at

Architectural Technology
Journal

Building a safer future

Words by Dr Graham Smith MCIAT

With the recommendations of Dame Judith Hackitt's Review being taken forward, we are featuring a series of articles on methods to mitigate risks to life safety which the Institute considers is a vital component in improving the engagement with people and process.

The first in the series explains what Qualitative Design Review (QDR) is and why it is important.

The QDR is a technique outlined in BS 7974-0 that allows the team to think of the possible ways in which a fire hazard might arise and establish a range of strategies to maintain the risk at an acceptable level.

When designers are engaged in complex designs, regardless of size, they may find it challenging to meet the obligations of Regulations relating to Fire Safety and allowing for fire fighting provisions. BS7974 advocates the use of QDR as a method to engage stakeholders in communication to mitigate risk.

The BS-9999[1] t^2 fire can be challenged with other fire test data from studies relevant to the application/ Trial Design under consideration.

Establishing objectives leads to discussions of life safety solutions beyond those 'deemed to satisfy' life safety solutions into meaningful dialogue for assets, business criticality and management decisions for resourcing and training

Through QDR, a wide range of stakeholders understand the interdependencies between design and operations, and where emphasis on safety is needed, with a broad input from a holistic range of knowledge, engagement is critical to use the resources available effectively.

The whole building life cycle (e.g. change control, product substitution, emerging information and handover) can all be appropriately interrogated through the QDR process to arrive at acceptable solutions to mitigate hazards.

> **A whole fire event can be modelled, with different fire locations, different protection solutions, different management responses, and may include firefighting operations.**

Pessimistic Collaboration

The QDR team should take account of the possibility of failures of protection systems and management procedures when establishing the sequences of events to be considered. In a deterministic or comparative study, it is usual to identify a number of worst-case scenarios for further evaluation.

BS-7974-0

A whole fire event can be modelled, with different fire locations, different protection solutions, different management responses, and may include firefighting operations

Successful QDRs are workshops, not presentations; they are delivered by team effort, not by adversarial argument; they are constructive, not divisive; they are continual, not disjointed; they are visible, not obscurantist.

QDR provides a useful benchmarking exercise against code, regulations and other requirements and recommendations.

The QDR process is flexible and can be used from feasibility right through detail design, construction safety, operations, maintenance considerations and change of use/end of use and handover.
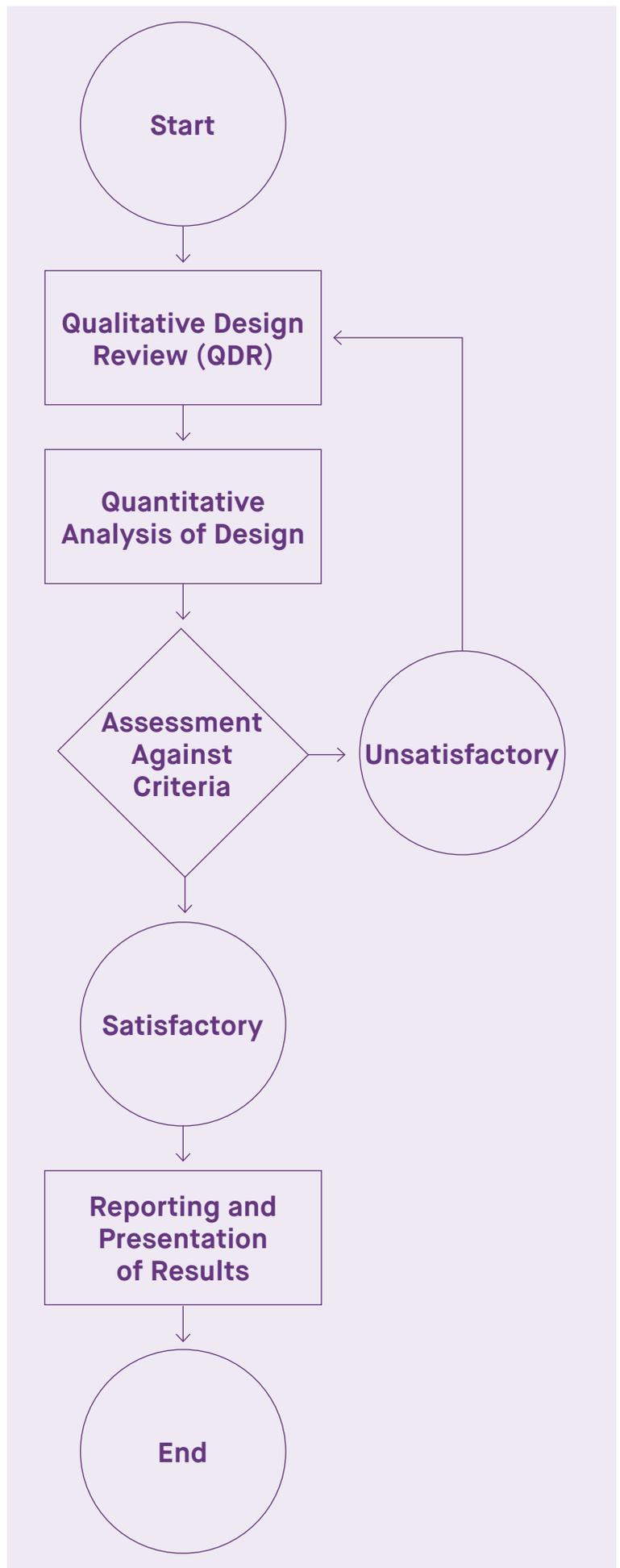
[1] Application of fire safety engineering principles to the design of buildings. Code of practice

[2] Fire safety in the design, management and use of buildings. Code of practice

Start → Qualitative Design Review (QDR) → Quantitative Analysis of Design → Assessment Against Criteria → Unsatisfactory → Qualitative Design Review (QDR)

Assessment Against Criteria → Satisfactory → Reporting and Presentation of Results → End

Putting flame in the frame

Words by: Jonathan Smith, Product Marketing Manager –
Flame Technology, Glen Dimplex Heating and Ventilation

With building design, aesthetics is often the primary concern. While the importance of design is not disputed – we can all be seduced by clean lines and minimalistic spaces if modern buildings are our preference, or beams and character if we prefer a more historic feel, but we also expect it to function in a way that meets our needs. This is where technology becomes important; be it a home, hotel, office or leisure centre, we expect the technology within it to provide us with the light, heat and comfort to meet our needs.

Historically lighting and heating technology was purely functional; you probably wouldn't worry about it too much. Times change – we expect to control our heating, lighting and hot water through connected devices. However, this is not all; technology can be used to improve the aesthetics, use and mood of the building. Indeed, heating and lighting can have a profound effect on our productivity and mood. These concepts are increasingly used in designs for both residential and commercial buildings.

One way to merge function, technology and aesthetics is with the installation of flame technology. Fires have always been closely associated with human life and people often seek the tranquil effects of natural elements, such as fire, to escape from a stressful society. In a study for the University of Alabama, Dr Lynn discovered that watching a fire, complete with sound effects, consistently lowered high blood pressure.[1] As humans, we also like to insert natural elements into our indoor spaces, and fire not only provides heat, but can also bring positive psychological benefits. Research on alpha brain wave patterns has shown that watching flame movements helps to improve levels of human comfort and satisfaction.[2]

Natural elements such as flame can also be used to create more authentic spaces in buildings such as hotels and restaurants. People are looking for personalised experiences; they want to have the living room experience of a more intimate personal area.

The old arguments around regulations, budgets and safety considerations can no longer be used when considering flame in a design project. Flame technology has come a long way since the radiant gas fires of the 1980s. By using innovative products in your design, those that merge aesthetics with function, like flame technology, you can deliver truly exciting and memorable spaces.

Understanding electric flame technology

Tapping into the psychological benefits of flame, many LCD manufacturers offer a screen option showing footage of a real fire. Obviously, the higher quality the footage and screen, the better the effect will appear up close, but unlike electric flame technology, there is no fooling anyone.

Two-dimensional flame technology

Perhaps the most common type of flame effect is a two-dimensional flame captured behind a glass or plastic screen. It can be generated in several ways. One method is to use rotisserie bars with paddles. The shape of the rotisserie paddles, the amount and colour of light being projected onto them, and the speed with which the rod is spun will all have an impact on the realism and presentation of the flame effect.

Other methods include a drum effect, which involves a rotating cylindrical tube with the flame shapes cut out of it. Pieces of cloth, or flags, are also a common method for two-dimensional effects which use lights to bounce of each piece, creating the effect of a moving flame.

Three-dimensional flame technology

This type of flame technology is much more realistic than a two-dimensional effect. It uses mirrors to give the perception that logs within the fire bed are behind the flames, whilst also adding a smoke or mist effect. The way the effect is created is thanks to an item called a transducer. When submerged in water, the transducer agitates the water at microscopic levels to create the mist. The water feed is kept constant due to a cassette, or it can be plumbed into the building's water supply. Lighting and heat are provided by a chassis below a sump unit, which pushes the mist out above the fuel bed.

The fuel bed can be dressed to requirements; bespoke combinations of LED logs can be added; the colour of the lights can be changed, and the amount of mist created can be chosen. In addition, these LED logs can be set to sporadically spark. Combine this with an audio element of crackling logs and you get an impressive and very believable illusion of a real fire.

Fire may have taken a back seat due to the restrictions imposed by regulatory compliance and regulations, but electric flame technology is a viable, credible and effective alternative.

1   https://www.dailymail.co.uk/sciencetech/article-2834468/
     Why-sitting-fire-relaxing-Staring-flickering-light-awakens-
     inner-caveman-causes-blood-pressure-drop.html

2   https://www.jstage.jst.go.jp/article/psysoc/54/2/54_2_68/_pdf

Overcoming regulatory restrictions with electric flame technology

Standard Assessment Procedure (SAP) 10

The Government demands that the energy performance of dwellings is calculated by considering a range of factors that contribute to energy efficiency. Some of these include: the air leakage ventilation characteristics of the building, the efficiency of the heating system and the fuel used to provide heating.

Electric flame technology is ideally placed to address SAP 10. With electric fires there are no emissions, so no ventilation is needed, and as there is no requirement for a working chimney or flue, there is no additional air leakage within the building. Electric fires are also classified as 100% energy efficient. This is because all of the energy being directed into the heating element of the fire is delivering heat. As there is no energy wastage it helps to meet consumption targets.

Building Regulations Part L and F

Part L of the 2010 Building Regulations requires provision to be made for the conservation of fuel and power in buildings by limiting heat gains and losses. In addition, Part F also requires buildings to have adequate mechanical ventilation.

Unlike real fires, electric flame allows you to have just that, the flame without the heat. Thus, not adding to any heat gains to a building and requiring increased cooling and ventilation. However, if heating is required, as previously mentioned, electric fires are classified as 100% energy efficient.

Further supporting these Building Regulations, most modern electric fires utilise LED bulbs among other low-running-cost parts. This condenses energy usage to only what is necessary and prolongs the life of the appliance. Also, electric heating does not produce any condensation which benefits occupants with a healthier, more comfortable living environment, reduces building maintenance, and eliminates any further requirements for additional ventilation.

The London Plan

London builds no longer allow an open flame. In addition, there are many other requirements around adopting sustainable design standards; minimising carbon dioxide emissions, avoiding internal overheating and using innovative energy technologies to name a few. If you want flame in your London building you are left with just one choice.

Flame for the future

We may have moved beyond fire as a necessity, but the benefits of flame technology allow it to become an essential part of architectural design. The electric flame technology of today is very realistic and can be used to transform any space; used both domestically and commercially, it adds ambience and warmth, making buildings hospitable and welcoming to residents and visitors alike.

The fireplace can once again become a dramatic feature of any room in any building.

AT Awards 2019 open for submissions in February

The AT Awards open for submissions on 1 February 2019 for the following Awards:

- Awards for Excellence in Architectural Technology
- Student Awards for Excellence in Architectural Technology
- Chartered Architectural Technologist of the Year

Full details and application forms will be on the website. Winners will be announced and presented at the AT Awards on 13 September 2019, held at Village Underground, Shoreditch. To find out about this year's event and winners please visit our YouTube channel, youtube.com/ciatechnologist for a series of films.

The Architectural Technology Awards are recognised as the premier accolades that demonstrate outstanding achievement in Architectural Technology and celebrate the technology of architecture. The event this year was held on 14 September and was hosted by the President and Matt Allwright. Details on this can be found in the *Annual Review* or in the AT Awards section on our website.

Keeping your mind on the job

Words by: Niall Healy MCIAT

Addressing issues of mental health within the built environment

The HSE recorded 30 fatalities on building sites in 2017 with 64,000 non-fatal injuries reported each year.

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When you hear the term health and safety, what comes to mind? Hi-vis, hard hats and steel toe-capped boots? Yes, they are all good tools to keep us safe in the environment which we work. As an industry, we have come a long way, we promote a safety culture on site; we identify risks and mitigate against them. We have trained first aid personnel at hand should the unfortunate happen. All the above protect the individual from hazards within the environment which they work.

Is this enough? Keeping alert and keeping your mind on the job is also key to staying safe.

Keeping your mind on the job, an interesting phrase. For some, this can be challenging. For some, the mind can be a troubled place and old taboos around mental health can make discussing the subject uncomfortable. I am willing to bet that most of us have, at some time, encountered a colleague who has been troubled. Sometimes the troubles can be concealed under a veneer of banter or a cloak of silence.

The HSE recorded 30 fatalities on building sites in 2017 with 64,000 non-fatal injuries reported each year.

However, stress, anxiety and depression accounts for 15% of work-related ill health cases.

hse.gov.uk/statistics/industry/construction/index.htm

The number of deaths or injuries are as a result of a troubled mind being elsewhere and not on the job is impossible to tell. Certainly, one's state of mental health has an influence on attention and focus and it is probably fair to say that a proportion of incidents are as a result of a troubled mind being distracted from the task in hand.

It has been encouraging to see how campaigns within our industry have focused through the lenses in Mental Health. Organisations like Mates in Mind (matesinmind.org/) which: 'aims to provide clear information to employers on available support and guidance on mental health, mental illness and mental wellbeing'

The Architects' Benevolent Society (absnet. org.uk) also 'offer practical support to people experiencing anxiety, stress or anxiety based depression through [their] partnership with Anxiety UK.' These industry-specific organisations provide excellent support both to someone who is suffering from anxiety, depression and stress and those who spot the signs in a colleague.

The key is taking that first step. This is where, as an industry, we need to build courage within the culture to act in a supportive way when a mental health issue becomes apparent. It is easy to find that courage to shout out when someone is not wearing a hard hat, but perhaps not so easy to identify the risks or find the courage to reach out, when a troubled mind is not focused on the job. Courage is a more accessible commodity when one knows how to offer guidance and point the way to professional support. That first conversation where the threshold is crossed into the space of sincere discussion about how one is really feeling is far less daunting when the landscape of professional support is on the horizon. Beyond that horizon can be a tangible support to a find road to recovery.

I have experienced a situation where a site manager on one of our sites was in a place of darkness in his life. On the surface, this intelligent, witty and charismatic leader was held in a position of great respect within the team. Over a number of months, hints that life at home was not going well surfaced from time to time, often laughed off with some flippant remark. After one particular meeting, our conversation took on a different tone. It was clear that the spark of wit and charisma was being extinguished under a flood of dark emotions. We had a long conversation, well, I say conversation, more importantly, I listened and gave the time to do so. Fears and anxieties were communicated articulately, and he was not afraid to share.

There were tears, fears and moments of panic... and that was just me on hearing the story. What gave me the courage to offer support was knowing that I could guide the way to help. After our conversation, I called Mates in Mind to share what I had learned and to find out and understand what help could be offered. The range of support from legal, financial and emotional matters was superb. Equipped with more knowledge I had another conversation. I encouraged contact with Mates in Mind for support and guidance. Without a doubt, the decision to make that call was instrumental in changing the course of the situation and increasing the range of possible outcomes.

But not all are as articulate and willing to share. Signs can be subtle and finding the courage to cross that threshold into an honest and meaningful conversation can be more than challenging.

Training is available via Mates in Mind who offer a course in Mental Health First Aid, this is a two-day course that teaches people to spot the symptoms of common mental health issues and recognise the early signs that someone may need support' (matesinmind. org/upcoming-courses.html)

Many of the large construction companies are supporting the Mates in Mind initiative already. The opportunity to get training in mental health first aid is a great step forward. Raising awareness of the support available within the industry is the mission to give us all the courage to reach out a hand of support when needed.

It was clear that the spark of wit and charisma was being extinguished under a flood of dark emotions.

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Setting the Standard

Words by: Keith Snook HonMCIAT

There are Standards and standards – so let's start with Standards.

The British Standards Institution was the world's first national Standards making body having started as the Engineering Standards Committee in 1901 evolving into the beginnings of what we know now by the early 1930s. The first Standards relating to tramway steel and construction makes up a substantial number of Standards in the current catalogue; as I imagine most of you are only too aware as the coverage can sometimes be a bit daunting. Having started the idea of reference Standards in order to promote safety and efficiency, the UK found itself leading similarly aspiring bodies worldwide, eventually rallying themselves through various evolutions into the International Standards Organisation in 1947. ISO is based in Geneva. In Europe (primarily here a geographical not political context) there is a further kind of interim level of Standards – 'Euro-norms'. In a perfect world this cascade of bodies would have been created starting with the (Worldwide) international through sub collections of cooperating territories (such as Europe) to the national, and Standards published in a similar way with high level and coordinating principles at ISO level and further clarifications reflecting local conditions at national level. Most work programmes in various subjects do attempt to adopt this hierarchy now but there has been little backdating of existing national catalogues to conform to the cascade – albeit there is guidance in place about attempting not to respect and not overtly conflict at the different levels.

Members required for new Technical Standards Taskforce

CIAT is pleased to introduce and launch its Technical Standards Taskforce.

With representation on many British Standards and involvement in various other standards, it was felt that a dedicated group should be introduced to encourage quality responses to mitigate conflicts and promote workable solutions across the industry. It is hoped that this group will be able to identify gaps and be proactive in producing robust and workable guidance.

This will comprise a core group, being led and chaired by Kevin Crawford MCIAT (previous Vice-President Technical), CIAT representative on CB/1, Architectural Design and Construction, BS5606, Guide to Accuracy in Buildings and CIAT representative of CIC Housing Panel, looking at Housing Standards. It will be supported by a virtual group of interested parties and those directly involved in writing and using standards.

If you would like to be a part of this new Taskforce then please email Graham Chalkley, Assistant Practice Director, who will send you an expression of interest form - graham@ciat.org.uk

All Standards as of themselves are voluntary but there are various kinds of Standards. These kinds imply a degree of imperative however. At the top there are those cited or referenced in regulation or legislation effectively making their content mandatory. Topically some fire standards serve this purpose. Others with a high degree of compulsion are specifications and methods which mostly get their authority through reference in contracts. They are more often seen in manufacturing and are written in a prescriptive manner making them suitable for reference and application in this way.

Codes of practice recommend sound practice as currently undertaken by competent and conscientious practitioners. They are drafted to incorporate a degree of flexibility in application, whilst offering reliable indicative benchmarks. They are commonly used in the construction and civil engineering industries and departures from 'compliance' might be seen as similar to failing to follow the highway code when driving.

Guides are published to give less prescriptive advice which reflects the current thinking and practice amongst experts in a particular subject.

Keeping the current catalogues (ISO, EN and BS [or the national body where you are]) and work streams under control and in harmony is a huge task and, to complicate matters further, expert representation is voluntary as is most drafting. Public consultation on the output rigorous and very broad and very conscientiously dealt with.

In recent years, CIAT has responded to this challenge as never before and well beyond its 'punching weight' with a strongly driven and stoically supported view from HQ that to make things good and better we need to be in the creation and debate.

Just to name a few, CIAT has recently been invited onto the newly regenerated CB/1, Architectural Design and Construction, BS5606 Guide to Accuracy in Buildings and B/209 General Building Codes, B/555, Design, Construction & Operational Data and process Management for the Built Environment. In addition to those managed by British Standards institute, CIAT was delighted that three of its Chartered Members were appointed onto the Standards Setting Committee under the International Fire Safety Standards Coalition set up earlier this year. With representation on the CIC Housing Panel looking at housing standards and quality, we are in a good position to influence consistent quality and mitigating conflicts across the board.

So, what are 'standards'? Put simply they are all standards applicable to our work other than those published (as Standards) by a notified National or international Standards writing body such as BSi.

Recently we have all heard much about PAS documents. A PAS is a Publicly Available Specification and is most often used where a discipline or industry wants its processes to be formalised independently, often using non normative or even proprietary information. However, we have become familiar with the abbreviation because of the various PASs that support the BIM programme. These have primarily been an expedient related to aspects such as the time available to get a huge amount of information formalised and published. It would just not have been possible to prepare, develop and deploy full Standards for everything. Also, they did involve some non-normative information. It was also always on the cards that within six or seven years they would be overtaken by international Standards –

> **Codes of practice recommend sound practice as currently undertaken by competent and conscientious practitioners.**
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which is happening now. So, albeit prepared by a Standards writing body they are, in reality, standards with a small 's'.

Another example of a standard we have all heard of is BREEAM and there are many industry bodies and trade associations that prepare standards. You may find some of them like to use a capital S. It is only a courtesy convention to help the likes of you that they shouldn't really do this in order that you can readily distinguish when documents are being described.

As demonstrated, with representation on many British Standards and involvement in various other standards, CIAT has decided to establish a dedicated group to encourage quality responses to mitigate conflicts and promote workable solutions across the industry. It is hoped that this group will be able to identify gaps and be proactive in producing robust and workable guidance.

Please see advert on opposite page for further details. Kevin Crawford MCIAT said: 'As leaders in the technology of architecture, it is right and proper that we, as Architectural Technologists of all grades, are pushing the boundaries in the built environment.

We anticipate that this new Taskforce will quickly become an integral part of CIAT's Practice and Technical armoury and provide support to all aspects of Architectural Technology.'

Smart housing — millennial expectations

Words by: Sophie Kee MCIAT

Sophia Kee MCIAT, Chartered Architectural Technologist, was part of a panel discussion at Cityscape Global Conference, Built Environment Program, Dubai in October to discuss smart homes and millennial expectations.

What are the benefits of smart homes for Millennial end-users?

Smart homes and associated technology available on the market are transforming the way we live and our relationships with our homes. They provide a number of benefits for those who live in 'smart homes' including added convenience, security, user-controlled flexibility for thermal comfort and lighting levels, and way we interact with our appliances. Up to 70% of the global workforce will consist of 'Millennials' by 2030 (a Millennial is defined as a person born between 1980–1996), which means most will be working and leading busy lives driven by convenience. Smart homes allow for this flexibility, as we spend more time out of the home, and demand higher levels of comfort and control over our living spaces and increasing reliability on technologies.

For example, user-controlled apps are readily available on the market which allow you to remotely access security features such as locks, cameras and home surveillance. Effectively you can monitor your home from intruders, watch family members (including elderly and young) and ensure their safety, and communicate with the postman when they make a delivery when you're not home.

Smart and adaptive home thermostats are also now an affordable method to control your room temperatures and indoor thermal conditions. Where a traditional system would rely on manual input, and temperature set-points taken from an unoccupied space such as a hallway; a smart thermostat can be controlled remotely and include motion/temperature sensors for individual rooms. Intelligent schedule learning follows your weekly and daily user patterns and ensures your home is cooled or heated dependent on when you are at home, or which rooms are occupied. Location tracking on smart phones allows the home to be at optimal temperature by the time you reach there and switches off when you leave. The energy savings for this type of system means the payback for the initial technology purchase is extremely cost-effective, especially when the tenant is paying the bills.

Smart lighting is a lighting technology designed for energy efficiency. This may include high efficiency fixtures and automated controls such as voice control, motion and daylight sensors that make adjustments based on the conditions within the home. User-controlled apps allow you to control your bulbs when you're away from your house and knows if you're home or away, so it knows if you've left the lights on by mistake (or whether to turn them on as you arrive home). Once home, smart controls such as motion detectors, dimmers, timers and voice controls mean you can adjust lighting levels without having to touch a switch. Lighting render levels can be programmed to follow circadian rhythms; promoting healthy sleep and waking patterns and improved health benefits associated.

What are the benefits of smart homes for facilities managements and the utilities network?

'Smart' water use in Dubai is an important topic for planners and the utilities network, as we require a high volume of irrigation water for our landscaping and home use, and only have 10cm of rainfall on average every year. This makes us one of the highest consumers of water per capita in the world. Typically, the main water source in Dubai is desalinated water, which is an extremely high energy intensive process. Smart cities and infrastructure allow for a more resilient water network as we can benefit from sensors for testing water quality, pressure or temperature. This can considerably streamline supply and predict demand, as well as identify leaks / issues within the water network insuring all homes have access to clean and sanitary water whilst minimising wastage.

Delegates at the conference

With regards to energy, 'smart' technologies and appliances in the home allow us to schedule operations based on real-time demands of the city or neighbourhood, for example; washing machines that auto-turn on when energy demand is low. This helps to stabilise the demand across a city's network and also benefits the home owner by offering lower tariffs during off-peak timings, therefore saving money on electricity bills.

We are even getting 'smart' with our food! There are fridges on the market which let you know when you've ran out of milk. Some even have cameras which you can view when you're stood in a supermarket to check what you need to buy. In urban environments, with limited agricultural space, new technologies such as vertical farming/community farms and urban gardens are making great traction and encouraging shared economies. The UAE is really driving the use of hydroponic food growing methods, which requires substantially less water in comparison to traditional agricultural methods. Adaptive and smart technologies can help us to adjust to the climate we live in to help manage our own demands and rely less on imported sources.

The sharing of our real-time building data for energy/ water use and waste generation monitoring has many benefits within the city/neighbourhood grid to establish patterns of supply and demand, and identifying failures and maintenance issues as and when required. It also allows homeowners to benchmark their performance against others, which really encourages better energy and water efficiency!

Do smart building technologies influence the property industry and workplace?

In commercial properties, the comfort, wellbeing and productivity of people are largely dependent on the heating, ventilation and air-conditioning (HVAC) systems which control temperature, humidity and air quality. A comfortable house too should be a basic need, but can be overlooked because these systems are invisible. HVAC is also the largest component of building energy consumption, they can make up to 70% of the energy demand and the majority of carbon emissions in the built environment. If this system is not working the way it should then it makes people unhappy and unproductive; increasing absenteeism in workplaces, plus it damages the environment. Occupants become increasingly more satisfied with their working (and living conditions) if they have a level of control over the spaces they use, therefore smart technologies can have great benefits to the property industry and workplace.

A building management system (BMS) is a computer-based control system installed in buildings that controls and monitors the mechanical and electrical equipment such as ventilation, lighting, power systems, fire systems, and security systems. This can be responsible for temperature, humidity and air quality as well as lighting, which are all key factors in workplace health and wellbeing. In addition to the energy costs, the maintenance of HVAC is a significant cost in the operational budget of a property.

This summer's heatwave has shown that very high temperatures could become more common around the world. In Europe, this heatwave has followed very cold spells over the winter. Not all properties have the capacity to cope with these extremes of temperature. By collecting data from the HVAC system and BMS network, it is possible to know whether a property can cope or whether an upgrade to the HVAC equipment and/or building fabric is required to adapt to climate change.

How does building smart affect the rental market? Can Millennials afford the smart technologies they crave?

Tenants and employees are more likely to choose to work or live somewhere with building integrated smart technology, especially the Millennial generation who find technology and 'gadgetry' very appealing! The costs associated with the capital expenditure by upgrading systems are often bore by the building owner and therefore may drive an increase in rental premiums in smart buildings. However, these technologies decrease the operational costs for tenants who are ultimately footing the bill for the energy and water bills. I believe most tenants in homes would be happy to pay a higher monthly rental premium if their comfort and well-being were significantly improved when coupled with saving money on monthly utility bills.

Within the workplace a considerable amount of money can be saved by a business with a 'healthy' office; where such benefits exist in reduced absenteeism, increased employee productivity and employee retention. However, when applying smart buildings to business applications I don't see the market adapting to it as in the residential sector in comparison as a lot of the benefits are quite subjective and prioritised less by business owners.

Sophia is a Chartered Architectural Technologist and graduated from Derby University in 2008, and after graduating with a 1st class Honours degree went onto work in UK, Hong Kong, Singapore and Dubai. Whilst gaining valuable industry experience; delivering mixed-use/retail developments in Singapore, Australia, China, Vietnam and Malaysia Sophia progressed her studies via distance learning and attained a Masters in Energy and Sustainable Building Design from Leicester DeMontfort.

In 2010 Sophia delivered Changi Airport Terminal 4, a fully integrated BIM designed airport project with stringent green and environmental design aspirations. She has recently relocated to Dubai and is working for AESG as a Senior Sustainability Consultant, integrating sustainability on a wide-range of projects from masterplanning to hospitality. Sophia is working closely with CIAT overseas in delivering the message of Architectural Technology in industry and is a great working example of transferable experience within Architectural Technology, sustainable design and engineering in global working practices.

Sophia on the discussion panel

The Bourne Estate

Words by: James Evans,
Communications & Digital Administrator

I meet Matthew Lloyd at his office in Shoreditch. It is an exciting time for his practice. Not only has his Bourne Estate project been named Overall Winner at the Housing Design Awards (of which CIAT is one of the Award sponsors) but also the associated NHS 70 Award for healthy homes, a RIBA Regional Design Award and a Camden Design Award. It is not just the one project garnering praise.

'For a small practice we've won, pro-rata, a collection of recent awards' Lloyd tells me. 'We're quite bespoke, so we work very hard on our buildings' he says. There is a clear design process 'very partner driven... it is never rolled down the line.'

The £19m scheme in question provides 75 new dwellings on the Grade II listed Bourne Estate in London. The design seeks to respond to the original Edwardian architecture of the site. The brickwork is finely detailed and the footprints of the new buildings aim to emulate, as closely as possible, those of the old.

One of the areas where the project stands out is the public spaces it has developed. The estate has new multi-use games and play areas. The key, Lloyd says, is to make these external areas feel like 'rooms'. They have to be places people want to go in and stay in. 'If you don't have enclosure, it's too windswept... people won't use it' he says. 'Somehow these spaces are intimate' despite the fact that they are heavily overlooked from flats above.

Indeed, it was these open spaces that helped the project scoop the NHS 70 Award. The scheme includes very little parking and so encourages people not to drive. Lloyd believes it is also healthy from a psychological point of view. It's a pedestrian-friendly space that provides 'a delightful walk' for those getting to their homes or simply passing through.

The Estate

There were several challenges on this project for Lloyd's team to contend with. 'We were relatively constrained because of height and because of, to some extent, architectural style... and because of the pattern of the south side of the estate.' However, in some ways these constraints – necessity being the mother of all invention – were useful, shaping the development. Specifically, Lloyd highlights 'the language of the buildings... the solidity, the sense of home – people like that.'

Another challenge was getting heat around the site. The original substation, previously sitting obtrusively with an open courtyard, had to be relocated into the ground floor of one of the new blocks.

Every one of the flats built meets Greater London Authority and Camden Council standards. Regulation, Lloyd tells me defines the work of his designers. He believes that 'space standards... are comparatively good nowadays' and adhering to them paves the way for high quality projects.
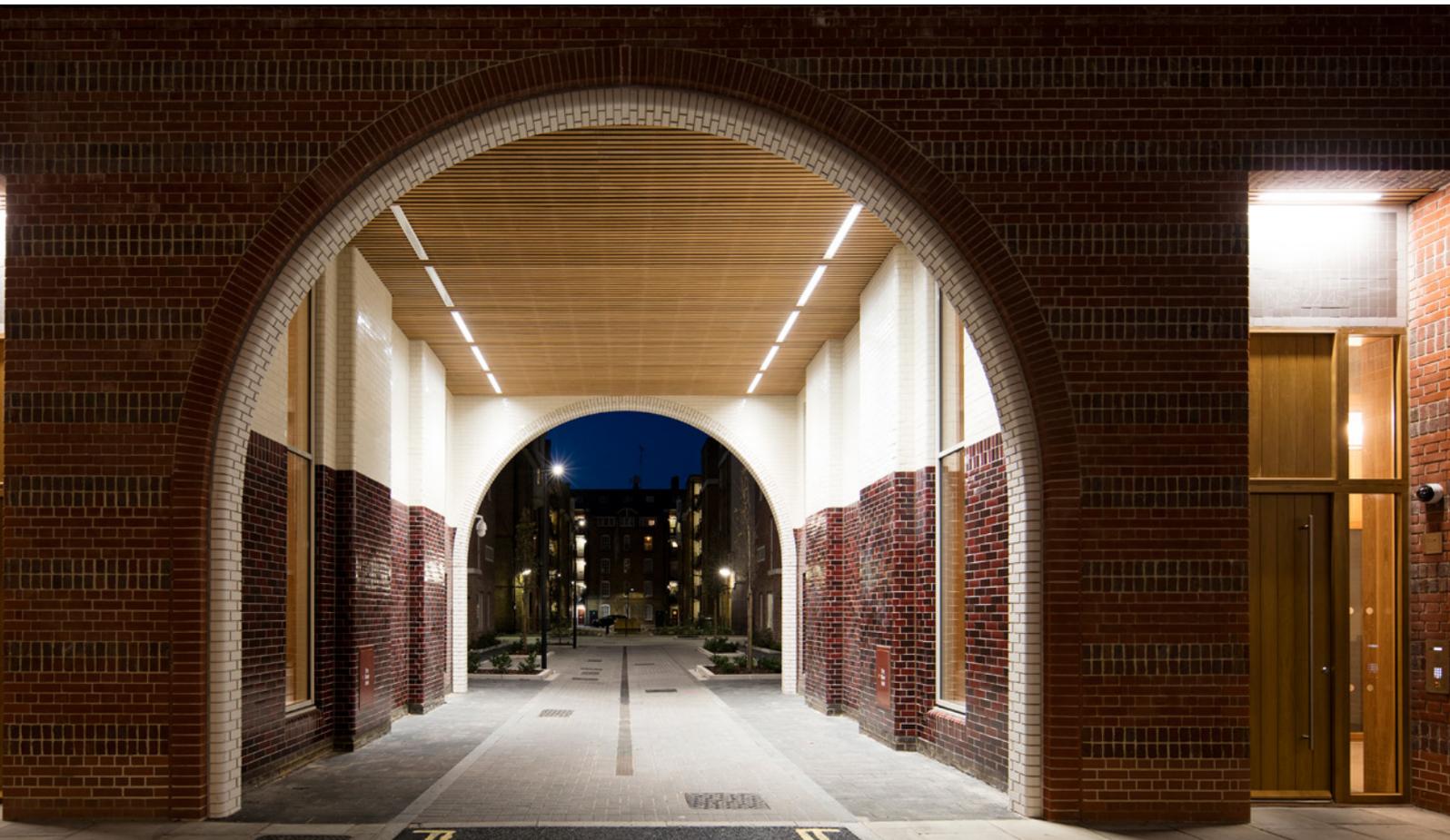
Camden Council were the owner-developers for the project which is now a surprisingly rare setup. As the social offer of the site is extended the 'private flats in here will more than cover the cost of construction'. Amidst an acute housing crisis, I wonder aloud if this is the way forward. 'It is more than a way forward. It is *the* way forward!' he tells me. 'All we need to do is have a radical and brave public sector.'

It is no secret that regeneration schemes in London have earned something of a bad reputation. Consultation is often seen as 'tick-box' exercise and social tenants can feel like councils are simply making way for wealthy residents. This is something Lloyd and his team were keen to avoid.

The practice worked with Tibbalds Planning to consult with residents. They were, Lloyd says, 'unusually hands on'. They engaged with residents through the Tenant's & Residents Association and held many public events. The aim was to do this often enough to that 'there were no surprises for local people' and that the consultation 'definitely' got more people on board.

I ask Lloyd what advice he has for aspiring Architectural Technologists. What comes through very strongly is staying on projects for as long as possible. 'If one of your members has a strong relationship with a design, they understand it through and through... then that is extremely important for a project'. Lloyd says 'it is hard to do' but his advice is to 'stay on it.'
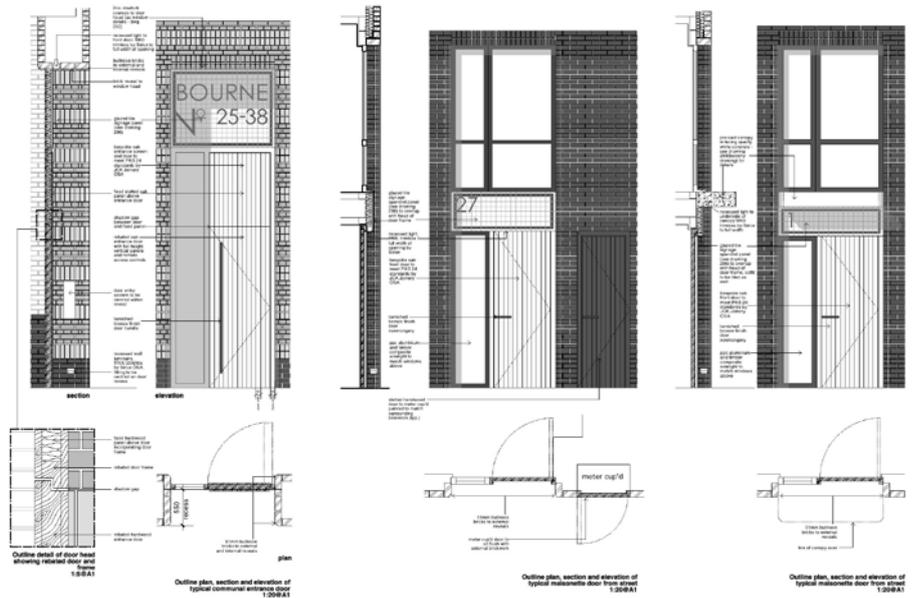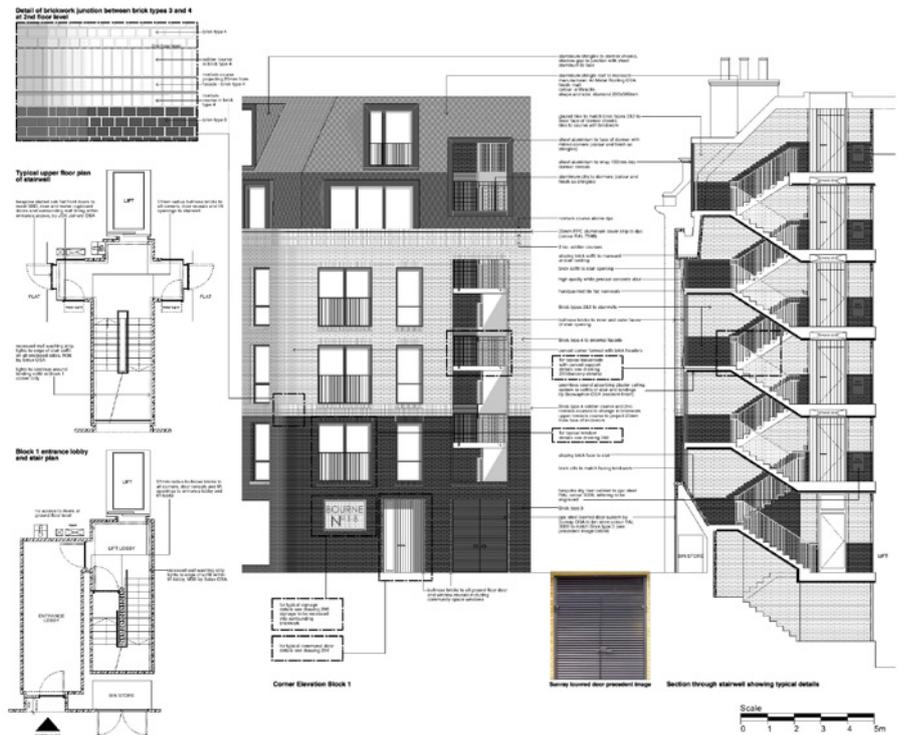
> **❝**
>
> **It is more than a way forward. It is *the* way forward!**

Delivering a modern solution for a historic building

Words by: Andy Lake, UK Projects Director, Pyroguard

Historic buildings form a substantial part of our architectural landscape. Often, listed status means that these ageing buildings continue to be celebrated for their significance to the local area, and appreciated for their architectural beauty – a testament to building techniques and craftsmanship of times gone by. In order to protect these unique spaces for future generations, a sensitive approach must be taken to restoration, ensuring the original architectural characteristics are preserved.

Founded in 1935, Marr College in Troon, Scotland, is one such example. Category B listed, the secondary school is of special historic interest, both due to its architectural style and because it was created with the financial backing of local coal merchant, Charles Kerr Marr. Serving the local community for more than 80 years, an overhaul and expansion was recently required to allow for increased accommodation.

As the building has listed status, any expansion would need to be carefully considered, allowing the building to become more suited to modern demands without losing its heritage. As part of this, meeting the necessary safety requirements of today's Building Regulations was crucial – something which could be achieved by specifying materials appropriately.

Adequate fire protection

With increased numbers of students now attending Marr College, achieving improved building circulation was a critical part of the development. This involved a change of use of two existing courtyard spaces to create large multi-use atria, made possible with the installation of an ethylene tetrafluoroethylene (ETFE) roof. Alongside creating larger and more practical spaces, ensuring effective fire protection without detracting from the courtyards' architectural features was critical.

That's where Pyroguard came in. Working closely with steel fabrication specialists, Martec Engineering – who provided the steelwork within the courtyards, including Schueco Jansen fire-rated glazed screens – Pyroguard supplied a variety of fire-rated glass solutions to sit within the new screens.

Acting as minimal secondary glazing, these screens allow the building's original 1930s 'Crittall' style metal windows to remain in the spotlight. The screens are designed to have the smallest visual impact possible whilst providing the required protection to the rooms beyond, adhering to EI30 and EI60 ratings as required.

The solution

To ensure a product that could meet all the fire and loading requirements was specified, Pyroguard provided expert technical guidance to cater for the project's constraints of working within a listed building, helping with the specialist design of additional fire-rated glazing to be incorporated in existing timber windows and doors.

Due to the ambitious nature of the project, more than 300m2 of Pyroguard toughened glass, including Pyroguard Integrity Plus T EW30/6, Pyroguard Rapide Plus EI30/EI60 and Pyroguard Protect T-EI60, was chosen for its quality and safety features. Protecting against flames, smoke and radiant heat, the selected glazing range has the advantage of providing Marr College with additional radiant heat control and greater fire protection. In tests, this glass demonstrates the ability to maintain the amount of radiant heat to below 15 kW/m2 on the unexposed face, protecting critical evaluation routes for occupants.

Keith Milne, Design Manager at Martec Engineering, said: 'The information and guidance from the technical team at Pyroguard was invaluable on this project, particularly in regards to creating a custom detail for the fire protection within the existing timber windows and doors. We worked hand in hand with Pyroguard through the whole project ensuring the correct specification and design of products to provide the safety and security that this building required.'

'A key requirement of our steel secondary glazing fire screens, was for them to fade into the background and not detract from the character of the building. This was achieved with our manufacture of high quality steel frames with minimal sight lines and Pyroguard's fire-rated safety glass.'

The result of this collaboration was the creation of a space which is light, airy and elegant, providing all safety protections in the event of a fire without impacting on the architectural language of the original building.

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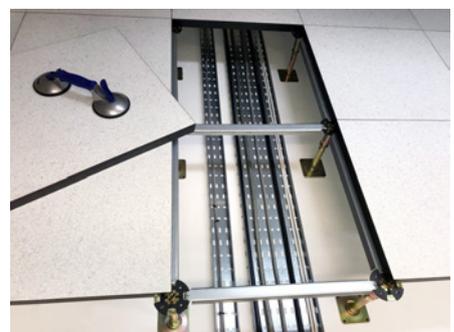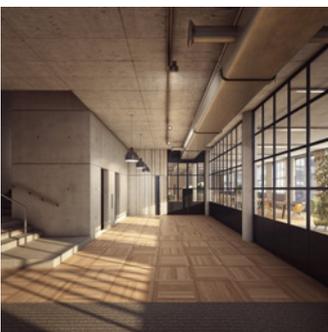
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Words by: Marcus Paine, Managing Director,
Hutton Stone So Ltd

Sourcing indigenous stone

The UK has had a long history of building with natural stone. From Cornwall to the North of Scotland, we have been gifted with a rich diversity of granites, limestones, sandstones, slates and all of the great many igneous, sedimentary and metamorphic permutations that sit around this simplistic group.

These stone types have been critical in forming the varied and particular style of rich built heritage that surrounds us across the land and define both the urban and rural landscapes that give us the difference between counties. For many centuries, particularly those of the 18th and 19th Centuries, the accelerated development of this built environment was underpinned by a significant and widespread stone supply industry of thousands of generally small quarries that supported a very large workforce – supporting tens of thousands of people in Scotland alone.

As shipping developed, and then with the arrival of the railways, these quarries produced massive quantities of quality material, hard stone setts, kerbs and steps, walling stone, fine masonry, roofing stone, all that such a diverse UK geology could provide and supplied it up and down a fast developing network. This saw a highly skilled workforce across the UK provide an absolute 'sense of place'. The granite City of Aberdeen, The rich red sandstones of Glasgow to Liverpool, the sandstone City of Edinburgh's Craigleith led new town, the magnificent portland style of London with a host of sandstones flocking to the Capital as well... the list is almost endless.

Whilst a great deal of this built heritage survives today, the industry that supported it is under threat. The British Stone Industry, a fraction of its former self finds more and more that it must endlessly battle against a growing use of imported stone. So given that we have such a fantastic resource on our doorstep and one that continues to enhance our built environment, how can we ensure that we retain its availability and all of the benefits that follow from its use? Industry has reacted positively to the challenges facing it by accepting and accelerating its role in promoting these proven great British stones in all their rich diversity and to a certain extent this has gathered pace recently with the creation of The Stone Federation GB Quarry Forums. Other initiatives like the MPA's Dimension Stone Group (dimension stone being that extracted for building and masonry use as opposed to aggregate use) have created a positive group environment for UK extractors to share best practice in health and safety, planning development and the promotion of efficient production techniques. The Stone Federation GB's Ethical Sourcing Register aimed at providing comfort to specifiers that the companies they select are ethically responsible, the Federations Heritage Register providing information

on suitable companies for all aspects of heritage supply and build and the recent formation of collaborations like for example 'The Scottish Stone Group'.

Beyond these useful initiatives it must be acknowledged that the carbon footprint conversation remains a constant challenge. As noted by Gillespie & Tracey's 2016 report The State of the Industry

Stone is a heavy commodity, so transporting large volumes by sea, rail or road comes at a significant environmental cost. Stone imported from distant countries like China, India and Brazil can still be cheaper to buy in the UK than locally quarried stone, because of relatively low labour costs and overheads in those countries, and the economies of scale that big operations can bring to bear; however, the relatively low cost of imported stone at point-of-sale in the UK obscures the significant environmental cost of transporting such a heavy commodity over long distances. Sandstone imported into the UK from China has roughly six times as much embodied carbon as sandstone sourced in the UK.

The most frustrating elements of this for the UK stone trade is that currently the carbon produced by these imported products is not counted until the material reaches land in the UK because the production and transport carbon produced up till this point belongs to the exporting country. This means that under current rules a stone imported from China (or other) has a lower carbon footprint scoring than a stone produced a few miles from a site – something that is clearly not the case!

The lower cost of imported material does not reflect the fair wage rates that we support in the UK or the world leading health and safety, mineral planning and restoration funding that are part and parcel of operating within enhanced UK standards. A great many public and private enterprises have spent time focusing quite rightly on procurement policies that acknowledge sustainability, ethical sourcing, skill retention and the benefits of local economy spending together with other highly laudable positions which all tend to support the inclusion of the indigenous options. Despite this, UK suppliers continue to see specifications broken at late stages of contract awards in favour of marginally cheaper imported options – options that do not necessarily reflect the whole lifecycle cost of these changes. Ironically, we often see designers greatly frustrated also by these changes when they have often invested much time in considering selection early in their project.

So, what should designers and specifiers do if they feel that these issues count and that indigenous stone has a role to play for them?

Firstly, consider the truths that surround us in our historic built environment. Things like range and variation within our indigenous stone types exist and should be celebrated. We tend to look broadly at buildings that have weathered and toned into their surroundings over many years but look closer and you will see both tonal and marking variations exist pretty much everywhere. So our modern assumption that range must be restricted to almost non-existence is not reflective of that which we celebrate around us and also given such restrictions, precludes many

indigenous stones from consideration and pushes the cost of those that can remove variation up significantly in price.

Also, then consider that historically the cleanest stone was reserved for the 'front door' elements of buildings – meaning that you will see in the vast majority of cases that the front façade, main entrance, fireplaces and key public areas use the narrowest range whereas all other elevations are opened up to a broader and more cost effective choice.

Next, bear in mind that different stone types/ geologies have different sizing limiting factors and looking at the built heritage tells you a great deal about the most economic sizes that can be achieved from any particular source. Be aware that very large very thin panel sizes are simply not possible from some stone types or that these same sizes make it more challenging to reduce range from panel to panel so the unit sizes you wish to achieve have a great bearing on the choices and costs you will get. This was noted perfectly by Gillespie & Tracey in The State of the Industry report 2016;

Increasingly, specifiers demand stone that has uniform character and can be produced in regular block dimensions (ignoring the fact that it is a natural, and therefore inherently variable, material, which arguably is a key part of its attractiveness in traditional buildings);

Feel confident in engaging with suppliers early on to establish a clear understanding of your project and the stone's suitability to achieve it. Early engagement here can often lead to small alterations that save positively on your budget and the suppliers would far rather be part of that conversation with you than finding their stone losing out on a specification late on, due to other considerations or misconceptions plus of course by engaging early lead times can be expressed and agreed ensuring no costly hold ups on site. It is my experience when speaking to the UK suppliers that we are all very keen to do a great job with quality materials and this is because generally we are supplying areas in which we live and work and therefore our reputation is there for all to see. UK suppliers want to be proud of their work and for that to in turn create repeat business so we have as much vested interest in a great result as do the designers who work so hard to create the buildings in the first place.

The UK stone industry, whilst vastly reduced from its historical peak, still holds on to a great level of pride and skill in this ancient craft and furthermore has developed with significant investment in modern techniques and machinery to ensure that we can still provide a viable choice over imported materials. We offer modern solutions to play our part in creating more great built heritage today to further enhance that around us, in the same ancient stone types that have been proven over so many years and welcome the opportunity to be part of the conversation.

If you would like to know more about UK stone and how it could work for your projects why not check out the Stone Federations British Stones Map for a start and feel free to get in touch for any further information – stonefed.org.uk/index.php?page=map-of-british-stones

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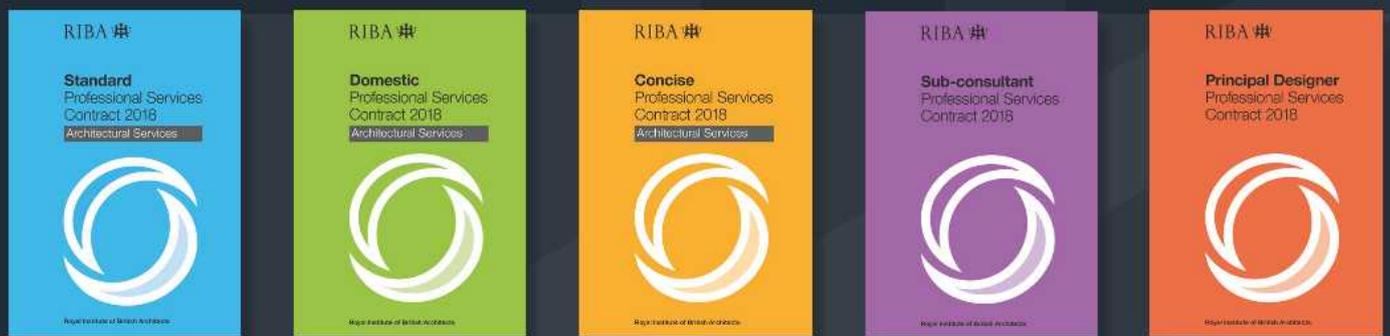
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Adrian Dobson, RIBA Executive Director Professional Services
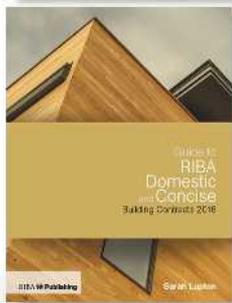
" The success of these evergreen contracts for smaller works and the practical relationships they describe makes them lastingly popular. I congratulate the team for these most recent updates and I am proud as President of the RIBA to endorse their use by members and others to deliver excellence in service to our clients."

Ben Derbyshire, RIBA President

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There's no BIM like home Part 4

Words by: Dan Rossiter MCIAT

Following on from the summer issue, *AT Journal* continues its exclusive access to serialise Dan's blog on how he used BIM to produce an information model of his home.

While my draft Employer's Information Requirements (EIR) is out for consultation I wanted to talk another related project I have been working on; trying to make my home a little smarter.

Before we moved into our house, I daydreamed about the kind of 'smart' things my house would do. So when we moved in there was obviously a purchase I needed to make straight away; I got myself a Nest thermostat. The house had no thermostat at all, meaning that I would have to control the heating by punching the boiler's clock guessing when I'd need the house heated. Now I am able to program my heating either directly through the thermostat or through its mobile app; meaning on a chilly day I could switch the heating on while I head home, or make sure it isn't heating while I'm away.

The real value however is its ability to be part of the 'Internet of Things' (IoT). IoT is a data exchange network of connected devices, software, and sensors allowing data from one influence another. For example, I have been using IFTTT to allow my house to speak to me.

IFTTT (If this then that) is a simple automation service allowing products, sensors, and services to trigger actions. For instance, since setting it up last week I have set up a number of recipes:

Home Reporting:
I currently have the following recipes set up using smart devices in my home.
• If (Nest Thermostat Temperature > 24°c), then (let me know)
• If (Nest Thermostat Temperature < 15°c), then (let me know)
• If (Nest Protect Battery Level = low), then (let me know)
• If (I'm near by house), then (turn on mobile wifi)

Automatic Reporting:
I also have the following recipes set up using data from outside of my house.
• If (Time = 07:00), then (report the weather forecast)
• If (Time&Date = Monday, 21:00), then (remind to put the bins out)
• If (Weather = Rain), then (let me know)

In a moment of madness, I decided that the best method of having this information exchanged was over twitter, meet Ty Crempog (@TyCrempog):

> **Ty Crempog**
> @TyCrempog
> ⚙ Following
>
> Phwoar I'm feeling pretty warm @DRossiter87, can you help me cool down? #BIMhouse
>
> 6:41 PM - 16 May 2016

After joining twitter last week, my house has already gained 16 followers, and has automatically sent me over twenty tweets including daily weather reports, a reminder to put the bins out, and this message to let me know my living room was getting quite warm.

I hope to expand its ability by integrating other smart products and services when I deem their automation useful. For instance, I'm going to be getting myself a Phillips Hue starter set this week and using IFTTT to set up a few automations such as having my hall lights switch on at sunset.

The most important thing for me to consider is the value and risk of automation. I could for example have my living room temperature tweeted every degree change, but that doesn't provide any value and would allow someone to see when I am not home. So for now I will stick to trying to improve my home, one smart choice at a time.

So now that I have had my respite, let's find out how my Employer's Information Requirements fared following it's review…

Following the publication of my draft EIR a fortnight ago, I decided that I need to get some feedback to ensure that what I have written is suitable. Having worked on both the client and supply side in the past I am confident in my work, but it is always good to get some fresh perspectives. As such I asked a few friends in the know.

Meet Dusty, Lucky, and Ned… providing a plethora of feedback

I asked each of them to review my EIR as if I was procuring them to undertake the work, as well as asking for any suggestions they had to improve this document. Here is what they had to say:

Chris Weston, Associate for Rio Architects.
Rio Architects are a Cardiff and London based architectural firm whose mission is to exceed client expectations through sustainable and economically viable solutions.

"If Dan brought this job to Rio, while I appreciate it is a simple project, we would be looking for a bit more clarification on a few items including details of roles including the Project Delivery Manager, Project Information Manager and Employer's Representative. We would also be asking for clarification on the availability and details for any existing asset information well as clarification regarding whose responsibility it is to host the Common Data Environment. Further detail would also be needed around the Employers Decision Points to enable the effective management of the Supplier Information Exchanges.

This EIR is clear, concise, and hopefully goes some way to demonstrate that BIM isn't only about big hospitals and schools and that clients can tailor the process to suit even the most modest projects, even a pancake house." *7/10*

Henry Fenby-Taylor, BIM Implementation Manager for WYG Group, and co-founder of dotBuiltEnvironment.
WYG are a project management and global technical consultancy group that provide bespoke solutions to achieve client ambitions.

"An EIR needs to be a well thought out, lean, and relevant document that is project specific and specific to the needs of the employer. This is what I have seen in Dan's EIR. However falling foul to the terminology it still remains relatively inaccessible to the untrained eye, but to the trained eye? It's tight, it doesn't have any flab, it doesn't ask for anything it doesn't need, it specifically states where certain aspects of the BIM level 2 standards are not necessary such as the management of security assets.

Where the EIR is less well refined is the specific requirements for data. While the core elements are included, more thought could be provided to make these requirements clearer. The specific data associated to the assets being managed and maintained are to my mind the the core purposes of the information requirements." *8/10*

Paul Surin, Head of Built Environment for Weinerberger, and vice-chair of BIM4M2.
Weinerberger are the world's largest producer of bricks and a leading provider of clay roof tiles, concrete pavers, plastic and ceramic pipe systems and provide a myriad of sustainable and innovative solutions. Paul is also a BRE BIM Level 2 Certificated Professional.

"I have had a chance to review Dan's EIR. The project is related to a domestic house. The wider industry would not normally associate BIM with a house; some would even say it is an overshoot. I disagree and I like Dan's approach.

This is something we, at Wienerberger, have been working on for last couple of years – BIM in housing, such as our e4 house. This EIR' seems to be very clear and very easy to understand as a supplier. In this case a supplier could be a bricklayer, a merchant, a carpenter, a plumber etc. so it is vital to define and spell out his requirements in plain language.

I would not specify WIN 7 and Intel i7 within the IT Section. I understand it might be the PC Dan uses however it could limit some suppliers who use Apple or an Android. Perhaps if a definition of a CDE with a web-browser viewer (to allow annotations, collaboration and clash detection via a cloud) it would eliminate any need to specify any operating system." *8.5/10*

Thank you everyone. Following these reviews, I have revised my EIR by including information regarding the Employer's Representative and their contact details, confirmation that the Employer Decision points are covered within section 3.1, further detail on the need to appoint and specify who is undertaking the Project Information Manager and Project Delivery Manager roles, clarified my data requirements as well as added further clarity around the IT constraints. As such, I have now settled on the final published version:

This means that I have now answered my final Brief Plain Language Question; PLQ1.6 Complete! To be continued in the next issue

@DRossiter87

Dynamic

Words by: Sam Higgins and Joe Trevail,
Stride Treglown

So, you may have heard of Dynamo, you may know what it is, you may have created some useful workflows, or are you may already know how to push the boundaries of its capabilities in day-to-day practice. This piece aims to outline the programme and the benefits that Stride Treglown have found in the past four or more years of use in commercial practice and give an insight into how it can be relevant to your work.

Dynamo is like your making your own buttons.
'I want to never to have to do that task again' a colleague groaned; sound familiar? It was the tedious process of manually adding sheet numbers into a Revit project; and I agreed with them. 'Dynamo' I said, pre-empting the 'Oh that guy that practices magic…' reply I said, 'No, not the magician. You'll need to add the keyword 'BIM' to your internet searches to access the online resources and community.'

Dynamo is a visual programming interface which allows you under the skin or 'GUI' of Autodesk Revit. Under the bonnet access allows you to create your own commands beyond the synonymous 'oven ready': move, mirror and modify…

Visual programming eh?
Don't be alarmed, this is raw code packaged up ready for deployment, think of it as off-site construction. You are then arranging modules called 'nodes' according to your requirements in a canvas which is slick and easy to use.

That is Dynamo in a few bytes and this article firstly will 'zoom extents' to take a helicopter view of the digital landscape and then later zoom in, building a case for Dynamo as an Architectural Technology in its own right. It will also give an outline of the benefits that Stride Treglown have found in four years plus of use in commercial practice and give an insight into how it can be relevant to your work.

The significance of this is the growing arena for parametericism and computational design in construction. Not just for fluid forms, but also for proving the most efficient building forms and iterating through design options.

The context of DIY coding in architectural workflows goes far back, from AutoCAD LISPs and
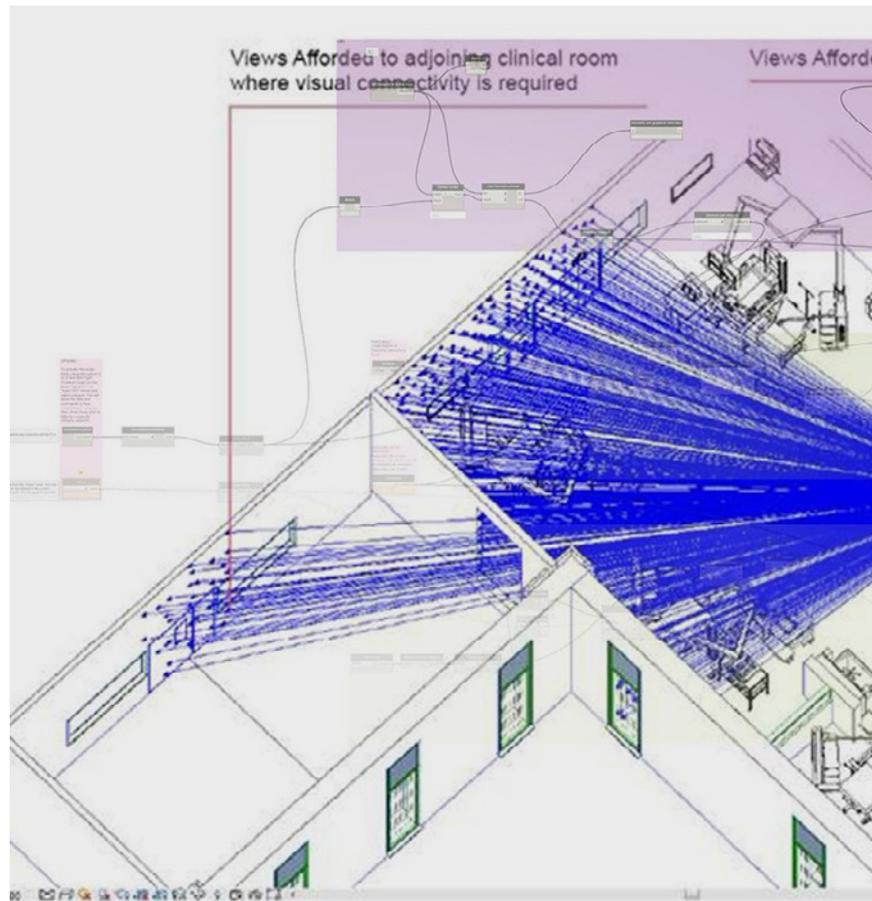
MAXScript to Grasshopper for Rhino and Bentley Generative Components. The idea has always been that the tools at your disposal could be made better, the functionality of the software to do your tasks could be slicker or more optimised, and your daily working life could be simpler, smarter and more productive.

In all walks of architectural life, we are presented with situations where manual data handling, the tedious process of counting, checking, validating information, and repetition of processes seems unnecessarily difficult. Ever been stuck in a rut manually creating masses from a lengthy SOA for space planning? Inserting an entire library of space standards from the EFSA or Department for Health? At Stride Treglown, in these instances, we now look to Dynamo. Its outreach functions allow it to 'interoperate' between datasets and call up values from spreadsheets and other structured data formats before passing them into our Revit projects in the correct formats, under the correct parameters, error free, almost instantaneously. Leg-work done. Greater efficiency. More effective workflows. More time for the important stuff.

Code savvy? It doesn't matter…
Within Dynamo you cherry pick and arrange 'graphs' or scripts that can be run within a Revit project. This means you don't have to be fluent in Python or C# (or other programming languages) to be proficient. Lots of members of Stride Treglown project teams who have used Dynamo are not programmers, and there are many more experienced and distinguished practitioners of Dynamo/computational design out there than us, but the gate is open in the simple interface for anyone to operate pre-written scripts or begin to develop their own; iterating and improving on constantly developing workflows. Save as or detach before you do so!
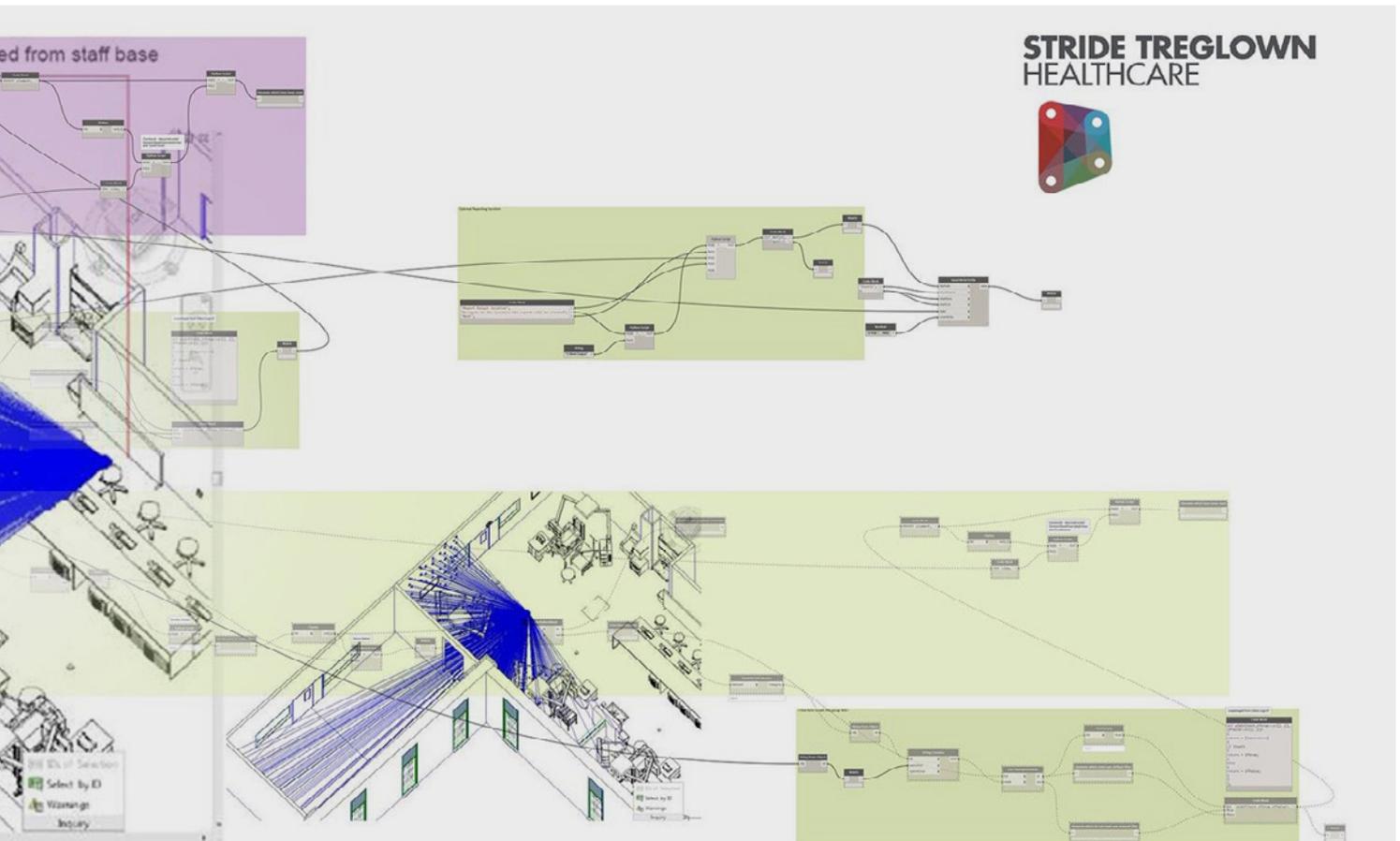
How do you do it?

To describe how Dynamo functions we can use the analogy of space planning a building or proper sequencing of a building envelope – we start by defining the outcome and dividing the process into small steps – nodes [think rooms and spaces, or components and assemblies] – which in turn we piece together in a logical way to describe what it is we want to create. A Dynamo definition or graph is the outcome. It can be likened to sentence syntax in speech, creating a legible sequence and structure to define how data flows through nodes and their ports to achieve a desired result; be it writing to a known parameter or creating a new shared or project level en masse.

Dynamo may seem unfamiliar for some at first, but can save you time after a swift initial, teeth-cutting learning curve, and its benefits soon begin to expand by way of other avenues of problem solving, the appreciation of logic in improved quality control and accuracy, into model checking and management, and beyond. Plus, there are now add-ins which learn from your most probable next steps in Dynamo and filter them for you, cutting down the time taken to write definitions.

Community and open-source

Free to Autodesk subscribers (so not entirely free), Dynamo is bolstered by networks of like-minded people and profits from an active online forum and community.

Northern and Southern Regional UK User groups also exist, promoting up-skilling and sharing of knowledge for free, true to the open source modus operandi of the programme. All of this helps trickle down to commercial practice, making it one of the most truly accessible newcomers on the architectural block to date. The community is underpinned by generous contributions from programming savvy users, distributing their useful nodes and packages and sharing code.

Use cases

No, it's not going to write your BEP for you. Sadly, it's not going single handily tick the BIM Level 2 box. However, it can be turned towards many problems which will make the larger goals more achievable in daily practice. The below only scratches the surface of the totality of challenges we face in design and construction:

· The forerunner to a lot of other uses has to be the ability to place families. Take a simple family with a cube extrusion within. Width, Length controllable by parameters. You could then ask Dynamo to create multiple instances of this family, and set those parameter values from a list, possibly even a schedule of areas. Write to the Material parameter and you can have a set of coloured cubes, rooms or spaces, ready to arrange on plan.

· Working with an interiors team the other day we faced the challenge of creating floors for each room so material and other parameters could be integrated into the model for documentation. Fear not, ask Dynamo to query all elements that fall under the Revit category 'Rooms', then feed this list into Room. Finish Boundary and pipe this into Floor.By Outline TypeAnd Level. These newly created elements were then fed through 'Element.SetParameterByName' to set the Workset parameter yielding visual control. Yes, this could be extended to tidying up a model by querying all windows or a certain type and placing them on an 'externals' workset.

- Underwritten by Dynamo's foundations, Project Fractal a web-based portal, can be accessed through Dynamo Studio, the older sibling of Dynamo, allowing rapid iteration of geometry and therein testing of those design options which may have otherwise been unexplored, or unhinging further options worthy of testing.

- We also use Dynamo to test lines of sight which within a healthcare environment can be key to designing in privacy and dignity. This fusion between design and technology creates representations and visuals which support the engagement processes with clinical teams helping positioning of equipment and windows in strategic locations. Driven by slightly more advanced scripting we have Dynamo query the location of a staff base family from which it then ray-traces possible lines of sight.

Detailing, well not yet… but could you turn your hand to automating some of the more tedious tasks- like populating a drawing sheet with standard text notes, adding all keynotes and labels to details, generating standard room views or sections and placing them on sheets, and even automatically dimensioning key elements? All of this is possible.

Machine learning

Isn't it going to take my job? Won't it erode the dwindling tasks I have left to do, making me less useful? Well, in short, no. It will actually give you the time and space to ensure that everything you produce is less prone to error, more standardised and logical – enabling you to be more efficient and your daily workflows to be more enjoyable.

Conclusion

Driven by its liberal and generous open-source community, Dynamo is an expanding set of tools designed to show flexibility in use of Revit and fundamentally change the way we work. Go check it for yourself at http://dynamobim.org, get active on the forums and attend one of the Dynamo UK regional user groups.

Finally, whilst this text turns up the amplitude on the use of Dynamo technology as a way for practice to move towards better built outputs, it should be remembered that an analogue text is never going to be as impactful as seeing it save you hours at work; see for yourself!
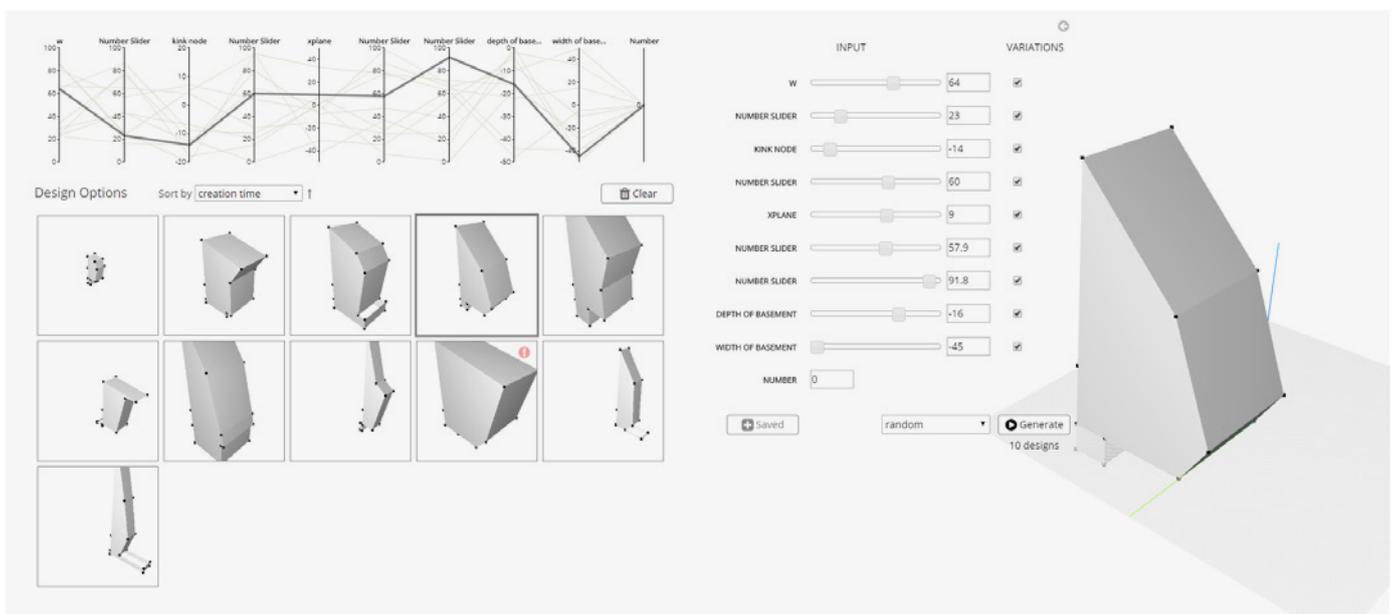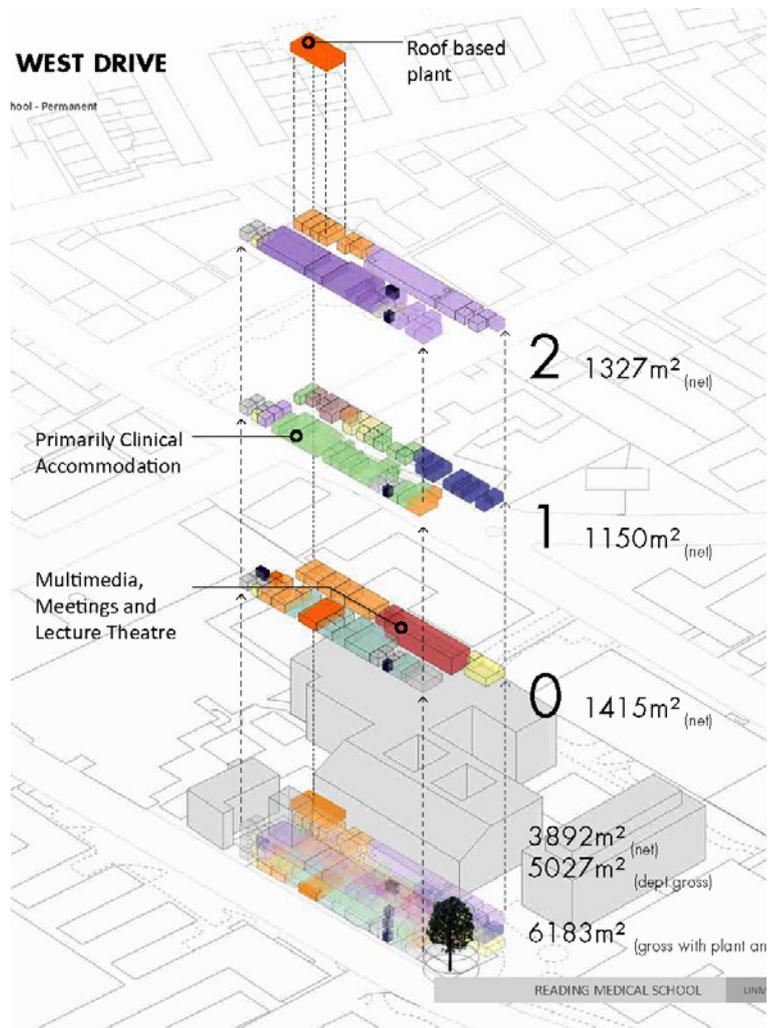
A snapshot inside the East Anglia Regional Committee

Words by: Chris Senior MCIAT

Some great ideas about how Central Office can work with the Regions/Centres came out of the most recent meeting in East Anglia, which was attended by key members of CIAT. The Regional Chairman, Chris Senior MCIAT tells us more.

It was with great pleasure that the East Anglia Region welcomed Alex Naraian PCIAT, President, Francesca Berriman MBE, Chief Executive and Adam Endacott, Communications Director to our most recent Committee meeting, which gave us the opportunity to discuss how the Regions work with Central Office.

With around 10,000 members across the Institute, there is a lot of pressure on Central Office and we were interested to find out how we could alleviate this. We proposed a digital platform or virtual group that would allow Regions and Centres to communicate thoughts and ideas more easily with each other. This would also allow us to collaborate and build on new ideas and work more cohesively with Central Office. Francesca welcomed the idea and ideas will be circulated to members.

Apprenticeships
One area we are particularly keen to develop is apprenticeships, with which we believe there is a great opportunity for the Institute.

The Apprenticeship Levy, introduced in April 2017, has caused a major shift in how apprenticeships are funded, developed, monitored, delivered and assessed within the UK. The Levy is a UK Government initiative introduced to encourage employers to invest in their businesses and the economy by taking on apprentices.

To develop a new apprenticeship standard, a minimum of ten employers must come together and agree on the knowledge, skills and behaviours apprentices are to gain and demonstrate by the end of their apprenticeship.

The Levy and the above changes are in response to the UK Government's commitment to deliver three million apprenticeships by 2020. Employers with an annual pay bill of more the £3 million, minus the offset of £15,000 payable to HM Revenue & Customs, are required to pay 0.5% of their annual salary bill into a levy pot. The funds in this pot are then transferred into vouchers only redeemable for the training of apprentices in England. Apprenticeships are a devolved policy. This means that authorities in each of the UK nations manage their own apprenticeship programmes, including how funding is spent on apprenticeship training For England, Employers with a pay bill of less than £3 million, are currently required to pay 10% of the apprenticeship funding, with the Government covering the remaining 90% although the recent budget suggests that this will be halved to 5% in the future. Where a 16-18-year old is employed, the Government also offer grants to outweigh the cost of training. This levy has achieved its goal of bringing apprenticeships to the attention of large architecture companies such as ARUP, Building Design Partnership, Foster + Partners and Pollard Thomas Edwards.

In June this year, the Institute for Apprenticeships (IfA) approved a Level 6 'Architectural Assistant' and Level 7 'Architect' apprenticeship standard for delivery which would impart apprentices with with Part 1 and Part 2-3 qualifications recognised by the Architects' Registration Board (ARB).

To date, CIAT has formally supported one apprenticeship standard that has been approved for delivery entitled, 'Digital Engineering Technician' which is at Level 3 allowing apprentices who complete the apprenticeship to apply to become a Professionally Qualified Architectural Technician, TCIAT. In addition to this, the Institute has been invited to be a stakeholder in a Level 6 'Construction Design Management' standard which is in development. If approved for delivery, this would enable apprentices who complete this standard to use the experience they gained during the apprenticeship as part of their portfolio of evidence when completing the Professional Assessment application.

Although CIAT is not able to develop apprenticeships themselves, the Institute actively and strongly encourages employers to take this on and consult with educational establishments and other stakeholders. As a Region we would like to support this, providing our member expertise where we can. A proposal was put forward to establish a taskforce of members to help target key employers and academics who could take advantage of the Apprenticeship Levy and contribute to the current 'Construction Design Management' trailblazer standard. As long as a minimum of ten employers come together and identify an area where an apprenticeship could be developed, they are welcome to engage with the IfA to develop another standard.

As well as discussing this issue we were delighted to take our visitors from Central Office on a tour of PiP Architecture's most recent project: the conversion of three barns into contemporary family homes along the riverside of the historic settlement of Ely in Cambridgeshire. Dating back to the late 1800s the barns were predominantly used for housing livestock but fell into disrepair in recent years. PiP's solution was fairly radical, but thankfully one that the local authority gave its full support to. The concept was to remove the roof of each barn and drop a new building inside the original. The new building is two-storey in height rather than one, and is of contrasting yet sympathetic materials.

Each plot also relates directly to its context. Plot 1 takes its cue from the colour tones of the stone walling of the barn it is constructed within, Plot 2 is surrounded by trees and clad in timber and Plot 3 fronts the river and reflects a boathouse. We wanted to open the site up for the benefit of the wider community whilst residents didn't feel overlooked or lack privacy. To do this we worked carefully with landscape architects to ensure the right planting and boundary treatments preserve and enhance the setting of the area.

Futurebuild 2019: the challenge for Architectural Technology professionals

Futurebuild is the leading built environment event for architectural professionals to converge and learn, be inspired and do business. Taking place from 5-7 March 2019, the CIAT-supported event will focus on exploring and tackling the biggest challenges impacting the industry, and will be a unique destination for visitors to gain unrivalled insight and hands-on experience around the latest innovations, products and materials, in order to address these challenges.

The packed three-day programme, which has been developed in conjunction with renowned, industry leading partners, will offer visitors a wide range of opportunities to broaden their knowledge, including free CPD sessions.

Time for action – meeting challenges and making commitments

Central to Futurebuild is the ecobuild conference, which will inspire visitors to take action on the most pressing challenges through insights and learnings from leading experts. With an overarching theme of 'Time For Action', the conference sessions will be collaborative forums where visitors will develop plans for implementing change and proposing action for a more sustainable future.

Futurebuild will tackle a total of twelve challenges, including 'The Future Challenge – connecting education, research, practice and professionalism'. 'The Climate Change Challenge for Construction – the industry's plan to achieve a built environment fit for 2050' will also be explored in a session hosted on day three, where Architectural Technology professionals will be invited to contribute their own suggestions for tackling the issue.

Other topics will include: how to meet the UN sustainable development goals; how to apply innovative technology and techniques to transform the industry;

how to transform existing homes through behaviour change and deep retrofits; how construction can break down barriers to reuse and remanufacture and tap into circular economy; how to put health and wellbeing at the centre of design; how to strengthen environmental protections; how to deliver long term value and sustainable performance; how to respond to the climate crisis and how the UK can overcome the housing crisis.

New and exclusive features

Outside the conference arena, Futurebuild will be bolstered by a range of new and exclusive partnerships and features.

Among these is the Knowledge Forum – a dedicated area where industry-leading partners, academia and professional bodies will offer a comprehensive look at the biggest issues facing the built environment. Hosting CPD workshops, the Knowledge Forum will provide useful solutions and guidance for visitors to take back to the office.

CIAT will be hosting a Knowledge Forum session on day two of Futurebuild. 'In Conversation with the Presidents – Building Collaboration 2018' will be a panel discussion in which a collaborative response to issues such as the Dame Judith Hackitt Review, Brexit and the methods and skills used in buildings will be addressed.

The Waste Zone will return with new and expanded features. Curated by Duncan Baker-Brown, the area will showcase how waste can be a valuable resource for industry. Central to the experience will be the new Circular Economy Hub, which will take a unique beach hut format and feature a collection of hand-picked brands at the forefront of making the circular economy a reality.

In an exclusive first for the UK built environment sector, Futurebuild has also announced a partnership with GIGA – a leading organisation driving greater accessibility of international building product certifications via cloud software.

Future trends, products and materials

The biggest brands from across the industry, including new and returning exhibitors, will be showcasing their latest innovations and technologies across six themed Hubs – each providing a platform for architectural professionals and specifiers to gain deeper insight and develop new relationships around the most important industry developments and opportunities.

New for 2019 is the Interiors Hub, where visitors will have the opportunity to meet with leading institutions and manufacturers – including Decolux, Delabie, Novy and Waldmann – to discuss pioneering products and collaboratively explore the impact of design on end users. The focus of the Hub will be firmly placed on design with purpose, with discussions including the WELL Building Standard, the Healthy Building Agenda and the impact of colour and light.

The Buildings Hub will cover all aspects of building, including new build, retrofit and refurbishment. This will be the place where Architectural Technology professionals can find innovative brands working across construction and maintenance – such as Internorm, Mapei, Rockwool and Selectaglaze – as well as engage in conversation around the latest technology and legislation.

The latest solutions across blue, green, grey and social infrastructure will be addressed in the Urban Infrastructure Hub. All aspects of the city will be covered, from the biophilic city and water management to biodiversity and landscaping. Exhibitors include ACO, Biotecture, Wavin, Green-Tech, Ronacrete and ICE.

Architectural Technology professionals will also gain new insights in the latest material break through – from concrete and timber to steel and masonry – in the Materials Hub. The Hub is supported by The Concrete Centre and TRADA, among other leading organisations, with exhibitors including Nudura, Glavloc, Cemex UK, Creagh Concrete, Piveteaubois and Steico. The Natural Building Area will also feature in the Hub, providing free educational information and showcasing natural materials and companies that work in the UK natural building industry.

The Offsite Hub will be hosted in partnership with Explore Offsite, to bring Architectural Technology professionals an exhibition of offsite construction solutions, including four trade body-led seminar theatres. Meanwhile, visitors can keep up to date on the latest research and best practice in energy production and consumption through the Energy Hub seminar programme.

To register, visit: futurebuild.co.uk/register-your-interest-for-futurebuild-2019.

Spotlight on The Americas Centre Part One

Words by Peter Drew MCIAT, Centre Chairman

Similar to the other Centres, The Americas Centre was established in May 2015 and currently has 42 members covering three distinctive areas: Canada, USA and the Caribbean Islands.

This spread of membership creates its own unique set of challenges, but in some ways are similar to other Regions/Centres with a vast area covered with different regional and national approaches to Architectural Technology. Canada recognises Architectural Technologists as a profession, and already has its own local governing professional bodies within each provincial jurisdiction, whereas the USA and the Caribbean Islands do not recognise the roles of Architectural Technologists as a profession. CIAT is currently aiming to make inroads and connections with local and professional bodies and educational establishments to raise our profile and future promote our role as Architectural Technologists in these countries. CIAT currently has Collaborative Agreements with the Association of Architectural Technologists of Ontario (AATO), which is a self-regulating professional body in Ontario, Canada, and the American Institute of Building Design (AIBD) in the USA. AIBD is a professional organisation committed to providing quality continuing education to ensure that their members remain current with technology, materials and building codes.

Peter Drew MCIAT is the current Chair of The Americas Centre. Peter started his career in architecture at the beginning of 1987, working as a junior technician with W.D. Stirland Architects, a small practice in Nottingham. By 1992, Peter had completed both his ONC and HNC Certificates in Building Studies on a part time basis at Nottingham Trent Polytechnic.

Following the retirement of his employer, and after a couple of take overs, Peter finally ended up working for Stephen George and Partners, where he stayed until his departure to Canada in 2007, completing a successful UK career in housing design.

In 2005, Peter and his family decided to relocate to Canada. Architectural Technologist's appeared on the list of skilled workers required in Canada and therefore an application was made under the Skilled Workers Programme. This type of application is a points-based system dependant on age, financial stability, language skills, work stability, family commitments and medical history. It is aimed to try and identify applicants that would be stable, and likely to remain in the country once they have relocated. The application took two years to process and after completion Peter and his family were finally approved, receiving permanent residence status.

Peter moved to Canada at the end of 2007 and started work as a Lead Senior Architectural Technologist (referred to as Job Captains in Canada) with FWBA Architects in Lethbridge, Alberta, Canada, leading design teams from concept to completion on site. Peter's first project in Canada was the design of a new Fire Headquarters in Lethbridge, which went on to win the Fire Chief's Magazine 2012 award for best designed integrated station style. With this first project, there was a steep learning curve to learn new codes, requirements and procedures, but the experience gained from working in the UK industry was more than enough to fit well into the working environment in Canada. Since moving to Canada, Peter has had the good fortune to work on many projects of various sizes and complexity in a range of sectors, but his main work is Government, local authority and commercial based.

In 2009, Peter continued with his training to qualify as a LEED (Leadership in Energy and Environmental Design) Accredited Professional in the sustainability field, and in 2013, Peter became a Chartered Member. Peter also became a Canadian Citizen with duel nationality status, and in 2014, Peter became an Associate at FWBA Architects.

The new downtown Lethbridge Fire Headquarters Facility was designed and built to replace the existing Lethbridge No.1 Fire Hall, and to co-locate all everything into one facility. An aluminum bar-grate screen marks the three-storey entrance structure at the facility's southwest corner and serves to shield this large, transparent, circulation core from the intensity of the south sun. This screening element serves a dual function by also diff using the strong west winds to allow operable windows in this core to assist in passively, and gently, ventilating the building. A large, fully-glazed third floor provides an abundance of daylight and expansive view of the coulees.

Peter was involved in a role as the project manager and played a pivotable role in delivering the Fire Headquarters project that meet the client's design requirements. As one of the technical leaders, he was tasked with working independently and cooperatively in conducting research, preparing drawings, developing architectural models, managing specifications and contracts, tendering the project, as well as supervising the construction project. His responsibilities formed the link between the architect's concept and the completed construction.

The Americas Centre is eager in welcoming other members to play a proactive role in the expansion, development and running of the Centre. It is only with an active membership that we can reach our full potential and begin to reap the benefits of the wealth of experience, knowledge and expertise we have as members.

If you have any ideas, comments or wish to help develop The Americas Centre, then please contact any member of the Committee, as listed on the website. Alternatively, Peter Drew can be contacted via email at: theamericascentrechair@ciat-centres.org.uk

Find out more about the Centre and its members in part two in the next issue.

Lethbridge Fire Hall Headquarters

Architectural Technology in Germany

Words by: Robert Barrie MCIAT

Robert Barrie MCIAT is a 30-year-old Chartered Architectural Technologist, who was born and raised in Nottingham and is currently working in Germany.

I studied Architectural Technology and Design at the University of the West of England and was lucky enough to find a position during my placement year at Franklin Ellis Architects, in Nottingham, even though we were in the midst of the last recession. This was actually my first time working in an architectural practice. My experience of the industry up until then had been more hands on, having spent a year on building sites as an apprentice bricklayer after I left school.

After graduating, I worked as a Graphic Designer in Bristol for a few months before moving to London to work for Kyson, an architectural practice in East London, which has a few AT Awards to its name. Living and working in London was a really interesting time for me and it certainly broadened my experience, giving me the opportunity to work on projects including a variety of interiors for restaurants, conversion of shipping containers for office use and new residential and hotel schemes. More recently I worked in Nottingham for Trent University's Estates Team and just before moving to Germany I worked for CPMG Architects where I had the opportunity to work on the largest healthcare centre within the UK.

Having worked in a number of cities and on a variety of projects, I felt like the time was right for me to move abroad to challenge myself as it was something I had always wanted to do. In light of Brexit, I made my move sooner rather than later to avoid any potential problems. I have always been interested in German architecture

and their detailing abilities, and I thought it would be a great way to enable me to work on buildings with beautiful detailing.

Within the first two weeks of arriving in Düsseldorf, I started taking intensive German lessons to learn the basics and I began to apply to practices within Düsseldorf and Cologne who had either an office within the UK or had connections with English speaking clients within their portfolio. After a few interviews, I received good feedback and my situation looked promising, but these positions failed to materialise for one reason or another.

I started applying for positions further south in Germany, in the cities of Mannheim, Heidelberg and Stuttgart where I found more success and ended up with more than one job offer to choose from. In spring of 2018, I started working for SSV Architekten in Heidelberg which has an outstanding reputation. I was quickly made to feel welcome in the office and was given a small reuse project to work on, converting an old railway signal house into a hip coffee bar/roastery. It was quite draining to start with; having to learn new software in German and working the entire day in German, but it did help improve my language skills very quickly!

My boss understood that my qualification is recognised within the UK architectural profession but I believe that by having a strong design focused portfolio and having had previous experience using BIM, I had a competitive edge to help me land the position there. Generally speaking, I feel I have been quite lucky in my career so far to have worked in the 'Project Architect'

role and more recently, before the move to Germany, as a Contract Administrator. I am someone who has always enjoyed a challenge and I have always been willing to take on greater responsibility – which may be also one the reasons why I decided to come to Germany.

I would say my role is pretty similar to my normal daily activities as a Chartered Architectural Technologist within the UK, albeit I am yet to undertake every activity that I had previously done (contracts, meeting clients etc). I attend design team meetings on behalf of the practice as well as visit building sites for inspections. I think the difference is that there seems to be a lot more emphasis on the design process from building sketch models and being able to take my time in considering options.

In terms of responsibility, I am currently working on our practice's new office which will be built on a piece of land previously occupied by the US Forces. I find designing anything to do with your own office never easy as every design decision tends to be made as if under a microscope, but I think it also requires a certain level of trust from your boss to allow an employee to work on this type of project.

The biggest barrier by far for me has been the language, or I should really say 'die Sprache'! It's been hugely challenging to learn, not only on a professional level but also on a personal level. Coming from a country where I felt comfortable with the building processes, building regulations and documentation to a country where they have different building regulations depending on where you're building in the country can be quite daunting at first.

The only barriers that I am aware of is that I am not currently allowed to open an architectural company here or sign off a building for final completion. Yes, some may say they are quite big barriers, but from what I have found, only the managing directors manage these procedures here anyway. So therefore, if you're looking for work as an employee, there should be no problems.

The Architectural Technologist role here is a mixture of a traditional German Architekt and a Haustechniker, who are responsible for the M&E design and the implementation of technology in buildings. There is also a role here which goes by the name of 'Bauzeichner' that directly translates to 'building drawer' – that could be compared to the Technician role in the UK. On the whole, there is no direct equivalent.

Something that I am finding to be increasingly discussed in Germany is BIM. Unlike the UK, there was no government mandate for the use of BIM methods for designing and construction. I would say that in general the use of BIM building methods seems to have been comparatively slow and now I am hearing exactly the same questions being asked in meetings that were asked in the UK three to five years ago.

I have always wanted to work in a foreign country, so first of all, I believe you should have a real desire to want work and live away from the UK, even if it is only for a year or two. If you would like to but you are too comfortable within your current position, then you will never do it—you have to commit to it and see it through. Secondly, I know that there are many talented Chartered Architectural Technologists out there, so I would strongly urge you to be confident with your talent and abilities and don't be afraid to try new things—especially if you're thinking that the UK is the only option for you. Finally, having a network of close people which I built before moving always helps. There have of course been highs and lows since I moved to Germany but it is to be expected when moving countries.

I am also looking into taking up a position within the CIAT Europe Centre in due course. Further, I have recently started designing and making my own furniture here in a local workshop, so I am hoping to launch my own furniture business. Look out for Bernd and Barrie soon!

The Erasmus Experience

Words by: Finn Caldwell, Architectural Technology student and student member, Robert Gordon University

When I thought about what to choose to do for my second semester of my third year, for me there was only one real option out of the possible three: take part in the Erasmus Exchange.

I have always had an adventurous side, probably due to my childhood living in rural South West Scotland, so when I first heard of the Erasmus programme from a university coordinator I was intrigued. Once I learned about the whole experience and the opportunities that it offered, I just had the small problem of deciding where to go and this is where my adventurous side started talking and I chose Finland. What might have seemed like a rash decision soon made sense after hearing about the unique experiences offered at the host university in Northern Finland I was 100% sold.

After a few months of planning and paperwork, in January of this year I finally set foot on Finnish soil. For the next five months I would be calling the northern Finnish city of Oulu and Oulu University of Applied Sciences (OAMK) my new university.

Whilst studying at OAMK, the biggest applied university in Finland, I took modules in civil engineering and construction architecture as well as a module in Finnish language, mandatory for native English speakers. The civil engineering classes were mostly taught in English, however, the construction architecture modules were Finnish with English explanations given to me by the teachers. This proved interesting for the first few weeks but found that the Finnish students and teachers were very helpful to the only English speaking student in the room!

As well as academic studies I travelled, socialised with the other Erasmus students and took part in Finnish traditions with the local Erasmus Student Network (ESN). This aspect of my semester was a personal highlight as I got to meet so many new people from all over Europe and also had the chance to travel to a number of new exotic places.

During my studies at OAMK I faced many challenges; from the unique Finnish weather, -30 at the lowest, and sunsets at 14:00!, language barriers, culture shocks and even ice-cold water! Although these challenges tested me at the time, the overall experiences they brought only made me more determined to knuckle down and enjoy every situation and encounter regardless of how much at the time I wanted it to be over.

I just had the small problem of deciding where to go.

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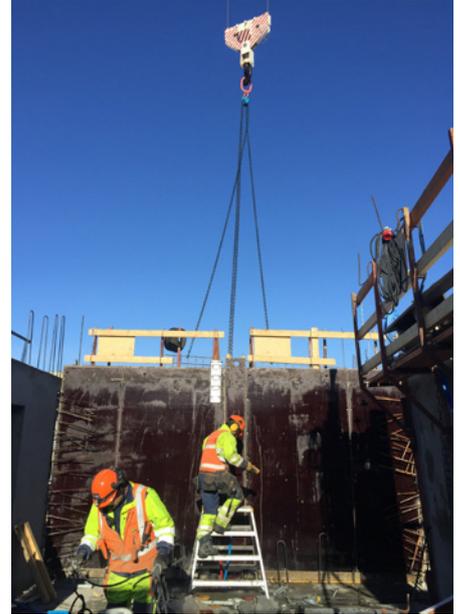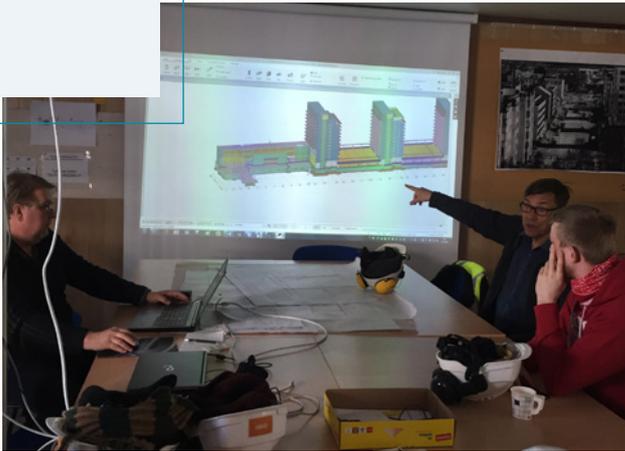
The personal and academic possibilities that I was presented with whilst away were also very unique and I feel very privileged to have been able to have had the opportunities. Some of the activities both in and out of classes I would never have imagined but proved unmissable, ranging from traveling to nearby countries right the way through to participating in international classes, being taught by a highly regarded UN water expert and husky sledding above the Arctic Circle! These are some truly unique opportunities I could only dream of doing if it hadn't been for this exchange experience.

For me, choosing to go outside of my comfort zone and moving to another country brought even more personal benefits than just taking part in the experience. I wanted to start pushing myself to achieve more and make the most of what being at university offers. I really feel that taking part in a semester or year of Erasmus is a very relevant experience for any Architectural Technology student wanting to broaden their vision. Not only will you learn a whole lot about yourself but you also, like in my case, get the opportunity to work with such a range of disciplines, which to me sums up Architectural Technology industry perfectly. I believe by interacting with these other disciplines offers benefits for the future.

I feel incredibly lucky to have been given the opportunity to take part in Erasmus and can honestly recommend it to anyone thinking about taking part in a similar programme.

I wanted to start pushing myself to achieve more.

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Republic of Ireland updates

The Planning & Development Act 2018 has been passed and will be enacted in stages. This Act introduces the introduction of a Planning Regulator, raises the levies on derelict/vacant sites, gives Planning Authorities more responsibility in relation to the granting of liquor licenses, introduces a Register of Developers who do not complete developments satisfactorily and adds some new definitions, including that of multi-occupancy dwellings. The Department of Housing, Planning & Local Government has set up a new website: 'Myplan.ie' This is a Planning information service.

Key aspects of the Planning and Development (Amendment) Act, 2018

Of particular note is that the following amendments to the extension of duration of permissions under Section 42 of the Principal Act come into operation on the passing of the Planning and Development (Amendment) Act, 2018, which was signed into law on 19 July 2018:
• In the event of an application to extend the duration of a permission where substantial works have been carried out, the Planning Authority must be satisfied that an Environmental Impact Assessment (EIA) or Appropriate Assessment (AA) or both was, or were not required, before the permission was granted.
• A decision to extend the appropriate period shall not be made more than twice. Where a second decision to extent an appropriate period is made, the combined duration of the 2 extensions of the appropriate period shall not exceed 5 years.

The principle amendments to the Principal Act are the establishment and operation of the Office of the Planning Regulator; the inclusion of provisions for the National Planning Framework; and the inclusion of provisions for Marine Spatial Plans. These are subject to a Ministerial Order(s) prior to commencement.
Other miscellaneous and consequential amendments to the Principal Act, as amended, which require commencement orders, include:
• Section 4 of the Principal Act (exempted development) is amended to specify that the construction, maintenance or improvement of a private road (other than a public road) serving a forest or woodland can be considered exempted development except where access is provided to a national road within the meaning of the Roads Act 1993.
• Section 7(e) of the Principal Act (planning register) is amended to include such further points of detail as are agreed, or deemed to have been agreed, under section 34(5), between the planning authority and the person carrying out the development'.
• Section 33 of the Principal Act (regulations regarding applications for permission) provides for a waiver or reduction or a different fee in respect of submissions or observations for Members of a local authority. It also provides for the making and processing by electronic means of planning applications, appeals, payment of fees, etc. as well as requiring the inputting of data by planning authorities into such databases or national planning systems as may be prescribed by the Minister.
• Section 34 of the Principal Act (permission for development) includes provision for the planning authority to have regard to previous developments by the applicant which have not been satisfactorily completed, as well as previous convictions against the applicant for non-compliance with the Principal Act, the Building Control Act or the Fire Services Act. This Section is also to include provisions for the planning authority in the case of residential developments of 10 or more houses, to have regard to information concerning implementation by the applicant of any housing development in the previous 5 years, and an assessment of the likelihood of the proposed development being implemented within the appropriate period sought. This Section is also to include provision for the planning authority to a) reach agreement with the person, or (b) either (i) advise the person in writing that they cannot agree, or (ii) refer the matter to the Board for its determination, in respect of points of detail on planning conditions within 8 weeks (or such longer period as may be agreed). In respect of (b)(i) the person may refer the matter to the Board within 4 weeks. Where no response is made within 8 weeks (or such longer period as may be agreed), the planning authority shall be deemed to have agreed to the points of detail as submitted.
• Section 35 of the Principal Act (refusal of planning permission for past failures to comply) has been extended to include registered societies under the Industrial and Provident Societies Acts 1893-2014.
• Section 41 of the Principal Act (power to vary appropriate period) is amended to provide for power to specify the period during which the permission is to have effect, being a period of (a) not less than 2 years and (b) in the case of residential development, of not more than 10 years. Where an application relates to residential development comprising 10 or more houses, a planning authority may have regard to any information available to it concerning the implementation by the applicant of any housing development in the previous 5 years, as well as an assessment of the likelihood of the permission being implemented within the period sought.
• A new Section 44A is inserted in the Principal Act to provide for the revocation or modification of planning permission. The Minister may, upon the request of the Minister for Justice and Equality, Minister of Foreign Affairs and Trade, or the Minister of Defence, and with the approval of Government, make an order revoking, or modifying a grant of permission, whether granted before, on or after the passing of the Planning and Development (Amendment) Act, 2018, but not if the period exceeds 5 years. if they are satisfied that the granted permission is likely to be harmful to (i) the security or defence of

the State or (ii) the State's relations with other states and that the revocation or modification is necessary in the public interest. The notice served will require the cessation of development and the restoration of the land. Any development carried out in contravention of an order shall be unauthorised development. There is provision to revoke an order.

• Section 247 (consultations in relation to proposed development) is amended to include provision for at least one pre-planning consultation for development of (i) more than 10 housing units (to include Part V) or non-residential development of more than 1,000 square metres gross floor space, or (ii) such other development as may be prescribed. Such consultations shall be held within 4 weeks of the date of receipt of a request for a meeting, unless extended by a specified period. The failure of the planning authority to comply shall not prevent an applicant from making a planning application. Regulations may be made with respect to this procedure. Gross floor space is clarified as meaning the internal measurement of the floor space on each floor of a building (including internal walls and partitions), disregarding any floor space provided for the parking of vehicles.

• The First Schedule of the Principal Act is amended to include provision for an objective regulating, restricting or controlling the development of licensed premises within the meaning of the Licensing Acts 1833 to 2011. Note that this amendment takes effect in respect of a new development plan after the passing of the Planning and Development (Amendment) Act 2018.

• The Fourth Schedule of the Principal Act is amended in respect of an application for permission from an applicant associated with a previous development which (a) has not been satisfactorily completed or (b) which has not been taken in charge because the estate has not been completed to the satisfaction of the local authority, as a non-compensatory reason for refusal. This applies whether or not it was within the functional area of the planning authority to which the proposed development relates.

• The Seventh Schedule of the Principal Act is amended to include communications and data infrastructure in one or more structure(s), the combined gross floor space of which exceeds 10,000 square metres, and the provision of associated electricity connections infrastructure.

• Part 5 of the

The Derelict Sites Act is also amended to provide for the derelict sites levy (3% of the market value of the urban land concerned, increasing to 7% in 2020 and any subsequent financial year).

Section 5 (iii) of the Urban Regeneration and Housing Act, 2015 is amended by Section 63 of the Planning and Development (Amendment) Act, 2018, to include the following in the definition of a vacant site:

(iii) the site, or the majority of the site is –

1. Vacant or idle, or

2. Being used for a purpose that does not consist solely or primarily of the provision of housing or the development of the site for the purpose of such provision, provided that the most recent purchase of the site occurred-

1. After it became residential land, and

2. Before, on or after the commencement of section 63 of the Planning and Development (Amendment) Act 2018.

The provisions for the application of the Vacant Site Levy are also amended (3% of the market value in 2018, increasing to 7% in 2019 and every subsequent year).

New guidelines for Planning authorities and An Bord Pleanála on dealing with environmental impact assessments.

Eoghan Murphy T.D, Minister for Housing, Planning and Local Government has, on 30 August 2018, published updated guidelines for planning authorities and An Bord Pleanála on carrying out environmental impact assessment.

The publication of the Guidelines coincides with the coming into operation on 1 September 2018 of most of the provisions of the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018), which were signed by Minister Murphy on 26 July 2018. These Regulations transpose the requirements of Directive 2014/52/EU, amending previous Directive 2011/52/EU, on the assessment of the effects of certain public and private projects on the environment (the EIA Directive) into planning law.

Key amendments to environmental impact assessment procedures in the planning system arising from the 2014 Directive include:

• Reduced administrative burdens, through the use of joint or coordinated procedures when Appropriate Assessment is required;

• The broadening of environmental factors to be considered in the assessment – population and human health, resource efficiency, climate change, biodiversity and disaster prevention;

• Strengthened screening procedures to determine whether EIA is required in respect of development consent proposals;

• Expansion of the information to be contained in the re-titled Environmental Impact Assessment Report (EIAR);

• A requirement for the developer to employ or engage competent experts to prepare an EIAR and for planning authorities and An Bord Pleanála to have, or have access to, sufficient expertise to examine such reports;

• Decisions of planning authorities and An Bord Pleanála on development proposals must include a reasoned conclusion on the significant effects of the project on the environment;

• Enhanced requirements for public access to information, including by electronic means;

• Requirements to put arrangements in place to avoid, prevent or reduce and, if possible, offset significant adverse effects of a proposed development on the environment, including monitoring of these, where appropriate.

The Guidelines replace previous Guidelines for Planning Authorities and An Bord Pleanála on carrying out environmental impact assessment published in March 2013. The updated Guidelines are issued by the Minister under section 28 of the Planning and Development Act 2000, as amended, and accordingly planning authorities and An Bord Pleanála are required to have regard to them in determining planning applications and appeals.

Republic of Ireland Centre Technical Sub-Committee

The Republic of Ireland Centre Technical Sub-Committee is urgently seeking new members who are willing to give a little time to reviewing and commenting on up-coming legislation and regulation affecting Architectural Technologists in Ireland. Please contact Denise Germaine MCIAT, denisegerm@gmail.com

End of Year Architectural Technology Shows — a retrospective

Three of our Programme Leaders report on their 2018 End of Year Shows, revealing a wealth of talent and an inspiring new generation of Architectural Technology professionals from Accredited Honours degree programmes.
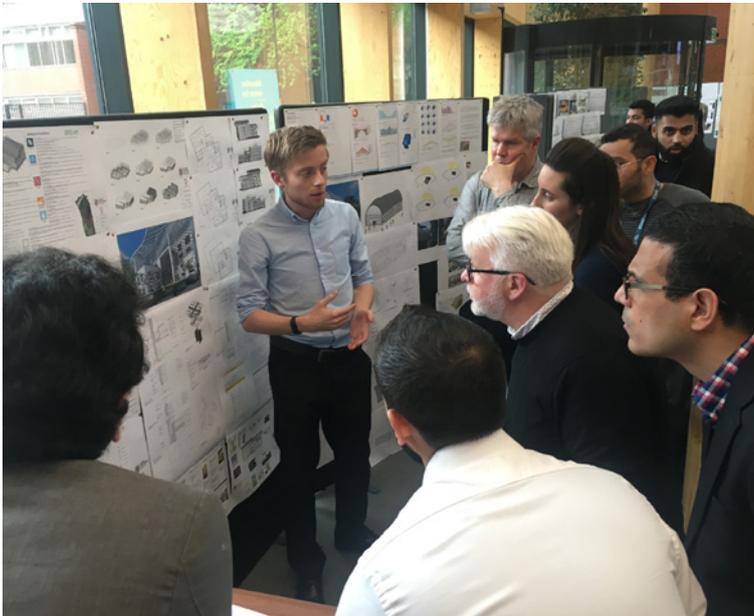
London South Bank University (LSBU)

It's that time of the year again when the blood, sweat and tears of the final year BSc (Hons) Architectural Technology students at LSBU has finally paid off at the final End of Year Show. This is the most nerve wrecking experience and yet a very rewarding one too. We invited external judges from the multi-disciplinary professions within the built environment and construction industry to scrutinise the work. The event took place in Keyworth Foyer and was open for all colleagues and other students to attend. This year we had Harry Pangli MCIAT, Roisin Ni Chathain MCIAT and Niall Healy MCIAT as the critical judges!

The End of Year Show is an amazing opportunity for the final year students to also network and receive valuable feedback from the professionals in the industry. A very good opportunity to showcase the good work that the future generation is doing!
Jenni Hardi MCIAT, Programme Leader

Nottingham Trent University

This year's degree show entitled, simply, 'AT18', was unofficially seen as an opportunity for the course to refresh and evolve following from an influx of new staff of, predominantly, Architectural Technologists joining the teaching team at the beginning of the academic year. With a new layout and approach to the degree show set-up, the show attracted industry professionals, family, friends, passing visitors and alumni from across the country. Projects ranged from accessible indoor extreme sports centres, vertical farms, specialist schools and even a new stadium proposal for Everton Football Club.

Once again, we were honoured to be joined by Paul Newman PPSAAT PPBIAT MCIAT who opened the show as well as provide the written introduction in this year's programme who later praised the cohort with the following:

'It was an absolute pleasure to be part of the final year Degree Show. [This year's students] are what AT is all about, a credit to NTU and to the profession. Congratulations to all the award winners, but each and every one of [them] are winners in my mind.'

We also welcomed Paul Laycock MCIAT, Vice-President Education and representatives from RICS, CIOB, Gleeds, Allan Joyce Architects, Price & Myers, Couch Perry Wilkes, Focus, Resi, Schluter-Systems and Waterman.

Head of Architecture at Nottingham Trent University, Gavin Richards said:

'The overall quality and standard of the work this year was exceptional. This was recognised by industry and the number of sponsored prizes they awarded. The Architectural Technology programme and our students at NTU are an asset to the School of Architecture, Design and Built Environment and this year's show proves that the course continues to push its established high-level of standards into a new level each year.'

This year's Degree Show also coincided with the External Examiners' annual visit and we were honoured to receive exceptional and complimentary feedback regarding the final body of work:

'[The course's] work with the profession externally is to be commended and [it] genuinely seem to be an active part of the building environment.'

'There is a real learning spirit in the group and the students are thriving as a result.'

In addition to the successes of the opening night, the students managed to raise over £1,000 for local homeless charity, Emmanuel House, through sales of degree show branded t-shirts and hoodies. It was an exceptional year for an exceptional group and it was an honour to teach them.

We'd like to publicly thank all of our sponsors and prize givers this year. Additional thanks for this year's show must go to Marc Preite, Project Manager of the University's Estates Team, who was integral contributor to this year's organisation.
Richard Dundas, Programme Leader
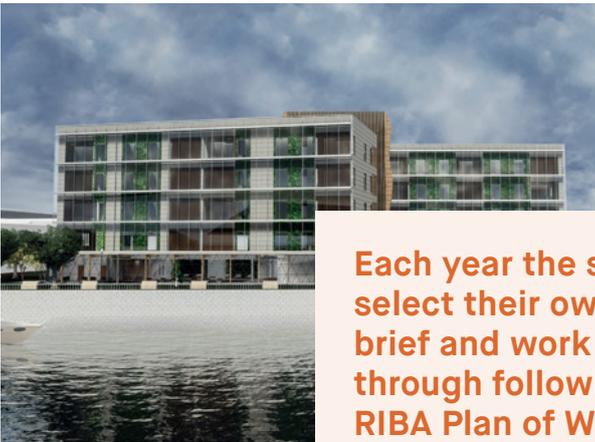
University of Central Lancashire

This year's Architectural Technology Degree Show at the University of Central Lancashire took place in the Architectural Technology Studio in Harris Building and featured the work of students, both full and part time, from their year long Design Module, their dissertations and their Management module.

Each year the students select their own site and brief and work the project through following the RIBA Plan of Works.

The Architectural Technology programme sits very much under the banner of the 'science of architecture' and that the building fabric is our main area of interest and concern. We understand the importance of the building fabric – to keep water out, ensure the transmission of loads safely and the need, in this climate, to keep heat in.

Each year the students select their own site and brief and work the project through following the RIBA Plan of Works, through to construction stage, focusing on the construction details and key junctions. Over the year themes develop. This year's theme was that of wellbeing. And its importance both as a theme to help resolve design problems, but also as practitoners the need to carefully balance work and life beyond education.

The students through their designs and dissertations have also explored how the building fabric can improve the quality of the lives of its end users. The schemes show, for example that which we understand the negative impact of sound pollution on lives, to understand it and to address it, you have to look the detail – the materials used, their make-up and what they sit up against and how you respond to the junctions. And it is only at this level of understanding and appreciation that it is the Architectural Technologist who can really make a difference to the overall success of a building.

The work for the degree show is the final piece submitted by the students and is the pinnacle of years of hard work. There have been some ups and downs, but what has made this cohort stand apart from other years is their approach to team work.

They have all had a part to play, not only in what was on show, but in supporting and encouraging one another, professionally, practically and emotionally.

As many have said – through the joint experiences over the last years, lifelong friendships have been formed.

Ann Vanner MCIAT, Programme Leader

2018 AGM and President's Ball

Alex Naraian PCIAT with new President Elect, Eddie Weir MCIAT with sponsors Xtratherm and UNILIN

The 2018 AGM and President's Ball took place in Aarhus in Denmark, for the first time in the Institute's history, with the Europe Centre hosting the weekend's events.

Voting Delegates at the AGM place their vote

Eddie Weir MCIAT became President Elect and Steven Hedley MCIAT the new Vice-President Technical.

"

The Friday night social evening was organised by the Region with a Civic Reception at City Hall showcasing the work of Architectural Technology students at nearby VIA University followed by an evening of food and Lego.

The Institute's 2018 AGM, held on 10 November at VIA University, included the unanimous approval of the accounts as well as the authorisation to Council to reappoint the auditors. The four Resolutions (previously circulated with *AT Journal*) were also unanimously approved by the Voting Delegates and members will be kept updated to the changes to the Code of Conduct. Momentously, the aspirATion Chair now also has a vote at Council. In his closing President's address, Alex Naraian gave an overview of the Institute's activities and achievements of the past year, aligned to the Strategic and Corporate Plans and launched the 2018-23 Plans. Eddie Weir MCIAT became President Elect and Steven Hedley MCIAT the new Vice-President Technical.

Following the AGM, a presentation was then made by Professor Sam Allwinkle PPBIAT MCIAT on the Membership Grade Review and more information on this will be circulated to the membership in the upcoming months.

The President's Ball was held in the evening at the Musikhuset. Following the drinks reception, guests were welcomed to dinner by Simon Coggins-Hill MCIAT, Europe Centre Chairman and Martina Markulin. The Gold Award was announced and presented (see page 45).

Dancing to The Wild Ones rounded off another great year for CIAT and we look forward to bringing you information on the 2019 events in Glasgow as soon as it becomes available.

With grateful thanks to our sponsors, Xtratherm and UNILIN.

The spring issue will feature the new *Code of Conduct* and *Conduct and Disciplinary Procedures*.

Alex's Insights

Words by: Alex Naraian PCIAT

Engaging with our academic Architectural Technology community

I cast my mind back to when I had freshly graduated from Solent University back in the early 1990s. I had, and still have, a lot to learn. We all do, and although qualified academically as an Architectural Technology professional; I did not have the experience nor the in practice-based skills and my employer knew that.

What I do recall though when I first started out was my employer's attitude and approach. That was an attitude that was engaging and nurturing, patient and able to bring the best out of me through praise and constructive criticism. It was one that understood they would need to invest time in me and there was an expectation that I would respond positively, living up to my side of the bargain. I did indeed respond by wanting to do my best, and here's the thing, this is true for all new employees to a greater or lesser extent.

As a professional within the built environment sector, we can and should do more to engage with educational establishments instead of simply focusing on our workloads whilst expecting educational establishments to deliver programmes suitable for industry's needs despite having little engagement from the sector. This might sound damning, but without acknowledging this and continuing to be reluctant to change this, the status quo will remain and nothing will improve. Hard words I know, but words that need to be said.

I challenge you to think about this in terms of general education. Would a parent leave their child's education solely to the school without supporting their child and the school in partnership, so that their child achieves the best that they can? Of course, the answer is no. Education is both a combination of academically taught subject matter coupled with the support and input from outside engagement.

Investing time and energy back into education, is one way of shaping and influencing the future of our profession. A sustainable future I hope, but a responsibility that needs to be shared amongst our members who have the ability to engage with successive generations. I often hear members expecting Central Office staff to do this, but this is not possible. Central Office does not have the resources to do this and is also a 'cop out' if we do not step up to our responsibility. The Institute is a members' body and cannot survive without your input.

Don't get me wrong, there are some employers out there that are very engaging with educational establishments, but I am inviting you, as fellow members, could you do more, could you engage? Some of you know you could.

So, what's in it for practitioners?

We all have to earn a living and/or business to maintain and build. I understand this, so I will speak from first-hand experience. I have engaged with educational establishments for the last decade and was privileged and very proud to be awarded an Honorary Fellowship of Solent University in 2016, for my commitment to the develop employer engagement. The reasons why I engaged in education from an industry and employer engagement point of view has a number of facets to it; all positive.

To give you a flavour, some of these are:

- I believe in shaping education which can help ensure it meets industry needs, now and in the future. It provides the opportunity to help make it relevant to both students and educators and in my experience is always well received. When you engage, you realise just how good it is and it is really rewarding to be able to 'give back'.
- By engaging with students, I can share with them my knowledge and understanding of industry and also assist them in having better business acumen. This assists in making them more employable.
- I learn from students. They have new and innovative ways of approaching any given challenge and this is educational for me. It helps me in business and adds freshness of new ideas that can be adopted in business. Just because I do things or approach a challenge in one way or resolve an issue in another doesn't mean it's the only way. It helps keep me to remain open minded and continues to build my lateral thinking skills.
- I have been able to talent spot. Recruiting can be a lottery and expensive. By engaging with students, you are able to see their core skills, people skills, ability to communicate and their personalities. Much more than you would get from an interview.

There are many other good reasons to engage, but the main driver for me is that I care about our profession, its continuation and growth.

To find out the Accredited Programmes in your Region, you can use the 'Find an Accredited Programme' search function on the website, or email the Education Department on education@ciat.org.uk

As always, I hope that this both inspires you, but spurs you into action. Let's continue to grow and build upon our continuing reputation of being the 'go to' profession with a collaborative heart.

Gold Award 2018: Celebrating an outstanding Member

The Gold Award exist to recognise and celebrate the effort and commitment of Chartered Members who have demonstrated an outstanding service to Architectural Technology, be it the profession or the Institute. It is presented in the form of a medal, certificate and lapel badge.

There are a maximum of ten Awards each year and as it is the principal honour that the Institute can bestow upon its Chartered Members, it is reserved for people:

- who have changed, developed and advanced the Institute, particularly by solid, demonstrable and outstanding achievement; or
- whose work has brought outstanding distinction to Architectural Technology or enhanced the discipline's reputation.

At the President's Ball, the recipient of the Gold Award was announced and presented to:
Professor Steve Scaysbrook MCIAT
For dedicated service to the Institute
and West Midlands Region

The culmination of Steve's career has been his appointment by Birmingham City University as visiting Professor in Architectural Technology. This allows him to further his passion for the discipline and to pass on his almost 50 years of experience to the next generation of graduates. He has achieved this also through a series of academic papers and conferences.

From his time as Vice-President Innovation & Research; promoting and representing the Institute nationally and internationally; dedicated service to his Region in organising schools, colleges and CPD events; and still finding time to run his own practice; Steve has built up an impressive record of service to the Institute.

Even after his time as Vice-President, Steve's dedication did not waiver. Re-joining the Region, Steve took an active role in his local Committee (Region 5). Contributing to a regular programme of careers events, CPD and other activity. Eventually taking on the Regional CPD Officer role for the Committee and has been holding this post now for ten years. In this period, he has organised numerous events with local and national attendance with the highlight being an international conference with speakers from Google and Cisco.

Steve is passionate about supporting and mentoring our successors to CIAT, a theme which has been dominant in his career. Along with his Regional involvement in promoting CIAT through lectures and membership promotion at various educational bodies locally and potential members at regional companies. He is a Membership Assessor and Moderator for the Professional Assessment, encouraging the very best out of new members.

Membership News

Chartered Members

We would like to congratulate the following members who sat their Professional Interview and have attained Chartered Membership, MCIAT:

033249	Bryan Cowey	Northern, 01
032988	Steven Blackhurst	Yorkshire, 02
011297	Richard Jagger	Yorkshire, 02
026986	Paul Justice	Yorkshire, 02
028314	Adeeb Shaban	Yorkshire, 02
031404	Paul Watson	Yorkshire, 02
024931	Paul Gudgeon	North West, 03
031083	Andrew Kirk	North West, 03
027222	Bilal Ravat	North West, 03
021247	Stephen Wardle	North West, 03
026784	Jamie White	North West, 03
024509	Ayomide Alabi	East Midlands, 04
020201	Neil Beresford	East Midlands, 04
014720	Michael Congreve	East Midlands, 04
030627	Mohammed Moosa	East Midlands, 04
022391	Thomas Assal	West Midlands, 05
024520	Aaron Bellamy	West Midlands, 05
025160	Jonathan Davis	West Midlands, 05
029866	Kiruthiga Balson	East Anglia, 07
023659	Alex Wells	East Anglia, 07
032275	Stephen O'Leary	Central, 08
027831	Oliver Reynolds	Central, 08
017003	Ian Shirvell	Central, 08
026730	Natalie Cooper	Greater London, 09
032936	Elena Militaru	Greater London, 09
017576	James Robb	Greater London, 09
021845	Selina Walker	South East, 10
018506	James Gavey	Channel Islands, 11
018266	Paul Henney	Channel Islands, 11
029020	Daisy Sherwill	Channel Islands, 11
024622	Craig Robertson	Scotland West, 13
025831	Matthew Gibson	Scotland East, 14
032938	Andrew McDowell	Scotland East, 14
024816	Christopher Moore	Scotland East, 14
025802	Ryan Diamond	Northern Ireland, 15
023491	Andrew Fleming	Northern Ireland, 15
020605	Michael McClelland	Northern Ireland, 15
031510	Alan Olphert	Northern Ireland, 15
019608	Paul Williams	Wales, 16
032931	Paraic Walsh	Republic of Ireland Centre, C2

Technician member

We would like to congratulate the following member who has successfully progressed as an Architectural Technician, TCIAT:

032557	Neal McTavish	Scotland East, 14

Welcome back

We would like to welcome back the following Chartered Members:

023659	Alex Wells	East Anglia, 07
009627	Philip Rourke	Wales, 16
019806	Sophia Kee	Middle East & Africa Centre, C7

In memoriam

We regret to announce the death of the following members:

004167	Keith Benstead	South East, 10
012384	Mark Copley	Yorkshire, 02
010495	James Oldfield	North West, 03
001321	Derek Osborne	Middle East & Africa Centre, C7
002033	Robert Tucker	South East, 10

Conduct
Member 025315 – Carl Collins
Mr Collins was found in breach of Clause 8a) from the Code of Conduct effective 1 May 2014:
Clause 8: Breaches of this Code

The members shall:
a) report to the Institute any alleged breaches of this Code by themselves of which they become aware

Disciplinary action:
In accordance with the Conduct & Disciplinary Procedures Item 18b), Schedule of Disciplinary Action, Mr Collins was reprimanded in respect of this breach and was required to give an undertaking in writing to refrain from further contraventions of the Code of Conduct, this he has duly done.

Past Chairman presented with Past President medal
The Past President medal was bestowed on Brian Dickson PCSAAT at a small presentation held at The Balmoral Hotel in Edinburgh on 11 October. Brian was Chairman of SAAT between 1978-80 and Professor Sam Allwinkle PPBIAT MCIAT and Gary Mees PPCIAT MCIAT were on hand to hand over the medal and to reminisce about the Institute in its formative years.

AT CPD Register Directory

CDM

JRA CDM
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 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

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: Linda Smith
E: marketing@xtratherm.com
T: +353 46 9066079
xtratherm.com

Materials

Low carbon GRP daylight solutions for the metal building envelope
The seminar delivers an understanding of how rooflight choices in relation to key performance requirements can impact on the overall contribution rooflights can make to the metal building envelope.

Cost/fee for attendance: free
Contact : Nicola Hancock
E: nicola.hancock@ncsservices.co.uk
T : 07956 847533
hambleside-danelaw.co.uk

Other

Using Drone Technology within architecture
This half-day, interactive, introductory course will equip delegates with the knowledge and understanding of how the latest advances in drone technology are changing and enhancing traditional architectural working techniques.

Cost/fee for attendance: £49.00
Contact: Ian Tansey
E: ian@prodroneworx.co.uk
T: 07805 864642
prodroneworx.co.uk

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

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

futurebuild

05-07 March 2019 / ExCeL, London

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