.

Aluminium was chosen instead of iron or steel for its lighter weight, but in cast form it nevertheless exudes a palpable gravity that you don't get with what Kennett calls "run-it-up" cladding. He makes the case for its sustainability, as not only is aluminium recyclable, but there is good reason to imagine the building will survive longer than many recent additions to the City. "We've maxed out the bearing capacity of the site," he says. "You couldn't get more onto it without skyhooks."

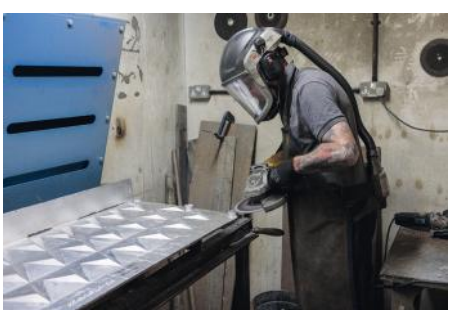
Like most EPA buildings, this is an essay in little-used materials or techniques. Components are designed to use the minimum of material possible, but are typically about 10mm thick, says EPA associate Rupert Willard. "It's the coming together of an ancient craft and a lot of technology in the use of computational fluid dynamics to ensure the metal doesn't solidify too early in the mould."



Top: Nine-metre-high fluted columns recall both stone and metal buildings nearby.

Left: Triangle patterns extend to cast grilles.

Below: Cast cladding is hand-finished at one of the foundries.



The craft of making is subtly underscored in the detail. On column casings, spandrels and grilles, tight pleats and creases make triangle-patterned reliefs and perforations – forms that couldn't be achieved through simply pressing metal. Those spandrels were fabricated in Essex, by a firm whose regular output includes nosings for the London Underground. Columns came from Stoke-on-Trent. Others among the 20-odd cladding types came from small foundries in Spain. All are brought together with a unifying coat of pearlescent grey paint, enlivened by a single scarlet accent like the pinstriping on a hot rod.

Composition of these components gives the building a subtly dualistic character. Look across from Broadgate, and kaleidoscopic reflections of the neighbours glitter across the big windows. Look down Liverpool Street from Finsbury Circus and the unusual depth of the facade lends a new solidity. Lifting the first floor over the entrance to the Blomfield Box gives the base of the building a heroic scale. Hefty columns marching around the corner rise to almost 10m, yet seem to merge naturally with the pilastered pub next door.

Close spacing of the column flutes means that drinkers there can't set down their glasses where the thick metal ribs rest on a dark granite base. But the robust, tactile building otherwise offers a generous backdrop to life on the newly pedestrianised street, where landscaping is arranged around a Crossrail entrance and a monumental mirrored sculpture by Yayoi Kusama. Ground-floor units will house a restaurant, alongside a 'vitrine' window exhibiting contemporary art.

Pushing through revolving doors set deep between two weighty columns, visitors enter an airy double-height foyer. Ascending to the Gensler-designed reception they are greeted by a coffee bar and a dramatic view through the building's curved prow to busy Broadgate, whose own multi-level arrangement mirrors the elevated position.

Also jigsawed into this floor are a library and events space, and the important end-of-trip facilities – cycle stores and changing rooms – which are deftly inserted over the Blomfield Box. Here, you receive a rare glimpse of what is going on behind the scenes where the oxblood-red chord of one truss drops through the ceiling.

Office floors (let to law firm Dentons and estate agent Knight Frank) wrap around the Box and the adjoining core, whose orientation gives direct views out into the heart of the City. Three floors open onto wide south-facing terraces. There might be more if the building was designed today, says Kennett, since outside space is now highly prized.

The building's long gestation is also apparent in the quantity of glass, which would likely be reduced by changes to Part L. As it is, tenants get the double pleasure of prospect and refuge: a panoptic outlook along with the impression of substance and seclusion lent by the heavy metal jacket. Looking out from the lower floors, you can see the hand finish on patterned columns that stand like sentries beyond the triple glazing. Up at the top, the brise-soleil zigzags over sloping glass like a kind of plate armour.

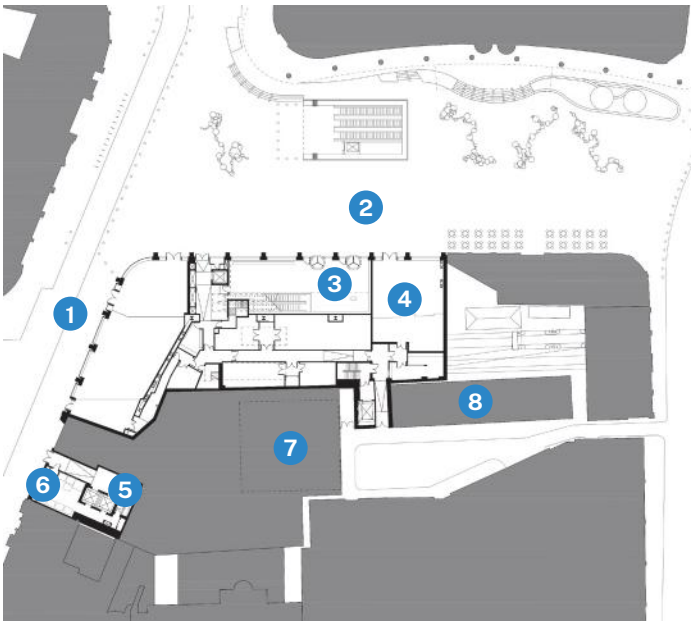
It's often said that in speculative shell-and-core development, the zone for architecture is limited to the depth of the envelope. At One Liverpool Street that's clearly not the case: there is a good deal too in the sequence of orderly and characterful spaces that belie the chaotic situation beneath. But what's more impressive still is the way EPA has taken the limitations of the site and of commercial development in its stride, to make a building that shows just as much care for what's going on around it as within, or below.





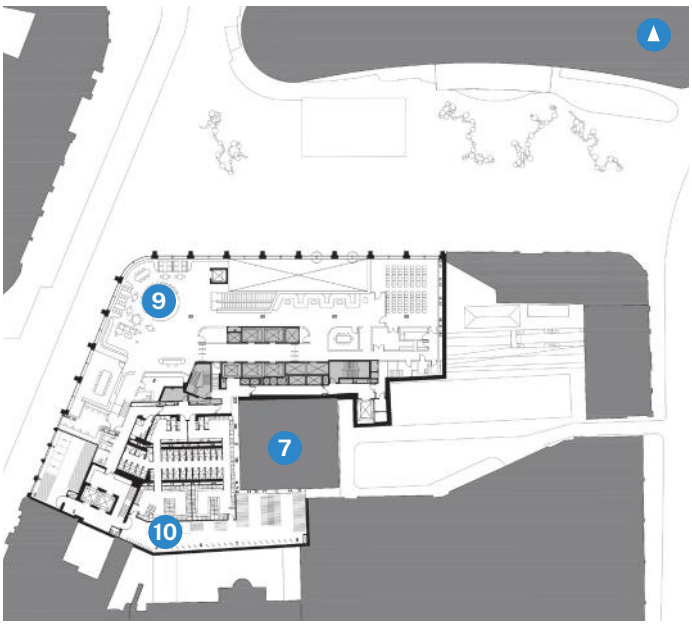


GROUND FLOOR PLAN



FIRST FLOOR PLAN

0 10m



1 Blomfield Street
2 Liverpool Street
3 Entrance hall
4 Retail
5 Cycle entrance
6 Refuse
7 Blomfield Box
8 LUL substation
9 Office amenities
10 End-of-trip facilties



Opposite left: Exploiting the core geometry adds interest to an escape stair; steelwork makes a rare appearance in the end of trip facilities.

Opposite right: The shared first-floor reception area includes a coffee bar, library and events room.

Left: A red 'pinstripe' accentuates the depth of the facade.

CREDITS

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DP9
Project manager
WT Partnership
Principal designer
Capita
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ERIC PARRY ARCHITECTS (2)

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OSCAR acoustics

Failing to design for acoustics creates unproductive environments, no matter how good they look, concluded a panel of architects and sound specialists

Below: Careful consideration of acoustics is needed to create good collaboration, as at dFMK's studio.



KILIAN O'SULLIVAN

Oscar Acoustics recently hosted a roundtable at a leading architectural firm to discuss why the profession still treats acoustics as an afterthought, and what it will take to change that.

Acoustics is not a "finishing touch"; it is a foundational design element that shapes how people work, feel and behave in a space. Failing to design for acoustics creates discordant environments, no matter how good they look. This affects productivity, wellbeing and even attendance.

Oscar Acoustics' 2026 research, surveying 2,000 UK office workers, clarifies the problem: every day, workers lose 26 minutes of productive time due to noise. For a 100-person business, that is approximately 11,000 lost working hours a year, the equivalent of losing six full-time members of staff. Despite this, fewer than one in ten (8%) employers have installed acoustic treatment in the last two years. And only 14% of architects consider sound during RIBA Plan of Work Stages 0 to 2.

Oscar Acoustics brought together a panel of architects, sound specialists and workplace experts at dMFK's offices, to examine why acoustic design gets neglected and to discuss more intentional approaches.

Designing with purpose

dMFK founding director Julian de Metz spoke about the acoustic environment that good employers provide. "One of the things you come into the office for is to pick up on what's being said," he remarked. "It's not echoing here because we treated the surfaces; there's an appropriateness to it. Our preference is that our people are listening and learning, comfortably absorbing what other people are saying. To achieve that, you have to get the layout right."

His approach is to shade floor plans across different acoustic zones before making surface decisions, identifying distinct areas for focusing, cooperating and more general work. It's a simple exercise, but when spatial layout is

Right: Roundtable examining why acoustic design gets neglected.

Below: The library and meeting space at dFMK with acoustically treated ceiling.



OSCAR ACOUSTICS

resolved early, acoustic finishes can perform as designed, and the building delivers on its brief.

Sound expert Julian Treasure, a five-time TED speaker, pointed out that sound acts at a physiological level long before people register it consciously. "Sound changes our physiology, our heart rate, breathing, hormone secretions," he said. "It changes our emotions, how we feel. It changes how well we can think."

In workplaces, where cognitive performance matters, this is a key concern.

The numbers no CFO can ignore

Oscar Acoustics managing director Ben Hancock highlighted the true cost of ignoring acoustics. "People are already paying for the acoustic problem and they don't realise it," he said. "If you multiply 26 minutes a day over a team of 50 people, that's 150 weeks of lost productivity a year. There is no other part of the business where a finance director would be completely happy with those sorts of losses."

Workspace Group chief executive Charlie Green underlined the commercial logic. "Nobody says 'I'm leaving because the acoustics are bad', but they will be making a decision with that informing their choice," he said. "There's a commercial consequence to getting it wrong."

Oscar Acoustics' research supports this. Almost half (45%) of office workers say they would actively seek new work or consider leaving their job due to excessive noise in a typical month.

Green also pointed out that developers operating on five or ten-year leases have few incentives to react. Tenants must press for change. "If we educate the occupier, and the occupier says 'I must have this', it becomes a much stronger part of the conversation," he said.

Inclusive design isn't a niche brief

Gillian Burgis Smith, founder of inclusive design consultancy Strawberry Leopard, discussed the human cost of a noisy office. Following two strokes and a brain tumour diagnosis in 2019, her own experience of the built environment changed profoundly. She also described the experience of a neurodivergent acquaintance who struggled to be productive in a poorly designed open-plan office. "My drive now is about creating environments where people can flourish," she said. "Acoustics is critical for that."

Marion Marincat also spoke from personal experience. He became profoundly deaf at 26, and discovered how inaccessible the built environment is for most people. After seven years of research, he founded Sownd Affects to set a new standard for audio-inclusive design. "There was no standard for acoustic comfort," he said. "There are indicators and there are ranges, and it is down to the architect, the designer, to decide which one suits best. But that is quite hit and miss to get a sound-conscious architect."

Research from Sownd Affects shows 60% of UK adults are noise-sensitive. That's 30 million people.



ED REEVE

A framework built for briefs

Sownd Certification is the world's first accreditation for audio-inclusive spaces. Developed by Sownd Affects in partnership with Oscar Acoustics, and independently validated by the ISVR at the University of Southampton, it evaluates actual post-occupancy results and provides a framework that can be referenced in a brief.

It's time to start changing the conversation from cost to value. Treasure calls it "return on sound" – the measurable gain in productivity, retention and wellbeing that good acoustic design provides. Acoustic design delivers that return. Sownd Certification proves its delivery.

To watch the full roundtable, visit: oscar-acoustics.com/sound-thinking-roundtable

Contact: 01474 854902

FOLDED FUTURE



WORDS
Hugh Pearman

PHOTOGRAPHS
Hufton + Crow

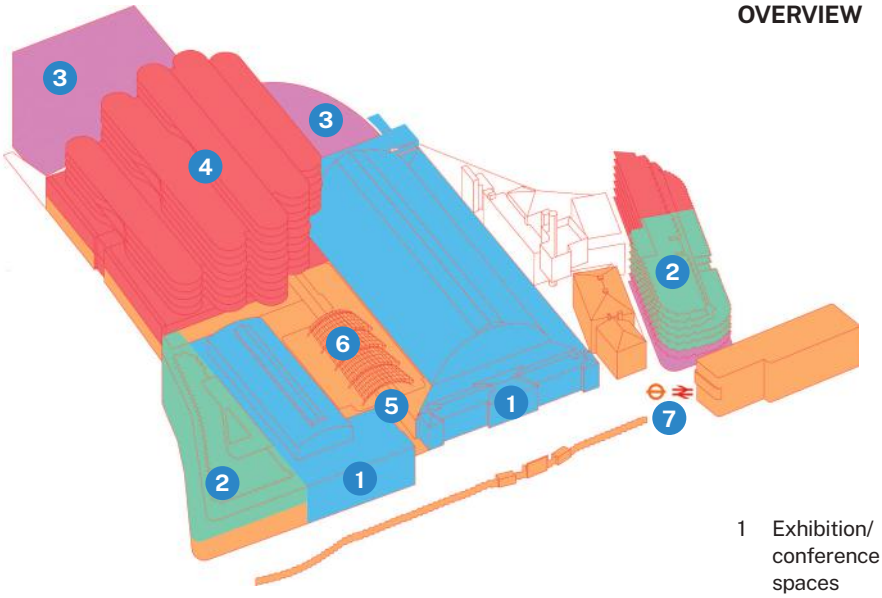
In a riot of pleated glass – and other materials – Heatherwick Studio and SPPARC have stacked bars, offices and hotel space on top of Kensington's historic Olympia exhibition complex

To expand a large, historic exhibition complex into a complete mixed-use commercial district, pretty much the only way in landlocked West Kensington was up. This is what has happened at Olympia, home to a multitude of famous big shows and events since 1886. In the hands of Heatherwick Studio with SPPARC, another world has arrived on top, signalled by a spiky crown and an outré tophamper of offices. For the external expression, and some interiors too, the architects have seemingly taken a leaf out of Issey Miyake's fashion line Pleats Please. And why not?

In fact, as Eliot Postma, Heatherwick group leader and RIBAJ Rising Star 2016, and Trevor Morriss, SPPARC's founding principal, point out on our walk round, the immediate inspiration was the vertical zigzag glass end wall of Olympia's original Great Hall. That pleating has become the motif tying together most of the new elements in a variety of ways. Nor were they the first architects on the block to do this: look closely at Joseph Emberton's 1929 white-moderne addition on Hammersmith Road, and you'll find the pleats there too, running in strips moulded into the concrete render as a perhaps coincidental touch of Jazz Age detail.

Yoking Heatherwick Studio and SPPARC was a belt-and-braces move by Olympia developers Yoo Capital and Deutsche Finance International. Both practices made the shortlist for the original competition. Morriss is well known for his grasp of the realities of the commercial development world; Heatherwick is the inventor, earnest in his quest for originality and eye-catching detail. Putting the two firms together to work on the masterplan – with Heatherwick given lead status and acting throughout as design guardian – and then on different elements of the overall scheme has worked out.

OVERVIEW



1 Exhibition/ conference spaces
2 Hotel
3 Music venue and theatre
4 Offices
5 Public realm
6 Cafés and restaurants
7 Tube station

HEATHERWICK STUDIO

Opposite: The central spine of the scheme, Emberton Walk.

Below: The public element sits in the valleys between the conference and exhibition spaces of Olympia.



“LISTED BUILDINGS OF VARIOUS AGES HAVE BECOME A PLINTH FOR THE NEW ERUPTIONS”



Above: The pleats continue on the office building, while its lozenge plan finds echoes in the rooftop extension of the citizenM Hotel.

Below: Architectural scenography – retained facade with new structure and spaces within.



Broadly speaking, Heatherwick Studio was in charge of new elements, with SPPARC concentrating more on the extensive refurbishment/rebuild aspects. But it’s more nuanced than that. Both are given equal billing on the design of one of the two hotels, citizenM, while SPPARC is lead designer on the music venue and the school and takes the executive architect role on one externally Heatherwick-designed building, the new theatre (inside it will be Haworth Tompkins). SPPARC otherwise acts generally as ‘lead consultant’.

I’m obviously not party to the behind-the-scenes discussions or any differences of opinion. But after nine years of working together, Postma and Morriss are clearly chummy, each talking in turn about the whole scheme, neither claiming exclusivity. There’s plenty to talk about: this is a £1.3 billion development woven into a 5.7ha exhibition complex where the main halls continued in public use (apart from the time of Covid) throughout.

The new elements are retail (mostly bars and restaurants), offices in the tower cluster, two hotels on either side at the front, and a private secondary school on the northern flank. At the rear are a 3,800-capacity live music venue and, still in construction, that 1,575 seat proscenium theatre, said to be the largest in London since the 1976 National. British Airways has naming rights to both.

Key to the masterplan was driving a public pedestrian route through the complex from front – the railway with its station right outside – to back. An early idea to thread this route through at ground level was vetoed by the clients who wanted to keep the exhibition halls interlinked there. So instead the route was set up high, entered and exited by long escalators along with, at the front, a grand if daunting staircase.

At the top the point of arrival is marked by a long glasshouse canopy, which announces the new Overworld with its food court of restaurants and bars, complete with upper terraces. The canopy pleats here, designed in tilted concentric sections, are clearly influenced by 19th-century ridge-and-furrow glazing techniques. From here Emberton Walk, as it’s called, proceeds through an open plaza and then plunges beneath the office complex.

In there is the main entrance to the offices – cue pleated timber foyer walls. But since this route is also the way through to the big entertainment venues at the back of the complex, the broad tunnel has to be enlivened somewhat. This is done with a full-length programmable digital light display on the ceiling, though this was turned off when I visited, leaving just a dark ceiling. Emberton Walk is designed for events if required. It may even host elements of exhibitions taking place in the halls below. I wonder, though: it can get windy up there, and wind loves a tunnel.

The offices take the form of a large, stepped block expressed as a bundle of five unequal vertical slices that vary in length, though all line up neatly at the back. They are round-ended and their cladding is, of course, zigzaggy. But if



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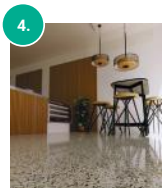
6. Car Parking Structures

2. Window & Façades

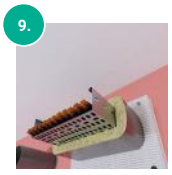
7. Roofing

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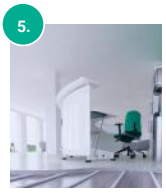
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1



Could we open the main facade to the view?

2



Will these shared spaces face the water?

Yes, they orient towards the marina.

3



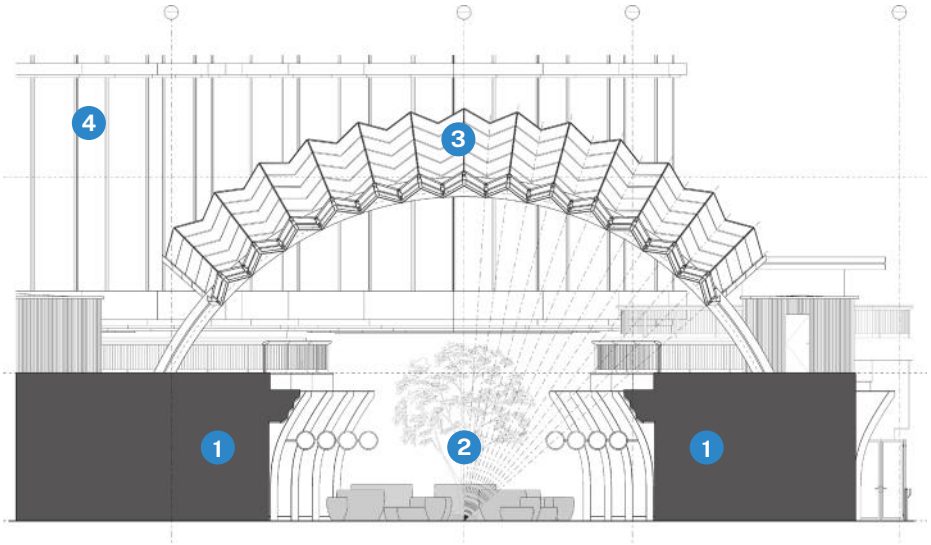
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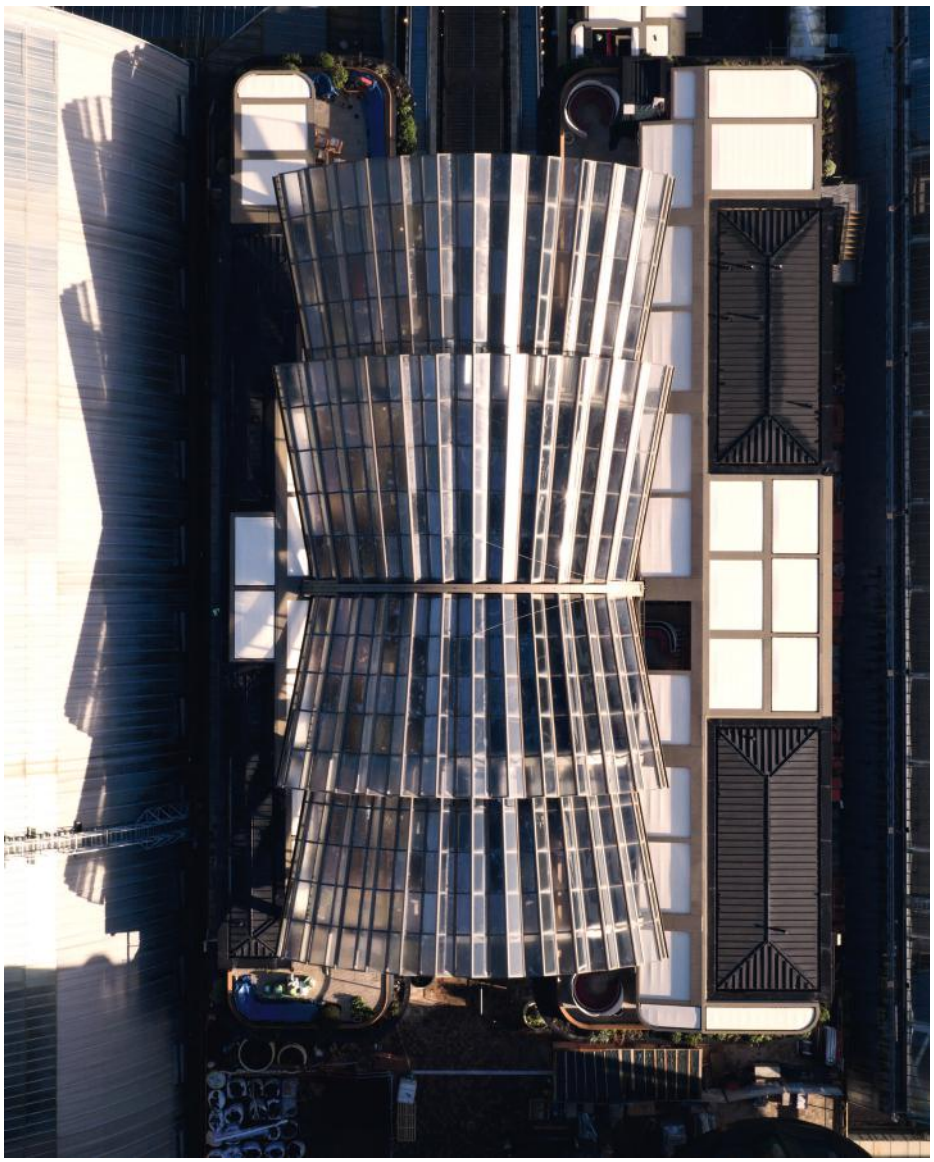
SECTION



HEATHERWICK STUDIO

1 Bars / restaurants
2 Public realm
3 Pleated roof
4 Offices

Below: The four sections of pleated roof over Emberton Walk.



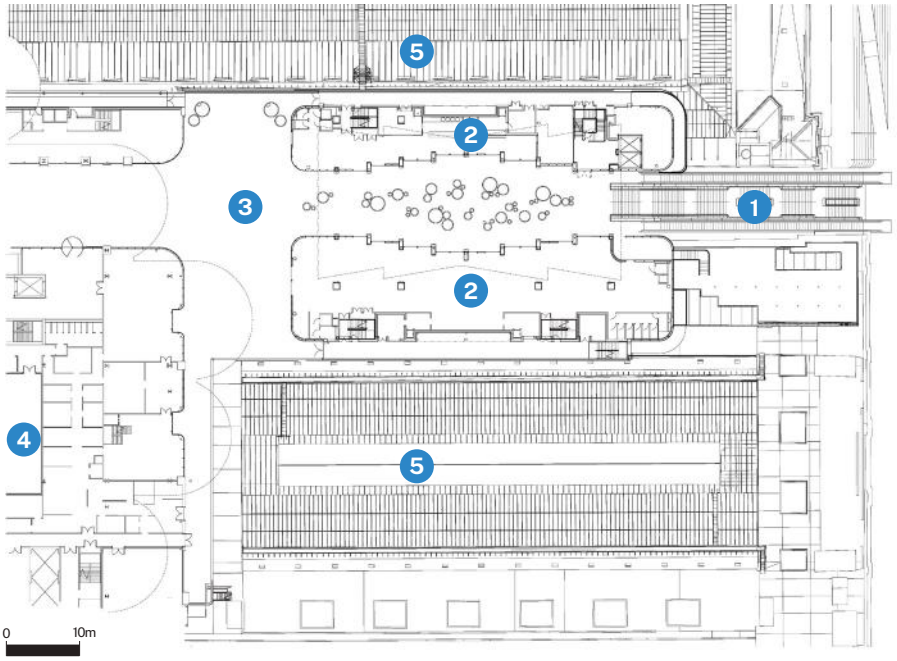
HEATHERWICK STUDIO / RAQUEL DINIZ / MOONSHINE

you're going to turn a curve with flat panes, then this is a good way to beat the curse of faceting by making a virtue out of necessity. It's a successful strategy. Each pane is exactly half of the manufacturer's normal maximum size so as to avoid waste.

With the landscaped roof terraces that office developments now demand, it's a very good vantage point up here, especially in the prow of each section looking east. Kensington is a low-rise borough, and you can see right across London.

The pleats return in the citizenM Hotel on the southeast corner, in that case functionally justified by the need to angle the windows so as to avoid overlooking (or being overlooked by) the buildings opposite. What remains smoothly curvilinear and moderne, however, is the complex on the northeastern corner of the site. This was originally Emberton's enormous 1937 multistorey parking garage for the complex, a wonder of double-ramping in its day to allow speedy entry and exit. Grade II listed, half is now a Hyatt Regency hotel, the other half the independent Wetherby Pembridge secondary school, part of an international network of such places.

These are new buildings inside. Low-ceilinged car parks with ramps and half-levels never convert readily, so it's no surprise to find this was a case of retaining the facade structure only. The original floors with their deep downstands were replaced by leaner post-tensioned ones, the light brick spandrels superseded by brick-faced precast panels. The positioning of Emberton's ribbon windows is unchanged. There are a couple of extra set-back floors



HEATHERWICK STUDIO

EMBERTON WALK LEVEL

1 Stairs and escalators
2 Bars / restaurants
3 Public realm
4 Offices
5 Exhibition and conference hall roofs

Below: The citizenM hotel bubbles out of the old Olympia building.

on top, visually aligned with the other new parts rather than apeing Emberton. So little original remains but the upshot is that – as with the other facade job on Emberton's south flank, where the original interiors were lost way back – the familiar streetscape is retained and spruced up. This is architectural scenography.

One considerable improvement is the pedestrianisation of what was previously just a service road along the front, next to the railway. With a new 'logistics centre' put beneath the exhibition halls to handle vehicle arrivals and departures, this mini-boulevard became possible.

Olympia was always a strange phenomenon. Now, it has become considerably stranger, surreal even. Up on Emberton Walk, you stroll among the roof peaks of the original exhibition halls. Lower listed buildings of various ages have become a plinth for the new eruptions on top. At ground level the original 'pillared hall' with its forest of Corinthian columns is now restored as a restaurant. And above the original entrance, a Portland stone replica of the long-vanished classical tableau featuring the goddess Demeter, who looked after farming, is now present and correct, reminding us this place was originally meant for agricultural shows.

There's a weirdness to Heatherwickery. The office cluster works well visually, though I don't find the deliberately quirky bits of close-up detailing compelling, and the zigzaggery is relentless. But you could argue this is all bang on brand for the otherworldly nature of the place.



IN NUMBERS

TOTAL CONTRACT COST
£1.3BN

GIFA COST PER M²
£3,058/M²

AREA IN M²
199,629

BREEAM CERTIFICATIONS
18

NEW OFFICE BUILDINGS
BREEAM EXCELLENT

LISTED BUILDINGS
5

THEATRE CAPACITY
1,575

MUSIC VENUE CAPACITY
3,800

CREDITS

Client
Yoo Capital, Deutsche Finance International
Architects/ designers
Heatherwick Studio, SPPARC
Structural engineer
Robert Bird Group
Facade engineer
Eckersley O'Callaghan
Civil engineer
Campbell Reith
MEP (services) engineer
Desco
Project manager/ cost control/ principal designer
Gardiner & Theobald
Acoustics
Vanguardia
Landscape
LDA
Main contractor
Laing O'Rourke

WOOD-LOOK BLADES FOR AN ATTRACTIVE NEW-BUILD PROJECT

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A residential development in Bruges makes elegant use of Linarte Wood Design to create a timeless facade

With its historic centre and vibrant city life, Bruges (BE) appeals to young and old alike. So when you find a home surrounded by greenery yet within walking distance of everything the city has to offer, you've struck gold. The Avenue residential development adds 11 contemporary apartments and two commercial units to the area. Traditional brickwork and modern wood-look blades combine to create a timeless facade.

Inside, light colours contrast elegantly with the darker facade elements in Linarte Wood Design. Developer Bossuyt Vastgoed deliberately wanted a facade that would stand out from the crowd by moving away from more conventional architectural concrete.

"We initially considered timber profiles," recalls project leader Baptiste Bossuyt, "but then the architect introduced us to Linarte Wood Design. The warm appearance of wood, combined with excellent fire safety and minimal maintenance, made it the ideal solution."

The enduring appeal of wood

Architectural engineer Tom Jonckheere of Jonckheere IR-architecten explains: "We've used aluminium on many projects to create visual continuity between windows. However, when it matches the joinery colour, the result can quickly become somewhat monotonous, while wood can discolour in the sun and requires maintenance. We also wanted to integrate the garage door seamlessly into the facade. Linarte allowed us to achieve all of that, while adding the aesthetic value of the new wood-look range."

The choice of Linarte also brought practical advantages during construction. "With Linarte, we had greater flexibility," says Jonckheere. "If a blade is damaged, it can simply be replaced without major cost or disruption. Even after completion, the system remains adaptable: individual blades can be removed and reinstalled easily, for example when additional cabling needs to be added later on."

www.renson.net





Above: Linarte Wood Design blades have the warm appearance of wood plus excellent fire safety and minimal maintenance.

Left: The Avenue's facades combine traditional brickwork with modern wood-look blades.



LES MELEZES - MATTHIEU JOFFRES

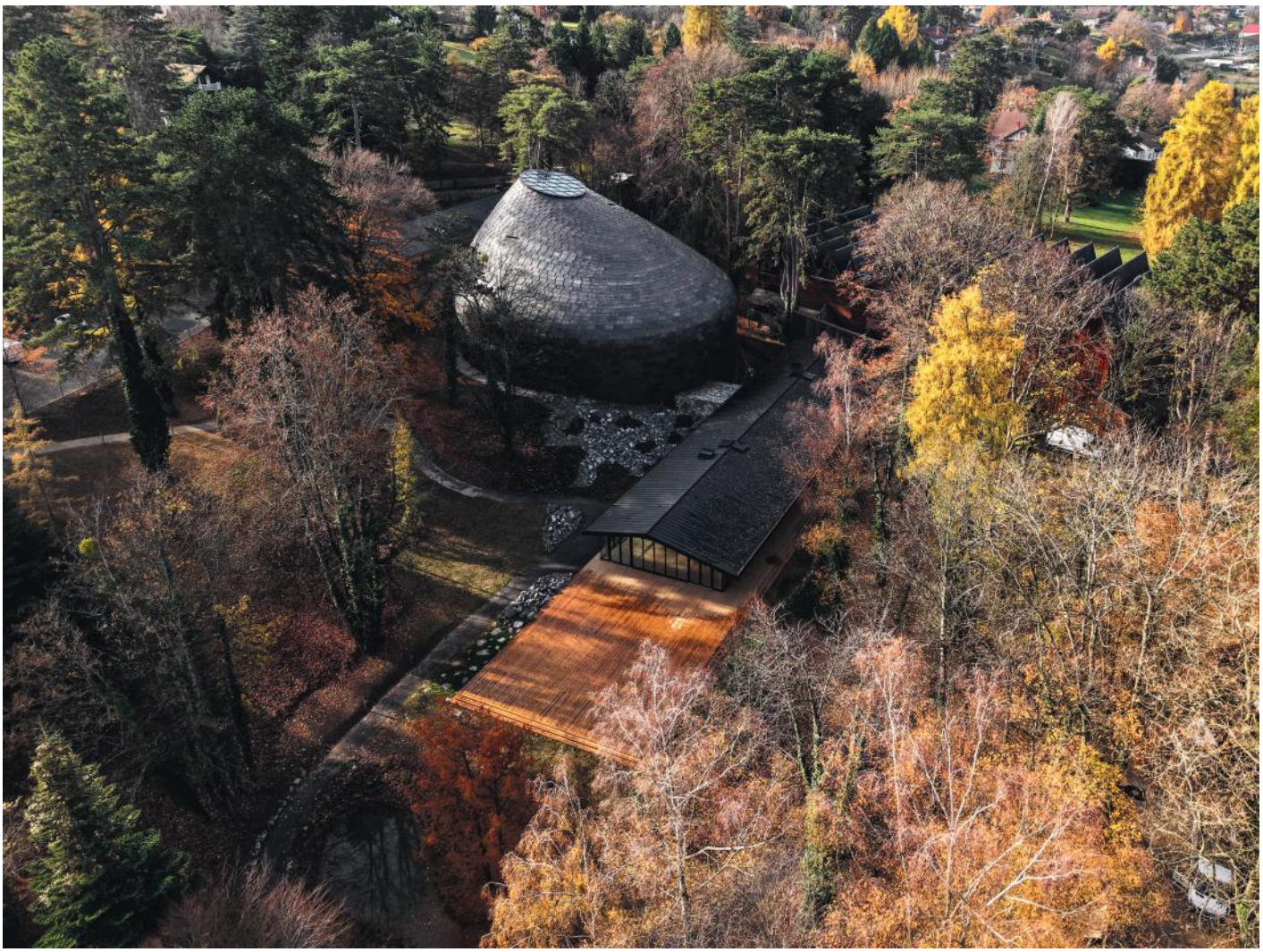
Opposite: A custom-made reflector hangs below an oculus.

Below: New buildings in the woods are clad in copper, local timber, Morzine slate and Meillerie stone.

RETURN TO THE SOURCE

WORDS
Andrew Todd

Patrick Bouchain's breathtaking new copper-clad La Source Vive concert venue in Évian complements his neighbouring La Grange au Lac symphony hall, completed in 1993



SKY XPERT DRONE



SALEM MOSTEFAOUI

Architect Patrick Bouchain has the unusual distinction of having his first and last major buildings as symbiotic neighbours in the upscale Évian Resort park. La Grange au Lac symphony hall, from 1993, whose light foundations carefully avoid corruption of the valuable spring water not far below grade, has now been joined by La Source Vive, a 500-seat chamber room. It provides a richness – and much-needed public and backstage facilities – which elevates the artistic potential of the complex to world-class status, alongside Glyndebourne and Tanglewood.

Bouchain, who is hanging up his trowel at age 81, has undertaken an interesting arc between the two projects, and the world has too: let's say, from progressive idealism to private benefaction. Both buildings are representative of their times, and now they coexist.

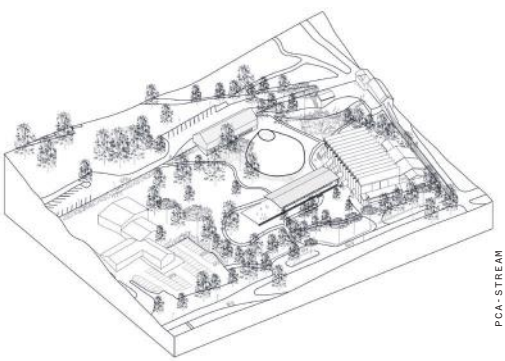
As its name implies, La Grange is something of a simple barn, built from chunky spruce members with vernacular verve. Created at the impulsion of cellist Mstislav Rostropovich, who wanted something a bit like the Vienna Musikverein for his lakeside summer festival, the building oozes brawny, youthful optimism, and a certain wishful thinking about durability. It was dreamed as a kind of dacha for the exiled cellist, with an actual birch forest on stage bedecked with chandeliers.

Uninsulated, crazily cheap (€3 million, inflation-adjusted) and built in only seven months by a crew aged 24 and younger, the 1,200-seat hall celebrates frugality, eking out maximum utility and pleasure through extreme pragmatism. It follows the natural slope, uses locally sourced, repetitive structural elements and ground-beam footings, and makes ingenious moves through the thicket of fire regulations. Bouchain sees the construction site as a significant political and social phenomenon, with dirt-poor migrants and plutocrats sharing the same chemical toilet in an endeavour which is – fundamentally – an almighty bringing-together of humans, matter and energy.

While the founders of the UK's Assemble collective were still in nappies in the 1980s, Bouchain was already applying hybrid methods of social, artistic and material interaction at a national scale. As adviser to the brilliant (though now Epstein-tainted) arts minister Jack Lang, he made an inventory of underused public buildings in Paris – giving rise, indirectly, to the fantastic Cartoucherie de Vincennes theatre park. He also created forests, and brought contemporary art into the popular mainstream, notably in collaboration with Daniel Buren, whose Palais Royal columns earned Bouchain a night in jail for infringement of planning procedures.

Above: Within the Évian Resort, in the heart of a forest overlooking Lake Geneva, the new hall on the 'Les Mélèzes' site sits next to La Grange au Lac, designed 30 years ago by Patrick Bouchain. The soft, conical form of La Source Vive contrasts with the sharp sawtooth roof of La Grange.

Below: The foyer is rebuilt on the site of the existing one; the music hall is further up the slope in a clearing; and the dressing rooms are higher up, alongside the existing road to the Hôtel Ermitage.



PCA-STREAM

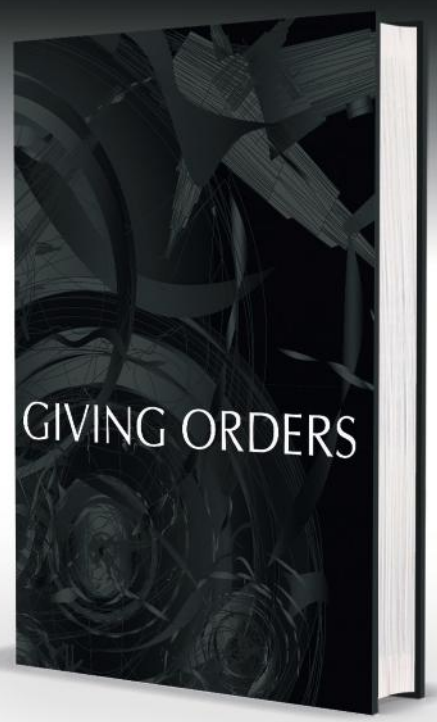
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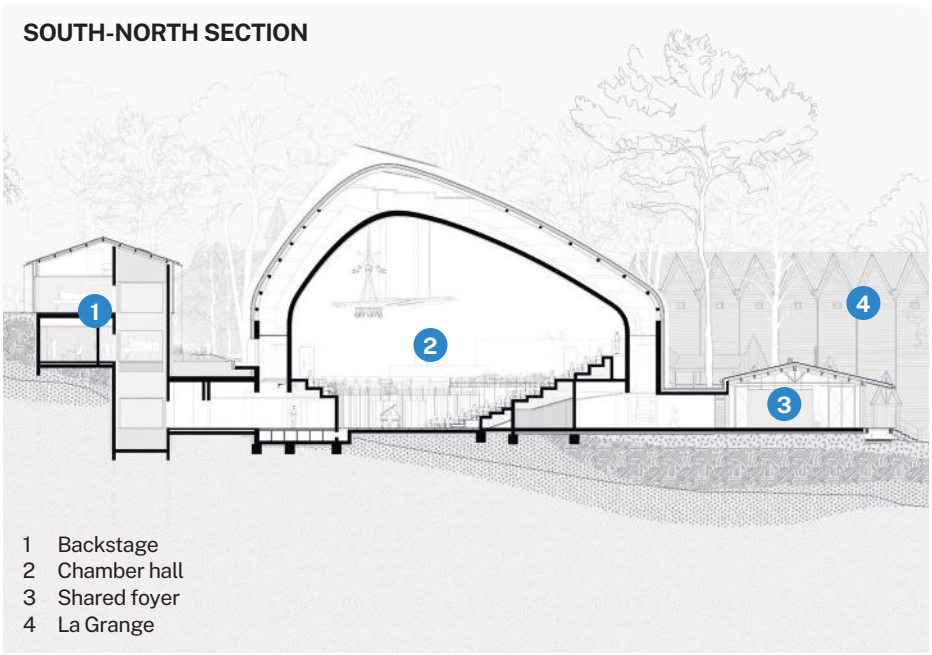


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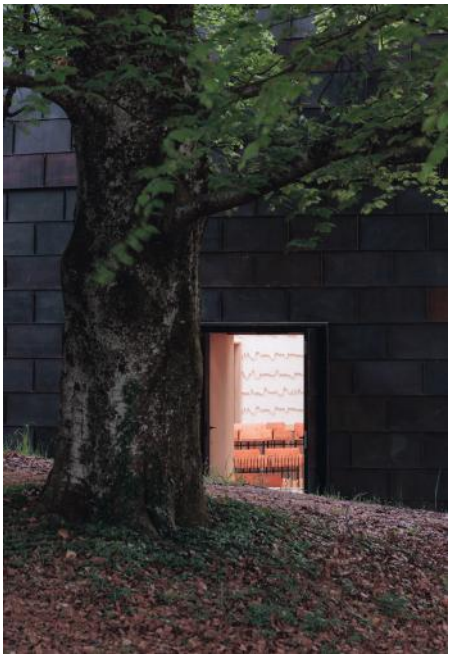
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PCA-STREAM



SALEM MOSTEFAOUI (2)

Bouchain invented a new sector of low-cost, polymorph arts centres, often in lightly repurposed industrial buildings, which were realised in Grenoble, Roubaix, Calais and Nantes. The latter stands out: the Lieu Unique (a riff on the LU brand of the biscuits formerly made there) is high-value at low cost, and cheekily reparatory. Nantes was made prosperous by the slave trade, and now has a theatre whose ceiling-mounted acoustic diffusion is provided by oil barrels sent to Mali as toxic waste and reimported by Bouchain as artworks cut to size by local craftspeople.

Despite his proximities to power, Bouchain has remained an eclectic figure. Not actually a qualified architect, he exhibits an anarchistic opprobrium for such formalities. Through his own editorial line at Actes Sud publishers, he has championed similar misfits such as Lucien Kroll and Kinya Maruyama. Like the uncategorisable Bruno Latour, he missed May 1968 – the defining event of his generation – because he was working in West Africa, dodging the vehement politics and hazing of the École des Beaux Arts where he was enrolled as a student. African pragmatism, conviviality, inventiveness, informality and generosity infuse his subsequent work, coupled with a Jesuitical brio for bending, breaking, or rewriting the rules of bureaucracy and power.

Bouchain's leftist idealism remains unchanged, but it has had to find new forms of expression in our increasingly K-shaped economy. Alongside his clients and superstar chefs Michel Troisgros and Alexandre Gauthier, he has managed to reposition the question of luxury from one of passive consumption to awareness and engagement, especially with the natural world. There is an admirable continuity between the straightforward garden rooms of the very expensive Grenouillère restaurant for Gauthier and the chef's nearby Grand'Place Cafe (in radiant shabby-chic style), where a wonderful oeufs mayonnaise costs all of €6. Likewise the rickety, primal,



Above: The music hall's prepatinated copper roof tiles blend in with the surrounding trees.

Left: Dressing rooms draw inspiration from vernacular architecture.

Below: The glass-walled foyer opens to surrounding nature.



JEAN-PHILIPPE MESGUEN

sheep wool-lined vaults of the Cadoles residences at Troisgros' Colline du Colombier, where the real luxury is solitude and focus on the cow pastures beyond the knitted wire guardrails of the outdoor terraces.

These forces are very much in play at the culmination of his journey in Évian. During a nadir for La Grange, which was shuttered and badly in need of care, Bouchain met the billionaire philanthropist Aline Foriel-Destezet, who has acted ferociously to counter the retreating tide of state support, in particular for arts access and education for the underprivileged. A rapid upgrade to introduce cooling, give better air circulation, and enlarge the stage so it could accommodate the Berliner Philharmoniker did the job.

Foriel-Destetzet then turned her attention to the Source Vive project, which she has entirely funded, entrusting it to Bouchain and his collaborator Philippe Chiambaretta of PCA-STREAM (who, with a profile of largely commercial projects and an activist-intellectual practice, will doubtless be positively transformed by the experience here).

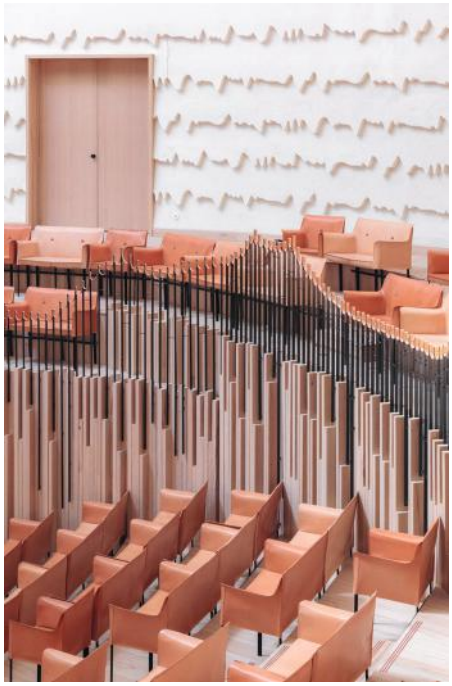
The backstage facilities provided within this project serve both auditoria, enabling the Grange to turn from a summer fun palace to a serious year-round venue. The company offices, artists' facilities and public foyer are all ultra-pragmatic wooden sheds – the latter also a nod to Jean Prouvé's Evian water tasting room just down the hill – generously embracing the site's mature larch forest. The green room merits its name for once, serenely addressing a secluded glade, the two auditoria visible just behind.

If La Grange is a kind of introverted forest, La Source Vive is a weird cosmic grotto. The new room is bulbous and white with a zenithal oculus smearing light over the only feature common to both spaces – an orchestral reflector crafted from jagged aluminium blades. It has a double shell: copper-clad wood outside and flocked concrete inside, with an inner finish of heavy plaster hand-scraped into acoustically responsive undulations. Bouchain personally chose and mentored the plasterers, blending skillsets originating in Transylvania, Portugal and North Africa.

The room form is squished-asymmetrical for acoustic reasons and, according to Bouchain, uneven in the manner of a human face. Seats are domestic-style singles and settees dressed in leather rejected by the luxury trades. The quotidian associations of the seating hint at the roots of chamber music in palace rooms – as a part of normal social life – rather than in special, elevated institutions.



SALEM MOSTEFAOUI (2)



This hall will also serve as a rehearsal and recording space, and invites experimental tuning by careful positioning of the players. Willed into being and run by violinist Renaud Capuçon, it favours the timbre and bloom of string instruments more than the detail of percussion and piano. The cellist Yo-Yo Ma was in residence to serenade the G7 leaders in the room during the June 2026 summit, and for its later inauguration, and described it as a "spiritual workshop".

On the opening night Ma and Capuçon played with shamanic intensity and Metallica-level abandon, creating an extraordinary communion with the surrounding audience. Ma bowed repeatedly to Bouchain at the end. It doesn't get any better than this: builders and musicians scraping, tapping and stroking with the utmost skill, with appropriate force of hands, feet and breath, encapsulating, distilling and making palpable our amazing good fortune to be sentient, communicative beings in a world of beneficent matter, enclosure, and sonic and social harmony.

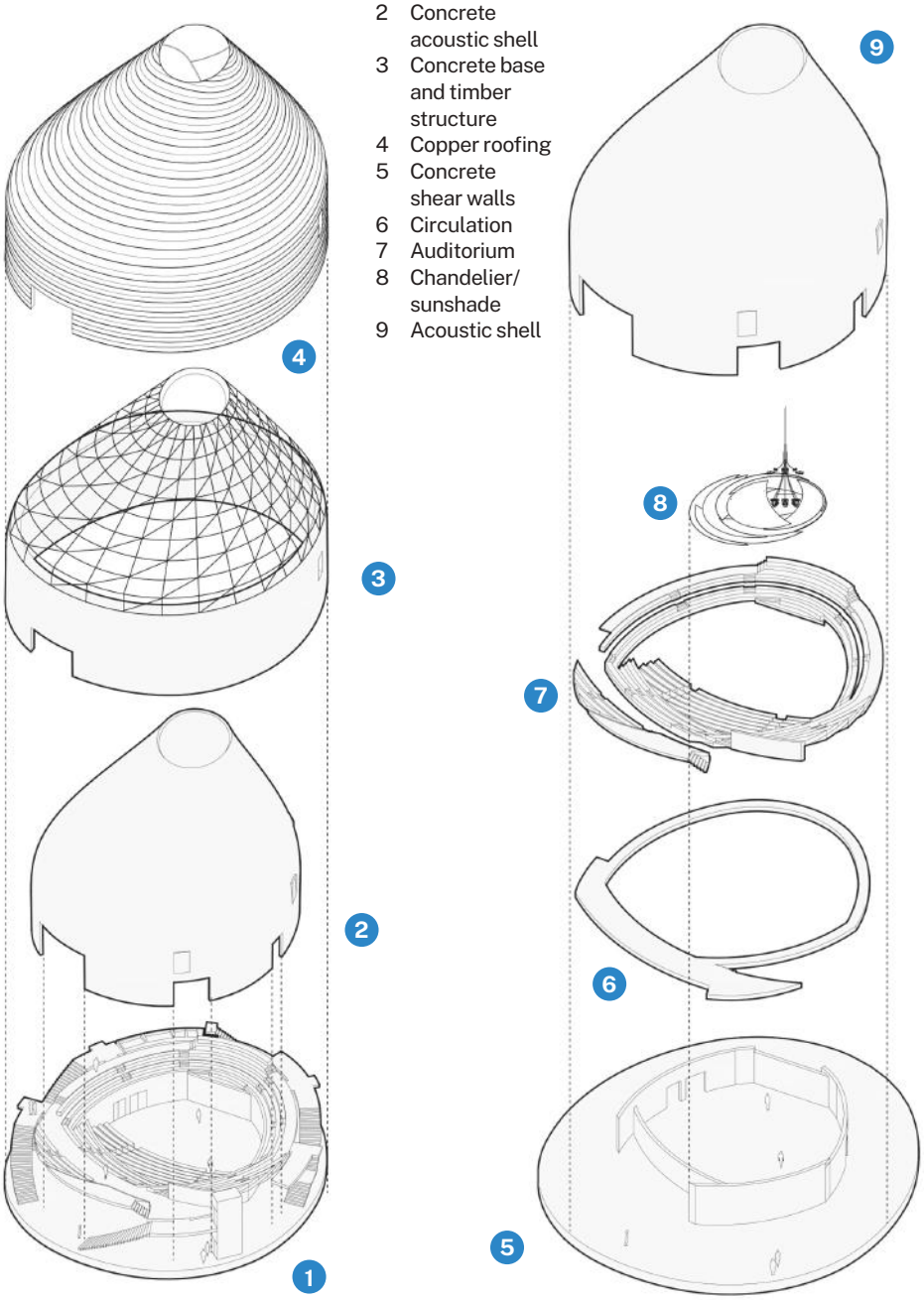
Andrew Todd is director of Studio Andrew Todd, based in Paris and Burgundy

Above: Geometry, volume and materials create a "warm, silky" sound quality.

Opposite: The design hybridises two classic hall types: the shoebox and the vineyard.

EXPLODED DIAGRAM

1 Concrete tiered seating
2 Concrete acoustic shell
3 Concrete base and timber structure
4 Copper roofing
5 Concrete shear walls
6 Circulation
7 Auditorium
8 Chandelier/ sunshade
9 Acoustic shell



PCA-STREAM

CREDITS

Client
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Client's representative
Évian Resort
Artistic advisor
Patrick Bouchain
Project manager
La Soderec
Lead architect
PCA-STREAM
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Projetec
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C2I
Fire safety engineer
Axe Prévention Conseils
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DensDeck Prime Roof Boards deliver multiple performance benefits that help strengthen and protect the entire roofing system. Acting as a durable cover board and mitigation layer within the roof assembly, they enhance fire safety,

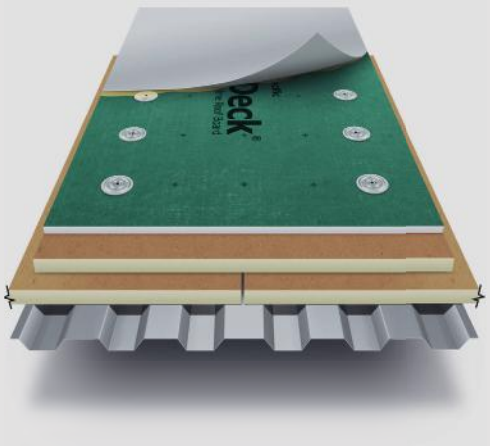


Below: DensDeck Prime Roof Boards are ideal for commercial buildings and can be incorporated into a wide range of roofing applications.

DENSDECK (3)



Above: Densdeck Prime Roof Boards help strengthen and protect the entire roofing system.



Above: With its enhanced gypsum core, coated face and back glass mats, DensDeck Prime Roof Board acts as a durable cover board and mitigation layer within the roof assembly.

improve resistance to wind uplift and impact, and protect critical insulation and membrane components. Their compressive strength, acoustic control and dimensional stability help roofing systems perform reliably under demanding conditions while supporting efficient installation and long-term system durability.

Understanding the core material

Gypsum is a mineral widely used in building materials because of its natural fire-resistant and stable properties. In DensDeck Prime Roof Board, the gypsum core is engineered specifically for exterior roofing applications to perform within demanding commercial roof assemblies.

A siliconised gypsum core provides structural stability and dimensional durability, while fibreglass mat facers on the front and back surfaces help protect the board and support resistance to impact and fire exposure. With its enhanced gypsum core, coated face and back glass mats, DensDeck Prime Roof Board provides multiple benefits including increasing the force required to puncture the waterproofing layer vs. force required without a cover board.

DensDeck Prime Roof Board continues to provide a broad compatibility and high performance with many roofing adhesives, and in many cases no primer is needed when bonding directly to the coated face. Suitability for direct bonding or torching to DensDeck Prime Roof Board should be assessed by the system designer.

Commercial flat roofing systems

DensDeck Prime Roof Boards are ideal for commercial buildings and can be incorporated into a wide range of roof buildups and applications, including assemblies designed to support rooftop solar photovoltaic (PV) installations. Consult the system manufacturer for complete assembly information. DensDeck Prime Roof Board integrates easily into flat roof assemblies, adding strength, fire performance and durability to the system. Acting as a protective cover board layer, it helps safeguard insulation and membrane components from rooftop traffic and equipment loads while supporting the additional performance demands often associated with PV-mounted roof systems and modern commercial roofing standards.

Fire and solar PV: insurance industry view

The insurance industry has raised concerns about the increased fire risks associated with solar PV panels installed on commercial flat roofs. Electrical failures within solar PV systems, such as arcing, and the flammability of materials used in the roof assembly can contribute to fires that are difficult to extinguish and may spread rapidly. The geometry of solar PV panels often accelerates fire propagation, complicates firefighting efforts, and can hinder effective water application during fire suppression. Insurers are keenly aware of the financial and operational disruptions caused by such fires and now emphasise the importance of mitigating these risks through strategic choices in roof construction and maintenance.

To address these concerns, the insurance industry has made clear that roofs with solar PV installations should prioritise non-combustible characteristics to limit fire spread and enhance resilience. FM Approved roofing assemblies are highlighted as a best practice solution, ensuring robust fire performance and adding protection against other risks such as wind uplift and water leakage. By incorporating non-combustible 'mitigation layers' such as gypsum boards directly under the waterproofing and adhering to FM testing standards, businesses can not only safeguard their properties but also improve their risk profiles for insurers.

Wind uplift in the UK and EU

Waterproofing systems and fasteners can be assessed to the relevant EAD and where required properties can be tested to the relevant EN standards. Predominantly full-scale wind uplift testing is done in accordance with EN17686 and EN16002 (dynamic testing). Results from full-scale tests are combined with results from the testing of fasteners and waterproofing to gather the required data that enables calculations to EN 1991-4 (with national annex data) to be carried out to assess the suitability of systems for its use. Suitability is based on combined performance of components in relation to factors such as site location and building height.

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COMMUNICATING THE LANDSCAPE

Skylark, practice House Of EM's first major completed project, makes maximum use of its exceptionally pretty Shropshire site, featuring a series of large windows that frame views onto the surrounding bucolic landscape

WORDS
Pamela Buxton

PHOTOGRAPHS
Richard Gaston





NORTH ELEVATION

"There's always a view," says House Of EM co-founder Matthew Sanders, speaking about Skylark, the practice's first major completed project. And given the house's exceptionally picturesque site in the pretty Shropshire market town of Ludlow, it's no wonder the architects paid particular attention to framing views out, whether to the surrounding leafy landscape, the nearby River Teme, or across to the castle.

House Of EM was set up by Sanders and Emma Bodie, who were previously directors at Michaelis Boyd. The Ludlow commission provided the impetus to strike out on their own and was clearly something of a dream project, being the opportunity to masterplan and design three detached houses on the greenfield site of The Linney: one four-bedroom family home (Skylark) for the client couple James and Sam Charters of developer Charters, as well as two for sale. Skylark is situated on what was previously an overgrown plateau overlooking the river.

"For us, framing the views and communicating the landscape through the building is key for our work," says Sanders. "This is especially so at Skylark because of the site, with a big step down and amazing views on one side, and a woodland on the other, with 2,000 bulbs planted by the client as we were building the house."

Whereas the two houses for sale are more traditional in style, Skylark reflects the clients' love of the mid-century modern aesthetic. Externally, rather than picking up on the redbrick vernacular of the town, its facades are covered in light grey, linear Danish bricks with a castellated band that adds texture.

Internally, the spaces are highly crafted with oak joinery, timber ceilings and a poured concrete floor, and are generally designed to be open and flowing with maximum connection to the landscape, whether through sliding doors and windows or generous views out.

"The clients liked a mid-century feel: open plan and creating spaces through changes of levels rather than walls, and with connections to the landscape," says Bodie. "We felt that was a perfect brief, as it's pretty much everything that we as a company try to achieve."

Although substantial at a gross floor area of 450m², the two-storey home sits discreetly in the landscape, with the majority of accommodation on the ground floor and an upper level that is stepped back to reduce the massing. Much of the house is concealed behind a stone wall along a flanking lane to the east. While back-of-house spaces and a car port are located on this side, for privacy the main

Opposite: Skylark, a new-build house in Ludlow, makes the most of its scenic site.

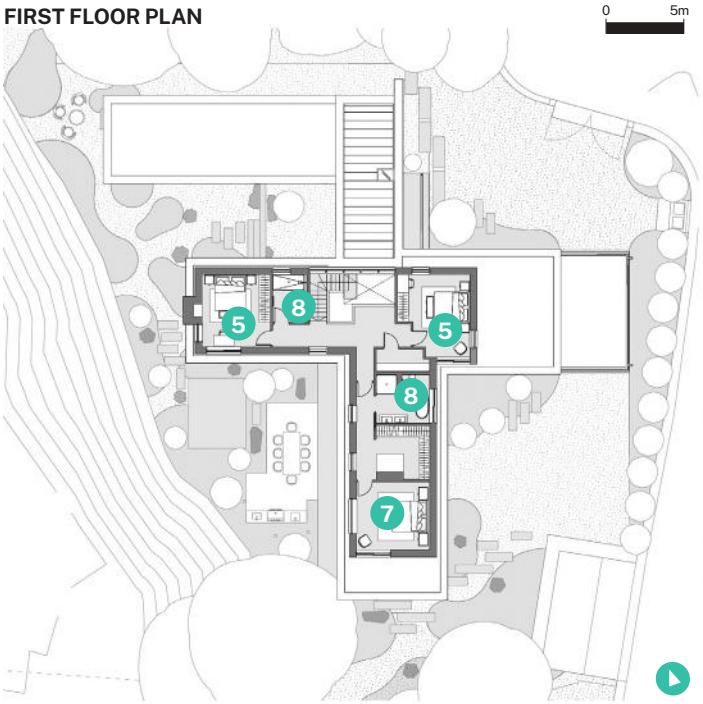
Below: Glazing at the top of the stairs, along with a skylight, illuminates the hall and staircase.



GROUND FLOOR PLAN



FIRST FLOOR PLAN



living areas and bedrooms are oriented to the west, where the house opens out onto the landscape and riverside below.

The house's plan has a backwards F-shape, with two "fingers" of accommodation reaching into the landscape off the central axis. From the modest entrance, an office and guest suite wing is to the right. To the left is another "finger" containing the projecting living room on one side and the back-of-house area on the other. In between is a staircase leading to the three upper bedrooms. Beyond is the kitchen and dining room and, at the far end of the house, the snug.

Bodie explains that House Of EM was keen to establish a sense of connection to the landscape straightaway at the entrance, using 4.43m-wide glazing to give views out from the hall over the landscaped garden and beyond. Use of wood both inside and out also gives an immediate sense of welcome on arrival.

"We didn't want it to look too cold or austere," says Bodie, "so that's why we introduced timber – it's nice and warm and inviting when you come in."

The timber-framed glazing was created in oak by James Lescott Bespoke Interiors, a local firm which had worked with Charters before. The glazing consists of one panel and a door at the entrance, on the opposite side, a set of three double-glazed windows terminating in a seating ledge with an oak veneer front, and alongside these, another glazed door leading outside.

The architects particularly appreciated how the craftsman achieved the slender frame and how the appearance of the oak harmonised with the rest of the material palette, which included lime plaster walls, a ceiling made of local chestnut, and a polished concrete floor.

"He's incredible," says Sanders. "It's hard to get a natural timber finish with windows and doors. They just end up being over-lacquered to protect the wood. But this guy was so good at achieving a natural finish, which is so important to the house."

"He got on with it and knew what he was doing," adds Bodie.

In contrast with the bespoke timber entrance glazing, the majority of Skylark's windows are aluminium, using the Cortizo system by Global Doors & Windows. House Of EM was looking for a solution that showed as little frame as possible, while being cost-effective. With frameless options ruled out on cost-grounds, Cortizo's 22mm-wide frame, was chosen as a good value, slim frame option.

"We'd used them in the past," says Bodie. "They were very good to work with and it went very smoothly. The idea was that we wanted to hide as much of the frame as possible with the brick. So we developed a detail where you could only see a certain portion of frame throughout."

1 Entrance hall
2 Kitchen/ dining
3 Snug
4 Living room
5 Bedroom
6 Gym
7 Ensuite bedroom and dressing room
8 Bathroom
9 Office
10 Playroom
11 Laundry/ utility



Below: The glazed entrance hall opens onto a landscaped rear courtyard.



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The frame was specified in an off-green (Black Olive) colour. With the exception of the more solid walls on the lane elevation, these windows were used extensively, in heights of up to 2.8m for the sliding doors off the kitchen, which are part of a 5.93m-wide glazed section. .

One of the most effective applications of this system was in the living room, which has two corner windows with sliding side panels on either side of a feature fireplace, providing views of the woodland trees. Because there are two steps down to the room, when you are hunkered down on the sofa, the effect, says Bodie, is that "you almost feel you're cantilevered into the landscape ...That's pretty special."

Another key piece of glazing is the set of five triple-glazed units over the stairs, also by Global Doors & Windows. These flood light into the staircase and double-height hall in tandem with a nearby skylight. Triple-glazed and measuring approximately 1.75m x 3m, they were manufactured by rooflight specialist Glazing Vision.

Above: Corner windows in the living room provide generous views of the nearby woodland.

Below: The living room viewed from the garden.



Interior doors were made by the contractor, and are 2.4m high, fire-rated and with flat panels, featuring dark walnut veneer and antique bronze ironmongery.

To the right of the entrance are double doors to the office, while pocket doors can be activated to seal off the kitchen from the rest of the house.

It was clearly a complex project – the first floor setback necessitated a second steel frame – and huge attention was paid to the detailing of the brick lintel, its relationship with the substructure, and its connection back to the primary steel frame. While the lintels were delivered in stretches of bricks, the rest were laid individually, with house dimensions tailored to ensure no bricks had to be cut. Bricklaying alone took nine months – half of the overall build time. Skylark's thermal performance is assisted by air-source heat pumps, MVHR systems and the thermal mass of the concrete floors.

Fortunately, with knowledgeable clients who were both developer and contractor, Skylark has clearly been a fruitful collaboration, and this has been especially important when negotiating the technical complexities. Without such a clear understanding and trust, the architects are clear they could not have achieved the level of detailing that they did, and which is so integral to the design's success.



Above: View through the hallway to the entrance, and beyond to the office/guest wing.

Below left: The entrance features oak-framed windows and doors to give a sense of warmth on arrival.

Below: Bespoke oak joinery and windows in the entrance hall, with access into the garden beyond.

CREDITS

Architect
House Of Em
Structural engineer
Hockaday
M&E consultant
Green Building Store
Main contractor, principal designer and project manager
Charters Property
Selected suppliers
Glazing Vision (triple-glazed skylights); Global Doors and Windows (Cortizo aluminium windows), James Lescott Bespoke Interiors (timber doors and fitted furniture)





INVENTING THE SHAPE OF LIGHT WITH BESPOKE ROOFLIGHTS

Presented by

THE ROOFLIGHT CO. COTSWOLDS

The Rooflight Co is driven by a passion for design excellence, responding to even the most demanding architectural briefs

Innovation in architecture often lies in solving complex design challenges with elegant solutions. At The Rooflight Co, invention is driven by a passion for design excellence and engineering precision, creating bespoke rooflights that respond to even the most demanding architectural briefs.

More than a manufacturer, The Rooflight Co is a design partner, which is why it has been selected to design numerous bespoke-shaped rooflights including trapezoidal, triangular and circular designs. Each one is based on their classic rooflight designs, whether the contemporary Neo Rooflight, the heritage pitched Conservation Rooflight or the flat Conservation Plateau Rooflight, all carefully adapted to meet the architectural and performance requirements of the project.

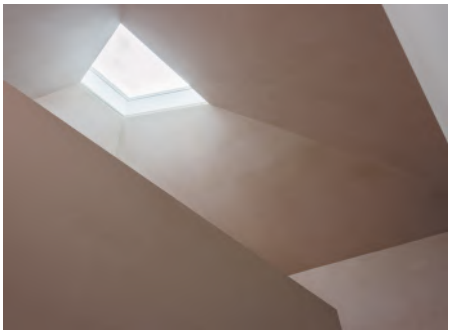
A bespoke project presents its own unique challenge, whether shaped by geometry, an ambitious contemporary design or the sensitive transformation of existing buildings. With the expertise to offer unique and alternative designs, The Rooflight Co works closely with architects from the earliest design stages, to develop rooflights that are individually engineered to integrate seamlessly within their design.

An example of this approach is Tin House by Henning Stummel, where six bespoke trapezoidal rooflights became integral to the architectural concept. Each rooflight was manufactured to different dimensions and required its own bespoke baseplate to suit the distinctive roof geometry of the individual pods. The unconventional forms preserved privacy while flooding the interiors with natural daylight, demonstrating how bespoke design can unlock creative possibilities and push boundaries.

This spirit of innovation underpins The Rooflight Co's work across a diverse range of projects. Drawing on decades of specialist expertise, the team combines technical knowledge with careful design thinking to deliver rooflights that maximise daylight, improve ventilation and meet demanding performance requirements without compromising architectural intent. Its experience has also made the company a trusted partner on significant heritage and conservation projects, where modern performance sits alongside historic authenticity.

The outcome is rooflight solutions that transform spaces into light-filled environments, proving that true invention is thinking outside the box and creating precisely the right solution for every project.

For more information and technical support, visit The Rooflight Co



Above: Internally the frameless design of the bespoke rooflights maximises daylight.

Below: Bespoke Neo Rooflights designed to complement Tin House's distinctive architecture.





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WORDS
Jan-Carlos Kucharek

PHOTOGRAPHS
Studio Periphery

BIOPHILIC LUXURY

Below: Park Nova's east elevation looking out over Orchard Boulevard.



PLP Architecture's Park Nova, designed for client Shun Tak Holdings, is a sculptural, 21-storey luxury residential tower on Singapore's Orchard Boulevard. With each of its 54 apartments orientated towards key views, this biophilic project was conceived as a vertical garden, its floor plates accommodating nearly 200 trees, 50,000 shrubs and 35 different plant species. PLP partner Tina Qiu explains how these were incorporated into the design, and how the large cantilevers they demanded informed the cladding and glazing specification

How did city planning strategies affect the form-making?



Above: The tower is in fact three blocks of stacked two,three and four-bed apartments.

Singapore's planning process is highly prescriptive. The planning department's guidelines define the gross floor area (GFA) and how high you can build. This is calculated out of the plot ratio, which is the site area multiplied by the plot area to give you your GFA. You might get allowances for outdoor amenity such as balconies but this won't ever amount to more than 10% of the total allowable area.

Here we had a 4,000m² site area and a plot ratio of 2.8. Within that envelope, the architect can decide how much space will be "sold" and how much will be common space.

Depending on which zone it is in, there is either a height cap or a storey cap. There are no air rights, so you can extrude straight up, and no protected view corridors, so you don't tend to get odd-shaped buildings either.

Given plot ratio constraints, the amount you set the facade back from the site edge becomes a factor. A larger footprint means being closer to the edge and adjacent developments, so it's less private and luxurious; whereas if the envelope is set back further into the site, you have a greater distance to your neighbours.

Dealing with these nuances is the remit of the architectural design.

And what about in this case?

We identified three key views from the site and used the analogy of a butterfly to develop a floor plate of three "wings" ranging from 10mx22m to 12mx24m, with a central circulation core joining them. Each wing is a tower in itself, so it's effectively three towers bound into one, with their concrete lift cores lending stiffness.

Each residential unit is in a "wing" looking out to a view. Layout is rectilinear, with a back-of-house service spine, private lifts, services and escape stair facing into the plan centre. This ensured living spaces and bedrooms for the two-to-four-bedroom apartments faced out to the view.

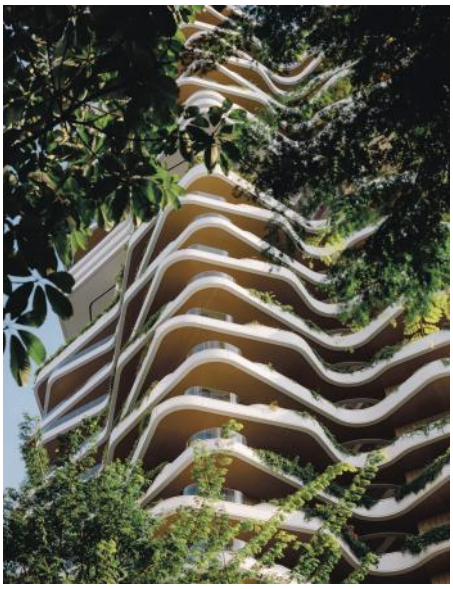
The first residential floor is raised 17m above ground level, and designed to look right over the canopy of the existing trees.

There are AC ledges that you can't see, which are deemed an allowable extra area in terms of what we could build. These are tucked to the inner air well. Notably, every floor has an extensive green terrace area, with a depth running from 500mm up to 3m at its deepest. These jut in and out as they go up the building to create the highly distinctive elevation form. These extensive green planters are not GFA exempt but do contribute greatly as visual enjoyment for both residents and neighbours

How were the vertical garden terraces created?

Park Nova, like most of Singapore's towers, is a concrete structure, and the cantilevered terraces are likewise concrete. In Singapore, concrete remains relatively cheap, as does the labour to pour it. Culturally, they are less acquainted with steel-frame buildings. The soil depth is 500mm, which is as shallow as we could make for extensive planting purposes.

The floor slabs are only 250mm thick but the downstand beams underneath are much deeper, Downstand beams are all different sizes, depending on where they sit, and were fully co-ordinated with P&T Group, our structural engineer, as well as our local collaborating executive architect. Concrete finishes here are not high spec so we decided to clad the faces. Originally, we thought of GFRC but in the end went for white aluminium cladding panels.



Right: Two repeating floor plans help create a complex elevation of terraces.

Who manages the planters of the vertical elevation?

As communal planters, they are not accessible to individual owners and cannot be accessed from the apartments. They are maintained by the building management. A discreet, building-wide irrigation system feeds the planting, and drainage runs through the slab and then along the slab soffits to a vertical drain concealed within the main facade .

There is one building maintenance gondola on every building wing, allowing maintenance to be carried out every month –it takes about a week to maintain any one wing. We call them “flying gardeners”. Man-safe anchors on each floor allow operatives to access planting levels by stepping out of the gondola. This obviates any need for obtrusive balustrades.



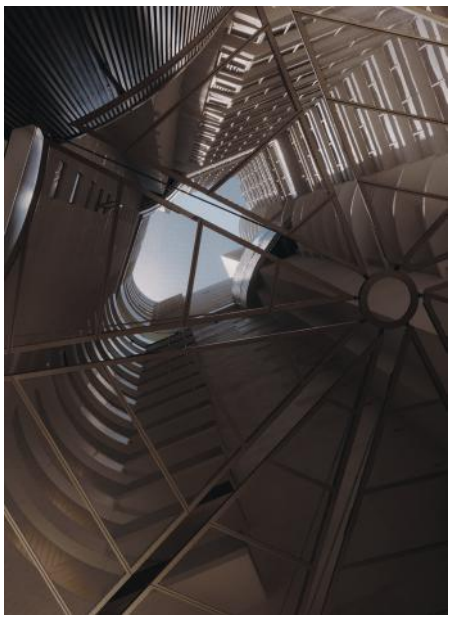
Right: Cantilevered planted terraces project from 0.5m to 3m.

What was the glazing strategy for the building?

Glazing sill heights are set from seated or lying in bed levels, about 400mm above the floor level. Perimeter walls have a very low upstand and the glazing is almost full height. To ensure the planter heights co-ordinated with this datum required us to step the slab down 300mm beyond the window line to allow for the additional soil depth required by the planting zone.

Windows are 900mm wide, inward-opening and side hung, but a glass upstand on the ledge means you can’t fall out. We thought about bottom opening windows but felt it didn’t allow for enough fresh air if you wanted to naturally ventilate rather than use air conditioning.

There’s good cross-ventilation in apartments as the service side of each one opens onto the exterior air well on the inside face of the building.



Right: The external void between the three blocks allows for cross-ventilation of apartments.

What about coatings on the glazing?

The Singapore Building and Construction Authority (BCA) has mandated that all residential buildings meet ETTV (envelope thermal transfer values) standards, for which high-performance, low-emissivity (low-E) glass coatings or solar films are essential for compliance.

We wanted to argue that our large overhangs would obviate any need for coatings, as glazing would be in the shade for the majority of the time. However, their standard testing regime deals in worst-case scenarios and cannot account for items such as cantilevers, so we still had to provide coatings.

But they did concede that, in this instance, we could reduce the amount of coating. While it meant we couldn’t use clear glass, it also meant we avoided the kind of heavy solar coatings that result in the very grey or blue hues that tend to characterise internal light quality in Singapore’s residential flats.

We worked with our local executive architects, who argued the case alongside our services engineer. It had to provide DGU performance criteria as part of its submission. It required site visits with the authority, taking along glass samples to decide on the final approach.

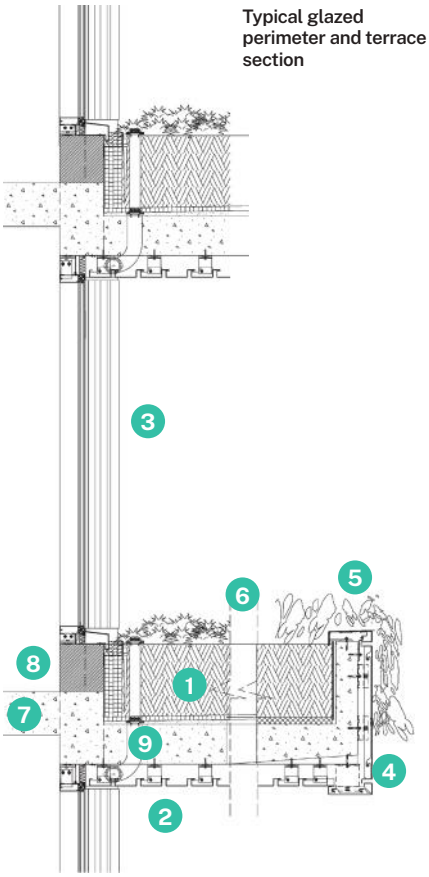
This is standard practice in Singapore and supply chains are already set up to deal with the range of glass that will be accepted. The Chinese contractor procured the glazing and cladding system from the Chinese mainland.

Tell us about the panel system

We engaged a lot with the facade contractor to procure the curved aluminium panel system with no facets, opting for formed corner pieces connected by straight panel pieces. Cladding itself is 3mm folded aluminium with PPVD (polyvinylidene fluoride) finish, which is a standard approach here – they don't tend to use "bare" steel or aluminium panels though they will colour match PPVD with metallic finishes. Profiles are 70mm deep. Curved glazing was used for visual quality.

For the exposed slab soffit, we initially wanted to use timber look-a-like cladding but it had to meet fire ratings as well as acoustic criteria, being near two main roads. There are tiny perforations in the slats and above the panels is mineral wool. Working with Arup Acoustic, we went with a Hunter Douglas system. Panels were spot welded and spray painted offsite.

The second floor was assigned as the control storey. Once we had signed that off, the contractor could continue up the rest of the building. Lower-level metal casings to columns were split in half and had to meet this level's cement board soffit cladding at exactly the right points. Its soffits have continuous curves, which mimic the line of the floor plates above.



Typical glazed perimeter and terrace section

1 500mm soil on drainage tray
2 "Lookalike" timber aluminium soffit slats
3 Full-height fixed low-e DGU
4 Aluminum cladding panel
5 Aluminium parapet capping piece
6 Cantilever width varies from 0.5m to 3m
7 250mm RC concrete slab
8 300mm blockwork upstand
9 Drain runs at soffit level to behind cladding panel below

And what about the cladding treatment at lower levels?

Below the second floor, we clad the concrete in thermal finish panels of Italian granite. Curvature of lower-level walls follows the upper ones and is set on a galvanised hanger system.

At raised ground level there is a private lobby that sits at the base and looks up the stair wells and also accesses an external swimming pool. Had it been enclosed it would have been part of the internal area and therefore added to the GFA calculation. Rain will make it down here, so it needs a drained floor. To meet regulation, this area, as well as the sky terrace, are sprinklered zones.

What was the biggest challenge?

We managed to overcome any challenges as our local PLP team in Singapore developed a good relationship with our executive architect.

Our client signed off on the design concept, so we had a lot of support to stick with the idea and see it through. She saw the clear benefits of having a green facade that differentiated the building in a competitive local market.

Now it has bedded in, we are very happy with the result!



Right: Lower entrance and pool levels are clad in Italian granite.

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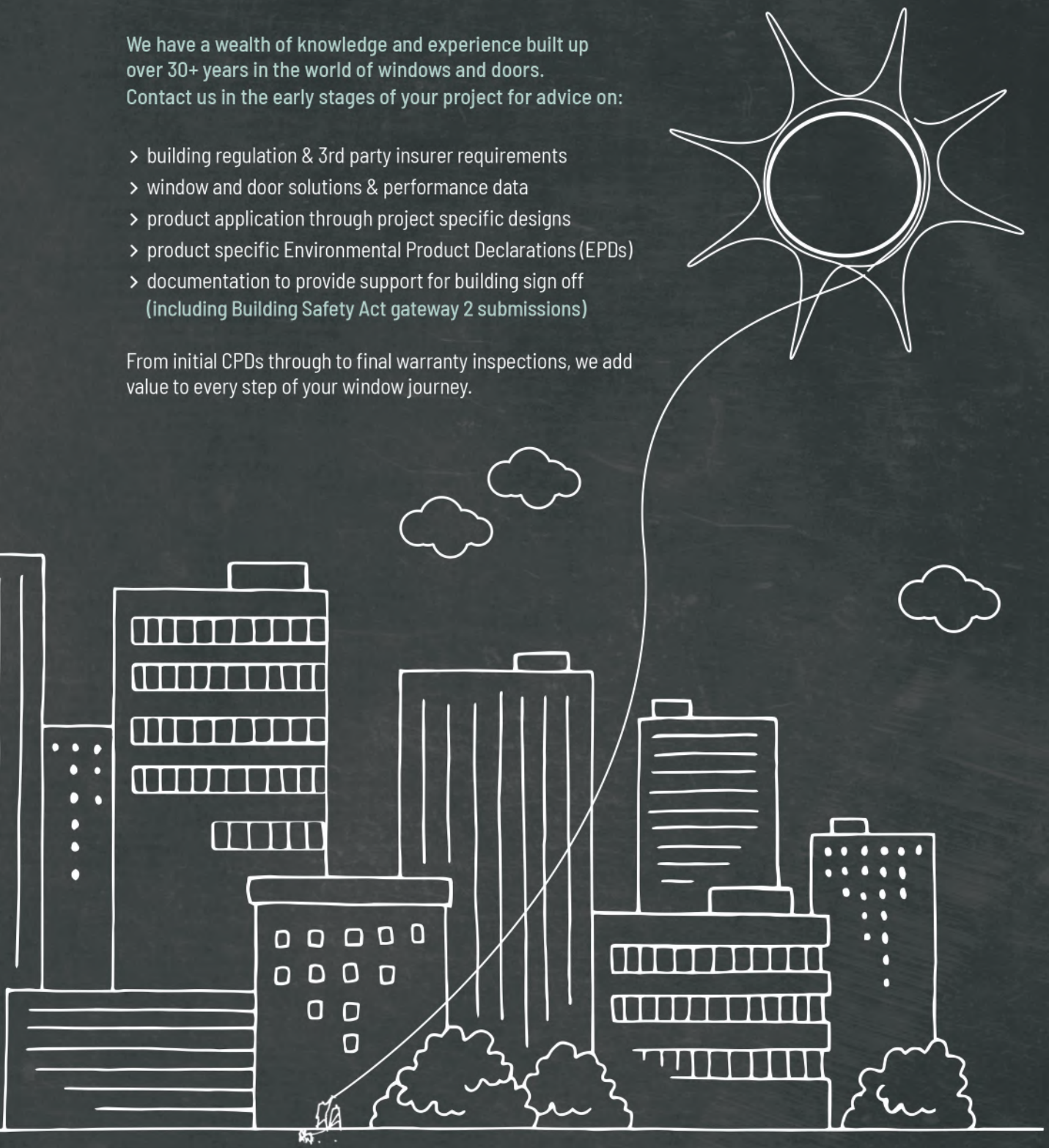


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DONAL MURPHY COURTESY HOK/REDDY ARCHITECTURE

Four recent projects demonstrate how facades provide the visual currency for HOK's buildings, says practice design principal David Weatherhead

As an integrated design practice, we design places that showcase thought-provoking solutions to some of the most pressing challenges of our times. The facade is our visual currency, reinforcing a project vision through a timeless quality and providing a visual landmark that inspires communities and enhances places.

Architecture has the power to respond positively in times when people are most in need, and helps to build up excitement around some of the most memorable experiences of our lives. Our thinking is more than skin deep, and we aim to ensure every project reinforces its unique proposition through its external appearance, balancing craft, technical delivery and long-term care.

We ensure our buildings are highly functional and sustainable, and we have had the pleasure of creating and working on some of our cities' most cherished landmarks. Through our endeavour to find the most sustainable solutions, we relish the challenges of both upgrading an existing heritage asset and building anew using resilient design principles that allow for easy adaptation over time.

Bon Secours Hospital Limerick, Ireland
The hospital's facade is defined by a high-performance envelope that combines durability, environmental control and a strong architectural identity. HOK worked on the project alongside Reddy Architecture and Urbanism.

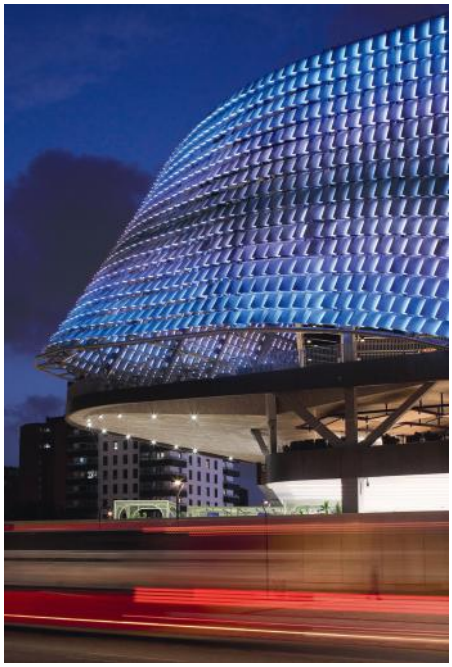
Primary cladding is a glazed terracotta rainscreen, selected for its warmth, longevity and refined civic character, giving a material richness that departs from the typical institutional palette. At ground level, extensive curtain walling creates a transparent, welcoming base. The upper levels, meanwhile, are expressed through vertically proportioned openings and integrated fins that moderate solar gain and enhance patient privacy.

The envelope is carefully tuned to balance daylight, shading and thermal performance, particularly on the inpatient floors, where vertical terracotta elements protect rooms from low-angle morning sun. Together, the components create a facade system that is both expressive and technically robust, supporting the hospital's sustainability ambitions while reinforcing a calm, humane image.

"The Roig Arena's facade features 8,600 locally manufactured ceramic fins"



CHRIS HOPKINSON COURTESY HOK



HUFTON + CROW COURTESY HOK/ ERRE



KEITH HUNTER COURTESY HOK

Merlin Place, Cambridge
Situated on a prominent triangular site, this highly sustainable laboratory and office workspace at the heart of Cambridge North was conceived as a new gateway and landmark to the neighbouring Cambridge science and business cluster.

The facade curtain wall system of deep-red aluminium panels and shading fins is arranged on a typical lab-planning module, creating an ordered rhythm expressive of the building's scientific function. High-performance double-glazed units reduce excessive solar gain while maximising outlook over existing trees and the wider area.

At ground and roof levels, shaded colonnades incorporate glass-reinforced concrete, adding robustness to the character, while bronze aluminium fins screen back-of-house and storage facilities.

A continuous ribbon of full-height glazing maintains a strong visual connection with the public realm, promoting transparency, curiosity and opportunities for collaboration with the surrounding knowledge community.

Roig Arena, Valencia, Spain
Designed with ERRE, Roig Arena transforms the conventional arena into an open, inclusive and community-centred cultural landmark. Designed for flexibility, it adapts from large performances to daily public use, offering spaces for sport, education, creativity and social connection.

The arena's facade features 8,600 locally manufactured ceramic fins, which wrap around a curved steel frame, floating like scales across the undulating form. This dynamic skin is a creative response to the site, the climate, the culture and local craft. It is visually striking, deeply rooted in Valencia's identity, technically innovative and highly sustainable.

Fusing global parametric expertise with local industry, the design addresses the challenge of monumental civic presence, creating a venue that adapts its atmosphere to suit both the individual fan and the broader community.

The ceramic fins are integral to a real-time, sensing environment. This media system allows the building to function as a storyteller, reacting to events inside and projecting them to the public realm.

University of Glasgow Mazumdar-Shaw Advanced Research Centre (ARC)
Situated within the university's new masterplan, the research building was designed to foster interdisciplinary collaboration while connecting the academic community with the wider public through an open and vibrant research environment.

The design is expressed through three interrelated elements: a flexible wet laboratory block, a folded ribbon of dry research spaces, and a network of circulation routes and interaction hubs.

The folded ribbon of dry research spaces maximises access to daylight and views across the campus. A sculptural reconstituted stone frame, textured terracotta cladding and robust bronze-anodised aluminium window framing create rhythm, depth, shade and colour.

The laboratory block is clad in terracotta with a subtle blend of buff and red tones that reference the local sandstone buildings. Deeply recessed windows introduce depth and articulation, creating ever-changing patterns of light and shadow across the facade.

CHECKLIST
SPECIFYING EXTERNAL WINDOWS

WORDS
Bernd Junker, specification consultant, SpecStudio

External windows are critical elements of the building envelope and must now meet complex performance requirements. Modern specifications need to balance aesthetics – such as large glazing areas and slim sightlines – with stringent standards for thermal efficiency, ventilation, weathertightness, security, acoustics and accessibility. Good window specification requires careful review of material performance, interfacing, safety criteria and maintenance cycles.

MATERIAL SPECIFICATION

The selection of frame materials dictates not only the aesthetic character of the building but also its long-term durability, maintenance regime and structural capabilities.

Timber (softwood, hardwood and modified timber)
Timber frames offer a classic, natural aesthetic with excellent inherent thermal performance.

Attributes:
- high natural thermal performance (low thermal conductivity)
- easily customised, painted or stained to achieve desired aesthetics
- requires a structured maintenance cycle to prevent rot and UV degradation
- engineered or chemically modified timber such as Accoya provides significantly enhanced dimensional stability, reducing the risk of warping, twisting or sticking

uPVC (unplasticised polyvinyl chloride)
A cost-effective and low-maintenance material widely used in domestic applications.

Attributes:
- excellent thermal efficiency via multi-chambered profile designs
- low maintenance requirements – does not require painting and is highly resistant to rot and corrosion
- can be susceptible to thermal expansion and contraction in extreme temperatures
- aesthetic limitations – profiles are generally thicker/chunkier than metal alternatives, reducing the overall glass area

Aluminium (thermally broken)
Favoured for modern designs due to its high strength-to-weight ratio, allowing for very slim profiles and large glazing spans.

Attributes:
- high structural strength allowing for large sashes and glazed assemblies
- requires an insulated polyamide 'thermal break' within the profile to prevent cold bridging and condensation
- finishes are highly durable, typically finished with polyester powder coating (PPC) or anodising, requiring minimal maintenance
- fully recyclable at the end of its life cycle

Steel
Typically selected for heritage/conservation schemes or where ultra-high security and robust structural performance are essential.

Attributes:
- provides slim frame profiles and sightlines
- highly secure and physically robust with excellent impact resistance
- typically carries a premium capital cost compared with aluminium and uPVC
- modern systems generally require thermal breaks to comply with current thermal building regulations and U-value targets

Composite (aluminium-clad timber):
Composite systems combine a warm, natural internal timber frame with a weather-resistant, low-maintenance aluminium cladding.

Attributes:
- balances timber's internal aesthetic warmth with the external durability of aluminium
- excellent thermal and acoustic performance
- high initial capital cost, offset by low long-term maintenance requirements

GLAZING

The glass specification must be tailored to site orientation, location and safety requirements.

Insulated glazing units (IGUs)
Double or triple glazing should be specified. Triple glazing is required to meet stringent thermal standards (such as Passivhaus certification) and assists in meeting or exceeding current Part L requirements.

Low-emissivity (low-E) coatings
Microscopically thin metal oxide coatings applied to the glass panes to reflect infrared heat back into the building while letting light pass through.

Gas fillings
Cavities filled with inert gas (typically argon, or krypton for thinner cavities) to minimise convective heat transfer.

Safety glazing
Kitemarked toughened or laminated safety glass must be specified in critical locations (eg low-level glazing below 800mm from finished floor level) to BS 6262-4. Laminated glass is preferred for enhanced security and acoustic performance. Toughened glass should be used only where agreed and justified by a risk assessment and/or calculations.

Solar control glazing
Used on highly glazed elevations to limit solar heat gain (g-value).

IRONMONGERY / HARDWARE

Window hardware includes hinges, handles, friction stays and restrictors and is critical to window longevity, safety, and security.

Specifications must use high-durability, corrosion-resistant materials (eg stainless steel) graded for the building's exposure zone.

To meet security standards such as PAS 24, hardware must combine robust multipoint locking mechanisms with reinforced, tamper-resistant components.

Safety restrictors to be specified to prevent accidental falls; handle types and mounting heights must be selected to comply with accessibility standards for operating forces.

KEY CONSIDERATIONS

Design responsibility
Within a design responsibility matrix (DRM), it is vital to establish early in the project whether an element of the design is:
- Prescriptive – fully detailed, dimensioned, and specified by the architect (common

in heritage, conservation, or bespoke architectural designs).
- Descriptive (performance-based) – designed and engineered by specialist subcontractor/ manufacturer to meet a defined performance (U-values/ wind loads/ acoustics/ security).

Performance requirements
Windows must be designed as high-performance barrier systems with effectiveness measured by key criteria:
- Thermal – frame and glass combinations must meet or exceed maximum U-values specified in Building Regulations Approved Document L.
- Weathertightness – must be tested and classified for air permeability, watertightness, and wind resistance (critical in high-rise or exposed coastal environments).
- Security – compliance with Approved Document Q is mandatory for new dwellings; systems to be tested to PAS 24 (or equivalent, like STS 204) to achieve Secured by Design status; laminated glass should be used in ground-floor and easily accessible windows to improve resistance to forced entry and support security compliance.
- Ventilation – background ventilation (trickle vents) must be coordinated with Approved Document F to ensure adequate indoor air quality, unless a suitable whole-building mechanical ventilation system is installed.
- Accessibility – operating forces for sashes and vents should be checked against BS EN 12046-1 to ensure ease of operation.

Interfaces and detailing
Junctions between window frames and the reveal are common points of failure for water ingress and thermal bridging.

Frames must be positioned correctly within the insulation zone of the wall build-up to minimise linear thermal bridging (psi-values), and proprietary insulated cavity closers should be specified.

External and internal sealing tapes and specialist membranes must be detailed to ensure a continuous airtight seal around the perimeter of the frame. Damp-proof courses, cavity trays above lintels and flashings at sills and jambs must be detailed to prevent moisture ingress.

TESTING AND INSPECTION

Offsite testing
Systems and products must be tested and certified by UKAS-accredited bodies. Look for third-party certification schemes (BBA, FENSA or Certass).

Onsite inspection
Allow for incremental inspections while installing. Checkpoints include:
- verification of structural opening preparation and damp-proofing
- checking frame squareness, plumb, and structural fixing centres
- inspection of perimeter insulation, weather sealants and airtightness tapes prior to being covered by either internal finishes or cladding
- operational checks of operating hardware, ironmongery and gaskets

STANDARDS AND BODIES

- BS EN 14351-1: Windows and doors. Product standard, performance characteristics. Windows and external doorsets.
- BS 6375 (Parts 1, 2 & 3): Performance of windows and doors (classification for weathertightness, strength, and operational characteristics).
- BS 8213-4: Windows and doors. Code of practice for the survey and installation of windows and external doorsets.
- BS 644: Timber windows and doorsets. Fully finished factory-assembled windows and doorsets of various types.
- BS EN 14221: Timber and wood-based materials in internal windows, internal door leaves and internal doorframes. Requirements and specifications.
- BS 4873: Aluminium alloy windows and doorsets. Specification.
- BS 6510: Steel-framed windows and glazed doors. Specification.
- BS EN 12608: Part 1: Unplasticised polyvinyl chloride (uPVC) profiles for the fabrication of windows and doors. Classification, requirements and test methods – non-coated profiles with light coloured surfaces.
- BS 7412: Specification for windows and doorsets. Unplasticised polyvinyl chloride (uPVC) extruded hollow profiles.
- BS EN 12209: Building hardware. Mechanically operated locks and latches. Requirements and test methods.
- BS EN 12051: Building hardware. Door and window bolts. Requirements and test methods
- BS EN 1935: Building hardware. Single-axis hinges. Requirements and test methods.
- PAS 24: Enhanced security performance requirements for doorsets and windows in the UK.
- BS 6262-4: Glazing for buildings. Code of practice for safety related to human impact.
- Centre for Window and Cladding Technology (CWCT) – industry standards for building envelopes and glazing.
- Glass and Glazing Federation (GGF) – technical guidance on glass and glazing.
- British Woodworking Federation (BWF – guidance for timber windows and doors.
- Council for Aluminium in Building (CAB) – technical advice for architectural systems.
- SWA (Steel Window Association).

EXTERNAL WINDOWS SPECIFICATION CHECKLIST:

- ☐ Is design responsibility clearly defined in the DRM (prescriptive versus performance-based)?
- ☐ Have required U-values (Part L), ventilation rates (Part F) and security ratings (Part Q/PAS 24) been identified?
- ☐ Have the geographical wind zone and site exposure been calculated to determine wind-load and watertightness parameters under BS 6375-1?
- ☐ Does frame material selection meet budget, design life and maintenance expectations?
- ☐ Have critical glazing zones been identified and specified with safety glass to BS 6262-4?
- ☐ Has solar heat gain analysis (g-value) been carried out on high glass-to-wall ratio areas?
- ☐ Are there robust details for cavity closers, DPC integration, airtightness tapes, and thermal insulation at head, jamb and sill?
- ☐ Are installer qualifications specified (eg FENSA registered or manufacturer-approved)?
- ☐ Are long-term warranties (typically 10 years for frames, glazing units and ironmongery) secured from a single-source manufacturer?

REMAKING BUILDINGS FIT FOR TODAY

Adaptive reuse projects come with inevitable challenges, but the results – from ex-prisons to police HQs – make the journey worthwhile, an event hosted by RIBAJ and Aluprof heard

Seminars on new-build architecture are all very well, but "you have to come to a retrofit panel to get these weird stories about buildings", observed RIBAJ's Chris Foges, reflecting on a morning filled with cops, robbers, horses, inns, jails and ghosts, spanning from London's East End to Bodmin Moor.

He's not wrong. What emerged from four presentations (all making good use of event partner Aluprof's aluminium window systems) was a strong sense of narrative continuity – a drive to continue writing the stories of these buildings.

Yet picking up the pen put down by another author is quite the responsibility. As Aluprof sales director Sean Butler commented, all manner of constraints associated with retrofit could feel "like a straitjacket". Is it so?

Yes and no. Carol Metstead, of van Heyningen & Haward Architects, acknowledged "it was hard to find any architectural merit" with the Grade II-listed Rugby Radio Station. Nevertheless, its transformation into Houlton School retains its historic character.

A collaborative design process involving Historic England, educators and consultants shaped the scheme's relationship to the wider masterplan. Metstead observed "a kind of tension, or dialogue between the needs of the present and the needs of the past".

An enabling works contract was "the key to making the project work", she says, which draws attention to a specific issue with reuse projects – industry risk-aversion. As Tom Wells, associate at Allford Hall Monaghan Morris, points out, recent years have seen "a real shift in planning legislation" such that "new build almost feels like an anachronism". Yet stakeholders are understandably shy given the economic climate. Consequently, Vicky Thornton, of Allies and Morrison, said she believes there are "fewer opportunities" today.

Unsurprisingly then, many such projects feature a client willing to shoulder financial risk. For Lorraine Stoutt Griffith, director at Twelve Architects, this came in the form of a hotelier who saw the derelict Bodmin Jail and thought: "Ooh, there are a lot of rooms here!". Likewise, for Allies and Morrison, Whitbread saw the value in funding complex renovations to create the Hub by Premier Inn hotel from a former warehouse in Shoreditch.

This imposing building needed extensive intervention to address deterioration and commercial pressures. Originally constructed as a stable block in 1888, over time it had functioned as an air-raid shelter, artists' studios and an informal skate park.

Two mansard storeys were added, while a lower ground floor was excavated to increase capacity. The proximity of a railway line heavily influenced the design, requiring highly constrained construction methodologies and night-time working.

Guest rooms were arranged within the existing stalls structure using a modular system. The design team developed strategies to reconcile contemporary requirements for thermal and acoustic performance, including Aluprof secondary glazing, with the realities of a 19th-century building envelope.

Changes to the business model required adaptation during design: the atrium got smaller; basement rooms now have no windows. It's not hard to see why Thornton describes adaptive reuse as bringing "pleasure and pain in equal part".

Meanwhile, in Bodmin, any pain experienced by former inmates has been expiated. By the time the project commenced, much of the complex had been abandoned for decades, and colonised by vegetation and wildlife. So robust was the metre-thick structure, mind you, that in the 1920s a demolition attempt using TNT had failed. The challenge was to determine how much



JACK HOBHOUSE





ALLIES AND MORRISON

TIMOTHY SOAR

history and atmosphere could be retained such that a former prison might actually be pleasant to spend time in.

Extensive surveys and digital modelling helped guide interventions. The relationship between architect and contractor was collaborative, with the latter happy to tolerate some uncertainty. "We would have an in-principle detail of what we wanted to achieve and they would call us up saying 'This doesn't look like you imagined'," Stoutt Griffith recounts.

A key principle was that the building should not be reconstructed to an imagined original state, but to preserve the aesthetic qualities of a ruin. Repairs allow visitors to read the history through visible scars and alterations.

Internally, the prison's cellular arrangement presented challenges and opportunities. With minimal structural intervention, hotel bedrooms were created by combining three cells: one for the bathroom and two for the sleeping area.

The building had stood roofless for 80 years, leaving the masonry saturated. Rather than introducing impermeable modern systems, the project relied on breathable lime-based materials and natural ventilation to help it dry gradually.

Moving from robbers to cops, Wells outlined the transformation of the 1940 Curtis Green Building into the headquarters of the Metropolitan Police, New Scotland Yard. The project combined heritage conservation and contemporary workplace design within a prominent civic setting.

The brief called for a more open relationship between the police and public. Architectural strategies included a rooftop pavilion, a glazed entrance pavilion, rear extensions and a permanent memorial.

Yet one of the most important aspects of the project was its integration of high-security requirements: blast-resistant facades and glazing. This led to extensive collaboration with specialist glaziers, including full-scale explosive testing.

The removal of perimeter walls, creation of a civic forecourt, installation of exhibition spaces and repositioning of the iconic Scotland Yard sign all contributed to a more accessible public presence. The private museum in the basement was also intriguing. As Wells noted: "The Met has a folkloric history."

Building on this idea of narrative, it's clear that despite the many frustrations and surprises that accompany an adaptive reuse project, the eventual denouement can be all the more satisfying to those that work on them.

Top left: Bodmin Jail Hotel by Twelve Architects and Masterplanners.

Top right: Hub hotel, Shoreditch, by Allies and Morrison.

Above: Rear extension of New Scotland Yard by AHMM.

Speakers:
Carol Metstead
Project architect, van Heyningen & Haward Architects
Vicky Thornton
Project director, Allies and Morrison
Lorraine Stoutt Griffith
Director, Twelve Architects
Tom Wells
Associate, AHMM
Chris Foges
Contributing editor, RIBAJ (chair)

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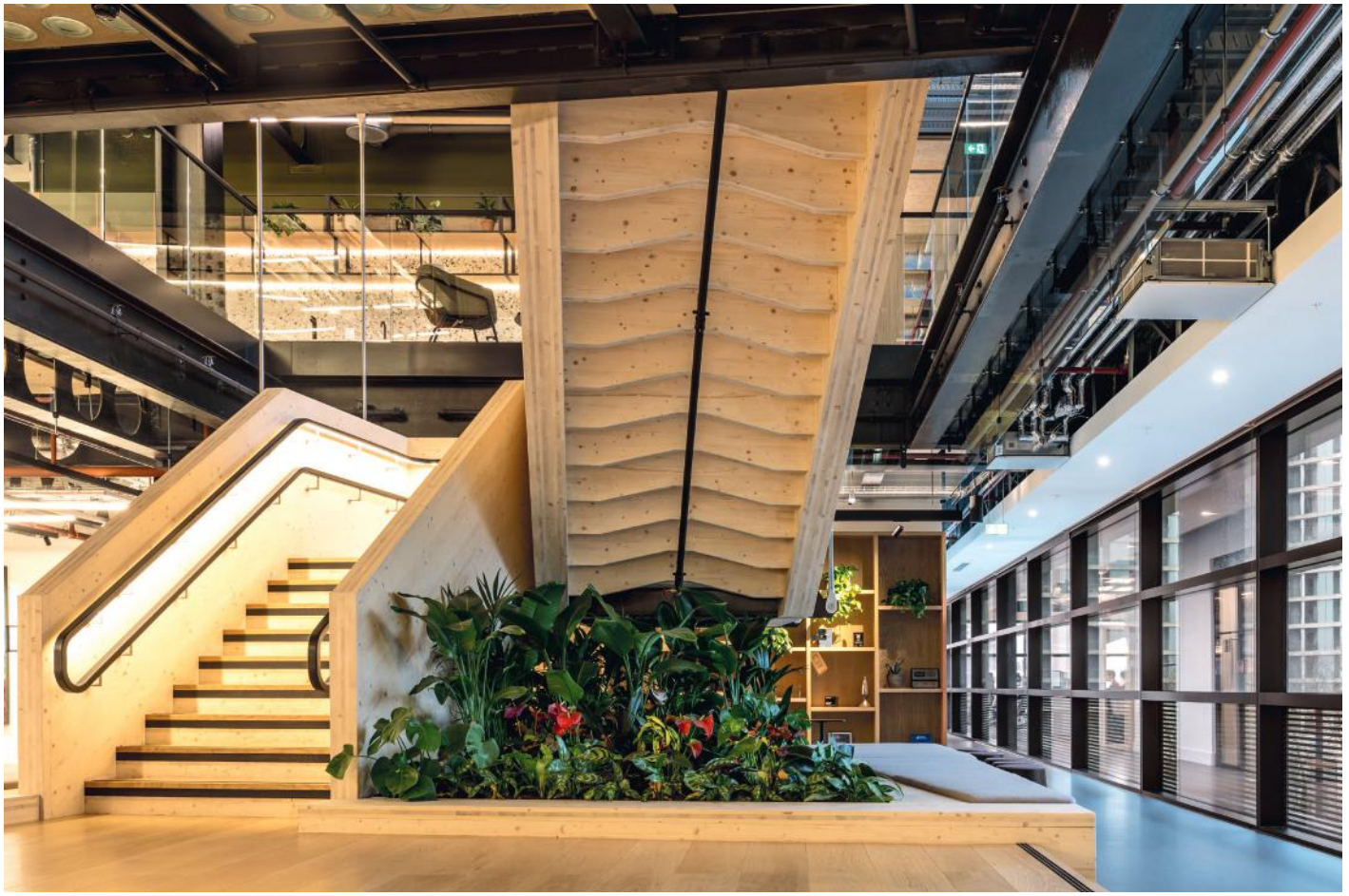
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ALUMINIUM SYSTEMS

OFFICES MUST GET BACK TO NATURE

While office design has involved adding ever more facilities, the UK is lagging in the post-pandemic return to the office. Architects at a roundtable suggested less M&E and more user control, with an emphasis on natural light and ventilation

Opposite: The Francis Crick Institute has a range of spaces to allow for lab work, formal and informal collaboration and for individual tasks, like these phone booths.

Below: One Centenary Way, Birmingham designed by HOK for Arup, cooled by Artus.



PHIL HUTCHINSON



PETER COOK

Post-pandemic reappraisal of the workplace and changed worker expectations have prompted offices to take on the attributes and amenities of homes, hotels and even health clubs. A wealth of standards and corporate initiatives have aimed to help workers feel good, get healthier and be more productive.

As a result, fruit bowls, armchairs, gyms and more are being added to offices. But what if the next big thing in improving user experience, health and wellbeing in office design is not to add more, but to focus on less? That was the conclusion reached by architects at a recent roundtable discussion.

The thinking behind it is simple. Despite all the features added to offices to enhance health and wellbeing, the UK lags behind most other countries in driving the post-pandemic return to the office.

Our offices provide little natural daylight, fresh air or other stimulation for the senses, and access to the outside world becomes even more limited when the lunch break involves walking to an in-office café, rather than the street corner sandwich shop. And then there are the environmental and financial costs of constantly layering more amenities and building services onto the workplace.

These layers of complexity, built up over years of workplace evolution, can't be easily peeled away. But architects have practical ideas on where and how innovation could be directed to help future offices better meet human needs and remain aligned with sustainability and circular-economy priorities.

More worker choice

We're not designed as humans to exist at a constant temperature for 18 hours a day," pointed out 3XN's Luke Ritson. This uniformity, as a discussion paper on thermal boredom from the University of Oregon points out, means the office may have a climate that almost everybody finds uncomfortable all of the time.

"We as human beings may in fact desire variations in our thermal environment," it states, citing the example of warming your backside in front of a fire.

At the same time, the office is becoming less a hive of solitary desk-based working and more a hub for meeting and collaboration. That shift has been charted in a study by Pilbrow & Partners at London's Francis Crick Institute, which found that staff spend only 40% of their in-office time at their desks.

In the future, workers will expect greater individual curatorial control over their space and environment, architects believe. Owner-occupiers' appetite for more diverse indoor and outdoor spaces – from conversation pods to conference rooms to garden terraces – already speaks to that. But property agents and speculative developers' dependence on the basic Category A fit-out remains, and even that gets immediately stripped out by occupiers when it inevitably fails to meet their needs.

This waste is being targeted by campaigners, such as End Cat A Lighting Waste, while more flexible and innovative approaches, enabled by enlightened clients, show more creative responses.

Pilbrow & Partners' design for the new, ultra-sustainable EDGE London Bridge includes "play zones" with timber floor sections that are designed for demountability. These enable tenants to individualise their spaces, for example, by adding interconnecting stairs or opening up a double-height space. "When we've spoken to tenants they love it, because it's like a kit of parts and they can complete the puzzle," said Fred Pilbrow.

Exposed structures both limit waste and enhance the sense of light and space in deep-plan spaces. ORMS' Sarah Keetch also highlighted the need for service strategies to be designed to allow day-one



SOCRATES CGI

Left: The play zone at Edge London Bridge, by Pilbrow & Partners, includes timber floor sections that can be removed to allow tenants to personalise their space.

Opposite: Exposed ceilings and natural light run through Fletcher Priest Architects' speculative 311-345 Argyle Street.

provision to be supplemented, moved or rerun on day two.

"Having that resilience in the design is critical from a sustainability perspective," she said. "It prevents the Cat A being chucked out on day one."

Less M&E

But M&E is being left behind in the move to the experiential workplace. "It hasn't evolved to allow that flexibility and adaptability or to create comfort for people in using buildings in a different way," said Hassell's Matthew Blain.

Eric Parry Architects' Lee Higson wondered if building systems could one day provide circadian ventilation "so you could feel like you're outside when you're inside". That seems a world away from a reality where even mixed-mode ventilation is too radical for property agents.

Yet, M&E accounts for more than 60 per cent of a building's budget, is a common source of inefficiency and waste, and has significant environmental consequences in both manufacture and operation. And when a building is retrofitted, architects tend to strip out the M&E because it's the easiest option.

These are all reasons why architects should get to know more about M&E. ORMS' Keetch took refrigerant-based heating and cooling systems as an example, explaining that architects were often unaware of refrigerants' global-warming potential until RIBA stage 4, well after a system has been integrated into a design.

Make's Greg Willis had another suggestion for M&E: "Make it more dumb." It's what the practice did when it incorporated a simple underground concrete labyrinth as part of the heating and cooling strategy for its Big Data Institute at the University of Oxford.

BIG's Andy Young made a plea for circularity, asking: "What about making stuff fixable? … If you've an old car you can get hold of spares, but with MEP, stuff tends to just go obsolete."

Artus Air's Ed Sayce agreed. "We advocate for the commercial incentive to make things last 20 years longer," he said. "To spark change, things need to be maintainable commercially, and that's the business model we're exploring."

Driving the change

Office workers, who are already expressing their dissatisfaction with their workspace in employee surveys, could help drive change. The environmental standards often viewed largely as a marketing badge could be supplanted by workers' real-time monitoring. Already, CO_2 monitors are being incorporated into school classrooms to identify poor ventilation and improve concentration levels. Looking not too far ahead, said Make's Willis, "I think it will be Apple telling people how healthy their space or environment is."

Elsewhere, evolution needs to be driven by industry. One area where the discussion participants were keen to see change was in the recommended temperature control dead-band of 4°C for indoor office environments, which is in British Council for Offices' guidance.

"We have a 4° window where if you're outside of that, your building is materially affected in terms of its lettability," said 3XN's Ritson, arguing for it to be broadened significantly.

Lettability – above all the property agents' influence – looms large over the sector. Progress is constrained by the fact that, as Eric Parry Architects' Higson pointed out, a project that will complete a decade into the future will rely on "the agent recommending what they sold last week". In what's now a tough commercial environment, collaboration, research and innovation will all be needed to help shape a healthier, more resilient office – and perhaps some persistence too.



NICHOLAS WORLEY

Ten takeaways for designing health and wellbeing into future buildings

"Hug an engineer. We need to learn more about MEP design. Really early on we need to take the engineer out for a drink, get the sketchbook out and get to grips with it, like we would with the structural engineer."
Greg Willis, partner, Make Architects

"Collaborate: give everyone the opportunity to ask the right questions and think differently, rather than pursuing business as usual."
Sarah Keetch, senior sustainable design specialist, ORMS

"Consider the longevity of the M&E early. It needs to be treated in the same kind of way as structure, as architecture."
Joe Sweeney, associate partner, Fletcher Priest Architects

"Is there a way building systems could emulate the natural? Artificial light facilitated deep-plan spaces, but it broke all our circadian rhythms, so is there a way technology could get us closer to nature?"
Lee Higson, director, Eric Parry Architects

"Stop talking about how brilliant your building is because of a particular metric and do good architecture. Aim for a listed building of the future and let the court of public opinion decide whether you've done a brilliant piece of architecture or not."
Andy Young, partner, BIG

"If we're trying to innovate, don't take things like the BCO guidance for granted. Maybe there are clients who are prepared to stretch things a little bit, and without those projects to push things forward a little bit at a time, we don't make progress. We're in an iterative business, so we have to keep nudging everybody forward."
Luke Ritson, studio director, 3XN

"Think more about the outcome, rather than the product or the place. Think about the future users."
Matthew Blain, head of commercial and workplace, Hassell

"Build with care – think about the end user, materials, how those materials are used and where they come from. Take a bit of time to collaborate and care. As a result, you get a better product."
Yasmin Al Ani Spence, director, Wilkinson Eyre

"Other architects have been doing this really well for a really long time and we can learn from them – and although things change in technology and so on, the human body hasn't changed all that much."
Fred Pilbrow, founding partner, Pilbrow + Partners

"A building's for life and not just for a tenancy."
Ed Sayce, chief customer officer, Artus Air

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SOFT POWER

Top left: Different qualities of space allow for different types of interaction.

Top right: A limited palette of materials used at all scales brings a sense of calm.

Bottom right: Moving timber screens facilitate desired spatial flexibility.

A recent RIBAJ/Material Bank report explored the expression of quiet luxury across home, hospitality and workplace. A webinar dug further into what the concept means for architecture



What does the notion of quiet luxury mean to you? Perhaps it evokes an expensive minimalist aesthetic, shorn of any ornament and tastefully beige? Or maybe it's less about any particular visual style and more about an underlying attitude and feeling.

All this and much more was up for discussion at Materialising Quiet Luxury, a recent RIBAJ webinar to mark the launch of the Quiet Luxury trend report – produced in partnership with Material Bank, the world's leading sampling platform for design professionals.

Chairing the event, RIBAJ deputy editor Jan-Carlos Kucharek kicked off proceedings by comparing and contrasting ideas of quiet luxury in fashion and in architecture, where the added factor of temporality in particular gives a rather different complexion. As the Quiet Luxury report states: "It is less about absence of ornament and more, disciplined focus on proportion, material honesty, context and harmony."

Kucharek talked about the creation of an environment where users will experience comfort and ease, with the 'luxury' element established by a facilitation of movement, and by the establishment of calm, smooth experiences that elevate the everyday.

His introduction was followed by two presentations. First came a case study from Piercy&Company director Fiona Neil on the One Triton Square development in Euston, London, illustrating quiet luxury in the workplace sector. Then, Robert Thiemann, executive vice president, content strategy at Material Bank, presented an overview of quiet luxury as a material strategy rather than an aesthetic trend.

For Thiemann, quiet luxury in architecture is not simply a style but is about "experience, aesthetic and care", the latter two applying to all people and for the planet too. From a specification point of view, he suggested this is less about material restraint and more about making informed decisions. He set out five principles for this, kicking off with "longevity not novelty".

"The most sustainable material is often not the newest one; it is the one that remains useful, loved and repairable for the longest time," he said.

Going hand in hand with this approach is material honesty, including legibility of behaviour, ageing and construction – and also operational ease. Materials should be capable of being cleaned, maintained, adapted, repaired and used without friction.

Material Bank's sample boxes, sustainably sourced and express delivered, allow specifiers to quickly build a sample board.



MATERIAL BANK







FELIX SPELLER (3)

"Quiet luxury is not fragile. If it can't survive real use, it is not luxury – it is styling," Thiemann said.

He advocated specifying for sensory comfort by considering acoustic softness, tactility, temperature, glare, reflection, smell and texture – "everything that speaks to the senses". Contextual richness is another principle: clearly, quiet luxury can have many expressions beyond the tastefully neutral.

"Quiet luxury doesn't mean generic. It's not beige. It's not one colour. It's not one feeling," he added.

The case studies in the Quiet Luxury report considered this concept across three different typologies: home, hospitality and workplace, with the latter represented by One Triton Square. In her presentation, Fiona Neil argued that rather than being incongruous in the workplace sector, quiet luxury's calm, human-centred design, its use of carefully considered and crafted natural materials and its emphasis on wellbeing are all pertinent to workplace design.

Perhaps, she suggested, these qualities should be considered "a quiet necessity rather than a quiet luxury".

One Triton Square is a transformation of a nine-storey 1990s office building into a 29,000m² innovation and science hub, with shared spaces designed by Piercy&Company and architecture by Arup. Piercy&Company's brief was to create the "soft conditions for breakthrough thinking", demanding a variety of spaces for human interaction, collaboration and knowledge sharing including areas for focus, presenting and recharging.

This was a challenge given the first floor's expansive 3,700m² floorplate. Piercy&Company took cues from the geometric rigour of the building to break down this area into more intimate pockets of space. Neil described how the resulting design enables choice of setting and ease of movement, as well as the ability to adapt and be reconfigured as required. Importantly, it also gives "freedom of mind" by focusing on acoustic comfort, reduced visual noise, natural light and planting, and warm, tactile materials.

Spaces at One Triton Square are restrained rather than opulent, feel "effortless rather than overdesigned", and give a sense of comfort, reassurance and calm. This is particularly the case in the Triton Lounge on the sixth floor, which was conceived as a retreat.

The variety of settings means there is no single way to inhabit the space, something Neil feels is "a luxury in our current work lives". Instead, the spectrum of environments empowers users of the building by offering them "control, comfort and choice".

Speakers went on to discuss changing notions of luxury, and whether it's possible to have a maximalist expression of quiet luxury. It is, according to Thiemann – just so long as the intention to take care of people using the space, and offer a memorable experience, is still there.

"It's all about making the right choices," he said. And yes, you can be maximalist and still do that.

Receive a free copy of the RIBAJ/Material Bank Quiet Luxury trend report along with your first sample order at materialbank.eu

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MAKING AN ENTRANCE

Below: After a final quality inspection and hand-packaging in the workshop, Deuren doors are brought to site and can be easily fitted by the customer's own joiner or one of Deuren's installers.

Deuren designs and manufactures premium engineered timber doors from its West Yorkshire base – and a visit to the factory shows why it is a favourite with self-builders and architects

There are more ways than one to make a door. Mass-market products are made using industrial methods and barely touched by humans. At the other end of the scale are highly bespoke options, measured and made to fit a home like a Savile Row suit, crafted by hand as well as by machine.

Deuren falls firmly into the latter category, which is why its internal, front and garage doors feature in some of the UK's most distinctive homes, as well as in the offices of a few discerning architects. In a West Yorkshire town built on the large-scale textile manufacturing of the Industrial Revolution, the company is combining high-precision production techniques with traditional crafts including veneering and marquetry.

Yet Deuren started life three decades ago importing rather than making. When some of its Italian suppliers went out of business during the 2008 financial crisis, the firm chose to start manufacturing bespoke engineered timber doors in the UK. Since then, it has grown its base in Mirfield along with its reputation for being able to realise the design visions of self-builders and their architects.

Secret pivot doors and sliding dividers

Around 95% of the company's work today goes into high-end, one-off residential projects, and at least 50% of that requires specialist design. Some of the latter are variations of the 15 or so standard designs it offers, but many are true one-offs.

A secret pivot door that merges into a wooden puzzle-inspired wall illustrates the complexity and creativity of its most bespoke projects. For this, Deuren produced a door fronted in rosewood blocks of varying depths and sizes, as well as similar blocks for the wall to complete the 3D-disguise. Then there was the sliding room divider, finished in walnut veneer on the kitchen side and oak on the dining room side, which at 4.5m wide and 3m high is the largest door the company has made to date.

Designs like these are often the culmination of a collaboration process stretching back the several years it can take to turn a self-builder's dream into a project. "Most people have an idea and we develop things from there," explains managing director Ian Chubb. Early collaboration with clients and architects allows design options to be explored and fine-tuned and all essential factors considered. "Doors play an important part in how you live in a house, how you move around it and its aesthetics," he adds.

The different door configurations on offer – hinged, pocket, bifold, sliding and glazed panel – all require different openings and may have specific structural implications, particularly when they're oversized. "If you are spending a lot of money on a project, you want to make an impact, and one of the ways you can do that is by playing with the dimensions and configurations of a door," Chubb says. "These are all conversations we have before a brick's even laid." The company often provides guidance on openings to builders during construction.



IAN L CHUBB

‘Turning a door opening into an event’

When it comes to door design trends, there has been a shift away from minimalist, walnut and oak finishes in favour of more decorative designs and warmer, darker tones such as smoked oak. Recessed metal inlays, contrasting panels and grain patterns like bookmatching – where mirror-image patterns are created across double doors – have all become increasingly popular, and marquetry is making a comeback, says Chubb. The integration of LED strip lighting into frames is another fresh trend. “You might have a feature door with metal inlay and want to show it off,” he continues. “It turns the opening into an event.”

Deuren works closely with German, Italian and Swiss manufacturers to prototype and constantly upgrade hardware, to ensure it complements the door in style as well as function. “Most people are attracted to us initially by our aesthetics, but then we like to see people open a door and find it not only looks good, but also works really well,” says Chubb. He points out the concealed hinges and the magnetic door catch that sits flush, removing the need for a strike plate on the frame. These mean, says Chubb, that “the door looks as good from the pull side as it does from the push side”.

This attention to detail is an essential part of the firm’s ethos. “The reason why we like to keep real people working on doors is that you can spot any mistakes as they go through the workshop,” says Chubb. “When the workers are sanding the door or fixing things onto it, they’re looking at it.” This in-house expertise gives both a high-quality product and the level of capability needed to craft complex bespoke items.

Over and above the extra care in the 12-16 week lead time, it extends to a snagging and refinishing service to remedy damage. “We want customers to be happy with our doors for many years, and that means making sure they look and work their best, because each one is effectively a salesperson for us. We brand all our doors with a little badge,” Chubb says of the discreet logo. “We want people to notice how good they are.”

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DEUREN

Five steps to a distinguished door



Collaborative design

Deuren invites clients to visit its workshop early to explore design possibilities. “We talk through their ideas, what we’ve done before and what their architects think,” says Chubb. CAD drawings and mock-ups bring ideas to life, with clients able to see samples of doors, hardware, inlays and finishes. Once openings are built, the company carries out an on-site survey to measure opening width, height and wall thickness. Highly bespoke products, like pivot doors, are specified early; others can be specified at construction. As well as measuring door openings, the company confirms hinge direction, handles and lock types with the client.



Veneering

Longstanding relationships with suppliers give Deuren ready access to high-quality veneers. “We have a massive choice of veneers – and that varies constantly as they are withdrawn from the market because they’re no longer available from a sustainable source,” says Chubb. Large sheets of veneer are guillotined to size, ready to be vacuum pressed and glued onto panels. Overall veneer thickness ranges from 0.6mm to 2.5mm, depending on whether the door is for internal or external use. Each set of internal doors, frames and architraves is made using the same batch of timber from the same tree, for a consistent aesthetic.



Forming the door

Timber door panels, frame and architraves are cut to size and shaped using advanced CNC technology, so merging modern manufacturing with Deuren’s traditional craftsmanship. Doors have solid engineered timber cores, comprising multiple layers of hardwood with the grain running in different directions. This construction minimises the risk of the door warping and bending over time as temperature and humidity levels fluctuate in homes. Cores are a standard 45mm or 55mm width, conforming to FD30 or FD60 fire rating respectively. Hinge and handle holes and any grooves needed for individual designs are also cut by CNC router.



Painting

Doors are sanded prior to spray painting, varnishing and lacquering. Deuren carries out its own trialling of new and bespoke finishes. A bronze-effect finish, for example, was created by applying gold paint, spray applying black paint over that, partially wiping the black off and then lacquering to complete the authentic finish. Developed in-house initially, the prototype finish was seen by a visiting customer who promptly ordered it for their door. It has since become a standard design option. “We make quite a few of them now,” says Chubb. All paints and lacquers used by the company are water based.



Assembly

Deuren’s assembly team adds the glazing, inlays, lighting and other bespoke design features by hand. “When we make an internal doorset, they’re made more like furniture so you won’t find any nail holes that are filled in or screws covered over. Veneers are also made to furniture-grade standards,” says Chubb. Inlays are available in a wide range of finishes and widths, with door handles having a matching finish, whether brass, stainless steel, black or more bespoke. Textural contrast can be created by adding panels in a variety of materials, such as fabric, suede or leather.

DEUREN (5)

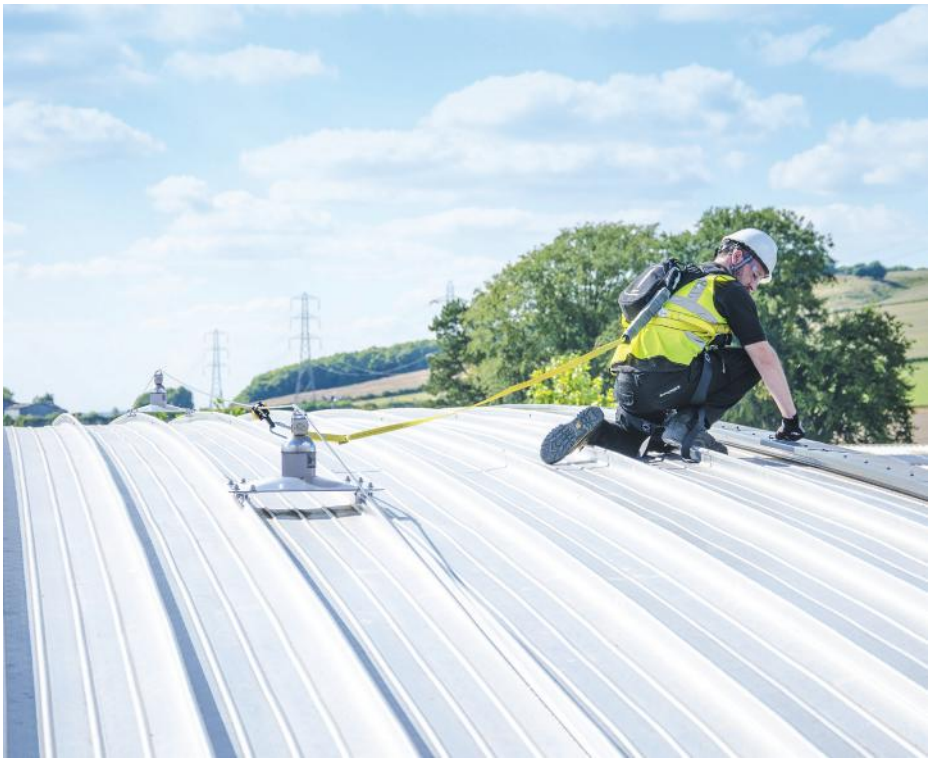
MINIMISING THE RISK OF FALLING

Falls from height accounted for a quarter of all UK worker deaths last year, and taller, more complex buildings could increase risk. An MSA/RIBAJ webinar discussed designing for safe access

Opposite left: Squire & Partners' art'otel in London's Hoxton used a hybrid facade access approach: a fixed jib BMU for the tower and cherry-pickers for lower plinth level.

Opposite right: Foster + Partners designed an integrated perimeter monorail system within an internal atrium for a retail scheme in China, allowing for roof glazing panel access.

Below: MSA Latchways Personal Rescue Device (PRD) integrated with a harness is a lightweight self-rescue system that allows operatives in a fall to achieve a controlled descent of up to 20m.



MSA SAFETY

Taller, denser and more complex – these are just some of the factors dominating development thinking in London and beyond. Such schemes bring with them risks for those who maintain them, whether cleaning windows or tending to green, blue or brown roofs.

In the UK, falls from height accounted for around a quarter of all worker deaths last year, according to the Health and Safety Executive, while the Office for National Statistics' Labour Force Survey found they caused 8% of non-fatal injuries the preceding year.

These figures provide a clear imperative for architects to think long and hard about safe construction and maintenance of projects, and statutory legal responsibilities are set out in the Construction (Design and Management) Regulations 2015 and Work at Height Regulations 2005. Practical ways of designing for safe access at height and some innovative design responses were highlighted at a recent MSA/RIBAJ webinar.

Avoiding working from height is preferred, but with modern architecture it is often not achievable. The hierarchy of fall protection's step-by-step process starts with eliminating exposure to the hazard. If that's impossible, the next step is passive fall protection, like physical barriers, followed by fall restraint and arrest systems. Running alongside all of these are administrative controls such as hazard awareness.

Access should be considered early in the design process (RIBA Stages 2 and 3) to enable architects to arrive at the right solutions and minimise any impacts on their projects. Those solutions may demand single, multiple and/or bespoke responses.

MSA Safety specification sales manager for the UK and the Netherlands, Stuart Pierpoint, remarked: "We have very complex buildings which require complex strategies and may require lower-level strategies to have more discreet solutions."

Cleaning and maintenance of the



JACK HOBHOUSE

Key takeaways

- Understand the regulations
- Have an intended strategy and think about how to realise it
- Engage with experts early
- Include reference to EN 17235 compliance in project specifications
- Verify that systems are tested as complete assemblies – and request CE marking where applicable
- Confirm a system's compatibility with building substrates
- Make a system solution as simple as possible



NIGEL YOUNG / FOSTER+PARTNERS

exterior of art'otel's tower in Hoxton, east London, is carried out from a single, bespoke, supersized 7-tonne fixed jib luffing building maintenance unit (BMU), while the windows of its two low-rise wings are cleaned from street level.

Architect Squire & Partners refined the cylindrical, extruded cogwheel-inspired tower's design to ensure it gave guests clear city views and had a simple building maintenance strategy. The BMU's luffing jib function enables the cradle to be precisely positioned – important for access to the tower's recessed glazing.

A full aluminium façade system means "safer assembly and safer maintenance," said Squires senior partner Tim Gledstone. "It's about this level of thinking right at the outset: do you want an all-aluminium building where it's all one system and you can replace everything in 20, 30, 40 years?"

At a retail project in China by Foster + Partners, an access hatch is concealed in a mock photovoltaic panel within a rooftop array. With many off-the-shelf and seemingly limitless bespoke access options available, architects "need to think about the pros and cons of each version," said Tom Richardson, access and maintenance specialist and associate partner at Foster + Partners. "And the only way to understand that is by talking to your specialist, your consultants, your contractors."

Collective measures, such as edge protection, allow multiple untrained users to access an area without any need for PPE. Fall restraint systems, with a fixed-length lanyard that connects back to the building, physically prevent workers from reaching a fall hazard. In contrast, fall arrest systems allow workers to access exposed edges but are designed to catch them mid-air and safely stop or control their descent if a fall does occur. Choice depends on context, such as how often access is required and the substrate of the building.

Importantly, said Pierpoint, the fall protection sector has made "a major step forward for safety" with the introduction of a harmonised European technical standard for permanent anchor devices and safety hooks in horizontal construction applications. EN 17235 is now transitioning across the UK and Europe, closing a gap that had seen Class A1 anchors fall outside the scope of EN 795. It introduces, he stressed, "more rigorous and realistic testing methodologies, combining both dynamic and static performance".

Whatever system works best for a project, one point is universal, said Pierpoint. "The more complex we make the solution, the less likely it is to be used in the correct manner, potentially putting people at risk." As buildings get more complex and demand more sophisticated access responses, simplicity in use is all.

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OFFICES THAT EARN THE COMMUTE

With hybrid working the norm for a significant percentage of the workforce, office design needs to offer human-centred environments to attract people back. We look at three examples of best practice



JIM STEPHENSON

According to the ONS, 28% of UK adults now work hybridly, a percentage rising to 45% among those earning over £50,000. In the immediate pandemic aftermath, some employers resorted to grand, seductive design gestures and novelty to lure back a homebody workforce. Today, says RIBAJ deputy editor Jan-Carlos Kucharek, "the conversation has moved on". Workplaces must consistently offer human-centred, neuro-inclusive environments that earn a commute.

Personal experience

Let's revisit the pre-pandemic office at its most miserable: empty directors' offices monopolising the sunny perimeter, suspended ceilings, grey carpet tiles and reverberating open-plan floors designed to maximise the awkwardness of a personal phone call or a five-minute-late arrival.

Today, there's an understanding that the best workplace design is the kind that one barely notices. As Iain Jones of dormakaba UK puts it: "If you notice the access control [for instance], the speed gates, or the doors, they're not working properly." Such things should quietly choreograph movement such that occupants simply arrive without thinking about the technology that got them there.

It's similar with acoustics. "Baffles, rafts and panels, if you're not careful, can end up looking like an afterthought bolted on to a finished room," says Ben Hancock of Oscar Acoustics. Spray-applied finishes, by contrast, improve concentration, wellbeing and privacy while allowing architecture to take centre stage.

Grand vs grandstanding

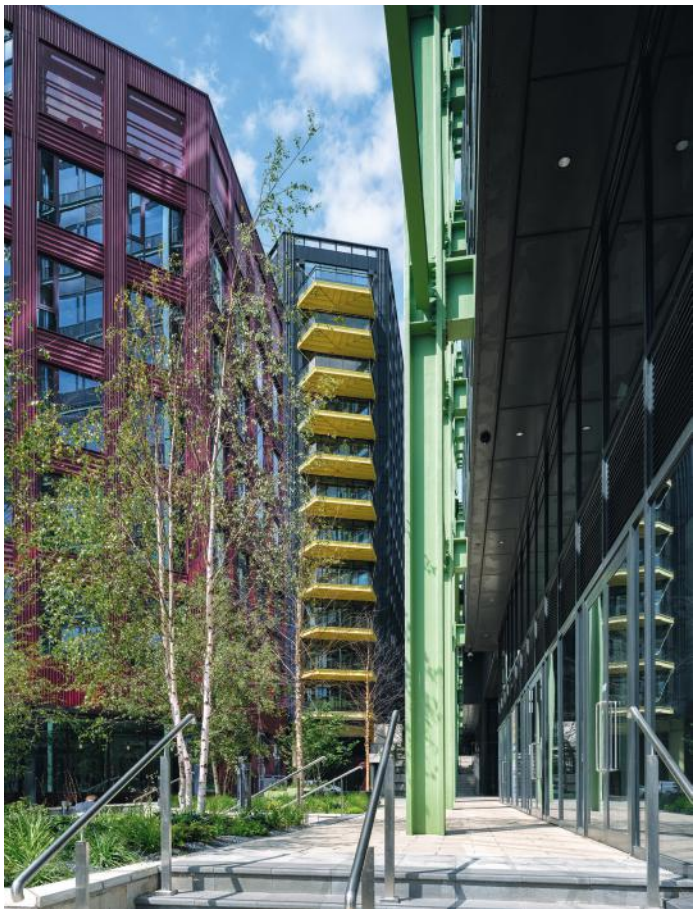
Carmody Groarke's redevelopment of 469 Bethnal Green Road, east London, turned an unprepossessing 1970s textile workshop into what practice associate Jerome Wren calls "a strategic act of addition rather than erasure". Rather than opt for demolition, the architects retained a concrete frame and foundations, but doubled the usable floor area with three lightweight (hybrid steel and timber) storeys above, designed with help from structural engineer Davies Maguire.

The same light-touch but impactful approach extends to the facade. Clad in hot-dip galvanised steel and with vertical and horizontal fins for depth and solar shading, the facade achieves "maximum effect with minimal intervention", says Wren. Environmental performance and structural necessity become architectural expression in an unobtrusive but undeniably elegant new street presence.

Urban value

The best workplace projects succeed because they create value for employees, employers and the city alike, which means looking beyond the building. AHMM director Stephen Taylor is no stranger to this. Assembly Bristol occupies a site severed from Bristol city centre by Temple Way. Rather than treating it as an isolated plot, AHMM took every opportunity to "recreate a piece of city", reinstating the historic route of Cheese Lane to open new views between the river and the Grade II-listed church beyond, and prioritising "the spaces between the buildings rather than the buildings themselves".

The architecture itself was driven by the principle of "doing more with less". Offsite fabrication reduced complexity while creating a robust and adaptable



TIMOTHY SOAR

Opposite: 91 Kempston St is spearheadiing the regeneration of Liverpool's run-down Fabric District.

Left: Assembly Bristol is as much a piece of city placemaking as it is a workplace.

Below: 469 Bethnal Green Rd is an exemplar of low-carbon office retrofit.



JOHAN DEHLIN

architecture. "The smaller building had less going for it in terms of amenities so was placed in a position to enjoy the best views," says Taylor. This helped equalise rental values across the campus, proving that setting, amenity and public realm can be as valuable as floor area itself.

Social value

The ONS statistics highlight how hybrid working remains concentrated among higher earners and the highly qualified. Graduates were 10 times more likely to work this way than those with no qualifications (41% versus 4%).

As James Crawford of Liverpool-based Studio Mutt observes, "office spaces have quite a high spec and a high quality bar", but "we expect those who work in light industries to work in really draughty old Victorian warehouses, and there's a lack of seriousness and quality to those spaces". Many small businesses can also not afford space in high-end new builds.

Studio Mutt's 91 Kempston Street in Liverpool demonstrates how this can be overcome, transforming an "uninspiring but robust" brick and concrete 1970s storage facility into a flexible and modern workspace. It also serves as "a test bed for the wider regeneration of the city's fabric district into a creative quarter."

The zone, near Lime Street station, traditionally accommodated businesses requiring a skilled workforce, which relied on good transport connections. The client, hat manufacturer Try & Lilly, preferred not to move its business out of town, instead buying into the idea of regenerating an area that had become run down and associated with antisocial behaviour.

As Crawford explains, the modest intervention preserves light-industrial uses while improving energy efficiency and desirability, challenging assumptions about the value of ordinary buildings.

The "unloved, low cost, but not without quality" building had good ceiling heights and clear spans. The principal architectural move involved opening up the façade through larger windows to deliver ventilation and "a huge, huge amount of light". Copings create shadow and movement, security measures are softened, and recycled plywood offcuts from the workshop below became interior joinery, contributing to "a kind of creative ecosystem in the building".

Ultimately, the scheme demonstrates "the value and potential in existing buildings that don't necessarily qualify as heritage", says Crawford, but nevertheless remain essential to the future life of a city. As for the workers, it is "not just about functionally improving something; it must feel desirable … you don't have to just 'make do' somehow".

These projects suggest that today's well-designed workplace eschews the grand gesture in favour of close attention to overlooked opportunities. Unlike an open-plan office hellscape, successful workplace design is more focused, more efficient and (we hope) happier.

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INFORMATION MANAGEMENT

With data centres evolving at dizzying pace and often shrouded in commercial secrecy, architects' role is not always well defined. A wide-ranging event hosted by RIBAJ and Tate sought clarity



GRIMSHAW



WOOLPERT

Left: Nordic data centre powered using local hydro-electric power, capitalising on the cooler environment.

Opposite: Major digital and energy campus, with urban farm and nature park, promoting synergies between infrastructure systems and local communities.

In the age of AI, decisions around our relationship with data are having unprecedented consequences for our economy, society and built environment, yet the architectural profession has sometimes seemed reluctant to tackle this crucial sector. For the latest collaboration between RIBAJ and Tate, architects, engineers and suppliers gathered at London's Royal Society of Arts for a refreshingly open discussion at a moment of rapid change in data centre design.

Over three panels, discussions tackled the immediate challenges of delivery; the design impacts of technological development; and adapting to an unknowable future. The central role of power – its limited availability, diverse sources and prohibitive expense in the UK – was addressed in the first panel, 'Sustainability, power and the geography of data centres'. Despite the designation of data centres as national critical infrastructure in 2024, marginal pricing and lengthy delays in grid connection remain significant obstacles, particularly with the advent of power-hungry 'AI factories'.

The first AI Growth Zones have now been launched, but most panellists felt a strategic national vision for infrastructure and geography remains absent, while extravagant net-zero promises bear little relation to the realities of UK power provision. In contrast to the spacious US, onsite generation is problematic, yet small modular reactors were viewed as a credible long-term option.

"Nuclear has the potential to be an ideal source of power – it's scalable, it's reliable," said James Glen, technical director at Stantec. "There are obviously limitations, whether decommissioning or the liability of owning an asset that might outlast the data centre, but if we're talking about AI, it's the right source of energy to be looking into."

The unpalatable fact that data centres are not winning popularity contests was not dodged. Matt Redding, associate director at WSP, described the provision of community facilities or accessible parkland as "easy wins in the context of multi-billion-pound projects" while Matilda Marku, associate at Hyphen, pointed to wider benefits: "Whether you have a local school or hospital, their technology is connected to data centres, so education about what these bring to communities is key."

However, longstanding aspirations of using excess heat to provide district heating are proving hard to realise, given the difficulty of retrofitting such systems. Allocating part of sites to light industry, agritech or even housing was offered as a possible alternative. But Chris Patience, principal at Grimshaw, felt "every city really needs to understand where their data centres will be, because they're so fundamental to place".

'Chips, cooling and the new realities of lifespan' stepped inside the data centre. It addressed issues raised by Martin Canaway of Gensler around the pace of development, in which "discussions about manufacturers changing a chip mean we have to think about changing an entire building". After a period of relative stability in designs for air-cooled data centres, the thermal loads created by powerful new AI chips are driving a shift to liquid-cooled racks, creating significant design issues.

Jonathan Blake, design director at HDR, was clear that "there are finite limits to thermal dynamics – the more powerful chips become, the more heat they generate, the more pressure you have to push through pipes, thus the biggest challenge may be around ratios of plant and white space". In effect, more energy-intensive chips may result in half-



full data halls, while plant spreads over and around buildings. In contrast, despite many years of industry musing about multistorey centres, structural impacts may be limited. As Benjamin Champion, associate at Woolpert, pointed out: “Rack weights aren’t really a problem; we’re just not building tall enough for it to matter.”

There was general agreement that design strategies should work outwards from the choice of rack, but precise information was difficult to obtain given commercial secrecy, and often changed during design and construction. Understandably, ‘colocation providers’ developing projects for multiple customers want to retain flexibility, risking inefficiency in space, plant and carbon. As Mark Leith, architecture team manager at Sweco, put it, “They don’t really know which way to turn, because things are moving so quickly that by the time they’ve underwritten their deal, it’s no longer relevant.” Even hyperscaler companies, with massive budgets and proprietary technology, face painful costs when constant alterations delay delivery.

Change and uncertainty are constant, with Aiden Jones, head of R&D at Tate, pointing to knock-on effects for modular components: “It would be lovely to provide a perfect solution for a specific problem. But while you’re having a conversation, a press release from NVIDIA will come out, the client will change their mind – everything will get a bit bigger – or want flexibility, wondering what will happen next year.” Similarly, Laura Neri Perez, associate at Woolpert, emphasised the need to uncover what flexibility means for each stakeholder: “What they feel is worth investing in, what they might be able to recover later, what are the different priorities and approaches – is it modularity, is it scalability, or reuse, or something else?”

These thorny issues were addressed in the final panel, ‘Designing for flexibility in a world that won’t stand still.’ Pawel Czarnomski, principal architect at HDR, spelled out the reality that, given many data centres have 15-year lifespans and finances to match, “designing for flexibility is pretty much mission impossible – you just need to stay open-minded, gather information, then design as flexibly as you can, given what you know today”. Even for Carmen Sala, director of architecture at AI specialist Nscale, that can be problematic: “We need to understand which technology is going to be deployed and how it’s likely to be

Above: CyrusOne data centre in Dublin has pollinator-friendly wild spaces surrounding the site.

Below: Across three panels, architects, engineers and developers discussed the future of data centre design and delivery.



HYPHEN

TATE



SCOTT BROWNRIGG

upgraded, then provide this information early to our designers… but sometimes there are challenges we haven't foreseen, and everything changes again."

Modularity is certainly one option, and Tate has developed a robust chassis that can be adapted to hold diverse racks. "We're in the privileged position of being able to see around corners," business development director Gus O'Rourke said. "We're headquartered in the States, which is probably six to 12 months ahead of the UK, but have built capacity across Europe, so are able to offer both scalable products and localised manufacture."

Nicola Lombardi of Scott Brownrigg reiterated the risk of overspecification when pursuing flexibility, adding that "in a few years' time, it all gets superseded anyway". An alternative is "designing for the present and planning for end of life", involving demountable components that allow for relocation, reassembly or repurposing. But he pointed out that "data centres are not really buildings, they are pieces of infrastructure… the bulk of the environmental impact is in that infrastructure, and that offers bigger wins than saving a bit of carbon in the build". From that perspective, Lombardi agreed with an earlier suggestion from Orlando Baghaloo, associate director at StudioNWA, that the storage capacities of data centres be integrated into grids in a mutually beneficial manner, drawing on and feeding back power as supply and demand fluctuates.

As discussions wrapped up, the benefits of increased transparency were highlighted, with Canaway pointing out the irony of a lack of accessible data in a sector saturated with the stuff. There was also welcome agreement that the value of the architect was increasingly recognised. "An architectural background trains you to take a look at a building as a whole, and equips you to make impartial decisions", quite apart from expertise in planning, management, and communication, argued Darragh Beggan, senior associate at Hyphen.

For Lombardi, the complexity of delivering data centres in Europe gives the process meaning. "In some parts of the world, people may wonder why you need an architect," he said. "Having somebody who understands engineering and technology, but can also interface with local communities, interface with local environments, with contexts – that is architecture in the end."

Above: Belvedere Data Centre is colocated with an energy from waste plant.

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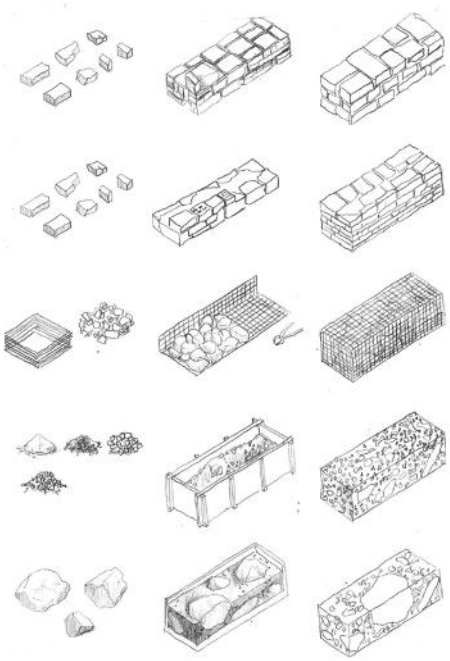
PRESIDENT: PAYING IT FORWARD

Below: Drawings submitted for Yukta Chegu's Norman Foster Travelling Scholarship-winning project Rubble Futures: Mapping India's Informal Salvage Economies as Blueprint for Global Circular Construction.

As the experiences of Norman Foster and many others demonstrate, RIBA's range of bursaries and awards represents a long-term investment in our profession's future, writes Chris Williamson

I have written in previous columns about my visits to schools of architecture and the talent, passion and enthusiasm students have for the profession they are working so hard to enter. This is despite the expense of their education and the comparatively poor rewards compared with other professions and trades. Most have part-time jobs, even when in full-time education, in order to reduce their student debt. The apprenticeship route is equally demanding and has recently been affected by the government's decision to withdraw Level 7 funding for those over the age of 22, something RIBA continues to campaign for. So, this month I thought I would highlight some of the help that is available through RIBA in the way of bursaries and awards.

This was prompted after spending a morning with Lord Foster along with five other judges choosing the recipient of this year's Norman Foster Travelling Scholarship, marking the 20th anniversary of the award. Norman had thoroughly reviewed all 90 entries and critiqued them to arrive with a shortlist of five and a longlist of 15. Equally impressive was his passion for the award itself, as he reminisced about the effect winning an award as a student had on him. When Norman got that RIBA President's Silver Medal in 1959, he used the prize money to travel through Europe and study first-hand buildings and cities. Decades later, he founded his scholarship with RIBA to offer the chance for future generations of emerging architects to have the same opportunity.



YUKTA CHEGU

The scholarship has continued to encourage global, real-world learning and innovative research, enabling students to work with urgent issues that affect us all, making their research relevant and impactful. It offers students opportunities they may never have had before, reducing financial barriers and supporting talented students – regardless of their background – to experience cities, buildings, and cultures directly.

After much discussion, Yukta Chegu of the University of Bath was chosen as this year's winner for her project Rubble Futures: Mapping India's Informal Salvage Economies as Blueprint for Global Circular Construction.

Over the past decade, RIBA awarded just over £2.5 million through its Scholarship and Bursaries Programme, with £1.4 million distributed in the last five years alone. Adjusted for inflation, this equates to an annual average of £295,000 over 10 years. During this period, the scholarship and bursaries programme provided financial assistance to 676 individuals, of which 607 were students undertaking RIBA Part 1 or Part 2 courses. These students received critical support to continue and complete their architectural studies, enabling their progression towards professional qualifications.

One of the highlights of being RIBA president is the opportunity to judge awards including the Stirling Prize and the Royal Gold Medal. But equally enjoyable is meeting the recipients of the Bronze and Silver RIBA President's Medals for Part 1 and Part 2 students. I noticed from looking at the list of previous winners how many have gone on to have wonderful careers – which made me think. Are we really good at spotting young talent, or does the award itself act as a catalyst for further achievement (as might be learned from Kamins and Dweck's famous 1999 research on the benefits of praising process)? In 1980 I won the Inplan Award for energy conservation and that inspired me to do more – even though Andrew Weston, my partner for over 40 years, won the more prestigious Glass and Glazing Federation award judged, incidentally, by Norman Foster.

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OBITUARY: PETER AHRENDS 1933–2026

By Ian Latham



IAN LATHAM

Peter Ahrends was the last surviving founding partner of Ahrends, Burton and Koralek (ABK), one of the most respected British practices of the late 20th century. It was grounded in the friendship between Ahrends, Richard Burton (1933-2017) and Paul Koralek (1933-2020). Setting up in 1961, these talented designers forged a common path unswayed by dogma or fashion: a modern architecture to serve a modern world.

Ahrends was the third generation of Berlin-born architects. His grandfather Bruno designed aristocratic villas and social housing in what Peter later described as "a quietly modern idiom". But in 1935 Bruno was barred from practising by the Nazis because of his Jewish roots, and he eventually arrived in Britain, only to be interned on the Isle of Man in 1939. Bruno's son Steffen, who worked in his Berlin office, emigrated to South Africa in 1937 with his wife Visino and three-year-old Peter, setting up a successful practice in Johannesburg.

When his parents divorced in 1944, Peter was sent to a boarding school 600 miles away, which he abhorred. Trying to abscond by train, ticketless, he recalled being shocked at the discrepancy between his gentle admonishment and the treatment of a Black boy by the police – a foretaste of the National Party's apartheid policies of 1948. Forty years later, after meeting with ANC politicians in exile in London, Peter would direct his political activism through the UK Architects Against Apartheid (UKAAA) group, pressing fellow professionals to boycott working with the regime.

Ahrends completed his education at King Edward's School, living with his father and rarely venturing beyond Johannesburg's suburbs, but increasingly feeling he needed to get away. Arriving in London in August 1951 when the Festival of Britain was in full swing, he enrolled at the Architectural Association and met Burton and Koralek, who became close friends, working and travelling together. A 1954 Land Rover tour of Turkey profoundly affected Ahrends: the character of the indigenous towns and villages they explored came to inform his work in fundamental ways, as did the serendipity of travelling and sketching.

In 1960, while working for Marcel Breuer in New York, Koralek won the competition for the Berkeley Library at Trinity College, Dublin. He returned to London with the commission and ABK was established. The building's consummate qualities gave the practice a running start, and more work followed, much of it in the public sector, and often through competition; all eschewing any notion of house style.

ABK's innovative approach is best exemplified in its project for Cummins at Shotts in Lanarkshire (1975-83). Rather than accept the brief for new offices adjacent to its diesel engine plant, Ahrends led an open consultation across the entire workforce, employing a multidisciplinary team with Arup and landscape designer James Hope. This produced a total reconfiguration of the site and informed the design of the ergonomically tuned workplaces.

Had it been built, Ahrends' 1982 winning design to extend London's National Gallery would have put ABK on the international map. Derailed by Prince Charles in 1984 – the undeserving target in his campaign against modern architecture – the proposal would surely have had more enduring and endearing qualities than the postmodern pastiche by Venturi Scott Brown that ensued.

As well as chairing UKAAA, Ahrends was a member of the AA Council and the Design Council; he held academic posts at Kingston Polytechnic and the Bartlett at University College London. He is survived by his daughters Jacqui and Jane, and his partner Marlene Rolfe. ■

Ian Latham is director of Right Angle Publishing, whose titles include Peter Ahrends' books Stream of Sketches and A3 Threads and Connections

IN MEMORIAM

PAMELA WYATT
Elected 1949, Surrey

DAVID BURDER
Elected 1958, Mexico

PETER BLACK
Elected 1960, Berkshire

WILLIAM MARTIN
Elected 1961, Surrey

NORRIS ANTHONY THOMPSON
Elected 1962, Gloucestershire

GERALD SIDNEY EDWARDS
Elected 1967, North Yorkshire

MARKO PIPLICA
Elected 1979, Tyne and Wear

GEORGE HENRY JEWITT
Elected 1984, Lincolnshire

BENJAMIN NICHOLAS CARLISLE
Elected 1989, Somerset

COLLECTION: CHAIR, PIONEER HEALTH CENTRE, PECKHAM

Designed by Christopher Nicholson (1904–1948)

Chair for the Pioneer Health Centre, Peckham, London, 1935

By India Whiteley

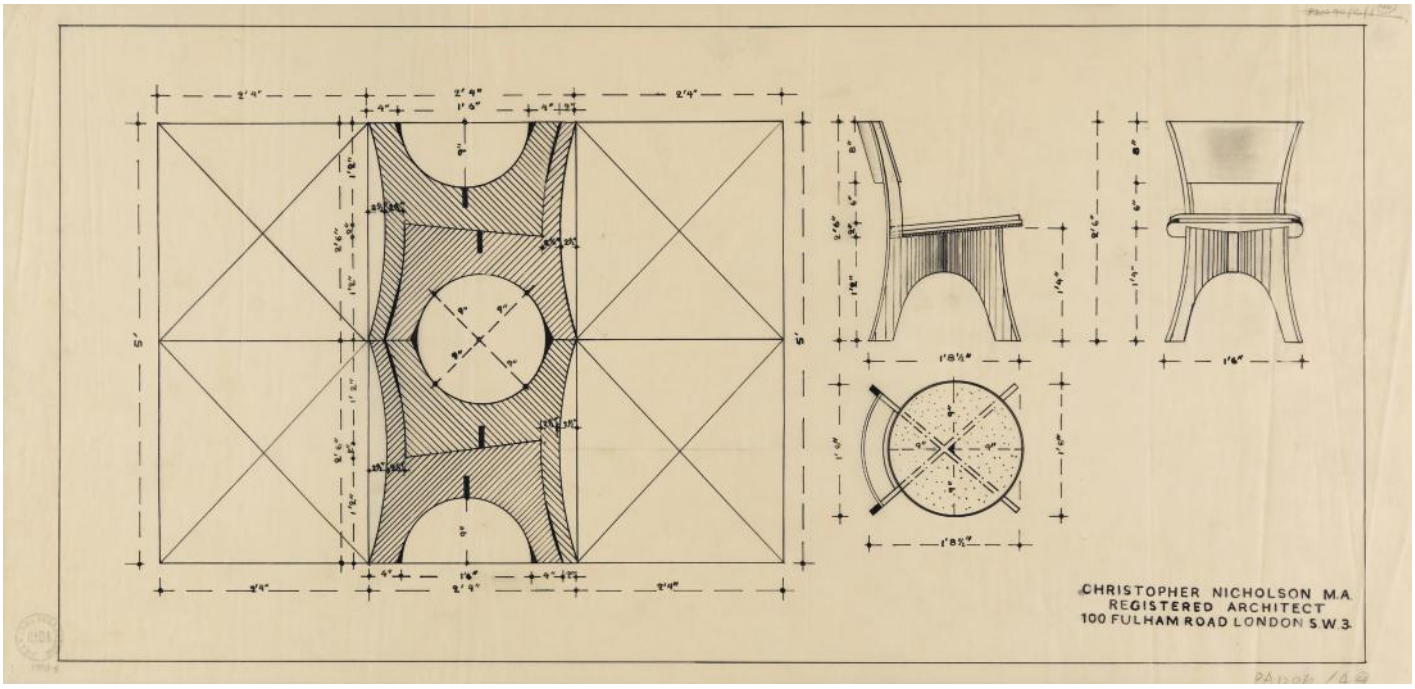
When the Pioneer Health Centre opened its doors on St Mary's Road 90 years ago, it represented a landmark innovation in public health. The centre had previously operated out of a nearby townhouse, but its new building, purpose-designed by Owen Williams, was a chance to fully realise its doctor-founders' ambitions to explore the health benefits of exercise, nutrition and social interaction.

The two doctors invited local families to join the centre and make use of its facilities, including a swimming pool, gym, nursery and organic café. Regular health check-ins offered a way to monitor outcomes and better understand how the centre was influencing users' wellbeing.

Complementing Williams' design for the building were Christopher "Kit" Nicholson's interior and furniture designs. Nicholson was a young architect at the time, and this drawing for a chair showcases his economical and creative use of plywood.

Each chair was formed from two pieces of plywood, slotted together to form an X, allowing six chairs to be constructed from a single sheet of ply without wastage. 1930s photographs from our collections show the chairs would go on to populate the centre's lounge.

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