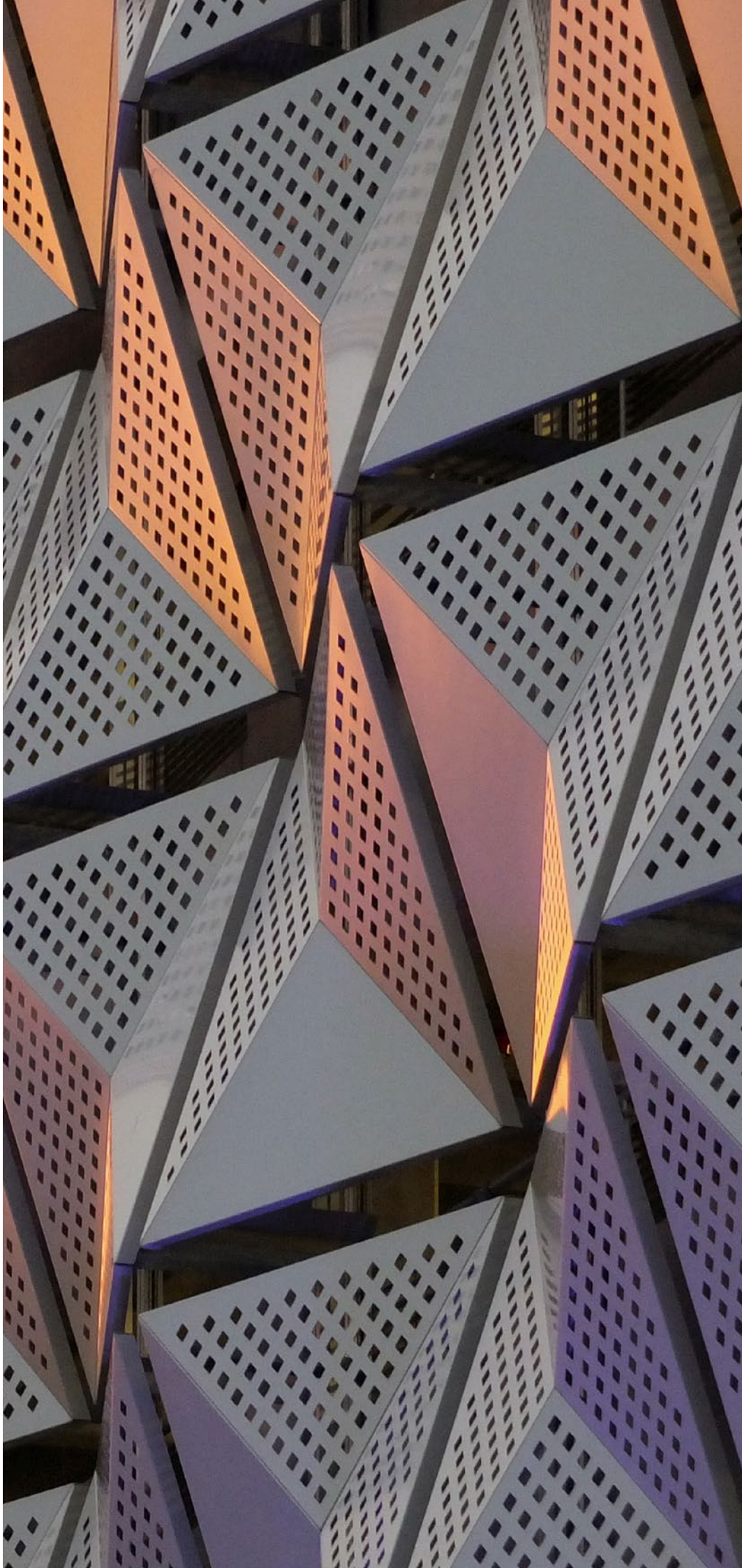
Architectural Technology Journal



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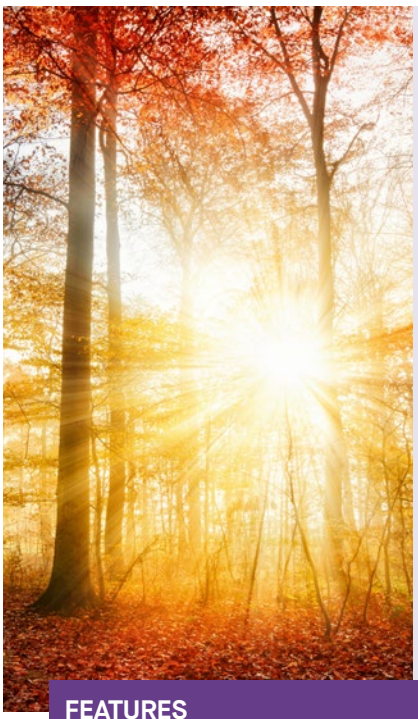


How much carbon are your buildings responsible for?

Words by James Robb BSc(Hons) MCIAT

Reducing embodied and whole-life carbon in buildings

Carbon emissions must be reduced drastically if we are to limit global warming to safe levels. Construction is responsible for around 40% of global emissions. As Architectural Technologists, we are in a position to act positively on this issue, by considering the whole-life carbon footprint of the designs we develop and how the materials we specify perform in carbon terms.

Terminology:

- **Carbon (tCO2e):** A simplified term used for describing greenhouse gas (GHG) emissions, measured in tonnes of carbon dioxide (CO^2) equivalent. CO^2 is used as the metric as it is the most prevalent GHG, though it is worth noting that some other GHG's are more damaging to the climate, e.g. methane (CH4) which is at least twenty times as damaging as CO^2.
- **Embodied Carbon:** The carbon expended in the production of a building, product or material. For a brick this would include the carbon emissions caused from quarrying raw material, transporting this to where it is processed and manufacturing into a useful product; all occurring before it arrives on your site ready for construction.
- **Operational Carbon:** The carbon expended during operation, i.e. emissions caused by electricity and gas usage, plus refurbishment and/or replacement of materials over the life of a building.
- **Whole Life Carbon:** Embodied Carbon + Operational Carbon, measured over the buildings' lifespan. This term takes into account all carbon expended over the life of a building from sourcing raw materials, their impacts in use to how those materials are likely to be treated at the end of their lifespan.
- **Life Cycle Analysis (LCA):** This is the process by which a carbon footprint is measured. LCA's to be used in BREEAM assessments usually assume a building lifespan of 60 years.
- **Whole Building Life Cycle Analysis:** The term used to specify that a life cycle assessment is covering a complete building design.
- **Life Cycle Costing (LCC):** This is the process for assessing how different design options will perform in cost terms over the buildings' lifespan, considering their upfront, maintenance and replacement costs.
- **Environmental Product Declaration (EPD certificate):** Certification providing proof of the embodied carbon impacts of producing a material or component.

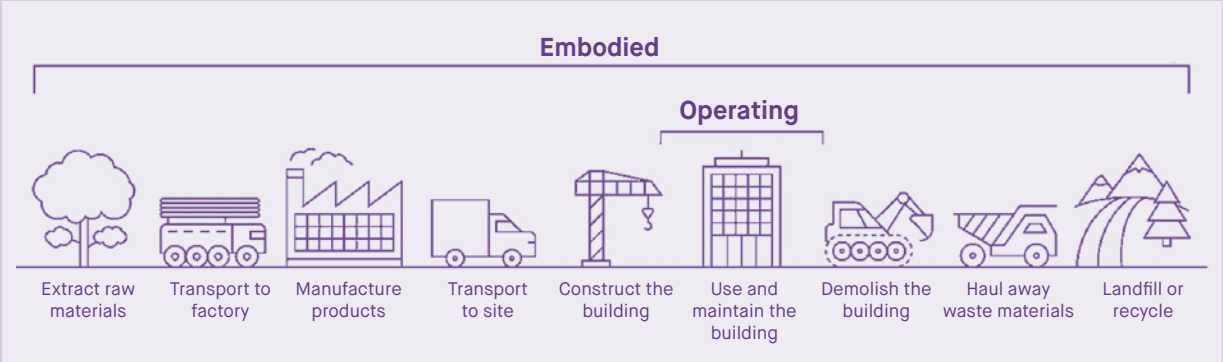


Figure 01

Guidance and legislation:

A lot of changes have evolved over the past few years in this area, including requirements around embodied carbon appearing in the New London Plan (expected to come into force in March 2020) and many cities, regions and businesses adopting net-zero carbon targets. I will describe some of the key updates here.

Firstly, the RICS professional statement on whole life carbon calculation was released in 2017, standardising how carbon footprinting is carried out in the industry. This was much needed to allow safe and reliable comparisons to be made between buildings and for benchmarks to be developed and agreed upon across industry. Before this point, there was no agreed scope for life cycle assessments, leading to disparate and incomparable results.

Secondly, the 2018 version of BREEAM New Construction revised extensively how credits under the 'Materials' category are scored. For buildings aiming for high levels of attainment under BREEAM, carrying out LCA is now strongly encouraged. References to the green guide to specification were removed and the scoring process heavily weighted towards carrying out lifecycle analysis of design options, beginning at conceptual design stage. This has encouraged consideration of carbon impacts early in the design process when there is the best chance of making the design both carbon- and material- efficient.

Software tools

There are a range of tools available to aid in calculation and analysis of the whole life carbon impacts of buildings, including EC3, eTool, OneClickLCA and HBERT. OneClick and eTool are currently the only commercially available tools approved by the BRE for use as part of BREEAM assessments *(ref. BREEAM Mat01 tool v1.9)*.

A process for measuring and reducing whole building lifecycle carbon footprints:

1. Baseline calculation
2. Carbon hotspot analysis
3. Identify carbon reduction opportunities
4. Establish project reduction target
5. Refine opportunities
6. Incorporate opportunities into the design

Carbon hotspots

Carbon hotspots are where the highest proportion of a buildings' carbon footprint are found. These could be defined either by lifecycle stage, building element or by material. The results of a recent carbon baselining exercise are presented in the pie charts above.

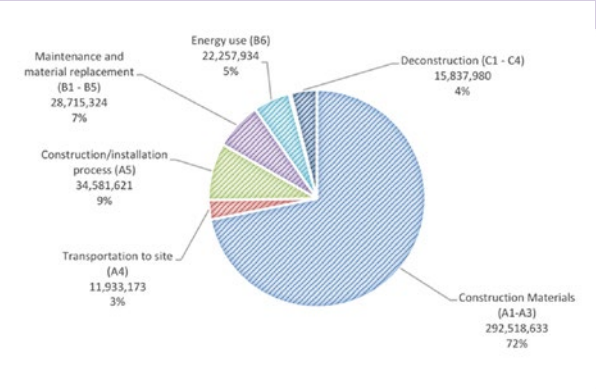
In this example, modules A1–A3 were found to be the biggest lifecycle stage carbon hotspot and cement was the biggest materials carbon hotspot. We were able to help the design team focus their carbon reduction efforts on their materials specification, developing low carbon opportunities and specifications, particularly for concrete elements.

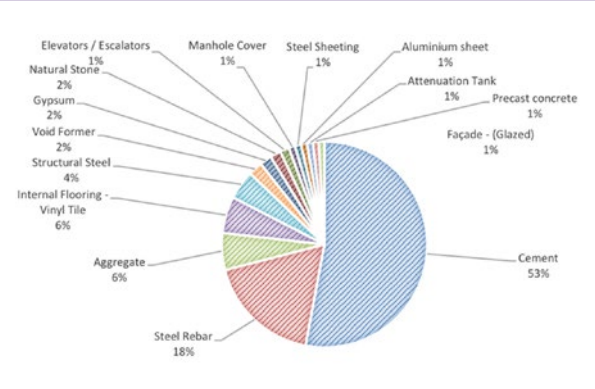
Taking action

In summary, it is easier than ever to determine and act on the carbon footprint of your designs, this is possibly the biggest opportunity for Architectural Technologists to make a positive contribution towards global decarbonisation efforts.

Rules of thumb

- **Prioritise creative re-use, refurb and retrofit over newbuild;** *retaining or reusing built elements avoids all carbon associated with demolition, transport and processing.*
- **Maximise structural efficiency;** *adopting a lean design approach can drastically reduce materials quantities. We recently saved 1000 tonnes of steel from a railway station roof through additional analysis and design.*
- **Limit use of carbon-intensive materials;** *use carbon-intensive materials where they are needed and of most use, avoid them in any other situation.*
- **Use materials with high-recycled content;** *recycled material is generally lower carbon than virgin*
- **Specify low-carbon concrete mixes;** *use cement replacements wherever possible. We are currently specifying up to 70% cement replacement on several projects.*
- **Choose carbon sequestering materials;** *i.e. use timber and other biological materials* ■





Figures

1. Stages considered in a life cycle carbon assessment
2. Carbon - Baseline figures by lifecycle module
3. Carbon – Baseline materials hotspots

Upcycling buildings – The way to recycle, reuse and upcycle through the building envelope

Words by Simon Fielden, Sales Director, SFS Group Fastening Technology Ltd

Recycle, refit, refurb, reuse and upcycle – often these are words seen around trendy topics like interiors, furniture and sustainability. Indeed, this has been a growing theme globally – reducing waste, making good of what we have got, and applying some reimagination and ingenuity.

Packington Housing Estate in Islington transformed through NVELOPE's building envelope solutions

Loop, a startup company in the US, for example, is already working with major brands on durable, thoughtfully designed containers which can be sent back to be refilled with FMCG goods such as shampoo and ice cream. With furniture, if you know your way around sanders and spray paint, you can easily turn an old 1960s chest of drawers destined for landfill into a piece fit for any five-star hotel.

The same thinking should now be applied on a larger scale to our buildings. Drive into any big city around the UK and you'll likely be greeted with tower blocks and buildings created two, even three generations ago, which are no longer in keeping with modern aesthetics.

Yet, demolishing is often not easy, nor the right answer; we must remember that these buildings could be people's homes and could have protected status. This is where the building envelope can work wonders to modernise older buildings and is much easier to create than one might think.

Knowing what you want

It might sound simple, but when looking at redesigning the exteriors of buildings, it really pays to know the environment and the purpose of the building.

For example, Aberdeen is known as 'The Granite City', due to its many buildings that have been built with natural granite. It would therefore not be in keeping to design an exterior that doesn't match and sympathise with existing buildings and the surrounding environment.

On the flip side, if the project is to reimagine the exterior of a primary school, then vibrant colours will lend themselves to creating a warm, inviting and fun aesthetic.

The bulk of the design work will be completed by the designer. However, it is here where building envelope specialists can help realise the designer's vision.

Rainscreen facades also come in an array of options including zinc, stainless steel, aluminium, natural stone, high pressure laminates and fibre cement, to name but a few. This variety means the designer now has a plethora of design options which can be sympathetic to the local environment or to make a bold statement.

To ensure that the envelope looks as true to the designer's vision as possible, it is best practice to collaborate with all key stakeholders in supply, design and delivery at an early stage which should include manufacturers of building envelope materials and fixings.

Calculated to the nth degree

While working out all the calculations and variables may sound like a daunting, time-consuming and costly task, this couldn't be further from the truth. Thanks to the overarching objective to move construction into the digital age, SFS has also taken the opportunity to invest into its digital technologies, and Project Builder, for NVELOPE rainscreen bracket and rail systems, is one of SFS's key initiatives.

Project Builder can run static calculations completely free of charge and determine the specific requirements of the façades. This includes looking at the physical factors of the building, including location and height of the building as well as local wind loads.

The tool also considers the type and weight of façade that is prospectively being specified, and the bracket and

component mix needed to secure the panels.

Calculations only take one working day too. Thus, specifiers can quickly and easily get an indication of horizontal and vertical centres for each bracket and the number of components required for the job.

It is critical that specifiers know what the bracket is being fixed back to whether it be to steel, concrete or timber etc. so that the correct primary fix can be specified. For masonry concrete especially, specifiers should also ensure that the correct number of pull-out and pull-over tests have been completed.

Delivering the goods

Another area to always bear in mind are the logistics and management side of the project.

Typically, with high-rise buildings in cities, projects are released by elevation, i.e. by each side of the building, north, east, south or west, or by floor level. This is done so that local disruption is minimised, and the building scheme can be completed in phases.

Logistically though, this puts pressure on site managers with deliveries and materials, as there is often little storage space. If materials are delivered to site, they can then go missing, and thus cause delays and rises in capital costs.

Here, collaboration between manufacturers and contractors is the key to success. By understanding the project programme, just-in-time deliveries can be implemented, products get to site when needed, and building handover stays on time.

Technically sound

A final consideration for specifiers and contractors is understanding the warranties and approvals for the system.

To ensure a meaningful warranty the contractor needs to ensure that the brackets, rail and fixings are covered by a common warranty. Often this is overlooked, and brackets supplied from one manufacturer secured with fixings from another manufacturer have different warranty periods which may not cover or deliver the required protection, thus leading to potential conflicts on site.

Always look for products that are BBA certified too. BBA certification is recognised throughout the built environment sector as a symbol of quality and reassurance. Products and systems that have received this certification are tested and audited, ensuring they are fit for purpose. Products manufactured in the UK can also bring benefits from speed of technical support, deliveries and being able to deal directly with the manufacturer of the product, therefore negating the need to deal through a third party.

Not just this, but when it comes to installation, having a partner who can assist with technical queries and best practice prevents mistakes on site. This is particularly important when it comes to working with older buildings, as no two buildings will be the same.

One person's rubbish is another person's treasure

It can be quite easy to dismiss old buildings and say that they need demolishing and rebuilding from the ground up, and that the complications are not worth the hassle. However, if the fundamental foundations are solid, then buildings can easily be reinvented. There are a host of different cladding and rainscreen options available to designers to achieve the desired aesthetic.

By working with building envelope manufacturers early in the process, issues can be foreseen, and processes can become smoother. ■

Collaboration between manufacturers and contractors is the key to success

Forest Gate Community School, reclad using NVELOPE products and brackets.

Habitation: Reinventing housing for the urban age

Words by Vickie Cox, Liz Male Consultancy Ltd

Long criticised for being slow to adapt to technology, the built environment sector is quite often accused of building homes too slowly and of poor quality. The pressure is already on to build more homes for the growing population, a population that is set to increase from 67 million to 72 million by 2041. That is a significant number of extra people to be housed.

So far, the Government target to build 300,000 new homes a year is not being met. Developers are being encouraged to embrace more innovative ways of building new homes in order to meet demand. Adopting new practices may well be the answer.

In the summer of 2019, three architecture practices came together with Graphisoft UK, the company behind the BIM software solution, ARCHICAD, for the premiere of Habitation: Reinventing Housing for the Urban Age. The film looks at issues such as urban density, affordable homes and sustainability, and outlines how each architecture practice has offered a solution to these challenges.

Three forward-thinking approaches

Designed by Waugh Thistleton, Watts Grove is an affordable modular scheme of 65 homes for Swan Housing in East London. The project is set to be constructed with cross laminated timber (CLT) panels produced at Swan's factory in Basildon.

After making the decision to go modular, Swan commissioned Waugh Thistleton to develop its initial outline scheme based on the designer's previous experience with CLT schemes.

"One of the reasons Swan has looked towards offsite manufacture is because they want to control their supply chain," says Kieran Walker, associate at Waugh Thistleton. "The important thing to understand about offsite modular construction is that it's really about repeatable processes and customisable products."

In this way, he adds, "we can get homes much quicker and more cost effectively, and onto more difficult sites.

"It's a process that works well on traditional sites that were never intended for an offsite modular scheme. We can customise and adapt the design of the modules to fit."

Engineered timber, such as CLT, is a versatile material that also offers sustainability benefits. In built up areas struggling to control pollution, like London, CLT can also help with offsetting carbon.

"It's not about vanity or ego for us. We're just trying to deliver homes that people need in a more sustainable way that doesn't harm the planet."

While Waugh Thistleton has turned to modular, offsite construction and engineered timber, Chris Bryant, partner at Alma-nac, has embraced a concept that he describes as 'urban dentistry'.

Bryant explains: "You can look at this idea of urban dentistry as carefully picking apart or adding to what's there with a sort of surgical precision."

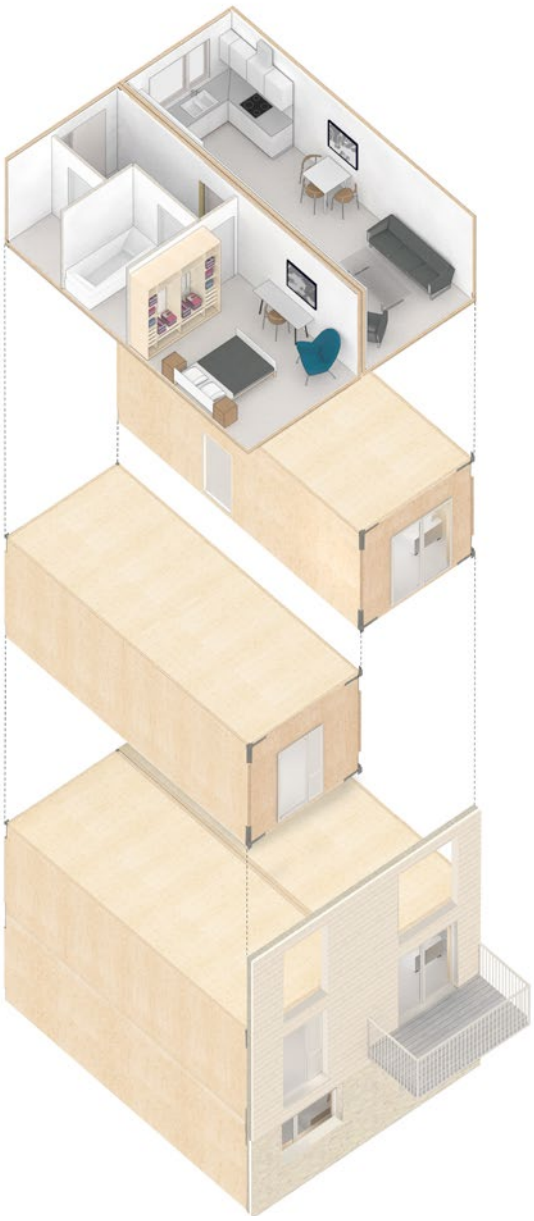
Alma-nac's 2.3 metre-wide Slim House – a three-bed property built into an old South London stable passageway, which is narrower than a tube carriage – is an example of the firm's approach.

"There was an existing house on the site that was very small. We knocked most of it down, apart from the façade, and were able to build this new three-storey home.

"The project showed that despite being such a narrow site, we can work with these spaces to achieve a quality of space and a delight of architecture that you could get in any other building."

Alma-nac has now applied this approach to Paxton House, an office-to-residential conversion in Croydon, South London. Although initially conceived as a build-to-rent scheme, some tenants have since purchased their properties.

Bryant's team has managed to avoid many of the pitfalls of this type of project by designing dual aspect



flats, with living spaces oriented to the south and south west and an access gallery to the north side of the building.

"Most of our work happens in this highly complex urban environment – complex in terms of policy, in terms of the urban fabric, sustainability and the environment," Bryant says. "All of these parameters together set up something where innovation really shines."

At Brentford Lock West, Mae Architects created an innovative residential scheme of 557 homes on brownfield land.

"A lot of our housing need can be delivered on repurposed sites," explains Alex Ely, principal at Mae.

However, this does not mean designing and delivering identikit housing devoid of character. Instead, the team at Mae designed the scheme to fit in and reflect the qualities of the surrounding area, while still delivering a dense residential scheme.

"It's a mixture of responding to the industrial past and then trying to marry that with the human scale of a neighbouring conservation area," says Helen Clark, architect at Mae.

This means not only creating a mix of dwelling types, such as townhouses and flats, but also integrating architectural features such as garden walls, front gardens and gable ends.

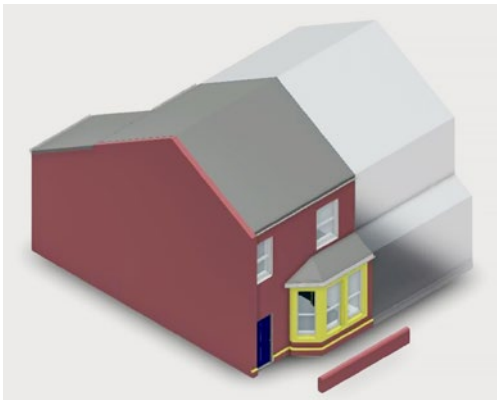
"We tried to innovate in the project [by developing] a new typology of villas connected by townhouses. The villa plan allows us to create a lot of dual aspect apartments with generous outdoor space and well-lit, generous internal spaces," adds Ely.

In addition to creating homes with character, the broader moves of the master plan are to connect Brentford High Street, the canal and Brentford station. "Generally, the idea is to make an under used area of Brentford more connected," says Clark.

Creating homes for all

The success of each of these schemes, in such a densely populated city, offers lessons and guidance for those grappling to deliver housing in major urban areas around the world. They powerfully demonstrate the creativity and ingenuity that is prevalent throughout our remarkable sector, showing that it is possible not just to build houses, but also to create homes for every human being on our planet. ■

We can get homes much quicker and more cost effectively, and onto more difficult sites



There's no BIM like home Part 8

Words by Dan Rossiter MCIAT, Chartered Architectural Technologist

AT Journal continues its exclusive access to serialise Dan's blog on how he used BIM to produce an information model of his home.

After undertaking a traditional survey of my home last week, this week I have finally opened up a piece of 3D software and started to do some modelling!

First thing's first; what do I need to actually produce? Well, after reviewing my Master Information Delivery Plan (MIDP), and the responsibility matrix within my BIM Execution Plan (BEP), I need to produce an architectural model which includes: external walls, internal walls, door, windows, roof, floors, fascia, gutting and anything else associated with the external structure or internal layout. So to do this I need some objects, but it isn't as simple as that...

First, I need to either find the right objects, or build them myself. Now this week I have managed to build my own but once I had built my objects I found that picking their names was a challenge!

Now luckily for me to make sure that good consistent naming was used I specified within my Employer's Information Requirements (EIR) that BS8541-1 should be complied with; the British Standard for object identification. Within this standard it states that objects using the software's associated classification should use three fields.

Source	Type	Subtype/ Product

Source:
Source is easy, I made these objects so I have used the same organisation code I used in my EIR and BEP; BBH (BIMblog.house). However, if they are downloaded from another source, then they should be identified as the source.

Type:
Type are also fairly easy as BS8541-1 suggests the use of the corresponding IfcType which can also be found on the IFC Schema page.

Subtype:
Subtype has little guidance but states that this information should not captured within the attribute data, so with that limitation I have used this field to describe the structure of my objects. For example, a partition wall object has the subtype 'PlasterStudPlaster', so describe the layers used within.

N.B. All fields need to use CamelCase (no spaces) and special characters are not permitted either!

Annoyingly many of the standard objects within the software package I was using (Revit) didn't strictly comply as hyphens '-' are only permitted in objects without associated classifications. So, after creating a number of my own objects, I ended up with a list like this:

BBH_SolidWall_225Brickwork
BBH_SolidWall_225BrickworkCapped
BBH_SolidWall_225BrickworkPlinth
BBH_SolidWall_270Brickwork
Wall-Ext_102Bwk-75Ins-140Blk-12P_SoldierBanding
Wall-Fnd_750Con_Footing
Wall-Subs_100Blk-75Con-100Blk

Now that I have a consistent naming method, it'll be easier to identify these objects when they appear in schedules and eventually within my COBie export.
So, to the modelling!

As my home is a 1900s Victorian Terrace, it isn't exactly built perfectly straight. In fact, when I tried to use a photograph to check my dimensions by course counting I discovered something very interesting; my courses don't add up!

So, sticking to my internal dimensions, and modifying some of my wall thickness to take into account imperial brick dimensions, I have started to create my graphical model. Currently work in progress, this model currently includes:

- Generic floor objects with a depth based on my landing void;
- Wall objects based on my survey measurements, and has started to be populated with bathstone detailing and render on the rear facade; and
- Generic roof objects based on pure conjecture (to be revised!)

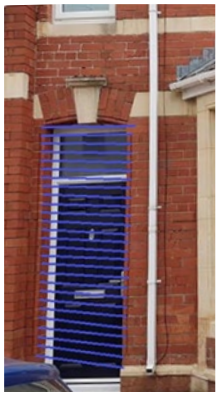
There you have it, after some frustration trying to make my measurements add up, this model is now starting to look like my home. However, this model isn't complete by a long shot, so hopefully by next week it'll have sufficient content so that I can answer my current Plain Language Question, PLQ2.3.

Now that I have started this model, it's time to add some further objects, to answer PLQ2.3...

After starting to author my architectural graphical model last week. This week I have continued its development resulting in a model which while work in progress is starting to really come together!

As mentioned, when I named my walls I did not put the thickness of layers into my subtype, so for example a wall might have been called: **BBH_SolidWall_PlasterBrickwork**

I did this because within BS8541-1, table 1 states that the subtype should not capture attribute data. However, while authoring my model I quickly needed to distinguish between walls with the same build up but different thicknesses. Fortunately, Revit doesn't allow duplicate family names I couldn't use 'BBH_SolidWall_PlasterBrickwork' for walls with the same layers at different thicknesses, so a solution was required.



BBH_SolidWall_PlasterSingleSkinBrickwork
Initially, I described the number of brick skins to avoid recording attribute data within the name, but quickly realised that that was stupid, and I was describing the thickness of the wall, just in a very awkward way. So I was led back to using the thickness of each layer within the subtype.

BBH_SolidWall_15Plaster225Brickwork
To make matters worse, I added some new objects to my model this week that had to use BS8541-1's other naming convention for unclassified objects. Basically, if you are using an object without a classification field then the unclassified object naming convention is required, which is a tad more complex:

Role	Classification	Presentation	Source	Type	Subtype/ Product

To use this convention I did what all great men do in times of strife. Ignore the optional fields, in this case it is 'presentation'. Also why is BS8541-1 now telling me to use hyphens(-) instead of underscores(_) between each field in the example object?...

To make sure that I complied with the original Employer's Information Requirements and my BIM Execution Plan, I needed to use this naming convention for the following objects:

- Kitchen worktops;
- Bespoke window sills; and
- Top of small units which also acts as a shelf.

This meant I needed to find out some extra information. We already have my role, in this instance it is architectural, classification means we need to rely on a Uniclass 2015 table, we have skillfully skipped presentation, source is my organisation (BBH) as the object creator, type relates to the corresponding IFC type, and subtype will allow me to differentiate between any other similar objects.

Meaning that I named my kitchen worktop like this:
A-Pr_40_50_21_45-BBH-Worksurface-Kitchen

N.B. Because of the underscore (_) within the classification codes I have used a hyphen (-) as a field separator which doesn't comply with the text but does comply with the example provided within BS8541-1. This inconsistency isn't very helpful, so I have chosen a solution that suits my situation best.

Objects such as kitchen worktops and shelves have been added for a reason. Each of these were needed to accurately reproduce my floor layout, as required to satisfy my next Plain Language Question "What is the layout of my house?". So now that they have been modelled, the result is a set of floor plans built into a graphical model that'll be used for its own purposes as well as capturing what assets I have in order to answer my next Plain Language Question. Once completed I was able to set up suitable views of my floor plans, and transfer them to a title block to complete this deliverable.

And there you have it, after putting in the objects I needed I have now been able to produce a drawing containing my ground and first floor plans which has been derived directly from my graphical model. Using this information I now know the layout of my house; therefore Plain Language Question PLQ2.3 is complete!

Now that I have a pretty strong architectural model, it's time to start creating some of my other models to record the electrical and mechanical objects... ■

To be continued in the next issue
@DRossiter87

Requirement J3: Warning of release of carbon monoxide – A critical analysis

Words by Mike Hartley BSc (Hons) ACIAT

On 30 April 2018, the Government announced that it would be reviewing the legislation of carbon monoxide alarms to see if the legislation was still fit for purpose. The review considers whether there should be a blanket requirement to install alarms for all methods of heating, including both gas and oil.

A consultation was carried out previously to review the Smoke and Carbon Monoxide Alarm (England) Regulations 2015 which yielded 170 responses; 27% of which indicated that the Regulations should be expanded to cover gas appliances. The Government did not make any recommendations on the back of this consultation.

26 October 2018 saw the Ministry of Housing, Communities and Local Government publish the guidance on the upcoming Carbon Monoxide Alarms Requirements Review: Terms of Reference. The focus of the review considers the following evidence:

- Improvements to and the falling cost of carbon monoxide alarms.
- Any new evidence on the number of carbon monoxide incidents that the emergency services attend.
- Any new research that shows whether carbon monoxide poisonings are wrongly diagnosed as something else and so under-reported by statistics.
- Any new research on the effects of prolonged low-level carbon monoxide exposure on health.

The aim was to submit the outcome of the review to ministers for consideration in December 2018 with a consultation on any proposed changes during 2019.

A brief history of carbon monoxide alarms in the Building Regulations

The Building Regulations, in their current form, came into force 1 October 2010 and have been amended numerous times since then. However, there has been no significant change to the requirements for carbon monoxide alarms since the further amendments in 2010.

Carbon monoxide was first introduced to the Building Regulations in the 2002 edition of Approved Document J, although even then it was mentioned only once under provision 4.2, when recommending that open-flued oil-fired appliances should not be installed in rooms such as bathrooms and bedrooms where there is an increased risk of carbon monoxide poisoning.

In the 2010 edition, a section titled 'Warning of release of carbon monoxide' was introduced under requirement J2A, which gave guidance on the provision of carbon monoxide alarms where solid fuel appliances are installed. The requirement states:

'Where a fixed combustion appliance is provided, appropriate provision shall be made to detect and give warning of the release of carbon monoxide.'

The limits of this application are that requirement J2A applies only to fixed combustion appliances located in dwellings.

It should be noted that whilst the requirement is non-specific as to the fuel type of the fixed combustion appliance, Section 1: Provisions which applies generally to combustion installations states under provision 1.1 that, in the Secretary of State's view, requirements J1 to J4 will be met if the building provisions for the safe accommodation of combustion appliances incorporate an appropriate means of warning of the release of carbon monoxide for fixed appliances that burn solid fuels.

A note has been included which states that, for the purposes of requirement J2A, it is considered appropriate to require carbon monoxide alarms only with solid fuel appliances, however such alarms can still reduce the risk of poisoning from other types of appliance.

The document goes on to provide guidance on the type of alarm, as well as its positioning.

It is worth noting that provision 4.2 from the 2002 edition of the Regulations still recommends that open-flued oil-fired appliances should not be installed in rooms such as bathrooms and bedrooms.

Further 2010 amendments reflected a Regulation number change as a result of re-ordering and so, requirement J2A became requirement J3. There are no other changes regarding carbon monoxide alarms although, interestingly, the note in provision 1.1 still references requirement J2A.

Why do we need warning of the release of carbon monoxide?

Carbon monoxide is a poisonous gas which is odourless, tasteless and colourless. It is produced when fuels such as gas, oil, coal and wood do not burn fully and, for this reason, can be produced by more than only appliances which burn solid fuels.

Carbon monoxide can also be caused by incorrectly installed, poorly maintained or poorly ventilated household appliances. Blocked chimneys and flues can also prevent the gas from escaping the property.

Carbon monoxide is responsible for approximately 50 deaths per year and up to 4,000 hospital visits in England and Wales, according to the Department of Health (2011). Breathing the gas in can result in symptoms similar to flu or food poisoning and can even lead to unconsciousness and death if a person is exposed to high levels or has a prolonged exposure to the gas. Due to its characteristics, it is known as 'the silent killer'. Early warning is vital.

The guidance – A critical analysis

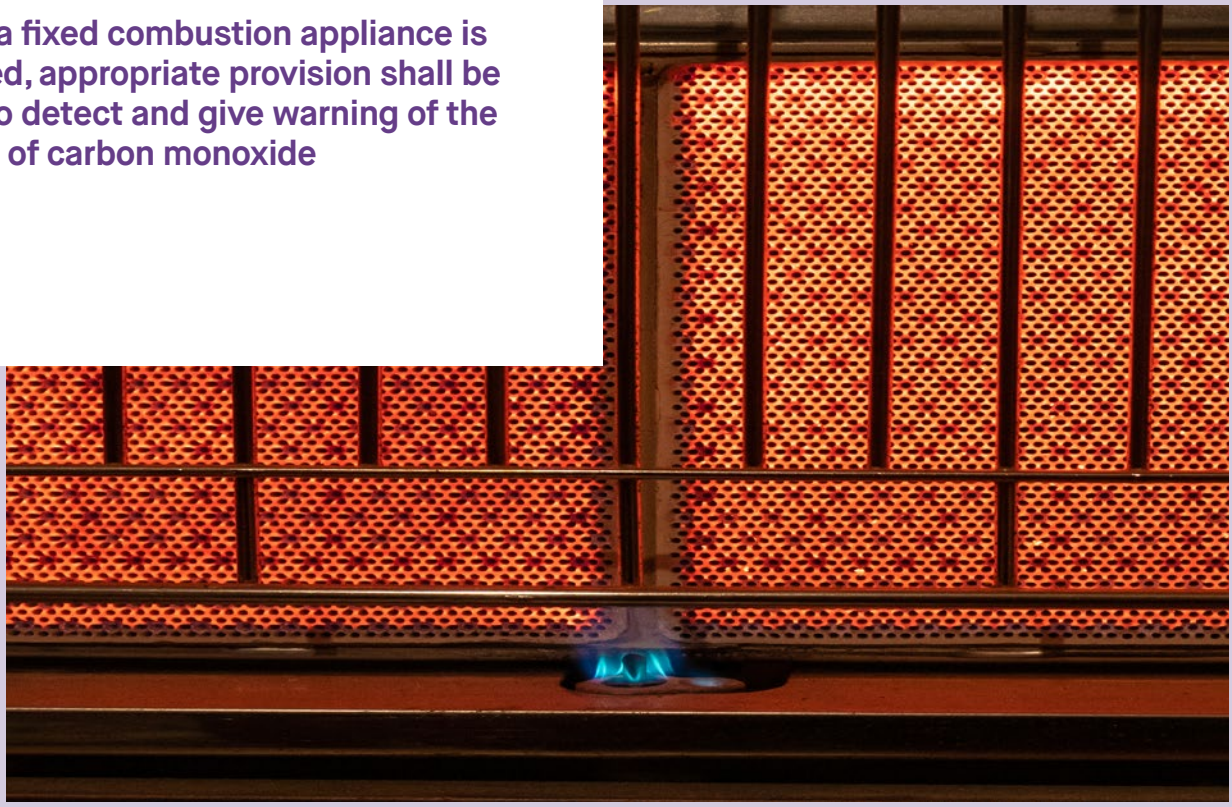
Paragraph J3 of Schedule 1 states that "Where a fixed combustion appliance is provided, appropriate provision shall be made to detect and give warning of the release of carbon monoxide". Whilst it applies only to those combustion appliances located in dwellings, the requirement states that carbon monoxide alarms are required where fixed combustion appliances are provided.

Conflicting with this, the guidance states that, in the Secretary of State's view, requirement J3 will be satisfied if an appropriate provision is made to detect and give warning of the release of carbon monoxide only where it applies to solid fuel appliances, i.e. wood burning stoves and open fires.

Furthermore, it has been acknowledged since long before requirement J3 (or J2A as it was previously known) or the Secretary of State's view, that carbon monoxide poisoning can occur from appliances which do not burn solid fuels. In addition to all of this, the guidance also recommends that, whilst not required, carbon monoxide alarms can still reduce the risk of poisoning from other types of appliance.

Taking the above into consideration, the question should be asked as to why there is not a requirement for carbon monoxide alarms to be installed when any fixed combustion appliance is installed, and why the

> **Where a fixed combustion appliance is provided, appropriate provision shall be made to detect and give warning of the release of carbon monoxide**



contradictory guidance is not re-worded to avoid misunderstanding or misinterpretation. Whilst it must be acknowledged that the Government is now reviewing the legislation to determine whether it is still fit the purpose, there is reasonable argument to say that this review is akin to closing the barn door after the horse has bolted and that the guidance relating to whether a carbon monoxide alarm is required or not never really was fit for purpose. It is impossible to say what the impact of not including a blanket requirement or consistent guidance is, but it is reasonable to suggest that the potential for carbon monoxide poisoning incidents has been increased because the 2010 edition of the Regulations was remiss in its guidance.

There is a common misconception regarding the weight of carbon monoxide

By contrast, the Regulations in both Scotland and Northern Ireland require carbon monoxide alarms to be installed when new or replacement combustion appliances are fitted, which applies to any fuel burning appliance.

Provisions 2.34-2.36 provide further guidance on the installation and positioning of carbon monoxide alarms. The guidance states that alarms should comply with BS EN 50291:2002, be provided in the room where the appliance is located and be powered by a battery designed to operate for the working life of the alarm. Alternatively, the alarm can be mains-powered, provided the alarm is a BS EN 50291 Type A carbon monoxide alarm with fixed wiring and a sensor failure warning device. Plug-in carbon monoxide alarms are not enough to satisfy the guidance, likely due to the ease at which they can be unplugged and rendered useless. A further reason for this may be that, in new dwellings, sockets serving habitable rooms throughout a dwelling should be positioned between 450-1200mm above floor level (Approved Document M, Vol. 1) which would result in any plug-in type alarm being positioned in the lower half of the room. This contradicts the guidance within provision 2.36 which states that a carbon monoxide alarm should be located on the ceiling, at least 300mm from a wall or, if located on a wall, as high up as possible (above any doors and windows) but not within 150mm of the ceiling.

This raises an additional question because there is a common misconception regarding the weight of carbon monoxide. Is the ceiling, or high up on the wall, the best location for a carbon monoxide alarm? In several conversations the author has had with associates, there has been a consensus that carbon monoxide is heavier than air.

In truth, carbon monoxide is ever so slightly, and negligibly, lighter than dry air. If we use the composition of dry air; Nitrogen (78.1%), Oxygen (20.9%), Argon (0.9%) and Carbon Dioxide (0.03%), as well as trace amounts of other gases, and we calculate the molar masses against these percentages, we can work out that the molar mass of dry air is 28.90 g/mol (grams per mole). The molar mass of carbon monoxide is 28.01 g/mol. That is a difference of only 3%.

Taking the above into consideration, it is apparent that whilst the gas may eventually rise, the weight difference is so negligible that any rise will be far slower than a much lighter gas such as Methane (which has a molar mass of 16.04 g/mol). Furthermore, considering molecular diffusion and air movement within the room, the gas will likely spread evenly until it is of equal concentration throughout.

The Center for Hyperbaric Medicine at Virginia Mason Medical Centre in Seattle conducted an experiment in 2012 to determine whether the placement of carbon monoxide detectors should be influenced by carbon monoxide's weight relative to air. In the experiment, the weight of carbon monoxide was calculated to be slightly lighter than air, and an eight-foot-tall airtight Plexiglas chamber constructed with carbon monoxide monitors placed within at the top, middle and bottom.

Carbon monoxide test gas was infused into the chamber at three different heights in different trials, with the carbon monoxide levels measured over time.

The test demonstrated that carbon monoxide did not

layer on the floor, float at the mid-level of the chamber or rise to the top but rather, in each case, the levels equalised throughout the chamber. It was conceded that the carbon monoxide took longer to equalise when infused at the top of the chamber, but levels always became identical with time.

The results of the test concluded that carbon monoxide infused anywhere within the chamber would diffuse until it was of equal concentration throughout. Additionally, it was concluded that mixing would be even faster in a home environment than a laboratory environment, due to draughts caused by motion or temperature. Therefore, it would be reasonable to place a carbon monoxide alarm at any height within a room.

Conclusion

Taking all the above into consideration, despite the requirements stating that carbon monoxide alarms are only required where solid fuel appliances are installed within dwellings, it is considered that carbon monoxide alarms are an extremely cost-effective solution to reducing the risk of carbon monoxide poisoning from any fixed combustible appliance.

The Regulations have also acknowledged that alarms can reduce the risk of carbon monoxide poisoning from other appliances.

Therefore, it is considered that, although not a requirement, carbon monoxide alarms should be fitted wherever combustible appliances are installed and those alarms are tested regularly. It should be acknowledged that carbon monoxide alarms are not a substitute for maintaining and regularly servicing combustible appliances.

Furthermore, evidence demonstrates that it is reasonable to place a carbon monoxide alarm at any height within the room, and not just the ceiling or high on the wall. Therefore, whilst an alarm at any height should be effective, it is considered that a carbon monoxide alarm would operate at its most efficient when around 1500mm (5-feet) above floor level. Statistically, this is approximately the mean height of a standing person and a sitting person (including wheelchair users) and would therefore provide the earliest possible warning of carbon monoxide for occupants within the room. Early detection is pivotal due to the severity of symptoms associated with carbon monoxide poisoning.

Whilst it is demonstrated and acknowledged that carbon monoxide would diffuse fully until it was of equal concentration throughout a room, very high levels of carbon monoxide can cause the rapid onset of symptoms.

Finally, the Regulations state that an alarm should be located between one metre and three metres horizontally from the appliance. Whilst this element of the guidance has not been examined specifically, it is reasonable to say that room users will likely occupy this space and therefore this guidance seems practical.

For further reading, more information on carbon monoxide poisoning can be found on the NHS website. ■

Bibliography

Department of Environment, Transport and the Regions. The Building Regulations 1991. 1992 Edition. Approved Document J: Heat producing appliances, London: NBS, part of RIBA Enterprises Ltd.

Office of the Deputy Prime Minister. The Building Regulations 2000. 2002 Edition. Approved Document J: Combustion appliances and fuel storage systems, Norwich: NBS, The Stationary Office.

HM Government. The Building Regulations 2000. 2010 Edition. Approved Document J: Combustion appliances and fuel storage systems, Newcastle Upon Tyne: NBS, part of RIBA Enterprises Ltd.

HM Government. The Building Regulations 2010. 2010 Edition incorporating further 2010 amendments. Approved Document J: Combustion appliances and fuel storage systems, Newcastle Upon Tyne: NBS, part of RIBA Enterprises Ltd.

HM Government. The Building Regulations 2010. 2015 Edition. Approved Document M: Access to and use of building – Volume 1: Dwellings, Newcastle Upon Tyne: NBS, part of RIBA Enterprises Ltd.

Billingham, M.J. Barnshaw, S.P. Bridge, K.T. Crooks, A., (2017). The Building Regulations Explained and Illustrated. Fourteenth Edition. John Wiley & Sons Ltd.

Hampton, N.B. Courtney, T.G. Holm, J.R., (2011). Should the Placement of Carbon Monoxide (CO) Detectors be Influenced by CO's Weight Relative to Air? Center for Hyperbaric Medicine, Virginia Mason Medical Center, Seattle, Washington.

Socratic. 2016. What is the molecular weight of air? [ONLINE] Available at: https://socratic.org/questions/what-is-the-molecular-weight-of-air [Accessed 5 November 2018].

Ministry of Housing, Communities & Local Government. 2018. Carbon monoxide alarm requirements review: terms of reference. [ONLINE] Available at: https://www.gov.uk/government/publications/carbon-monoxide-alarm-requirements-review-terms-of-reference [Accessed 8 November 2018].

Policy Connect. 2018. Government Responds to APPCOG CO Alarm Recommendations. [ONLINE] Available at: https://www.policyconnect.org.uk/appcog/new/government responds-appcog-co-alarms-recommendations [Accessed 8 November 2018].

NHS. 2016. Carbon Monoxide Poisoning. [ONLINE] Available at: https://www.nhs.uk/conditions/carbon-monoxide-poisoning [Accessed 8 November 2018].

PubChem Open Chemistry Database. 2004. Carbon Monoxide. [ONLINE] Available at: https://pubchem.ncbi.nlm.nih.gov/compound/carbon_monoxide [Accessed 8 November 2018].

Department of Health and Social Care. 2011. Carbon monoxide poisoning sends 4,000 people to A&E each year. [ONLINE] Available at: https://www.gov.uk/government/news/carbon-monoxide-poisoning-sends-4-000-people-to-a-e-each-year [Accessed 11 November 2018].

Why modular buildings and lighting controls are a class act

Words by Martyn Frear, Business Development Manager, CP Electronics

There were 66,000 more children in the nation's schools in June 2018, compared to the same point in the year prior. The increase is undoubtedly influencing learning. A BBC Yorkshire investigation found then thirteen-year-old Silas Ennis commenting that "It's difficult to learn because there's so many people around you, so you're not focusing as much on the lesson." *(BBC News, 2017).*

For one, the Department for Education (DfE) revealed statistics that the average secondary school class size is 21.2 pupils, up from 20.8 in 2017. The vast majority of classes are between one and 30 students, but there is also data that shows 11.5 per cent of students were in classes of 31–35, and 0.6 per cent were in classes with 36 students or more.

Funds are clearly the issue. While new funds might not magically appear any time soon though, there is the prospect that money, more classrooms and learning facilities, can be made through a growing source – modular buildings and modular lighting controls.

Going modular

Modular construction is not new, but it has recently taken off as more and more clients turn to it for quicker construction and real benefits in time and cost savings.

Rather than having materials and hundreds of staff on a construction site, sections of buildings are instead constructed off site in factories and then delivered for assembly and installation. This then mitigates traditional construction issues such as delays in materials and poor weather that ultimately produce higher costs.

The real beauty though is that modular construction is not just about the floors, walls and ceilings. Every part of a modular building needs to come together seamlessly in as quick a timeframe as possible, and this includes the lighting controls.

To this end, plug and play modular lighting controls have been developed specifically for this purpose. These controls include the Vitesse Modular standard and dimming versions which can adapt and grow from 2-way to 16-way by simply adding extender modules. The revolutionary Vitesse Plus 7 also can be easily configured to take into account the complexity of classroom control requirements, with onboard programmes numbering 90 different configurations from a single standard LCM.

A different class

Designing lighting and lighting controls for educational buildings, particularly schools, is a different animal altogether when compared with sectors like healthcare and commercial, for obvious reasons.

It is imperative that contractors follow the guidance from the ESFA (Education and Skills Funding Agency).

The latest guidance produced by ESFA is outlined in their 'Output Specification 2017' document, which replaced the previous 'Facilities Output Specification' (FOS). For electrical engineers particularly, 'Technical Annex 2E: Daylight and Electric Lighting' is the guidance that should be adhered to.

With schools, the functionality requirements demanded for new projects funded by the ESFA are varied and many. However, the common requirement is that lighting controls must now be automatic to all spaces in order to facilitate control of the visual environment and energy savings. Control devices are to be simple and intuitive too.

Additionally, schools should make the most use of natural daylight as much as possible, to increase energy savings.

There are other considerations too, dependent on the space in question. Balancing this performance criteria may seem tricky, however, modular lighting controls are designed to accommodate these demands.

The Vitesse Modular can handle the general areas requirements and be specified in four-pole or six-pole connections for auto-on/off switching or dimming, and its 'plug and play' design ensures a quick, hassle-free installation. Meanwhile, the Vitesse Plus 7 with pre-designed control schemes can accommodate more complex classroom requirements of graduated dimming in rows adjacent to windows and the interactive whiteboard control.

A single source

One of the biggest challenges of the construction market is that the supply chain is traditionally long and fragmented. With many suppliers, this can cause delays as information is sought and clarified, thus pushing up costs.

To avoid unnecessary complexities, it is always good practice to work with a single manufacturer where possible. This then ensures that systems can work together as intended, the manufacturer can advise on best practice with its solutions, and installation and commissioning stages are pain-free.

Modular buildings can save typically up to 30–50 per cent construction time over traditional bricks and mortar. As it continues in its popularity, it is well worth engineers investing time to understand how modular lighting controls work in tandem with this construction method. ■

Every part of a modular building needs to come together seamlessly

U-What?!

Words by Paul Trace, Stella Rooflight

One of the most important elements of modern building materials is thermal performance, which is measured in terms of heat loss. In the built environment sector this is commonly expressed as a U-value or even sometimes an R-value. U-value calculations will invariably be required early on in the building strategy stage as it provides an indication as to how much heat loss a building is likely to suffer upon completion. The products used in the build are normally required to be tested and a figure for each component given. One example of where this is an essential requirement is rooflights.

Thermal transmittance (U-value) is measured in units of W/m^2K which stands for Watts/meter square Kelvin. The lower the U-value the more efficient the construction is at keeping heat flow through the structure to a minimum. It is worth noting that it is not just the building materials and products that have an impact on the thermal performance of a building, as both workmanship and installation standards can strongly affect the thermal transmittance. If insulation is fitted poorly, with gaps and cold bridges, then the thermal transmittance can be considerably higher than desired, no matter how good the individual products are.

Thermal transmittance takes heat loss due to conduction, convection and radiation into account. The amount of heat conducted through a material of a given volume, in a unit of time i.e. the rate of conduction is why the units are measured as W/K.

There are guidelines in the UK, set out in Building Regulations Approved Document Part L (Conservation of Fuel and Power), that give the maximum U-value that materials and structures are allowed to have in a range of buildings, including domestic properties. It sets a national standard to ensure that homes must be built to a certain performance level of energy efficiency for both the reduction of carbon emissions and the reduction of residents heating bills.

A U-value is one of the most difficult thermal measurements to calculate and so it is important that any figures are produced using reliable software from a bona fide source. When it comes to rooflight suppliers providing U-value figures for their products, we all want the lowest possible number to prove that our rooflights give the best thermal performance, which ultimately reduces heat loss for our customers. In the rush to be the best, it is not inconceivable that figures get a little massaged so it is

Most rooflights cannot be used in the same way as windows

always best to ask for a copy of the test performance report to ensure that a) the figures are genuine and b) that the figures were produced in the correct way.

Despite them being used in their millions across the country, you might be surprised to find out that there is no specific test for a rooflight. Instead rooflights are tested to BS EN ISO 10077-1:2017, which is a thermal performance test for windows, doors and shutters.

So does this actually matter? Well, actually yes it does because most rooflights cannot be used in the same way as windows and this will result in a change to the U-value. For example, the pitch of the roof will change the thermal performance of your rooflight. However, the testing of rooflight performance is based on either a vertical (above 60 degrees) or horizontal (0 degree) pitch. Both of these positions are usually outside the maximum and minimum pitch that rooflight manufacturers recommend for their rooflight products.

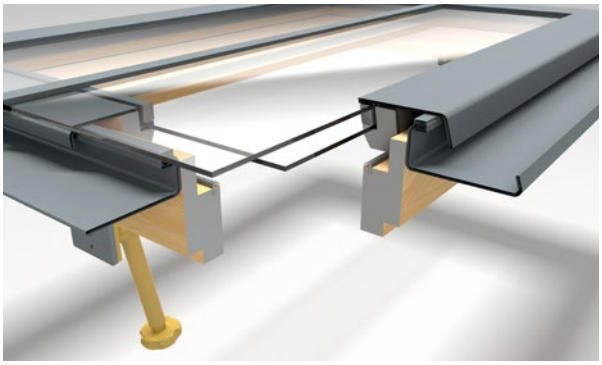
There is quite a bit of difference in the U-values given to rooflights at both ends of the scale. For example, a Stella rooflight can achieve a U-value of 1.5 W/m^{2}K in the horizontal position but this improves to 1.1 W/m^{2}K when used above 60 degrees. Now when you ask most companies what the U-value is for their rooflight which figure do you think you will be given? This is why it is important to either ask for both figures or to request data to support the figures quoted.

The design of a rooflight is also critical to the thermal performance. Most modern rooflights are produced from thermally broken aluminium, which is then clad internally with wood to provide very good U-values. Whilst making the frames more thermally efficient, this approach also makes the rooflights chunky, which often results in them sticking several inches above the roofline and providing poor frame to glass ratios. It is not uncommon for some rooflight frames to make up over 40% of its overall size, which ultimately means 40% less light entering a building.

One of the easiest ways to lower a U-value on a window or rooflight is to increase the thickness of the glazing.

A decent double glazed unit will give a centre pane value of 1.0W/m^{2}K and a triple around 0.5W/m^{2}K. Then of course there are some that offer quad glazing, which reduces this figure further. However, it should also be noted that by reducing the U-value in this way, you will be significantly increasing the weight of the product, the cost and also the depth of the rooflight profile.

If you are working on a Listed Building or in a conservation area then you will require a conservation rooflight design, which should sit completely flush with your roofline. If you are looking to use quad glazing or modern bulky rooflights to improve thermal performance then this will most certainly be to the detriment of the buildings aesthetics.



There are a few exceptions relating to the thermal requirements in certain buildings and it is always a good idea to take professional advice should your project fall into one of the following categories:

i) Where the replacement roof windows are unable to meet the requirements because of the need to maintain the external appearance of the façade or the character of the building, replacement windows should meet a centre pane U-value of 1.2 W/m2K.

ii) Buildings which are; Listed in accordance with section 1 of the Planning (Listed Buildings and Conservation Areas) Act 1990; In a conservation area designated in accordance with section 69 of that Act; or Included in the schedule of monuments maintained under section 1 of the Ancient Monuments and Archaeological Areas Act 1979; Carports.

iii) Buildings which are; Listed in accordance with section 1 of the Planning (Listed Buildings and Conservation Areas) Act 1990; In a conservation area designated in accordance with section 69 of that Act; or Included in the schedule of monuments maintained under section 1 of the Ancient Monuments and Archaeological Areas Act 1979; Used primarily or solely used as places of worship; Stand-alone buildings with floor area less than 50m2; Carports; Temporary building with a planned time of use less than two years.

In conclusion, despite the fact that the testing methods for obtaining a rooflight's thermal performance could do with an overhaul, a U-value figure is very important when both choosing products and in the overall construction of your property. The lower the figure the more thermally efficient a product or building is and this can contribute to reducing heating costs and ultimately helps in the fight against global warming.

It is also important that the figures provided are genuine and it is advisable to request proof that U-values being quoted are not only correct but are applicable for the application that you are using that product. Nowhere is this more important than rooflights because of the current way in which these products are tested. ■

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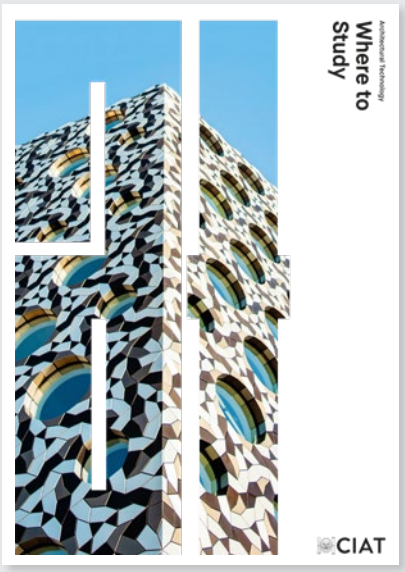
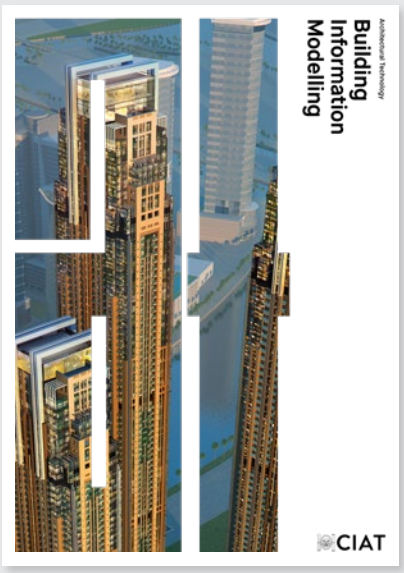




Want to ensure a steady flow of clients?

Words by Kiya Kelly, Communications, Houzz UK & Ireland

If you are asking yourself the same question and want to find ways to encourage a steady stream of clients then read on for some key recommendations from Houzz, the leading platform for home renovation and design, and their community of home professionals, to help you learn how to streamline your processes and stand out to the right clients.

Work out your workflow

Businesses will often be going through the same steps or processes with every new client they take on, without even realising it. Take a moment to consider what your process is and then you will be able to focus on streamlining it. For example, are you replying to all inquiries with a similar email response? If so, set up an email template that you can have ready to fire off much more quickly and efficiently. Or, if you're finding that you need the same information from potential clients, try jotting down a standard set of questions in your phone, so you can make sure you ask everything and get the answers that you need in that initial meeting.

If you have not already, try creating a visual representation of your workflows, to help you track the different stages of each job and spot areas that can be streamlined.

Don't drop off the radar

When focused on a big job, it can be really easy to lose sight of everything else that is happening in the business, especially future jobs. Emails can quickly build up and not responding to enquiries quick enough, can affect a potential customers perception of the company. In busy periods perhaps consider setting an automated email response, to ensure clients know their enquiry has been received and will be responded to.

Even at your busiest times, maintaining a presence on social media can be an effective way to stay on a potential clients radar, whether that is a quick post on your blog or Twitter account, or even uploading a photo of your current project to Houzz.

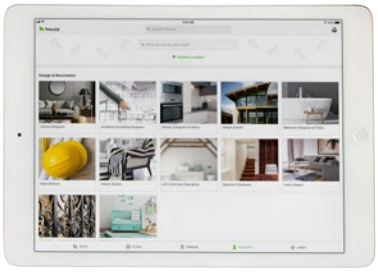
Be your best advocate

We have all heard the saying 'you're only as good as your last job', so ensuring that you are showcasing your most recent projects, is vital. Once a job is finished, make sure to ask the client for feedback and take photos, then post it to your website, Houzz profile and social platforms as self-promotion. Think of your most recent job as your CV for new jobs! Professional on Houzz, Brooke Copp-Barton of Home Interior Design always ensures her Houzz profile, is up to date with her latest projects, explaining that, "it is a wonderful tool for showcasing your work and engaging with the design community and potential clients"

Professional on Houzz, Amit Malhotra of Aflux Designs always makes sure to ask for feedback from clients. "Having nearly 30 five-star reviews has given us credibility. We want to push this credibility into other forms of social media and PR, but we always try to get feedback as soon as the job is finished. Also, we are not the kind of company that walks away the minute our job is finished. A lot of our clients become lifelong friends and they know they can call on us if they need any advice or an item to be fixed, as we always try to maintain a healthy relationship post-completion."

Think about marketing

To achieve a steady stream of work it is important to get your name out there. Investing in customised marketing solutions according to your business needs will make you stand out from your competition, but it is important to think about the goal of your marketing campaign: Are you looking to build your brand awareness, improve your online reputation or increase the number of clients' inquiries? On Houzz, experts will help you answer these questions and build you a tailored solution, ensuring you are targeting renovating homeowners who are looking to hire in your local area, and let you choose the budgets, project types and locations that match your needs, while enabling you to utilise other premium marketing features. ■



Houzz is the leading platform for home renovation and design, providing people with everything they need to improve their homes from start to finish. With the largest residential design database in the world, Houzz is the easiest way for people to find inspiration, get advice and hire the professionals they need to help turn their ideas into reality. Houzz connects professionals with homeowners who are actively looking to hire the right home professional for their project, houzz.co.uk

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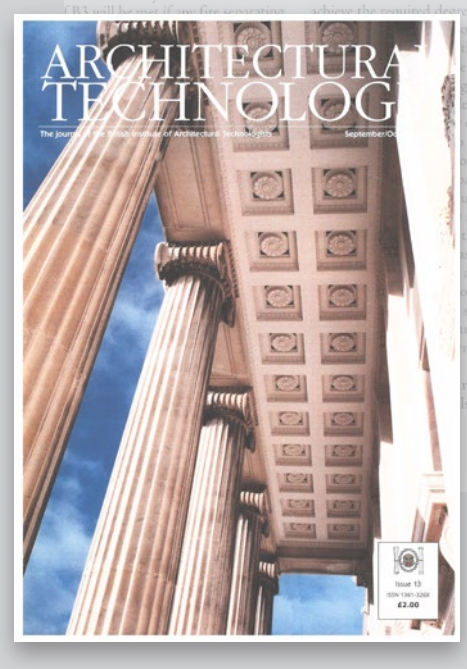

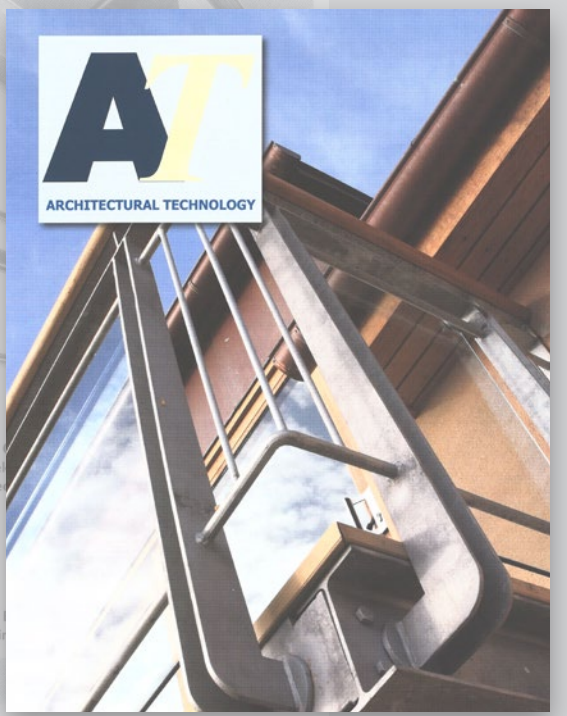

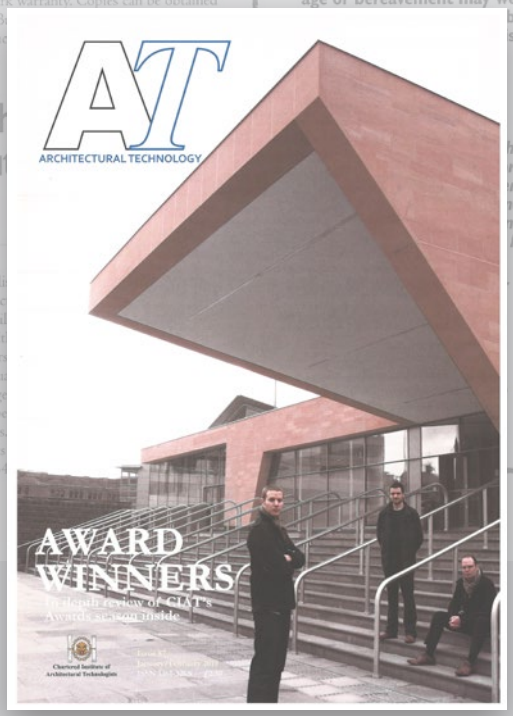

In 1995 the average UK house price was just over £68,000, the first ever CGI film (entitled Toy Story) premiered to great acclaim and the sale of a broken laser pointed marked the launch of an online auction house that would ultimately become eBay.

The UK was poised to enter the media age. Sky had launched a 24-hour news channel and the BBC would shortly follow. Reality TV was about to get its big break in the form of Big Brother.

The Institute decided what was needed was not more noise but something more reflective and an upgrade to BIAT Bulletin. A journal. Not one reserved for academics but one that anyone with a connection to Architectural Technology could read.

The Institute has produced a magazine for its membership since 1967 with SAAT Journal, which became SAAT News and in 1983, Architectural Technology changing to Atrium in 1987 and then to BIAT Bulletin in 1989.

The first bi-monthly issue of Architectural Technology, the journal of the British Institute of Architectural Technologists, appeared in September 1995 and was designed to raise the Institute's profile within the built environment sector, and so was originally circulated with the Architects' Journal and AJ Focus. Its Editor was Francesca Berriman. Featured articles included a practice profile of Pike Partnership, the importance of fire stopping and an overview of professional development.

Since then, we have published articles on a wide variety of topics, interviews, profiles and keeping the membership up to date with current trends and information. The Journal is now available in both print and electronically, accessible to all.

Now celebrating its twenty-fifth year in publication, the Journal continues to grow and develop as it now heads into its next twenty five years.

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Why creating new ponds helps to protect the ecosystem

Words by Scott Parnell Water Management Ltd

At the start of the 20th Century, there were around a million freshwater ponds in Britain, supporting a bio-diverse mix of animals, plants and herbs. By the turn of this Century, half had disappeared and, according to research by charity Pond Conservation, 80% of those remaining were in a poor condition and most were polluted.

Increased building development in the countryside and intensification of the landscape have been blamed for the decline in ponds. Agricultural chemicals from neighbouring farmlands are the main cause, leading to ponds becoming overgrown and stagnant, and the subsequent failure of the ecosystem.

Ponds need clean water to thrive, but once pollutants enter the water the delicate ecosystem breaks down, leading to loss of habitat for threatened species such as toads, newts and frogs. A total of 105 rare and declining pond species are a national priority for conservation action under the Government's Biodiversity Action Plan.

To counteract the loss of ponds in the UK, the charity Pond Conservation launched its Million Ponds project, aiming to replace half a million ponds within the next 50 years and so protect freshwater wildlife.

How does the pond ecosystem work?

A pond ecosystem works with the natural environment to provide food and protection to the wildlife and plants it supports. Fish nibble on the plants and algae, producing waste that is broken down and absorbed as nutrients by the plants. These plants filter the water naturally and help keep harmful algae to a minimum.

The importance of ponds for biodiversity has only recently been understood. Research has found that invertebrate biodiversity and abundance is greater in ponds than in rivers. Frogs, toads and newts use small ponds to breed, while large ponds can support waterfowl, including mallard ducks, moorhens and coots. The grey heron also regularly visits even the smallest ponds, feeding on fish and amphibians.

Lining your pond

Pond liners are the ideal solution for creating a richly biodiverse and sustainable pond. Water loss is a significant issue for ponds, due to normal ground absorption and adverse weather conditions, such as drought. Liners not only significantly reduce water loss, but also minimise the amount of silt that can enter the water. For manufactured ponds created for aesthetic reasons, such as those on golf courses, less silt production will maintain water clarity. Liners also prevent water contamination by acting as a barrier against pollutants in the ground.

Using geomembrane

Geomembrane liners are impermeable barriers that prevent water from passing through. They are ultra-strong and durable, as well as being completely customisable – so they can be used to line a small fish pond or large man-made fishing lake, for example.

The liners are flexible and resistant to punctures, and will withstand debris, such as rocks and branches. They are also resistant to temperature variations from snow and ice to drought conditions. Most importantly, geomembrane is totally eco-friendly and environmentally safe, so it is harmless to wildlife and vegetation.

Safeguarding future biodiversity

Phase II of the Million Pounds Project is now underway in England and Wales and will complete in 2020 when it's hoped that 30,000 new clean water ponds will have been created. ■

World Architecture Festival

Words by Paula Bleanch MCIAT, Europe Centre Councillor and Anders Nordby

About us:

Paula Bleanch MCIAT is Councillor for the Europe Centre and based in Horsens, Denmark. She formerly worked as a Design Manager in the UK and taught construction and Architectural Technology at Northumbria University, Newcastle upon Tyne.

Anders Nordby recently completed his Masters in Architectural Technology and Design at Leeds Beckett University. He is based in Telemark, Norway.

The Festival:

The World Architecture Festival (WAF) is an annual event organised by the publishers EMAP. It is an international celebration of architecture, hosting a mixture of presentations, awards and exhibitions with a strong focus on networking. WAF 2019 took place in Amsterdam between 4-6 December with Paula and Anders from the Europe Centre Committee attending on behalf of CIAT. Here we present our personal highlights from three packed days at WAF 2019.

The festival space was located in one of the main halls at the RAI Amsterdam Convention Centre, a complex of conference and exhibition spaces in the Zuidas business district of the city. The space itself was cleverly set up to maximise networking and the programme allowed delegates to pack in as much as possible over the time available. Around the edge of the room were seventeen giant blow up pods, where crits took place every twenty minutes, discussing the merits of the buildings shortlisted for the various awards in the WAF categories (a list of the many categories and the award winners are available on the WAF 2019 website). In the centre of the room was a mixture of exhibition space, manufacturer's stands and relaxation spaces. The main presentations took place on the WAF stage and there were also spaces for the WAF student charette, drawing prizes, media lounge and so on. A very useful World Architecture Festival 2019 App was available to download, to help delegates plan their time and make connections, which we found invaluable. As well as the Festival based at the RAI, various satellite events were organised around Amsterdam, including a secret village of bars and restaurants in the city centre.

Welcome reception

Before the formal programme began on Wednesday, there was an informal Welcome Reception on Tuesday night for all delegates. This was hosted by Paul Finch, Programme Director of WAF, who welcomed everyone and talked about the programme and some of the awards. This was a good opportunity to meet other delegates and do some networking.

Day one

The programme was split in three parts: talks and presentations on the Main Stage, talks and presentations on the Festival Hall Stage and various crits held in the small inflatable pods around the Festival Hall.

On day one, the Festival Hall Stage was dedicated to **WAF Open Buildings Summit,** about open buildings, open architecture and open systems, stemming from an initiative back in the 1960's by Dutch architect and theorist **Professor John Habraken.**

The idea of open buildings is to enable inhabitants to create their own living environment through a building shell and structure, with minimal initial dividing walls and installations. This allows opportunities for co-creation and forming the building over time. Open buildings offer possibilities for new development models and forms of co-ownership and co-making. There is an option to involve users and residents in the early stages of a project, which can give a sense of ownership and belonging. The process is open for ideas, interpretation and participation, where the architect acts as a guide rather than the ultimate design authority.

There was a screening of the film *De Drager* by John Habraken to kick off the event. The film can be watched in its entirety on YouTube: https://youtu.be/85vhtwRwk9k

The talks, presentations and discussions that took place during the day examined the open building concept and how this might affect architecture, the technology of architecture, sustainability, inclusivity, urban development, affordability of living and the business of building.

Initiated by the **Dutch Open Building NL cooperative,** the Summit had mostly a European viewpoint, but aimed to include international engagement in the ideas and concepts. The day ended with the founding partners of Open Building NL signing and officially handing over the Open Building Manifesto, which can be found here: openbuilding.co/manifesto

More information about Open Buildings can be found at openbuilding.co

Paula Bleanch MCIAT with a speaker

Day two

The day started with **Ben van Berkel,** Principal Architect of UNStudio, being introduced to the Main WAF stage by Paul Finch, who posed the question, "Architecture is always about the future. How do we prepare for it?" The following presentation on **"Flow and the expansion of the profession"** took us through the way the architecture studio and process has developed over the past thirty years and encouraged us to embrace non-rational theories of architecture.

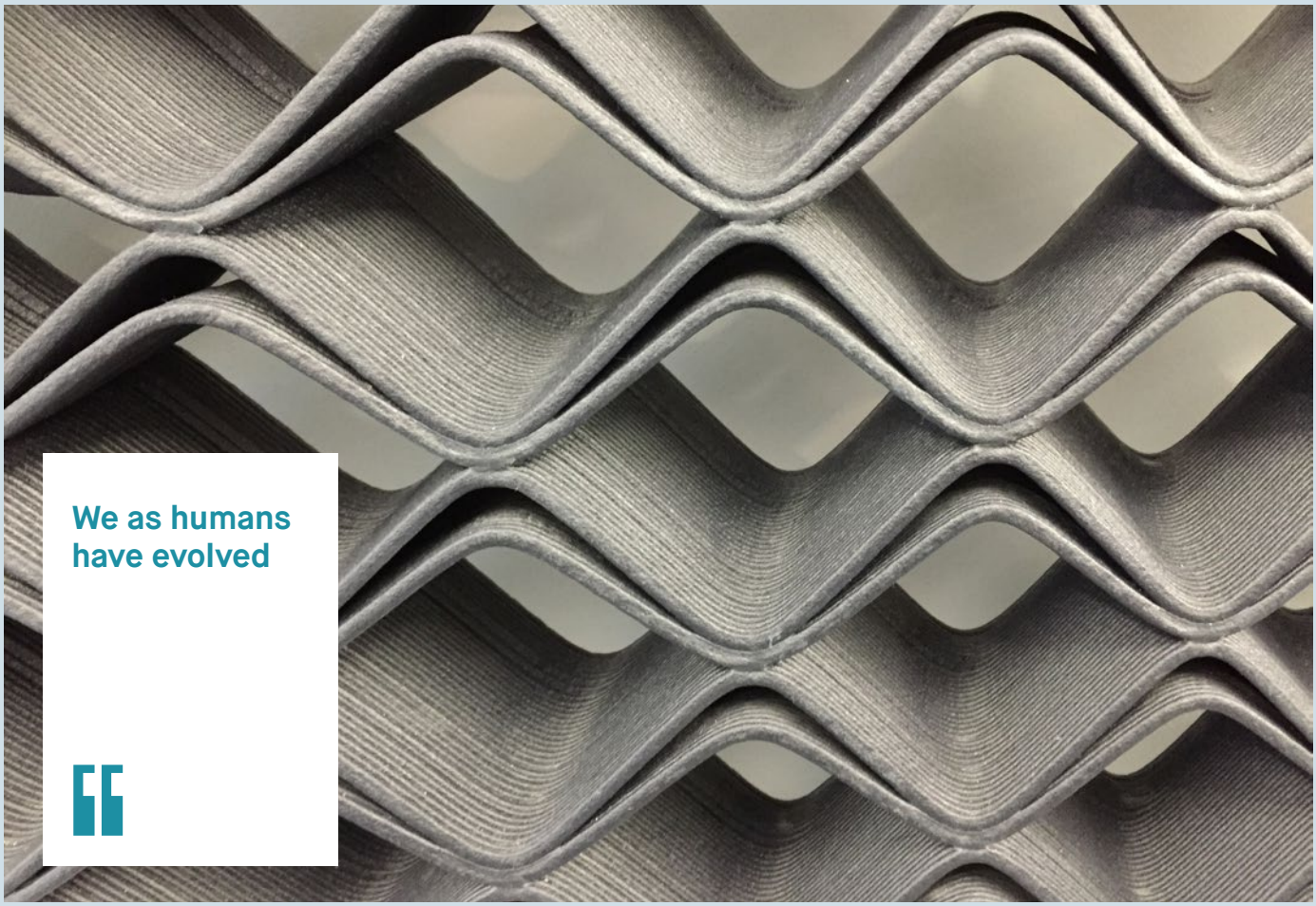
A recording of this presentation can be viewed at: worldarchitecturefestival.com/resources/talk-2019-ben-van-berkel

The highlight of the day, and one of the most exciting presentations of the festival, was **James Cartwright of Cartwright Pickard Architects** presenting **"7D BIM: Integrating Whole Life Costs and Life Carbon Estimation with BIM"**, on the Festival Hall Stage. This began with a passionate plea for building designers to live up to their responsibilities with regards to climate change, by employing research-based design to aid better decision making in the design process. According to research, the average person in the UK has an annual carbon footprint of around 10 tonnes of CO^2 per year, whereas building designers have responsibility for around 1,365 tonnes of CO^2 per year through the buildings that they produce. This presents a unique opportunity for built environment professionals to use their influence to make a difference in the battle against climate change. However, at the moment, information is lacking to help them design with energy use in mind. Cartwright Pickard, along with the Glasgow School of Art, won government funding through Innovate UK to develop a 7D BIM software which will allow building designers to make informed decisions throughout the design process. The results of this research project will be presented in spring 2020. It will hopefully go on to be developed into a tool that is available to all building designers. The presentation concluded with a plea for the architectural profession to stop rewarding aesthetics and eco-bling and to embrace a future where construction becomes became part of the solution, rather than part of the problem.

A recording of this presentation can be viewed at: facebook.com/ArchitectureFestival/videos/1729997023791742/

Details of the project itself can be found at: cartwrightpickard.com/research/7d-bim/

We spent a long time at the **Greencoat Colourful Steel** exhibit, admiring their innovative new products and trying out the rapeseed oil that they are now using to produce their innovative façade and roof solutions. It was delicious with a slice of bread! Greencoat's parent company, SSAB (Swedish Steel AB, a Swedish/Finnish company) are also



We as humans have evolved

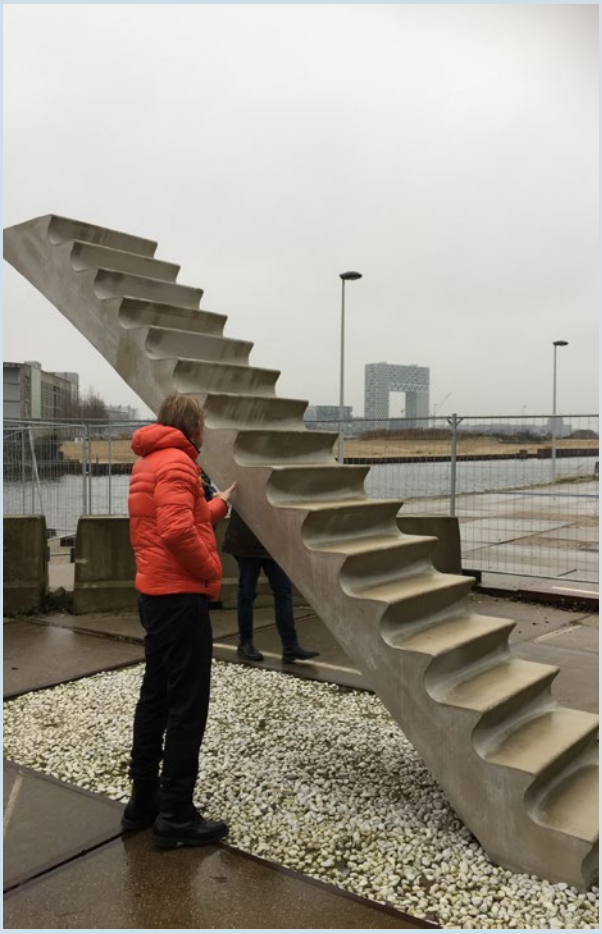
developing a fossil free steel called Hybrit which will be produced using hydrogen rather than coking coal. The company has a strong focus on sustainability while creating products which are aesthetically appealing.

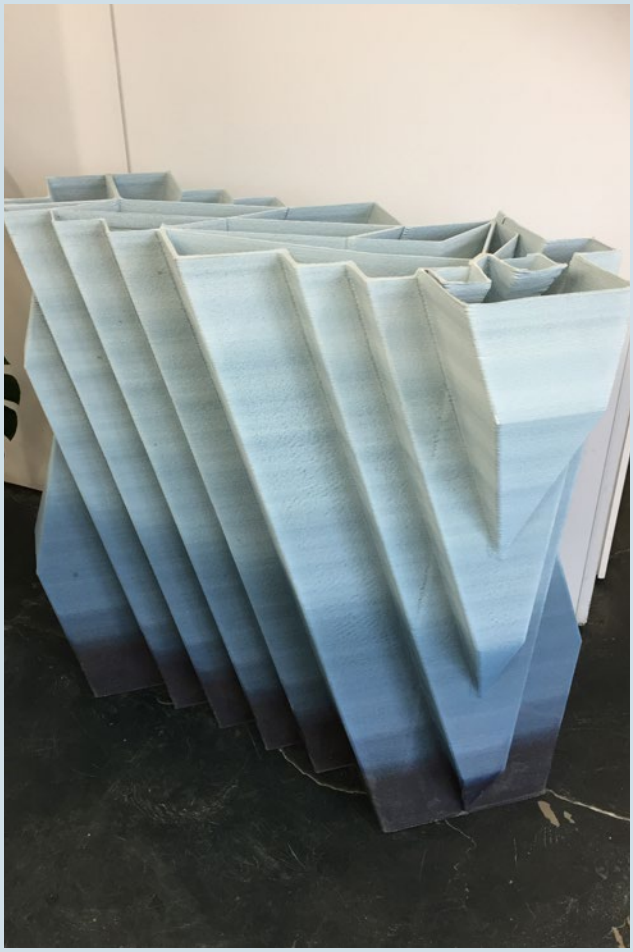
Details of Greencoat products and projects can be seen at: ssab.com/products/brands/greencoat

Details about fossil free steel can be found at: ssab.com/Products/Brands/GreenCoat/Sustainable-building-with-GreenCoat/HYBRIT-Fossil-free-steel

In the afternoon we attended a very enlightening and humorous presentation from **Professor Nick Tyler Professor from UCL on "The Flow of People"**. His research studies the interaction of people in environments and has been used by amongst others, Transport for London, to help them plan flow and wayfinding through stations. The findings of his research show that we as humans have evolved to be in contact with only a small amount of people on a daily basis, which is the opposite to today's world where almost half of the population now live in cities where we have daily contact with hundreds of people we do not know. His argument is that we need pro-social design for a civilised society, and this relies on designing a good environment where we can relate to people that we do not know. His research has encompassed improving the people flow in Oxford Street, London and has included the bizarre finding that people move in a safer manner through a fire exit when there is a pole located directly in front of it. He noted, however, that this suggestion did not go down well with fire officers!

I have been unable to find a video of this presentation on the WAF 2019 website, but here is a similar talk by Professor Nick Tyler from 2018: youtube.com/watch?v=jnrrjMrLsxs





Day three

The day started with a tour to the **Aectual 3D printing** facility to the north of Amsterdam city centre. Aectual have created an online interface which allows users to fully customise the building products they produce, while maintaining conformity with local building regulations. We saw examples of a staircase that they have printed, wall screens and several flooring designs. An example of their flooring has recently been installed in Schiphol Airport. In addition to the innovate design tools and printing that they have developed, the products use bio-based materials which are fully recyclable. Their factory is a truly impressive set up and we saw the 3D printers at work making some of their wall elements.

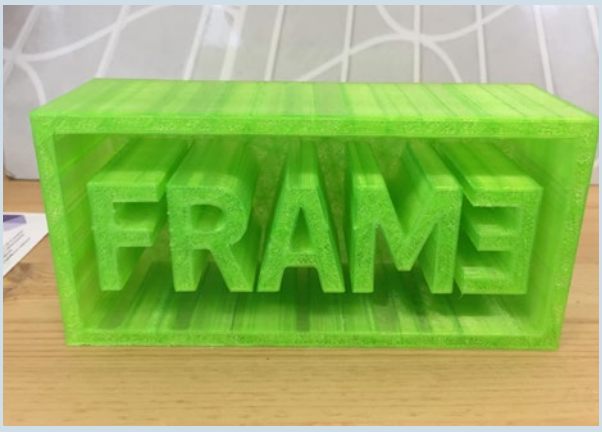
My film from the factory visit can be seen here: facebook.com/paula.bleanch/videos/10157548882780027/

Danish architecture featured in the day's crits with EFFEKT Architects newly realised Camp Adventure located on the island of Sjælland (or Zealand). The design encompasses a 45m tower and walkway where visitors can experience the surrounding protected woodland from a new angle. Details about the project can be viewed here: effekt.dk/camp

The Festival concluded with an awards dinner on the Friday night which we did not attend.

Our overall impression of the Festival was that this is a truly international event, attended by building designers from across the globe. The quality of the speakers and designs presented was very high and the majority of the product manufacturers who were represented seemed to have sustainability in mind, as well as aesthetics. We hope that representatives from CIAT will be able to attend the next event in Lisbon in December 2020. ■

The idea of open buildings is to enable inhabitants to create their own living environment through a building shell and structure



Anders Nordby finds out more

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Village Homes in Western Uganda

Words by Mark Harry MCIAT, Chartered Architectural Technologist

I stayed within the confides of Kishenyi Village, Western Uganda which is 7km from DR Congo and close to Queen Elizabeth National Park. It is traditional within the locality that when the son of a family is to get married a parcel of their parent's plot is given to him. This is where he can build his own house for his family. There are two main types of houses built within the village. The first built from bricks and the most common is built from timber with mud infill.

Type 1: Brick built

The bricks are made on site. There is a local quarry where all the locals go to buy clay to make their bricks, pots, earthenware etc. When making bricks, it is common practice to add earth to the clay so that extra bricks are made and keep the cost to a minimum. The earth, where I stayed, was quite sandy. A timber mould could make two bricks at a time. It was then emptied out onto the earth and after a few hours it was carefully taken onto a stack to cure with protection on the top from the rain. Temperatures were a constant 24 degrees. Brick built houses had a plastic dpc at floor level. There were a few brick houses that were finished with a smooth render, plaster inside and tiled floor – very few, but they were there! There was no water supply within the village so all water was collected in Jerry cans at a local source.

Type 2: Timber frame

Unless you had money this was the main type of house built. Both types were single storey only. The person I had most dealings with was Gumi Onnissmus. He was in the middle of building his own house in timber frame on his Mum's land. It was typical to build as and when money came along – it can take quite a few years to finish off a house! The size was 6m x 5m x 2.5m to eaves

The shell and roof had already been completed. It was made from a framework of straight branches (approx.75mm dia at 600 mm centres) and infilled with sand/earth and clay. There are horizontal bamboo canes every 24" (600mm) to support the earth/clay infill both sides of all walls. The bamboo canes and timber framework are fixed and held together with banana fibres – no string. The roof set at 20 degrees is clad with steel corrugated sheets with eaves overhang about 30" (762mm). Eaves was about 2.5m high. The roof structure was from branches in a traditional rafter spacings with a few ceiling ties. A central timber strut came down on the centre wall. The walls are approx.125mm wide.

Gumi had dug out a pit latrine about 15'-0" (4.5m) deep situated about 20'-0" (6m) downhill from the house. I asked Gumi how deep the pit must be and he said he was going to take it down 20'-0" for it to last two years. Then, when full he would dig another one.

Gumi's house will have two bedrooms, a sitting room and a dining room.

Each room had a window and above each there was an opening for vents to be installed. The vents were a fine metal insect mesh on the inside to stop mosquitoes entering with a vent to each gable. To render the outside walls, Gumi mixed the earth/clay with some ash to give a better protection against the weather.

All the houses that I entered had an earth floor. The children sat and ate their food on a raffia matt while the grown-ups sat at the table. There were no ceilings but exposed roof timbers. In addition, no water and no electricity. Lighting was a small oil filled lamp that gave a background light. After tea, which was about 21:00, the family would sing and the children dance.

There were no doors on the inside just a curtain to each door opening. This was typical to all the houses that I visited.

Everyone within the village had a separate building for their kitchen. It was mostly built from bricks (but not always). Rocks were placed on the floor and a fire made from wood, sticks, branches etc. between the rocks. Saucepans went onto the rocks. Some kitchens used pieces of termite hills instead of rocks to hold their saucepans because it remained a lot cooler due to the ventilation holes through the (fired) pieces. Kitchen sizes were approx. 1.2m wide x 2.4m long with a steel corrugated roof. Above the fireplace at approx. 1.7m high was a timber framework that was used to dry out banana leaves, banana fibres and anything that would be damp.

Outside the kitchen everyone had a two-tier timber framework (from branches) approx.1.2m high and a shelf below x 1m x 1.5m. This was used to place the saucepans out to dry after washing them clean. It was also common to put down a few banana leaves first on the framework.

During my two weeks stay it rained quite frequently. I did not see (smell) any damp in any house that I entered. Even though it rained the sun came out and within an hour all was dry again. ■

CIAT continues to develop and evolve in India

Words by Tara Page, International Director

In November 2019, Tara Page, International Director together with Dr Colin Stuhlfelder MCIAT, Programme Leader for BSc (Hons) Architectural Design and Technology at Wrexham-Glyndwr University, spent two weeks in India to progress the exciting opportunities for the Institute's work there.

CIAT has been operating in India to raise awareness of the discipline since 2016. Over this period, we have established strong relationships with academic institutions, architectural practices, and regulatory bodies including the Council of Architecture, the statutory body governing the practice and education of architects, and the All India Council for Technical Education (AICTE), the standards setting body and regulator for technical education.

Following on from CIAT's conference on the development of Architectural Technology in India which was held at AICTE's auditorium in Delhi in April 2019, we wanted to maintain our momentum, capitalise on the work we had done to date, and keep in touch with the conference delegates.

Atkins

Our first meeting was with Atkins a multinational design, engineering and project management consultancy based in Gurgaon, just outside of Delhi. CIAT already has some members at Atkins, including Somya Sharma ACIAT, a strong advocate for the Institute and its development in India. Somya facilitated discussion sessions with Geetha Ramamoorthi, Atkins India Operations Director, Atkins Delivery Heads, and the team of architects.

Geetha was very supportive of the Institute's activity in India, particularly regarding professional membership and we will be following up with her so that she can encourage her staff to join CIAT. The Delivery Heads asked some probing questions about the standing of Chartered Architectural Technologists and parity with architects, noting that the education route of our Chartered Members is normally between three and five years. In order to register as an architect in India, it is necessary to complete a five-year Bachelors' degree in architecture (BArch) which includes an internship of up to a year. On completion of this degree graduates can register as an architect with the Council of Architecture.

The CIAT delegation explained that the requirements for Chartered Membership were illustrated through our Education, Practice and Professional standards and that we didn't stipulate a timeframe for Accreditation of academic programmes; instead we grant Accreditation having assessed content, level and programme outputs, i.e. student work. The CIAT team explained that after this, our Chartered Members must undertake some time in professional practice, again which is not time barred but is usually a minimum of three years. Altogether our combination of education, practice and professionalism is normally at least six years, compared to five years to become an architect in India.

The final meeting at Atkins was with the team of architects. Around 60 of Atkins' approximately 180 architects were either present in the Gurgaon office, or had dialled in from the Bangalore office. Most of the architects were aware of CIAT, with some holding Associate membership. This session focused on membership progression with the main concerns surrounding mentoring, and clarification on who could sign off their applications; many of Atkins staff being under the misconception that only Chartered Architectural Technologists could do this, when in fact CIAT accepts full, Chartered or Corporate members of related professional bodies. The Institute will be encouraging Atkins' architects to progress their membership.

Kandarp Bhatt

The delegation left Delhi to travel west to Gujarat where we met with Kandarp Bhatt, former Principal of ITM Universe College of Architecture based in Vadodara. Kandarp had made contact with the Institute to offer his assistance in developing links with academic institutions in India that may be interested in learning more about Architectural Technology, with a view to developing a tailored pathway for Architectural Technology within existing programmes of study or establishing a separate programme in AT. Kandarp left us with a clear message about the need to align and collaborate in India to promote and raise awareness of AT.

Institute of Architecture, Nirma University
After Vadodara, the delegation travelled across Gujarat to the former state capital and largest state city, Ahmedabad where we met with the Institute of Architecture at Nirma University.

Nirma University was established in 2003, and is a research-oriented, not-for-profit state private university. The Institute of Architecture and Planning at Nirma University was established in 2014 and its objective is to deliver high-quality education in the field of designing built environment and human settlements through the disciplines of Architecture and Planning.

Representatives from the University had attended the CIAT conference held in April in Delhi, so were already fairly up to speed with our activity and objectives. We met with Utpal Sharma, Director along with Foram Bhavsar, Assistant Professor. Professor Sharma was open to exploring the possibility of developing AT education at the University and we were requested to pass on some examples of syllabuses and our own requirements for Accreditation. The Institute of Architecture runs the five-year Bachelor of Architecture programme and its first cohort had just completed, so in offering a fairly newly established programme, the team was open to new ideas and concepts, including Architectural Technology.

Nandhini Sundar
Leaving Gujarat, we headed south to Bangalore, or the garden city where we were due to meet Nandhini Sundar, a journalist with a passion for architecture to be interviewed for Antarya magazine for which Nandhini is content editor. Antarya is a publication produced in collaboration with the Institute of Indian Interior Designers (IIID), Bengaluru Chapter, and Nandhini wanted to interview us for the magazine.

Nandhini asked us some comprehensive questions about our intentions in India and the nature and scope of Architectural Technology within the broad field of architecture. In relation to the Indian context, Nandhini wanted to know in what way AT would transform architectural education if introduced as a distinct discipline and in what manner it could change practice in India. She went on to ask how relevant AT is to Indian architecture particularly in regard to local sensitivities and sustainable design. Finally she asked us about our views on the future of this discipline, both as a distinct field of study and its adoption in the 21st Century architecture. Her article will be published on our website when it is available.

> **Geetha was very supportive of the Institute's activity in India, particularly regarding professional membership**

Srishti Institute of Art, Design and Technology
Srishti Institute of Art, Design and Technology was founded in 1996 by the Ujwal Trust with the objective of providing art and design education in an environment of creativity. We met with Nandini Dasgupta, Head of Programme, Industrial Arts and Design Practices and Mary Jacob Kuruvilla, Dean of the School of Law, Environment and Planning. Unlike many of the other academic establishments we met, Srishti Institute does not offer the BArch programme, instead it has a Bachelors' in Public Space Design. Mary gave us a summary of the content of the Public Space Design programme which appeared to align well to AT and our standards. Mary offered to send us the content so we could review it in more detail. She also informed us of an international project the Institute is involved in, called the Lens project, or Learning Network for Sustainability, which is an EU-supported (ERASMUS+) project involving almost 40 universities from across the world, whose objective is to promote a transition towards a sustainable society for all through engaging with the new generation of designers, and design educators and researchers.

Impact School of Architecture
Our final meeting in Bangalore was with Impact School of Architecture, affiliated with the Visvesvaraya Technological University. The meeting was organised by Niket Upase, Associate Professor at the School and practising architect at WSP Global, a globally recognised professional services firm employing approximately 49,000 people.

Niket had earlier approached CIAT about becoming a member so we took the opportunity to meet him and his academic colleagues, Professor Sudhir Acharya, Director of the School and Dr Alice Abraham, President of Impact to discuss membership, AT programme development and Accreditation. The School already offers the five-year BArch programme as well as a Masters programme (MArch) in Digital Architecture. The delegation had the opportunity to meet with the MArch students to talk to them about what we do, and encourage them to join CIAT as student or Associate members.

Sunderdeep College of Architecture
Leaving Bangalore, the delegation headed back to Delhi to meet with Sunderdeep College of Architecture in Ghaziabad, part of the Sunderdeep Group of Institutions, established in 2008. The college is affiliated to Abdul Kalam Technical University, Lucknow.

The meeting was initiated by Professor Rakesh Sapra who had attended our April event in Delhi, and to give a presentation to academics, students and local practising architects. In front of more than 200 attendees, Tara presented on the Institute, the discipline, membership and its benefits, with Colin giving an overview of the Architectural Design and Technology Accredited degree at Wrexham-Glyndwr to give the audience some context as to AT as an academic discipline. We were taken on a tour

of the College and had the opportunity to meet students at different levels and talk to them about their excellent work on display, as well as meeting students involved with India's National Architectural Student Association (NASA) and view their fantastic competition winning work.

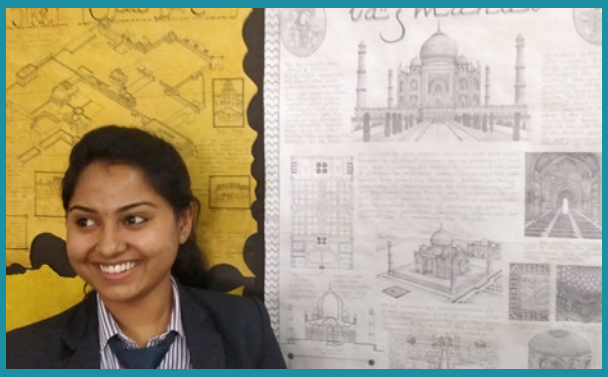
Vastu Kala Academy
The delegation then travelled across Delhi to Vastu Kala Academy, established in 1993 by the Institute for Socialist Education, a society registered under the Societies Registration Act, 1860. It is affiliated to Guru Gobind Singh Indraprastha University, Delhi.

The delegation met with Assistant Professor Rashmi Tandon who had attended our April conference, and Academy Director, Professor Amit Hajela. Professor Hajela was keen to learn about how CIAT envisaged the development and implementation of AT within education in India. Professor Hjela voiced his enthusiasm for the potential provision of specialist modules through the Academy, offered at summer schools. We spoke at length about the growing need for specialists in AT in industry and we will look to develop this proposal further with the Academy. Professor Tandon informed us of her impending visit to the UK and CIAT will help arrange meetings with Universities offering Accredited programmes to help her understand how the discipline is already established in the UK and elsewhere

Deependra Prasad
Next on the CIAT team's busy schedule was a meeting with friend of the Institute, Deependra Prasad. Deependra is a practising architect in Delhi and has been instrumental in facilitating meetings and assisting us in India, as well as presenting at the two major conferences we have held there. Over 'chai' we discussed our meetings to date and what more we could look to do to develop AT in India. Deependra offered to make contact with some other academic bodies and explain our mission to them and he advised us to push for Accreditation, encourage practitioner membership in India so that we would have local AT role models, and engage with NASA, the National Architecture Student Association.

MBS School of Planning and Architecture
The following day found the delegation at MBS School of Planning and Architecture where we met with architecture staff including former Director, Professor Viresh Bugga, and to discuss AT and the need for its implementation, and to give a presentation to around 50 students of architecture. The School of Planning and Architecture was established in 2009 and is affiliated to Guru Gobind Singh Indraprastha University (GGSIU). MBS SPA is a centre for research, education, production and outreach with the mission of envisioning the future habitat of society.

We met with the National Vice President of NASA, Simarjeet Singh, who was keen to engage with the Institute, and find out more about aspirATion, our own aspiring professionals' network. One important action for us will be to start the conversation between these two groups and to harness both groups' enthusiasm and passion for the broad field of architecture, perhaps through competitions, joint projects and other networking opportunities.



All India Council of Technical Education (AICTE)
The All India Council for Technical Education (AICTE) sits under the authority of the Indian Government's Ministry for Human Resource Development, and its function is to oversee and promote improvements to the technical education system in India, as well as being the standards setting body and regulator for technical education.

Technical education includes programmes of education, research and training in engineering technology, town planning, management, pharmacy and other programmes or areas as the Central Government and the AICTE may deem appropriate.

Over the past year, CIAT has been developing a working relationship with the AICTE, including holding our conference in April on Architectural Technology at the AICTE's auditorium in Delhi. The Chairman of the AICTE, Professor Anil Sahasrabudhe was available to meet with the CIAT team during this visit. At the meeting, we explained the status of the Chartered Architectural Technologists, and that although there was no set timeframe in which to attain Chartered Membership, the process of demonstrating academic achievement, practical competence and professionalism was comprehensive and how quickly the whole process could be completed would depend on the individual.

We discussed the potential for the development of a distinct degree in Architectural Technology which would sit under the aegis of the AICTE. Professor Sahasrabudhe invited CIAT to send a proposal on how to progress this initiative, along with an example of an existing AT syllabus, and our education standards to him so that they could be reviewed by the AICTE's architectural board

Council of Architecture, India
The Council of Architecture (COA) is a statutory body established to implement the Architects Act 1972. It is responsible for regulating the education and practice of the architecture profession throughout India as well as maintaining the register of Architects. The registration also entitles a person to use the title of Architect. Since CIAT started promoting AT in India in 2016, we have been in regular dialogue with the COA and have maintained a good relationship. The COA has been supportive of our work in promoting and developing AT as an allied profession to architects in India. The CIAT delegation caught up with

former Acting President of the COA, Mr Vijay Garg to provide him with an update on our activity to date.
Mr Garg suggested focusing on five or six universities in India which would develop and validate programmes of study, and which would then be offered at associated Schools or Colleges of Architecture. Mr Garg proposed sending an example syllabus and our standards to the universities to encourage the development of similar programmes in India.

Architectural Science Association
The objective of the Architectural Science Association (ASA) is to promote architectural science, theory and practice primarily in relation to teaching and research in institutions of higher education on an international basis. Initially established as the Australian and New Zealand Architectural Science Association (ANZAScA) the ASA now has a membership of several thousand professionals, academics and students from many countries.

CIAT has sponsored the ASA's annual conference for the past three years, and this year the event was hosted by the Indian Institute of Technology (IIT) in Roorkee. The timing of the conference tied in perfectly with the CIAT delegation's visit to India, and presented an ideal time to meet the organisers in person and discuss how we could forge closer links with each other. While Colin grabbed the opportunity to attend some of the seminars, Tara met with the organisers, Professor Marc Aurel Schnabel from Victoria University of Wellington,
New Zealand, Dr Mark Dewsbury, University of Tasmania and Associate Professor Priya Rajagopalan from RMIT in Melbourne to talk about the research and education activities of both ASA and CIAT, and how we could collaborate. Tara agreed to send a summary of CIAT's work in this field, including details of other bodies we work with, particularly educational establishments so that we can start to develop an effective international platform for education and research in this field.

ASA conference
The 53rd annual conference of the ASA, sponsored by CIAT, was held at the Indian Institute of Technology (IIT) in Roorkee. The theme of the conference was "Revisiting the Role of Architecture for Surviving Development" which investigated the rate at which the population of the human race was increasing, and how the rate of resource use was increasing exponentially, and sought to look into how we could start to consume minimal resources specifically relating to the built environment. Speakers and delegates travelled from across the world including India, UK, Canada, Australia, New Zealand, China and Indonesia. Session topics included, sustainability, building performance evaluation, the role of occupants, and construction materials and processes.

Indian Institute of Technology (IIT), Department of Architecture and Planning Indian Institute of Technology – Roorkee is one of the most prominent and well-respected institutes for higher technological education, engineering and research. It is viewed as a trailblazer for education and research in the field of science, technology, and engineering.

While Colin enjoyed the seminars, Tara was invited to meet the Head of the Department of Architecture and Planning, Professor PS Chani, where a very lively discussion was held about the structure, duration and content of AT programmes. Tara explained that Accreditation of a programme of study was mainly based on its ability to meet our standards in terms of content and resources and there was less focus on the duration of the programme,

> **Demonstrating academic achievement and practical competence**

noting that we even Accredited a five-year architecture programme. Tara described the key differences between architects and Chartered Architectural Technologists, informing Professor Chani of the parity of esteem and recognition held by the Chartered Architectural Technologist in the UK and increasingly further afield, being equal to the architect. She explained that while both professions can lead a building project from conception to completion and may be competent in all areas, the focus of the Chartered Architectural Technologist was on physiology of a building, its function and performance, and the realisation of a building, whereas the architect's specialisation was on the conceptual design side.

Tara was asked about who we had met in India and if there was a perceived demand for the development of the Architectural Technology discipline in India. She explained that since the Institute's first visit in 2016, CIAT delegations had met with architectural practices both Indian and from overseas, statutory bodies such as the AICTE and Council of Architecture, and educational institutions. She went on to tell Professor Chani that CIAT's proposals had been very positively received in India but more work was to be done to establish it, seek the necessary approvals and achieve recognition for AT professionals.

Professor Chani stated that he saw AT as being the link between architecture and engineering and that IIT Roorkee was in a prime position to develop an AT programme as its strengths were more towards the technology of architecture. Tara was asked to send an example syllabus and the Institute's educational standards to the IIT Department to peruse. She was also invited back with some Chartered Members to run a session on AT with the academic team and approximately 250 students. Professor Chani stated that it was critical to engage with students and young professionals who are the lifeblood of the architectural professions, and we all needed to harness their enthusiasm.

CIAT's ongoing presence and promotion in India are critical to its success there and the Institute will continue to forge links, and encourage educational programme development and professional membership. ■

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- GAMIFICATION FOR ENTERPRISES

INDUSTRY CASE STUDIES FROM

Christian Rouffaer
Head of Unit - Virtual Reality
International Committee of the Red Cross

Craig Piper
Learning & Delivery Manager
Lloyds Banking Group

Wanda Manoth-Niemoller
Commercial Development Manager Training, Engineering and Maintenance
KLM

Rich Rabbitz
Senior Engineer
Lockheed Martin

David Vincent
Chief Digital Officer
Tourism Northern Ireland

Florian Couret
Head of Digital Innovation
BNP Parabis

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The AR & VR World Summit, supported by CIAT, is Europe's leading technology-driven conference and exhibition showcasing AR, VR, MR and XR as the essential tools for business transformation.

This is London Tech Week's flagship AR & VR event and part of TechXLR8, the 17,000 attendee festival of tech including 2,500 AR & VR professionals.

The two-day event will take place between 10–11 June at ExCeL, London and will guide attendees through the implementation, sustainability, and expansion of AR & VR technologies for business use. Leading brands will be sharing key AR & VR use-cases including the likes of Lloyds Banking Group, KLM Airlines, Welsh Water, the International Committee of the Red Cross and many more. In addition, the exhibition will be a showcase of the most innovative immersive experiences that will allow you to gain hands-on with the technology revolutionising business transformation. Full access to the AR & VR World Summit is free to attend, register for you free visitor ticket today!

The conference and exhibition provides Architectural Technology professionals and those in the architecture industry with an unmissable opportunity to learn from key studies of how AR, VR, MR and XR technology is being implemented across the industry. In addition, the AR & VR World Summit provides a showcase of innovative case studies from across industry verticals and develop best practices. Utilise the summit to create innovation in the built environment sector by building lasting connections, staying ahead of your competition and gaining first-hand experience of the latest technologies.

This year's agenda has been carefully curated to navigate businesses through the most effective implementation of AR/VR technologies, advocating best practice in planning, design, implementation and scalability across the AR VR ecosystem. Benefit from the most interactive and business critical AR/VR event to date including live interviews, success stories, deep dive panels and debates.

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- **Learn from real-life use cases** – From architecture case studies to automotive design, explore how AR/VR can enable transformation across industries and adapt to your business need.
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Grand Designs

Words by Mark Wildish MCIAT, Chartered Architectural Technologist

One of our designs was the feature on the television programme Grand Designs, episode three of series 20.

When your client says that they have submitted their project to Grand Designs you think about how amazing that would be, but then dismiss it as something that probably will not happen.

So when my clients, Mark and Penny, told us that Grand Designs were going to be following their project we were absolutely thrilled at the prospect of having one of ArchiWildish's designs acknowledged by this prestigious programme.

Meeting Kevin McCloud was a real pleasure. His mannerisms in real life are exactly the same as when he is in front of the camera and having the opportunity to discuss your work with him, and be complimented by him, was an honour.

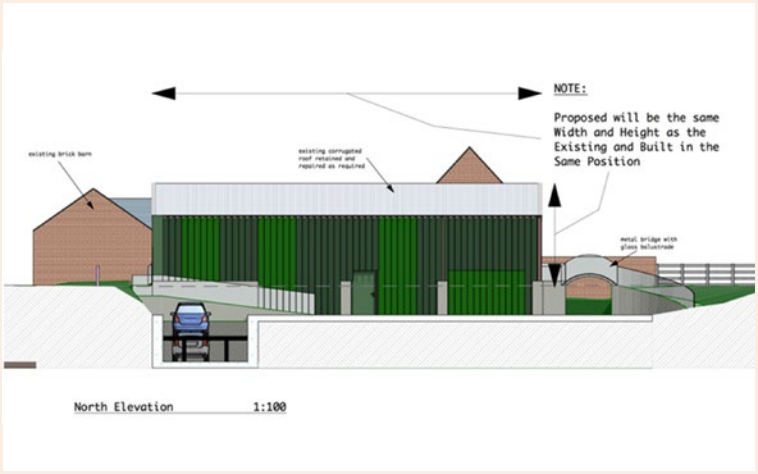
The hardest thing was to keep it quiet for two years, but when the programme aired it was surreal to see something that I had designed come to life on the TV and it has certainly been a highlight in my career and an achievement of which I am immensely proud.

Project description

My clients, Mark and Penny, discussed at our initial meeting the possibility of improving the accessibility of their converted brick barn home to allow Mark, paralysed from the waist down, the dream of building a new adapted home on the site of an old steel portal barn.

Unfortunately, at the time, planning policies did not allow for the creation of new dwellings in this location. To make matters worse, the desired alterations to allow Mark to access the first floor of their existing home were not possible within the confines of the existing brick barn conversion. A few years after our initial meeting, the Government introduced a new permitted development policy in respect of being able to convert redundant agricultural buildings into dwellings. Thinking outside of the box, and remembering my meeting with Mark and Penny, I contacted them to let them know about this change in planning policy.

To have our work featured has been one of the highlights of our career



Although it was an outside chance, I explained to them that by submitting a successful Class MB prior to approval application, we would be able to establish the principle of a dwelling in this location. As it would be a leap to go from a conversion project to a new build dwelling, we could argue a case for this based on Mark's needs being unable to adapt the existing home.

With the Class MB approved, we designed a new dwelling that was to the same profile and size as the existing barn, but was partially subterranean, to provide the four bedroom family home that was required.

The planners objected to the proposal on the grounds of it being an unsustainable development in open countryside. However, we had good support from local councillors following a successful approach by ArchiWildish to ask them for their support and the application was taken before the Planning Committee where after tense discussion the application was approved 6/5 in favour.

This was, to the best of our knowledge, the first planning approval of its kind anywhere in the country where a Class MB approval had been subsequently succeeded by an approval to demolish the existing un-converted barn and a new dwelling built in its place.

However, the approved design required a substantial amount of excavation and in an attempt to be as uncontentious as possible, limited the amount of window openings looking out towards the sweeping countryside views.

We revisited the design with our client to make all of the living accommodation above ground level and raised the height of the dwelling accordingly. Changing the materials used in the proposed building, we gave the new dwelling a sharp contemporary look that reflected the agricultural heritage of the building it replaced and complemented its setting. This striking design was the house that Mark and Penny built and subsequently was featured on Grand Designs.

ArchiWildish did not produce the construction drawings or oversee the build and it was unfortunate that mistakes were made by those carrying out this work. It was also sad that our clients split up during the building of the project, however this unfortunate event does not detract from the stunning home that was built. To have our work featured on such a prestigious and well-respected TV programme has definitely been one of the highlights of our career. ■

Ashby company breathes new life into 19th Century hospital site

Words by David Granger MCIAT, Chartered Architectural Technologist

A Leicestershire based CIAT Registered Practice has injected new life into a well-known Ashby de la Zouch landmark and preserved its heritage at the same time.

The CIAT Registered Practice, David Granger Architectural Design Limited has moved into new offices in what was formerly Ashby Hospital, a building that dates back to 1897. The hospital controversially closed in 2014 when the NHS West Leicestershire Clinical Commissioning Group deemed it 'not fit for purpose'.

When the NHS sold the site, residents feared that the hospital would be demolished with new housing built in its place.

However, the practice has kept its original features while converting the 19th Century structure into modern office space. The hospital is not a listed building but it is part of the Ashby conservation area. It means one of the town's most recognisable buildings has been saved and given a fresh purpose.

The derelict hospital was purchased by local developer Lychgate Homes in 2017. They worked closely with David Granger Design to convert the building into their new offices, as they had outgrown their home in Packington.

As experts in historic building restoration, the practice team relished the opportunity to sensitively bring this old building back to life.

> All I really had was my drawing board and a spare room but it was a risk I knew I could take.
>
> "

Work began in 2018, removing the large and inappropriate single-storey extensions from the rear that had been added in the 1950s. In their place, Lychgate has built four new homes, as well as creating parking for the new offices.

The services to the hospital building have been brought right up to date, with over four miles of network cabling installed for high-speed broadband.

David, the company's managing director and Chartered Architectural Technologist, hopes their work in reviving the Old Cottage Hospital will see it remain as an Ashby de la Zouch landmark for many years to come.

The £500,000 project, completed earlier this year over an eighteen month period, also represents a new chapter in business for David who started out on his own in a spare room in Coalville nearly 35 years ago. The company has grown from small beginnings when he first decided to go it alone.

"I had to tell my father-in-law what I was doing, and he told me to give it a year and if it wasn't working then I had to go back and get a job," recalled David.

The building is also home to eleven self-contained offices which are rented out as workspace.

"We've given the building a modern feel while still keeping the history of what is an Ashby landmark," added David.

"It had been standing idle for seven years but we've breathed new life into it.

"When the NHS sold the building off to the highest bidder, I think people thought the site would be used for new housing.

"We have restored it and brought it into new use. It is a modern development, but at the same time, the character of the building remains. I feel honoured to be based in this building."

David Granger Design has been involved in a number of prestigious projects throughout Leicestershire and beyond. Towards the end of last year, the company attended the 'Good Design for North West Leicestershire: Ten Years on' awards event.

The purpose of the event was to present awards to some Commended Developments as well as making a 'People's Choice Award' – We were delighted to have received four awards for projects in Ashby de la Zouch, Whitwick and Breedon.

The company is keen to be involved with Ashby and its community. To that end David Granger Design is looking to form a close relationship with Ashby School. The Old Cottage Hospital building is situated in between the school's two sites with around 1,600 pupils passing by several times each day.

In addition all the staff are currently raising funds for a new defibrillator, suitable for use on adults and young children alike which will be positioned externally on the building. This is something that seems particularly relevant given the original purpose of the building and the recent campaign for public awareness of the importance of these machines and their availability within communities.

David Granger Architectural Design is committed to innovative architecture offering a friendly and professional service designing new builds, extensions, barn conversions, commercial buildings, housing developments and change of use applications throughout Leicestershire and the East Midlands. ■

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If you have any queries then please contact finance@ciat.org.uk

It is a great time to be a Chartered Architectural Technologist – please make sure you renew your membership and reap its benefits!

Eddie Weir PCIAT

Honorary Officer elections 2020 nominees standing for election

Following the call for nominations in the last issue of *AT Journal*, each candidate now takes the opportunity to explain why they should be elected.

Kevin Crawford MCIAT
President Elect

What we do today shapes the industry of tomorrow, inspires the next generation and stimulates those who have the passion, creativity and wisdom to embrace and drive new innovative ideas. As President Elect, it is not a case of promoting a new directive or drive for a single specific goal, but understanding where we are as a professional Institute and ensuring that our Corporate and Strategic aims and goals are relevant and respectful of the current climate and environmental emergency that is being faced the world over.

In the United Kingdom, we are fortunate that there is an acknowledgement that there is a challenge, and in May 2019, the United Kingdom Parliament became the world's first national legislature to declare a climate and environment emergency. However, more work is required as CIAT is a global Institute and represents both members and the discipline around the world. We must ensure that the current climate emergency does not simply become a fashionable buzzword to be replaced by the next fad.

One item which is looming is Brexit. This is now a reality. The way that the construction industry will react will directly affect all of the membership who currently work in the UK and will also have an impact on the way that our members live and work in other countries, especially those based within Europe. As an international professional body that represents members from around the globe, we must be ready and prepared to have proper and robust strategies in place to deal with any consequences of Brexit.

CIAT is at the forefront of our industry. If elected I will uphold this ideal through listening to members and industry, promoting the membership, education and the discipline of Architectural Technology.

One of the overarching goals that the President Elect must achieve is to align and complement the direction of the current President and lay the foundations for when the time comes to take over the role. With the current Strategic and Corporate Plans currently midway through their lifespan, the next stage of corporate and strategic planning has already started and issues such as climate and sustainability should be more prevalent in addition to maintaining the Strategic aims which have already become well established.

There are a number of critical paths, all of which are integral to the Strategic Plan and these overarching themes will carry through all subsequent plans. The key ones being:

Communication:
As President Elect, I will endeavour to ensure that the feelings of the membership are heard and acted on. Whether that be through the traditional routes of interaction at Regional and Centre Committee or more suitable means for the ever-changing way we communicate.

Succession planning:
The time constraints that are placed on Honorary positions are such that the roles are not suited to everyone, however that is not a reason not to stand and put oneself forward. The members who have been at the forefront of Regional, Centre and national committees can only remain so for so long. To ensure that we, as an Institute, are as current and up to date as we can be; there has to be a harmonious balance between experience and knowledge twinned with new blood and fresh ideas so that CIAT can move forward. New blood, either in the form of new members coming through aspirATion or the existing membership, is always needed.

Education:
It is our responsibility to shape and mentor the next generation. To encourage the young people of today to become the Technologists of tomorrow. As the leading body in our industry, there is no better professional organisation who can provide a home for Architectural Technologists.

Understanding a relationship is the key to success.

The relationships which we foster are fundamental to the CIAT brand. The actions of the President, together with the Officers and staff, all working together as a single voice are the public face of CIAT. Working with the Regions and Centres is key in promoting the discipline of Architectural Technology.

As professionals we are the lead in the discipline of Architectural Technology, a discipline that is integral to the entire construction process. To maintain this position, we must expand our membership base and to do so we must provide a clear indication of what the benefits are to be a member of CIAT which will help us plan for the future and provide a better understanding of what services we should be offering. We expect AT professionals to design holistically taking into account all factors including safety and sustainability – this should be a natural thought process – not an effort which requires another process to consider these things.

We need to foster closer relationships with employers and engage with colleges and universities at local, national and international level to promote Chartered Architectural Technologist practices as viable businesses. By doing so, we will integrate new graduates into our industry by offering apprenticeships, internships or placements to those who would benefit from the guidance and mentoring of a Chartered Architectural Technologist in practice.

As a previous member of Council and Executive Board, where I was Vice-President Technical up to November 2018, I am only too aware of the dedication and work that is carried out by the elected members and staff of City Road.

It is the responsibility of the President and all those associated with CIAT that as custodians of the discipline of Architectural Technology, we ensure that the skills and expertise of our members are recognised and utilised to their fullest so that we can all look forward to a future where the safety of buildings, the environment and acting responsibly is embedded and becomes part of the natural conversation in the construction process. If elected as your President Elect, I will serve and promote CIAT and its members wherever and whenever I am tasked with doing so and will carry out the role with integrity, transparency and professionalism all to the best of my ability.

I look forward to engaging with you soon. Please do not hesitate to give me a call, drop me an email or connect with me on LinkedIn or Twitter in advance of the elections and I would love to hear your thoughts and engage with you and other members. You are representing the views of you, the member and your views matter.

Paul Laycock MCIAT
President Elect

We are all part of an industry of opportunity and achievement, and I believe that all of us can and should be encouraged to achieve our best and continue to develop throughout our professional careers. For those that know me, that statement will be no surprise. For those that do not, let me introduce myself.

Construction has been a dominant factor throughout both my formative years and my professional career. Growing up in a family of trades and construction mangers, it was almost inevitable I would make my way into the industry. After gaining experience as a construction manager and director of my own practice/development company and acquiring both MCIAT and MCIOB along the way, I have settled into a role as an academic at Birmingham City University and lead both the Architectural Technology programme and the Design and Technology team there. In this role I have always kept one foot in industry, working with industry members, the Institute and other organisations to promote and further Architectural Technology at every possible opportunity. It is through this that I have developed my passion for promoting membership, the members and the Institute to achieve all they can be.

Now that you all know me, I would like to be clear that I am aware of both the privilege and responsibility this role brings with it. It is only by working as part of a team can any vision become reality. The future and the opportunities it holds for us are exciting. It is only through establishing closer relationships with clients and employers; working with Government bodies and organisations and continuing to blur the lines between industry and education that we can hope to gather intelligence and plan our future development. Also not forgetting listening to our membership, what are their hopes and aspirations for their future and the future of the Institute.

I firmly believe in not only working with members, Regions and Centres, but also in supporting them to plan for their local future to ensure a continued and strong presence throughout the national and international marketplace.

Considered planning and vision is key to all of these futures, with the decisions we make today helping to

shape the industry, the Institute, the membership and the members of the future. The Institute and our members are strong, but we could be stronger. I feel that through a united voice; a united membership; and a common core identity developed from good and considered industry intelligence that we will further secure our position as a major influencer into the future.

I am enormously proud and humbled to call myself a Chartered Architectural Technologist and feel honoured to accept this nomination for President Elect.

If I could have your support, I will engage with this role to the best of my ability, will seek to learn from you all. I will work tirelessly, upholding the highest standards of professionalism, integrity, responsibility and transparency for the betterment of all of you as members, the Institute and the society we serve now and into the future.

Doug Fewkes MCIAT
Honorary Treasurer

I am delighted to once again be nominated for the post of Honorary Treasurer a position within CIAT that I have had great pride in serving for the past terms. With the potential another term, the responsibility of this post and importance of maintaining the necessary close and dynamic financial control and guidance remains very close to my heart and are an imperative for the future of our Institute.

As I enter my third decade in the Higher Education Estates sector I reflect upon my growth and development from as a Senior Architectural Technician to that of Senior Project Manager. These roles have served me well and have allowed me to understand the importance of sound project and programme management in order to support corporate business plans and growth and to be agile in order to flex in an ever changing dynamic business climate.

It is these skills that have allowed me to develop my activities as your Honorary Treasurer and I trust that it provides all members with the continued confidence that I bring to CIAT, its financial management and abilities to deliver against the Corporate and Strategic Plans.

In my previous manifesto I indicated that I would take an approach of “if it’s not broken, we will break it” and ensure that all areas of our business are fully reviewed and are fit for purpose in the current and future of our Institute. With the approvals of changes to the membership structure at our AGM in Glasgow, the challenges that we have set our departments will aid in the continued growth of our Institute and the profession of Architectural Technology.

The work continues and maintaining the constancy of approach within an ever-changing environment is essential for the on-going development of CIAT Regionally, nationally and internationally. If elected I will continue to challenge the business as usual activities of our Institute to ensure we are best placed to meet the aspirations established in our Corporate and Strategic Plans and overall developments as approved at the last AGM.

Steven Hedley MCIAT
Vice-President Technical

Thank you for the nomination for the role of Vice-President Technical.

I have actively been involved with the Institute since becoming a Chartered Member in 2012 and in that time have held several positions such as Regional Councillor for the Northern Region for five years, Executive Board Trustee and a member of the Conduct Committee. I remain an active member of the Northern Region.

In 2018, I was honoured to be elected as Vice-President Technical which is a role I take very seriously. I am extremely proud to be able to represent the Institute at such a level and am asking for your support in my election for a second term and pledge to represent our members to the best of my ability.

For those who do not know me, I graduated from Northumbria University with BSc (Hons) receiving the CIAT award for excellence for works in my second year and as ACIAT worked in private practice for eight years. I formed Hedley Design Limited in October 2008 which is a CIAT Registered Practice and I have been operating as principle to date.

As I have been working in the industry for over twenty years, I have amassed a broad range of technical experience during my working career through working on residential

extensions, mass new build housing and bespoke luxury dwellings. Commercial factories and international stadia, refurbishment works to banks, restaurants and retail units to name but a few.

As part of the day to day running of my practice, I keep myself and our staff up to date with the latest legislation, standards and regulation changes throughout the industry and feel I am abreast of current practices and technology advancements. I fully understand the time demands bestowed on the Vice-President Technical and the importance of its influence within the Institute on our members and within our industry.

As part of my manifesto in 2018, I grouped my main objectives into the following categories, which can be directly linked to CIAT's Strategic aims. These are still embedded in my ethos and strategy in carrying out the role:

Collaboration (Strategic Aim 3)
- Unify the goals across the CIAT departments in line with our Corporate Plan and Strategy.
- Increase awareness of other departments activities and realise potential promotional opportunities.
- Increase collaboration with other institutes and affiliated bodies.

Inclusivity (Strategic Aims 4 and 5)
- Increase member participation.
- Give better feedback to members.
- Allow better succession planning for key roles.
- Encourage increased Regional and Centre contribution.
- Increase the depth of specialist expertise we must draw on when making key decisions and formulating responses to papers and consultations.

Awareness (Strategic Aims 1, 2 and 5)
- Increase profile of CIAT to potential and current members.
- Increase the profile of CIAT to the wider market, public, other institutes and industry.
- Continue to be the stand-alone industry leader in our field.
- Promotion of the discipline of Architectural Technology.

Technology (Strategic Aim 4)
- Represent CIAT both internally and externally.
- Assist in key decisions and consultations responses for industry standards and regulations.
- Create better technical support and services for our membership.

Over the past eighteen months the landscape for our industry has changed somewhat, with Brexit now upon us, the focus on the renewables sector and legislative and policy targets in relation to the climate change emergency and Net Zero.

The Institute needs to remain at the forefront of change for both our members and industry benefits alike and I feel that my drive and pragmatic determination to serve the institute with an open mind makes me the ideal candidate for the position of Vice-President Technical.

The Technical Department do an amazing job serving our members and it has been an absolute privilege to work alongside such an ambitious and focused team.

As part of my current tenure as Vice-President Technical, I have been involved in a number of initiatives and Taskforces, setting up the technical newsletter, sitting on the Construction Knowledge Task Group, Keeping Pace with Change Working Group, involvement with BRE and their biophilia and welfare projects, alongside ongoing involvement with HSE's CONIAC working groups. I feel that a second term would really see some of our hard work come to fruition.

It is with continuity in mind that I ask for your assistance in my election for a second term as Vice-President Technical, in which I will endeavour to develop new and existing initiatives forward and support the members in all things technical within CIAT.

I welcome any questions you may have during the lead-up to elections.

What happens next?

Candidates gave presentations at the Council meeting held on 7 March and we encourage you to liaise with your local Region, Centre or aspirATion about these.

The full manifestos for the nominated candidates will be issued to members by email and found on our website. A campaign trail is now in progress with the election taking place at Council on 5 September 2020.

Key dates summary

Campaigning by candidates:
Now – 3 September 2020 inclusive
Election ealerts and updates on the website:
24 February – 3 September 2020 inclusive
Election at Council:
5 September 2020
Candidates advised if not in attendance at Council
Ealert announcing the election results:
7 September 2020
Assumption of position:
14 November 2020, close of 2020 AGM

Representing CIAT as a judge

Words by Tony Whitbread MCIAT, Chartered Architectural Technologist

As a passionate advocate of both the discipline and CIAT, I wanted to give back and was honoured to represent you all as the Institute's judge for the Housing Design Awards and for the International Property Awards.

The Housing Design Awards are the longest running awards for housing design. They were launched in 1948, in the same Parliamentary sitting as the creation of the NHS, to reward better municipal post-war rebuilding. This was opened up to private sector homes in 1960 by then Prime Minister, Harold Macmillan. David Birkbeck, Chief Executive for Design for Homes, is the current custodian of these awards.

The Housing Design Awards are an opportunity to showcase quality residential developments of four or more homes in both design as 'project' planning approved and in occupation as 'completed' schemes. In doing so, not only to celebrate worthy winners but also to promote innovative schemes which have advanced housing quality in certain ways from which the industry can learn from. Thus, making today's exemplar, tomorrow's normal.

There have been many worthy winners, such as last year's Overall and Good Neighbour Winner, Goldsmith Street in Norwich. This was a completed scheme of Local Authority social housing to Passivhaus standard by the City Council. For more details and to view innovative schemes, please visit the HDA website hdawards.org, where you can view winners, those shortlisted and a back catalogue of projects, as far as the digital age has enabled!

The journey for the winners begins with a submission board entry. These are collated with all other entries, a selection of which assigned to each judge for presenting on a day of judgment. This day consists of an intensive review of circa 200 entries. It is intense as very few entries are not contenders. The remaining majority receive scrutiny from the judges who represent the spectrum of industry professions. Whilst representing CIAT, I also sit there bringing my experience of over 20 years in employment with developers and contractors which can be an interesting experience when honest and frank views are being aired about such.

The entries are whittled down to the project winners decided on the day, with a shortlist prepared for completed schemes to be visited. Please review the website, from which you will see that a wide variety of schemes make the shortlist, from large scale developer/local authority led regeneration schemes to small scale independent developer ones, local infill sites, student apartments, care homes, from entry level homes to high end residences. There is no one type that is favoured when it comes to the assessment of quality housing.

I'd like to name all the judges in person here to get my word count up (all those pulling their Professional Assessment together or in education, I'm sharing your pain), but probably best to visit the HDA website to see who represents who.

Also, in case the point has been missed on anyone, a shortlist for completed schemes to be visited. Yep, that's right, what sets these awards apart from others is the fact that the judges will visit the completed schemes in person to see whether the schemes live up to the photoshopped submission boards and that the resident's lives are indeed enhanced by the quality of the design.

This is a four-day commitment, sometimes five, split between two areas, London and everywhere outside London. When I say everywhere outside London, now is probably the time to state that the Housing Design Awards is an England only awards scheme. Apologies for those outside England, but in my defence, I was not present in the Commons in 1948!

The shortlist requires a logistic exercise of epic proportion, which thankfully I've not been involved in, but I take this opportunity to say a thank you to David and Fiona Miller, his able assistant, who do organise it all very admirably.

That said, in addition to viewing some fantastic schemes (again please visit the HDA website), being on the road with the judging panel has provided some interesting experiences and not everything goes to plan. Such as the coach driver who hasn't studied the route, is without sat nav and has a mobile phone with no battery life, who proceeded to navigate a London residential T junction with a spectacular 50 point turn that drew the locals out of their homes to witness. We now take the tube!

It has also provided some life lessons, such as covering over ten miles in a day on foot, is probably best not done

in new brogues and explains why at my first early morning rendezvous the other judges were not in business attire. Also, thanks to the HDA Chair, Gareth Capner, I am now very proficient in the art of the 'walk and talk'. Another surprise, was that being in such polite company when removing our shoes before entering homes to chat with the residents, was how many eminent professionals had socks with holes in!

Talking of residents, it was a joy to meet all of them, it would be wrong to name favourites, but all those met in the HAPPI category were special and richly deserving of their new environments. Schemes such as Willow Barns, Seaford, Meadow View, Colby Lodge, to name a few.

One such HAPPI scheme, was this year's winner Steepleton Phase 1 in Tetbury. Amongst its many excellent resident's facilities is an outside swimming pond. You'll be pleased to hear that whilst other Institute's judges suddenly found themselves with trains to catch, yours duly immersed himself in the occasion and jumped in. Given it was the last scheme visited on an April afternoon going into evening, it was somewhat refreshing.

The four years that CIAT have been involved with these awards have in addition to Goldsmith Street, this year's overall winner, produced supreme winners of The Bourne Estate, London EC1N in 2018, New Ground Cohousing, Barnet in 2017 and The Malings, Newcastle-upon-Tyne in 2016.

It is interesting to see how some of the schemes where provision of residential has unlocked the ability to provide or improve much needed community facilities. Schemes such as the Macpherson Apartments, Bow Garden Square, Paintworks, Holy Trinity – Dalston, amongst others.

In visiting the developments, another area which has impressed, is in the application of modern methods of construction and, in particular, what is being done with offsite modular. Two exceptional examples of what can be achieved with such are New Islington in Manchester and the Urban House at Kidbrooke Village. Also of note, the offsite manufacture of the impressive facades at Garden Halls.

Other visits have thrown up some nice surprises, like the street of edible planting at Tregunnel in Newquay. Roadside rhubarb at its finest.

In assessing the developments, part of my criteria is how the homes are serviced and whether adequate design has gone into accommodating all the necessary kit. As any site manager will attest, where this is not done this will cause untold angst on site. As such, I'll always open the utility cupboards to examine, much to the merriment of and rise taking of my fellow judges, but then they are not technical.

Upon completion of the visits, the judges are then required to score the schemes which is done independently. I'm an avid photographer of the developments, it helps me score once the visits are complete. With all the judges in an apartment at one time, getting a decent shot can be problematic, especially as some are keen photobombers.

Preparing this article has led me to review the schemes visited over the past four years, and having done so, I have to applaud all these fantastic schemes and say well done to all those associated with bringing them to reality and enhancing the communities within which they sit.

The finale of the awards is the awards ceremony. This takes place at the Institute of Engineering & Technology, proceeded by an exhibition of the schemes and lessons to be learnt. This is a celebration of design and as such not a gala dinner. The winners are announced by representative of the sponsors, last year by Eddie Weir for CIAT.

Looking forward I would recommend those who are working in the residential sector review the schemes that they are working on for consideration as an entry. It is suspected that whilst the judges see many of the best of the schemes in the country, that there are others out there that would be worthy contenders. The schemes are judged on many merits. As with all good judging panels, this one is not immune to a decent back story in a scheme being brought to development. Look out for the entry opening announcement for this year. ■

I'll always open the utility cupboards to examine, much to the merriment of my fellow judges

Membership news

Chartered Members

We would like to congratulate the following members who successfully attended their Professional Interview and are now Chartered Architectural Technologists, MCIAT:

028129	Mohammed Bari	Northern, 01
024802	Barbara Dacko	Northern, 01
031696	Mark Donnelly	Northern, 01
034720	Andrew Wilson	Yorkshire, 02
016241	Jaclyn Kelly	North West, 03
030691	John Wallis	North West, 03
027613	Ryan Coulson	East Midlands, 04
029063	Colm Richardson	East Midlands, 04
034819	Alex Cousins	West Midlands, 05
032468	James Payne	Wessex, 06
029301	Nathan Ashton	East Anglia, 07
024156	David Shipley	East Anglia, 07
024967	Ryan Albone	Central, 08
011179	Stephen Arkwright	Central, 08
032518	Gilberto Viegas	Greater London, 09
034715	Andrew Elliott	South East, 10
018549	Richard Knaggs	South East, 10
033080	Haley Venters	Scotland East, 14
023677	Callum Watson	Scotland East, 14
027269	Dwayne McGlone	Northern Ireland, 15
019476	Malachy Mathews	Republic of Ireland C2
020496	James Akkawi	The Americas C4
018519	Philip Simpson	The Americas C4

Welcome back
We would like to welcome back the following Chartered Architectural Technologists:

012912	Darren Bailey	Yorkshire, 02
011489	Carl Thornton	Wales, 16
010680	Peter Parker	Asia Centre, C5

In memoriam
We regret to announce the death of the following members:

000001	Albert Edward Watson	Northern, 01
007079	George Robert Walker	North West, 03
004595	Graham Bruce Bell	Central, 08
028024	Dorota Solska South	East, 10

Republic of Ireland news

NBC's Roadmap to Digital Transition of Ireland's Construction Industry update – the NBC Roadmap has been re-issued to include WEF BIM Adoption Cycle 2018.

An updated version of the National BIM Council's (NBC) Roadmap to Digital Transition for Ireland's Construction Industry is now available here: https://issuu.com/constructionitalliance/docs/nbc_roadmap_to_digital_transition_updated_2020

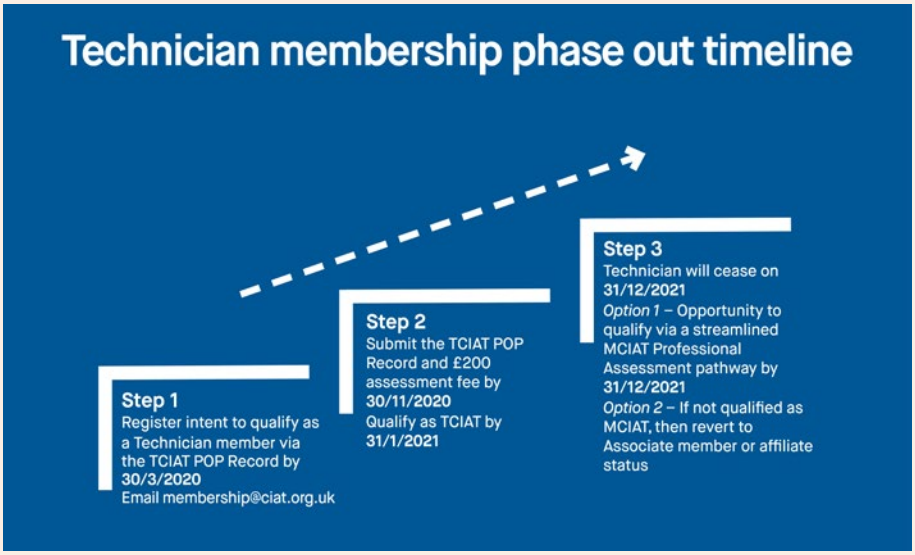
Withdrawal of Technician membership: Phase out timetable

If you are planning to qualify as a Technician member please familiarise yourself with the phase out timeline, detailed below.

As reported in the summer issue, the Architectural Technician grade, TCIAT, will be withdrawn from the Institute's membership structure on 31 December 2021.

You will need to register your intent, if progressing to Technician membership, with us by 30 March 2020 to submit your TCIAT POP Record by 30 November 2020. Register by emailing membership@ciat.org.uk

If you have any queries or require further assistance, then please do not hesitate to contact the Membership Department.



Just missed it – Post Christmas and New Years social

Words by: Usman Yaqub MCIAT, Wessex aspirATion Chair

At the end of a long January month, with Christmas and New Year as a distant memory, the Wessex Region hosted a post Christmas and New Years social to start the year off as we mean to go on!

We would like to thank all those that attended on 30 January at Racks Bar & Kitchen in Bristol and made the event a success. As part of the evening, two Chartered Architectural Technologists from our Wales Region (Oliver Henshall MCIAT and Aled Rees MCIAT) spoke as ambassadors from the Architects' Benevolent Society (ABS) and helped us complete our own Anxiety Arch. Following this, our main sponsor Autodesk Plangrid introduced an extremely interesting piece of software that can help with coordination and collaboration. To wrap it up, we socialised, had some delicious food and drinks before holding a charity raffle for ABS. Through generous donations the raffle raised an incredible £170.

Thank you again, and be sure to not miss our future events which can be found on our Regional website page, in AT Weekly or on the events section of the website. ■

Continuing Professional Development: not as demanding as you think it is

Members are obligated to complete 35 hours of mandatory Continuous Professional Development (CPD) in accordance with Clause 7 of the Code of Conduct:

Clause 7: Continuing Professional Development

The members (excluding student members) shall:

a) keep themselves informed of current practices and developments appropriate to the type and level of their responsibilities; and

b) be able to provide evidence that they have complied with the requirements for continuing professional development (CPD) as published by the Institute from time to time.

There is the AT CPD Register which has a range of CPD available

Although 35 hours may seem like a lot of 'additional work' on top of your other responsibilities, it is important to stress that there are many ways in which professional development can occur. In many cases, most members easily exceed the mandated CPD hours without even realising it.

For example, when was the last time you had to look up information on specifications, a product or method of assembly or ask a colleague to show you how to do something? All of this is CPD as you have acquired new (or further information) in order to make an informed decision in your line of work.

Many of you will have followed the media coverage surrounding the Grenfell Tower tragedy, but with the report having been published recently, Architectural Technology professionals will be able to gain a more thorough understanding as to how this happened, and how learning from this is likely to have influenced any Health and Safety aspects you have considered on your projects since.

There is also a common misconception that CPD must be paid for, when in fact there are many things that constitute learning and CPD which are free. These include having meetings or chats with colleagues or a mentor, reading industry publications including AT Journal and AT Weekly – which feature a host of information including links to websites, information and articles, attending trade shows and exhibitions (such as FutureBuild, UK Construction Week, Grand Designs), and acting as a mentor to others or assisting the Institute in some capacity. All of these – and many others – all count towards your CPD. For example, by spending roughly 45 minutes on reading each AT Weekly, which is published throughout the year, you would easily reach the required 35 hours of CPD.

There is the AT CPD Register, brought to you by the AT Academy, which has a range of CPD available that has been assessed by the Institute. Visit our website or look at pages 50–51 for further details.

Professional development is also crucial to better support you in your current role or to help you get to the next stage of your career. With the increased demands on our time, becoming more aware of good mental health practices or finding resources to help yourself or support those around you is an investment in your soft skills. Those wishing to take on more responsibility at work may benefit from focusing on areas such as leadership, management, negotiation or project management for example. These can be self-taught, shadowed or formal training courses.

The key is being aware of what you learn every year (the Institute's CPD monitoring period runs from 1 May to the end of April the following year), usually by keeping abreast of what topics relate to your area of practice to ensure that the currency of your skills is maintained, or enhanced.

Other useful resources include the events calendar, information sheets, Designing Buildings Wiki, BRE and many more.

For any questions, please contact education@ciat.org.uk ■

AT CPD Register Directory
brought to you by

For full details please visit ciat.org.uk/education/cpd/cpd-register.html

CDM

Introduction to the Principal Designer Role
This one-day, interactive, introductory course will equip delegates with the knowledge and understanding to undertake the new CDM2015 Principal Designer role on small and medium sized projects.

Cost/fee for attendance: £150.00
Contact: James Ritchie
E: james@jamesritchie.com
T: 07785915687
jracdm.com

BIM

BIM Level 2 Essentials
This online course aims to equip participants with BIM best practice, which when adopted leads towards efficient delivery, driving excellence, preventing accidents and saving time and money – both now and in future years.

Cost/fee for attendance: £170
bre.ac

BIM Level 2 for Information Managers
This online course is the second stage of the BRE Academy's BIM series. Successful completion of the course qualifies delegates to apply for BIM Certification for Individuals with BRE Global.

The course leads to a practical working understanding of the management of information within the BIM Level 2 process. Having completed this course, delegates will have a practical understanding of BIM management, standards, methods and procedures, and a deeper understanding of the BIM environment.

Cost/fee for attendance: £250.75
bre.ac

BIM Strategy and Concepts (ACM015) and BIM Application (ACM016)
Learning will take place through the Robert Gordon University virtual campus with a mix of online lectures, tutorials and self-guided study. Each topic within the module will have a number of self-required and obligatory activities aimed at emphasising the learning.

Cost/fee for attendance: £600 per module
Contact: Professor Richard Laing
E: r.laing@rgu.ac.uk **T:** 01224 263716
rgu.ac.uk/bim

Global BIM Management
The Global BIM Management Certification Program prepares participants to lead a new business paradigm in the AECO industry.

Cost/fee: €14,500
Contact: Maria Domingo, Product Manager
E: maria.domingo@e-zigurat.com
T: 0034 686 806 623
e-zigurat.com

How Virtual Reality saves time and resources (VR for Architecture)
To demonstrate how the sensation of actually being inside a building makes VR a powerful and money saving tool for communicating design intent.

Cost/fee for attendance: a nominal fee of £10 for the VR viewer
Contact: Scott Berry
E: scott.berry@applecoredesigns.co.uk
T: 0121 447 7788
applecoredesigns.co.uk

Building Regulations

Reducing the Performance Gap Through Fabric First
The presentation will improve understanding and confidence regarding insulation and how it is used how its performance is measured; the role of the designer/specifier in ensuring that manufacturers provide accurate U-value calculations and condensation risk analyses; and where insulation works with airtightness and thermal bridging details to contribute to a 'fabric first' approach.

U-value Calculations and Condensation Risk
This presentation will improve understanding and confidence regarding insulation and how it is used; how its performance is measured; the role of the designer/specifier in ensuring that manufacturers provide accurate U-value calculations and condensation risk analyses; and where insulation works with airtightness and thermal bridging details to contribute to a 'fabric first' approach.

Cost/fee for attendance: free to groups/practices
Contact: Lee Buckley
E: buckley.lee@recticel.com
T: 01782 590470
recticelinsulation.co.uk

Rainscreen Cladding: Compliance with BR135
Topic areas for this CPD course include Rainscreen Cladding, BR135 and Fire Performance of External Thermal Insulation for Walls of Multistorey Buildings.

Part L1A 2013 – Fabric Performance and Towards Passive, NZEB Targets
Topic areas for this CPD course include Building Regulations – Part L1A 2013 targets and corresponding specifications, Thermal Bridging and Airtightness Targets.

Section 6 2015 Scotland – Fabric Performance and Towards Passive
CPD topic areas include Building Regulations – Section 6 2015, Thermal Bridging and Towards NZEB/Zero Carbon House/Passive Standards.

Conventions for U-value Calculations – In accordance with BR443
Topic areas for this CPD course include Standards for U-values Calculations, Fabric Performance, Thermal Measurement and BR 443 Conventions.

Contact: Mary Maguire
E: marketing@xtratherm.com
T: +353 46 9066079
xtratherm.com

Fire

Fire Modelling for Fire Investigation and the Design of Buildings
Fire modelling is used primarily to predict the speed of smoke and heat from fires. BRE pioneered the original development and application of computational fluid dynamics (CFD) to create fire models that can when expertly used, be powerful design and safety tools.

Cost/fee for attendance: £42
bre.ac/course/fire-modelling-for-fireinvestigation-and-the-design-of-buildings

Fire Safety for ACM
This CPD seminar will educate designers post-Grenfell about what is and is not combustible in line with Approved Document B.

The intended audience is anyone wanting to understand how to select non-combustible external cladding.

Cost/fee for attendance: Free
Contact: Mark Winstanley
E: mark.winstanley@3acomposites.com
T: 07584680263
alucobond.com

Fire Stopping and Compartmentation
Compartmentation is an essential part of fire safety design as it subdivides a building into areas of manageable risk, to provide adequate means of escape, and to provide fire separation for adjoining buildings.

Cost/fee for attendance: £250
bre.ac/course/fire-stopping-andcompartmentation

Property Protection and Business Resilience: Automatic Sprinklers
This presentation will provide recipients with an awareness of the beneficial impact that incorporating sprinklers can have and how they can add value to building design. It also looks at the impact of fire on businesses and how sprinklers can aid the design process.

Cost/fee for attendance: free
Contact: David Ing
E: david.ing@wearefabrick.com
T: 0162 275 4295

Other

Biophilic Office Design
This online course is a webinar hosted by Flavie Lowres, BRE Sustainable Products Associate Director, who will illustrate the concept and main techniques that will be used in this exciting research project.

Cost/fee for attendance: £10.50
bre.ac/course/biophilic-office/

BREEAM Associate
This BRE Academy course has been designed to help understand, in depth, the essence of what BREEAM is about, what it involves, and how to successfully support the BREEAM process day to day.

Cost/fee for attendance: £195
breeam.com

Controlling Buildings Digitally
This CPD seminar will demonstrate how the correct deployment of a digital system can dramatically enhance the overall end user experience, or how a building manager can get better control over energy usage.

Cost/fee for attendance: £40 per person
Contact: Stuart Hanlon
E: training@mdar.co.uk T: 0120 2798 897
mdar.co.uk

In the Beginning: It all Starts with a Raised Access Floor
This CPD takes place in the form of a presentation, alongside the showcasing of product samples and equipment for a hands on approach, usually within a practice over a lunchtime period.

Bathgate Flooring can also offer the presentation from either of their 2 offices in Hereford and Warrington, with Hereford offering a factory tour of the manufacturing process.

Cost/fee for attendance: Free of charge
Contact: Darrin Andrews
E: d.andrews@bathgateflooring.co.uk
T: 07800 748930
bathgateflooring.co.uk

Inclusive Environments
The Inclusive Environments programme at Design Council aims to raise awareness about the importance of designing places that meet the needs of the diversity of people who want to use them.

The course is a free and interactive online training course that provides an introduction to inclusive design relevant to all built environment professionals. It has been developed in partnership with the key institutes and experts on Inclusive Design across the UK to help enable built environment professionals understand and apply inclusive design to the creation of new places.

Each module takes approximately 20 minutes to complete. Upon completion of the course, a certificate from Design Council will be awarded.

inclusive.designcouncil.org.uk

Leadership and Professional Development
A series of one-hour webinars covering various aspects of leadership and professional development.

Cost/fee for attendance: £42.50
(15% discount for CIAT members – use code CIAT15)
bre.ac/course/leadership-professional-development-webinar-bundle/

Loft insulation isn't working – what can we do about it?
A one-hour online CPD module by LoftZone will explain the 'in-use factors' that limit the effectiveness of loft insulation; the research by the National Physical Laboratory and Carbon Trust that show how widespread these factors are; traditional insulation and building methods which are no longer appropriate; alternative techniques to maximise insulation performance; specific design considerations and a U-value calculator and safety requirements in lofts.

Cost/fee for attendance: free
Contact: Dave Raval
E: cpd@loftzone.com T: 01483 600304
loftzone.co.uk

The Future of Offsite Construction
BRE Associate Director of Construction Innovation, John O'Brien, describes the thought process behind the ZedFactory's ZedPod at the BRE Innovation Park in this engaging one-hour webinar.

Cost/fee for attendance: £10.50
(includes 15% reduction for CIAT members – use code CIAT15)
bre.ac/course/future-offsite-construction/

AT Awards 2020 are now open

The AT Awards opened for submissions on 3 February 2020 for the following Awards:

- Excellence in Architectural Technology
- Student Awards for Excellence in Architectural Technology
- The Chartered Architectural Technologist of the Year
- Gold Award
- The President's Medal

Full details and application forms can be found on the website. Winners will be announced and presented at the AT Awards event on 18 September 2020. Tickets are on sale now!

The AT Awards are recognised as the premier accolades that demonstrate outstanding achievement in Architectural Technology and celebrate the technology of architecture.

AT AWARDS

ciat.org.uk/awards.html
#ATAwards

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