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Positive signs in a threatening world

With relentless energy price rises and inflation at its highest for 40 years, you’d think we’d be hunkering down after the profligacy of the last ten. And while many have been banging the industry carbon-cutting drum for decades, it’s the war in Ukraine, trade bans with Russia and a world waking up to 40º days that have drawn the carbon predicament into very sharp focus for what has been a largely uninterested public.

So in this issue of PiP, we see inroads being made in re-purposing and upgrading buildings, all in a manner that not only makes them perform better, but proves transformatory in their new purpose – realised with enthusiasm and ingenuity. At Greyfriars Charteris Centre in Edinburgh, Konishi Gaffney has united a church hall and adjacent building with a slim intervention that catalyses both spaces to provide spatial drama and connectivity for the community centre, and to increase performance. Even the church’s tracery windows are double-glazed units, knocking a couple of the seven deadly sins on the head right there.

Down in Cambridge, new practice Neubau has converted the greenhouse at St Mary’s primary into a STEM lab for the school, turning its glass into a double wall of polycarbonate. It’s insulated and heated by air source heat pumps, with a ventilation strategy cribbed from the original greenhouse’s roof ridge actuators.

It’s ironic that before it was a school, the building and its greenhouse were part of Cambridge University’s Martin Centre, which uses quantitative research to push low energy design. How lovely to see its new iteration stimulating young minds and playing out the aspirations of its former guise. There’s reassurance in things coming full circle.

Jan-Carlos Kucharek, editor
Compendium

Mellow yellow
Are you old enough to remember Richard Rogers' 1967, 22 Parkside house in Wimbledon, or the 1972 SBI Prototype Office Building in Milton Keynes – both of which took yellow, ‘the colour of madness’, to stunning extremes? If not, you Gen Zs can relax, safe in the knowledge that Studio Egret West has channelled all of that into its new Plus X workspace and innovation hub in Brighton for client U+I plc. The 53,000ft² offices are part of the 2.2ha development of the Georgian Preston Barracks site, to improve the University of Brighton campus, and add 1,300 student dorms and 360 homes. Automatic door systems manufacturer Tormax was contracted to provide Plus X's signature banana-coloured, curved, sliding automatic entrance pods, creating openings up to 40% greater than possible with linear doors. No need to form an orderly queue here!

Lambda's wool
Aside from its benefits of non-combustibility, it must be hard to market stone wool – at least in terms of looks. It might be why the PR announcing Rockwool's latest NyRock technology comes accompanied by a space-age swish graphic more ‘Dune’ than ‘doona’. But its low lambda value speaks for itself, the 'next generation' stone wool insulation delivering thermal conductivity as low as 0.032 W/mK. And, being made of the stuff of volcanoes, it also endures Hades-like conditions in excess of 1,000°C, to give it a Euroclass A1 rating.

A matter of light and breadth
To say BAFTA’s Piccadilly HQ in London, formerly the 1883 home of the Institute of Painters in Water Colour, has undergone a restoration would be an understatement (PiP, May/June 2022). Designed by Benedetti Architects, it’s been transformed, not least by cunningly inserting a storey at the top beneath its former exhibition gallery’s wrought iron trussed roof lanterns. The new floor houses the Richard Attenborough Rooms and BAFTA’s meeting and restaurant space – with views to Wren’s most westerly church, St James’. To avail themselves of these views, IQ Projects worked on its oversized glazing, providing seamless access to its roof terrace, achieved with ultra-slim framed sliding doors, creating a generously wide and unimpeded opening when fully retracted. Benedetti meanwhile has moved on to try his hand at reinvigorating another grand old institution – RIBA HQ.
Low country high light
Belgian lighting firm Delta Light has teamed up with Rotterdam-based architect MVRDV in a collaboration that has resulted in their waste-busting ‘High Profile’ lighting range. Perhaps keen to build on the sustainability drives initiated by the likes of Belgian firm Rotor, MVRDV has taken offcuts of aluminium profiles and created a whole range of luminaires. PR claims ‘the design takes a critical look at the manufacturing process, finding both opportunity and beauty in residual elements that would normally be cast aside.’ Launched at Milan Design Week by Jacob van Rijs, the MVRDV founding partner says: ‘The amazing details of these profiles are usually hidden inside a wall or ceiling; we wanted to make their beauty visible as the main feature of the new design.’

Nose against the glass
Which architect do you get to work on a 120m long Edwardian shopfront on one of London’s super-prime shopping streets? A lot of them! A roll-call worked on the mixed-use residential Knightsbridge Gate development: Richard Griffiths Architects and MSMR Architects – it was even a swansong job for Dixon Jones. To glaze its 17 street level shop fronts, Pilkington OptiView Protect OW anti-reflective laminated glass was specified in low-iron to ensure the super-prime goodies beyond are presented to consumers free from unseemly discolouration. But to make sure that caps were tipped to tradition, the cutting-edge glass has all been held in place by decorative oak frames, carefully re-created according to the original design.

It’s a Ming thing
Putting the ‘splash’ into ‘of colour’, German sanitaryware firm Kaldewei has brought out its new Miena coloured washbowls – shown here in ‘Mint Soft Touch’. But if duck egg blue isn’t your thing, there’s another 17 colours in the range to choose from. And while they might look delicate and fragile, being formed of steel enamel, the sinks must be virtually indestructible – unlike the trio of Qing dynasty vases broken to bits by Fitzwilliam Museum visitor Nick Flynn a few years back after a ‘Norman Wisdom’ moment on the museum’s stairs. And, just like those Norman Wisdom films, the Miena range is also available in good old black and white.

Veni, Vidi, Vado
Picking up on the trend for bigger curves in the smallest room, high-end UK brassware company Vado took design firm Conran and Partners to task designing its latest range – Arrondi, which launched in July. Bulbous is a thing now it seems – take a look at Tom Dixon’s ‘Liquid’ range for Vitra; and this brassware, seen in the flesh by PiP while passing London’s Material Lab shopfront, would seem a perfect complement. All is finished in a Jeff Koons’ balloon-like hand-polished chrome. Arrondi won a Red Dot design award and is also guaranteed for 15 years – long after the washers will have gone on your bog-standard tap.
The world’s thinnest inverted roof insulation just got thinner.

U-value chart

<table>
<thead>
<tr>
<th>U-value req. W/m²K</th>
<th>Quantum® (mm)</th>
<th>Extruded (mm)</th>
<th>Expanded (mm)</th>
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<td>0.10</td>
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Sample range of U-values based upon a typical roof terrace construction with a 200mm concrete substrate and product Lambda value as noted.

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To meet the 0.13W/m²K U-value requirement within the available 120mm insulation zone, ProTherm Quantum® PLUS® Hybrid was used in a zero falls application to all terraces, providing level threshold access between internal and external spaces.
Design collaboration is real and enduring

Gaming technologies enable all stakeholders in a building to influence its future, in real time

The digital transformation of architecture, engineering and construction is accelerating. Firms large and small are experimenting and deploying interactive real-time tools for design, collaboration and communication with stakeholders. A recent survey from Forrester revealed that 77% of AEC respondents were adopting real-time technology to manage increasingly complex visual design workloads and that 75% were pursuing it to visually communicate designs with stakeholders. Projects are only getting larger and more detailed – putting a lot of stress on design tools. Real-time solutions can help address these challenges.

Once you have a 3D expression of your design, the real-time rendering power of today’s game engines and graphics processing units make it a small step to turn that into a virtual time machine, where you can visit the future and learn about the impact of your design, or meet stakeholders – from fellow designers to investors, planners, and the public (to explain how their needs will be met or their problems addressed). Those same real-time assets can then be brought into a range of interactive applications depending on the need; digital twins, configurators, custom design and engineering tools and even the metaverse beckons. Once inside the digital room, building or city, they will be able to make design changes together in real-time, and experience different versions of the future. But they will be doing so in the present, when changing a design is much cheaper than during construction.

As the digitisation of the built environment progresses, these digital spaces have the potential to evolve along with the project, turning design itself from a phase, into a continuous process. What starts as a visualisation of a proposed development could become a VR component in a community engagement programme. The same model can then be used to steer decisions as elements of a project come together – whether plots on a masterplan, or furniture pieces in an interior concept. On delivery, procurement and construction can be tracked and streamlined through digitised processes, before the space becomes a digital twin. While occupied, the twin can track and deliver energy, services and operations and then, upon disassembly, be a passport helping to manage and audit an increasingly circular material economy. Rather than a replacement of the physical world, digital will facilitate new opportunities for us to sustainably enhance it.

There is an opportunity here for a truly collaborative experience across the spectrum of stakeholders involved in a project lifecycle, while connecting people to create a more holistic ecosystem. At Epic Games, we follow an open standards philosophy, and create software that enables stakeholders from designers to planners to occupants to come together and have a stake in building future spaces. It is imperative that the skills and access required to build and experience digital spaces are made available to as many people as possible - because we don’t yet know what the true possibilities of this interconnectivity will be. The future awaits, it’s just a download away.

Ken Pimentel, architecture industry manager, Epic Games

Once inside the digital room, building or city, they will be able to make design changes together in real-time
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Conical pavilion

*What* Vertical Panorama Pavilion

*Where* Donum Estate, Sonoma, California

Opening last month, Olafur Eliasson and Sebastian Behmann’s Studio Other Spaces’ new pavilion is the latest artwork to grace the sprawling California vineyard of client Mae and Allan Warburg; whose aspiration is to fuse the art of winemaking with art itself. But unlike the clients’ 50 works by the likes of Louise Bourgeois, Tracy Emin and Ai Weiwei, this has a function – as a wine tasting pavilion for the estate’s visitors.

The estate clients wanted the piece to speak about the conditions that bring about the wine itself, so looked to the meteorological data and empirical information on the soil that informs any wine producers’ knowledge base of the terroir they are working with. ‘Ground conditions and orientation are fundamental,’ Behmann explains. ‘These, as well as the amount of rain and sun, and wind strength and direction, affect the final decisions for how the wine will be produced, blended and even stored. Each colour in the canopy glass relates to one of these variables, so in a way the pavilion is a slice through everything that is happening on the site.’ So each of its 832 panels intimates the complexity of their inter-relationships.

Working on such an isolated and beautiful site, the firm obviously considered the use of timber for the pavilion structure. To keep the timber structure slim to enjoy the glass meant the steel joints were making it look over-engineered – which pushed the practice towards a completely stainless steel structure instead. SOS created the 14m-diameter canopy from a mix of circular and square hollow sections mounted on a base ring beam, which transfers the load down onto pin joints sitting atop 12 thin columns.

The hollow steel sections together form a spiral brace for the canopy. Brace sections start at 60mm in diameter but decrease to 30mm as they ascend, shifting in section at every second joint – around every 2m length of steel. The design was optimised in Grasshopper before being 3D modelled and sent to the fabricator in Germany as cost precluded it from being manufactured in the USA.

Having been temporarily pin-jointed to allow it to be transported, the structure was reassembled in the US, pins removed and the whole thing welded. With heat gain an issue in the California climate, low-E laminated glass was specified for each of the 832 panels that make up the canopy; the silver tint that this gives the glass complements the stainless steel says Behmann. A scale model was also put through a wind tunnel to optimise the cooling effect of the prevailing south westerly wind, allowing any heat build-up under the canopy to exhaust through the north-facing oculus at the pavilion’s top.

SOS wanted to keep the interface of glass to steel simple and to avoid any silicon joints. This led to the individual glass panels being framed in aluminium and then pinned to the bracing structure via a custom-made U-channel detail that SOS developed with the fabricator. This allows the pieces of glass just to be dropped in next to one another without overlapping, keeping panels’ colour ‘pure’, while also allowing the canopy to drain efficiently without leaking. With tolerance also built in at this point, they are able to move relative to each other during thermal expansion and contraction; a seemingly ‘loose-fit’ approach to what is in fact a highly engineered pavilion structure.

In a way the pavilion is a slice through everything happening on the site.
Greyfriars Charteris Centre, Edinburgh

Konishi Gaffney’s refurbishment rationalises an incoherent community centre into a thriving hub of local delight

Words: New Practice, Glasgow  Photographs: Kieran Gaffney

By evening, office partitions are folded back, desks and chairs stored away and a partition slid across the auditorium steps, transforming this co-working space for the neighbouring student community into a place of celebration. Tonight is Eid al-Fitr, celebrating the end of Ramadan.

Directly above, sharing the same entrance, a former Presbyterian church hall comes to life as friends ceilidh late into the evening, to strings playing the familiar melody of a Gay Gordons. Passersby this evening might peer through the newly replaced multi-storey windows facing onto Edinburgh’s Pleasance Street and see both these scenes, as the split level building showcases its events as an invitation to the surrounding community.

Kieran Gaffney, one of the founders of Konishi Gaffney Architects, describes this scene with great enthusiasm – the multiple uses and configurations of the space serving as a shining example of the project’s success.

The Greyfriars Charteris Centre was previously spread across several buildings and needed a clear entrance point and accessibility upgrades. The centre ran a competition, won by Konishi Gaffney, to unite the two spaces and refurbish the 1912 church, which had been turned over to community use in 2017. Flexibility and accessibility became the foundation of the practice’s winning design, and the key principles in its collaboration with the client and contractor to overcome the obstacles that working with a historic building presents.

The Greyfriars Charteris Centre stands in the looming shadow of Edinburgh’s Salisbury Crags, just off the spine of Newington in the south centre, among a mash of student housing, council estates and classic Edinburgh tenements. Standing outside it, you are drawn to the central sliver of the building, an incredibly elegant greyfriars Charteris Centre.

Above The old building’s main hall has been completely refurbished as part of the project.

Left A deeply-grooved and highly tactile cast concrete wall announces the entrance to the new centre.

Right The west elevation onto Pleasance appears as a discreet section of cast terrazzo and Accoya wood.
Low ground floor

1. Office 1
2. Office 2
3. Social enterprise hub
4. Training kitchen
5. WC and lift
6. Store
7. Main hall
8. Stair to Sacred Space
9. Stairs to lower hall
10. Link building
11. Entrance
12. Reception and manager’s office
13. Sacred Space

Ground floor

1. Office 1
2. Office 2
3. Social enterprise hub
4. Training kitchen
5. WC and lift
6. Store
7. Main hall
8. Stair to Sacred Space
9. Stairs to lower hall
10. Link building
11. Entrance
12. Reception and manager’s office
13. Sacred Space

First floor

1. Office 1
2. Office 2
3. Social enterprise hub
4. Training kitchen
5. WC and lift
6. Store
7. Main hall
8. Stair to Sacred Space
9. Stairs to lower hall
10. Link building
11. Entrance
12. Reception and manager’s office
13. Sacred Space

Second floor

1. Office 1
2. Office 2
3. Social enterprise hub
4. Training kitchen
5. WC and lift
6. Store
7. Main hall
8. Stair to Sacred Space
9. Stairs to lower hall
10. Link building
11. Entrance
12. Reception and manager’s office
13. Sacred Space

Section AA

1. Office 1
2. Office 2
3. Social enterprise hub
4. Training kitchen
5. WC and lift
6. Store
7. Main hall
8. Stair to Sacred Space
9. Stairs to lower hall
10. Link building
11. Entrance
12. Reception and manager’s office
13. Sacred Space
Discussing the requirement for one central entrance, Gaffney explains that visitors had previously been faced with a variety of doors of equal authority, with a Wizard of Oz-esque moment as any chosen door led them to fire escapes, corridors, secondary exits, or for the lucky few, the front entrance. There is now no confusion, as a large glass door in the central facade shows you from the street to the main reception. The elevation complements the building’s stark verticality, with deep narrow grooves rising to eye level, and a lattice of zig zags, inspired by an unravelled doric column, that are cast into the facade for a metre or so above. Even if you had not been seeking the entrance, you would almost certainly end up there if only to run your hands into its deep grooves.

Ensuring this main entrance was accessible to all became a huge focus for KGA. Before the refurbishment, the centre had four steps at its entrance, with the only ramped access located at the opposite end of the building, leading down into the basement. Bringing together the wheelchair access and main entrance played a defining role in the arrangement of the space. With a hefty 2.5m of underpinning, the floor level was elevation resting lightly between two edges of terrazzo and timber.

Above Single glazed tracery windows have been upgraded to double-glazed, increasing the building’s thermal performance. Right Glass doors, maple and plywood finishes help create a sense of light and space. Below right At the lower level, yellow columns support the mezzanine above. Glazed partitions create light and airy work spaces.
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brought down to match the street level, introducing level access for everyone. Inside the 3.8m wide entrance building, KGA has also managed to squeeze in a lift in the only place that would give access to all levels. Although this significantly reduces the space in the entrance, the introduction of transparent glazed doors, maple and plywood finishes and a flexible spatial arrangement creates a far more spacious entrance than the meagre measurements would suggest. Replacing all the glass in the front facade and introducing glass partitions mean that light pours into the space and creates a permeable connection to the street.

Many of the refurbishments undertaken here focus on opening up the space, with glazed open-plan flexible volumes that support a bespoke set of functions. Suspended above the 10.8m high central hall is the ‘Sacred Space’, a quiet room for prayer or reflection. This sits high above, at the top of the tall windows. Soundproof glazing separates it from the main hall to provide privacy, while a vertical arrangement of timber fins opens out above eye level to bring light through the quiet space and into the central hall.

Throughout the building, the removal of partition walls and insertion of glazing creates permeable boundaries; previously hidden spaces are now closely connected to the centre’s central activities. To achieve this, KGA specified a wide range of different glass, from fireproof to soundproof, with graphics and kinetics, helping to make the building more connected, welcoming and flexible.
Catering for the different sound conditions needed in the quiet room and the central hall is an impressive achievement, although it is the detail in this space which catch your eye. From outside, the 5.4m high windows, originally built as a part of the worship space, give an unobstructed view into the building having been upgraded from translucent single glazing to fully transparent double glazing. These offer an unobstructed view, opening the building out to the street and creating a more welcoming facade. From inside, you can see that the window is in fact made of several panes of glass, with the frames stealthily placed behind a narrow area of external decorated stone surrounds. For such a large-scale change, this step had to be carefully phased, bringing the glass in via the central hall before the Sacred Space was completed, to access the facade from the inside.

The project was not without its challenges. Without access to all the spaces in the existing structure until after the initial design had been drawn, Konishi Gaffney was surprised to find an unusually wide door swing, cutting into the location of a long bench along the edge of the quiet space. This led the practice to finish the end of the benches to coincide with the curvature of the door swing, finding opportunities for elegant detailing in the difficulties faced in working with existing buildings. These small, smart details extend from such visible flourishes to incredible small nifty technologies such as a button hidden in a door frame that would come into action in the case of a fire, allowing the door to swing in both directions.

Catering for the different sound conditions needed is an impressive achievement, although it is the detail which catches your eye.
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1 High security doorsets
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The Royal College of Art? Artists! God no. Knew one once. Weird fella. Strange hat. This geezer, he’d got a collection of mucky mugs with all different moulds growing in ‘em. Called it ‘an installation’. Lunatics, the lot of ‘em.

This though, this is what I call an installation. Have a look. Feel the quality. 320 door sets, we put in – all different ones, all ASSA ABLOY. Some super secure, some heavy use, some Powershield steel, some SMARTec wood – and all of them’s got secure, compliant access control. Madhouse, this place. Got to keep the blighters locked up!

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2 Slim frame and frameless glazing
IQ Glass

Finally! We’ve managed to get Lady Violet out of Downton Abbey and into a modern little cottage in the grounds. Stupidly, we allowed Granny to have far too much input on the design, with the result that the new place is riddled with vast unframed picture windows!

Structural glazing, all thermally broken! Solar control glass! Heated glass, so she doesn’t get chilly, sitting all night with her opera glasses trained on the servants’ staircase! Low iron glass for an extra clear view!

We call it the Granopticon. We’re now having blackout blinds made for the bedrooms.

iqglassuk.com/

3 HG2 and HG3 patent glazing bars
Howells

Aye, lad. These prickly pear fields were once all rhubarb and rivers! The flooding were terrible. This historic photo is the village cucumber house. Here, it’s new: the winding tower bridge for the old Foss barrier! It’s survived so well thanks to the patented self-supporting steel glazing bars and special laminated glass. They knew how to make stuff to last back then, in the days when you could have 50m³ of water a second bearing down on you. I love me camels, aye – but I do miss good honest Yorkshire rain.

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4 Glazed room dividers
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Health and care superhubs promise a fitter NHS

Technological advances and economies of scale are changing the face of healthcare, with bigger facilities integrating surgeries, hospitals, and wellbeing and social care on single campuses

Words: Josephine Smit

From July 1, the new Health and Care Act put England’s 42 integrated care systems (ICSs) on a statutory footing, formalising a fresh approach to NHS services. Gone are the old boundaries between hospitals and primary care, health and social care; this new network of collaborative partnerships has been created to tackle broad-ranging local health and care needs, delivering services in a more joined-up way.

But as it looks to drive new models of care and improved efficiency, and deal with extreme day-to-day pressures, the NHS is having to maintain, modernise and replace an estate of more than 1,200 hospitals and some 3,000 other treatment facilities. The New Hospital Programme (NHP) is the government’s flagship policy for hospital building, although its slow progress in bringing forward projects – and consequences for costs – is among concerns being investigated by the National Audit Office (NAO). Still, plans for new hospitals and other facilities give a glimpse of how our future NHS could look.

A bigger building

After the demise of PFI, many healthcare providers had to scale down development aspirations. ‘We’ve done a lot more masterplans, looking at how a hospital estate can improve incrementally over a 15-20 year period by a strategic approach. So rather than planning a single £400m project, we’ve been planning for a series of £50-70m projects,’ says Andrew Smith, healthcare lead at BDP. That reversed to a degree with the advent of the NHP, but in an environment where capital funding fluctuates and models of healthcare are evolving, ‘you’re constantly trying to work out what is the context, what are the key drivers and how to respond in the most appropriate way,’ says Smith.

Upcoming projects like Catterick Integrated Care Campus, in North Yorkshire – where BDP is working in a team led by Tilbury Douglas – demonstrate how primary care facilities are increasing in scale as they extend their remit. This collaborative project

At the economies of scale and cost efficiency that we have in the NHS, it’s important to have a bigger single building

HUFTON + CROW
by the NHS and the Ministry of Defence will serve surrounding communities and military personnel, providing GP services, military medical services, community services, mental healthcare and voluntary, community and social enterprise sector services in one building. ‘At the economies of scale and cost efficiency that we have in the NHS, it’s important to have a bigger single building, to deliver the highest possible level of operational efficiency.’

But there can be challenges in integrating these bigger buildings into their context. Hospitals can appear ‘other-worldly’, acknowledges Smith, continuing, ‘If you look at some of the advanced cancer facilities, they can be quite different to other building types. Part of the interest is how you balance that with the expectations of a building within the local area.’ At Southmead Hospital in Bristol, BDP’s design steps down where it meets neighbouring housing and has integrated landscaping, including a roof terrace for staff. ‘All our healthcare campuses start with a landscape concept,’ says Smith. ‘From a masterplanning point of view you have to work at the level of both the urban design and the ensuite simultaneously.’

We’re seeing acute trusts taking an interest in owning and operating GP superhubs

The health-focused neighbourhood

Urban design on a large scale has been required to plot the redevelopment of Manchester University Hospital NHS Foundation Trust’s (MFT) North Manchester General Hospital (NMGH). The hospital’s 27ha site, occupied by around 90 buildings, is set to become home to a health-focused neighbourhood, including a new acute hospital, mental health hospital, wellbeing hub, education hub to train healthcare staff and the community, and homes, potentially including step-down housing for recovering hospital patients. At the heart of the site will be a village green with café, sports pitches and other amenities.

The proposal has been shaped by the 2016 devolution agreement between the government, Greater Manchester health bodies and local authorities, and NHS England, which gave the area direct control of its health and social care budgets, and is set out in a Strategic Regeneration Framework. ‘Part of the proposition was that you needed to fix community care, and not only provide a replacement hospital,’ explains Alex Solk, partner at Sheppard Robson. ‘The proposition between the trust and Manchester City Council doesn’t mention a hospital – it talks about health outcomes and wellbeing and what needs to be done to improve them.’ Beyond the hospital’s site boundary is the economically deprived suburb of Crumpsall. ‘This is about extending Crumpsall into the campus and vice versa, so there is no dividing line between the two,’ Solk adds.

The Strategic Regeneration Framework says redevelopment could boost local people’s life expectancy by 1.3 years. Construction of the site’s mental health facility has started, along with enabling works for NMGH, and a commercial partner – developer Bruntwood – is on board to help deliver later non-healthcare elements of the masterplan. All the project needs now is confirmation of NHP funding. While MFT and others wait for that green light, trusts and ICSs elsewhere are pushing ahead with integration plans – particularly to address current pressures. ‘We’re seeing acute trusts taking an interest in owning and operating GP
superhubs – rather than primary care trusts – because of the number of people being referred to hospitals. Links into step-down housing to relieve pressure on hospital beds are also featuring,' says Solk. Community diagnostic centres and treatment centres are among other solutions.

But funding options for development remain limited and the need to upgrade the NHS estate is acute, with health think-tank The King’s Fund putting the cost of remedying its maintenance backlog at more than £9 billion and growing. ‘The elephant in the room around the NHP is if that if those projects are all built, they’ll probably represent around 10% of the total NHS estate, so 90% of the estate by area is falling further and further into disrepair,’ says Colin Hockley, partner at Sheppard Robson.

This raises the question of whether investment should be focused on both refurbishing more of the existing NHS estate and rebuilding. The answer is complicated, as Hockley explains, ‘Do you demolish or refurbish sustainably and provide value for money over the short term, and live with the constraints of refurbishment, which perhaps compromise new ways of working, models of care and clinical efficiency? Sometimes strategically, buildings might not be well placed on a site, so there can be a cost consequence on the way you can develop the rest of the site.’ The NHS estate is also extremely diverse, with NMGH including Victorian workhouse buildings and Nucleus blocks, the latter being retained under its redevelopment.

The business case process for the NHP requires trusts to explore options ranging from retention to redevelopment. It also factors in rising build costs, indexed to actual out-turn costs, an area being scrutinised by the NAO. ‘We’re going through unprecedented inflationary pressures and there are concerns about rising costs,’ says Hockley. ‘With the NHP, delay in the projects just adds to their costs’.

Rethinking hospitals
Within the NHS, models of care also continue to evolve. ‘There’s a whole other narrative if we’re thinking of the system as a whole,’ says Mark Rowe, managing principal at Perkins&Will. ‘Technology and ways of accessing healthcare are ultimately moving many services out of hospitals, which is leading to debate about what hospitals become.’

The Leeds Teaching Hospitals NHS Trust’s Hospital of the Future project is giving one answer to that question. The trust is working with Perkins&Will, sister practice Penoyre & Prasad and Schmidt Hammer Lassen on a project to deliver new premises for Leeds Children’s Hospital, a facility for adults, spanning outpatients, imaging, day surgery, therapies and endoscopy, and the UK’s largest single-site maternity centre. Redevelopment – again awaiting confirmation of NHP funding – also releases land for the creation of a hub for research, innovation and technology in life sciences on the Leeds General Infirmary site.

Adults’ and children’s hospitals will occupy one building but each has its own entrance door, receptions and banks of lifts, ‘so, as a visitor or patient, you’ll go to the single hospital,’ says Rowe. Hospitals occupy alternate floors, although there are back-of-house synergies in services, such as operating theatres. ‘A lot of work has gone into making that work and avoiding crossflow,’ he adds.

Integrating hospitals on a constrained site means building high, which is demanding. Rowe explains, ‘The smallest tweak in the design can be like turning around an oil tanker when you have 20 floorplans. We’ve got a huge central core, which is the highway through which all services run, so this is like putting a clock together.’

Rowe and others are optimistic the current NHP project pipeline will be realised, but the political and economic landscape has shifted since Boris Johnson first promised 40 new hospitals by 2030. The new prime minister will decide where the NHS, and its estate, goes from here.
Three key bathroom themes to look out for

Bathrooms are increasingly a place to relax and unwind after a busy day. Schlüter-Systems has a range of ways to make a serene space.

Over recent years many commercial interiors have been renovated and revamped. Not only has this offered areas such as bathrooms a new lease of life, it also presents the perfect opportunity to make design choices that create an impact. Schlüter-Systems creates products which preserve and protect tile and stone installations; below are some bathroom themes that have taken themselves beyond being a trend and look to be here to stay.

Monochrome
A timeless look which has become increasingly popular over the years is the classic black and white colour scheme. Fresh white tiles are commonplace in bathrooms but adding contrasting elements such as black tile trims and a statement shelf within the tile grout lines can create a dramatic finish while making the most of the space available. This theme allows the use of a multitude of colours when choosing accessories to create the desired ambiance.

Biophilia
Taking inspiration from the outdoors helps to create a calming and welcoming environment which is perfect for commercial interiors, particularly with the contemporary focus on wellness and self-care. Airy spaces can be accentuated with greenery and earthy colours. Wood-effect tiles and light metal shades are ideal, and the theme has particular impact when paired with plenty of natural light. Schlüter’s bathroom shelves in a textured finish offer useful storage without detracting from the design.

Industrial
Another widely used trend in homes and hotels alike is the industrial look – think exposed brickwork, metallic materials, and high ceilings. This style is perfect in a bathroom due to the multitude of sanitaryware finishes available. Keep it harmonious by using the same finish throughout or mix different metals to draw attention to distinctive areas or create discrete spaces in your design. Use textured tiles to add a tactile element, finishing the bathroom off with panache.

Schlüter’s extensive range of tile trims comes in a wide array of colours, meaning there’s an option for any bathroom design. Co-ordinating bathroom shelves and drain grates are available in several colours and designs to complete the look.
The Future Homes Standard (FHS), an important part of the UK government’s journey to net-zero, aims to reduce CO₂ emissions from newbuild homes by 75–80% against current standards by 2025, with an interim reduction of 30% introduced earlier this year.

For windows, the standard sets a challenging maximum allowed U-value of 1.2W/m²K from June 2022, dropping to 0.8W/m²K by 2025. Triple glazing is key to achieving these lower U-values, but is not a standard product for many UK window suppliers.

As the archetypical ‘Scandinavian style’ window system, Velfac products are specifically designed to deliver the low energy performance demanded by the FHS:
- Their triple glazing already meets the standard’s 0.8W/m²K U-value target
- The slim frame (only 54mm) also satisfies the Standard’s ‘frame factor’ requirement of a relatively high glass to frame ratio in order to increase daylight.

With a long history of triple glazing manufacture for the European market, Velfac is also renowned as a reliable manufacturer of bespoke units, which brings additional benefits:
- As a large scale triple glazing manufacturer, the company can deliver significant economies of scale resulting in unit costs only marginally higher than the double glazed equivalent
- The firm’s ironmongery is specifically designed to carry the weight of triple glazed units and is proven to deliver long term, trouble free performance – no upgrades are needed to meet the standard
- Installation quality is just as important as product quality. Velfac invests significantly in its network of approved installers to ensure they have the expertise required to install triple glazing to guaranteed levels of quality.

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and therefore the carbon footprint. ‘The Velfac commitment to sustainability, in design, manufacture and performance, was an important benefit,’ says Lomax, ‘and helped Dalston Lane achieve Code 4 for Sustainable Homes Standards, and a BREEAM Excellent rating.’

Dalston Lane comprises 121 apartments over 10 storeys, set around two courtyards housing shops and restaurants. The project has received international attention for its pioneering architecture, becoming an exemplar project for high quality, high density, inner city housing, and uses Velfac glazing to help deliver healthy, comfortable and attractive spaces in which to live or work.

‘Dalston Lane is an ambitious project, and we knew that Velfac could meet our challenging performance and design criteria,’ explains David Lomax, senior associate at Waugh Thistleton Architects. ‘For example, excellent acoustic control was a priority as the site is surrounded by transport routes, including a railway line. We specified a mix of double and triple glazing across the build, and also installed both standard Velfac vents (concealed within the slim frame) and acoustic trickle vents.’

Sustainability also drove product choice. The use of cross laminated timber greatly reduced the building weight, material production costs and energy consumption – and therefore the carbon footprint. ‘The Velfac commitment to sustainability, in design, manufacture and performance, was an important benefit,’ says Lomax, ‘and helped Dalston Lane achieve Code 4 for Sustainable Homes Standards, and a BREEAM Excellent rating.’

TEN OAKS, HERTFORDSHIRE, A ZERO CARBON HOME

Architect Kirkland Fraser Moor worked with owner Ian Mays (one of the founders and now retired CEO of RES, the world’s largest independent renewable energy company) on Ten Oaks, a ‘climate restorative’ zero carbon home. The highly distinctive circular building – with an additional circular annexe – features Velfac composite triple glazing throughout, specified for its low-U values and slim-framed, contemporary and sustainable design.

Large full height Velfac units and glazed doors are installed across the house. This includes a striking run of five, 2.3m-wide sliding patio doors set into the external facade. An additional 24, 1m-wide, full-height glazed units are installed around the inner circular courtyard, and an innovative ribbon run of tilt-and-turn clerestory windows wraps around the annexe, looking particularly dramatic when illuminated at night.

‘The triple glazed units met our thermal targets while the narrow frame design increased visibility from within the house and brought more daylight inside,’ says Mays. ‘We considered installing locally-made curved windows, but Velfac was more cost-effective and delivered the performance we needed. The sustainability of the the firm’s aluminium/timber frame was also important,’ he adds. ‘Every unit is almost entirely recyclable and it’s also very low maintenance, which again supports our zero carbon ambitions.’

DALSTON LANE, ONE OF THE WORLD’S LARGEST CLT BUILDINGS

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Three bespoke kitchens

This trio of very different kitchens embraces the organic texture of the forest, enduring concrete calm and the bakers’ bustle.

Words: Pamela Buxton

There’s one constant linking the wildly diverse kitchens in the following pages. Whether a tranquil homage to concrete, a tactile celebration of the forest, or an ultra-flexible space for a keen baker, all are designed to be much more than simply places to prepare and eat food. They are all very much the social heart of the house, doubling variously as places for working, entertaining and events. But that’s not to say the vital practicalities of kitchen design are neglected, with these three including optimum layouts, a craftily concealed extractor fan and an elegant ‘appliance garage’.

For more on Forest House and other house extensions see ribaj.com/homes-housing

Above Cork tiles form a distinctive and tactile balustrade in AOC’s Forest House kitchen, inspired by nearby Epping Forest.

Left Woven, coppiced hazel clads the rear of the kitchen elevation.

Right Blue painted steels combine with vivid green joinery and terrazzo counters. A mirrorball also joins in the fun.

Far right View through the dining area into the garden. The kitchen space has proved ideal for hosting parties.
FOREST HOUSE, HIGHAMPS PARK, LONDON

Nearby Epping Forest was the inspiration for the joyfully quirky kitchen of Forest House, the home of AOC directors Gill Lambert and Geoff Shearcroft.

And with its cork tiles, willow cladding and douglas fir, there are certainly no shortages of arboreal references as part of the highly colourful, layered and tactile composition.

The duo was aiming for ‘the spatial generosity and experiential joy’ that they encounter in the family’s regular trips to the forest. This was achieved not just through materiality but by prioritising volume through the creation of a triple-height kitchen ‘as tall as a tree’. This forms part of a side and rear extension enabled by the removal of the side garage, with a dining space accommodated at the rear of the kitchen alongside the garden. The kitchen is overlooked by a mezzanine space, its rather startling balustrade clad in highly textured cork bark tiles.

‘We wanted it to be a social space – really good for a party,’ says Lambert, adding that the lofty new volume offered different proportions to those elsewhere in the Victorian house.

There’s a lot of materiality going on from the fabric alone. The house’s original sidewall becomes an internal kitchen wall, with its London stock brick left exposed. In contrast, the new sidewall is in raw blockwork with white mortar, the two materials linked by the cork. Joining the party is the blue-painted supporting steelwork, which multi-tasks as a magnetic surface and family measuring chart, with douglas fir rafters above.

Several key furniture elements have been inserted as part of the kitchen fit-out. Beneath the balustrade is the sink and a run of stainless-steel topped cupboards terminating in a curved dresser-like form at one end and bookended at the other by the fridge. In between, a mirrored panel reflects the garden with a second reflective surface – a mirrorball – adding to the fun nearby.

Lambert made the terrazzo-topped island unit workbench with a friend from Harbour Joinery Workshop, contouring it to accommodate the steel and incorporating an extra log ‘leg’ to hide the conduits. Both workbench and dresser are painted a vivid green. Above the fridge, a pink-painted wine rack makes good use of a narrow slot between the appliance and the bowed balustrade, together creating what the architects think of as a benign totem form.

Bespoke elements are balanced with affordable items and second hand finds, while the island’s terrazzo off-cuts top a side run of cupboards. A chimney was widened to fit in a stove, while shelving accommodates books and records. The dining area leads to the garden, where the extension is clad in a rainscreen cladding of woven coppiced hazel.

The family are enjoying finding new ways to use their collage-like kitchen, especially using the mezzanine balcony as a DJ stage at a recent party.

Architect AOC
Structural engineer Hockaday
Main contractor BWP
Selected subcontractors/suppliers Artemide (Teti wall lamp in mirror) • Cavendish Equipment (steel worktop) • Diespeker (terrazzo) • Harbour Joinery Workshop (kitchen dresser unit) • Flos (Jasper Morrison lights in the beam) • Siesta Cork Tiles (wall tiles) • Smiles Glass (large mirror)
DGN Studio channelled its clients' love of concrete to create a tranquil, serene kitchen with a sense of permanence. The project, appropriately named Concrete Plinth House, extends and redesigns the previously dark, low-ceilinged kitchen as part of a broader revitalisation of a neglected Victorian semi-detached house in London's Hackney.

‘Every detail was designed to create this very calm environment,’ says Daniel Goodacre, co-founder of DGN Studio.

The clients wanted a bright, spacious room not only for cooking but for socialising and hosting arts events. The big design move was to lower the floor by half a metre in addition to a 3m rear extension and side infill, giving the room the proportions it needed to become the main gathering area of the house. Concrete is used for the new kitchen.

The 75mm counter thickness presented a challenge for the tap installation.
base tray, which forms a half metre datum upstand. Three concrete columns rise from this to support a T-shaped steel supporting the floor above, with a European oak wall and ceiling structure. New roof lights and side sash windows increase the natural daylighting.

The concrete is exposed and celebrated both internally and externally, with further extensive use inside (steps, floors, surfaces) adding a material harmony conducive to the tranquil vibe.

‘We haven’t been wilful about the use of concrete, but have tried to think about where it could have value and be practical,’ says Goodacre.

Perhaps the most striking element is the 1400mm by 2400mm concrete counter top for the island unit, cast in situ by contractor Orsman Contractor and mounted on a bespoke MDF unit sprayed in a contrasting Farrow and Ball dark blue. The 75mm counter thickness presented a challenge for the tap installation, but thanks to the contractor was not insurmountable. While red wine tests on the sealed surface were favourable, its use as a counter top will, say the architects, inevitably require an element of care.

‘Hopefully it’ll age nicely. If it does pick up some marks, it’s part of its story,’ says Goodacre.

A practical counterpoint to the more expressive island unit is provided along the far wall, where the kitchen run has a stainless steel counter top with another sink and a hob. Plywood panelling disguises the extractor fan, while the wall has a micro-cement render.

A long cast concrete bench provides additional seating capacity and – like the island unit – has a top surface ground back to reveal the concrete aggregate.

To avoid visual clutter, there are no cupboards above the counters, instead, tall appliance and storage cupboards in oak-veneered MDF are grouped at the front of the kitchen, treated with white oil to tie in more with the concrete tones.

The result is a pared-down canvas, says DGN Studio co-founder Geraldine Ng, a serene backdrop to be animated by the daily life of their clients.

Architect DGN Studio
Contractor Orsman Contractor
Selected subcontractors/suppliers E Squared (joinery) • Plaster Collective (micro cement) • Rubio Monocoat (wood protection) • Steyson Granolithic Contractors (concrete floor)

Left Concrete, combined with timber treated with white oil, contributes to the calming atmosphere in DGN Studio’s Concrete Plinth House kitchen. Above A concrete-topped island unit is supplemented with a stainless steel-topped side run of units incorporating the hob and an additional sink. Below far left A concrete plinth runs along the side of the new kitchen, its top ground back to reveal the aggregate. Below left View down the side of the kitchen extension, formed by excavating to achieve more generous ceiling heights and inserting a concrete base tray. Right The kitchen extension has transformed the house by providing a tranquil new gathering space for flexible use.
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QUEEN’S WOOD, HIGHGATE, LONDON

This asymmetric rear extension in Highgate provided a way of reorientating views from the 1920s house towards the nearby Queen’s Wood while creating a multi-tasking kitchen tailored to a family of keen bakers.

Extension architect Mulroy Architects collaborated from early on with the client’s kitchen architect Johnny Grey Studios and it was this, says Andrew Mulroy, that really made the project ‘sing’. All were keen to avoid an island unit that acted as a barrier between the cooking and social areas. This enabled the optimum positioning of the island and other key elements in the kitchen footprint to be established upfront in order to create a space where the family could, says Andrew Mulroy, ‘work and cook and bake and socialise’.

The 4.4m-long island aligns with the pointed form of the diagonal extension, which presents a glazed prow into the

Above Designed by Mulroy Architects (extension) and Johnny Grey Architects (kitchen), the new kitchen is a multi-tasking space conducive to social interaction.

Left Mulroy Architects’ extension projects diagonally to orientate views towards the nearby Queen’s Wood.

Right Johnny Grey Studios created an island counter flanked by two nestling, adjustable height round tables. A lighting gantry is suspended above.
garden. To the right are walk-in storage areas and more food preparation areas, with the dining area to the left.

‘You should be looking into the room when you’re doing the key cooking functions,’ says Grey, who trained at the Architectural Association before specialising in kitchen design.

The central island enables just this. It combines several elements. In the middle is the plain white Corian-topped cooking area with a drum shaped prep sink, hob and preparation space. This sits on a copper finished rectangular pedestal housing pan drawers and underlighting. At each counter end, the unit is shaped to accommodate a nestling, bespoke circular table, the one nearest the garden primarily for social use, the other for food preparation with an area of beech end grain wood. Adjustable heights mean both maple tables can be positioned for different tasks or seating requirements.

‘It gives a sense of defining the culinary zone as a bit of its own area, like a virtual room,’ says Grey, who was also the kitchen contractor.

While the island steals the show, the eye is also drawn behind to the run of kitchen units including a sink and a dishwasher raised for easy access and topped with a Caesarstone quartz-inspired concrete counter. To the left, is a curved display platform, perhaps for fresh loaves. Here (and to the right) Grey has incorporated a medley of woods into floor and wall cupboards including American cherry, Canadian maple and masur birch as well as more copper finishing. These are teamed with the sinuous flowing design of Alex Zdankowicz’s artisan wall tiling. Behind are the walk-in annexes, including a bread pantry and storage pantry. The wall shelving includes ‘appliance garages’ with pull-down aluminium roller shutters to screen off the equipment if desired.

The extension architect designed window seats below the prow and a small table overlooking the garden with adjacent built in shelving. This European oak joinery was created in harmony with the Johnny Grey kitchen, with wide timber board flooring used throughout.

Architect Mulroy Architects
Kitchen architect Johnny Grey Studios
Selected sub-consultants/suppliers Caesarstone (worktops) • Corian (island worktop) • John Cullen (lighting design) • Alex Zdankowicz (artisan tiles)
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1. Lara towel rail
   MHS

   Evening, all. PC Dixon of Dock Green here. Now, I’m sure on the face of it this looks like a perfectly normal towel rail. But this is the Lara towel rail. It’s 550mm wide, with 30mm vertical collectors and 25mm horizontal. It comes in six lengths, and varying outputs. Most importantly, though, it comes in central heating, dual fuel and electric-only options. So having a towel rail doesn’t always mean getting into hot water. And finishes? Well, there’s a question. There’s ‘Polished’, ‘Satin’, ‘Antique Brass’ – and Antique Copper. Which is me, George Dixon, signing off. mhsradiators.co.uk

2. Soleil by Starck
   Duravit

   Dear Mr Starck, Mummy says thank you for her lemon alien, and I want to be a designer when I grow up like you. And thank you for Daddy’s mega yacht which Mummy and me have never seen but I am sure we will when he comes home and I will meet him one day. I have bubbles in your lovely mineral and resin Soleil bath every night and Mummy also said that she wishes daddies were as durable, stable and slip-resistant as your big DuraSolid bath is, and that marriages were as easily repairable. duravit.com/

3. Unit kitchen packs
   Blanco

   Ronnie looks up from his computer, nervous: ‘Boss?’ ‘Sup, Ronnie boy?’ ‘We’ve had a complaint. The client says there’s bits missing from their Unit pack.’ ‘Bits missing? Nonsense! Each Blanco pack is made up to their exact specification. Sinks, taps, in-cabinet waste sorting system – and you know, Ron: the iterations of all those lines are so blimmin’ complicated that we double check it every time!’ ‘Yeah.’ Ron draws air through his teeth and shakes his head. ‘They’re saying there’s no fridge.’ ‘Cause there’s no fridge!’ ‘OK, yeah. That’s pony! We’re wet goods – not white goods!’ blanco.com/gb-en/

4. European Oak Herringbone boards
   Havwoods

   Vladimir: Well I hope he doesn’t turn up. Estragon: What? Who? Vladimir: Godot. Estragon: Godot? Oh! I’d forgotten him! Vladimir: Well then let’s. Forget him, I mean. They chopped the tree down, you know. Estragon: The tree? It was dead anyway. Vladimir: It was. But it turns out European oak makes fantastic engineered flooring. This place has really improved, don’t you think? (Gets down on all fours and peers at the boards). Fourteen and a half millimetres thick, with a 5mm wear layer. Very good. Very good indeed! We’re staying, Gogo. Put the kettle on – and get those boots off! havwoods.com/uk/
Kitchens and bathrooms are the most difficult products to provide general cost information for because of variation in design and quality of fittings. The following rates are intended to give a guide of the range of costs for basic to top-end trade and contract fixtures and fittings.

The Technical Housing Standards – Nationally Described Space Standard sets out requirements for the gross internal area of new dwellings at defined occupancy levels.

Primary considerations for kitchen design are layout and functionality. Hazards and corners must be minimised to accommodate the needs of less able users, incorporating such elements as additional space for easier mobility or lower-level worktops.

Water saving is one of the significant drivers for bathroom fitting design, as over half our average water consumption takes place in the bathroom. Dual flush toilets are now standard, and shower baths are increasing in popularity, giving the option of a shower, which, on average, uses significantly less water than a bath.

Digital and smart showers also help to reduce water use – some even have a proximity sensor, reducing water flow when you step away from the shower (for example to lather your hair) before resuming the original flow once you’re back.
A simple pitched roof, translucent walling, and a low brick plinth for it all to sit on. Externally this small, tidy building looks like an agricultural shed – and there’s a simple reason for this. When St Mary’s Junior School, Cambridge, commissioned Neubau for its new STEM Lab, the earmarked plot was occupied by a 1970s greenhouse. Outside it still carries the look and feel of a greenhouse, though internally it is anything but – this compact and meticulously detailed space now nurtures knowledge not plants.

The new building adopts the same envelope, as well as reusing the existing frame, slab, and plinth. Instead of glass, the shell is now formed of polycarbonate panels acting as an external and internal material, diffusing light to create an even spread within. The room is largely an open space set within a geometry of carpentry and material speaking to the language of Science, Technology, Engineering and Maths – the Atrafloor vinyl flooring features a 10mm square grid pattern.

‘It’s a working surface,’ says Alexander Giarlis, co-director of Neubau. ‘The floor is one aspect, but this is all about how the room itself is a STEM instrument – it’s got things to measure from, things to look at, things to work off.’ Neubau is a young practice formed of Alexander Giarlis and Brigs Lenz, and if the use of polycarbonate cladding seems familiar it may be because Giarlis and Lenz met while working at OMA. This system of Danpalon panels, supplied by Everlite in the UK, is not the same as that deployed by OMA, though there is a visual connection to projects including the Garage Museum in Moscow or Fondazione Prada in Milan, which Lenz worked on briefly.

Sitting on a child-sized chair to discuss the project with Giarlis, I realise that scale is not the only design consideration for the new users of the space. Along each side, rows of hinged desks conceal computers, enabling versatility of use for the small room. There is considered detail here – a counterweight balance, soft shut, and an inbuilt tray to catch keyboards, pens, or educational detritus when the desks return to a vertical position.

As befits a building for technological design, the desk system was manufactured in a CNC workshop, directly commissioned by Neubau. Giarlas explains: ‘It was a very involved process as we resolved the design partly through 3D modelling and partly

St Mary’s School, Cambridge
Versatility is key to Neubau’s internal fit-out of a junior school’s up-to-the-minute STEM Lab, though its greenhouse-like appearance harks back to an earlier time

Words: Will Jennings Photographs: Nick Guttridge
With side desks hinged, the STEM Lab is a versatile space, here set up with trestle tables for formal teaching.

Externally, the building reads as the greenhouse that formerly occupied the site, but with a contemporary flourish hinting at a new use.

The end wall conceals boxes of teaching equipment, leaving the centre clear.

Girls aged 4-11 will use the STEM Lab to explore maths and technology.

Through on site tests and mock-ups. The hinge mechanism was the most difficult to get right, needing to prevent finger trapping along the sides and at the hinge, and the desk falling and hitting pupils’ heads or breaking if anyone sat on it.’

Most internal cabinetry was built by the main contractor, whose original trade was joinery, and who was also tasked with constructing the stepped end wall, which concealed functional shelving. ‘One of the biggest aspects of the brief was storage space,’ Giarlis adds. Under the desks are inbuilt electric plinth heaters, future-proofed so that when the school installs an air source heat pump the Lab can be connected using the louvred outlets. When not heated, the space naturally ventilates through opening ridge windows, operated by an industrial mechanism directly copied from the former greenhouse.

The greenhouse structure remains, now supporting the cladding’s mullions. Internally, a secondary structure of glued timber with Envirograf intumescent paint – sprayed to a smooth finish – supports insulation and Stil Acoustics’ Groove 12 ceiling panels. Meanwhile the plywood cabinetry is fire-rated not through intumescent varnish, but with Burnblock, a natural and non-toxic fire retardant impregnated into the ply. This means the ply can be cut while retaining a Class B rating.

Before St Mary’s took over this Victorian house and grounds it was the research-led Martin Centre, occupied by Cambridge University School of Architecture. While studying here, Giarlis first encountered the original greenhouse, then used as a wind tunnel to test architectural models. To now return and transform the space into a new laboratory offers poetic resonance. •
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1. **Decomesh lay-in tiles**
   **Zentia UK**

   Yeah, so when we were Clementine Tango’s Fruity Juice Spot, this look was great – but now we’re rebranding as Beardy Bludgeon’s Blood-n-Guts Gaming, we’re going for a more chainmailly one in the standard aluminium powder-coating. They’re all drop-in tiles, so we keep the Prelude grid. It’s an easy swap, innit. Yeah! Custom orange. Just like the net on a box of satsumas. Good spot! Bit sad to see it go, but you’ve got to be fast on your feet in modern retailing. And we’re stuck with the lease until 2030, so...

2. **Relate Flame stone-effect porcelain**
   **Ceramiche Caesar**

   ‘Hello! Richard O’Brien here! Your genial guide to the Crystal Maze! So, here we are in The Industrial Zone, and who’s going to pit their wits against the fiendish delights of the Hotel Concord wine fridge? Somewhere in there you’ll find that all-important Time Crystal, but first you must walk across the Magically Mesmerising Relate Flame Floor of Porcelain Stone! In you go!’
   ‘Oohh!’
   ‘Can you see the crystal?’
   ‘OOOOOOOH!’
   ‘CAN YOU SEE THE CRYSTAL?’
   ‘Huh? Who cares?! Lock me in! This floor is AMAZING!’
   [caesar.it/en/](http://caesar.it/en/)

3. **Tessera Struktur 2 Flooring**
   **Forbo**

   So we’ve done what we could to repopulate the Department of Brexit Opportunities and Government Efficiency, cos Jacob’s passive-aggressive fridge notes didn’t get people in, did they? These lovely 350gsm carpet tiles are finally showing some results, only now we’ve initiated the Brexit Positivity Messaging Protocol and reoriented them from the equivocal ‘Quarter Turn’ pattern to an ‘Irresistible Monolithic’ runway, guiding timid civil servants towards the feeding area. I suggested laying a supplementary trail of Haribos, but Moggy’s only willing to go as far as humbugs – or gobstoppers. It’s an uphill job.
   [forbo.com/flooring/en-uk](http://forbo.com/flooring/en-uk)

4. **Heartfelt MultiPanel ceiling**
   **Hunter Douglas**

   Felt! It’s the future! Marvellous stuff! Marjorie uses cat brushings to make little hats, you know. So it’s exciting that Upstairs have succumbed to its seductive power, and installed these modular ceilings using low-maintenance, 100% recyclable panels that just clip in and out of the BXD framework. The acoustics are the thing, though. The absorption coefficients on some styles go up to 0.70! Wonderful. It’s like working in a library. It’s so quiet, in fact, they’ve finally agreed to give us back our typewriters. And we’re all getting suits from Joseph Beuys.
   [hunterdouglas.co.uk](http://hunterdouglas.co.uk)
Let’s get to work

Workplaces are changing fast. PiP webinar panellists discuss work/life balance, and how the treatment of buildings can make it a pleasure to get back to the office. Michèle Woodger reports

The provenance of the word office—according to PiP editor Jan Carlos Kucharek, chairing this webinar—has been cited as the Uffizi Gallery, originally the administrative offices of the Florentine magistrates. Regrettably, this sets the bar rather high for any subsequent architect of offices. In our post-pandemic, hybrid-working world, what does office life look like now—Kucharek asks—and how are architects responding to the enormity of today’s challenges?

Opening the seminar is Claire Nash, expert in rural vernacular, whose practice has been working remotely for eight years. Her book Design your life: An architect’s guide to achieving a work/life balance (RIBA Publishing 2022) outlines ways to create a healthy environment for staff and a happy team. It’s a candid insight into how she runs her practice on a remote-working model to achieve almost zen-like balance. Evidence: she wrote her book from her allotment, while holding down a successful practice.

For Nash, work life balance comes from the business model—it is built into the practice’s ethos and how it is run. From the outset Nash was determined to avoid slavish working hours and establish clear boundaries. Maintaining that balance makes her more productive and dedicated during working hours.

Nash is an advocate of Cal Newport’s concept of ‘deep work’ and ‘shallow work’. The former requires minimal interruptions, so she advises allocating time, turning off all distractions to focus, and, ideally, tackling ‘hard stuff’ early in the week to conquer procrastination. Specialising is also key. ‘There is a real problem in the architectural industry in competing with people who aren’t qualified and who charge less, so the key is to differentiate yourself,’ she says. Finding a niche removes the need to research and problem solve on wildly different project types, and being an expert justifies higher fees, leading to bigger profits which can be invested into ever more efficient systems. The result is a higher income and—most importantly for Nash—more time off.

While flexible working does well for her practice, Nash also believes strongly in regular socialising, to balance the introvert’s tendency to stay home: ‘It is really important to get out and about’ she says, ‘Keeping up team morale is crucial. It is also important to network and have social activities outside work’. Her team all do surveys, for instance—something they could outsource but choose to do for enjoyment and sociability.

Breaks are crucial too. ‘I’ve come to realise that if I go for a walk, for instance, solutions will come to me and I will actually spend less time working as I have solved problems while relaxing,’ says Nash. ‘I call these “creative breaks” as it is fundamental to my creative brain to go and do those things—it isn’t just wasting time.’

Nash paints an enviable picture: happily, with these implementable solutions, work-life Nirvana could be attainable for you too.

Jonathan Lowy of VM Zinc next discusses the use of zinc in several notable workplace designs. From the Promega Headquarters at the University of Southampton, to a Paris office entrance foyer, an architect’s studio in Beijing and the Adobe headquarters in the USA, he illustrates how the versatile material can be applied both inside and outside of buildings. Of particular note was the Which? Headquarters on London’s Marylebone Road, a large refurbishment by KPF architects.
the grade II Georgian terrace, with a 1980s concrete bolt-on, is now rationalised under a coherent and complex zinc roof. The zinc is folded to create repetitive geometries which spill down artfully onto a striking facade.

From zinc roofs to interior brass cladding: Mareike Langkitsch and Chris MacPherson, associates at Fletcher Priest, deliver their case study on 135-175 Bishopsgate. SOM’s post-modernist ‘banking fortress’, which owes something to the firm’s 1930s Chicago origins, dominated the street with its overbearing volumes and dark retail spaces. Fletcher Priest worked with owner British Land to open up the imposing colonnade, welcoming pedestrians into pocket parks, stepped seating and an inviting entrance.

Inside, the replacement of dark cladding, introduction of mesh screens to filter light and create breakout zones, and the insertion of natural wood and stone into the sterile RBS security lobby revitalises the environment for employees. Moreover, the retention of quality features, such as the travertine marble flooring and sandstone arches, celebrates the theatrical quality of SOM’s original designs but softens and lightens it.

One of the client’s main aims was to bring people back to the workspace, so the designs had to answer: ‘What can the workspace offer people that they don’t find at home?’ The resulting refurbished space is majestic, with improved retail and amenable staff areas, including a tree-planted terrace where ‘you can hear the birds and the wind rustling,’ says Langkitsch. A far cry from Fred the Shred’s gloomy reign at the nadir of the recession.

The new building reads, it allows light into the space and creates a sense of volume and moments of joy.

The grade II Georgian terrace, with a 1980s concrete bolt-on, is now rationalised under a coherent and complex zinc roof. The zinc is folded to create repetitive geometries which spill down artfully onto a striking facade.

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Good mood building design

You want to design healthy buildings, but where do you start? Michèle Woodger hears PiP webinar panellists discuss why it matters and how to do it

Guest chair Kristofer Adelaide, architectural design director of KAA, begins with a definition from the WHO: ‘Health is a state of complete physical mental and social wellbeing’. This PiP webinar, sponsored by Amtico and Rockwool, brings together professionals and experts whose work connects architecture and community, contributing to health and wellbeing for all.

Mental wellbeing advocate and author Ben Channon – whose book The Happy Design Toolkit: Architecture for Better Mental Wellbeing was published by RIBA Books this year – explained how anxiety, low mood and burnout led him, ultimately, to becoming an architectural consultant in this field. His consultancy, Ekkist, uses research findings from environmental psychology to help architects design healthier buildings and crucially convince clients of the value – in economic and productivity terms – of not value engineering out healthy choices.

On any given day mood can fluctuate, says Channon. Mental health crises are too common. While architects can’t cure this, they can design to ameliorate conditions. How does this work? Channon has three key points. First, designs should exceed industry expectations: Building Regs, the London Plan and Technical Housing Standards are minimum criteria, even though some clients take them as targets. Best practice is to exceed, not meet, them and ‘we really need to push that message’.

Secondly, buildings must adopt a person-first approach. Architecture should ‘think about the person, their life, their routines, and design outwards’. Finally, a healthy building should be a byword for design quality.

Channon’s book focuses on practicalities backed by facts. Did you know that low ceiling heights encourage aggression in prisons? That timber activates the parasympathetic nervous system, making people happier and more productive, but clutter increases cortisol? That chronic loneliness is as detrimental as smoking 15 cigarettes a day, but even watching a nature documentary has the potential to reduce stress?

Armed with data, we can design buildings that keep people mentally well, spark curiosity and generate peace of mind.

Sophia Wise, regional commercial manager of luxury vinyl tile flooring manufacturer Amtico, offers a detailed look into the applications of surface finishes in health settings, and how specifying high quality materials positively influences wellbeing. Conversely, ‘studies show that a poor environment can increase recovery times’. From a rehab centre in Germany to a dementia home in the UK, Wise discusses how different flooring types, patterns, colours and textures are used in wayfinding, zoning and influencing mood. Delving into product performance – sound, slip resistance, hygiene etc – Wise’s presentation is an insight into how to use pattern positively. ‘Spaces don’t need to look institutionalised’ she rightly comments.

One such ‘dated and corporate’ place was CBRE’s headquarters at Henrietta House in central London. Linda Morey-Burrows, principal director of MoreySmith, showcases her practice’s people-centred and sustainable retrofit of these offices. The project extended into an unused void over a loading bay at the building’s rear, increasing the building by...
45%. Previously, meeting rooms and the café had been in the basement, and individual offices had hogged the perimeter, blocking external views and natural light for most staff. The modified building now has a spectacular atrium, stairs which encourage movement, and an open-plan setting that allows for chance encounters. ‘There is a sense of awe as they move through the building’, Mory-Burrows reports; evidence that the project fulfilled its objective for the 2000 staff occupying the building.

A different sort of building – Aylesbury Health Centre and Early Years in Southwark, London – follows. Kier Regan Alexander, director of Morris + Company, discusses how the seven-year project is being realised on site. The multi-functional NHS centre sits within a wider masterplan and incorporates a children’s nursery. The challenges of working with local authorities and the public were clear: one phase involved over 20 public consultations and a complex 200-page brief.

The building evolved via an iterative process, which balances privacy with public realm. A change in site levels accommodates this along the new central spine of the estate, the entrance to the health centre is on the civic scale, welcoming users into public areas and the GP surgery. Further up the building are more private departments, such as phlebotomy and speech and language therapy, and staff rooms. At the back, overlooking the early years centre has its more domestically-scaled entrance off a tree-lined street on the other side of the building.

As chair Adelaide points out, with many health facilities, ‘there is a fear you’re going in because you’re ill’. This is countered here by a welcoming, environment that ‘balances the technical imperatives’ with ‘a nice gradual transition to calm people’s anxieties’.

Moving on to physical protection, Mike Meakin, from fire protection and insulation expert Rockwool, discusses the product’s application at the Grange University Hospital in Cwmbran, Wales. Rockwool provided a non-combustible product for the building envelope, which not only brought about a fire-safe and efficient building but saved valuable time (and money) on site, essential when working with public sector clients.

In the dementia care home and town library, Rockwool is thermally efficient, lightweight and environmentally positive, and the ability to work directly with an engineer enables successful bespoke solutions.

But it’s too late for the derelict chocolate factory in Belper, Derbyshire, which burnt down in 2004. Paul Hutt, director of Glancy Nicholls Architects, oversaw the Ada Belfield Centre and Belper Library project, a retrofit of the destroyed factory, beside a new dementia care facility. ‘Before we can talk about the building we have to understand who we’re designing for,’ he says. With Stirling University, the firm developed a holistic, person-centred approach.

The factory retrofit is a sympathetic scheme; large glazed elements draw the public into the library, and historic elements such as the grand facade receive a new life. Belper is part of a Unesco world heritage site, so the scheme had to consider its appearance from across the valley. It also capitalised on views outwards, uplifting the spirits.

In the dementia care home, natural local stone and skilled labour were used. The courtyard, with meandering pathways, generously proportioned bedrooms and wide corridors makes a pleasant environment, with considerable attention to detail. Doors are bright yellow, for instance, as it is one of the last colours to be lost in old age.

Drawing the library and care home together was incredibly positive. ‘The idea was challenging for many – they didn’t feel the two functions went together’, says Hutt. ‘The reality is the complete reverse’.

Now, the centre’s residents are regularly helped to use the library, encouraging communication with the local community and reducing stigma. That some residents have ‘regained lost skills, purely though the built environment, is a great thing to happen,’ observes Hutt – a moving testimony to the impact of architecture on mental health.

Before we can talk about the building we have to understand who we are designing for

ri baj.com

Above left Morris + Company’s Aylesbury Health centre and early Years in Southwark – now on site – being realised after long consultation with local authority and community.

Above right Glancy Nicholls turned a derelict former Belper factory into a community asset of dementia care home and town library.

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Products In Practice September/October 2022
Mycelium

We've been exploring the use of mycelium in architecture, growing our own panels using waste cardboard and pink oyster mushroom spawn, as well as using a ‘ready mix’ which employs hemp stalks from Grown Bio. A mixture of these panels will be used on a pavilion project in Sheffield, and the oyster panels (which not only bind waste to create the panels but produce food) have been a great way to engage people in the circular economy.

grown.bio, urban-farm-it.com

Kee Klamp

We’ve used the Kee Klamp system on several projects, for small structures and furniture, most recently for The Hepworth gallery’s garden play outreach project, where we had to powder coated. On this and previous projects, we have connected it to coated ply panels and castors in various ways. Importantly for us, it can be disassembled and reconfigured by clients and users at a stage when the originally envisioned design is no longer required, reducing waste and providing flexibility.
scaffolding-direct.co.uk

Digitally printed fabric

We developed a series of 1:1 composite shopfront facade images for our High Street of Exchanges installation at the Venice Biennale, which were digitally printed onto a 110gsm flag knit fabric. We needed something lightweight that allowed graphics to be visible and colourful on both sides in varying light conditions, something crucial for the space they were displayed in. The panels were suspended from, and weighted by, rods passed through sleeved edges.

imagegroupuk.com

Engineered Bamboo Structures

The creator of the award-winning technology gluRam, glue laminated bamboo, provides an exhaustive guide on how to use one of the world’s fastest growing materials, bamboo. Nine chapters are broken into clear subsections, detailing sustainability, manufacturing process, material behaviours, structural systems and current research and findings on the use of gluRam in construction. Illustrated with diagrams, charts, photos and drawings, this book provides a framework for architects looking to work with this versatile material.

Yan Xia. CRC Press. 339p. £89.99

Hybrid Construction – Timber External Walls

This book presents practical information on the benefits of combining a timber facade with a concrete load-bearing structure. Clearly written in five chapters, it outlines essential structural and constructional topics, sound and thermal insulation requirements and fire and moisture protective measures. It also highlights a series of successful German case studies with photographs and detailed drawings to assist architects with their own hybrid timber constructions.

Oliver Fischer, Werner Lang, Stefan Winter. Detail Practice. 96p. £42

Designing for the Climate Emergency: A Guide for Architecture Students

With the UK’s hottest temperatures recorded this summer, this book is a much-needed guide for those committed to designing a sustainable future. Although intended for students, it is equally relevant to architects, with six chapters examining how to incorporate consideration for the climate at each stage of the design process. Equipped with a glossary of key terms and a further reading list, it is an accessible manual to help designers navigate the current crisis.

Sofie Pelsmakers, Elizabeth Donovan, Aidan Hoggard and Urszula Kozminska. RIBA Publishing. 281p £35
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