

RIBA

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Abedian School of Architecture, Bond University, Australia
Photo
Rix Ryan



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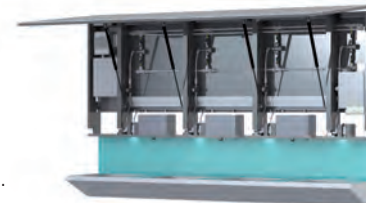
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1: Buildings

While British architects might work all over the world they rarely take contractors or builders with them. But getting your head around what works best and most economically is half the battle when building abroad. It took young practice Daykin Marshall Studio one self-built project and one abortive design to realise that when rebuilding a medieval tower house in rural France (page 6) they were best off working with the strengths of the region's craftsmen. With it came the realisation that a traditional, crafted look result-

ing from lime plaster and a kicked roof pitch would make the house feel more at home in its small French village, and they would continue to be greeted by friendly neighbours.

Recruited to design a new architecture school for Bond University in Queensland, Peter Cook has had the same tussles with local and international appropriateness – and ended up eschewing the systems building approach he helped bring into being. Here is the Archigram figure, who as a teacher, critic and head of school, made the Bartlett

great, expertly defining the teaching spaces of a school on another side of the world. And yet Australian architect Sean Godsell who reviews the school for the RIBA Journal, has serious reservations about how it fits its Antipodean climate, from the unhelpful use of thermal mass (who wants a concrete radiator in a tropical climate?) to the lack of outdoor space for this most outdoorsy nation. Godsell sees British architecture as a phenomena; if it is to survive on the world stage it needs to be in touch with its local conditions. ●

Below Down under at Abedian School of Architecture, Bond University, p14



ORAB STUDIO

Tower House
Daykin Marshall Studio

Words Eleanor Young

Photograph Luke Hayes

The pilgrimage route to Santiago de Compostela saw people grow rich along it, serving a stream of pilgrims. In the village of Montvalent in south west France a merchant built himself a stone tower house with stores in the basement and a secure home in the building that rose up from them. Alongside it a forge, perhaps offering quick re-shoeing, leant a little on the firm foundations of the house.

When two architects started making the forge house fit for the 21st century over long student summers, they were well furnished with its history. The client, and mother of one of the pair, was an architectural historian of medieval France. When the Tower House was also acquired, James Daykin and

Mark Marshall, having worked at Heatherwicks, Hawkins\Brown and Wilkinson Eyre, started to work in a more strategic way. Now their first project as Daykin Marshall Studio is ready to be launched as a gite next year.

Perhaps in opposition to all that history, and thinking they might have to build much of it themselves – as with the forge – the first designs for the Tower House perched a wooden box on the 15th century stone ruin. But something was nagging. Was this just an attempt to do what they had seen in the magazines? Would they get lynched by the locals? Version two took the quieter approach of giving the tower back its walls and the kicked pitch roof that so eloquently defines many of the street's houses. The dressed stone (CNC cut then hand finished) cost £6,000 per street-facing window. Other facades were finished less expensively with lime render

outside and lime mortar inside, giving an almost indefinable softness to the rooms.

At the heart of the plan is a spiral staircase of castle-like proportions. Most of the enormous stone treads had been removed; they didn't work for the pigeon loft it had become. Daykin Marshall replaced them with a steel staircase with treads and risers top clad in grey-stained beech ply. After a rather terrifying survey and some three dimensional modelling, a manufacturer in Somerset took on the job, chosen for the way it allowed treads to slot into the column with minimal fixings. The 140m² of rooms arrange themselves around this dramatic two-tone stair, the living on the second floor up with a pre-cast concrete bridge to the garden terrace beyond. Sadly it is not a drawbridge fit to repel invaders, but then there shouldn't be too many of those – even pilgrims are scarce nowadays. ●





Far left A merchant's tower perched at the top of the village, the very visible roof has been given a traditional kick to its pitch.

Middle The concrete door frame at the rear appears to have been extruded into the precast concrete bridge that links living areas to the terrace.

Main image Original stone steps wind their way into a steel and ply spiral where the new work takes over. Pigeons are no longer welcome.

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Site shot, Beach Road Singapore
Foster and Partners

Photograph Dennis Gilbert

Words Jan-Carlos Kucharek

For a photographer who has spent decades chronicling the time and tide of architecture, there's a poetry to the fact that Dennis Gilbert has developed a fascination with capturing buildings in the process of construction rather than their post-completion glow. But on the rare occasions that architects have commissioned him to document buildings as

they were going up, he was always struck by the relationships of scaffolding and ancillary structures to the building and the landscape beyond; adding complexity to the image and demanding engagement from the viewer in the way a finished shot simply doesn't.

Gilbert believes these images of partial construction have palpable formal qualities of their own. 'There's a sense of potentiality and imagination in the half-finished building in a way that runs counter to the finished one's defined categorisation or aesthetic,' he says, feeling there's liberation for the pho-

tographer here too – that there's no pressure to represent the building as more than it might be. Gilbert concedes he's shot his 'share of carbuncles' in his time, but firmly believes that good architecture is by its very nature photogenic. It might take his best skills to make a mediocre building look as good as possible, but in the end it will never resonate with the viewer. His concern is not this, however – it's a far bigger indictment of the built realm. 'As photographers, we're shooting the top 20% of buildings – most of the stuff out there hasn't even been thought through.' ●





More than a reclad: RCKa extended the building to the edge of the slope, the deep reveals giving it a generous sense of articulation.

Cashing in

Security at the world's largest commercial banknote printer is tight, but the transformed buildings don't show it

Words: Eleanor Young

In a quiet corner of Hampshire lies a small fortress of money manufacturing. High fences and berms, a security hut and lockers for smart phones to be kept out of the site. This is the sort of security you might expect from De La Rue, which manufactures banknotes not only for the UK but for many countries worldwide. Its mill in Overton produces the security paper on which the notes are printed.

The team that has to keep De La Rue one step ahead of the counterfeiter is continually innovating and testing, and has recently been assembled from little offices scattered all over this and other locations, in a smart new base at the front of the site. In its 1980s form this building was dour rather than welcoming; extended by 6m and cut into with deep re-

veals by RCKa, it lends a civilised modern air to the facility. The more solid plinth rising to increasingly open upper levels hints at the higher security research labs down below and more open offices looking out from above.

The relatively young practice of RCKa, formed in 2008, found its way onto the project through a combination of a background in research and development and contacts with director Russell Curtis' old boss David Leon, who was initially engaged and brought RCKa in. Its previously completed TNG Youth and Community Centre in Lewisham, London, has won numerous plaudits, including an RIBA award. Curtis has his fingers in many pies, including working out ways to improve the fraught process of procurement. →



All on show to visiting dignitaries, the labs are a model of precision working.

BEN PHILLIPS

But first, how to improve the complex process of testing and proving banknotes? These flat things have an architecture of their own: threads, holograms, cotton and polymer substrates, windows and raised prints. These features must be designed, developed and trialled – by immersion, cash points, aging, washing machines and irons. So in this building is a small test print set up, UV coating facilities, a huge lightbox, specialised measuring and testing equipment, the lab tables one might expect and a number of apparently incongruous domestic appliances – each with their own particular

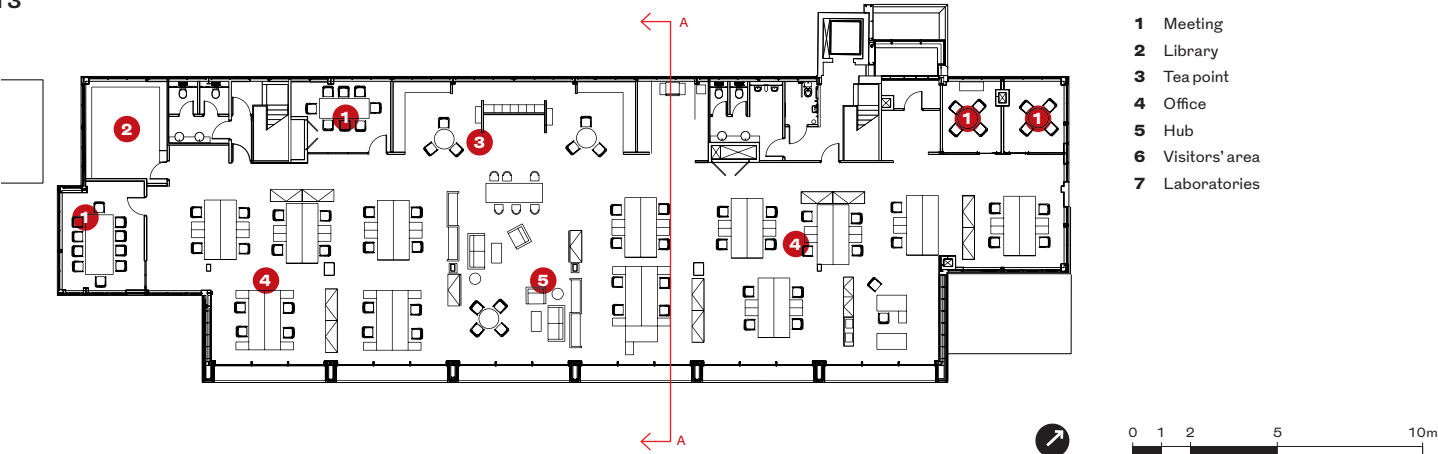
servicing requirements. The kit alone cost £3m. The building came in at £4m.

The 2,000m² building has to work for its resident physicians, chemists and engineers by creating a calm, unruffled environment (literally – air is delivered by fabric duct to reduce air movement) and light, sociable write up spaces. This is helped by the linear south east extension which allows the low ceilings to flip up on the office floor, tricking the eye into seeing more space, and the removal of the suspended ceilings.

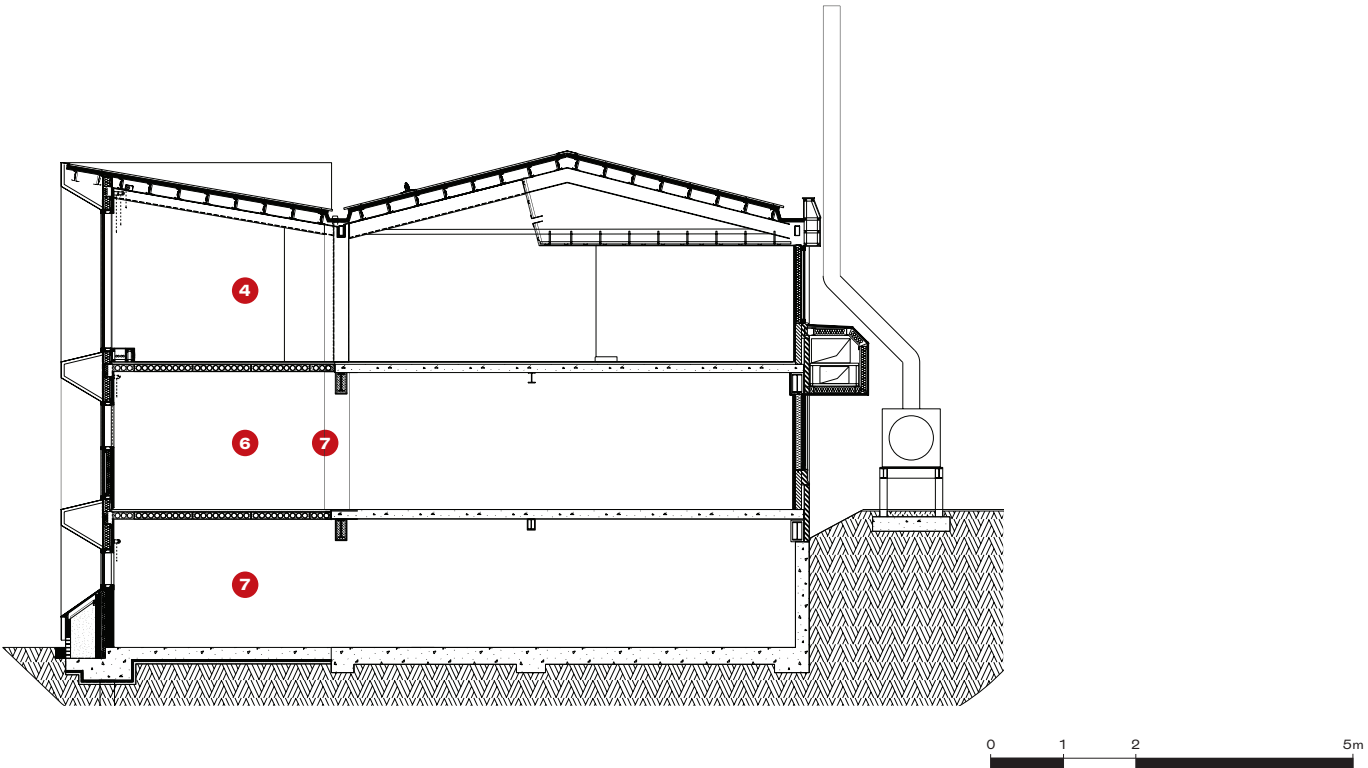
Visiting international dignitaries, who did not previously visit R&D’s scattered lo-

cations, are also now brought here on tours of the centre to what is a state-of-the art facility. The layout of the building was made more logical, and linked research more closely to the manufacturing site, by the removal of a spiral entrance stair to the south east facade and replacing it with an entrance at grade in the middle floors on the opposite facade. A small exhibition shows off some of the 951 patents De La Rue holds and is a good starting point for a visitor journey that takes in the generous circulation route around the labs. And so, in its small way, this high security facility is opening up Overton Mill. ●

Plan level 3



Section AA



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Cathedral of learning

Peter Cook seems to have turned his back on Archigram's hi-tech futurism at CRAB's new building in Australia, where soaring spaces value straightforward design and a simple palette of materials

Words: Sean Godsell Photographs: Peter Bennetts and Rix Ryan



Left Raised eyebrows of shades to the sunny north elevation, while columns cluster alongside the 'nose' at the front door of the school.

Main image A reliable model for design schools: main street, studios on one flank, services and offices down the other.



RIX RYAN

Critic Ken Frampton's analysis of Archigram is uncompromising. As a movement its importance lay more in the lineage (Buckminster Fuller, Cedric Price, Peter Cook, Norman Foster arguably culminating in Piano's and Rogers' Centre Pompidou), than in the theory. Unlike Orwell 20 years earlier, or even Calvino in the middle of the hi-tech explosion, Archigram's prophecies on how we might live in the future tended to be quite wide of the mark, and Frampton underlines this.

What we have all inherited, though, from the early hi-tech interpretations of the neo futuristic schemes published by Archigram, is the idea of 'systems'. Most of us know about and have studied the polystyrene core sandwich panel cladding system used in the Sainsbury Centre, the glazing system of the Willis-Faber and Dumas building, and so on. Forty years on, architects around the globe are now so spoilt for choice with 'systems' that it is possible to construct an entire building without actually documenting anything. You just buy the systems and put them together. I can purchase the same window system in Australia as in the UK, USA, Japan – anywhere really. We have become

'systems shoppers' rather than detailers, 'composers of systems' rather than designers. Combined with contract procurement methods that marginalise architects and an aversion to risk-taking that is encouraged by insurers and building owners alike, it's fair to say that most architects avoid detailing wherever possible. Or 'unless absolutely necessary' might be better. Building 'systems' allow this to happen. What was a remarkable era of discovery and genuine invention in every sense of the history of British design in offices like Foster's and Rogers', has become the 'safety first' proprietary solution for subsequent generations and is one of the main contributors to the rapid homogenisation of architecture across the globe. Everything is starting to look the same. It's Orwellian: 'Orthodoxy means not thinking – not needing to think. Orthodoxy is unconsciousness.'

Given Peter Cook's role in the movement that led ultimately to the 'systems' now have at our disposal, the choice of materials at the new Abedian School of Architecture at Bond University in Queensland is interesting. CRAB, Cook's practice with Gavin Robotham, uses noticeably 'low tech': plywood wall and ceiling lining (perforated as needed), cast in situ

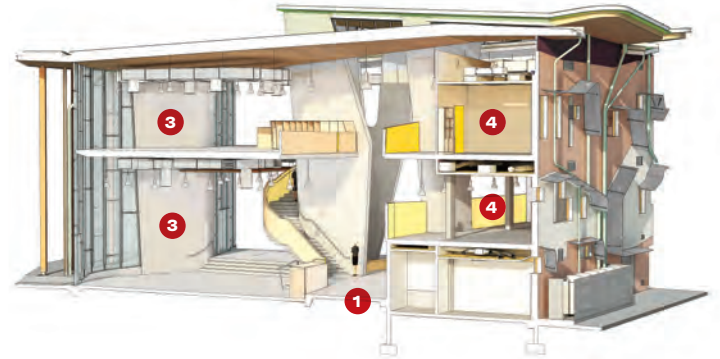


Left The concrete and ply come with touches of accent paint, and matching furniture.

Cook sketch



Section AA



North elevation



Ground floor plan



- | | |
|---------------------------|------------------------------|
| 1 Street/ linear gallery | 7 Student tea point |
| 2 Crit space within scoop | 8 Student resource room |
| 3 Studio | 9 Staff resource room |
| 4 Office | 10 Reading room |
| 5 Meeting room | 11 Environmental science lab |
| 6 Forum | 12 External concrete stand |

concrete and grey carpet all combine comfortably with a little accent paint – orange walls and yellow door leaves and jambs – that recurs in expressive plywood furniture, also designed by the architect. The simplicity of this palette is a genuine strength of the building and the rigorous and obviously determined use of concrete (walls, floors and ceilings in some spaces) is strong. Admittedly, a perfectionist like Tadao Ando would have rejected the quality of almost all the irregular shaped and often sloping walls or ‘scoops’, but that is more an indictment of the declining quality of in situ work in Australia than anything. The overarching attitude that Fosroc (liquid paper for concretors) will fix anything is evident on most of the concrete walls. I empathise with the architects, as I seem to spend half my time knocking back concrete work nowadays. The ambitious shapes of the primary walls in the Abedian School, while certainly sensuous, probably don’t help. Yet as I stood marvelling at the cathedral-like volumes of the internal street there, the sun pushed through a clerestory window and hit a curved concrete wall, bringing it to life for a moment.

The parti of the building revolves around the street that runs east/west from front door to back. It’s a

reliable model for design schools – main street, studios on one flank, services and offices on the other, cross-pollination, congregation, socialisation, exchange of ideas down and around the spine. Born out of a particular position on teaching design, the street is the primary organising device of the building. The ‘scoops’ that are the main structural elements cause small meeting spaces at their base. There is a sensibility for users that extends to plywood bench seats around the edge of the meeting spaces, the lids of which fold up to reveal storage space. Of all the spaces I like these the most because they humanise the otherwise vast street/studio zone. The street runs gently on grade rising from east to west. South facing studios run over two levels and are connected back to the north side core by a couple of bridges. These are a nice voyeuristic touch, providing a spot to oversee the activity below, and help maintain fluidity of movement. They also help give an appreciation of just how much of the building is un-programmed volume. The floor to ceiling dimension through the street ranges from 9m-13m down its length.

I like buildings that can only really be figured out by being explored. At the Abedian School the plan becomes



PETER BENNETT



Far left The street is opened up by crit scoops formed by the in situ concrete and rising up to 13m. The opening storage benches can also be seen.

Left Internal concrete walls: is heat sink capacity what you need in sub-tropical Queensland?

IN NUMBERS**£8.9m**

total cost (AUD16.2)

£4492/m²

gross internal floor area

2,500 m²

internal area

9,000 m²

site area

self evident soon after entering and the back door can be seen in the distance. Why bother to embark on a journey through a building, the prescribed purpose of which is to be stimulated and engaged when everything appears to be on offer within the first few metres of entering? Journey. Destination. Reward. Orchestrated space requires all three to succeed.

Furniture design and consistency of detail are solid throughout the building. To the right of the main entry is a small café and an external door to an unstructured outdoor space. Immediately above this zone are staff offices and meeting spaces that project over each other back towards the east, providing a small amount of articulation adjacent the main entry. The Cook 'nose' gag. The scale and seamless fenestration of the 'nose' rooms work well and give them an intimacy that contrasts with the public realm of the building.

Queensland's climate ranges from sub-tropical to tropical, south to north. In the first week of winter when I visited it was 25 degrees and the inside of the building was humid. I worked up a sweat wandering around. One of the problems with in situ concrete is that performs badly thermally on external walls, though the architect

argues for its 'heat sink capacity' when used internally. The climate in coastal southern Queensland is so mild that any argument for thermal massing is dubious, and contrasts heavily with the lightweight approach of Australian architect Glenn Murcutt, who uses materials that don't retain heat at night. He employs a fairly basic principle of cross ventilation and shade to limit heat gain during the day and off load heat quickly as the sun goes down. These principles have been adapted by others to suit an even milder climate 1000km north of where Murcutt builds in New South Wales. I couldn't find any proactive climate based strategy for CRAB's building envelope, which is cooled by a conventional HVAC system and standard heat recovery design. Australia's Greenstar energy rating system covers all non-residential building types, including educational, and a high rating is seen by most universities as mandatory. CRAB says that the aspiration for a Greenstar rating was 'value engineered' out of the project altogether.

Although working hard to disguise the fact, the plan is orthogonal – a rectangle divided into a third and two thirds by a central corridor. The free-form that begins and ends at the east and west entries suggests a third

Right South facing studios with furniture designed by CRAB Studio.



dimension equally organic, although all the external walls except the 'nose' meeting rooms project straight up and their height make the massiveness of the concrete appear almost paper thin. CRAB added a domestic element – an eaves overhang – via a series of flat roofs with plywood soffits. Interestingly they provide an overhang to the glazing on the south, east and west sides which performs no apparent function. The overhang is too high to provide any real shelter from sub-tropical rainstorms. The conventional rule for a cantilever (one third overhang, two thirds backspan) is forsaken for a redundancy of composite timber and steel posts that also support a number of downpipes. To the south the posts land on a concrete hard stand met by a rolling hillock of grass. At its base, the attractive shallow sine curve concrete seats are the only human scale objects around the entire southern perimeter of the building. The north (sunny) side consists of a series of relatively small window openings with capricious (humorous) horizontal sun shades. Raised eyebrows, apparently. In a climate where outdoors is everything none of the internal spaces of the building extend to any structured outdoor space. Apparently an outdoor workshop area

was designed and then lost due to cost, which is a pity.

Archigram, though long gone as a movement, lives on in the inherited influence of building 'systems' and all that infers. Peter Cook can take some of the credit for that. Just where CRAB ends up in the juicy lineage of British design is anyone's guess. It's hard to know where to place it just yet and a challenge to locate a building like the Abedian School alongside the others of the practice – the Kuntshaus in Graz and the Department of Law and Central Administration in Vienna – because superficially at least they are so tectonically detached from one another. In the Bond University building so much effort has gone into the literal diagramming of a pedagogical proposition for teaching architecture, born out of years of teaching by the firm's two principals, that other architectural opportunities – envelope, landscape, ESD – may have been under exploited along the way. The end result is a building that has its moments and one that provides a conducive space for students and staff. Its strength lies in the fact that it is clearly a building designed for teaching, by teachers. ●

Sean Godsell is an Australian architect and designer of the RMIT Design Hub

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Left A climate where
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Sunken treasure

A huge subterranean lobby has imaginatively extended The Hague's Mauritshuis gallery of Golden Age art

Words: Jan-Carlos Kucharek

There's a certain charm to an art gallery that needed to close its shutters whenever the sun shone into its rooms to protect its impressive collection 17th century Golden Age Dutch art, even if it was somewhat impractical. But the 1644 Mauritshuis in The Hague, home to Vermeer's famous 'Girl with a Pearl Earring', was originally built as a private home. Designed by Renaissance architect Jacob van Campen, it was intended to hold the art collection of the Dutch governor to Brazil, Johan Maurits. Bought by Holland's government in 1810, it was a state guesthouse before opening as a museum in 1875. Situated on the Hofvijver, the urban lake it shares with the Dutch Parliament, it's part of a complex of government buildings.

However, the museum found itself ill-equipped to deal with visitor numbers – which were expected to grow to over 300,000 a year – so it was decided to take out a long lease on a 1930s annex to the famous de Witte club on the east side of the Mauritshuis' courtyard, and to connect to it by

building a tunnel back to the basement under the courtyard. However, architect Hans van Heeswijk, winner of the competition to propose how the two buildings might be connected, had bigger ideas. The result is a large subterranean public lobby running under a road to link the two, part of a €30m refurbishment to create a state-of-the-art museum, which opened at the end of June.

This was no mean feat. In much of Holland, ground works involve dealing with a high water table, and this was no exception. The new 900m² underground lobby extension and the 2400m² de Witte building doubles the area of the Mauritshuis to 6800m², providing a new entrance lobby, temporary exhibition, auditorium and offices, shop, café, toilets and cloakroom. Building it required a flexible approach to the foundations and a sensitive upgrade of the existing buildings – both national monuments.

Van Heeswijk was helped by the Mauritshuis having already extended beneath the square in the 1980s, with a cramped two

West/east section through the new Mauritshuis gallery showing the 5m high lobby linking the 1644 house with the de Witte extension.



storey extension that provided toilets, café and repository. But he won over the jury with his wish to do away with a floor, open out the space to a double-height volume and connect the building under the road to the de Witte extension, to access temporary exhibition stores, auditorium, café and offices. Van Heeswijk claimed IM Pei's Louvre as his inspiration, and as was the case there, the logic was as clear as the proposal was unobtrusive, generating a small courtyard with a circular glazed lift and spiral stair on its west side to take visitors to the basement, to then orientate them within the new 60m by 15m space.

A lot of remediation to the existing structure was required. The firm's proposal involved not only removing a floor that had given lateral stability to the basement, but also pulling the structure away from the west canal-side wall to create the open entrance court. Temporary shuttering was inserted around the perimeter and cast in situ reinforced concrete poured in front of the existing walls, increasing thickness from 500mm

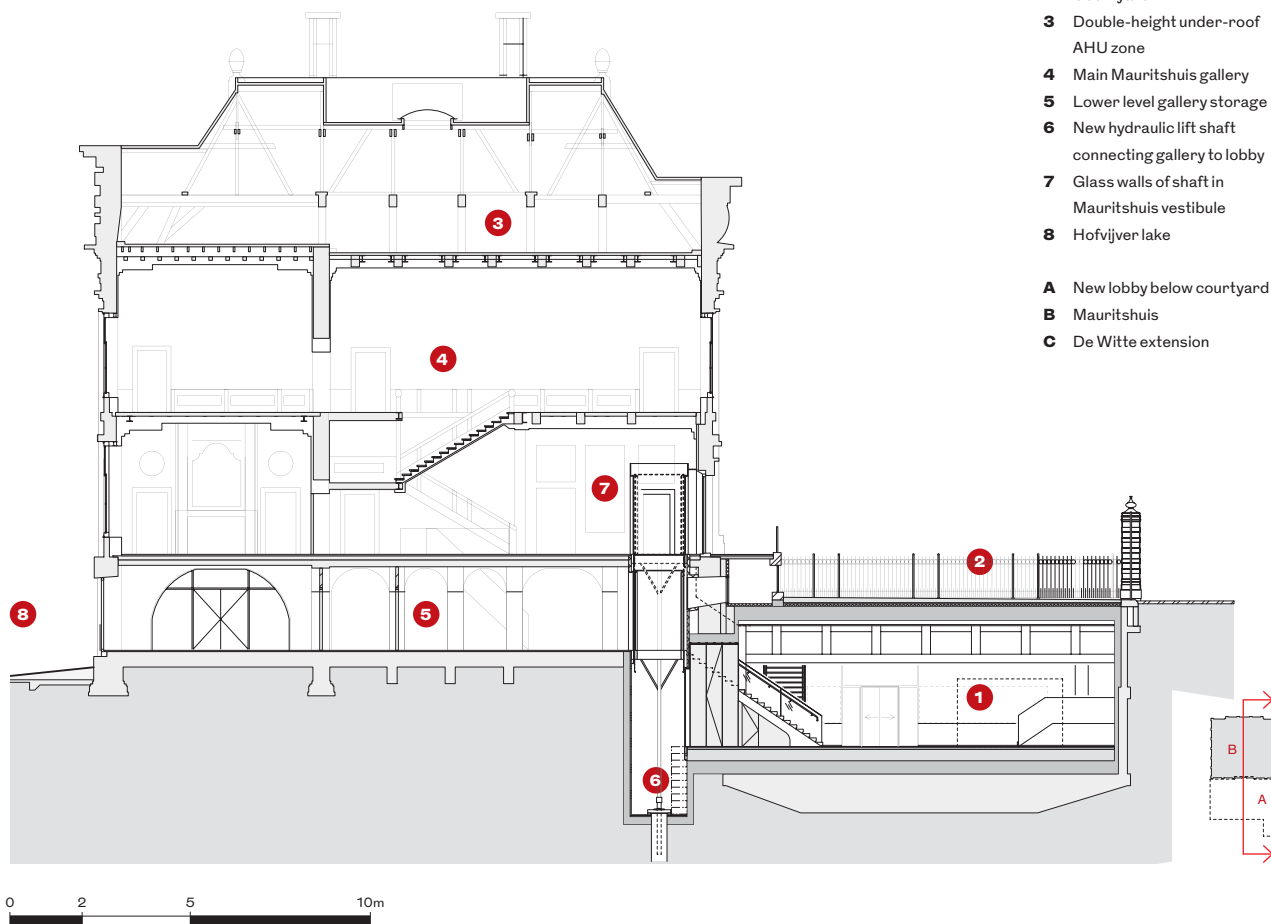
to 650mm to cope with ground water pressure on the now unrestrained double height walls. The roof deck – the courtyard floor – was also removed and rebuilt at 1150mm thickness to pin the perimeter retaining walls in place, allowing the creation of a 13m by 4m toughened, laminated glass walk-on rooflight on the east edge of the courtyard, to pull light deep into the lobby. Below the road, solid 800mm square concrete beams running east to west were laid on two transfer beams either side of it. The east beam allowed rooflights to give views west to the de Witte from the lobby, while the west transfers the load of its 1930s façade onto three pairs of 350mm diameter columns, forming the link to its basement. With the de Witte basement level 1500mm higher than the new floor, a secant wall of 1m diameter concrete piles was cast around the perimeter so the floor could be dug out and a new slab cast at the right level. Before this was done, however, the under-road 'link' space of 900mm thick slab and 500mm thick retaining walls had

to be cast underwater out of waterproof concrete, before the existing courtyard retaining wall and the de Witte basement could be opened up to create a single space.

But it was perhaps the smallest ground intervention, a new hydraulic lift shaft from the new lobby up into the piano nobile of the Mauritshuis, that was most risky, setting a 2.5m by 2m concrete shaft into its original brick and timber piled foundations. In fact, says van Heeswijk, the structural engineer was so sensitive about subsidence that it temporarily froze the ground around the dig by pumping in liquid nitrogen with pipe needles, allowing soil to be dug out before pre-cast concrete sleeves were craned into place.

Inside, this hydraulic lift is a small wonder. Popping up in the Mauritshuis' old vestibule, directly in front of the main entrance, it is ingeniously hidden by having the marble floor rise with it when it ascends to the first floor. With the marble set in a steel tray, when the lift runs back to the basement, the tray returns to floor level, leaving no trace of

Cross section



the mechanism save for the vestibule's new glass wall. This, van Heeswijk explains, means the traditional formal entrance could remain in use for dignitaries (the tempered gallery zone prevented it being used as an general entrance), while continuing to meet access requirements.

Optimising the quality conditioned internal environment and increasing its efficiency was key. Van Heeswijk explains that the strategy was to deal with air handling by treating it as three sections: all high demand handling for the Mauritshuis was to be concentrated where the old kit used to be, in the roof of the gallery, but better performing air handling units were installed and the old service shaft runs reused. Air handling for the de Witte building was similarly sited in its roof, dealing with exhibition spaces, offices and auditorium, and a separate plant room was created at basement level for the less demanding lobby, behind the WC banks. All use high and low level intake and exhaust.

With the de Witte also a national monument, the firm adapted its large public rooms for temporary exhibition and auditorium use without major reconfiguration, insulating them with rigid internally, and better conditioned for their purpose. Its art deco staircase was restored, along with the stained glass rooflight topping off the stairwell, and its 3m high single-glazed openings were replaced using MHB steel triple-glazed

frames with a carbon fibre thermal break. Holland's equivalent of Crittall, they maintain the glazing's original 1930s fineness, even at scale.

Making the Mauritshuis' envelope conform to international gallery standards was more complex. Van Heeswijk explains that the building fabric and timber-panelled wall linings of the building were stripped back to their internal brick skins, and timber floors taken up. Within the original timber framework of the interstitial zone, the architect ran rigid insulation to bring the wall up to the necessary performance criteria before the original finishes were re-applied; this reduced the overall room size by about 70mm. The windows were easier: the 17th century facade had 19th century frames and even these were incorrectly specified sashes. The firm specified what look like vertical hinged frames, using triple glazed toughened and laminated glass with a low-e coating, to give thermal and security protection. Though paintings are screened from ultraviolet light, perforate roller blinds have been installed to give them further protection if needed.

It might not now be like having your timber shutters drawn closed by a maid in a Dutch bonnet, but in ensuring the Mauritshuis' renowned art collection has been housed in a state-of-the-art facility and preserved for the future, its restoration has been (quite literally) groundbreaking. ●

Client Royal Picture Gallery Mauritshuis Foundation

Architect Hans van Heeswijk Architects, Amsterdam

Mauritshuis restoration design Askon Eden, The Hague

Interior design Stephanie Gieles Interieurontwerp, Delft

Routing Reynoud Homan, Muiderberg

Constructional consultant ABT, Delft

Installation consultant Arup, Amsterdam

Structural consultant DPA Cauberg-Huygen, Den Bosch

Architectural historical research De Fabryck – Bureau voor Gebouwhistorisch Onderzoek, Utrecht

Lighting consultant Hans Wolff & Partners / Lighting Designers, Amsterdam

Building superintendent Hans van Heeswijk Architects and ABT, Delft

Quantity surveyor Basalt bouwadvies, Nieuwegein

Principal building contractor Koninklijke Woudenberg, Ameide

Foundations and fabric contractor Volker Staal en Funderingen, Rotterdam

Installations Kropman Installatietechniek, Rijswijk

Security installations Siemens, The Hague

Lifts Mitsubishi Elevator Europe, Veenendaal

Forecourt lift shaft Octatube, Delft

Interior Van der Plas Meubel & Project, Den Bosch



Above The Mauritshuis vestibule, where a hydraulic lift, encased by glass, accesses the museum directly from the basement lobby.

Left Having descended from the courtyard to basement level, the architects use light, pulled in from above, to draw visitors into the new lobby.

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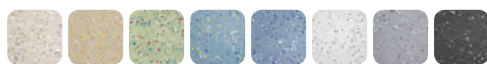


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2: Intelligence



Compliance



Climate



Where people live

Paul King



The chief executive of the UK Green Building Council is lukewarm about the government's 'Allowable Solutions' proposal in last month's Queen's speech to help tackle carbon emissions from house building

Have we worked out what Allowable Solutions are yet?

We've known what they are in principle since the end of 2008. It's more about how it works as a mechanism. It's the third component of the zero carbon pyramid, with fabric energy efficiency and low carbon energy use on site, and any residual emissions offset by delivering them off-site. The real issue is what carbon compliance levels will be – an uplift is due in 2016.

A Zero Carbon Hub consultation suggests industry isn't clear about whether the offset should apply at local or national level

Opinion was divided. Keeping carbon mitigation effects local would let the community see the benefits of renewable schemes. But with smaller developments, money collected from the developers as a carbon offset might not be worth spending at local level – it could all go on admin, say. It might be better to aggregate those funds and make sure there's an audit trail to the benefit.

'Small developments' will be exempt from Allowable Solutions. Won't developers just package sites to come in under the policy requirement, and so slow housing delivery too?

Yes. I can see 'less progressive' builders phasing developments, with those results. The House Builders Federation first mooted the figure of 50 homes as small – but that could apply to up to half the homes built in the UK. That's a big loophole! The government might look at a 10-house planning precedent, but ex-DCLG under-secretary Lib Dem MP Andrew Stunell told the Commons there should be no exemption at all, so there's a spectrum of views.

Isn't this just a case of us failing, once again, to deal with the carbon problem at source?

It was counter-productive that the Lib-Dems were so keen to push their involvement in zero carbon policy that it came across as new, when in fact, as I said, it's been around for ages. Some just thought it was another way of offsetting our carbon commitments. The point is that Building Regulations have to apply across the board, and with the best will in the world, sometimes you won't be able to meet code 5 on site. Allowable Solutions gives us some leeway; and as long as it's properly audited, I think it's a legitimate approach.

I once heard the government's chief adviser say he wanted to go down UK streets in a truck spraying our terraces in insulating foam

The existing stock is a different story – as that's where the bulk of the problem lies! We're trying to make sure we don't add to that by building sub-standard new homes that don't meet codes. Part of the problem now is that we've got a general election coming up next year, so it's really questionable how far policy will be driven forwards. It's time to wake up to the fact that the magnitude of the environmental challenge is not a party political issue. ●

ALLOWABLE SOLUTIONS

The construction industry feels varying degrees of enthusiasm for the implementation of 'Allowable Solutions', if the Zero Carbon Hub's consultation, carried out at the end of 2013, is anything to go by. A 'pulse-read' of the industry – from professionals to housebuilders, LAs and RSLs – saw 90% of housebuilders wanting AS to be national rather than locally decided (it was 50% for LAs). And while 83% of them were happy to pay into a carbon abatement fund, there was wide variance on what the price of a tonne of carbon should be (£60/t anyone)? Interestingly, checking whether buildings were actually performing as specified, and whether non-performance should be penalised, was a bone of contention: only 8% of house builders wanted ex-post verification of AS. It seems 'soft landings' is still a way off.



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

External
management

Listen and learn

Contractor clients want better relationships with architects, finds Matt Thompson in the first of a series of the RIBA's round table discussions to harness the lessons of recession

Matt Thompson

For architects, contractors are a significant client body. According to the most recent RIBA Business Benchmarking survey of chartered practices, nearly a fifth of architects' fees come from contractor clients. This reflects the confirmed popularity of design-build contracts as the procurement route of choice: over half of all private contracts and 40% of all public contracts are design-build.

The 2013 Building White Paper on Client Intelligence found that head clients (in this context, contractors' paymasters) retain a ruthless focus on cost and efficiency when they buy construction work, and transfer project risk by predominantly using lump-sum design-build contracts. The reasons for this are simply about supply and demand. In the current market, where there are too

many suppliers chasing too few jobs, head clients hold the balance of power.

On top of this, head clients see build quality as the most important factor when selecting a contractor, still widely enforced with the use of crippling retention payments. This places enormous commercial and technical pressures on contractors, who remain jittery about the prospects of economic recovery and who as a sector have endured a spate of firms going to the wall. The net result is that they are looking to share the strain with – and extract more value than ever from – their supply chain and their architects.

The RIBA's round table discussions and subsequent filmed interviews with contractor clients have confirmed this trend, with an emphasis on the critical role architects can play in efficient delivery, cost-effectiveness, cost savings and risk reduction.

Not surprisingly, the discussions con-

Far too often architects dismiss the importance of the delivery phase... Their interest does wane. It's frustrating for contractors and totally disappointing for the client

TOP TIPS FROM CONTRACTOR CLIENTS

- 1. Listen** to contractor clients to make sure you understand their key objectives and deliver value.
- 2. Collaborate** fully with the project team and proactively facilitate optimum design solutions.
- 3. Immerse** yourself in issues of buildability, risk and commercial viability.
- 4. Repossess** the design management role, saving contractor clients the cost of hiring design managers.
- 5. Acknowledge** the cultural shift needed to work as equal partners in contractor clients' project teams.

Right Once on site the flow of information is critical, as contractor clients understand better than most.

firmed the traditional divide between the two parties. Architects are still characterised as a group that could improve its design management skills and that needs to understand the contractors' priorities of buildability, risk and commercial viability. Unfortunate as this stereotype is, the fact that it persists and is still highlighted by contractors, particularly in this forum, is instructive.

In contrast, architects and architecture are highly valued by contractors, enabling them to differentiate themselves in the market. Steve McGuckin, managing director at Turner & Townsend, recognises their vital contribution: 'Contractors look for creativity, problem-solving and delivery from their architects, ultimately giving the head client something they didn't even realise they wanted.'

However, they also believe that architects could improve their performance by giving more weight to contractors' commercial priorities. Mark Wakeford, managing director of Stepnell, tries to contextualise the issue: 'Once we're on site and chasing design details to deliver the project to what is often a very tight programme and, in the current climate, very tight cost constraints, having a design that is both late and poor or insufficient is a very expensive luxury that we cannot afford.'

Contractors acknowledge that architects' fees are structured to reflect their upfront investment in briefing and design. None-

theless, contractors would like them to find ways to remain engaged all the way through to practical completion and beyond. Colin Tedder, technical director for Bouygues UK, says: 'Far too often architects dismiss the importance of the delivery phase and their fees are front-ended so there's no fee to deal with that latter stage.' John Frankiewicz, chief executive of Willmott Dixon Capital Works, agrees: 'Their interest does wane. It's frustrating for us and totally disappointing for the client.'

This call to stay engaged is part of a wider entreaty for architects to listen harder and understand contractors' drivers, stresses and strains. For many, the concern is about design management and risk mitigation. As well as form, function and beauty, contractors need cost-effective, buildable and timely designs produced in collaboration with the supply chain.

Contractors find that they cannot always rely on architectural practices to manage the design process adequately, despite a wish that things were otherwise. Paul Chandler, executive vice president of Skanska UK, employs 150 design managers – many of them architects – to ensure that the flow of information is correct, timely, and gets to the right people. 'In an ideal world, we wouldn't have to do this,' he says, 'but we find it is the only way to de-risk a project.'

There is a sense that this is connected to architects' loss of leadership in the

THE PRESIDENT'S VIEW

Twenty years ago we were emerging from recession. Sir Michael Latham had written 'Constructing the Team'. Under the presidency of Frank Duffy, the RIBA published a 'Strategic Study of the Profession', an investigative report on the changing role of the architect. A series of sector analyses were published bimonthly in the RIBA Journal, distilling messages from a two-way dialogue; the profession listening but also suggesting where it adds value.

The report made recommendations for a developing profession, including:

- Architects should educate themselves in cost control
- They should be constantly aware of time
- They should listen to what the client wants
- They should strive to understand the business or personal needs that have resulted in the project
- The profession should make training in management, economic and financial aspects of business a central plank of professional training
- It must appreciate that the building process is a team game

We operate in a different world now but the parallels are intriguing for my presidential term as we emerge from the deepest recession in living memory.

We are now three years into the RIBA's five year strategy, 'Leading Architecture'. The first of its five objectives is headed Clients: 'We will stimulate demand for architecture that delivers economic, social and environmental value.'

'RIBA for Clients' seeks to deliver this agenda with the institute looking out, listening to our clients, and generating opportunities for architects. It embraces a competitions review (see page 38), and a re-invigorated 'Find an Architect' service. It also seeks a re-evaluation of the Strategic Study, not only to assess how much the profession has responded to the recommendations, but also to provide members with researched insights into changing needs of major categories of clients so they can shape their services to better support client needs.

The RIBA has now had round table discussions in the three growth areas of contractor-led procurement, housing, and re-use/retro-fit. We are still in debate as to how our research might be a lasting resource for architects, but in seeking to emulate previous research, we are publishing the early findings from the contractor-led procurement sector on these pages.

Stephen Hodder, RIBA



If designers and constructors get their relationship right to deliver what clients want, everybody else will fall in

design-build environment and their struggle to adjust to their position as one link in the supply chain. 'Architects have been used to sitting at the head whereas in a collaborative process it's a very flat structure,' says Chandler. 'Some have yet to make the cultural shift to even the playing field, to realise that we're all batting for the same team.'

With this shift comes a reassignment of responsibility for design quality. Although it is traditionally regarded as the architect's responsibility, contractors are much more likely to view it as shared with the whole supply chain, with themselves as overall custodians. Inevitably, this has redefined quality away from the grand 'iconic' aesthetic vision towards the 'grunt and grind' of buildability and delivery. It has also reinforced the perception that there are two types of architect – those who are good designers and those who are meticulous detailers – and that they are not always found together in one practice.

Contractors really want to work with architects who will listen carefully and understand their needs, work collaboratively, and supply better solutions. What's missing is the competence to extend their undoubt-

ed creativity to meet practical commercial imperatives. Mark Wakeford again: 'We'd love to see the ability to identify costs, cost savings or cost wastage, and work within the team to mitigate those risks and reduce that wastage.'

Paul Morrell, for three years the government's chief construction advisor, warns against losing sight of value, which he argues is fundamentally generated on drawing boards, not building sites. In what he calls an integrated industry, individual contributions are equally respected, and that respect is never given at the expense of anyone else's. As he puts it, 'If designers and constructors get their relationship right to deliver what clients want, everybody else will fall in.'

With developments in procurement heading towards a one-stop-shop for head clients, and technological advances in BIM and design for manufacture favouring increased collaboration, the number of contractor clients is likely to grow. The lesson for architects is clear: know your client, understand their priorities, and listen carefully. ●

For 60 second clips of the one-to-one interviews go to www.architecture.com

RIBA CLIENT ENGAGEMENT PROGRAMME

At the start of his presidency, Stephen Hodder set up a client liaison group to find out more about clients' views and needs, chaired by Nigel Ostime from whiteroom architecture. The group includes Paul Morrell, the government's former chief construction adviser and an honorary fellow of the institute.

Working with Linda Stevens, the RIBA's head of client services, the group identified three growth sectors: contractor-led procurement, housing and retrofit. Round table discussions began in January to listen, to understand external perceptions of the profession and the value architects bring to the project team, and ultimately to identify the tools needed to promote architectural services in these sectors.

With two discussions to come in September and October, four have taken place so far:

- Contractors: attended by the heads of some of the UK's leading contracting firms.
- Housing: attended by house builders, social landlords and government representatives.
- Local government: attended by regeneration and development heads, at MIPI in Cannes.
- Retrofit: attended by a mix of clients, with a focus on sustainability.

Clients were asked questions such as:

- How do you view architects and architecture?
- Where can architects add greatest value?
- Where does responsibility for design quality sit?
- What roles do you see your architects performing?
- How will forms of procurement develop in future?
- Do architects' fees reflect value?

The RIBA is recording one-to-one interviews with clients to articulate the feedback from each sector. 'This is a genuine effort to learn where architects add value and where they could improve', said Ostime. 'We ask clients to express their views freely but also say what they think architects already do well. We are reporting back to members by sector via the RIBA website, email and the RIBA Journal, and plan interactive events at the end of the year to review feedback and discuss what tools are needed. This important exercise will have been a success if we can give architects information that will improve their offer and lead to increased market share. However, for this to happen, the profession must listen to what its clients are saying.'

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Digital creativity is thriving in Liverpool, whose International Festival for Business could help turn this industry of the future into a successful export

Words: Eleanor Young



David Cameron opened Liverpool's International Festival for Business last month claiming it is the 'biggest showcase of British industry since 1951'. As any good architect knows, the 1951 Festival of Britain left a legacy of great design, some in the flesh, such as the Royal Festival Hall, others, like the Skylon, surviving just as an inspirational memory.

Based in its city waterfront hub in the Broadway Malyan designed Mann Island – where Alsop's Fourth Grace, the Cloud, was once planned – this festival is focused on an economic legacy and giving a platform for the skills and manufacturing of the north west. Its base demonstrates the new paradigm; the docks, once the centre of the UK's transatlantic trade, are now populated with cultural institutions and attractions. Here is the Tate Modern, the Museum of Liverpool Pier Head. Under the apartments of the

black clad angles of Mann Island, RCKA's Open Eye Gallery is already in place. By May 2015 it will have been joined by RIBA North with its new museum standard gallery for showing the best of precious architectural artefacts and the City Gallery, allowing the public to engage with both the physical and the digital city models.

This Arup 3D model, commissioned by the council, is important not just for the public but also for those working in the city. Some practices already have their own models of areas that are particularly relevant to their work. Ryder has one for the area around the Metropolitan Cathedral where it has completed a number of Liverpool Science Park buildings, but going beyond that zone requires getting the laser measure out or, more likely, buying or commissioning a 3D model from a company like Zmapping. For access to the Liverpool digital map, Arup, as

IN NUMBERS

6,800

business in Liverpool's creative and digital sector

48,000

people employed

Source: ACME

custodian, just asks for a 3D model of the end building to be supplied to keep its own city model up to date.

British creativity

Much of the export strategy for architecture has relied on the promise of British creativity. But some hard-won digital skills are also expected to give British architects the edge overseas in the next few years, driven by Britain's largest client, the government, with its BIM strategy. Being given the impetus to invest in software, and the training in the new processes that are needed, is pushing British architects ahead – there are arguments that the planning system should follow. Earlier this year a UKTI mission to South East Asia attempted to capitalise on these skills. After all, once you have all that data, mobile records, geographically located tweets and Facebook likes, traffic flow information and those models, why not do something extra clever with it?

Huge electronics and computing companies like Siemens and IBM have got their heads around infrastructure and are busy selling smart cities, utilising big data, to mayors and councils across the world. Urban designers and architects are still battling with what it means. Two recent publications from the RIBA give an idea of the direction we are taking. The joint report with Arup, 'Designing with Data', called for the metadata that is generated to be used to make better cities by designing for citizens; to allow experimentation and testing of options to save time and money during construction; and to encourage transparency opportunities on sites.

The think pieces that followed in 'Dig-



Below left Mann Island, the hub of the International Festival of Business and home next year to RIBA North.

Left A picture that captured the imagination of hundreds of small investors for Friends of the Flyover, a newly-inhabited piece of urban infrastructure.

ital Planning' went further, exploring the potential impact on the planning system. Tim Stonor of Space Syntax pointed out the importance of not just using such data to visualise the existing situation but to balance different considerations in planning to help understand how spatial planning 'inputs' affect 'outcomes' like land value, movement, crime risk and so on.

Reusing unloved structures

Back in Liverpool, Friends of the Flyover is hoping that its crowd funded feasibility study on turning unwanted flyovers into park and community space will benefit from the big data analysis on urban flows that Mott MacDonald is undertaking. The city centre movement strategy will look at optimising the transport infrastructure. Architect Mark Bennett is one of the three people behind Friends of the Flyover, which is in discussions with the council about how to reuse these impressive but unloved structures to draw the museum quarter and 'Arc of Opportunity' closer to the northern areas around Liverpool John Moores University, which are currently ghetto-ised by the barrier of the 1960s road system. The crowd funding, via web platform Spacehive, has given them an extra lever with the city fathers. 'Crowd funding is like a mini referendum,' says Bennett. The group hit its £40,844 target on the anniversary of the Hillsborough disaster, and is now pushing on with the project, with planning submission in their sights and profile-raising events lined up on the structures.

For Matt Brook, who runs the distinctive Liverpool studio of Broadway Malyan, city modelling is critical to giving both client

and public an accurate view of the building in its context. As designer of Mann Island, he suffered a huge amount of vitriol over the way it would sit with the Three Graces, Liverpool's trio of historic waterfront buildings. For someone who always wants to take an urban design led approach this was hard. He sees Liverpool as having got to the starting point of having a city model. The issue then is access to the model and adding layers to it. Knowing how an urban space might be affected when there is a big football match or an event at the Echo Liverpool Arena would make his job a lot easier. And being able to interrogate the material in a visual way, without needing a special skill to do so, would make it an incredibly valuable tool.

'A digital city is all about optimising a design,' he says. 'Buildings are a huge investment.' And he also has an exciting virtual reality research collaboration up his sleeve to make the visualising even easier (see box).

For some this is what the city is all about, a small community where digital developers and creatives can get together. There are some important gamesware developers in Liverpool, including the Starship Group, the founding members of which have made a big contribution to Playstation games, along with many app developers. The International Festival of Business is proving an excuse to foster city relationships: the IFB Creative Kitchen, as part of Creative and Digital Week, promises to bring together developers (in this context digital developers) and architects. Not everyone may be on the look out for international opportunities but if they can experiment and collaborate it may be that digital Britain be exciting as well as exportable. ●

SHADES OF REALITY

'The closer to perception in real life the better,' says Matt Brook of the Liverpool studio of Broadway Malyan. He has just invested in an Oculus Rift virtual reality headset (below) which promises to make stepping into a virtual world affordable, stereoscopic and natural. The company was bought by Facebook for a huge sum earlier in the year and the headset is now available to developers – such as Broadway Malyan – to experiment with, using open source software. 'We already use model making as part of the design process,' says Brook. 'A presence in a space can help inform design decisions for ourselves and for clients.' With projects already in BIM, a link to the city model and work with a games developer, he believes it should not be very expensive to create a virtual world that is significantly more immersive than a fly through can possibly be. 'The support is not there yet,' he admits. 'But we are in discussion with Autodesk.'



Procurement
& contracts

Winners and losers

With the recommendations of the RIBA task force out for consultation, the competitive spirit is alive and well

Matt Thompson

Taking evidence from clients, client advisers, architects and competition organisers, the newly convened Competitions Task Group set out to review the use of design competitions in the UK and the role of RIBA Competitions in driving change. The group's appraisal has culminated in a draft report and recommendations, presented to RIBA Council in June, with a further consultation phase planned over the summer. The final report will go before RIBA Council for approval in September.

Architectural competitions are, on the face of it, a good thing: they encourage research and innovation, promote public debate, and most importantly, emphasise the value of design. Among architects, however, they excite heated debate. Passionately held but polar opposite views divide the profession. The fact that competitions are deliberately high-profile – after all, publicity is one of their attractions – and subject to close scrutiny fans the flame of disagreement. The problem is that many competitions are held behind closed doors, without rules or third party scrutiny. The institute and its exemplary competitions service have an important role to play in promoting 'best practice' competitive selection processes, designed to give clients choice, create opportunity for architects, and reduce waste.

For clients the process offers choice, as well as benefits including early stakeholder engagement and eventually, if well-

managed, a scheme that adds considerable extra value. Yet public architectural competitions are not widely used in the UK. This is partly because of the difficulty in quantifying the worth of design. For some clients, a process that promotes design can be irrelevant – understandably if they value competent delivery more highly than aesthetic considerations. Other clients dislike the focus away from personal relationships and the way some competitive processes move towards anonymity and reliance on the brief. More fundamentally, though, competitions have an image problem: they are perceived as being just for flashy, risky showpiece projects.

For architects, especially younger or smaller practices, competitions are a chance to impress clients, win work, exercise their design muscles, publicise their skills, and even, perhaps, break into new sectors. However, not every architect shares this optimism. Since many competitions are run privately, the rules are not always as transparent as in OJEU contests, and since architects are frequently expected to work up ideas with the odds of winning stacked against them for no or nominal payment, competitions are viewed with some cynicism.

Problem solving

Leading the Competitions Task Group, Martin Knight of Knight Architects acknowledges the problem, but thinks it is unfair to describe them as inherent to the concept. Rather, he says, 'these are problems of process – they are all avoidable and solvable,

Competitions have an image problem: they are perceived as being just for flashy, risky showpiece projects

and they can and should be fixed.'

To that end, the Task Group has drawn up a raft of recommendations – still subject to consultation – that positively endorse competitions. First and foremost is that RIBA Competitions should tighten up issues of governance and fairness by publishing its new 'best practice' standard. Clients will be required to adhere to the standard; competitors will be encouraged to think through their chances of success. RIBA Competitions will consolidate the standard with a service to 'approve' and 'promote' qualifying third-party competitions. There will be additional client guidance (including a DIY option), a new client mentoring service for inexperienced clients, and in the longer term, a promotional campaign targeting clients in the public and charitable sectors.

Knight is optimistic about the opportunity for architects and the value of the investment needed to follow through on the recommendations, with RIBA Competitions as the delivery vehicle. He imagines a future where most public spending on buildings – including what he calls the 'beautiful ordinary' – is competition-led, with architects at the fore, and where 'clients are offered creative choice; architects have valuable opportunities; and the waste inherent in current practice is minimised'.

With the 'RIBA for Clients' initiative under way and building on the Plan of Work 2013's new 'Work Stage 0: Strategic Definition', the report's findings are likely to make interesting reading. ●



Procurement
& contracts



External
management

Change management

Changing contractors
can be more expensive
than you think

Stacy Sinclair

Supporters of the JCT suite of standard form contracts refer to the fact that many of its clauses are 'tried and tested' in the courts. This gives parties to the contract the security of knowing how the courts are likely to approach and interpret JCT provisions. Opposers say the fact that the Court has had to hear so many disputes over the years on the JCT contract is evidence that it does lead to disputes. Whichever side of the fence you sit, if you are a contract administrator it is worth understanding the court's recent interpretation of clause 2.30 of the JCT Intermediate Form (2005).

Clause 2.30 provides either for defects to be rectified by the contractor in the 'Rectification Period' following practical completion or, if the employer consents and the administrator so instructs and such defects are not put right, an 'appropriate deduction' from the contract sum is to be made.

The question before the court in the recent case of *Oksana Mul v Hutton Construction Ltd* was, effectively, what is an 'appropriate deduction' when the employer arranges for a different contractor to complete works/defects which are not in accordance with the contract?

In this case, Hutton was engaged by Mul to carry out various substantial extension and refurbishment works to a large country house in Kent. The contract sum was approximately £3m and work started in May 2008. Practical completion was awarded in May

2010 and the final sum certified was approximately £4m. In March 2011 the contract administrator notified Hutton that it was arranging for all outstanding works/defects to be carried out by other contractors.

Mul argued that the deduction should be appropriate in all the circumstances and could be: The contract rates/priced schedule of works/specification; the cost to the contractor of remedying the defect (including sums to be paid to third parties engaged by the contractor); the reasonable cost to the employer of engaging another contractor to remedy the defect; or the particular factual circumstances and/or expert evidence relating to each defect or remedial works.

Hutton argued that the appropriate deduction would invariably refer to the rates or prices in the priced document.

Agreed, but...

The judge agreed with Mul: any of those deductions could be appropriate. He pointed out the employer may want to arrange for the remedial works to be carried out by others – either simply for convenience or because the employer has (either justifiably or not) become fed up with the contractor and wants no more to do with him. Either way, clause 2.30 expressly allows the employer to do so and still recover reasonable costs.

However, the employer must be mindful of his obligation to mitigate the contractor's loss. The judge held that if the employer acted unreasonably in not giving the contractor a fair opportunity to put right defects for which it was responsible, the employer would probably have failed to mitigate that loss. This is simply in line with previous case law.

Contract administrators therefore need to fairly and independently value the appropriate deduction under Clause 2.30 by reference to the rules of mitigation of damage. Under previous case law the employer is generally limited to what it would have cost the original contractor to remedy the defects had it had the opportunity.

As the costs of the original contractor returning to site are likely to be less than if the employer engages a new contractor, employers and contract administrators must be alert to notifying the contractor of the defects and giving him the opportunity to return to site to rectify. If not, the employer may well have to fund the added costs of a new contractor. ●

Stacy Sinclair is with Fenwick Elliot

What is an 'appropriate deduction' when the employer arranges for a different contractor to complete works/defects?

PRACTICAL COMPLETION

This is not a defined term within JCT contracts. Previous case law defines practical completion (PC) as the completion of the works for all practical purposes, allowing the employer to take possession of the works and use them as intended; completion of the works where very minor de minimis work has not been carried out and there are no patent defects. PC triggers certain events such as the end of the contractor's liability for liquidated damages.

In *Mul v Hutton*, PC was certified by the contract administrator with a certificate attaching to it a substantial list of works said to have been incomplete or defective. Apparently this was owing to the employer's need or desire to move in. Nevertheless, contract administrators should be mindful of certifying PC when patent defects are known and there are still substantial outstanding works. In any event, as the judge pointed out, any post PC interim certificates must take into account known defects in the works.

REFLECT ON THE FUTURE OF CONSTRUCTION TECHNOLOGY



Over the last few years, tightening building regulations have led specifiers and contractors to look increasingly at innovative new technologies to enhance the energy performance of their designs. One of the many such technologies is reflective insulation, which has gone from being virtually unheard of, to being incorporated in almost every major house builder's standard designs. By combining advanced manufacturing methods with physics and technology developed for the aerospace industry, such membranes allow the thermal performance of timber frame structures to be increased without a corresponding increase in wall thickness or weight.

Since 2004, we at the A. Proctor Group have been continually evolving our two reflective construction membranes, the vapour permeable Reflectashield and its vapour control layer counterpart Reflectatherm, and today in 2014 we have developed these products to give the highest reflective insulation performance available in each class at $0.81\text{m}^2\text{K/W}$ and $0.79\text{m}^2\text{K/w}$ respectively. So after 10 years in this marketplace, it seemed appropriate to "reflect" on how we got here.

First of all, it may be helpful to consider how reflective insulation membranes actually work. All such membranes work by restricting the transfer of infra-red radiation (commonly known as "heat"). In fact it can be argued the term "reflective" is actually something of a misnomer in this case, since the physical property governing the insulative performance relates not to reflection, but rather to emission and absorption of IR radiation.

The "emissivity" of a material is a measure of how easily the surface of a material can either absorb or emit radiation, in much the same way as tinted glass used in limousines makes it harder to see both in and out. When a reflective surface is used on a vapour control layer (on the warm side of the insulation, generally facing inwards) this surface limits the ability of the wall to absorb the heat from inside the building,

leading to a reduced rate of heat flow, or u-value.

On the cold side of the insulation, reflective breather membranes make the outer surface less able to emit the heat back out again, which has the same effect. By definition heat that is not absorbed or emitted, is therefore reflected back into the building envelope. So (somewhat counter intuitively) the reflective surface does not need to point towards the heat source for reflective insulation to work. The only requirement is that the reflective surface faces an airspace, in order to maximise the proportion of heat transfer by radiation (as opposed to conduction).

So how do we determine the effects these materials have on the overall u-value of the wall construction? There are several methods which can be used, however following extensive consultation with our partners and customers in the timber frame industry, we settled on the guarded hot box method as defined in BS EN ISO 8990, a long established and widely used method of determining insulation performance.

This method uses a precisely calibrated heated box laden with 25 separate heat flow metres, allowing the changes in temperature across a test sample to be measured to an accuracy of 0.1°C . The samples used in this testing are in effect scale models of real timber frame wall panels, giving the closest approximation possible (under lab conditions) to the real world performance of the two membranes. The testing and measurements were conducted by the National Physical Laboratory based at Teddington in southwest London, a widely recognised centre of excellence in measurement practice, and the largest applied physics organisation in the UK.

In addition to its market leading and TRADA certified thermal resistance of 0.81 , the Reflectashield-TF breather membrane can uniquely be offered with custom printing of customer logos to any design specified. Traditionally reflective membranes are

supplied unprinted due to the ink reducing the thermal performance, however using advanced image processing techniques adapted from medical cell analysis we are able to account for these effects and adapt the required print images to minimise the reduction in performance. This gives our customers the same bespoke printing options already offered with our non-reflective Frameshield and Roofshield breathable membranes. Both membranes are also available in a range of roll sizes to meet the differing requirements of on and off site installation processes.

Based in Perthshire, Scotland, the A. Proctor Group has been supplying high performance construction membranes (designed and manufactured in the UK) for nearly thirty years. Over this time our close links with both the timber frame industry and world renowned construction research organisations have allowed us to remain at the cutting edge of building physics, continually evolving our products and materials to meet the requirements of our industry partners and providing the perfect blend of performance and value. You can learn more about our state of the art products and unique history at www.proctorgroup.com





Age before beauty

A sorry story of society's preconceptions



Maria Smith

Once upon a time there were four beautiful sisters with long golden hair more radiant than the sun. The sisters grew up in a temple of childhood at the top of a mountain between two thick forests on a cliff edge by the saltiest sea in all the world.

When each maiden was born, she was passed under the nose of magical psychic hog-pig who sniffed out her future and wrote it on the walls of the cliffs under their temple-home with indelible magic hog-ink. After each sister's birth he wrote the same destiny: 'She shall be forever perfection no matter whatever' (his grammar wasn't great). This prophecy led to great complacency among the sisters' parents and teachers who let them learn whatever they felt like and follow whichever career path took their fancy.

When the first sister turned 18 she declared she would become an architect and so her parents sold their precious poppy tree that flowered rubies to pay for her education.

When the second sister turned 18 she also declared that she would become an architect. By this stage, the parents had already seen the less than boundless joy architecture could bring their daughters so only sold their

diamond encrusted teapot which would pay for their second daughter's part one and told her to come back if she needed any more.

When the third sister turned 18 she declared she would like to go into advertising so her parents sold their infinite hair growth recipe and sent her to study communications.

When the fourth sister turned 18 she declared she would like to become a professional dancer so her parents sold the temple of childhood to a developer and gave her enough money to live on for the rest of her life.

As the sisters studied and embarked on their careers they stayed close. The first sister eventually became an architect and after qualifying started her own practice, Awesomtecture. The second sister never did go back to her parents for part two money as after part one she took an entry-level position at Arcrap Magazine and was editor within two years. The third sister took a job at international brand agency Amazeballs. The fourth sister danced with the agility of water and the zest of the wind.

One fine day when they were all in their 30s, they went for a walk along the cliffs where the temple of childhood had once stood. (The developer who had bought it had moved it 200m away from the cliff edge before converting it into 3000 luxury flats). They were merrily swooning along the coast when they ran into the magical hog-pig. The hog-pig seemed overjoyed to see them and promptly began chasing his tail as symbol of respect for their great beauty and success. After a few minutes the sisters realised that he was actually trying to reach something in a pouch strapped to his hindquarters. The fourth sister elegantly leapt into the centre of his mad circle and grabbed a small bottle from the pouch. The hog-pig thanked her and thumped to the floor dizzily. While he recovered, the sisters squinted at the tiny bottle. There was a tiny label but the words written on it were large and overlapping making for extremely challenging legibility. The third sister eventually declared that the bottle contained 'Time upon a Once' which was some kind of youth potion. The hog-pig nodded vigorously at this so the four sisters, eager to retain their looks, each partook of the potion.

The fourth sister took the potion first and within moments her still sprightly body returned to its super lithe state of her late teens. She did the splits for joy at what she realised would be an indefinite dancing career.

The fourth sister took the potion first and within moments her still sprightly body returned to its super lithe state of her late teens

The third sister took the potion next and within seconds her two grey hairs and slight smile line on the left had vanished and she became around 24-ish. 'Togare poorruppt mayzipops!' she exclaimed in nonsense youf-speak as she realised her advertising career would also be infinite.

When the second sister took the potion she was immediately overcome with a radiant sense of wellbeing born of a deep knowledge that she would never look a day older than she had when she awoke that morning. With glee she ripped the label from the bottle for analysis, cooking up plans to write a long article about codes and physicality and the psychogeography of cliffs. With her forever perfect eyes she began to decipher it properly.

The first sister took the potion last, and with the impossible slow motion with which one witnesses a horrific accident, her hair became grey and brittle, her teeth yellowed, her skin dried to a papery muddle of creases, and her posture stooped. She looked around 63.

The second sister brandished the label and admonished the hog-pig: this wasn't a youth potion at all – it was a potion that made you look the perfect age in the eyes of society, and didn't he realise her sister was an architect? ●

Maria Smith is a director at Studio Weave

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3: Culture

We're the value-added

We know we can do it; now it's getting the message across



Hugh Pearman Editor

There's a lot on the Venice Architecture Biennale this month – you'll find our profile of Rem Koolhaas and review of the show itself, plus second and third opinions by our practising architect correspondents, on the following pages. As with all architecture festivals, you always wonder whether the world of architecture is talking to itself or to the public – and you nearly always conclude that, whatever the organisers may say, they are mostly about internal dialogue in the profession. That's necessary, but it's not enough.

There are exceptions to this rule of course. The Open House initiative, for instance, which is all about seeing inside other people's beautifully-designed houses plus other buildings normally closed to public scrutiny, is a continuing big hit with the public. Indeed it's a general rule of thumb that the main point of contact between pro-

It's no use bleating. Most people see not architecture but the building industry, and feel detached from it

fession and public is through houses. And because domestic property generates lots of advertising in newspapers while architecture as a subject generates almost none, the papers all have fat property supplements but very seldom have fat – or even thin – architecture supplements, though a few (and I am grateful for this) continue to support architecture critics. See also the popularity of TV property programmes and compare their ratings with the niche audiences for those on architecture. But the RIBA has quietly made great headway with the BBC website, which is now quite a home for architecture stories.

It's no use bleating that architecture is the most visible of all the arts, has most to contribute to the common good, and therefore must surely command huge public interest. Most people see not architecture but the building industry, and feel detached from it. Hardly surprising while communities are helpless in the face of developers who seem to get away scot-free with a lowest common denominator housing, retail or office on prime sites. Often, it must be said, with RIBA member practices involved. Just look at what's happened in our city centres despite Cabe, local design review panels and the planning system.

But we know we can do better than that, as this year's RIBA Awards prove – as you'll have seen in our Awards issue last month, it's the best advertisement for the profession. This is why the RIBA's determination to be 'outward-facing' is so vital and why its research findings must be seen to be independent, not special pleading.

Rem's Biennale takes the architecture out of architecture, leaving only the building industry and historic nostalgia. It's provocative, clever, entertaining, and a bit empty. As our inaugural Schueco Excellence Awards for design and innovation prove this month, good architects take good proprietary systems and make every conceivable kind of good architecture out of them. The variety is remarkable and that is hugely encouraging. ●

Schipol actually feels like it has an (albeit dull) urban avenue. An open-air techno fest was under way last time I was there.

Herbert Wright
p41

The party conferences in the autumn will provide the perfect platform for the RIBA to communicate how architecture is central to many of the next government's core objectives.

Stephen Hodder
p45

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Plane speaking

Herbert Wright gets ready to take off



Herbert Wright

Astronauts piloting the Space Shuttle used to call it the 'flying brick'. Go back to 1955 and there's another association between bricks and flying – a cluster of buildings at Heathrow, opened by Frederick Gibberd, architect of Liverpool's Metropolitan Cathedral. Post-Festival British architecture may have gone concrete-crazy, but these buildings were finished in warm, red brick, including the 10-storey control tower (virtually a London skyscraper of its day). The Queen's Building had roof terraces that would host madding crowds, particularly the girls who came to scream the Beatles off to conquer America in 1964.

They have all been swept away for Luis Vidal's new terminal, a giant box stuffed with so much retail it almost scrapes the elegant curved ceiling with parallel skylight ridges. Like a sequel movie, it has its own name, but as an adjunct: Terminal 2, the Queen's Terminal. Neither history, heritage or nominal assignment to the Queen saved the original Queen's Building, and one wonders if the Terminal will have the same longevity. We might just shoot ourselves in the foot by bulldozing London's greatest connectivity asset so Boris can let developers create another garden satellite town. The idea might have flown if Gibberd was still around – he

Where are these ever-expanding terminals going? One just twice the 1.6km length of Massimiliano Fuksas' new terminal at Shenzhen Boa'an Airport would be long enough to put an international runway on its roof

planned Harlow, maybe the best of the post-war ones, and that brick control tower would have made a great municipal landmark.

Contemporary Queen's buildings certainly lack the staying power of Inigo Jones's Queen's House in Greenwich, completed in 1625. It brought Palladian proportions to England, and has hosted royalty, painters, schoolboys, and, to witness horse sports, junk-food marketeers – whoops, I mean 2012 Olympic sponsors. Which brings to mind Stratford's Queen Elizabeth Park. That at least looks set to stay. Maybe it's because of this time-jumped-heritage thing called legacy.

Meanwhile, back at the airports, where are these ever-expanding terminals going? One just twice the 1.6km length of Massimiliano Fuksas' new terminal at Shenzhen Boa'an Airport would be long enough to put an international runway on its roof. The whole airport could be layers in a long rectangular superblock. Below the roof would be like a plane garage, where they would park, load up and taxi to one end to be lifted hydraulically for take-off, as in aircraft carriers, while landed planes do the opposite at the other end. Beneath that, the layers of terminal – arrivals below departures, as usual. Lower still, more layers could host all that office, hotel, logistics etc, which currently spawns edge cities on greenfield by airports. Underneath, rivers of rail would connect internally and beyond. Hell, why not put this unfeasibly long structure itself on the tracks so that the whole show can move to where runway demand is greatest and nimby noise is quietest? Hold on... there's bridges and curves to consider. Maybe Longbox Airport should walk there, Archigram-style. Is it too late to get this in to the Davies Commission?

There's another trend with airports – to make city in them, rather than around them. Rogers built urban squares into Terminal 5, and Schipol actually feels like it has an (albeit dull) urban avenue. An open-air techno fest was under way last time I was there. What they need is some urban grain and texture, like Gibberd's brick. Perhaps, when the UK-designed revolutionary spaceplane Sky-lon, currently in R&D, is ready to do what the Space Shuttle promised, the 5.5km runway it needs could run along a Queen's Parade, a strip of elegant masonry structures like a Victorian seafront? Double-glazed, of course. ●

Trained physicist Herbert Wright is an architectural writer, historian and art critic

LIFE AFTER DEATH

Moscow recreated the Cathedral of Christ Savior that Stalin blew up, and Berlin has started on its lost Stadtschloss. A Chinese businessman wants to replicate Paxton's Crystal Palace, and HS2 may restore Philip Hardwick's Euston Arch. Should the great but dead be resurrected? Maybe. Luckily, Mackintosh's School of Art survived, just.

After the genocide

How do you design a setting for memory and reconciliation after the horrors witnessed in Kigali?

Hannah Lawson

To put the words genocide and architecture together creates a cacophony of ideas, images, and meanings. How does an architect give form to the facts and memories of the deaths of those killed during ethnic or cultural cleansing? How do you design a place of potential reconciliation, rather than one which bitterly magnifies the human loss sustained?

Our involvement with the Kigali Genocide Memorial began in an unorthodox manner. In 2008, John McAslan's daughter (also Hannah) used her thesis at the LSE to examine the way the world's media had portrayed the genocide in Rwanda. Her dissertation 'Can Journalism Kill?' assessed its failure to engage at a human level with the unfolding tragedy in Rwanda in 1994. She travelled across Rwanda and visited the Kigali Memorial site as part of her research. She met survivors of the genocide and representatives of the Aegis Trust – the charity entrusted with the organisation of the site and its development. This visit, and the people she met, marked the start of the project and JMP's engagement. Working with Studio Landmark in Kigali, JMP drew up a masterplan for the site and its key elements, the amphitheatre marking the completion of Phase 1 and commemorating the 20th anniversary of the genocide.

The context for the project could not be more appalling: in less than four months during 1994, hundreds of thousands of people were killed. A monolithic approach to the design of this particular place of memory might have seemed more like a morbid full-stop than a dynamic point of change. It became clear that the land itself, and the dead buried in it, would form the most potent source of memory, and support emotional and cultural

evolutions. So our scheme was conceived as a memorial landscape that would be accepted as a place of gathering, grief, respite, and dialogue. Not just a landscape, but a place where facts of the genocide could be set out in respectful and instructive ways.

To the north of the site, forming Phase 2, will be an archive, genocide museum and educational building designed by MASS Design Group of Boston. Our overall masterplan includes memorial features such as the Forest of Memory, Stream of Tears, and Lake of Reflection to be set in a newly formed and planted landscape. Broadly speaking, the northern half of the site provides information about the genocide, the southern concerns contemplation of loss and reconciliation.

Between these two segments lie the terraces of mass graves, and the new amphitheatre. I felt that a gathering place of physical openness, which shared the language of steps in the terraces, would bring past and future together constructively, and create a very particular atmosphere.

This physical closeness adds meaning to this perhaps crucial element of the memorial site: the silence of the terraces, next to the gatherings and activities in the amphitheatre; the presence of absence; the unspoken and spoken, together. It is said in Kigali that the genocide began with words, and only words can end its very dark shadow. We hope the Genocide Memorial Amphitheatre will make Kigali an internationally recognised place where a new language of acknowledgement and recognition can be spoken collectively. ●

Hannah Lawson is director (culture and education studios) at John McAslan Architects

IN NUMBERS

800,000
number of people killed in
100 days in 1994
(UN estimate)

115,000
remaining refugees
(UNHCR)

55.4
life expectancy (2011)

The context for the project could not be more appalling: in less than four months during 1994, hundreds of thousands of people were killed



Dream catcher

Romance isn't dead... you just need to grab what life throws in your path

Wendy Perring

I washed up in Lymington, like a piece of flotsam brought in on the tide. The spirit of place that draws us is as powerful as the force of the tide, and in my case, both were at work. Arriving in a place by boat gives a unique perspective; it transcends time as it is the experience of our ancestors. Sailing across from the Isle of Wight, the Jutes arrived in this area of Hampshire in the 6th century.

A keen sailor, I left London life, culture and security to work in the sailing industry in 2000. The idea of living on coffee, love and the bare essentials, propelled by the force of nature, was deeply attractive. I wanted to explore the world from the outside looking in.

Happening upon Lymington many times during my adventures at sea I felt drawn back, and in 2005 I was eventually able to call it home. The Lymington river is richly

Stephen picked up a gull's egg, and commenting on the tension between nature and man's 'plodding feet' announced that he would like to live in an egg



layered: salt marsh, the original source of the town's wealth, narrow tidal creeks that demand exploration and a Georgian market town that rolls elegantly down the hill out to embrace the sea. Its backdrop of forest reminds you more beauty – the New Forest National Park – is just minutes away.

Starting at the Town Quay, Lymington's High Street, still partly cobbled, serenely climbs the hill and is well studded with friendly hostelrys for the visiting sailor and Friday lunchtime office outing. At PAD, we are proud coffee snobs and self-confessed foodies. Purple carrots and rainbow beetroot often rest among our lime render and burnt timber cladding samples. Our favoured lunch-spot, 'Lemana,' has the best coffee and cake in town and some of the best live music.

Lymington allows us to 'breathe deep and be'. The New Forest does not welcome intruders easily and in our lifetime we will always remain 'gridders' (relating to the strategically positioned cattle grids that deter the ponies from walking onto the main roads). However, PAD studio has gained a level of trust and respect in the small space of time we have been here, as we strive to root our projects into the local surroundings and understand what it is that makes each place and site unique. We are not ashamed of living outside London and as a studio we seek cultural opportunities and promote them locally.

Our love of the coast, and understanding of living in a small confined space, deeply influenced the design of the Exbury Egg (home to artist Stephen Turner for a year). While I was walking with Stephen on the salt marshes once, he nearly stood on a gull's egg. Picking it up, and commenting on the tension between nature and man's 'plodding feet' announced that he would like to live in an egg. Never one to let a challenge go easily, we embarked on making an egg-shaped home/studio. A year later, unable to gain planning permission (as we may set a precedent!), we decided that we would work around the restrictions and registered The Egg as a 'ship'.

Throughout the project we worked with local schools and this will always be the true legacy of the Egg – the look of amazement on the faces of so many children who, challenged by us, to think big, understood that with a bit of determination, mad dreams can be made into reality. ●

Wendy Perring is founder of PAD Studio, multiple RIBA regional award winner

SHIP SHAPE

Lymington is famous for its sailing history, and has hosted regattas such as the Royal Lymington Cup, Etchells Worlds, Macnamara's Bowl, and Source Regatta. Every Thursday night during the summer, Thursday Evening Racing takes place with up to 100 boats. The town has two sailing clubs, the Royal Lymington Yacht Club and the Lymington Town Sailing Club, which runs the Lymington Winter Series, or Solent Circuit.

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Political intervention

As the general election moves into the public consciousness, it is time to start lobbying



Stephen Hodder

With the local and European elections providing heat for the political parties, it is clear we have entered the countdown for the 2015 general election. Our discussions with politicians already show a notable change of tone, with a more highly charged focus and a greater interest in manifesto-friendly policies.

While times remain firmly austere, it does feel like green shoots are appearing – showing a fledgling recovery in our own RIBA Future Trends Survey. Because of this, we should look to the future with a level of ambition. I'm in no doubt that the country will be counting the pennies for years to come but now is the time to think four and five years ahead and set out a vision for the next government which challenges and supports its core objectives – fostering growth, increasing the number of homes, addressing changes in the UK's rapidly shifting demographics, creating a healthier nation, adapting to and mitigating the effects of climate change and thinking about how to deliver the best schools. This is where we come in.

Last month, following a Council debate in March, the RIBA launched its built environment report, *Building a Better Britain; a vision for the next government*. This underlines how

We've identified key areas of policy that need greater investment and intervention to deliver economically, socially and environmentally sustainable homes and communities

architecture affects all our lives and sets out how practical policy changes can have wider and positive impacts on our health, wealth and general wellbeing.

We've identified key areas of policy – planning, housing, flooding, school provision, health and ageing, and retrofitting – that need greater investment and intervention to deliver economically, socially and environmentally sustainable homes and communities to meet the needs and aspirations of the British public. And with this, we offer a number of recommendations to both local and national government.

In our planning section, Shaping Places, we look at meeting national ambitions steered at a local level, and call for the next government to set out a long-term vision for places linked to wider economic strategies and priorities. To meet burgeoning housing demand, we propose empowering local authorities to start building again and identify finance mechanisms and investment in alternative housing models such as self and custom build to achieve this. Similarly, we look at how we need to further develop retrofitting of our existing housing stock to reduce carbon emissions and energy bills.

Importantly, the report builds on our work on changing demographics and creating healthier communities. Focusing on the role of central government and local authorities, we call for the creation of healthy infrastructure action plans and good design principles for new developments to encourage healthy lifestyles. We also look at how the government should consider its approach to schools design and the impact this has on our children's educational attainment.

The Farrell review made a good start on illustrating the need for a joined-up approach to shaping policies to better focus on architecture and built environment. It is right that the RIBA, with its partners, demonstrates to political parties of all colour that this is important. The party conferences in the autumn will provide the perfect platform for the RIBA to push this report and communicate how architecture is not a fringe issue but central to many of the next government's core objectives.

I believe this paper shows that architecture continues to be visionary and we, as practitioners, have the will and determination to make a difference. ●

@HodderPRIBA

REGULATION REVIEW

The RIBA has submitted its proposals to the government for the future of architects' regulation in the UK, in response to the review of Arb. You can see the proposals at www.architecture.com/RIBA

Rem Koolhaas is the ultimate marmite man: love him or hate him, we need the way he challenges and questions

Words: Hugh Pearman Portrait: Fred Ernst

Why we need Rem Koolhaas


There is a moment in the documentary film 'Rem' made by his son Tomas Koolhaas, when the tall, angular Dutchman, being filmed around the tall, angular anti-scraper of his CCTV headquarters in Beijing, finds himself nabbed by a delightfully smiling Chinese girl half his height and made to pose with her for a photo. Rem's habitual air of abstracted melancholy remains unaltered by the incident: he merely stops moving briefly, suffers the photo, and moves on. The voiceover at this point is Rem saying of CCTV: 'It's a building that only a European could think of, and only the Chinese could have built.' Which sounds great, until you think about it a bit, and realise it might also sound suspiciously like nonsense. That's Rem, revered as a seer by some, reviled as a charlatan by others. The same film includes interviews with superstar musician/businessman Kanye West – a client for a pavilion in Cannes – and a homeless man who spends a lot of time in OMA's Seattle Public Library. So, another client, another Rem fan.

Now 70, he is the seemingly reluctant

architect and theorist who – backed by the formidably powerful Office of Metropolitan Architecture which he co-founded – builds all over the world. And this year he brings his particular brand of provocation to the directorship of the Venice Biennale (see page 58). We know only selected details of his personal life – born in Rotterdam in 1944, moved to Indonesia with his cultural-critic father and family aged eight, back to the Netherlands, early work as a journalist and screenwriter, then on to the AA in London in the delirious late 1960s to hook up with the Bernard Tschumi/Zaha Hadid generation. But it is unarguable that Rem is important. He fills a great need in architecture: to question, challenge, and make eyebrow-raising utterances.

At times you get the impression that even he finds it odd that he attracts so much attention. He comes across as socially awkward as well as physically gawky, a tall thin man seemingly not quite at ease in his own body. He fidgets. Habitually stern-faced verging on anxious-looking, it is a bit frightening when he smiles, only because this seems to





It helps to imagine Rem's
chiselled skull as the Casa
da Musica: mysterious and
unknowable on the outside,
richly and eccentrically
ornamented within

He has said he thinks people miss the irony and humour in his work – written and built. This suggests that he thinks he can be taken too seriously

be seldom, making our portrait photo all the rarer. He will certainly never win any prizes for his soporifically soft-voiced manner of public speaking, though the faithful flock to hear him nonetheless. He could be accused of deliberately cultivating an air of mystery around himself, though that could just be a form of shyness or introversion. One thing, though: he has said he thinks people miss the irony and humour in his work – written and built. This suggests that he thinks he can be taken too seriously. And this is encouraging.

At a packed-out lecture in London once – and how many other architects could fill the Queen Elizabeth Hall's 900 seats? – a frustrated student tried to break through his reserve by asking him what football team he supported. A long, long pause ensued, only for Rem to pronounce, 'That depends'. Thanks for the insight, maestro. Then again, he might just have been wryly playing up to his humourless-intellectual image.

He is the only director of the Venice Biennale in recent years to have demanded and got not only a longer Venice Biennale than usual – nearly six months – but also a much longer lead-in time. Normally the very existence of the show is confirmed so late that is a mad dash for the director's team to pull together, and all that effort gets a relatively short showing. One suspects only Rem could have dictated his own terms in this way.

Here are the basic facts. Koolhaas founded OMA in 1975 with Elia and Zoe Zenghelis and Madelon Vriesendorp, his wife. The older Elia Zenghelis was one of his tutors

at the AA, and these four all contributed to his 1971 AA thesis project 'Exodus: the voluntary prisoners of architecture' in which the curious isolated-but-free status of West Berlin was applied to a linear walled city-within-a-city that happened to be London. Over time the other founders fell away, in later years younger partners such as Ellen van Loon and Reinier de Graaf came to the fore, but Rem ruled the roost from the early days. The model-strewn OMA office in its anonymous postwar block is a hothouse that has produced other notable architects, among them his AA near-contemporary Zaha Hadid, Joshua Prince-Ramus of REX in New York, Ole Scheeren in Beijing, Julian de Smedt in Brussels, Bjarke Ingels of BIG in Copenhagen. All of them rather successful, and none of them exactly shrinking violets.

Completed buildings are only ever a part of his output – let us not forget AMO, the theoretical arm of OMA – but those buildings are among the most significant of our time. Among them are the 1980s Netherlands Dance Theatre in the Hague, the 1990s masterplan and Grand Palais for Euralille, and a clutch of steadily larger projects in the 2000s including the Seattle Central Library, the immense CCTV building in Beijing, and – a personal favourite of mine for all its oddnesses – the faceted Casa da Musica in Porto where the smooth concrete and glass exterior gives way to richly textured, coloured and patterned interiors, often by collaborators, including tilework that pays homage to the craft traditions of both the Netherlands and

Portugal. It helps to imagine Rem's chiselled skull as the Casa da Musica: mysterious and unknowable on the outside, richly and eccentrically ornamented within.

There is, however, always an element of deliberate perversity in Koolhaas's buildings – either an avoidance at all costs of the conventional or obvious solution, or the ironic embrace of exactly that. In perverse vein, Porto is notable for its absence of normal large foyer spaces, leading to a warren-like interior feel. Externally the mute exterior makes no attempt to physically open up to the public square it sits in, instead presenting you with a daunting staircase entrance. Rather than icons (CCTV notwithstanding), Koolhaas produces anti-icons, which leads him sometimes to the deliberately mundane. Consider the cladding details of his Rothschild HQ in the City of London, wrenched from the banal by its ultra-hierarchical 'sky pavilion'. Consider too a recent building that has divided the critics, the mighty 'de Rotterdam' complex in Rem's home city – where a bout of value engineering early on in its long history removed the variety of cladding materials originally proposed to define the elements of the buildings. The design also ballooned in size, and so OMA decided to make a virtue of acres of a standard cladding system. The result is (for me) strangely impressive, the conjoined towers on their concrete plinth commanding the water's edge like Easter Island statues, effortlessly superior to the work of other world-famous architects alongside including Foster, Piano and Siza.

But Koolhaas is known as much for his writings as his building, be it *Delirious New York* (1972-6, with Vriesendorp's famous illustrations) and the massive *S,M,L,XL* in 1995 – so graphically different from any other architectural publication up to that point as to redefine the whole nature of the business – though one wonders how much it is actually read, it has Bible-like status.

Koolhaas leads. You may hate his manner and pronouncements, but he puts in the research and when he pronounces on a topic, be assured that it is about to get hot. Be it the Gulf, the Far East, East Africa, shopping, or conservation, Koolhaas exposes the essence of his subject always on the off-beat. So while everyone is talking about the future of cities, his present much trailed research project is the idea of the 'countryside'. That, from a Dutchman, will be interesting indeed. ●

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Rooms without views

Rem Koolhaas presents lots of unadorned ideas, but leaves the viewer to reach an opinion

Words and photographs: Hugh Pearman

The office motto of Will Alsop used to be 'No style, no beauty'. It applies very well to Rem Koolhaas's Venice Architecture Biennale, overall title 'Fundamentals'. Oh, yes, there's the Koolhaas sense of style here of course, or anti-style, but he carefully avoids anything that could be considered architectural aesthetics. In his central 'Elements of Architecture' show, Koolhaas strips the architecture away from architecture, leaving us with, essentially, building components: ceilings, walls, windows, escalators, balconies, and so forth. Were it not for the strong sense of history and wit at this biennale, it would look very like a glorified version of the Building Centre.

The idea is to clear away all the cultural baggage, and start afresh, re-imagining what architecture could be. Not that Rem offers any pointers. Perhaps he, like most of us, is waiting for the next big development in architecture while having absolutely no idea what it will be. Perhaps there might be a hint that architects are increasingly marginalised, and that the future of building is in the hands of others. Whatever, this is the logical conclusion of the trend in recent biennales to steer attention away from the ultra-shapeism apparent in 2002's 'Next' by Deyan Sudjic. But this is the first show to ignore those big names completely. And you don't miss them at all.

As you enter 'Elements', you are immediately confronted with a wholly architectural coup de theatre: spanning the pavilion's lofty rotunda is a slice of modern office building, all the pipes and ducts normally hidden above the ceiling revealed in thoroughly sculptural fashion, like the innards of a space station. Above it is a different, earlier kind of ceiling, a

gloriously decorated dome. The banal against the sublime? Not quite. These modern pipes are shiny, ordered and dramatic, very unlike the tangled mess you find if you poke your head through a loose ceiling tile in your office to see where the drips are coming from. These look good, interesting. Koolhaas expresses no preferences, here or anywhere in the show. These are just two kinds of ceilings. That's it.

The best thing about the 'Elements' show is the space it gives for valuably obsessive single-issue collectors and curators. There's a one-legged man who collects staircases. There's a British national treasure, Charles Brooking, whose display of windows through the ages is just part of his vast collection of salvaged bits from buildings being demolished. It is now a nationally important resource.

This is a different Biennale in other ways. Usually its heart is the international exhibition, put together by the director, in the cavernous, long historic buildings of the Arsenale former naval complex. That spills into the Giardini, home of the national pavilions, where it occupies spaces in the enormous former Italian, now Central, pavilion. The national offerings are usually a bit of a side show. Rem, of course, does things differently. Rumoured to have wanted to omit the Arsenale entirely, he has put together a large sideshow there called Monditalia, an unnecessary look at the world as influenced by Italy. Intended to bring in the other Biennale cultural disciplines, there are endless film clips and live dance and theatre performances and various bits and bobs. Fine in its own terms but if it's architecture you're after and you miss this section entirely, it wouldn't really matter.

Instead – apart from concentrating his

This is the first biennale to ignore those big names completely. And you don't miss them at all



Above The smiling face of North Korean reconstruction propaganda.

Opposite Choose your ceiling: Koolhaas' dramatic entry room in 'Elements of Architecture'.

Below right Welfare State baroque: One of the legendary Hulme Crescents, Manchester, as presented in the British pavilion.





SECOND OPINION: MARIA SMITH OF STUDIO WEAVE

My highlight was the Belgian Pavilion, 'Interiors. Notes and Figures'. Like *Fundamentals*, it is a celebration of the prosaic, but whereas Koolhaas has elevated raised floors, the Belgians have honoured the ordinary negotiations between ordinary furniture and ordinary homes. It is touching and hilarious.

The pavilion's curators visited 256 homes and took 1247 photographs. The subjects of a meticulously selected handful are recreated in reverential white: a fridge next to 'a wall cupboard with similar attributes', changes in grout colour between white tiles, a staged yucca plant. Humble A4 print-outs of the photos are blue-tacked to the wall, 'accompanied by relevant factual information'. The analysis is gold: 'Some furniture and a pipe evoke the kitchen... the floor's division prevails... radical compromise is highlighted by the neutral position of the table.'

While *Fundamentals* – with its flowery urinals and cottaging scenes – is overtly a bit silly, the Belgians are unwaveringly deadpan, to the extent that you could be forgiven for missing the humour altogether. The national pavilions do have the advantage of size – being small enough to exhibit one idea (the German Pavilion exemplifies this beautifully) – but for me the Belgians have beaten Mr Koolhaas at his own game.

personal firepower in the 'Elements' exhibition – Koolhaas has insisted that the national pavilions' shows should be on the theme of 'absorbing modernity'. With 66 nations represented, this is a huge response to Marshall: Rem has neatly summarised them all in the 1991 'bookshop/boatshop' by James Stirling, Michael Wilford and Tom Muirhead, handily near the entrance. Koolhaas notes that big-name architects, himself included, are largely absent from these chronicles. 'We are mere intruders in national narratives that we do not influence,' he says dispassionately. It's another nail in the coffin of the 'international style', too – so many different modernisms emerge from this exercise.

One of these is the British Council-led contribution, 'A Clockwork Jerusalem', which displays a commendable lightness of touch. Curators Sam Jacob of architect FAT, with his Dutch collaborator Wouter Wanstiphout, look at the British desire for the utopian, often pastoral, community from Blake's yearning 'Jerusalem' to the greenery of Milton Keynes via a lot of brutalist council estates and the arcane pop videos and publicity photos made in them. Reference is of course made to the film 'A Clockwork Orange', partly filmed in the utopia-turned dystopia of Thamesmead.

The first big room of the British pavilion boasts a curious earthen mound of a viewing platform, edged in pink-painted timber. This partly refers to the world's first council housing, the Boundary Estate in east London, started in 1890. That of course radiates from just such a mound with a bandstand on top, made from the rubble of the slum cleared to build it. The mound therefore represents a better future. And there is real affection here

South Korea stages an absorbing look at the diverging architectures of the two ideologically opposed Koreas, and has won a Golden Lion award for its pains

for a time when the State could provide such large new communities, including later brutalist ones. Because, let's be brutal, the State has lost that sense of purpose. But will anyone but the British fully understand the delicate nuances of this show? I asked around, and I fear the answer is no.

My favourite pavilions include Germany, which builds a replica of its 1960s chancellor's modernist bungalow in Bonn inside the Fascist-era pavilion, and South Korea, which stages an absorbing look at the diverging architectures of the two ideologically opposed Koreas, and has won a Golden Lion award for its pains. And let's welcome New Zealand for its first Biennale contribution 'Last, Loneliest, Loveliest', a satisfyingly chronological tour through both historic Maori buildings and distinctly different Kiwi modernism. Meanwhile Russia, curated by the Strelka Institute, challenges Britain for wit. Its romp through its various modernisms comes in the guise of a hilariously cheesy trade fair – perhaps a nod to Koolhaas's 'Elements'.

Much happens outside the official programme of course, such as Alex Scott-Whitby's unit at the University of East London. It pulled off the coup of making an installation on the balcony of the Doge's Palace which acts as a two-way electronic portal between the Biennale and the London Festival of Architecture. Clever, and a great exercise for students in the arts of making and negotiation. I was impressed too by German artist Heinz Mack's 'The Sky Over Nine Columns' in the forecourt of Palladio's San Giorgio Maggiore. Clad in glittering gold-leaf glass mosaic, otherwise-simple square columns imply a fundamentalist architecture of magnificence.

Apropos of which, outside the 'Elements of Architecture' exhibition, in the open air, stands a curious object – a building made only of six columns, three floorslabs, one staircase and basic foundations. No walls. It's a full-size timber replica – commissioned by Brett Steele, director of London's Architectural Association school – of Le Corbusier's drawn but never built 'Dom-Ino House' of 1914. So something devoid of style and beauty, as basic as this must have seemed a century ago, can indeed usher in an architectural revolution: in that case, modernism. But that was a manifesto design: Koolhaas's 'Fundamentals' carries no such manifesto. It merely observes. Maybe that's all we can do now, but you come away wanting something more. ●

THIRD OPINION: MARCUS LEE OF LEEP ARCHITECTS

Surprisingly accessible must-see Central Pavilion by Koolhaas – thoroughly enjoyable, entertaining, nostalgic, stimulating and tactile. Door handle castings, staircase models and wall material mock ups were a joy.

Overall the show is full of paradoxes. Concrete megastructures abound, loved and abhorred equally, celebrated in the well balanced British Pavilion with glimpses of Boundary Estate, an LCC pioneering project, Manchester's Hulme Estate Royal Crescent re-interpretation and Milton Keynes' Campbell Park mound and concrete cows shipped in to guard the pavilion's steps.

The Danish pavilion was charming, fragrant with the smell of pine needles, contending that modernism in Denmark began some time before 1914. I particularly enjoyed the ruinous images of Nervi's wonderful Italian structures in the Arsenale, reminding me a little of Cardross seminary where decaying concrete in a green world has a Piranesian quality.

We enjoyed the community spirit in Hungary's pavilion, where exciting looking timber construction projects involved scores of people. France fused Jean Prouvé's lightweight (and sometimes heavyweight) utilitarianism with Jacques Tati's house from 'Mon Oncle', where everything technical contrives to control the occupant.



Left The French pavilion is taken over by director Jacques Tati's 1958 film 'Mon Oncle', where the modern house contrives to control the occupant.

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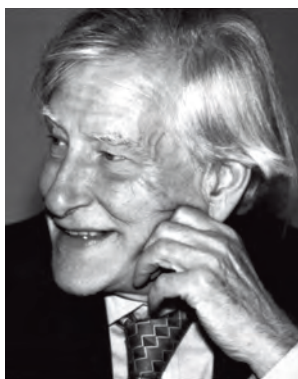
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Derek Stow

1929 – 2014

RIBA fellow, OBE, dedicated to providing facilities to help enable the NHS promise of cradle to grave healthcare



Derek Stow, one of the foremost architects in healthcare buildings, has died at the age of 84. Although his name may be unfamiliar to the general public, his peers, clients, students, and work colleagues held him in very great esteem. His buildings, including Thamesmead Lakeside Health Centre, received

many awards for design quality and performance in use.

His less tangible legacy was in seeking to ensure that the NHS provided healthcare facilities to all, as originally intended, 'from cradle to grave'. He wrote 'Changing Hospital Architecture' (with Sunand Prasad, RIBA Publishing, 2008), describing the process by which the coherent design of healthcare buildings – location, content and built form – has changed since 1948, but is continually interrupted and amended by successive governments, with much lost at each change, particularly the in-depth evidence based research which he identified as crucial.

Derek studied at Kingston School of Art, Department of Architecture, now Kingston University. In his first job, with Brown & Chamberlin, he was assistant architect on the seaside section of the Festival of Britain – the riverside frontage to the Royal Festival Hall. After National Service, he joined Powell & Moya; he was assistant architect on schemes including Churchill Gardens housing, then as associate took charge of several healthcare projects including Wexham Park District Hospital, Slough.

In 1962 he formed his own practice, Derek Stow & Partners, in his home in Camberwell Grove – his wife Gwyneth juggled the needs of Derek and his small team with visiting clients and two young daughters; and she and Derek created the start of a very special office atmosphere. Lunchtime trips to the pub sometimes included his father, Ivor, who was very influential in Derek's life. Gwyneth became the landscaping partner in the practice.

When the office size, and the imminent arrival of his third daughter, dictated a move to premises in Old Queen Street, Westminster, that atmosphere made the transi-

tion too. The work was demanding, innovative and exciting and all staff, however junior, felt they were working with Derek – a subtle but significant detail. If a subject interested him, he appeared to have all the time in the world to give it his full consideration.

He had a close involvement, from its outset, with the Medical Architecture Research Unit, founded by Raymond Moss. At the same time his practice portfolio of healthcare projects encompassed strategic planning, development control and master planning, support facilities, specialist units, day hospitals, primary and community care, education and residential, and modular health buildings. The latter project started with a prototype relocatable health centre at Poplar, and evolved into a patented totally relocatable building system. Derek appreciated the great importance of education, whether in his own office, tutoring at the AA, or at MARU.

Derek started the Halpin Stow Partnership in 1991 with old friends returning the office to a more intimate, less corporate atmosphere. It was a productive time, working on master plans for Royal Sussex Country and Whipps Cross Hospital. It culminated in the building of King's College Hospital new critical care centre and operating theatres together with the joint education centre.

Derek became an associate of the RIBA in 1951, and was elected a fellow in 1965. He won the OBE in 1979 for services to architecture, was elected a Freeman of the City of London in 1984 and a Liveryman of the Worshipful Company of Chartered Architects in 1989. He was given a Lifetime Achievement Award for services to the healthcare environment in 2008.

He was a man of interesting opposites: quiet and modest, but able to forcefully convince a roomful of sceptics if he felt strongly. While being a true modernist, Derek was fascinated by Lutyens. He embraced computer aided design, while his real weapon of choice remained the technical drawing pen. He was a serious, thoughtful, patient man; enthralled by all aspects of the built environment and full of knowledge and infectious enthusiasm. To say we will miss him is an understatement.

He leaves his wife, Gwyneth, daughters Anna, Katy and Harriet, and grandchildren. ●

John Fielder and Pam Whitmore Fielder

In Memoriam

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ELECTED 1960, LONDON

ALLAN FREDRICK CLOSE
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SPRING, TYNE AND WEAR

MICHAEL GEORGE SHAND
ELECTED 1976, MARSEILLAN,
LANGUEDOC

DAVID MICHAEL THOMAS
ELECTED 1983, SHEPPERTON,
MIDDLESEX

JOHN DOUGLAS THORNTON-SMITH
ELECTED 1985, CHELMSFORD,
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Teaching aid

Maria Smith's not-so-tongue-in-cheek commentary (RIBA J June 2014) on the non-state of architectural education is both timely and perceptive. She deftly cut to the quick of our malaise as a profession – an education system over-reliant on incredulous 'theory of design' course structuring and dangerously light on professional practice training. It is disingenuous to continue to rely on gap year work and in-practice indenture to give students critically important professional conduct skillsets. Maria's idea of deferring hard design to later college years and engaging first years in basic architectural history and construction technology coursework deserves further study...

Andrew Gibb, via email

Unwelcome facts

Daniel Rosenfelder's letter (RIBA J May 2014) makes a very important point. Sadly, the UK might also be added to his list of 'unpalatable inferences' for the invasions of Iraq and Afghanistan – acts far worse than



any carried out by the State of Israel. Politics always degrades architecture and it would be wise of the RIBA to take a non-partisan approach to trying to encourage the creation of the best environment for everybody.

Alex King, West Sussex

Hoo knows?

The editor's Flights of Fancy (RIBA J, June 2014), advocating adoption of the Foster Isle of Grain airport proposal, comes a mere 22 years after my new London airport proposal for the Hoo peninsula site was presented to the then owner of the site. Its flatness, and its relative proximity to rail links, make the site almost ideal for an airport. My proposal could not be pursued, as owner Blue Circle Cement later sold its Hoo sites.

Like the editor, I have walked across the peninsula, with its prolific birdlife habitat, riverine scenery and largely unspoilt natural beauty. For this reason, the area is littered with Sites of Special Scientific Interest, which legally preclude large-scale development such as an airport: especially in view of the potential birdstrike hazards to aircraft taking off, and in the air; as well as the noise, air and ground pollution, which would adversely affect the area's prolific birds.

Having just returned from a long flight from Heathrow, with its vast and growing development, it seems unlikely that major airlines would be keen to leave that increasingly saturated hub airport any time soon. However hooley, Hoo might still be not-so-hooley after all.

Peter Hancock, via email

CORRECTIONS

In our awards issue last month we gave the value of Evans Vettori's St Joseph's Community Hall (RIBA J June 2014, page 14) at £3.36m. They wish: in fact it was a very reasonable £336,000. Also, Herbert Wright's 'The flâneur' column was of course by him, not Hugh Pearman as stated.



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Specialist Contractor
Award

Eleanor Young is executive editor of the *RIBA Journal*. As a critic and a journalist she visits, interviews and writes about the most exciting buildings and people in architecture from Hadid to Holl. She was a founding director of architecture centre TransForm MKSM and is a board member of housing association Circle 33.

Paul Monaghan is a director of Allford Hall Monaghan Morris, which he co-founded in 1989 with Simon Allford, Peter Morris and Jonathan Hall. His projects include Unity on Liverpool's waterfront, Barking Central and Westminster Academy. He is currently on the Cabe National Design Review Panel and is a former chair of the RIBA Awards.

Sunand Prasad co-founded Penoyre & Prasad in 1988 with Greg Penoyre. He was a founding commissioner of Cabe and was president of the RIBA from 2007-09. He is a member of the Mayor's Design Advisory Group for London and the UK Government's Green Construction Board.

Deborah Saunt worked with Tony Fretton and MJ Long before founding the architecture studio DSDHA with David Hills in 1998. She was a guest professor at EPFL in Lausanne, Switzerland and currently teaches a diploma design unit at the Cass School of Architecture in London.



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Ortus, designed
by **Duggan Morris**
Architects
Photograph by
Jack Hobhouse

Celebrating skill, dedication and collaboration

Welcome to the inaugural Schueco Excellence Awards for Design & Innovation 2014, published in association with the *RIBA Journal*.

Faced with a field of hugely varied buildings, all using Schueco systems, it was noticeable that the most intriguing projects showed the transformational power of the cladding system. The panel of sometimes demanding critics, Paul Monaghan of AHMM, DSDHA's Deborah Saunt, past RIBA president Sunand Prasad of Penoyre and Prasad, and myself, had warm words for the best: 'handsome and elegant', 'fresh', 'simple and unpretentious' and even 'exquisite'.

Winners in two of the most hotly contested categories – Manchester School of Art (Education) and Bridgegate House (Commercial) – used Schueco systems to revive flagging buildings from the 1960s and 1970s respectively, pulling them up an astonishing number of notches in thermal performance with a new envelope. Not only that, but the new façades signal a new and stylish life for those buildings, giving a sense of pride to those who work and study in them.

These two projects are not simple reclads. They both have a great deal of design thought put into them, from bespoke trickle vents to finishes in mirror backed glass, and stainless steel ventilation panels. This level of design is a reminder of the dedicated input and collaboration it takes from design team to specialist subcontractors and right through the supply chain to Schueco itself. You can see that demonstrated most clearly at Heathrow's Terminal 2 where the wave forms of the huge roof have metres and metres of curving junctions between the aluminium and the Schueco skylights and Schueco FW 60+ curtain walling system – and it was all installed as the rest of the airport carried on its everyday business.

The Special Award was unanimously given to Ortus, a health education building designed by Duggan Morris that shows a practice going beyond its normal scope of services to construct a truly excellent building where every façade detail is tailored and considered. We need more buildings like this one.

Eleanor Young

Chair of judging panel

Winner

Ortus, Camberwell, London

Entrant: Duggan Morris Architects

Judges were unanimous in their praise of Duggan Morris Architects' Ortus, which was the runaway winner in both the Health category and the Special Award for best overall entry. The £4.65m pavilion, for Maudsley Learning, comprises 1,550sqm of learning and event facilities, café and exhibition spaces and was delivered through a PPC 2000 partnering process tailored for construction management.

This process helped the architects to realise its rigorous composition for the façade – a simple grid expressed in pre-cast concrete with brick and recessive glazed elements. The solution used the Schueco Jansen steel window and structural glazed system from Schueco's SG system which are covered when viewed externally to allow the grid to be clearly read. The standard Schueco Jansen section (50mm frame) was specified for all openable windows and the SG system for the fixed panels and full height doors.

When tenders from specialist façade companies proved too high, Duggan Morris assembled its own team of individual specialists to develop the detailed design of the façade, producing three-dimensional details of many of the interfaces, and coordinating manufacturers, fixers, and checking engineers. This team approach proved effective – the façade was assembled on-site on time and within the cost plan, despite thousands of unique elements.

'As it was all assembled on-site rather than in a factory, tolerances had to be very well understood by all of the various parties,' says Joe Morris, director. 'For example, how the vertical and horizontal fins were connected together on-site at the head in conjunction with the brickwork with very little tolerance for the thin profile (50mm) steel window frames was resolved as a team effort.'



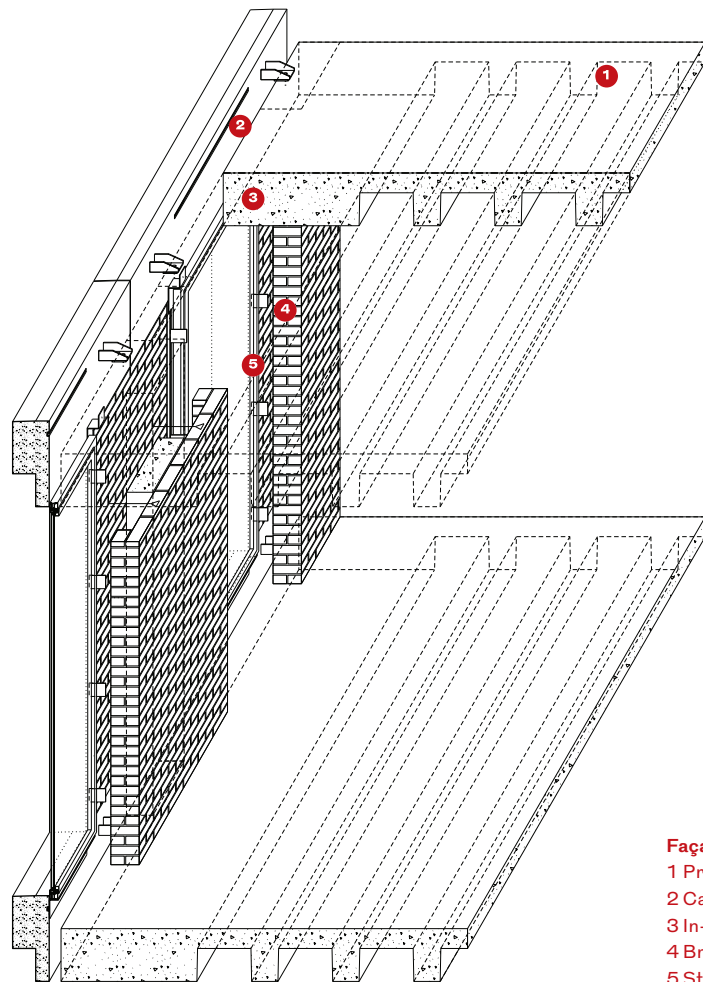


Far left Staircase and multi-use learning space.
Left The façade is a simple grid in brick and pre-cast concrete.

The 3,000 x 1,200mm glazing panels were face-bonded on to the frames, which were powder-coated to match the shade of the concrete frame. The 675mm datum for the vents is set by the passive ventilation strategy.

Judges admired the ‘accomplished’ and ‘distinguished’ building and were impressed with the proactive attitude of the architects to achieve such a powerful elevation.

‘There’s an extraordinary confidence in that building. The architects have clearly been the team leaders when so often architects fail at delivering,’ says judge Sunand Prasad.



Façade axonometric
 1 Pre-cast concrete fixing
 2 Cast-in rail for fixings
 3 In-situ concrete frame
 4 Brickwork
 5 Steel windows

Client: **Maudsley Charity**
 Architect: **Duggan Morris Architects**
 Construction manager: **Cavendish Barclay**
 Structural engineer/façade concept engineer: **Elliott Wood**
 Specialist contractor: **KCC Architectural**
 Fixings designer: **CFS**
 Pre-cast concrete panel manufacturer: **Cambridge Architectural Precast**
 Constructor: **Precast Masonry Services**



Winner

Manchester School of Art

Entrant: Feilden Clegg Bradley Studios

At the Manchester School of Art, Feilden Clegg Bradley Studios utilised the façade strategy to unify the new-build and refurbishment elements of the scheme, using wide bands of black anodised aluminium interspersed with strips of glazing. These are oriented vertically on the new-build and horizontally on the refurbishment.

For the overclad of the 1960s Chatham Tower, the architect was keen to retain a slim profile but deliver a more efficient façade than the single-glazed ribbon windows it replaced. FCB Studios removed the original glazing and introduced a thermal envelope using the Schueco AWS 70.HI window system with inward opening sidelights using manual actuators. Although the overall area of glazing was reduced, the panels were larger.

'The strategy was to make bigger views

but with less window,' says FCB Studios partner Tom Jarman.

The 8000m² new building of studios, workshops and gallery space uses Schueco's FW 60+ SG curtain walling system on the seven-storey north elevation. This stick cladding system combines clear glazing, mirror-backed shadow box units, perforated venting panels and polished stainless steel vent panels. At ground floor the perforated panels are based on a wallpaper design by past tutor Lewis Day.

Judges appreciated the 'handsome and elegant' use of the new curtain walling.

'The detail of the ventilation panels is lovingly considered,' says Sunand Prasad.

'It's the variety in the composition which makes it all hold together,' adds Deborah Saunt.

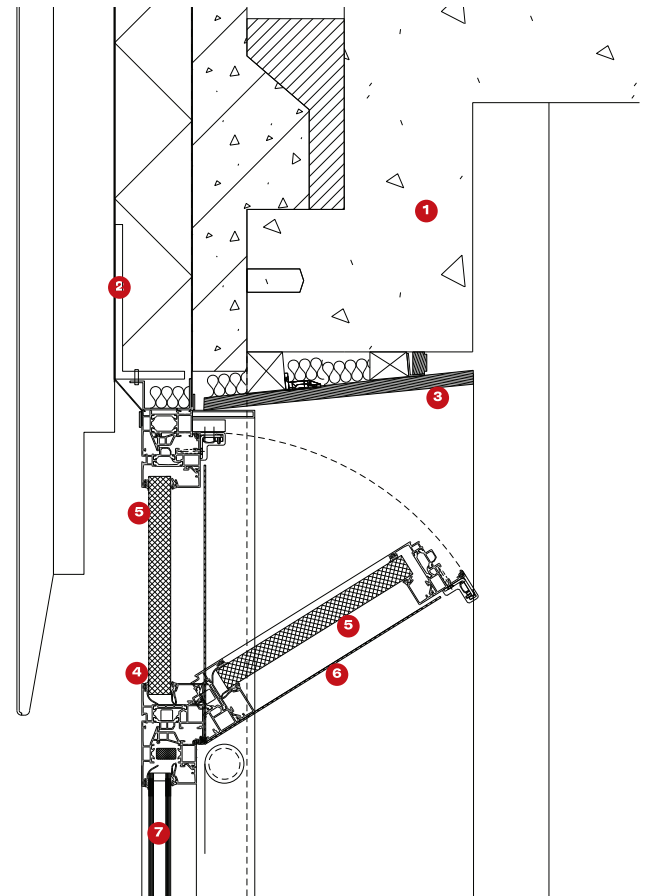


Both the new-build (**main image**) and reclad (**left**) parts of Feilden Clegg Bradley Studios' design for Manchester School of Art use Schueco systems. **Below left** Detail of perforated vent panel.



Client: Manchester Metropolitan University
Architect: Feilden Clegg Bradley Studios
Structural engineer: Arup
Contractor: Morgan Sindall
Façade consultant: Montrésor Partnership

The project was also commended in the Sustainability category, see page 79.



Detail of Chatham Tower window

- 1 Existing structure
- 2 Mild steel frames
- 3 MDF frame lining
- 4 Aluminium framed opening light
- 5 Insulated sandwich panel
- 6 Aluminium backing sheet
- 7 Glass vision panel

Commended Scottish Ballet Headquarters, Glasgow

Entrant: Malcolm Fraser Architects

Performance arts buildings are generally mechanically ventilated, but at the Scottish Ballet's Glasgow headquarters, Malcolm Fraser Architects specified an openable Schueco system to achieve a rare naturally ventilated design.

Double-height rehearsal spaces are positioned at the top of the £8.25m building for visual privacy, with technical areas at ground floor and administrative and wardrobe facilities on the first floor. Natural light is provided along the main elevation through large opening vents set within the Schueco FW 60+ curtain wall system. These 2,340mm x 833.5mm door vents use the Schueco RS 65 system, which provides the sufficient size and strength to deal with gusts of winds when open.

As well as natural ventilation, another priority was sufficient and even natural light. In the main 20m x 20m rehearsal space, this is achieved using nine trapezoidal, west-facing Schueco rooflights configured to bounce light off the blank parts of the walls rather than the mirrors. A further window looks internally on to a central circulation and social space, and another at the north offers views over the centre of Glasgow.

'The brief was to get as even a light as possible but without visual distraction,' says Malcolm Fraser Architects' director Clive Albert.

Judges commended the originality of the bricolage composition, which combines curtain walling, profiled anodised aluminium cladding, and at street level, pre-cast concrete cladding to give a deceptively effortless, stacked appearance.



PHOTOGRAPH: ANDY ROSS



Above Main ballet rehearsal space, lit by nine west-facing rooflights designed to admit as much light as possible without causing visual distraction.

Left Judges admired the ballet headquarters' varied elevational composition, which combined profiled anodised aluminium cladding with dark concrete and areas of curtain walling.

Client: Scottish Ballet
Architect: Malcolm Fraser Architects
Structural engineer: Struer
Services engineer: Waterman Building Services
Project manager: TX2
Project Management Specialist contractor: Walsin

PHOTOGRAPH: DAVID MORRIS

Commended

Ash Court, Girton College, Cambridge

Entrant: Allies and Morrison Architects

Praised by the judges for its impeccable details and sophistication, Ash Court was also the winner of the Sustainability category. For details see page 78.



Left The north-east elevation combines triple-glazing within a super-insulated envelope.

Below Brise soleil on a secondary framing system provide shade on the south-west elevation, which also incorporates rooftop photovoltaics.

Client: **Girton College**
Architect: **Allies and Morrison Architects**
Structural engineer: **Fluid Structures**
Services engineer: **Max Fordham**
Main contractor: **Mansell**
Specialist contractor: **Anglian Architectural**



PHOTOGRAPHS: NICK GUTTRIDGE

Winner

Bridgegate House refurbishment, Irvine

Entrant: Ian Springford Architects

Judges praised this 'simple and unpretentious' refurbishment for its transformation of dilapidated council offices in the new town of Irvine on the west coast of Scotland.

The 1970s building provided 69,370sq ft of cellular offices above 13,470sq ft of ground floor retail units, but suffered from an under-performing single-glazed façade and poor use of space. In addition, the large scale of the development failed to adequately address the smaller scale accommodation of the nearby historic old town.

Ian Springford Architects' refurbishment tackled all these problems with the introduction of new curtain walling as part of an overhaul of the façade, and through the relocation of the main entrance to the cantilevered High Street corner to the east.

The practice worked with Schueco and specialist contractor Charles Henshaw & Sons to integrate the Schueco FW60+ SG structural glazing system into the existing building to allow the upper levels to recede into the background. Also, the new system was adapted to unobtrusively accommodate





Left Before and after of the façade with single glazing replaced by a Schueco structural glazing system.

Above The new entrance.

Right Reclad Bridgegate elevation with first floor mesh louvres.



natural ventilation in openable windows and bespoke high-level trickle vent details.

On the Bridgegate elevation, the mass of the building is visually broken by the use of a dark grey ceramic frit on solar-controlled glass and through the incorporation of two shades of full-height fixed panels. At first floor level the curtain walling is combined with mesh louvres. On the north façade, the Schueco mullion/transom system incorporates insulated panels and slate grey Trespa facing panels.

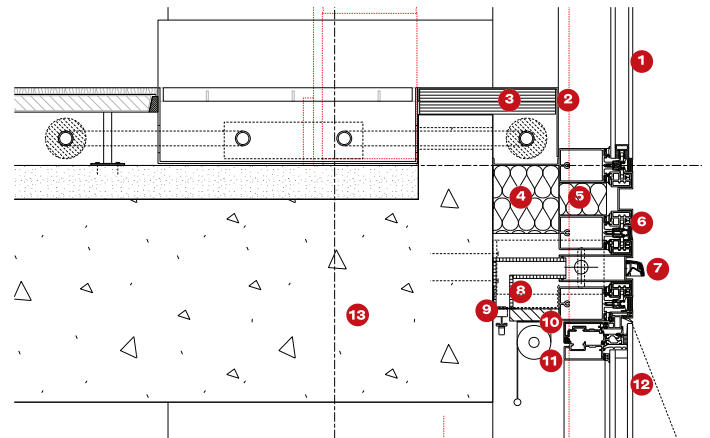
'It's such a massive building. We wanted to bring it back down to street level with the mesh fins and a paler curtain walling above that allowed the rest of the building to peter out towards the sky,' says associate Fiona McNeill.

The new open-plan layout accommodates 450 rather than 180 staff, and the EPC rating improved from F+ to an anticipated B.

Client: **North Ayrshire Council and Irvine Bay Regeneration Company**
 Architect: **Ian Springford Architects**
 Structural engineer: **Atkins**
 Services engineer: **Pick Everard**
 Contractor: **Graham Construction**
 Specialist contractor: **Charles Henshaw & Sons**

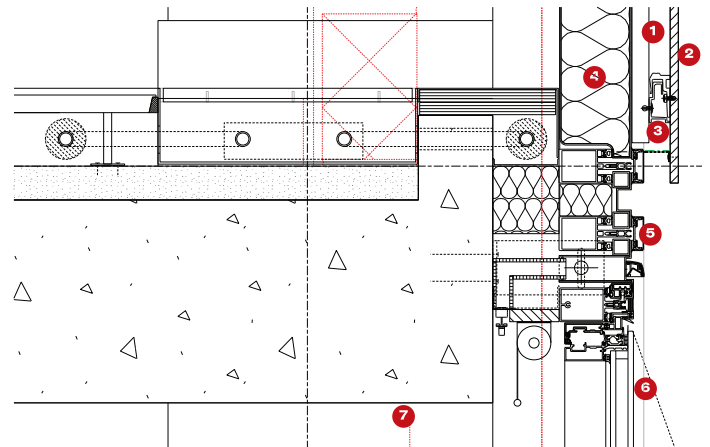
Detail of third floor junction with structural glazing curtain walling

- 1 Schueco structurally glazed curtain walling
- 2 Stainless steel cill flashing
- 3 Plywood packers to form cill
- 4 Fire stopping system
- 5 Mineral fibre
- 6 Aluminium flashing between transoms
- 7 Trickle vent canopy
- 8 Trickle vent duct
- 9 Trickle ventilator
- 10 Painted MDF board on framing fixed to slab edge
- 11 Roller blind
- 12 Schueco structurally glazed top hung outward opening window
- 13 Concrete floor slab



Detail of third floor junction with capped curtain walling

- 1 Vertical cladding rail welded to face of insulated cladding panel
- 2 Cladding panel
- 3 Horizontal cladding rail
- 4 Aluminium faced insulated panel glazed into curtain walling system
- 5 Schueco capped curtain walling
- 6 Schueco structurally glazed top hung outward opening window
- 7 Existing slab soffit



Commended

87-91 Redchurch Street, London

Entrant: pH+

Architects pH+ worked with Schueco to develop customised actuators to realise a façade animated by full-height openable shutters with colourful graphics. The façade, which uses Schueco's FW 50+ SG system, is the main elevation of a £2m new-build of nine apartments above a commercial unit in Shoreditch, east London.

pH+ collaborated on the project with artist Bob and Roberta Smith who created a graphic piece on the south elevation inspired by the signs of now obsolete businesses that once operated in the fast-gentrifying area.

These graphics are incorporated in vinyl on the inside of 3m x 1.2m powder-coated panels within the apartments. When the shutters are opened, they rotate 180 degrees to lock open facing the street, turning the previously internal graphics into external signs and revealing a glass balustrade in each aperture. As a result, the building appears closed and fortress-like at night but animated during the day, the artwork a reference to the art-world related businesses now moving into the area. An intermediate setting allows for the shutters to open 10cm for ventilation.

Considerable testing was undertaken with approved Schueco specialist contractor Ridlands to ensure the shutters could withstand the windloads. Insulated aluminium panels – three per apartment – are combined with flush glazing and spandrel panels adjacent to the opening shutter doors.

'The whole façade becomes a piece of public art and a massive sales feature,' says pH+ director Andy Puncher.

Judges commended the design for its imaginative use of Schueco in combination with graphic panels in order to articulate the façade.

'It brings colour to the street in a very different way,' says judge Eleanor Young.

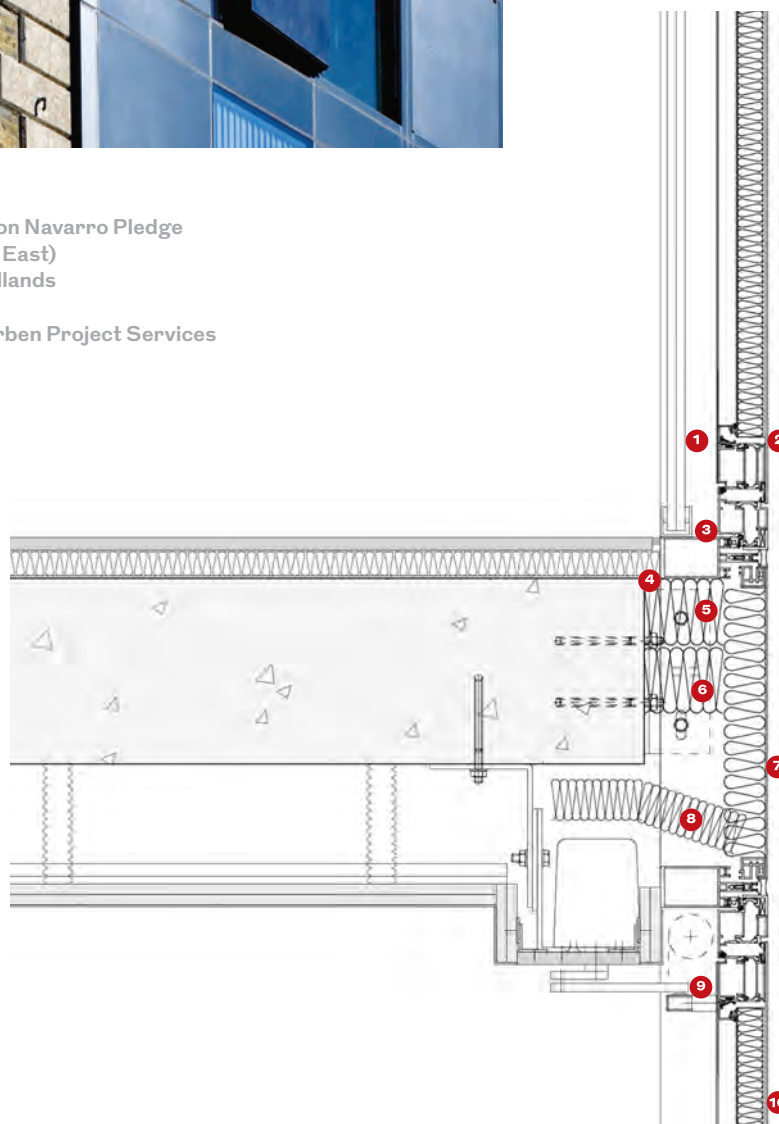


Left and right South elevation, which combines flush glazing and spandrel panels with graphics on numerous openable shutters.

Architect: pH+
Structural engineer: Mason Navarro Pledge
Contractor: MJW (South East)
Specialist contractor: Ridlands
M+E Engineer: ME7
Project Management: Harben Project Services

Curtain wall section detail

- 1 Glass balustrade
- 2 Outward opening, powder-coated aluminium panel
- 3 Aluminium curtain walling frame
- 4 Vapour barrier from slab to curtain wall frame
- 5 Fire and acoustic seals
- 6 Fixing back to slab
- 7 Insulated powder-coated spandrel panel
- 8 Acoustic insulation
- 9 Arm from motor to door
- 10 Insulated powder-coated aluminium panel





PHOTOGRAPHS: TIMOTHY SOAR

Winner

Maple Quays, Rotherhithe, London

Entrant: M Price

More than 1,000 unitised panels make up the curtain walling of Ontario Point, a 27-storey residential tower at Canada Water, Rotherhithe.

Specialist contractor M Price fabricated the 2.5m x 3m panels – its first large unitised project – using Schueco's USC 65 insulated façade system.

The aluminium profiled system was chosen for its aesthetics and functionality, with its three-chamber structure and overlapping gasket design giving excellent weather-tightness according to M Price sales and marketing director James Keller.

A 10-20mm horizontal butt joint allowed for different floor deflections. The system was used with Schueco AWS 102 flush integrated opening elements and the Schueco ASS 70 FD thermally-insulated sliding balcony door system. U-values are 1.7 W/m²k.

M Price collaborated closely with Schueco

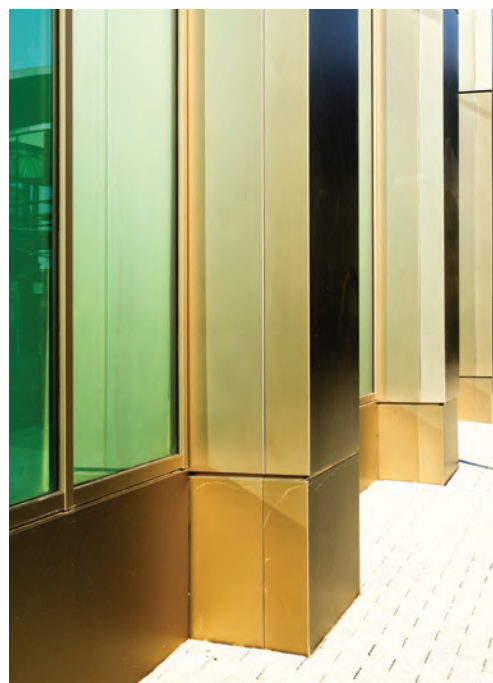
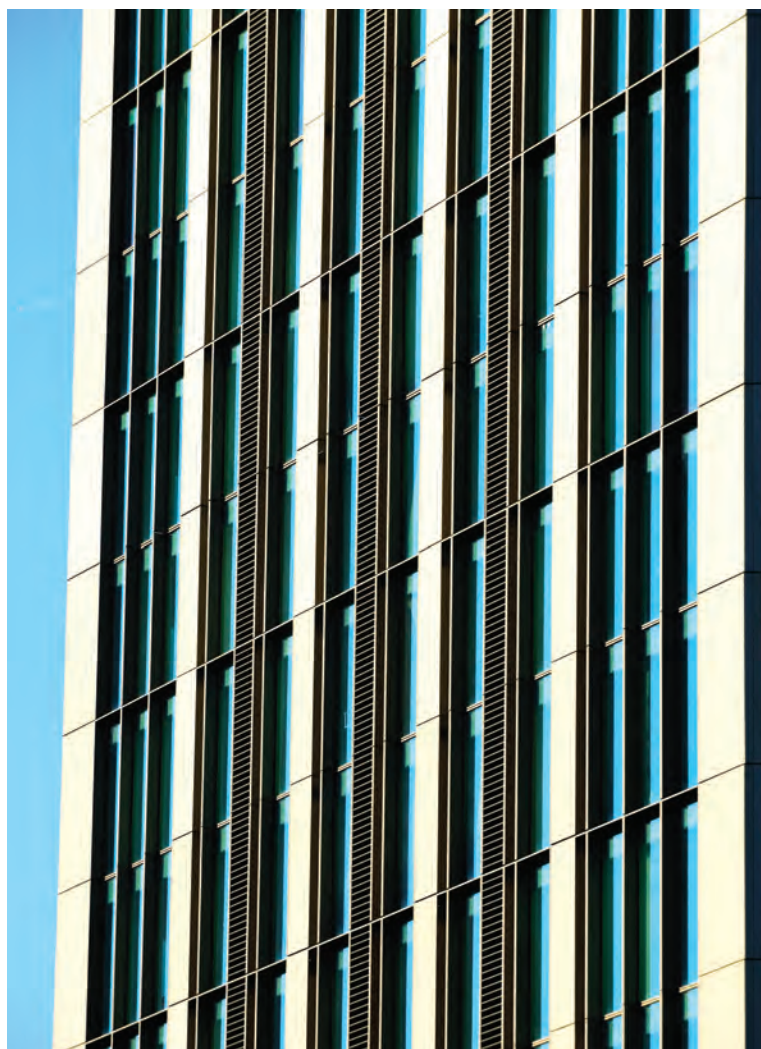
on the £8m contract, making use of a four-corner crimping machine supplied by Schueco to produce the frames.

According to Keller, this saved approximately six weeks of labour and enabled the contractor to keep to the tight construction schedule – the unitised panels were installed in 30 weeks.

Judges were impressed with the sophistication of the unitised façade on such a large-scale project.

'It is very dramatic and avoids clichés. The detailing is clear and elegant,' says judge Paul Monaghan.

M Price managing director Colin Chapman, says the Enfield-based company's investment in unitised production allowed it to win the contract against foreign competition, and he anticipates a shift towards unitised production among other UK specialist fabricators.



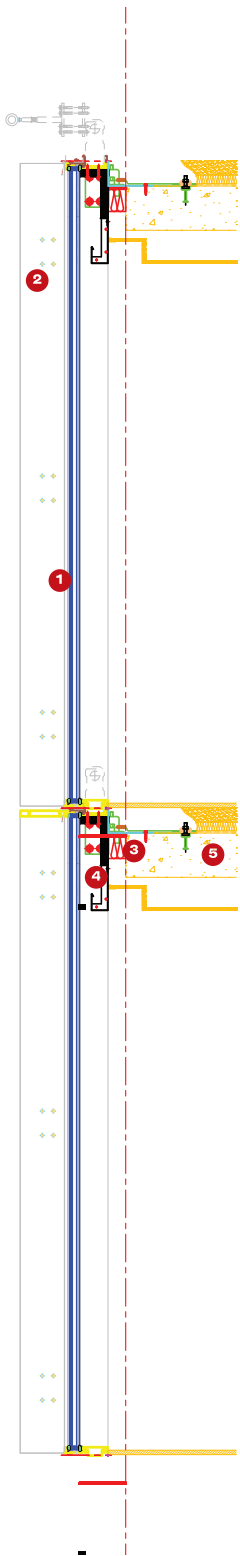
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Far left Panels measured 2.5m x 3m and used Schueco's USC 65 insulated façade system. **Left** Ground floor detail. Judges were impressed with the crisp detailing throughout the building.

Client: Barratt Homes
Architect: Glenn Howells Architects
Structural engineer: URS Corporation
Specialist contractor: M Price

Opposite page

Far right More than 1,000 unitised panels were installed in 30 weeks at Ontario Point at Maple Quays.



Façade detail

- 1 Glazing
- 2 Aluminium fins pre-installed to unitised panel
- 3 Insulation
- 4 Fixing bracket
- 5 Floor slab



Winner

Mayfair House, London

Entrant: Squire & Partners

The Virginia creeper growing on a nearby building proved the inspiration for Squire & Partners' remarkable metal shingle façade of a new private house in the centre of London's Mayfair.

This highly expressive elevation, which comprises more than 4,000 folded aluminium leaves, was combined with a Schueco thermally broken casement window system – Schueco AWS 70 BS.HI – and the Schueco ADS 80 FR 60 E160 door system. Both were chosen for their slim profiles, level of finish and because the aluminium profiles matched the metal of the leaves. These were used with some modifications – there was an agreement with Schueco for larger than standard sizes of the taller windows on to the lightwells on the flank façades.

The project involved the retention of an 18th century façade in combination with a new building to create a five-bedroom house with a rooftop pavilion, two roof terraces, a swimming pool, cinema and gymnasium.

Judges enjoyed the original and highly-crafted elevational treatment.

'There's a sense of solidity. It bridges between the modern and traditional well, and uses apertures in a wall in a fresh way,' says Deborah Saunt.

'The detailing is very minimal and appropriate against the layered façade,' says Paul Monaghan.

Client: **Central Investment Properties**
Architect: **Squire & Partners**
Structural engineer: **Heyne Tillet Steel**
Contractor: **GPF Lewis**
Cladding consultant: **Tuchschnid**
M&E: **Wallace Whittle UK**

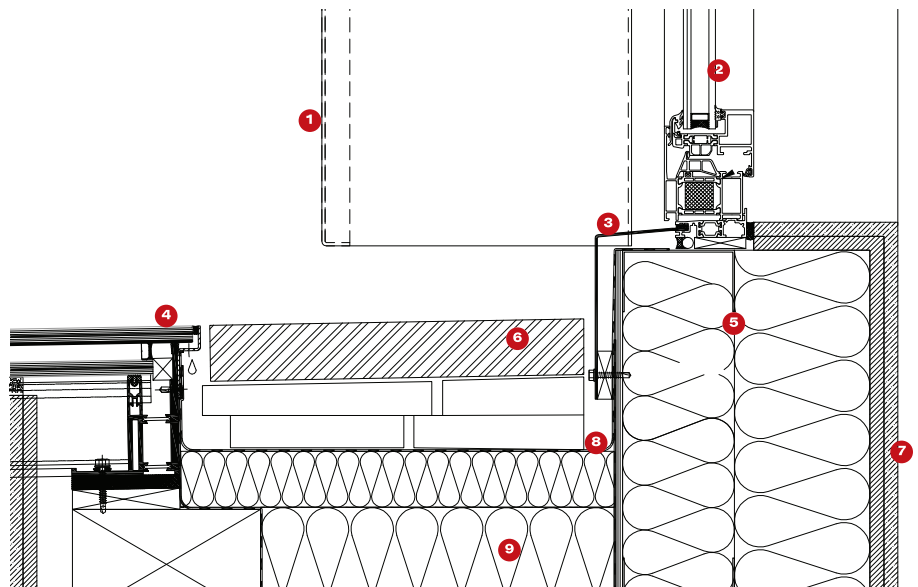




Above View through the living space to the roof terrace.

Far left and right The metal-clad façade, inspired by nearby Virginia creepers, is inset with Schueco window systems.

Left Shingle detail.



Cill to bottom window

- 1 Rainscreen cladding
- 2 Schueco window
- 3 Fixed aluminium cill
- 4 Fixed rooflight
- 5 Metal frame upstand
- 6 Stone paver
- 7 Dry lining
- 8 Waterproofing
- 9 Insulation

Winner

River Cottage Cookery School, Devon

Entrant: LSC Facades

Situated in woodland with limited vehicular access, Hugh Fearnley-Whittingstall's River Cottage Cookery School in Axminster, presented considerable logistical challenges for specialist contractor LSC Facades.

Installers had to carry each of the seven, 2,000mm x 2,255mm panes down a country track for 1,000m to reach the site. Satellite Architects specified Schueco's FW 50+ SG curtain walling to form the 14m wide glazed elevation which gives extensive views over the Axe valley to people eating at the school.

The cookery school is built on the stone base of an earlier farm building and has an exposed, bolted Douglas fir structure. The façade is designed so that the frame that holds the glass is attached to the structural timber, giving a continuous glazed elevation.

On the other side of the building, the frame is expressed externally to form a small cloister.

Satellite has been working on the River Cottage headquarters site since 2005 and is about to complete its fifth project there.

Judges admired the 'exquisite' crafted interior. 'It's doing a lot with a little... the diagonal bracing of the timber and the curtain-walling sing off each other,' says Paul Monaghan.

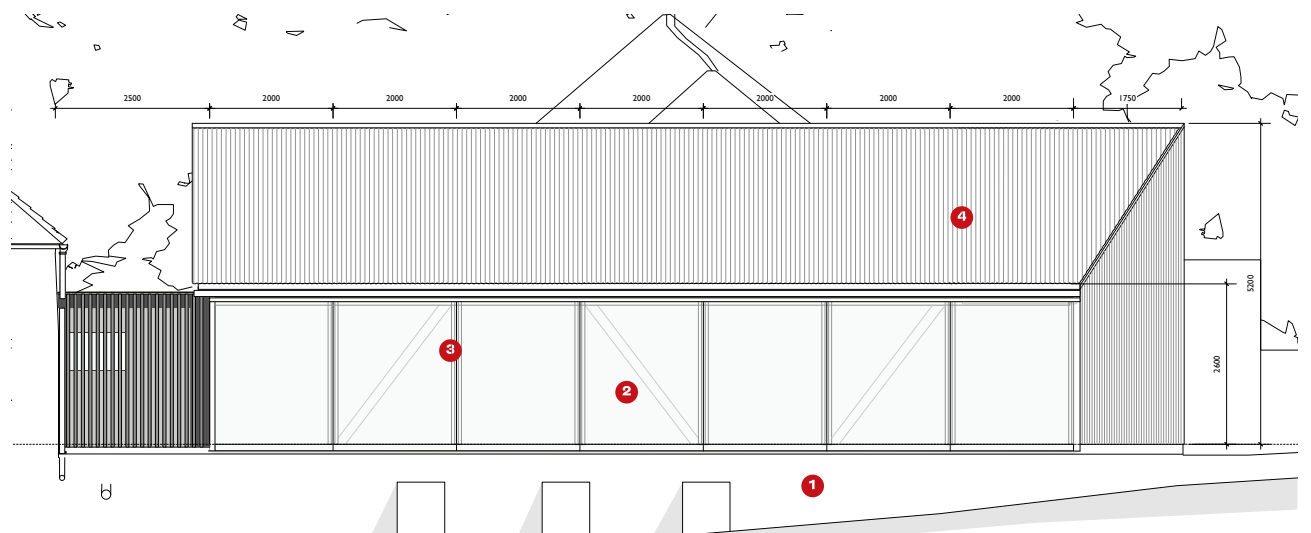
Client: **River Cottage**
Architect: **Satellite Architects**
Structural engineer: **Evolve**
Main contractor: **Magenta Conservation**
Specialist contractor: **LSC Facades**





Left West elevation, featuring a 14m-wide expanse of Schueco curtain walling.

Above Interior view of the west elevation, with an exposed, diagonally-braced Douglas fir structure behind the continuous glazing.



West elevation

- 1 Existing stone retaining wall
- 2 Schueco curtain walling
- 3 Douglas fir internal structure
- 4 Corrugated steel roof

Winner

Ash Court, Girton College, Cambridge

**Entrant: Allies and Morrison
Architects**

One of the most energy-efficient student housing buildings in the UK, Ash Court, has been designed by Allies and Morrison Architects with a 100-year design life to future-proof against climate change.

The brick-clad, three-storey wing provides 50 en-suite study bedrooms at the Grade II* listed Girton College. The architects decided against a curtain walling system and instead used a super-insulated envelope with triple-glazing and powder-coated Schueco AWS 90.SI aluminium window profiles. These were combined with louvres, brise soleils, pvs and cills, supplied by Anglian Architectural.

On the north-east elevation, for each bedroom unit a fixed main window is combined with a louvred panel in front of an insulated vent. Windows on the south-west are shaded with brise soleil on a secondary framing system. Air tightness was given a

particularly high priority resulting in a rate of $1.83\text{m}^3/\text{m}^2/\text{hr}$.

Window sensors automatically disable the heating when air quality is satisfactory. In anticipation of increased future cooling requirements, pipework was embedded into the concrete soffit to enable cooling with ground water. Some 190m^2 of photovoltaics were incorporated into the steeply-pitched roof, generating 40% of electricity on-site.

The building achieved a 40% reduction in CO_2 beyond Part L2A (2006), and was rated BREEAM Excellent.

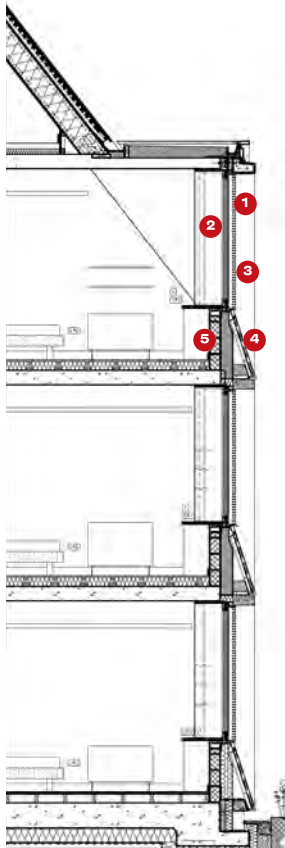
'It's still very rare to combine high architectural ambition with passive techniques,' says judge Sunand Prasad. 'Allies and Morrison have used those techniques skillfully to make lots of light and simplicity, with a very sophisticated typological approach.'





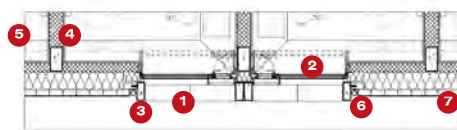
Above Gable end. Concrete frames the window ensemble and terracotta cladding.

Left North-east elevation. Each bedroom has a fixed main window alongside a louvred panel in front of an insulated vent.



Bedroom window section (left) and bedroom window plan (below)

- 1 Reveal, louvre and fin
- 2 Bedroom window
- 3 Pre-cast concrete 'goalpost'
- 4 Terracotta sills
- 5 Insulated blockwork
- 6 Downpipes
- 7 Masonry wall



Client: **Girton College**
 Architect: **Allies and Morrison Architects**
 Structural engineer: **Fluid Structures**
 Services engineer: **Max Fordham**
 Main contractor: **Mansell**
 Specialist contractor: **Anglian Architectural**

Ash Court was also commended in the Education category (see page 67).

Commended Manchester School of Art

Entrant: Feilden Clegg Bradley Studios

Feilden Clegg Bradley Studios' overcladding of Chatham Tower substantially improved the environmental performance of the 1960's building, which suffered from significant solar gain and poor comfort levels in both summer and winter.

'We felt the frame had plenty more life in it yet, so the challenge was to resolve the critical thermal issues,' says partner Tom Jarman.

The reclad introduced a new thermal envelope that reduced glazing by 40% and used solar controlled low-e glass to mitigate solar gains. A rainscreen over-sails high level venting to enable draft-free background ventilation.

The new-build part of the project has been rated BREEAM Excellent.

Manchester School of Art won the Education category, for details see page 65.

Client: **Manchester Metropolitan University**
 Architect: **Feilden Clegg Bradley Studios**
 Structural engineer: **Arup**
 Contractor: **Morgan Sindall**
 Façade consultant: **Montrésor Partnership**

Roof terrace and lift shaft of the new-build part of the Manchester School of Art, rated BREEAM Excellent. This was combined with a reclad of the existing Chatham Tower (**right**).



Winner

Riverside Museum, Glasgow

Entrant: Charles Henshaw & Sons

Zaha Hadid's dynamic design for the Riverside Museum on the river Clyde presented considerable challenges for façade specialist Charles Henshaw & Sons.

Not only was the specialist contractor dealing with structural glazing rising up to 19.8m to form the two gable end elevations, it also had to contend with highly irregular pane sizes and the need to maximise views down the river while minimising solar glare on the south façade.

'The solution was to build it unitised so that each frame of glass was brought to site and then assembled in blocks,' says Charles Henshaw pre-contract director David Cation, adding that this ensured high quality could be maintained in the factory.

Charles Henshaw used a bespoke unitised system based on Schueco UCC 65 SG with the back box and brackets adapted to suit project



Commended

Heathrow Terminal 2

Entrant: Lakesmere

Heathrow's Terminal 2 is topped with an undulating waveform roof combining 7,000m² of Schueco FW 60+ framed glazed skylights with 45,000m² of Kalzip aluminium standing seam.

The project is notable for its scale and complexity. Specialist sub-contractor Lakesmere met tight building enclosure deadlines and the logistical challenges of the airport – one of the largest construction sites in the UK – remaining operational throughout.

Lakesmere worked in association with the Schueco technical team and carried out early 3D-modelling of the roof to determine logistic and work access strategies to help devise an efficient method of installing the large glass units into the Schueco frames across the vast expanse of roof area.

Antonio Rubio, project leader for envelope and ancillary buildings at main contractor HETCo, says the roof is the main architectural feature of the terminal building envelope.

'It was very challenging in all aspects

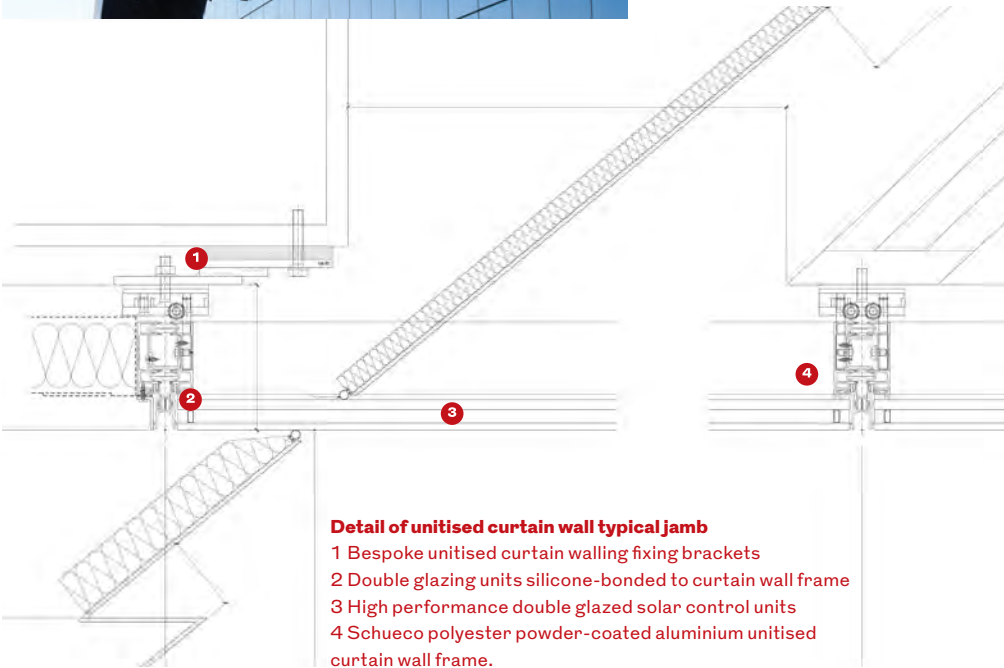
– design and installation complexity, very demanding programme, and with the logistic constraints of working within Heathrow airport,' he says.

Judge Eleanor Young comments: 'A large scale challenge in complex geometry, this shows the importance of collaboration across design team, specialist contractors and supplier.'

Client: Heathrow Airport
Architect: Luis Vidal + Architects
Masterplanner: Foster + Partners
Structural engineer: Ferrovia Agroman
Technical Office and Merebrook Consulting Engineers
Main contractor: HETCo (Laing O'Rourke/
Ferrovia Agroman joint venture)
Specialist contractor: Lakesmere



Far left Unitised structural glazing creates gable elevations rising 19.8m including some highly irregular panel sizes **(left)**.



Detail of unitised curtain wall typical jamb

- 1 Bespoke unitised curtain walling fixing brackets
- 2 Double glazing units silicone-bonded to curtain wall frame
- 3 High performance double glazed solar control units
- 4 Schueco polyester powder-coated aluminium unitised curtain wall frame.

requirements. Pane units measuring 2.2m wide and 3.4m high were then fixed to an internal steel structure designed to give large spans and views across the Clyde. The façade includes high performance solar control glass with a decorative frit finish for thermal insulation and reducing heat build-up and glare.

Judges appreciated the vital role that a specialist contractor would have played in realising such a distinctive architectural vision.

'Zaha Hadid's building requires the glazing to be effortless when clearly in terms of uniting glazing and the huge spans it isn't. It's even more commendable because it's a reasonable budget,' says Paul Monaghan, who praised also the 'minimal and elegant' solution.

Client: **Riverside Museum/Glasgow City Council**
 Architect: **Zaha Hadid Architects**
 Structural engineer: **Buro Happold**
 Contractor: **BAM**
 Specialist contractor: **Charles Henshaw & Sons**



Left The new terminal's distinctive undulating roof incorporates approximately 7,000m² of Schueco's framed glazed skylights.



Schueco Excellence Awards 2014 for design and innovation

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If you have proven leadership, management and project management experience, and have evidence of successful study to a first degree or equivalent in a construction, information or publishing discipline – make the right decision, join NBS.

 For full details visit www.theNBS.com/careers. Alternatively, contact Keith Wilson, Director of Technical Information, for an informal chat on 0191 244 5517.

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Closing date: 13 July 2014

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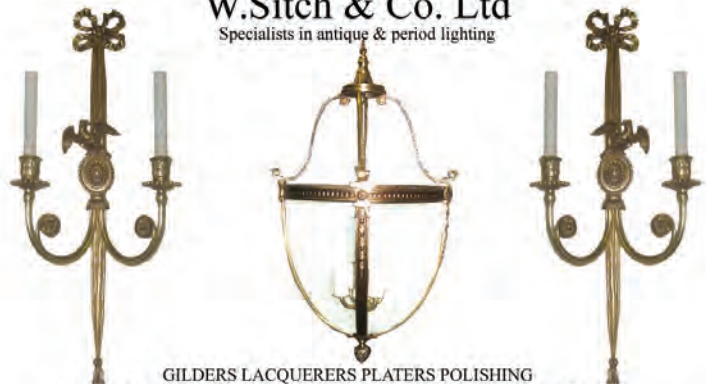

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dean.pa@peterborough-cathedral.org.uk or **01733 355308**

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Appointment from autumn 2014



T: 020 685 9685 W: www.comar-alu.co.uk
E: projects@parksidegroup.co.uk

In two RIBA assessed seminars, Comar, one of the UK's leading aluminium systems companies, outlines:

Title 1: Stand & Deliver: a Study of Curtain Walling

The design of curtain walling, its properties and how it is used by specifiers. This seminar aims to offer an understanding of the points of H11 in the NBS specification system, and how best to make use of it.

Title 2: Designing Functions & Reliability into Entrances

The issues that influence the function of main entrance design and technology. This seminar aims to offer an understanding of how user expectation influences door design and links this with hardware selection, entrance configuration and floor finishes.



Put a little Calor into your client's energy solutions.

T: 0800 121 4561
E: askcalor@calor.co.uk
W: www.calor.co.uk/business

Title: Low carbon energy solutions for non mains gas areas

This seminar provides an introduction to Liquefied Petroleum Gas (LPG) and its credentials as a clean and efficient, low-carbon energy for modern businesses off the mains gas grid.



Rivermeade Signs

C: Marion Phelan
T: 020 8896 6906
E: marion_phelan@rivermeade.com

Title: Wayfinding and Best Sign Practice

The CPD looks at what constitutes 'Best sign practice' and how good signing can help everyone; not just those with disabilities. Specifically:

- how signing for the disabled can be well intentioned but is often poorly thought through
- the choice of typography and colour ways to aid legibility
- why the layout of information on a sign is so important
- helpful and misleading symbols and arrows
- case study Whitley Court - what do signs look like when they are specifically designed to assist a variety of visitors with different disabilities.



T: 01709 572201
E: info@stelrad.com
W: www.stelrad.com

Title: An introduction to serial feed radiators

The CPD covers the basics of radiator technology, how parallel feed radiators work, the concept of serial feed technology, why it's so energy efficient, and the positive effects of serial feed technology on the rest of the heating system.



T: 0207 652 9459
E: London.showroom@amx.com
W: amx.com/eu

Integrated Control

This seminar covers the reasons for integration and is designed to help you deal with your clients and other design team members who wish to install a variety of electronic systems into their homes or other premises.

AMX explain how connecting people effectively with their buildings and communities provides value for all concerned.



C: Sarah Longhurst
T: 01483 468 000
E: info@iguzzini.co.uk
W: www.iguzzini.com

Title 1: No Light? No Architecture.

Title 2: Better Light for Life

Title 3: CO2 Relighting: The Route to Sustainable Lighting

Title 4: Detailing the Dark

Title 5: LED: Lighting the way Forward

iGuzzini specialises in architectural lighting and prides itself on its modern concepts which adhere to current environmental issues whilst retaining maximum cost effectiveness.



C: Tim Hayes
E: tim.hayes@quantum-ps.co.uk
T: 0161 627 4222

Title: Step on it: How Stair Nosings Help to make Stairways Safe and Meet Building Regulation Guidelines

A 40 Minute face to face presentation. This RIBA Core Curriculum CPD covers; How to pick the correct Stair Nosing plus how building regulations and the Equality Act affect the specification of a stairway.



C: Tamara Metcalf T: 01785 818998
E: tamara.metcalf@alsecco.co.uk
W: www.alsecco.co.uk

Title: Specification considerations for brick slip and tile finishes for modern architecture

This newly accredited CPD concentrates on the specification of brick slip and tile finishes. The CPD provides an overview of the systems available and outlines the many considerations when specifying these finishes as part of an overall façade system. It then looks at the wide range of materials available in the collection alsecco range of brick slip and tile finishes and a number of relevant project applications.



C: Sean Parr T: 01543 443000
E: cpd@geze.com W: www.geze.co.uk

Title: 1 Glass Door Assemblies – Selection and Specification

This seminar on glass door assemblies provides architects with valuable guidance about glass and how it can be used within door situations throughout a building. The 40 minute seminar provides information about the beneficial properties of glass and the latest regulation and legislation.

Title: 2 Removing Barriers to Access

Title: 3 Safeguarding Pedestrians from Accidents at Power Operated Door sets - EN 16005

Title: 4 Designing Effective Heat and Smoke Ventilation



New: Children's book about Roof Greening

"Four Friends find a New Home" - is the title of a recently published Children's book by Optigreen.

Lilly the butterfly, Marie the ladybird, Tom the snail and Nils the grasshopper have a happy life in a flowering meadow. But one day, their living space is destroyed and they have to search for a new home...

The book is about a group of animals, that are driven out of their habitat due to construction work and have to start looking for somewhere else to live. After wandering around they end up in a seemingly inhospitable city... where they find unexpected shelter and a new home. The book has 36 pages and is not only meant for children but also for any young at heart adults.

For your free copy or for more information please contact Optigreen.

Publisher: Optigrün international AG, Krauchenwies

Autor: Dr. Gunter Mann

Size: 21 x 21 cm

36 Pages,

Price: £2.95

w: www.optigreen.co.uk e: info@optigreen.co.uk t: 0203 5899 400



Equitone specified for social Housing Development

EQUITONE natura and pictura from Marley Eternit have been used on a social housing development at Bell Green, South London. Both EQUITONE [natura] and EQUITONE [pictura] were used on the exterior of the buildings. Sage coloured EQUITONE [natura] was used for the majority of the building's facades, whilst EQUITONE [pictura] in Olive was used to create a contrast with eye-catching feature panels throughout the development.

w: www.equitone.co.uk



Saint-Gobain Weber render system

The high performance weber.rend MT render system from Saint-Gobain Weber has been specified for a new secondary school in Bridgend, South Wales. Applicator M & P Contractors, Tonypany, was contracted for the application of the 3000m² weber.rend MT lightweight system. This multi-coat system incorporates glass fibre meshcloth reinforcement and a resin-rich adhesive coat that carries a choice of textured finishes in a wide range of colours.

w : www.netweber.co.uk



Avoiding Part L risks

Following implementation of the new Building Regulations Part L, concerns are that greater air-tightness in new housing could increase carbon monoxide poisoning risks, justifying more stringent requirements for CO alarms. Kidde's 10LLCO is the only range of 10-year guaranteed alarms with CO sensors – the key component – actually tested throughout a 10-year period or longer.

w: www.smoke-alarms.co.uk

e: sales@kiddesafety.co.uk



Ventrolla invests in skills and training

Investment in training by period window specialists Ventrolla has seen 14 staff achieve qualifications and develop skills ranging from joinery and glazing to safety at work. Ventrolla offers a nationwide bespoke renovation service for timber sliding sash and casement windows as well as for timber doors. The company is committed to having a highly skilled and motivated workforce, which will benefit customers as well as the business and make it an employer of choice.

w: www.ventrolla.co.uk



ESI discovers outstanding performance with Kingspan

A wide range of Kingspan Insulation products have been installed on the walls, floor and roof of the University of Exeter's Environment and Sustainability Institute (ESI) helping it to achieve a BREEAM Outstanding rating. To minimise heatloss from the ground floor, two 150 mm layers of Kooltherm K3 Floorboard were installed, delivering a floor U-value of just 0.05 W/m².K.

w: www.kingspaninsulation.co.uk

e: literature@kingspaninsulation.co.uk



Beccles Health Centre

Natural light and ventilation is admitted to an extension to Beccles Health Centre through Bespoke Triangular rooflights from the Rooflight Company. "The Rooflight Company is unique in their ability to design bespoke triangular rooflights which allow electric actuation and appear frameless from the inside. We are extremely pleased with the rooflight installation and its integration into the geometry and natural ventilation strategy of the extension."

w: www.therooflightcompany.co.uk



New Optigreen anti-slip system for pitched roofs

Optigreen have developed a new and cost effective anti-slip system for extensive pitched green roofs. Called the Optigreen Type P System, it uses their new FKD 58 SD board and is suitable for sloped roofs between 15 and 35 degrees pitch. The specially designed drainage and water storage board is manufactured from pressure-resistant EPS (Expanded Polystyrene).

It possesses high water storage capacity, provides uniform water distribution and at the same time has good drainage capacity. The FKD 58 SD board is applied directly to the Optigreen protection and water storage mat type RMS 500 with the unique surface pattern of the board providing the anti-slip provision for the substrate layer.

w: www.optigreen.co.uk

t: +44 (0)203 5899 400

e: info@optigreen.co.uk



Armstrong Ceilings help show military museum in the best possible light

A new, purpose-built home for a military museum has made unusual use of Armstrong Ceilings. The new £2.3million Soldiers of Oxfordshire Museum features 29 of Armstrong's 1800mm x 2400mm Axiom Knife Edge aluminium canopies with Tegular 2 metal tiles under the exposed concrete soffits throughout the display and office areas.

But in this case, the main runners of the standalone canopy - designed to create ceiling "clouds" for acoustically-challenged or exposed structure spaces - have been specially adapted to carry recessed spot lights to meet the museum's requirement for illumination at any point within the gallery space.

Oxford Architects' Brian Mortimer said: "As the museum required the potential to have spot lighting anywhere in the gallery space, plug-in lighting tracks were required to maintain building flexibility, even under the ceiling rafts."

w: www.armstrong-ceilings.co.uk



Levolux returns to the village

As the London 2012 Athletes' Village prepares for legacy use, an 850 space, multi-storey car park is standing by, equipped with a striking screening solution courtesy of Levolux. Aluminium aerofoil-shaped Fins have been fixed vertically around the car park. The Fins are colour coded to help drivers when returning to their vehicles.

t: 020 8863 9111

e: info@levolux.com

w: www.levolux.com



Comar Architectural Aluminium Systems

Comar Architectural Aluminium Systems have completed work on a new TK Maxx flagship store in Woolwich. The design of Comar 6 made it an ideal choice for this complex faceted curtain wall. Comar 6 was selected due to its slim 50mm profiles which maximised the glazed area for natural day lighting and its special faceted profiles which created the curved facade. To provide opening vents to the curtain walling Comar 5Pi windows were selected.

w: www.comar-alu.co.uk



Signbox reinforces focus on the architectural and design community with new website launch

Leading architectural signs specialist Signbox announces its new look website (www.signbox.co.uk), which reflects its in-depth knowledge of the architectural, interior and design sectors. Visitors will find clear navigation to their relevant sector, with a plethora of case studies which serves as a brilliant testament to the high level of innovative signage solutions that Signbox delivers.

w: www.signbox.co.uk



Concord goes open plan in London

The London offices of leading advertising agency BBH have recently been transformed by architects Urban Salon.

As part of the project, the London-based designer revamped the lighting scheme using a range of stylish Concord luminaires to enhance the interior design while also making use of the available daylight, especially in the central atrium area.

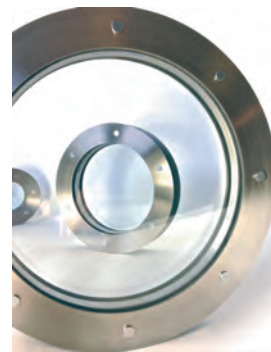
w: www.concord-lighting.com



Equitone fuses nature and nostalgia at Austrian Festival Hall

A fibre cement EQUITONE [natura] facade on The Festival Hall in Erl, Austria, has created an architectural fusion between the site's impressive mountainous setting and neighbouring historical building. The lightweight yet strong properties of the EQUITONE facade, which allow the creation of complex, geometric forms, enabled the architects, Delugan Meissi Associated Architects, to create an angular design.

w: www.equitone.co.uk



Portholes vision panels for doors and walls

Porthole vision panels for doors and walls. Philip Watts Design offer a wide range of porthole vision panel kits in a variety of shapes sizes and materials. From simple single glazed aluminium circles, to high specification 1 hour fire rated DDA compliant double glazed stainless steel lozenges. Manufactured in the UK, bespoke shapes, sizes and finishes are easily accommodated. Call now or visit the web site for details.

t: 44 (0) 115 926 9756

w: www.philipwattsdesign.com



Junckers Maple for Iconic Music Venue

Junckers Maple Classic has been specified for the main area below the stage of the Electric Ballroom in the heart of Camden Town. The historic music venue, which has hosted the likes of Sid Vicious, Madness, The Clash and the Smiths and more recently The Killers, The Raconteurs and Paul McCartney, dates back to the 1930's and is one of London's most famous music venues.

Solid Maple Classic is one of Junckers' hardest timber species, durable enough to withstand the huge crowds at the Electric Ballroom. The floor has been finished with Junckers' High Performance Friction+, a specialist, slip resistant seal. Developed specifically for bars, restaurants and pubs, HP Friction+ is a low-odour, hard-wearing water based polyurethane lacquer that provides high levels of slip resistance on pre-finished, untreated or machine sanded wooden floors.

t: 01376 534 700

w: www.junckers.co.uk



Giving Sterling OSB a shot!

Norbord's Sterling OSB has proved a perfect solution to panelling and walling for laser tag thrill seekers at Battlezone-laser in Gateshead.

400 sheets of Norbord's Sterling OSB were used to construct an intricate maze spanning two floors. With the help of Jewson, Norbord's Sterling OSB was selected for the construction of the internal walling of the maze and has been used in other areas of the site as well.

t: 01786 812 225 w: www.norbord.co.uk



Urban front

Urban Front design and make hardwood contemporary front, internal feature and garage doors with steel reinforcement, high security locks and pivot or 3D hinges. Our six timbers are European Oak, American Black Walnut, Iroko, Western Red Cedar, Fumed Oak and Wenge, but doors are also available as a painted finish. We've also recently launched our E98 Passive doors certified to Passive House level. All of our doors are finished with stainless steel fittings.

t: 01494778787 e: info@urbanfront.co.uk
w: www.urbanfront.co.uk



Twyford's new-look website goes live – designed to encourage and increase user interaction

Twyford Bathrooms has announced the launch of its sleek and stylish new-look website, full of refreshed content, new features and new imagery, so both consumers and professional users can access relevant information with greater ease, speed and accuracy. Compatible with the latest browsers and mobile devices, the new site is also social media friendly.

w: www.twyfordbathrooms.com



Leaderflush Shapland's doorsets

A commitment to innovation and development is vital to Leaderflush Shapland's drive to create doorsets that meet its customers' needs. Having progressed from supplying door leaf only, to an integrated performance doorset, the company has developed an engineered unit of door leaf, frame and all essential ironmongery. "The concept is about ensuring all components of the doorset work together to meet required performance levels," said product development manager Stephen Hutsby.

w: www.leaderflushshapland.co.uk



Marley Eternit

Marley Eternit's Riven Edgemere slates have been used to help transform a derelict piece of land into a state of the art residential home for people with mental health and learning difficulties.

The £1.1 million Oak House development by Camino Healthcare is a purpose built specialist 24 hour nursing facility in Tipton to help men and women with mental health problems begin the recovery process.

Oak House was carefully designed to be sensitive to the local residential area. Therefore the use of appropriate materials was particularly important. Marley Eternit's Riven Edgemere concrete interlocking slates were chosen by main contractor, Bullock Construction as a cost effective alternative to natural slate. The Oak House roof is finished in two different materials; 2,500 Riven Edgemere slates in smooth grey have been used on one section of the building, together with zinc panels to provide a contemporary yet industrial feel on the other roof plane.

w: www.marleyeternit.co.uk/edgemere



Marley Eternit

Marley Eternit's Edgemere slates have been used to help create a distinctive village identity for a mixed use development adjacent to the Warner Bros studio in Leavesden. A significant proportion of the 425 family and affordable homes at Abbotswood Park have been built by Bellway Homes, using both old English Dark Red and Smooth Grey Edgemere slates, to create a mixture of roof heights and designs.

The different roof forms, heights and designs were a key part of creating this identity and Marley Eternit's Edgemere slates were chosen to give a contemporary, yet cost effective, roof covering that could be used to add character to different parts of the development.

Marley Eternit's Edgemere slates are large format concrete interlocking tiles with a thin leading edge for a slate like appearance at a more attractive price. With only 9.7 tiles per square metre, Edgemere is a single lap solution that is quicker and easier to install than natural slate and 40% thinner than standard concrete interlocking tiles.

w: www.marleyeternit.co.uk/edgemere



Tarkett chosen for NHS teenage & young adult cancer unit

A PIONEERING unit for treating teenagers and young adults with cancer has been colourfully fitted out with Tarkett flooring.

The unit at University Hospital Southampton NHS Foundation Trust was funded entirely by the Teenage Cancer Trust and designed to create a space as comfortable as possible. Featuring six en-suite bedrooms, a four bed day unit, social space and support facilities, the bright and engaging décor of the centre was created using a variety of Tarkett flooring. Representing the Trust and leading the project was architect Mark Maffey from Studio Mode. Mark added: "What made the project such a success was the buy-in from all those involved and this is certainly true of the team at Tarkett, they really understood what we were trying to do and were able to provide excellent technical support.

"The flooring went down easily and the finished project has been widely commended – especially by the young adults who now use the centre." Tarkett's iQ range is a hard-wearing, durable floor with a huge spectrum of colours, patterns and effects that allows designers and specifiers the opportunity to get creative in a variety of environments. It's also a sustainable choice being made of 25% recycled content and 100% recyclable.

e: uksales@tarkett.com t: 01622 854 040



Brand New Revolutionary Tarasafe™ Ultra H₂O Hits The Market!

International vinyl and linoleum flooring specialist Gerflor has announced a new addition to its best-selling Tarasafe™ Ultra range of slip resistant safety flooring: Tarasafe™ Ultra H₂O.

Intended for traditional barefoot spaces where there are continuous wet areas, Tarasafe™ Ultra H₂O also offers a shod solution. It is very competitively priced and is rated Grade C in the barefoot ramp test – the best possible – and →36 in the wet pendulum test using a 55 slider. It also scored R11 in the slip resistance wet shod test.

Available in eight colours, complementing Tarasafe™ Ultra's most popular colourways, Tarasafe™ Ultra H₂O is available for delivery in 48 hours to most parts of the United Kingdom in two metre width rolls.

Its weight and flexibility also allows quick and easy installation. Tarasafe™ Ultra H₂O is 100 per cent recyclable and meets all the industry environmental standards.

e: contractuk@gerflor.com w: www.gerflor.co.uk t: 01926 622 600



Council specifies Marley Eternit fibre cement slates and Cedral Weatherboard for school refurbishment

Marley Eternit's Thrutone fibre cement slates have been specified by Milton Keynes Council for a striking 2,000 square metre school roof replacement project in the historical town of Newport Pagnell, which also used the company's Cedral Weatherboard to replace existing cladding. The existing slate roof on one of the town's primary schools was deteriorating and in need of complete replacement. The council decided to use fibre cement slates as a more cost effective solution for the roof refurbishment but wanted to make sure they complemented the school and its surroundings. Marley Eternit's Thrutone fibre cement slates were chosen because the blue black colour closely matched the original slates on the roof and the surrounding buildings. Building contractor Neville Special Projects also replaced existing cladding with Marley Eternit's fibre cement Cedral Weatherboard around the high level windows to improve insulation and weatherproofing. The extensive colour pallet of 22 factory applied colours (including three woodstain finishes) provided the flexibility to select a colour that would both complement the Thrutone slates and blend in with the historical surroundings.

t: 01283 722588

w: www.marleyeternit.co.uk



Elta fan unit achieves top test results

A product in Elta's new residential range of ventilation products has achieved exceptional performance results under testing by the BRE. In the tests, the MORI dMEV unit outperformed anything currently available on the market. In the analysis of the unit's performance with both rigid ducting and flexible ducting, an SFP (Specific Fan Power) rating of 0.09 W/(L/s) was achieved in both cases at an air flow of 13 L/s measured through the wall.

w: www.eltafans.com



Desso launches great indoors website

Desso has launched a new website, the Great Indoors, to raise awareness about the issues affecting health and wellbeing in the built environment. The website will encourage debate on creating the best indoor environment across the world, driven by innovation, imagination and smart eco-effective design, with the aim of improving health and wellbeing in all types of buildings including homes, offices, schools, hospitals and public buildings.

w: www.desso-thegreatindoors.com



BBA

A research report produced for Energy Efficiency Partnership for Housing (EEPH) and the Department for Communities and Local Government (CLG) in 2009 highlighted that SAP assessors are often provided with incorrect, incomplete or contradictory design information, with the most common offender being U-values.

So the BBA, with Thermal Insulation Manufacturers and Suppliers Association (TIMSA), has developed a scheme to address this. It is supported by key insulation manufacturers and also has the backing of two premier U-value software providers, JPA and BuildDesk.

Scheme members are required to demonstrate appropriate technical competency and in-house procedural controls to ensure that their declared calculations are reasonable.

Using an accredited Competent Person provides the client with the confidence that not only have the mechanics of the calculation been carried out correctly but that the thermal and vapour performance data used for the construction materials specified have been carefully examined.

For more information e: customerservice@bba.star.co.uk t: 01923 665300.



Blackdown – the single source provider of Green Roof solutions

Blackdown's single source approach to the design, growing, supply, installation and maintenance of green roof solutions was borne out of its desire to ensure that the highest quality standards are achieved.

Blackdown's systems ensure the realisation of the key drivers that inspired the specification of a green roof in the first place (e.g. stormwater retention, carbon consumption, air and water quality improvements, Urban Heat Island Effect reduction and habitat creation). A complete Blackdown system that provides protection to the waterproofing layer, drainage of surplus stormwater, filtration, an appropriate growing medium and a plant layer that is suited to the project's microclimate will provide the most sustainable, long-term green roof solution. In a green roof market with no prescriptive performance standards, the specification is of great importance. The term 'green roof' applies to a whole spectrum of roofs, ranging from a fully landscaped roof garden right down to a substrate-free blanket of Sedum species and such a broad definition leaves many specifications prone to value engineering. Blackdown green roofs deliver the kind of cost-effective, long-term solutions that have added value at some of the UK's most prestigious buildings.

w: www.blackdown.co.uk t: 01460 234582



ERIC DE MARÉ / RIBA LIBRARY PHOTOGRAPHS COLLECTION

Glasgow School of Art Scotland, 1899-1909

The news in May that Charles Rennie Mackintosh's extraordinary Glasgow School of Art was ablaze shocked the architectural community and cannot fail to have saddened anyone who had passed through those elegantly proportioned doors. The result of a competition, the building was the architect's first and most important commission, taking over 12 years to complete in two distinct phases. Though the design references Art Nouveau in much of its decorative detail, from the characteristic botanical-inspired glass panels to the wrought-iron birdcage finials on the roof, overall it is highly progressive. The interior in particular, designed in collaboration with Mackintosh's wife Margaret McDonald, was thought by

Pevsner to predict the spatial conventions that were later predominant in the modern movement.

In response to a complicated brief for a challenging, steeply sloping site, Mackintosh borrowed elements from decorated churches, the Tudor domestic vernacular and, most importantly, Scottish baronial architecture with its heavy masonry and sculptural tower houses. The true masterpiece was the library – now feared almost completely destroyed – a double height volume of dark wood with geometric pendant lights, glass bookcases and furniture custom-designed by the architect. ●

Support the School's recovery at <http://tinyurl.com/oq8j8gt>
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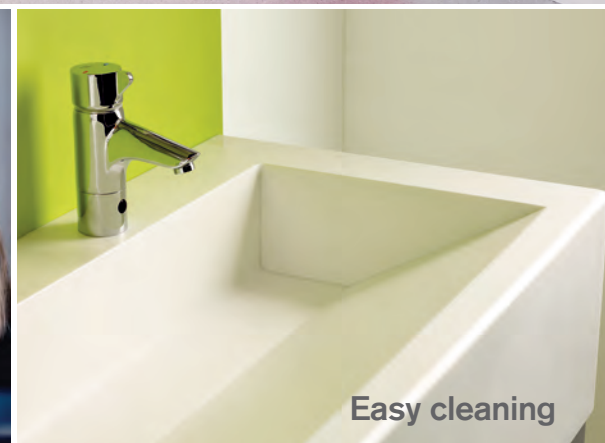
Titan certainly lives up to its name. A full height design with low floor clearance for privacy and partitions with rigid wall channels for strength where you need it most.



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Excellent service



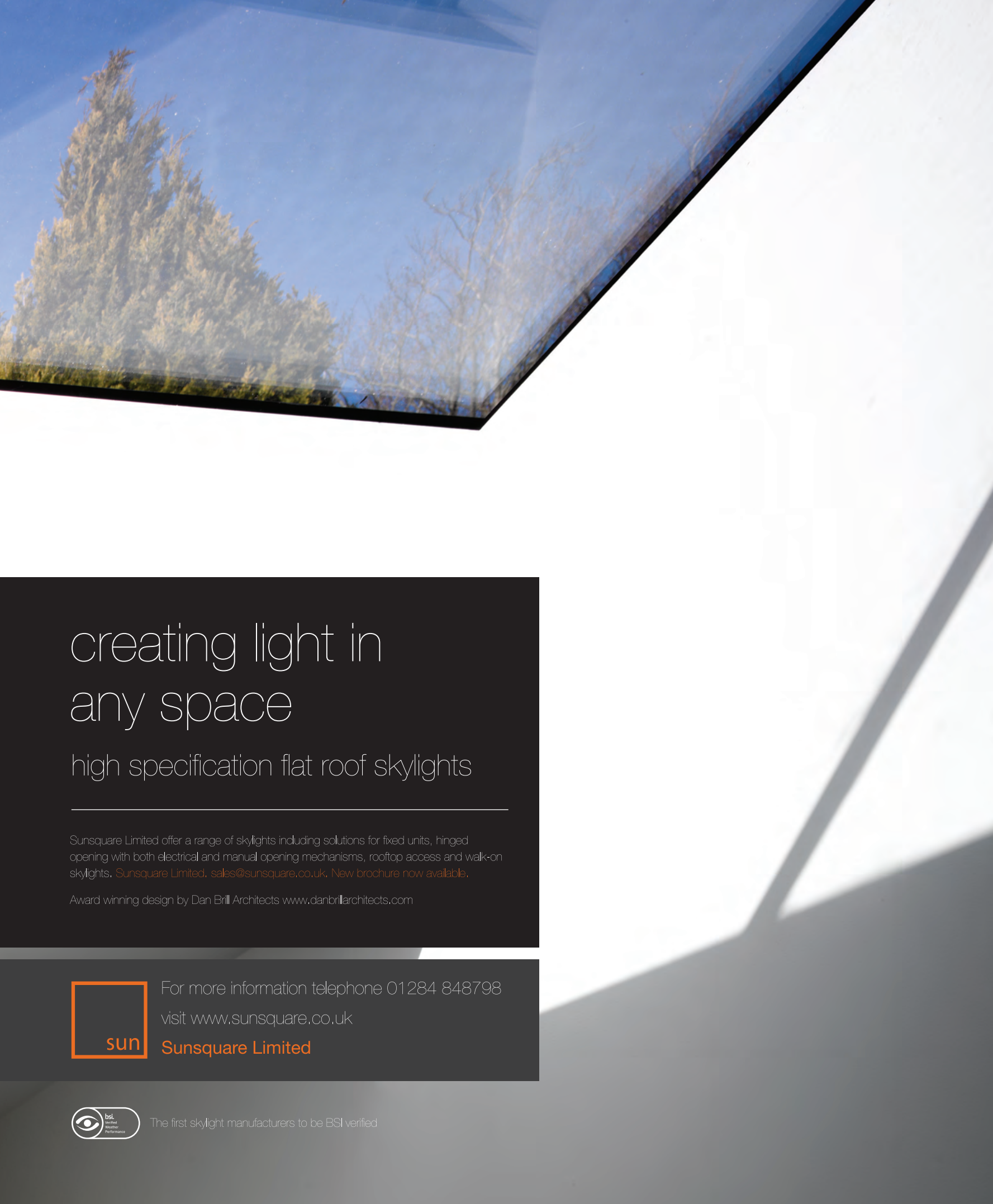
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