

# AT

ARCHITECTURAL TECHNOLOGY



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### Best practice for learning

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Growing reach of CIAT

# AT magazine

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# In this issue

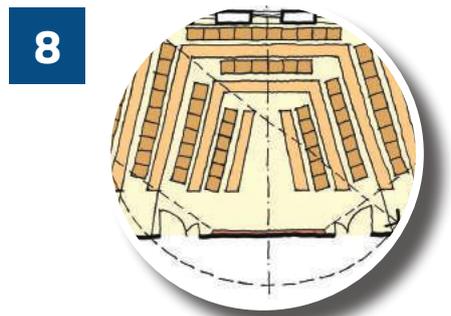


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# Editor's foreword

Where there is a design challenge, there is a CIAT member ready to take it on.

We hear the word 'solutions' used rather a lot these days. Satirical magazine *Private Eye* even has a regular column dedicated to finding the oddest use of the term; my favourite is 'fluid transfer solutions' used to describe a company that makes rubber hoses.

I'd like, however, to reclaim this term for CIAT members because finding solutions to design problems is one of the principal elements of what our members do; and the results are often very impressive. In this issue on page 4 there is an interview with Chris Strike MCIAT who came up with an innovative design for what amounts to a country new-build house where such a concept would not normally be given planning permission. Channel

Four were also impressed and featured the house on *Grand Designs*. On page 8 you can read a summary of extensive research carried out by Jamie Collins ACIAT and the team at FaulknerBrowns, into making the best use of space for lecture theatres. They honed their design until an optimal balance was found to give the largest number of seats in the smallest amount of space.

On the subject of seating, Des Cairns MCIAT on page 18 reports on the tricky balance required when drawing up designs for church refurbishment. 'Seats versus pews' is an important consideration and designing for a flexible space requires careful planning and consultation.



## 2016 Awards brochure

Readers should have received a copy of the Awards brochure with this issue. If you have not received it, please email [info@ciat.org.uk](mailto:info@ciat.org.uk). Awards projects will also be featured in *AT* throughout the year.

On page 22, Mark Wildish MCIAT reports how he overcame a tricky design problem for a client – how to make a multi-level house accessible not only for someone in a wheelchair, but in a car as well.

On a personal note, after nearly 18 years as Editor of *AT* magazine, this will be my last issue as I hand over to a new Editor and concentrate on developing CIAT's weekly Ebulletin. I have very much enjoyed finding 'solutions' to the challenge of publishing informative and relevant content in your magazine, and I hope you have found the results enjoyable and helpful.

**Hugh Morrison**  
Editor



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# Grand Designs o

**Chris Strike MCIAT**, Chartered Architectural Technologist, designed an impressive and innovative house with the help of clients skilled in the use of steam-bent timber. The unusual project was featured on Channel Four's popular TV series *Grand Designs* (series 16 episode 3). Interview by **Hugh Morrison**, Editor.



Exterior showing steam-bent timber balcony.  
Inset: Chris Strike MCIAT.

## Tell us briefly about the concept for the project.

The project was an extension to a Grade II former game keeper's lodge just outside Helston in Cornwall. The configuration of the property meant that the occupants had previously to go outside and cross an open courtyard to use the WC or bathroom.

The concept therefore was to create a two storey extension that gave the impression that it grew from the landscape, which didn't detract from the existing listed buildings, and also to link the game keeper's lodge to the barn which in turn linked through into the large extension.

My clients (Tom and Danielle Raffield), are designers themselves, although in a different field, but working for a pair

of designers was a fantastic experience which allowed me to learn new things as well as bounce ideas around freely with them.

## The Raffields had very clear ideas about what they wanted in their house. What was it like to work with clients who wanted to be closely involved in the construction?

I found this worked really well. They had fixed ideas of what they wanted to achieve; it was my job to make their dream work and come up with a final design that I felt would fit the brief whilst gaining planning and listed building consent – and which would also look amazing.

## The project included the refurbishment of a listed Georgian cottage. How did you ensure that the new design fitted

## with the old, both aesthetically and practically?

This was very important to me, the clients and of course the listed building officer and it took a little to-ing and fro-ing to get to something that was mutually acceptable. We had to be careful with such a large extension not to 'swallow' the listed building.

We feel we achieved this by softening the design with a gently sloping roof to the first floor and setting the main mass of the building a considerable distance from the listed structures. The glazed link allows you to see right through into the courtyard so you can see the original structures.

We didn't try to blend anything into the original buildings and we purposely made the extension and the link feel like new.

# of a Member

## Were there any specific issues to consider with planning/building control etc?

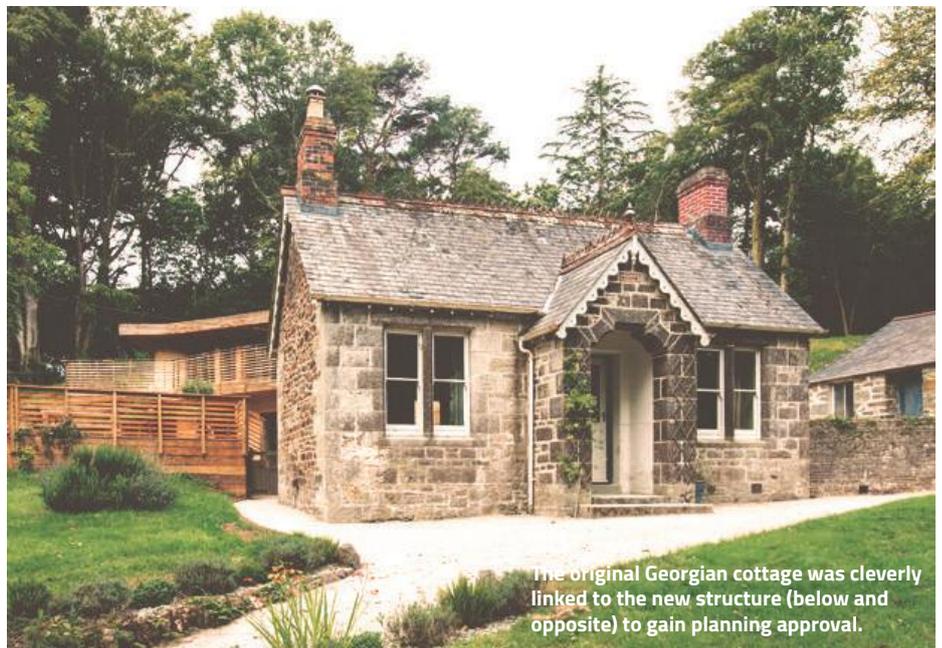
As with any listed building there are always issues that arise and things that have to be thought about in more depth than a conventional planning application. The link (between the cottage and extension) was crucial to getting the approval as without it the extension would become a new build in the countryside, which as we all know, is difficult to get permission for. The original building was 44 sq m; with the extension the house is now four times larger at 212 sq m.

I wanted to make this link as invisible as possible. The original thought was to have a complete glass box but this was too expensive so we ended up with a larch frame structure with glazing on both sides which allowed you to see through the whole structure, whilst still giving the practicality of linking the old with the new.

The main extension was dug into the hillside to achieve a partially subterranean look from certain viewpoints.

## Much of the project involved steam-bent timber; wood that is shaped by craftsmen using a steaming process. Did you have knowledge of this as part of your design or was it more of a cosmetic add-on by the clients?

Prior to meeting my clients I wasn't even aware that steam bent timber existed, let alone anything about it. I knew however from the outset it was their intention to use this throughout the building internal and externally. This allowed me to create a design that they could use as a canvas to show their talents.



The original Georgian cottage was cleverly linked to the new structure (below and opposite) to gain planning approval.



The newbuild is classed as an extension, although contact with the existing building is minimal.

**The design has a distinctive art deco/1930s 'suntrap' design. Was this deliberate from the outset or did it evolve from the surroundings and requirements of the occupants?**

A bit of both. This was deliberate, as the main facade is south facing so the main external and internal space require as much light as possible from front to back. The idea as previously mentioned was to try make it feel that the building grew from its surroundings, by sinking it into the ground using timber from the site. Eventually the property will have a green sedum roof. Kevin McCloud described the house as a 'wriggling, ribboned manifestation of the hill itself' and said the 'beautiful' design was virtually unprecedented.

**The project has a number of sustainable features. Can you tell us about them?**

It was always the intention of the client to use as many sustainable features as possible, hence the use of timber from the site – oak, larch, pine, birch and others. The building also benefits from a ground source heat pump. The clients were very keen to minimise concrete use, which is why we have a recycled tyre and gabion retaining wall at the rear, complete timber frame and green roof. The building not only has insertion between the studs of the timber frame but is also wrapped in 100mm Celotex insulation which gives the walls a fantastic U value.

**How did *Grand Designs* get involved?**

A *Grand Designs* project has to be instigated by the client. Mr and Mrs Raffield contacted Channel Four to see if the programme makers would be interested and after a visit and pilot it was all agreed.

**Did you know from the outset that the project would be featured on television?**

We found out about the *Grand Designs* programme just as we were starting the Building Regulations drawings so not long after the planning permission was granted.

**What was it like working with *Grand Designs* and its presenter Kevin McCloud?**

From our point of view it wasn't too bad, although a little intense at some points. We did approximately eight hours of filming with the crew and Kevin McCloud. None of this, however, was actually shown in the final cut which was a little

disappointing, but when you consider they did over 500 hours of filming in total I can understand this. Also, it seems with these programmes that the designer is only really shown when things go wrong so I've taken it as a positive!

**Do you think the programme makers understood the role of a Chartered Architectural Technologist?**

I was asked the difference between a Chartered Architectural Technologist and an architect by the producer. It took time to explain the specific differences but I feel they do now understand what our role is. I was delighted that Kevin McCloud knew this already though.

**Has the exposure on national television been of benefit to your practice?**

Yes I think it has. Our website crashed on the first night due to high levels of traffic! We have had a few enquiries referencing *Grand Designs* and also a lot of local publicity.

**Do you have any advice for members who would like to get their projects featured on television?**

Be prepared to give up your time free of charge if you wish to be featured and also be prepared to be disappointed in the likely event that you don't actually get shown on the television. It's a great experience and good to sit down and chat about design and construction with someone like Kevin McCloud who, might I add, seems to be a very nice bloke!

Below: refurbished interior of original cottage.  
Bottom: Kitchen with steam-bent timber light fitting.



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# Best practice for learning

## Optimal lecture theatre design for teaching and learning

Following extensive research in the USA, FaulknerBrowns designed a development in partnership with Newcastle University which achieves an optimum layout for a lecture theatre. The research was presented at CIAT's London Festival of Architecture event, 'Tomorrow's Future', given by Jamie Collins ACIAT. Report by **Hugh Morrison**, Editor.

The INTO Line East scheme is a part new build, part refurbishment teaching facility in Percy Street, Newcastle Upon Tyne, completed in 2016. The refurbishment element of the scheme involved converting what was originally a ball room into a state of the art lecture theatre.

As part of the research process, senior representatives of Newcastle based architectural practice FaulknerBrowns went to some of the top business schools in America to study their teaching methods. They visited the Ivy League universities of Harvard, Massachusetts Institute of Technology (MIT) and Yale, which were chosen as they were geographically close to each other.

The advantage of these universities is that they are highly rated in nearly all

academic areas, giving the opportunity for the practice to review a range of different teaching facilities and teaching techniques.

After meeting with users and designers from all three universities, the one common theme that the researchers noticed was that of collaboration, which seems to be of greater importance in learning and teaching in the USA than the UK. Three types of learning and teaching were identified.

### 1. Traditional delivery

- Lecturer stands and talks to students, who take notes.
- Allows for only a small amount of interaction.
- Does not require any reading or

learning beforehand to participate.

- Good for large groups (over 100).
  - Has 'economy of scale'.
- ### 2. Macro collaboration
- Facilitates debate
  - Everyone must be within a 12m radius for effective communication.
  - Allows a high degree of interaction between a group of up to 100 people.
  - Requires a lot of pre-learning.
  - Allows for the debates to be recorded for later shared learning analysis.

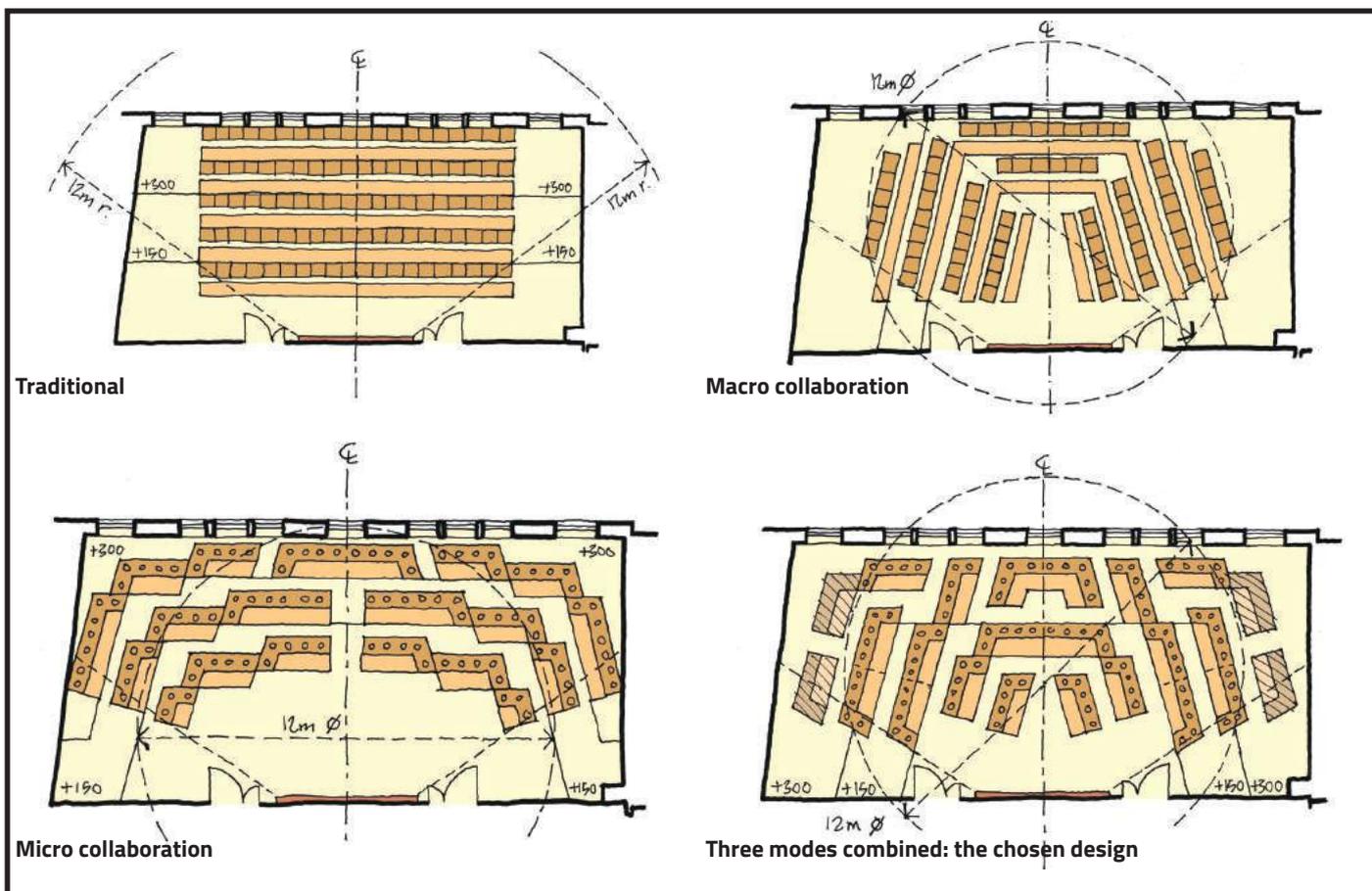


Lecture theatre before refurbishment



Refurbished theatre with combined seating layout

## The four basic layouts



### 3. Micro collaboration

- Involves a number of smaller groups working on a task as part of a bigger session in one large room.
- Allows the teacher to move around between the groups to oversee the session.
- Allows for collaborative learning to take place but within smaller groups.
- Allows students to learn from those within their group as well as other groups: a high degree of shared learning.

All the academics interviewed said group numbers had to be below 100, otherwise it becomes too difficult to manage. This micro and macro collaborative form of teaching makes the students feel they are getting value from these higher fee universities.

They also pointed to an increase in subject awareness and improved student

grades. This research also identified the importance of the relationship between designers and teaching staff.

The process of including and engaging with academics in the design is vital, so that they understand how the design works.

#### Finding the best design

The first option was the traditional lecture theatre with rows of seats. This gave a capacity of about 100 people. Researchers then looked at combining the Harvard system of macro-collaboration and traditional delivery.

Inside the critical 12m radius this allowed for around 70 people, with the option of additional temporary seating on the outside to get up to 100 in traditional delivery mode. The downside is this does not allow for micro-collaboration group working.

The possibility of combining the traditional delivery model with the micro group collaboration was considered.

This was more attractive to the client but did not lend itself well to macro delivery, as many people would be seated outside the critical 12m radius.

Finally all three modes were combined. The outcome was a very different looking lecture theatre, but one that accommodated groups of 120 in delivery mode, 96 in micro collaboration mode, and 80 in macro collaboration mode. The facility went 'live' in July 2016 and FaulknerBrowns reports that the feedback received from users to date is very positive:

*'There is an opportunity for students to work in small groups on their individual benches or easily engage in open class discussion as everyone can easily see each other.'*

*'Micro collaboration is really good thanks to the layout of the seats, so groups of three or four can communicate together well on the angled seating.'*

*'It is better than traditional rows of lecture theatre seating.'*

# Building Regulations *update*

NHBC Building Control has issued the following guidance notes on Parts K, M and N of the Building Regulations.

## Glazing, guarding and restrictors in dwellings

Part N of the Building Regulations seeks to ensure that where people are likely to come into contact with glass it is unlikely to cause injury or the glazing will resist impact or be shielded or protected from impact. However, glass is increasingly being used in locations that require it to act as guarding from falling. In these cases the glazing needs to comply with the requirement and guidance in Part K2 of the Building Regulations – protection from falling.

## Balconies, landings and stairs

Where balconies, landings and stairs within a dwelling require guarding, any glazing used as part or all of that guarding should comply with the requirements of Part N and Part K. As in all parts of the Regulations, the most onerous requirement takes precedent. The Approved Document to Part K provides guidance on the height above floor level at which guarding should be provided and any glazing acting as guarding should be designed to resist the forces and impact as laid down in BS6399 and BS6180, even where the glass is in a critical location as defined in the Approved Document to Part N. Therefore, glazing that protects people from falling must meet these requirements.

## Fixed low level glazing

Where the design incorporates low level glazing, less than 800mm above internal floor level such as a window, that is fixed (not openable), glazing and the framing will need to function as guarding where the difference in floor levels exceeds 600mm. The glass should be designed to resist the forces referred to in the British Standards above. Alternatively, suitable guarding, that resists the forces referred to and complies with Part K with respect to height and non-climbability must be provided. (See diagrams 1, 2 and 3.)

## Openable low level glazing

Where the design incorporates low level glazing (less than 800mm above internal floor level) that is not fixed, eg. an openable window, the glazing will still need to act as guarding where the difference in height exceeds 600mm. The

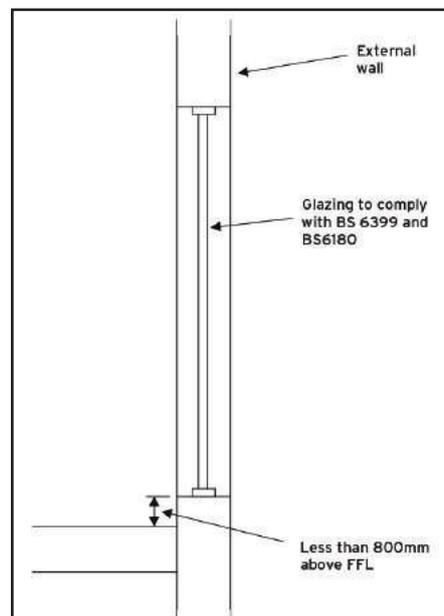


Diagram 1. Fixed glazing required to act as guarding.

window must be prevented from opening more than 100mm in order to comply with Part K. This means that restrictor devices commonly fitted to windows would not be suitable because they can be released, by a key or manually, to allow the window to open more than 100mm. In this position occupants would not be afforded the required level of protection from falling. Therefore, suitable guarding that resists the forces referred to in the above British Standards and complies with Part K with respect to height and non-climbability, must be provided, such as vertical balustrading.

Alternatively, 'permanent' restrictors, those that cannot be released and would not allow an opening where a 100mm sphere could pass through, may be suitable. This type of restrictor would also need to be capable of resisting the loads detailed in BS6399 and BS6180 along with the glass, glazing and window structure. However, this may affect the minimum purge ventilation requirement under the guidance in Part F, which requires a minimum of 1/20th floor area of the room served by openable windows (height x width of opening part where the window opens 30 degrees or more).

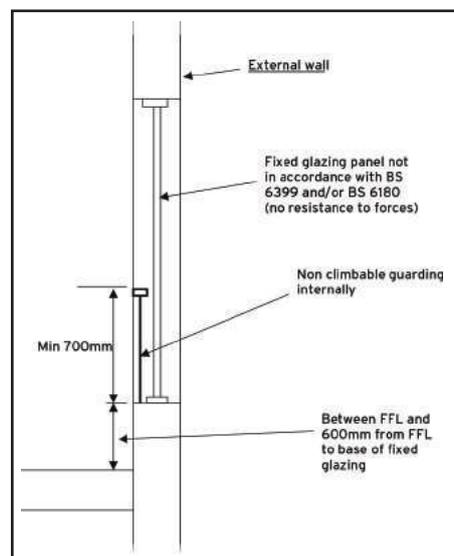


Diagram 2. Fixed glazing not required to act as guarding (cill under 600mm above FFL).

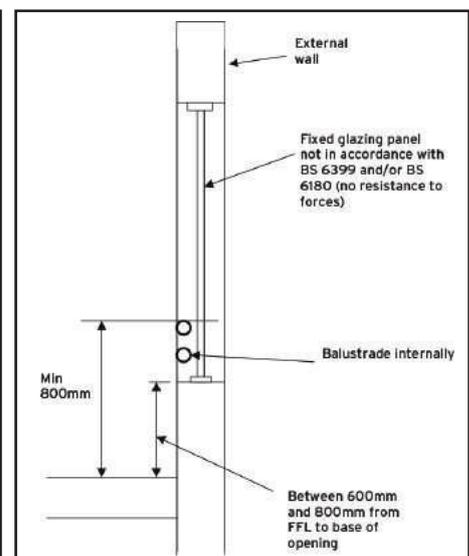


Diagram 3. Fixed glazing not required to act as guarding (cill over 600mm above FFL).

Where the window opens between 15 and 30 degrees that area needs to be doubled, ie. 1/10th floor area of room served. Therefore, it may not be a feasible alternative. (See diagram 4.)

### Openable low level glazing as escape windows

Where low level windows are also designed as escape windows, 'permanent' restrictors would not be suitable as they would prevent the window opening wide enough to allow escape. Low level windows fitted with restrictors that can be easily released, would be acceptable but only where suitable guarding is also provided. To be suitable for means of escape, the top of the guarding should be between 800mm and 1100mm above the floor level and the minimum dimension, 450mm, and area of the opening, 0.3m<sup>2</sup>, should be measured from the top of the guarding up to the top of the opening. (See diagram 5.)

### Lift provision to new non-residential buildings

The guidance in the 2004 edition of Part M states that a lift is the most suitable form of access for people moving from one storey to another in buildings other than dwellings. This means that the starting point for any new non-residential

building should be to provide a lift for access to upper and lower occupied floors. However, what issues and factors should be considered when designing for adequate access?

Benchmarks for the non-provision of lifts, such as the maximum permissible floor areas and references to a 'unique facility' have been removed from the guidance within Part M. It can be concluded that there are no exceptions to the need for a lift other than special cases such as historic

buildings and infill plots, where practicable space is an overriding consideration.

The guidance does recognise that universal provision may not be practical and that alternative access arrangements can be justified in an Access Statement. The requirement is for 'reasonable provision', so it is not possible to define specific maximum floor areas that would be suitable in all circumstances. It may be unreasonable to require a lift to all floors in some smaller new buildings.

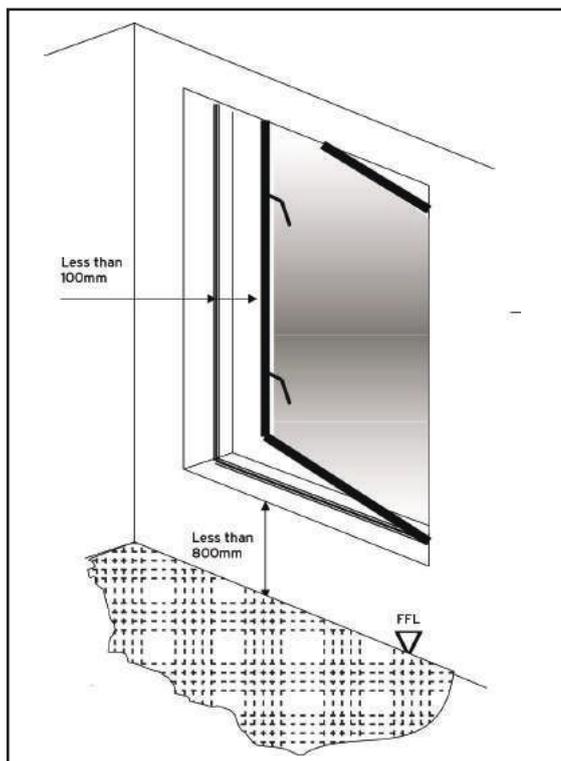


Diagram 4. Openable glazing required to act as guarding.

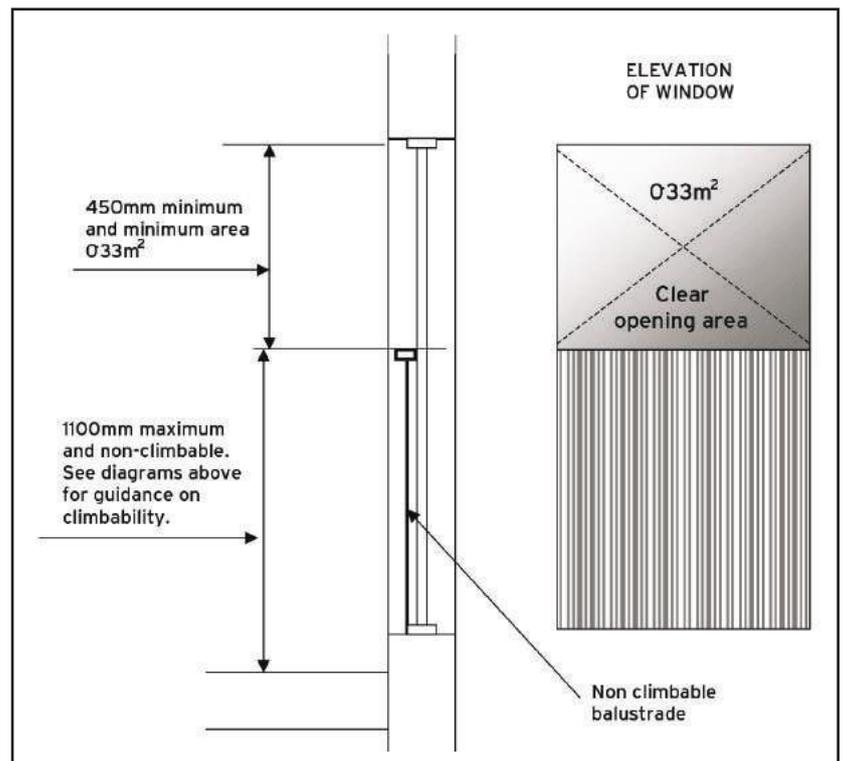


Diagram 5. Escape window with suitable guarding.

## Considerations

The following factors can be considered when designing alternatives to lift provision:

- The floor area of a new building may mean it would be impractical in terms of available floor space remaining, should a lift be provided. A practical judgement should be made based on the relative size of the new building.
- Where the use of each floor is similar to the ground floor or entrance level, there is a possibility of providing all relevant services where access is feasible. Again the floor area could determine the level of access provision, as larger floor spaces on multiple levels should be provided with the same level of access as the entrance level.
- Where the building has split level accommodation, there may be practical considerations to providing access to all levels. For example,

restaurants with multiple levels will need to consider the level of service provision alongside the practical considerations of lift provision.

- The use of each floor and type of building will determine the amount of vertical travel between levels, which in turn will provide a guide to the level of access provision required. A public building for example is likely to require a lift, as it would be difficult to justify non-provision.
- In some circumstances, upper level storage areas could be designed without lift provision. Again consideration should be given to the requirements of the Disability Discrimination Act. A more comprehensive Access Statement is likely to be required for specialised building uses, such as warehouses with high bay racking.
- The location of the planned toilet accommodation will have a bearing on the required level of access provision. The guidance in Part M

is for accessible toilet provision to be provided where other toilets are sited, and the distance of travel to an accessible toilet should not be more than 40m.

Whilst the starting point for new buildings is to provide a lift, there are situations where other provisions can be considered as 'reasonable provision'. It is important to consider the requirements of the Disability Discrimination Act alongside the Building Regulations, as service provision and employment issues can be more onerous than the Building Regulations.

*For further advice, please contact an NHBC surveyor on 0844 633 1000 and ask for 'Building Control'.*

### References

Approved Documents K and N – 1998 editions  
Part F – 2006 edition  
BS 6399: Part 1: 1996, BS 6180: 1995  
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# AT in Australasia

## UK delegation visit

**CIAT representatives travelled to Australasia in autumn 2016 to raise the profile of the Institute and the discipline of Architectural Technology.**

The discipline and practise of Architectural Technology is gaining greater traction with our Centres across the globe. With many members taking the lead in the export of our profile and recognition together with the successful execution of the Institute's Strategic and Corporate Plans (2013 – 18) in their goal of enhancing the global reach of CIAT and the discipline. This success led to an invitation from the President of the National Association of Building Designers in Australia to the Chief Executive to be the key note speaker at its international conference in October 2016. To coincide with this invitation, the Institute took the opportunity to further raise its profile, promote awareness of Architectural Technology and to build strategic links in Australasia.

The visit allowed the delegation to meet with professional bodies and organisations, practices, key contacts and members as well as educational establishments, all of which are critically important in the development of Architectural Technology globally. The President, Gary Mees, Chief Executive, Francesca Berriman MBE Hon DTEch and International Director Tara Page travelled to Australia, with stopovers in Singapore, Hong Kong and also a visit to New Zealand during September and October.

As Australia is such a vast country the delegation was split to make the best of time and resources.

This first report is from Tara on her visits to Hong Kong, Australia and New Zealand.

### First stop: Hong Kong

I was met by Hong Kong Centre representatives MAK Hon Kuen, HonMCIAT MCIAT and Helena Lee MCIAT. After a catch up over a much needed cold drink, we headed over to Mongkok on the Kowloon peninsula to meet other Centre Committee members



Hong Kong Centre members



for dinner. We were greeted by Desmond Cheng MCIAT, Stephen Luk MCIAT, John Chu MCIAT and Hong Kong Centre Chairman Hermann Fong MCIAT.

### CIOB Hong Kong

After a good night's sleep, the work began and I made my way over to Wan Chai on Hong Kong Island to meet with the Hong Kong Branch Manager of the Chartered Institute of Building (CIOB), Ivy Lo. Ivy gave me an insightful presentation into the work of CIOB and its operations in Hong Kong. We agreed that it would be advantageous to make better use of our existing Memorandum of Understanding, utilising it as a vehicle for closer collaboration for the benefit of both of our members in Hong Kong.

CIOB Hong Kong has three full time members of staff, a Hong Kong Council which includes a President and over 2600 members in Hong Kong alone. The office runs two biennial events: Construction Manager of the Year Award, and a conference. It also offers student awards, workshops, seminars and site visits. We discussed how some of these events could be opened up to our members and be supported by the Institute. We have since followed up this action and Ivy intends to nominate CIAT as a supporting organisation for its Construction Manager of the Year Award, to assist in raising the profile of CIAT. Ivy was a most welcoming host – we will continue this positive dialogue to enhance our existing good relationship with greater collaboration through joint events, awards and CPD.

## RICS East Asia

Later that day, I met with Ernest Leung, Royal Institute of Chartered Surveyors (RICS) Regional Director of Membership Development in East Asia. Ernest and I had met previously in 2010, and our discussions then led to the eligibility of Chartered Members for AssocRICS grade of membership, and the start of discussions on the development of a Memorandum of Understanding between our two organisations. We spoke about recognition of professionals in Hong Kong, and in particular the challenges faced by international organisations in comparison with similar local bodies. In Hong Kong, RICS is very active with over 4,500 members. It exists alongside the Hong Kong Institute of Surveyors (HKIS). Ernest is keen to work closer with CIAT in Hong Kong and further discussion has already taken place regarding how we will work together. Our members have now been included on the RICS circulation list for CPD events.

### Practice meetings: greater recognition

That evening I headed over to Kowloon, for a meeting held at the Atkins offices with some of our 'expat' members living and working there. I met Simon Gallagher MCIAT, Jonathan Ashley MCIAT, Mathew Brown MCIAT, Richard Wilkinson MCIAT, Thomas Cahill ACIAT, and Michael KL Wong ACIAT. We had a lively discussion and it was apparent that members are keen to push for greater recognition of the Chartered Architectural Technologist in Hong Kong. Recognition for professionals in Hong Kong is different to other places globally. I invited the members to submit case studies for CIAT's publications to promote the type of projects they work on.

### IVE: making CIAT membership a 'rite of passage'

My final stop in Hong Kong was at the Institute of Vocational Education (IVE), which offers a CIAT-Approved programme, the Higher Diploma in Architectural Studies. I met with Edmond Wong, Acting Head of the Department of Construction and also with lecturers Keith Chan and Pillow Chan to discuss the progress of the Higher Diploma and if there was anything the college required from the Institute. With around 200 students on the programme, the college has increased its facilities and a short tour around the campus showed me how popular the course is. Student members

benefit from free CIAT membership for the duration of their studies, as well as eligibility to attain the Outstanding Student Award for their Approved course.

IVE has close links with the Hong Kong Centre Committee but membership progression decreases post-graduation. The team at IVE and I discussed how we could promote the discipline and career progression so that membership after graduation becomes a rite of passage in terms of career development. We discussed forging closer links between the Institute and the College, establishing an aspirATion Group in Hong Kong for students and graduates, increasing student membership numbers and featuring the college in *AT* magazine, and *aspirATion* e-magazine.

## Australia: Melbourne

### RMIT: Accreditation discussions

My first stop in cold, wet and windy Melbourne was the Royal Melbourne Institute of Technology (RMIT University). RMIT is a world renowned university for art, design, architecture and the built environment, ranked 20th in the world for art and design. I met Michael Goss, Head of Department and Karol Dempsey with whom I had been in contact previously regarding the characteristics of the architectural industry in the UK and the specific role of the Architectural Technologist. RMIT has approved a new qualification with a working title of Bachelor of Building Design Technologies. This qualification aims to move away from the Advance Diploma in Building Design and emphasises the application and integration of architectural technologies in architectural projects. Discussions are ongoing regarding Accreditation of the programme.

### Melbourne Polytechnic

After lunch courtesy of RMIT, I was on my way to Melbourne Polytechnic. With six campuses in and around the city, the Polytechnic has fantastic international links, particularly with China and with our own Accredited programme at VIA in Denmark.

The Polytechnic offers the Bachelor of the Built Environment course and the team spoke about the development of Bachelor's degrees in Construction Management and Interior Architecture. The team was keen to find out more about the Institute, its international



Meeting expat members John O'Sullivan MCIAT (left) and Mark Scott-Jeffs MCIAT.

links, the value of Accreditation and the professional qualifications, and the opportunities available through student membership.

### Building Designers Association of Victoria

My first meeting of the day was with Kate Bell, Chief Executive Officer of the Building Designers Association of Victoria (BDAV). BDAV is a membership association representing almost 2000 members throughout the state of Victoria. CIAT regularly links to its online publication via our weekly ebulletin. The meeting with BDAV was very useful in helping me understand the issues faced by those working in the field of Building Design which is the profession most akin to Architectural Technology. It also highlighted possible challenges that CIAT and its members may face in terms of recognition in Victoria and potentially elsewhere.

Building Designers in this state must be registered with the Victorian Building Authority (VBA) and are unrestricted with regard to practice. The only restrictions apply to the use of the title of 'architect' and the word 'architectural' in reference to architectural design services. Each state in Australia has different legislation or registration requirements for Building Designers. Some states have no registration and require only a Diploma in Building Design. Some states, such as Victoria or Queensland require a minimum of an Advanced Diploma in Building Design (Architectural), plus meet the VBA competence requirements.

In 2014, a number of state Building Designer Associations came together to form the National Association of Building Designers (NABD) which held its inaugural conference in 2016 on the Gold Coast, at which CIAT Chief Executive Francesca Berriman MBE Hon DTech was the keynote speaker. One of the primary purposes of the new association is to offer support to Building Designers, particularly in areas where there is no staffed organisation, and to work together to attain registration at a state government level and within the structures of the state building designer associations.

CIAT and BDAV are looking into how our two organisations can work closer together to increase recognition of those working in this field, raise awareness and enhance members' services. (See also Francesca's report in this article on her visit and meetings with the NABD.)

#### Box Hill Institute

After spending the morning with Kate, I had a long tram ride out to Box Hill Institute. Box Hill Institute offers the Advance Diploma in Building Design and having met CIAT before, it was well versed in the work of the Institute. Tony Watson and I discussed the possibility of Approval of the Advanced Diploma as well as promoting student membership and the aspirATion Group. I was given a tour of the fantastic facilities which are used by the Building Design students, including the integrated technology hub, an innovative learning space for the disciplines within construction and technology. Tony and I spoke about initially mapping the CIAT Education Standards to the Advanced Diploma, to identify any deficiencies or differences in the requirements.

#### Challenges facing Architectural Technology professionals

That evening, I met Conor Cunningham MCIAT, an active member of the Australasia Centre Committee. Conor works for e+ architecture, a practice based in Bendigo, Central Victoria. Conor's official job title is Senior CAD Documentor/CAD Manager, and he has recently been appointed Resource Manager, but uses the title of Chartered Architectural Technologist on all correspondence in order to promote the discipline. Conor and I discussed the challenges faced by Architectural Technology professionals in Australia, the

main ones being the lack of awareness of the discipline and the diverse registration requirements.

#### Deakin University

The next morning, I made a visit to Geelong, a town about an hour's train ride from Melbourne, to Deakin University. Deakin was the first to offer a course in the Southern Hemisphere to be Approved by the Institute, following our visit in 2013. Unfortunately, the Bachelor of Architectural Technology was recently discontinued as application numbers were not large enough to make the programme viable. The Head of Department, Anthony Mills, will however be keeping abreast of developments in industry and with the programme structure kept 'on ice', it will be in a good place to relaunch the Architectural Technology course as and when the need arises.

#### New Zealand

##### Wellington: Open Polytechnic

The next day it was farewell to Melbourne and hello to New Zealand's capital, Wellington. I met with the Open Polytechnic's Lily Belabun, to discuss CIAT Approval of the polytechnic's Diploma in Architectural Technology and in particular the benefits of membership. Lily and I had a useful discussion about the Polytechnic staff's research activity within the field of architecture. The polytechnic enlisted the help of CIAT to recruit writers to develop the content of construction courses. A number of our members have offered to assist.

##### Dunedin: Otago Polytechnic

I then flew into Dunedin on the South Island of New Zealand. Dunedin is the

furthest city from London, being more than 12,000 miles away. The city is known as the Edinburgh of the South, and even has its own Princes Street. In fact, Dunedin takes its name from the Gaelic name for Edinburgh. I had a meeting with Otago Polytechnic, which offers a range of construction built environment and architecture programmes and has recently developed a Bachelor of Architectural Studies (Architectural Technology) for delivery from early 2017. Otago is interested in working with the Institute, with regard to Accreditation, student membership and assisting us in speaking with the policy makers, to promote the discipline and push for formal recognition.

#### Last stage of the visit: Perth, Western Australia

After a whistle stop tour of Dunedin, including the amazing street art, the spectacular scenery and Toitu Otago Settlers' museum, it was off to Perth in Western Australia where I met with Mark Scott-Jeffs MCIAT, Chair of the Australasia Centre Committee, and John O'Sullivan MCIAT, Centre Committee Treasurer.

Mark is the Principal of Au Design Group, the first CIAT Registered Practice in Australia and John works for the City of Kalgoorlie Boulder as the Manager of Assets and Procurement. Having had several conference calls with the Centre, it was great to catch up with them in the flesh to discuss their ideas and concerns on recognition and the advancement of the discipline and the Institute.

We then had dinner with David Plowright, Head of Department at Perth Central Institute, now part of North Metropolitan TAFE, and his wife Maxine who also



Perth, capital of Western Australia

works at the Institute. The TAFE offers the Diploma in Building Design and David has been sent information regarding the aspirATion Group to encourage the creation of a future professionals network, and material on the Accreditation and Approval processes of relevant academic programmes. After a busy, but interesting visit it was back to the UK.

The visit was extremely insightful and gave me a better understanding into the issues and challenges faced by members overseas. It demonstrated the growing recognition of the profession and the opportunities which exist for the Institute, as long as we commit to international development, listen to and work with our members and maintain our links with fellow professional institutes overseas, to achieve CIAT's vision and ambitions.

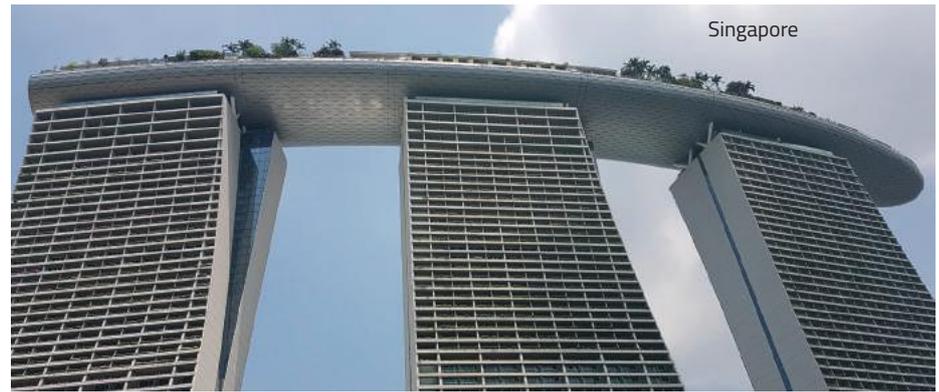
## Francesca Berriman MBE HondTech, Chief Executive

I set off to fly via Singapore – the aim was to meet with Neil Kee MCIAT, Chairman of the Asia Centre in Singapore but circumstances conspired against us as Neil had to fly to Hong Kong on urgent practice business. I therefore had 24 hours in Singapore together with jetlag to explore how it had changed since I last visited (on a holiday) in 2000.

I arrived in probably the best airport and certainly the most efficient I had experienced; I was off the plane and in a taxi within 20 minutes! It is fantastic to recognise that Neil Kee MCIAT, Divisional Director Benoy Architecture and Master Planning is the project lead at this new terminal at Changi Airport in Singapore; the site visit initially planned with Neil will now have to wait for another time. As a consequence I spent most of my time walking around the city with the main objective of visiting the Gardens by the Bay and the Marina Bay Sands as well as some of the more historic quarters.

## Australia: Brisbane

The next day I flew into Brisbane to meet with the President before our drive down to the Gold Coast for the Conference. During my 24 hour stop-over I was able to explore the city, which is the capital of Queensland. From December 2010 - January 2011 Queensland and in particular Brisbane suffered some devastating floods, with over 90 towns and 200,000 people affected across the



Singapore



Brisbane

state. As a result a lot of restoration and regeneration work was undertaken in Brisbane.

## Gold Coast and NABD

Having experienced a hi-tech hotel where all the commands and requests were operated by a smart phone Gary and I, together with Gary's wife Sally, met in reception for our 90 minute drive to the Gold Coast. We were not prepared for the car that awaited us and which would provide an excellent introduction to my key note speech at the NABD International Conference.

We took one look at the car and I immediately asked where the engine was...as luggage was going in the both ends of the car! The driver then took pleasure in telling us we were to be driven in a Tesla motor; or rather the Tesla would be driving us as it is a hands-free car, which did make us slightly nervous whilst driving down the motorway as the 'driver' had no hands on the wheel! This set the scene for the theme of the International Conference: 'Design in the 21st Century.'

## NABD: Conference and meetings

Prior to the conference start, the President and I were invited to attend a meeting with the National Association of Building Designers to discuss closer

collaboration and the signing of a Memorandum of Understanding (MoU). The National Association of Building Designers was formed in 2013 by the Building Designers Association of Queensland (BDAQ) and the Building Designers Association of Victoria (BDAV), and welcomed the Building Designers Association of Western Australia (BDWA), the Building Designers Association of South Australia (BDASA) and the Building Designers Association of the Northern Territory (BDANT) from March to May 2014.

The Association unifies 85% of the nation's building design association members within Australia. It has over 2700 members in the Association and represents five States/Territories. The NABD:

- promotes and develops the professional of Building Design and advances the quality of the built environment;
- facilitates the exchange of information between the states and territories of Australia and foster continuing professional development;
- circulates information affecting the profession of Building Design, to print, publish, circulate such papers, periodicals, books, circulars and any other literary publications, as may

seem conducive to the objects of the alliance; and

- enters into any discussions with any government, authority or industry relating to the building design and construction industry.

The signing of the MoU took place during the course of the Conference.

Our International Department will be working closely with the NABD on issues relating to membership, education, technical, practice, CPD and promotional/ lobbying activities.

### Study tour and welcome reception

Delegates to the conference were able to go on a study tour to look at house design and building in the southern part of Queensland. This gave us the opportunity to understand the design and construction processes better in Australia but particularly in Queensland and to examine the differences between the use of land, environment, and

sustainability, and for us to be reminded that we were in the southern hemisphere with buildings being built to face the north, and be sheltered from the south. We also attended the welcome reception where we were very fortunate to meet with delegates and get to know our new friends in Australia.

### NABD International Conference: Design in the 21st Century

As the key note speaker I introduced the conference by setting the scene on the theme of 'The changing role of building design as a result of the way people live, work and play in and around the built environment'.

I spoke on how the way people interact with the built environment will change with future generations and the impact of changing technology on the way we design and construct buildings.

My presentation also covered the theme 'Technological Revolution: Challenges and Opportunities.' The role

of Architectural Technology professionals is technical and creative but it is also related to peoples' lives – with new technologies comes a whole range of ethical considerations which impact on the social, cultural, mental and physical health of societies; we are seeing this already. I took the opportunity of showing how Architectural Technology professionals can play a positive role in leading the design process.

On the final day I also led the breakfast session in what was more of a Q&A discussion and the position of CIAT and its members in the UK and internationally and the practices of like-minded professionals in Australia. This was an excellent session and of value to both NABD members and us as their guests.

Gary as President gave a presentation on our Awards and their global reach and importance and took part in a panel session which followed; we hope to receive some entries from Australia in future years. At the NABD Awards Gala Dinner Gary also presented one of the award categories. The quality of the awards entries and winners were exemplary and it is our intention to feature some of these as case studies in future issues of AT.

### Sydney

After a very busy and successful few days on the Gold Coast we then flew to Sydney for further meetings.

### Australian Institute of Architects

Our first meeting was with Ken Maher, National President of the AIA which provided us the opportunity to introduce CIAT and the discipline and how we could work together. Our current partnerships with professional bodies could provide a platform of closer collaboration with the AIA and the ways we can support our members based in Australia, in terms of CPD and networking with fellow professionals. This meeting was incredibly positive and set the scene for all the meetings which followed which were all equally positive with real opportunities for further development and collaborative working.

### New South Wales ARB and Architects Accreditation Council of Australia (AACA)

A joint lunch meeting was held with Tim Horton Registrar of the NSW ARB



Clockwise from left: a driverless Tesla car; signing the Memorandum of Understanding with the National Association of Building Designers; NABD and CIAT Presidents on a site visit; President Gary Mees presenting an award at the NABD International Conference.

## Sydney architecture



and Kate Doyle Chief Executive of the AACA, where we were made to feel very welcome.

With Tim we focused on the benefit of professionals and the protection to society and the public. Australia is a federal system and as such regulation, registration and protection of titles varies from state to state. For example in NSW if you wish to design residential buildings you have to be registered but if you wish to design and build office blocks you do not. This is why there is such an important focus on protecting society in NSW and the use of competent professionals.

With Kate, we talked about the qualification of Architectural Technology and our processes for Accreditation. We have since sent her information on the QAA Subject Benchmark Statement on Architectural Technology and our information on our accreditation processes, together with the mapping of qualifications we have undertaken. This allows us to demonstrate the position of our qualification in that it sits alongside fellow professionals such as Architects.

### **RICS Oceania**

Our meeting was with Robert Hardie, Manager Corporate Affairs (Oceania) and Nick Hudson, Commercial Products Manager who confirmed that RICS Oceania were very happy to work with us, as a part of the Memorandum of Understanding we have with RICS to support our members based in Australia in terms of CPD and networking. Whilst we were at the meeting they also took time to explain some of the complexities of the state system and the differences.

### **BDA**

Our next meeting was with the Building Designers Association of Australia (BDA). The BDA is a similar organisation to that of the NABD. The BDA is the principal body in New South Wales for Building Designers. We were very pleased to meet with their National President, Raymond Brown JP, Ted Riddle, Executive Officer and Ian Bassett, Policy and Professional Development Director.

This meeting gave focus on the need to work with both the BDA and NABD as both organisations have significant importance dependent on which state we or our member wished to operate in. As such the option of entering into a MoU with the BDA is being considered.

### **Sydney TAFE**

As part of our development in Australia we have been meeting and working with universities and colleges to introduce Architectural Technology as a subject with opportunities at the different entry levels from Honours degree programmes to the vocational entry level. We therefore met with Sydney TAFE to explore the opportunities for potential for working with CIAT.

We toured the facilities and had a very informative meeting with the academic team lead by Tracey Sernack-Chee Quee. Our International and Education Departments will be following up our meeting.

### **Australian Institute of Building, AIB**

One of last meetings was with the AIB. This was a lovely and again a very informative meeting held in wonderful

surroundings at the Royal Automobile Club overlooking the Harbour Bridge. The AIB is a very long established body with a wealth of knowledge. We hope to work with the AIB on future collaborative projects supporting our members in Australia but also promoting the discipline and Institute.

### **Practice Visit: Nettletontribe**

During our visit we had the opportunity to visit Nettletontribe and have a practice tour and speak to the team at the Sydney office. This again was incredibly insightful giving us an understanding of practicing in a high profile practice and the potential opportunities for Architectural Technology professionals across the sector.

The primary focus of the Nettletontribe studio is intelligent and meaningful output. The complex process of design, is demanding which is why they foster a sense of teamwork and collaboration. Nettletontribe believe that a supportive working environment, one that challenges and supports the individual, leads to the best possible collective outcome. Which is why they channel the dynamism of its work into invigorating the design process for everyone at every level.

The practice values each staff member for the skills and perspective they bring to their work. It is important that no building is the product of a single person. No idea is autonomous. In fact the best outcomes are usually the result of a strong team dynamic whereby many individuals have engaged their individual strengths. Ongoing appraisal and acknowledgement of the team is made consciously part of a system to reward industry and inventiveness as the team, after all, their workforce, they say, is their best asset; as would be the case for all practices.

### **Special thanks**

Our thanks must go to Mike Morgan, Director at Nettletontribe for facilitating this meeting but also supporting us during our visit in Sydney giving us guidance, support and introductions. Thanks also to Paul Newman PPSAAT PPBIAT MCIAT for the introductions, and to the Centre Committees for their hospitality.

### **Moving forward**

We will be working closely with all those we met to gain greater global reach for Architectural Technology as a discipline and profession.

# Churches and change

**Des Cairns MCIAT**, Chartered Architectural Technologist and CIAT-Accredited Conservationist looks at the need for a sensitive approach to church restoration work.



A parish church refurbishment in Northern Ireland incorporating moveable seating.

In the United Kingdom, we have been given a wonderful legacy of outstanding historic churches but that is not always how stewards of these properties regard their charges. On one side there can be those who see the old buildings as a millstone, wasting the resources which would be better used elsewhere, for example where ministry could make an impact on community, school and church life.

On the other side there are individuals, and indeed complete congregations who perhaps subconsciously become the guardians of the building and all fabric and furnishings associated with it, resisting with unflinching resolve all change of any kind. Faced with falling attendance, coupled with ever depleting

revenue and mounting repair bills, some congregations rise to a new challenge, and some freeze with fear. It is an interesting task to explore architectural possibilities with such congregations.

My experience has been with established Christian denominations, therefore these thoughts are the subject of these observations.

A starting point is to look not only at the history and timeline of the building but also at the users of the building and the initial impetus which caused the building to be built, and then to compare the current needs and opportunities. Establishing a vision for the church in its contemporary setting is vital, and will help steer any sustainable solution.

One successful city centre church restoration project I was involved in spent a few weeks carrying out a community audit, interviewing the general public, public services and local authority as well as church members.

In addition to this, the leadership brought in a facilitator to help plan for the ministry and community engagement, and concurrently commissioned a report to confirm the historic and aesthetic significance of the property.

Only after this was complete did they look at how the building needed to adapt to accommodate that plan. As a result, the parish embarked on an ambitious project geared not only to engage more with current and potential congregants,



Adaptable space is popular: this 'welcome area' is incorporated into the church entrance.

## Removal of pews was a contentious issue

but with the general public, and play their part in the pursuit of success of the city centre, making adjustments to allow greater access for the public and create a more welcoming facility – and to rediscover the drive, sense of mission and social responsibility from the past.

All the decisions were measured against the conservation principles of: maximum retention of historic fabric, minimum intervention, honesty in intervention, reversibility, sustainability. Work was also required to remove asbestos, replace antiquated electrical wiring and fire alarms, emergency lighting and a means of escape strategy. The works included the creation of a welcome area inside the main entrance using a planar glass screen, and provision of refreshment facilities, all designed to be reversible in line with good conservation practice. This in turn inspired the congregation to open up a coffee shop five mornings a week, allowing the building to be 'open

for business' almost all of the week. Removal of fixed pews on the ground floor was potentially the most contentious issue but when the members had time to consider this it was decided that the greater flexibility (and comfort) was necessary in this instance, assisted by the fact that the pews were not themselves historic.

Careful consideration was taken to retain an example of the original seating to connect with the evolving 'story' of the Grade A building. Because of this, and the new lighting, sound and vision systems, the use of the building has increased with more services as well as secular usage.

A rural church we are working with has decided on and received listed building consent for, a glass annexe which joins two listed buildings on the site, and which will provide a meeting and welcome space and a connection between the church and hall as well as an accessible WC and platform lift between levels.

In the simplest form, it allows families and those with mobility needs in particular to move between the buildings easily, (currently difficult in winter) to use the WC and changing facilities and have an open and welcoming new entrance, all with minimum impact on the historic fabric.

Historic churches present a wonderful opportunity; they can provide a great sense of place; a sense of occasion and expectation – and of course legacy. There can be the temptation to consider discounting an old building by new or re-formed congregations – afraid of the 'money pit' or the constraints of Listed

## New or re-formed congregations can be afraid of the constraints of Listed Status

status, but our experience shows that with careful planning the result is well worth the effort.

We need to be careful not to focus solely on protecting the historic fabric – especially if the primary aim is to prevent change – but to establish a vision for viable use. This combined approach will help secure the future of our old churches. The best way to protect our old buildings is to keep them full of people, – especially vibrant and enthusiastic users of the space as originally intended.



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# Planning for success

**Mark Wildish MCIAT**, Chartered Architectural Technologist at Archiwildish Ltd, was determined to overcome a tricky planning challenge for a disabled client in Warwickshire, involving a barn conversion with a car lift.



Our client is a paraplegic and lives with his wife and three children in a barn conversion. The barn was converted when he was much younger and single as an investment, and as such there was no real need for him to access all of the rooms (particularly upstairs).

Since having a family and with deteriorating health as he gets older, the existing home was no longer practical or capable of being adapted to someone who is permanently in a wheelchair. The client was unable to put his children to bed at night and they were of an age where they were wise to the fact that to avoid Dad they could simply run upstairs.

Therefore when I first met the couple over five years ago it was their ambition to build a new house where the adjoining steel barn exists, however at the time

planning policy simply did not allow for new builds in the open countryside. When the government introduced the Class MB (now Q) prior approval for converting agricultural buildings to dwellings, I contacted the couple explaining that there might be an opportunity to convert the barn.

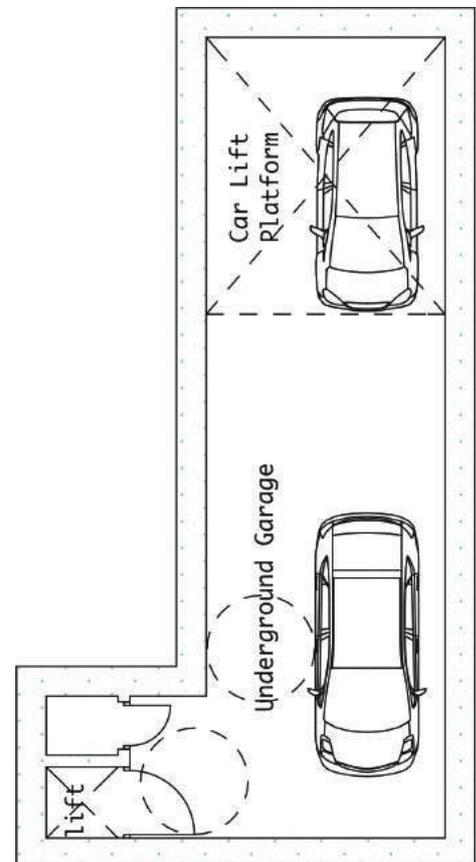
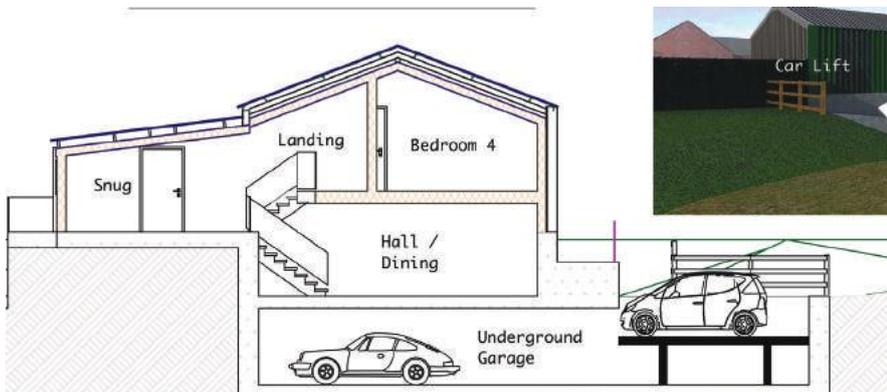
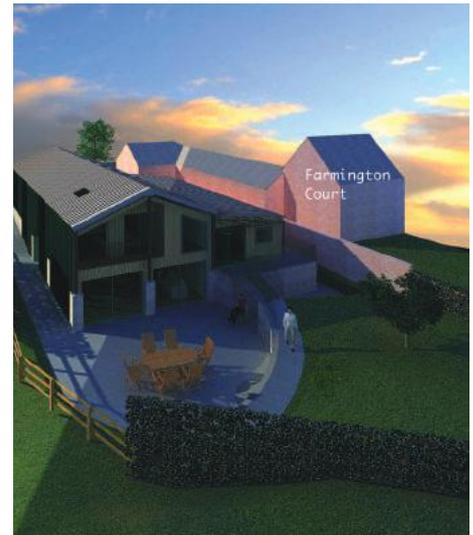
**This was a most difficult prospect in planning terms**

Upon assessing the existing structure however, it was clearly apparent that due to height restrictions it was only

possible to create a dwelling on one level (a bungalow) and that this could only yield a two bedroom property due to the restricted amount of floor space available.

Since the family had lived in the adjoining barn for a number of years and built their working and social lives around the location, they wanted to look at the possibility of replacing the barn with a new dwelling. I explained to them that this was very difficult as you basically cannot knock down barn conversions and then build new houses in their place, which in effect is what they were asking to do.

Since the modern steel frame barn did not even have any permission for conversion, and nor was it an existing dwelling that could be knocked down and replaced, this was a most difficult prospect in planning terms.



Nonetheless I started the project by successfully applying for a Class MB (part A only) approval that simply dealt with the principle of a dwelling and not the physical possibility of converting the barn to a dwelling, this I considered would at least establish the possibility of a dwelling being in this location.

Next we looked at how we could go about designing a house that adhered to the principle of converting the existing barn whilst providing the accommodation and access that the family required.

Considering the enormity of what we would be asking, I decided that the best approach would be to go down into the ground to gain the extra height needed to provide the level of accommodation required and decided that sticking to the same height and dimensions of the existing barn was our best hope for approval.

In particular, making the new dwelling appear as the existing barn from the roadside would minimise the building's impact on the surrounding countryside.

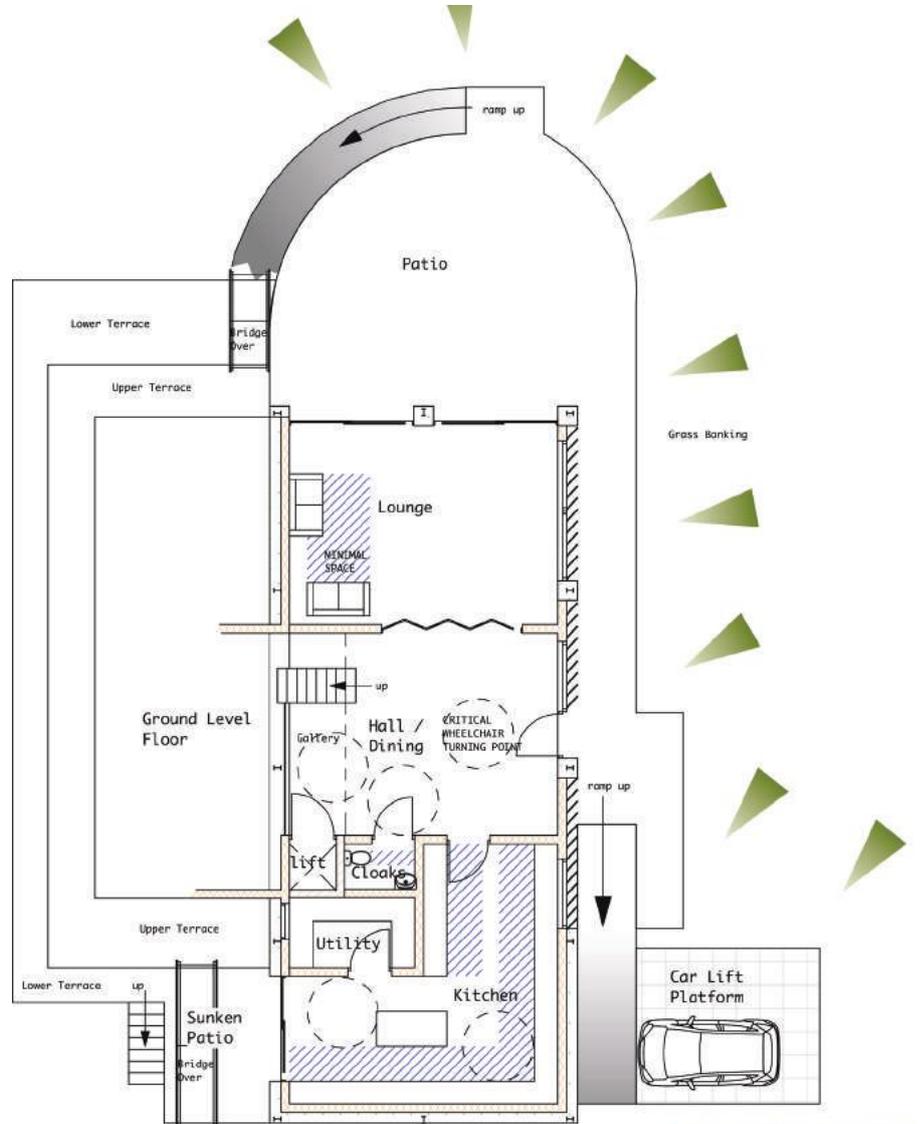
Also given the rural location and requirement for full disabled accessibility a car lift was incorporated to conceal motor vehicles but also allow users to drive into the house, park and then access all floors via an internal personal lift. Similarly the surrounding ground levels and landscaping provides full unrestricted access in and around the building despite the varying levels and excavation.

Given the complexity of the application we engaged a planning consultant

to prepare and submit the planning application, however just prior to my producing designs the consultant backed out from the project, leaving us with no representation for the application. As the client had already paid me for my design services and we were in effect ready to go to planning I offered to prepare and submit the application for no extra fee, as having come thus far with the project I wanted to see it through. I subsequently prepared all of the supporting planning statements and the application and also liaised with the planning department and committee.

Due to aspects of the proposal being contrary to the National Planning Policy Framework (NPPF) but more crucially to Stratford District Council's Core Strategy (that had been formally adopted three weeks prior to the proposal) the planning officer was unable to support the application on the grounds of sustainability, despite them being most complimentary about the design in more general terms.

We did however engage with the local ward member and parish council who supported the application and triggered it. We ended up having two trips to the committee. The first time the decision was deferred so that we could make changes to the access arrangement (that some members were unhappy with). The second committee meeting in November 2016 was an intense affair; councillors adjourned to discuss whether they could go against the planning officer's recommendation and grant approval. In the end the vote was three in favour, two abstentions and one objections, and so it was a close decision.



# Reporting from the front

The 2016 Venice Biennale explored 'architectural battles'.  
By **Isabelle Morgan**, Administrative Coordinator.

At the end of November, the 15th International Architecture Exhibition, otherwise known as the Venice Biennale, closed after six months occupying the *Giardini* (Gardens) and *Arsenale* (a former shipyard and armoury) and a number of other sites across the city of Venice. Curated by Chilean Architect Alejandro Aravena, also Principal Director of Santiago-based firm Elemental, the exhibition 'Reporting From the Front' showcased battles in architecture which had been fought and won. With a focus on improving living conditions, the social usefulness of architecture and technology was central to the show.

Aravena's intention was to present the success stories, however, in my opinion the theme with its militarist connotations construed a self-congratulatory tone with the majority of the challenges presented as having been 'won' with little discussion of the complex issues at stake. Instead, I found the main highlights were practices and ways of thinking that side-stepped a design and technocratic focus and rather made explicit the complexities inherent in mediating between clients, community groups, environments, governments and other stakeholders.

The exhibition has a national model, where different countries have their own pavilions and contribute exhibitions, as well as two sections curated by Aravena himself. The Irish contribution 'Losing Yourself' by Niall McLaughlin and Yeoryia Manolopoulou was an eloquent sculptural installation telling the successes and failures (but mostly the failures) in designing a centre for people suffering from dementia. Made from tripods with projectors facing downwards, a large floor plan was projected onto the ground. This never appeared fully comprehensible but was distorted and vague. Images and sketches overlapped and muffled voice and sound recordings from the dementia centre contributed to the feeling of disorientation. There was a strong sense of the difficulty of physical and mental navigation when living with dementia and the installation asked how architecture might respond.

The German exhibition 'Making Heimat. Germany, Arrival Country' probed architecture's role in the current refugee crisis. The curatorial team led by Berlin practice Something Fantastic managed to remove over 48 tonnes of bricks from four walls of the pavilion building. Not an easy task, since the building is a solid and heritage listed stronghold. Originally designed by an Italian architect, it was revamped under Nazi rule in 1939 by Ernst Haiger. The four wall openings made a strong statement on the country's contemporary immigration policy; 'we are open'.

'Fair Building' at the Polish Pavilion drew attention to the often precarious working conditions for builders in Poland with an installation of scaffolding that emulated a building site. Between the scaffolding, short films and sound recordings played with builders speaking about the construction worker as 'one of the most underrepresented participants in architecture'. The installation formed a campaign for better working conditions. Although cheap labour and poor conditions are especially problematic in Poland, similar issues and concerns apply in the UK and elsewhere.

Dealing with the UK housing crisis and in true British tongue-in-cheek humour, 'Home Economics', the British exhibition looked at the home and proposed five different architectural responses to how we might live and work differently in light of current issues. To some extent, these issues were taken seriously, dealing with the housing shortage, market speculation and social and technological changes in everyday life. However, walking through the different rooms, slogans such as 'the home is a factory for new consumers' hinted at the aggressive political and economic agendas beneath the surface. It asked 'what does the "crisis" really mean for architecture and the industry right now as well as for us as citizens?'

Aravena's curated section of the *Arsenale* and Central Pavilion in the gardens were also full of socially conscious and humanitarian examples. The most pertinent being the exhibit by Forensic

Architecture, an interdisciplinary research agency based at Goldsmiths in London. The agency uses architectural techniques and spatial analysis to map situations and landscapes of conflict. Through this work, they have been able to provide evidence for prosecutions to various organisations including the United Nations.

These highlights of the show, rather than being self-congratulatory, honestly illuminated those issues which are inherent to architecture but which are so often left out of the story.



The Irish pavilion (above) examined disorientation caused by dementia, while the British exhibition (top) took a wry look at the UK's housing shortage.

# Sustainability and Architectural Technology

**Kevin Crawford MCIAT**, Chartered Architectural Technologist and Vice President Technical looks at what sustainability really means and examines the Redefining Sustainability campaign.

While more than two thirds of professionals in the built environment identify sustainability as the industry topic of greatest interest to them, the actual meaning of the term is constantly developing. Sustainable development has evolved significantly over the years – today, sustainability in the built environment is no longer associated with just construction. It touches upon every part of the process of bringing an architectural project to life, and with good reason. Decisions made at the design and detailed design stage are pivotal in determining the sustainability of projects.

With a focus on establishing a business case for sustainable construction, Ecobuild, the exhibition and conference for construction, design and energy in the built environment has launched its Redefining Sustainability campaign to drive discussion about what sustainability means now, and in the future.

The conversations around Ecobuild 2017 are key to the future of sustainability across the built environment. After all, to make building a truly sustainable process, we need to step back and take a collaborative view on the matter, engaging in a period of dialogue and understanding, before we steam ahead with a wide range of projects.

At CIAT, we define sustainable development as 'seeking to meet the needs of the present and aspirations for the future without compromising the ability of future generations to meet their needs.' We believe that this definition should be applied to all projects, including new build, conversion, adaptation, restoration, management or maintenance.

The last decade has seen a major shift in the construction sector. Despite benefitting from global business opportunities, the UK has had to adapt its approach at home, ensuring that projects are planned, developed and executed as efficiently as possible. The consequence? The way we build is changing. Developers are exploring new ways of managing projects – from innovative procurement practices to different ways of manufacturing (such as offsite), they are constantly experimenting to build cost-effectively.

As such, we recognise that sustainability is a key consideration in not only how a project is built, but also how it is ultimately managed in the long run. Regardless of its size or location, any construction project or development will have a lasting



**07-09 MARCH 2017**  
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impact on individuals, society and the natural environment. Therefore, achieving sustainable development is essential to drive growth and innovation, while minimising the potential negative impact of construction.

However, maintaining a balance between maximising social and economic benefits and minimising environmental costs is critical. From an architectural technology perspective, there are a number of considerations that we should be taking into account when assessing the viability of any project:

#### Evaluating materials and processes

When specifying materials and processes, we must ensure that they have the lowest environmental impact possible, from cradle-to-cradle.

#### Keeping abreast of sector developments

Staying up-to-date on the latest developments in the sustainability sector is key to ensuring that we explore a variety of options that allow us to design and build sustainably.

#### Designing sustainably

Creating designs that minimise the harmful effects of construction is another way in which we strive to achieve sustainability across projects.

#### Effectively managing the site

Making efficient use of the existing site landscaping and planting can significantly minimise energy use, while maximising the advantages of the site. It is also useful to analyse the environmental conditions that exist on the site and consider if (and how) they can be exploited to minimise energy use.

#### Leaving a legacy

Starting on the right foot is important, but it is equally important to consider the future of the final project. We must take into account the future disassembly of the constructed works, focusing on the ease of recycling and recovery of materials for future use on multiple sites. In addition, we should ensure that ultimately, a safe and comfortable internal environment has been delivered. Sustainability is undoubtedly a driver of innovation and growth.

Ecobuild 2017 gives the industry a platform to explore and discuss the broadening definition of the term – what it means today, and in the future. This is an opportunity to discuss the evolution of the term beyond carbon footprint, waste and renewables, and look at sustainability from a fresh perspective, thinking about its role in healthy, productive communities, infrastructure and economies. For us, this means joining experts from various sectors to discuss how architectural technologists can help plan and build sustainably, and thus playing our part in driving the sustainability agenda forward.

### Pledging commitment to sustainability

To be part of this industry changing discussion, share your views, case studies, learning, challenges or successes, join the debate on social media using #SustainabilityIs. For more information on Ecobuild 2017, visit [www.ecobuild.co.uk](http://www.ecobuild.co.uk).

#### About Ecobuild

Ecobuild is the leading exhibition and conference for construction, design and energy in the built environment, attracting over 33,300 high calibre, senior level decision makers and influencers from architects and developers, to local government and major infrastructure clients. In 2017, the event will return on 7-9 March, with a renewed focus on enabling sustainable construction for 2017 and beyond. With Lead Partner the UK-GBC, Ecobuild 2017 will explore sustainability as a driver to innovation and growth, a catalyst for regeneration and as a way for organisations to do better business.

In the lead up to the event, Ecobuild is driving industry-wide conversation around the ongoing evolution of sustainability. Industry professionals can get involved in the conversation on social media using #SustainabilityIs

**[REDEFINING  
SUSTAINABILITY  
[REGENERATION]**



 @ecobuild\_now #ecobuild  /ecobuildnow

**Ecobuild is evolving with the industry,  
focusing on the issues that matter the most.**

**Register for a free ticket: [www.ecobuild.co.uk](http://www.ecobuild.co.uk)**

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# BIM Basic Training



Lightwriter

A recent survey showed many architectural professionals are unsure of where to start with Building Information Modelling. **Stuart Woodward MCIAT**, Chartered Architectural Technologist and On Construction Energy Assessor, SoloArc, gives some tips for those about to embark on BIM.

Many articles over the past few years have described BIM as being the future, and reporting the many benefits for both the construction teams and the end users.

Well the future is here, and now the Level 2 BIM mandate has come and gone and yet we are left with a vast proportion of the construction industry that may know the BIM acronym and have some sort of knowledge of it through a CPD event etc. Yet we are still left with BIM adoption, on the whole, being very poor, especially outside of London and the South East. The National BIM Report 2016 shows that although 54% of respondents were 'aware and currently using BIM', 42% were 'just aware of BIM' with 4% neither aware nor using.

Let's be clear; I am a complete BIM convert. But why has BIM adoption been somewhat less than enthusiastic?

## Why has BIM adoption been less than enthusiastic?

One of the reasons I believe is down to the sheer amount of information already produced from various different sources in the form of BS, EN, and ISO documents. The *Pillars of BIM* feature in issue 118 of this publication highlighted five key documents to read: all of them refer to other documents, and so the list of documents goes on and on, much like the Approved Documents. You could spend hours reading everything (as I did in the early days of BIM,) and still nothing indicates the very first document on how to start the BIM implementation process. Many may assume it is buying a BIM Authoring tool such as REVIT, or ArchiCAD etc, with which I couldn't disagree more.

Looking at the (mostly small) businesses I work with on BIM implementation, there is a very strong case to remain on BIM Level 1 until they want to either start tendering for public projects or if their client base starts to request projects to be delivered to BIM Level 2.

We must remember that many small practices have a close network of consultants who may not be ready on any BIM Level whatsoever, and who do not have any inclination to change to this process. What are these businesses supposed to do in this case? Are they obliged to start using structural engineers or M&E consultants who operate on a different level, and in doing so lose a valuable close working relationship that may have been in place for many years? All for a process that may not have any benefit on smaller projects where design teams are very small, where each knows how the other works and what

their roles and responsibilities are with the design process.

Also, a great number of businesses may not admit it – but their CAD standards are not to the current British Standards or the widely recognised UK (AEC) CAD Standards documents. Many will not even have an internal CAD standards manual to ensure consistent standards are met across the in-house design team, which means they are somewhere in between 'BIM Level Zero' and BIM Level 1 at best.

It's also possible that the potential additional roles arising from this new process can be enough to put people off implementation. Whilst new roles can be assigned to current staff, it definitely adds to the workload and responsibilities of each team member.

So, where do you start?

From my point of view, and having gone through the 'BIM baptism' you need to start your BIM journey looking at the following documents published by the AEC (UK) CAD standards Initiative:

- AEC (UK) CAD standard for model file naming.
- AEC (UK) CAD protocol for layer naming.
- AEC (UK) CAD standard for drawing management.

While these are not British Standard documents or included within the BIM maturity diagram, they go into better detail with examples than the current BS 1192:2007+A2:2016 and provided me with greater insight on how to get started.

The AEC (UK) CAD standard for model file naming document ensures that all digital data on a project can be identified quickly without question. So really no more calling a drawing file just by a job number and indicating it is working drawings, eg '3358workingdrawings' or '4836bregs'. From personal experience this will be the hardest to implement as you can be going from basic naming structure to completing up to seven fields. You could argue this is not needed on a small project, but this is really about making sure your standards are consistent across all projects and this will help you if you decide to make the jump to BIM Level 2.

The AEC (UK) protocol for layer naming document ensures your layer naming within your drawing file is consistent to the latest standards. Quite simply, this is making sure your geometry is assigned to the correct layer and has the correct discipline code, Uniclass classification, and a description for any layer you create. At the moment we have to use the letter A for Architect for our discipline. (I wish they would introduce the AT discipline code for our profession. Though the BSEN ISO 13567; Technical Product Documentation- Organisation and Naming of Layers for CAD outlines that there is the capability for 2 characters to be used within this layer, so there is scope.) This will ensure when you are issuing digital data that is clear who has created what. Implementing this is simple, as you can pre-build these layers within any CAD template and start to use them on any new project as soon as possible.

The AEC (UK) standard for drawing management is a really helpful document for any organisation still in the 2D stage. It goes into good detail on how to keep and arrange the digital file, so then anyone inside or outside your organisation will be able to navigate clearly around the drawing file. Anyone who has had to open up someone else's drawing and had no idea which piece of geometry is correct as the file is not arranged to a standard, will certainly appreciate this document being implemented.

This document also covers a good procedure for data exchange if you do not wish to implement a common data environment approach.

## 'A single source of truth'

Once you have read these it's then a process of composing your CAD standards to suit, or updating your current ones. This can sometimes take a long time develop internally with people having their own way of doing things. It's really at this point you will find out who's on board and who's not, which will play a critical factor in the success of your BIM implementation programme.

Now I want you to jump to BS 8451-2:2011. This document refers to 2D modeling standards. Even if you see no benefits to the BIM process or BIM authoring tools there really is no reason why you cannot adopt this document.

The next document to read is BS 1192:2007+A2:2016 which you will be familiar with on many levels from the aforementioned documents. This will introduce the idea of the Common Data Environment or CDE, and Suitability Codes – all of which can and really should be adopted to eliminate all the problems that email processes cause, such as finding the most current set of drawings.

The Building Research Establishment calls the Common Data Environment (CDE) 'A single source of truth', there are some good CDEs on the market. Some are better than others, I personally like Asite as this has a good graphical interface, but they all have their pros and cons.

Building Information Modelling approach is the way forward, but there will always be leftover questions whether you need it, or what projects you implement the process on. But if you take nothing else from this article it will hopefully spur you to review your current CAD procedures.

### **CIAT and BIM: keeping up standards**

*Stuart Woodward MCIAT gives an interesting personal insight into what he has found useful in implementing BIM. It is important to remember however that while members may find AEC documents useful, these are not official British Standards nor are they endorsed by CIAT and its BIM advisors.*

*For more information and guidance on BIM please visit the BIM pages at [www.ciat.org.uk/en/members\\_only/bim/](http://www.ciat.org.uk/en/members_only/bim/)*

*The Institute is also producing a series of films on BIM which will be made available for viewing on the website.*

## Changing churches: a practical guide to the faculty system

By Charles Mynors

The Anglican church controls a vast portfolio of property, and is custodian of some of the most significant historic buildings and areas in the country. A church or cathedral is a rare type of public building in that it can be found in every architectural style from Saxon to modern, while maintaining its original use.

Like every historic building, they rely on constant maintenance and repair, and require constant modification to meet modern compliances of access, safety and security, and modern standards of comfort and convenience while maintaining their mission.

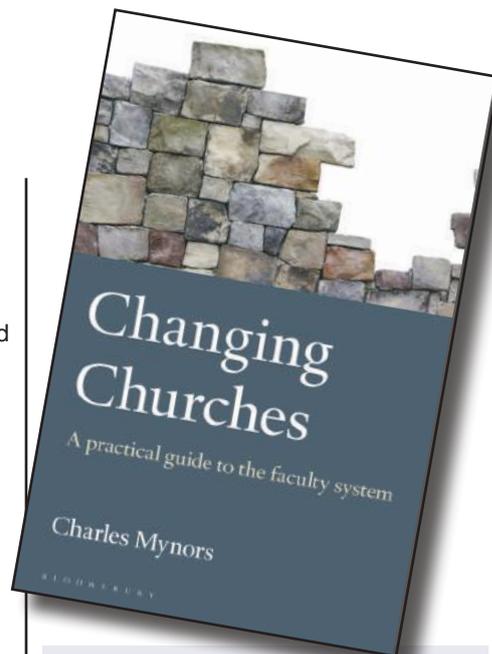
These works require a unique form of statutory compliance known as the Faculty system which runs in parallel, and sometimes separately to the usual planning procedures.

The book describes the major roles and responsibilities involved in the

administration of ecclesiastical property, and discusses the processes involved in repairs and reordering of religious buildings. The Faculty application procedure rules have recently changed and this book describes the changes, and contains a number of flow charts to aid understanding of the process.

Dr Mynors has been Chancellor of the Diocese of Worcester for the last 17 years, and is a churchwarden at his own church. It is an excellent accompaniment to his previous work on Listed Buildings, Conservation Areas and Historic Monuments, and is similarly referenced with additional publications and legal precedents to illustrate his text.

This work should form an essential part of the toolkit for any professional working within the ecclesiastical sector and wishing to gain a greater understanding of the procedures and processes involved with all levels of refurbishment, from repairs to full-scale re-ordering.

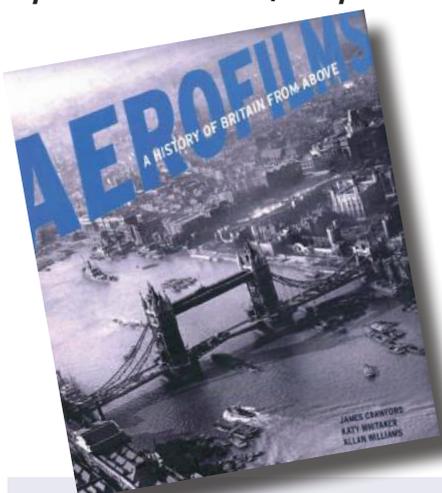


**Bloomsbury Publishing June 2016**  
**PB 420 pages**  
**ISBN 978-1-4411-5643-3**  
**420 pages. £36.99**

*Review by Paul Travis MCIAT,  
 Chartered Architectural Technologist  
 and Accredited Conservationist.*

## Aerofilms: a history of Britain from above

By James Crawford, Katy Whitaker and Allan Williams



**English Heritage, February 2014.**  
**HB 224pp**  
**ISBN 1848022484/978-1848022485**  
**£19.99**

*Review by Silvia Faggion, CIAT  
 Central Office Receptionist*

In an age of instant satellite photography and Google Earth, aerial photography may seem a little mundane to us, but its invention had a huge impact on building design and town planning.

This book tells the story of Aerofilms, the UK's first commercial aerial photography company founded in 1919.

The company was founded by Claude Grahame-White, a British pioneer of aviation who was famous for landing his small biplane right next to White House and who was also the first pilot to conduct a night flight in 1910. Co-founder Francis Lewis Wills was a trained architect and a Royal Naval Air Service veteran who became a Probationary Observer Officer in the RNAS, a rather dangerous role in the Great War. His duties were to support the pilots, act as a navigator, a spotter, a checker, a radio operator, a gunner and a photographer.

This wonderfully written book starts with a broad insight into the world of early aviation. It tells the history of Aerofilms in an interesting and exciting way, illustrated by some rare and previously unseen photographs of Britain from above.

The photographs in this book cover the years from 1919 to 1953 and capture breathtaking images of architecture, natural wonders of Britain and shocking photos of wartime devastation. Every photo is described in detail. The authors demonstrate how aerial photography evolved into a fully grown discipline and explain how Aerofilms played a crucial role in developing this new tool for town planning and major infrastructure projects.

It will be of interest to aviation and photography devotees and to architectural professionals and surveyors.

Have you designed or worked on  
an outstanding project?



Architectural Technology Awards 2017  
are now open for entries

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Visit [ciat.org.uk/en/awards](http://ciat.org.uk/en/awards)  
to submit your entry by 20 April 2017

# The Future's Got Talent

## End of year AT shows – a retrospective.

CIAT's Accredited Architectural Technology Honours degree programme leaders' report on their 2016 End of Year Shows, revealing a wealth of talent and an inspiring new generation of AT professionals.

### Coventry University

Our Accredited Architectural Technology programme held its first distinct End of Year Show in June. The show drew attention from local and national businesses and industry leaders and also provided the opportunity to recognise its students with awards from professional and trade bodies. Sean Knight ACIAT received the Outstanding Student Award and was shortlisted for the Student Award for Excellence in Architectural Technology (Report) while student member Luke Mockford received a CIOB Student Award. Student member Piotr Beluga received a Timber Research and Development Association (TRADA) Arboreal Competition Award (Highly Commended).

*Carl Mills MCIAT, programme leader.*



Guests view examples of work from the programme.



Students on the Architectural Technology programme.

## Institute of Technology, Carlow

At his address at the end of year exhibition in April, Brian McQuaid, Head of the School of Engineering, spoke of the increasing opportunities for AT graduates, both abroad and at home with the recovery in the Irish construction industry. He also referred to the publishing of the QQI Awards Standards for Architectural Technology, which represent an important step towards registration for Architectural Technologists in the Republic of Ireland. He commented on the exceptionally high standard of Revit software proficiency and BIM readiness achieved by the students.

A wide range of work was displayed, including hand sketching and drafting, AutoCAD isometrics and extensive BIM models also attracted particular attention from visitors.

The construction industry in Ireland is recovering and the demand for IT Carlow Architectural Technology graduates



is accelerating. With their strong combination of problem-solving skills, technical know-how and BIM expertise, graduates are finding a wide range of employment opportunities. Additionally, the professional accreditation of the

programme by both CIAT and the RIAI acknowledges a standard of excellence that is highly portable for those wishing to work abroad.

*Dan O'Sullivan RIAI RIBA, programme leader.*



## Leeds Beckett University

In September 2016 Leeds Beckett Architectural Technology students celebrated a year of hard work at their End of Year Degree Show. Highlights included the undergraduate programme receiving its re-Accreditation at the beginning of the week following a visit from the Accreditation Panel.

The show included the presentation of the Award for Outstanding Graduating Student to Ben Woodhead by Regional Chairman Jonathan Legge MCIAT.

James Carr ACIAT was awarded the Hays Construction and Property Prize for 'best architectural detailing portfolio.'



Ben Woodhead receives the Outstanding Graduating Student Award.

Student member Gary Spinks was awarded the Stephen George and

Partners Best Final Year Project Award by Geoff Ward, Leeds Partner and

Director of leading architectural practice SGP International.



Examining work displays at London South Bank University.

Design projects on show included a large scale, single storey SENS (Special Educational Needs) building. Students were required to demonstrate their understanding of the relationship between buildings and people, and their ability to apply principles from law and regulations, construction technology and all the disciplines across the curriculum to a design problem.

*Tahira Hamid MCIAT, programme leader.*

## London South Bank University

London South Bank University's BSc (Hons) Architectural Technology End of Year Show was held on 13 May 2016. The university was honoured to have Niall Healy MCIAT from Healy Cornelius Design Consultancy, who is also the Greater London Regional Chairman, as external Guest Judge for the critique.

Students were 'pushed to the boundary' to justify their design, technical, sustainability and inclusive design strategy in their work.

It is amazing how much was achieved in the year. It was very well attended by students and staff from all different disciplines within London South Bank University as well.

I am so proud of all the hard work that they put in. Congratulations to those who participated!

*Jennifer Hardi MCIAT, programme leader.*





Models at Southampton Solent University

### Southampton Solent University

Southampton Solent University Architectural Technology staff and students put an impressive show in June to celebrate the end of the academic year with the new state of the art building, The Spark, providing a spectacular backdrop. The centrepiece of the show was design work for a live project provided by Bright Space Architects of a new head office, workshop and showroom for Delichon wheelchair manufacturers. As well as providing an energy efficient BREEAM compliant building, the scheme was fully accessible to the mobility impaired.

Among the 1000 or so attending the opening night were Alex Naraian MCIAT, South East Regional Councillor (and now President Elect), Paul Laycock MCIAT, Vice-President Education, Pauline Traetto, Director of Building Research Establishment (BRE) Academy, Vanessa Brady OBE, President of the Society of British and International Design (SBID) and Ian Pratt, Director at Scott Browning

and architect of The Spark. Student member Jacob Dobson was this year's recipient of the Award for Outstanding Graduating Student and others received prizes from the South East Region, CIOB, BRE and other organisations.

*Sarah Radif MCIAT, head of Architecture and Design Practice.*

### Ulster University

The end of year show held in June reflected the ethos of the Architectural Technology and Management programme at Ulster, with a strong focus on innovation, technical design and detailing, collaborative working and employer engagement. The programme has a strong association with the Northern Ireland Region and local industry, and this was evident at the event with a large turnout from those quarters.

Special guests on the evening included Vice-President Practice and Ulster alumnus

Eddie Weir MCIAT and Vice-President Education, Paul Laycock MCIAT. The graduating cohort demonstrated their ability to use the latest BIM technology and authoring tools to produce schemes which not only demonstrated their technical competencies, but also an ability to produce highly innovative designs from initial concept development through to the technical design stage. Event sponsors Kerakoll were also in attendance and provided a CPD presentation.

The ongoing success of the programme at Ulster is evidenced by the high demand for graduates, with two members of the 2015/16 cohort playing a key role in the success of the 'BIM Fusion' team from Graham Construction, winning an award at Build Earth Live Competition in Dubai. The team were among six finalists shortlisted from a pool of 250 entries, from 29 countries.

*David Comiskey MCIAT, programme leader.*



Design concept by Ulster student Chris Millar.



Students at Southampton Solent with Alex Naraian MCIAT (seventh from left).

Karl Robinson receives the North West Region Award for Best Technical Design.



## University of Bolton

The Creative Degree Show was launched on 9 June. The Architectural Technology exhibition was sponsored by local contractors, the Artez Group, who provided scaffolding installation for presentation of work.

As a tradition on the opening evening, distinguished guests included members

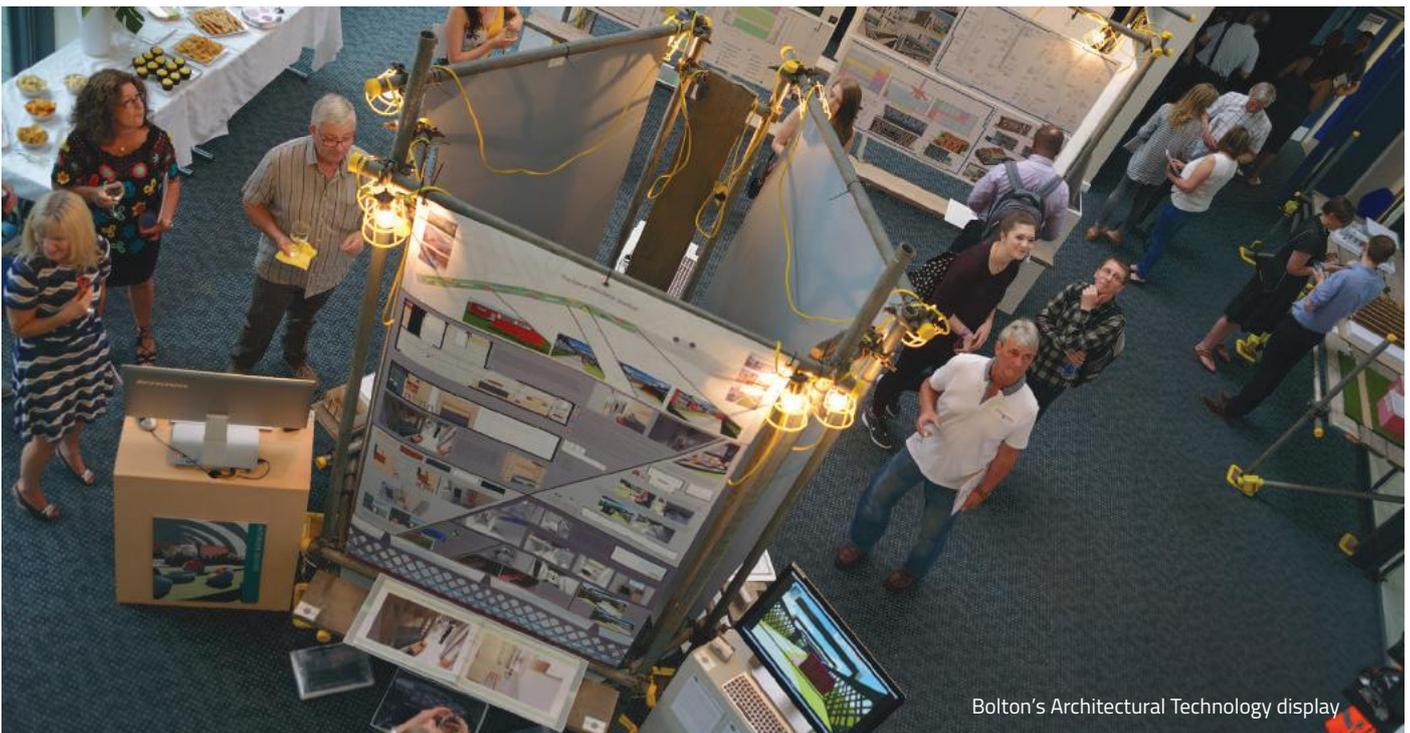
of the North West Region Committee, the university's Industrial Advisory Board members and other industry representatives. The Regional Committee presented an Award for Best Technical Design to Karl Robinson. Best Design Awards were presented to student members James Jones and Chris Littlemore.

Second year degree students also attended the event. Student member

James Kerry was awarded a week placement at a local practice, ADM Design. James is now a part time member of the practice.

The Highest Graduating Architectural Technologist Award was presented to student member Samuel Wilson later in July at his graduation.

*Nooshin Akrami MCIAT, programme leader.*



Bolton's Architectural Technology display

## University of Huddersfield

Outstanding Architectural Technology work was unveiled at the launch of the Huddersfield Show on 10 June. Projects were presented on screen with a medley of the best work projected on walls in the CAD Suite in the Queen Street Studios. This was based on a deliberate decision not to generate too much flat-work.

Prize winners included student member Tevin Nyansimera who received the Outstanding Graduating Student Award.

The final year schemes were based on a live project envisaging a new engineering complex on a site adjacent to the university campus, and a new building for the School of Art Design and Architecture entitled 'A New Home For Us'. This was a particularly exciting project as the work of the students will be made available to the Estates Department for a brand new building with a total cost of approximately £28m.

The show coincided with the exciting news that the programme will be re-launched for the start of the 2017 academic year.

*Charles Hippisley-Cox MCIAT, programme leader.*

## University of the West of England

The first two projects of the 2016 graduating studio examined the architectural potential of exhibition pods using engineered timber and structural steel. These projects explored how the logic of these structural systems inform a particular architectural aesthetic. They required a high level of detail resolution to generate the legible and functional structures that the industry requires.

The 2015 /16 graduate studio's major project was to design a new façade for a 1960s vintage office building located in Clifton, Bristol. The project brief required students to redesign the external skin of an existing office structure to accommodate a change of use into a new vibrant multifunctional building.

A key element for this design investigation was to understand the power of using the physical model in combination with digital modelling / drawing and hand drawing techniques to

aid the development and understanding of initial concepts as they are proposed.

Highlights of the graduate show included the work of student members Adam Baker, Jennifer Broad, Charlie Self, Liam Leonard, Lauren Dunphy and Kyle Metcalfe.

*Dean Bieganeck ACIAT and Andrew Bourne RIBA, programme leaders.*

## University of Wolverhampton

Teaming up with Madeley Town Council, students in their final year of studying for Interior Architecture and Property Development and Architectural Design Technology worked on a real life client project for their Major Project Design and Exhibition Module as part of their degree. The project involved the restoration of former working mens' club Anstice Memorial Hall.

Students collaborated on this real life project to create scale models using a combination of traditional model making

techniques, 2D laser cutting and etching and 3D printing. Other utilised their BIM (Building Information Modelling) files to create virtual reality environments allowing the clients to navigate through their proposed designs. As part of their viva process they also produced project display presentation boards to present to council members, which was great hands-on experience for them.

Colin Orr PPCIAT MCIAT, Head of Department at the School of Architecture and Built Environment said the show '...continues to showcase the commitment and engagement of the community, employers and of course the students studying on our CIAT Accredited programmes to the discipline of Architectural Technology in today's society within the Black Country.'

The CIAT Award for Outstanding Graduating Student went to Alison Grice and Samuel Lewis. The West Midlands Region Prize went to student members Anna Karantanis and Samson Oakley.

Alison Grice receives her certificate for Highest Performing Student from Colin Orr PPCIAT MCIAT.



# 2016 AGM and President's Ball

Members and guests gathered in Southampton to celebrate the Institute's year and to announce and present the CIAT Awards for 2016. By Adam Endacott, Media & PR Director



Left: place settings at the Ball. Top right: members at the AGM. Bottom right: The Mayor of Southampton meets members on Friday night.

The 2016 AGM and President's Ball took place in Southampton, for the first time in the Institute's history, with the South East Region hosting the weekend's events.

The Friday night social evening, attended by the Mayor of Southampton, was organised by the Region at the Grand Harbour Hotel which included a quiz, photo booth and auction. The chosen charity for the evening was Youth and Families Matter. £6113.01 was raised, with the evening strongly supported by numerous sponsors.

The Institute's 2016 AGM, held on 12 November, included the unanimous approval of the accounts as well as the authorisation to Council to reappoint the auditors. There were no Resolutions. The President outlined the work for 2017 which will see a number of opportunities and challenges both in the Institute and the wider industry:

- The Awards presentation and President's Ball will be two separate events in separate locations. This is due to the growing profile and popularity of the Awards across the industry and will showcase the Institute to a wider audience.

- Staff numbers at Central Office are increasing and a review of office space is underway
- The continued evolution of the aspirATion groups and implementation of their objectives for the future succession planning of the Institute
- 2017 will see the triggering of Article 50 which will start the Brexit negotiations, we will continue to monitor the situation closely and ensure members receive the best possible information on issues relating to our discipline as EU institutions are renegotiated.

The AGM was held at The Spark, Southampton Solent University, a brand new state of the art facility. Delegates explored the site before the AGM and listened to a presentation by Ian Pratt of Scott Brownrigg, project architect, on its concept and construction.

Following the AGM a Region and Centre Forum took place, which gave the opportunity for Regions and Centres to make presentations covering topical activities, affairs and performance linked to the four principal aims and objectives

in the Strategic and Corporate Plans 2013 – 2018. This was a very successful and productive new venture. Discussions from the Forum will be fed back into the Institute for consideration, with research into costings and viability.

The President's Ball was held in the evening at the Grand Harbour Hotel. Following the drinks reception, guests were welcomed to dinner by Rob Thomas MCIAT, South East Regional Chairman and Councillor Sue Blatchford from Southampton City Council. The Awards were announced and presented for Gold Award, Accreditation certificates, Student Awards for Excellence in Architectural Technology (Project and Report), the Alan King Award and the Award for Excellence in Architectural Technology (please see the enclosed Awards special for full details and opposite for the Gold Award).

Dancing to Madison Heights rounded off another great year for CIAT and we look forward to bringing you information on the 2017 events as soon as it becomes available.

If you have not received your Awards brochure with this issue please call 020 7278 2206 or email [info@ciat.org.uk](mailto:info@ciat.org.uk)

# Gold Awards 2016

## Celebrating outstanding Members

The Gold Awards 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 should be reserved for people:

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

Three Members received this Award in 2016 at the President's Ball. Excerpts from their citations are shown below.

### Graham Bruce MCIAT



#### For dedicated service to the Institute and Scotland East Region

Graham has been Regional Chairman (twice), Treasurer and Technical Officer, together with Regional Councillor (2005-11) and Professional Interview Assessor. All of these posts he has given his full dedication and service to the Institute at both Regional and national level. He has been notable in his efforts to maintain and encourage a Regional Committee during difficult times when membership interest was low.

Graham has been a member since 1981 and has been an active member of Region 14 having held positions of Chairman, Technical Officer and Treasurer. Graham is currently in his second period as Chairman and was a visible and guiding presence during the AGM weekend in Edinburgh in 2015.

### Paul Greenwood MCIAT

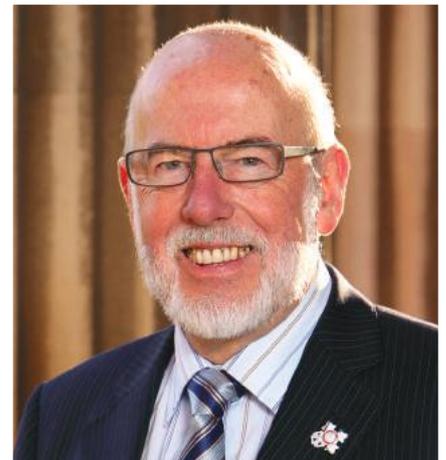


#### For dedicated service to the Institute

During his 40 years with the Institute, Paul has spent a considerable amount of time involved in the Institute's running where his enthusiasm, professional knowledge and commitment to the discipline of Architectural Technology has been exemplary.

At Regional and national level, he is always available whenever his services are required to promote this Institute and work in maintaining its standing among other professionals. He has spent many years serving on the North West's Regional Committee, Council, Conduct Committee and Executive Board. Paul continues to represent the Institute's Practice Department and Special Issues Taskforce on the CIC Liability Taskforce. Paul also writes articles and contributes on matters relating to revised legislation and conduct matters.

### Robert Kay MBE PPBIAT MCIAT



#### For dedicated service to the Institute and the Northern Ireland Region

Robert Kay joined our Institute on 1 May 1968. He has been an inspirational member and role model of CIAT and the Northern Ireland Regional Committee for more than 40 years. He has served our Institute with impeccable integrity and adoration and held the highest honour of President from 1990-92.

The consequences of Bob's devoted efforts have resulted in that he has enhanced CIAT's presence and recognition throughout the province and within the construction industry. Bob's contribution to his Institute has been relentless in which he served an incredible 27 years on Council. He is a true and selfless advocate for CIAT and thoroughly deserves to be a recipient of this Gold Award.

## CIAT Centres of Excellence delivering construction innovation

Two of CIAT's Centres of Excellence in Architectural Technology based at Robert Gordon University (RGU) led by Professor Richard Laing, and Edinburgh Napier University (Napier), led by Professor Sean Smith, are leading in the delivery of major new innovation projects with the Construction Scotland Innovation Centre.

Recognising that there was huge potential to further develop and support innovation across a range of Scottish industries, a programme of Scottish Innovation Centres was launched in 2014 by the Scottish Government. These have initially covered eight thematic areas, including Digital Health, Biotechnology, Oil and Gas and Aquaculture, with the Construction Scotland Innovation Centre (CSIC) among the largest and most widely embracing of the education sector.

The CSIC partnership includes 13 Scottish universities, two Scottish Enterprise bodies, Construction Scotland, and carries £7.5 million of initial investment from the Scottish Funding Council.

Both Napier and RGU experts are supporting research and innovation for a range of key sector areas including, new offsite construction systems, low carbon buildings, energy performance and innovative products and processes.

A central aim of the CSIC is to better connect industry with research and innovation in universities, to deliver transformational change. It aims to support the production of better products, improved processes and productivity, help industry to access new markets, and instigate a 'culture of innovation' throughout the industry.

As the Architectural Technology discipline continues to evolve with changing design processes, new technical solutions and innovative technologies such collaborations will be strategic in supporting growth and sustainable development. CIAT Centre of Excellence status is achieved by



Facilities are being built at Hamilton Business Park

educational establishments that not only run an Accredited Honours as well as Masters degree programmes but have demonstrated a robust research culture.

Both RGU and Napier will also be able to partner with CSIC industry clients in the future test and development facilities currently being built at the Hamilton Business Park.

'We're setting up a home for industry to explore new technology that either doesn't exist in the construction space or hasn't been mainstreamed yet,' said Stephen Good, the Chief Executive of CSIC.

Being a part of such collaborative ventures places both universities in a unique position whereby industry is applying cutting edge technology into its processes, and where relevant, students are benefitting from this being introduced in their sessions.

Inside the new facility, due to open later this year, will be new high-tech devices which represent that view of what the future may hold – advanced modelling and simulation tools, automated manufacturing and robotics, augmented and Virtual Reality equipment, 3D printers and sophisticated sensor technology. Drone technology will also be part of the mix, with aerial cameras increasingly used for difficult (and sometimes dangerous) jobs such as surveying and facilities management; for example, Historic Environment Scotland uses drones to inspect its buildings for damage, rather than using scaffolding

or other more costly methods. This work connects directly with work in the partner universities, many of whom have expertise in studying the effects of emerging technology on user-interaction, teamworking, productivity and technical design; further strengthening the intergral link educational establishments have in advancing disciplines such as Architectural Technology.

Likewise, some of the exciting initial products supported by CSIC have considered the effects of innovative insulation materials on the environmental performance of older traditional buildings, which collectively represent a huge challenge to the carbon and energy targets in Scotland, the UK, Europe and beyond. Being able to connect industry (social landlords and materials suppliers) with universities (technologists and building physicists) has brought new opportunities to develop projects which have real economic, academic and social value.

The Innovation Centre model offers an opportunity for academic research and industry collaboration, to develop those techniques and skills, and ensure that they become embedded in an industry which is innovative and world leading. Indeed, it represents collaboration through which the partner universities are able to foster a strong research culture, and strong connections between academia, industry and public bodies.

*For more information visit [www.cs-ic.org](http://www.cs-ic.org)*

## Corrections

### Anthony Lodge PCSAAT MCIAT

We regret that in the 2015/2016 Annual Review (page 9) Anthony G Lodge PCSAAT

MCIAT was omitted from the list of Gold Award winners due to an oversight. Mr Lodge, a Founding Member and Past Chairman, was given his Award in 2015 for dedicated service to the Institute. We sincerely apologise for this error.

### Foster and Partners

In AT issue 119 in the feature 'CIAT in the UAE' we would like to make it clear that the design for Brookfield Place tower was by Foster and Partners with BSBG as Executive Architects.



## Mine of talent

AT students help transform former colliery

The design of a new £1.2 million visitor centre being built at Gedling Country Park in Nottinghamshire – the home of a former colliery – has been inspired by Architectural Technology students at Nottingham Trent University.

The second year Architectural Technology students from the School of Architecture, Design and the Built Environment – were given a comprehensive brief, issued by Melvin Cryer from Gedling Borough Council and the Friends of Gedling Country Park Group with whom they collaborated closely. They considered the requirements of different functional uses, such as low carbon design, relativity

to the park's heritage and history and budgetary constraints. Vince Conway MCIAT, Senior Lecturer for BSc (Hons) Architectural Technology, said: 'Working with local clients on a real scheme is an invaluable learning experience for the students. Many of the lecturing staff maintained a good relationship with the local authorities from our own time in practice and it is great that this relationship now brings opportunities for student to work on projects, some of those students will work with local authorities in the future.'

Work is expected to be completed in March 2017.

## BIM roadshows for 2017

A series of roadshows around the UK and Ireland have begun that will lift the lid on digital technologies in the construction sector, and the relevance of BIM to our everyday lives, according to the Chartered Institution of Building Services Engineers (CIBSE).

The roadshows, which started in Glasgow on 24 November, focus on the practical ways that BIM can be applied by each stakeholder in the construction process to work smarter and use digital assets more effectively, rather than the theory and technology behind BIM.

The all day events take delegates through the process from start to finish, focusing on RIBA Stages 0 – 7, and introducing the different software applications, potential issues and opportunities that users will encounter during design and construction.

The roadshows have a particular focus on the journeys that each stakeholder involved will make while using BIM on a project, and what each stakeholder typically requires from BIM. This will both help all parties to understand how their peers are using BIM, and help them understand what other professionals involved in construction require from BIM.

Many presentations and seminars over recent years have focussed on the processes and forms of information exchange, but rarely looked at how they can be applied, especially for the bulk of the sector, that work on typical construction projects.

The CIBSE BIM Roadshows will take place over the course of 2016 and 2017, visiting various locations across the UK and Republic of Ireland. Tickets are priced at £285 + VAT. To find out more visit [www.cibse.org/](http://www.cibse.org/)

## President judges WICE

CIAT is supporting the 2017 European Women in Construction and Engineering (WICE) Awards. Women represent only 11% of the construction workforce in the UK. The Awards aim to make the industry more enticing to women. President Elect Alex Naraian MCIAT is a judge and prizes will be presented by Chief Executive Francesca Berriman MBE HonDTech. For more information visit: [www.wiceawards.com](http://www.wiceawards.com)

## Accredited programmes

At the President's Ball held in Southampton in November the Institute was pleased to announce that the following establishments have been awarded Certificates of Accreditation:

- **De Montfort University**  
BSc (Hons) Architectural Technology
- **University of East London**  
BSc (Hons) Architectural Design Technology

The following have received their Accreditation Review, which renews their Accredited status for a further five years:

- **Cardiff Metropolitan University**  
BSc (Hons) Architectural Design and Technology
- **Leeds Beckett University**  
BSc (Hons) Architectural Technology
- **Liverpool John Moores University**  
BSc (Hons) Architectural Technology

Accreditation demonstrates that a qualification meets the CIAT criteria and QAA Subject Benchmark Statement for Architectural Technology and must be approved by the Institute's Education Board.

## aspirATion London is here!

The Greater London aspirATion group (aspirATion GRL) for students and recent graduates was launched at a successful guest lecture evening in November.

The purpose behind the initiative and event was to create an initial platform for communication, to form a conduit of contact between aspirATion (aspiring future AT professionals) and the Institute.

aspirATion GRL is looking to expand and build on this first event, namely with a follow up guest lecture evening in the series. With a committee of limited numbers, the group is looking for aspiring members who want to be involved and to take on responsibilities and roles within aspirATion and the wider AT community.

If you are a student member, an Associate member or profile candidate of less than five years, or Chartered Member or Technician member of less than three years with drive and passion, then please get in touch with the Chairman, Joshua Slingsby ACIAT. Email: [greaterlondon@ciat-aspiration.org.uk](mailto:greaterlondon@ciat-aspiration.org.uk)

## New members and re-entry

We are delighted to welcome the following as Chartered Members

022740 Joseph Misset	02 Yorkshire	016647 Duncan Bayley	10 South East
027526 Darren Ormshaw	02 Yorkshire	019540 David Williams	10 South East
031206 Jan Christian Halligan	02 Yorkshire	020273 Gavin Mustion	10 South East
010202 David Cooke	03 North West	031374 Graham Ash	10 South East
030321 Adam O'Rourke	04 East Midlands	031395 Stephen Denyer	10 South East
022388 Robert Barrie	04 East Midlands	021429 Thomas Bourgaize	11 Channel Is
019650 Bradley Davison	04 East Midlands	015607 Daniel King	12 Western
030276 Michael Gilbert	04 East Midlands	030400 Darryn Marrs	12 Western
018883 Matthew Wai Kit Ngai	05 West Midlands	031375 Anthony Sherriff	12 Western
024292 Drue Steele	06 Wessex	025747 Jacob Handford	12 Western
021196 Seya Tansill	06 Wessex	023272 James Vivian	12 Western
017731 NerysnBotwright	07 East Anglia	018703 David Millar	13 Scotland West
024587 Christopher McCrae	07 East Anglia	027001 Ewan Lyons	13 Scotland West
013136 Duncan Stewart	07 East Anglia	018148 Peter Henry	14 Scotland East
015965 Jonathon Clayton	07 East Anglia	011266 David Casey	14 Scotland East
017759 Lynsey Wadsworth	07 East Anglia	024927 Graeme Hogg	14 Scotland East
031078 Daniel Pickett	08 Central	024947 Andrew McMullan	15 N Ireland
028213 James Engel	08 Central	020533 Mark Williams	16 Wales
028020 Raquel Castro Vicente	09 Gr London	027117 Geraint Lewis	16 Wales
016954 Edmund Taylor	09 Gr London	020876 Irene Hayden	C2 Rep of Ireland
027887 Francisco Cerezuela	09 Gr London	030265 Niall Culleton	C2 Rep of Ireland
030332 Ross Overfield-Collins	09 Gr London	030931 Gareth Ryan	C2 Rep of Ireland
027111 Fiona Kosinski	10 South East	031399 Ellen Nugent	C2 Rep of Ireland
021063 Wendy Miles	10 South East	025094 Christopher Day	C7 Mid E & Africa

**Congratulations to the following who have been readmitted as Chartered Members:**

013812 Mark Bonham	05 West Midlands
021611 Paul Blayney	08 Central

**We regret to announce the death of the following members:**

008686 Lochlinn Walsh	C2 Rep of Ireland
012203 John Owens	C2 Rep of Ireland
002782 Joseph Wohlfarth	C7 Mid E & Africa

Visit your Region/Centre page at [www.ciat.org.uk](http://www.ciat.org.uk) for regular updates



## Region and Centre news and events

### Yorkshire Region (02)

**21 February:** CIAT Insurance Services, administered by MFL Affinity, a division of McParland Finn Ltd, will talk to CIAT's Yorkshire Region about their services. The content will be defined nearer the time, but should cover typical cases, why we need PI, what level of cover, warranties etc together with a Q&A. To book this event, please visit the CIAT Yorkshire Region events web page.

### Greater London Region (09)

**22 February:** Joint CIAT, CABE and Mapei CPD networking event. Members are invited to a joint CPD event with CIAT, CABE and Mapei covering the topics of structural strengthening, sub-floor preparation and including a networking buffet. For more information please visit the events page at [www.ciat.org.uk](http://www.ciat.org.uk)

**7-9 March:** CIAT is supporting Ecobuild, the UK's largest and number one event for specifiers across the built environment. No other UK event attracts 33,319 high calibre, senior level decision

makers and influencers from architects and developers to local government and major infrastructure clients. For more information visit [www.ecobuild.co.uk](http://www.ecobuild.co.uk)

### Republic of Ireland Centre (02)

**Planning:** Members should be aware that the Planning and Development Act 2015 includes an amendment regarding changes to existing Planning Permissions for multi-unit housing developments. In the case of internal revisions to comply with the revised apartment standard guidelines, with no additional material alterations to the external structure, this amendment removes the right of third party appeal to An Bord Pleanála.

**Part V – Social Housing:** The Technical Sub-Committee has made a submission in response to a Public Consultation on proposed revisions to Guidelines on the implementation of Part V of the Planning and Development Act 2000 – Social Housing.

**Building Regulations – Part B – Fire Safety:** The Technical Sub-Committee has made a detailed submission in

response to a Public Consultation on a revised TGD B – Fire Safety – Volume 2 – Dwelling Houses. (TGD B – Fire Safety – Volume 1 – Buildings other than Dwelling Houses has not yet been published for comment).

**Centre Committee:** We are glad to advise that two new members have been co-opted onto the Centre Committee – John Scanlon, MCIAT and Matthew Weir, ACIAT – Acting AspirATion Chair.

The Centre Committee continues to publish a quarterly Newsletter for Irish members.

**Events:** Paul Andrews MCIAT and John Scanlon MCIAT gave technical design advice to visitors to the Selfbuild and Improve Your Home Show in Citywest in September. In October Technical Sub-Committee member William Power MCIAT spoke on the subject of BIM at the National Sustainability Conference in Citywest. CIAT had a stand at the Building Control Regulations Conference in the Royal Marine Hotel, Dun Laoghaire on 12 October.

# Window of opportunity

North West Region members were invited to a CPD event with a difference — a chance to see how VELUX windows are made. By Regional Secretary **Paul Greenwood MCIAT**, Chartered Architectural Technologist.

The word VELUX® is synonymous with roof windows, much like Hoover is for vacuum cleaners. The name itself is derived from VE for ventilation and LUX for light. Like many of you, I hardly need to get out their catalogue to specify a VELUX window. So when the opportunity came to visit its production facilities in Denmark, and to view a couple of high profile projects in Denmark where they have been used, I wondered what else could be gained from such a trip. I am sufficiently long in the tooth to be sceptical about such trips — how wrong was I!

The visit was arranged by Nooshin Akrami MCIAT, Regional CPD Officer and Programme Leader for the Architectural Technology course at the University of Bolton, and ten very fortunate members were selected in a secret ballot at one of our Regional events to attend.

We were collected at Copenhagen Airport and whisked to our first port of call: DSV's global headquarters in Hedehusene (DSV are a large transport and logistics company similar to Eddie Stobart). That is perhaps the end of the comparison because the DSV headquarters is a building which you are more likely to associate with Apple or Amazon than a transport haulage company!

It must have been quite a coup for VELUX to have its recently introduced modular skylights installed over an impressively large atrium in the centre of this prestige building. This is one of the many things I learnt during the visit; whilst I was aware that VELUX recently introduced modular skylight system, I had never seen them used (other than in a brochure). They are truly a quality product and have many advantages over traditional patent glazing systems, not least speed and simplicity of installation. The next building we visited was the Southern University of Denmark where the same modular skylights had been used over the central circulation area. The university authorities were so pleased with the skylights that they

allowed the whole group to venture onto the roof to view the installation from above. VELUX representatives were very comfortable in allowing so many to scrutinise their product at close quarters, such was their confidence in the VELUX. Sandwiched between the two visits was a trip around the company's production facility in Østbirk where they manufacture their roof windows and assemble the Modular Skylights.

We were very enthusiastically shown around their test facility by Jorgen Frederiksen and around their production facility by Jan Jorgenson. We were impressed by the genuine enthusiasm of the workers in the production facility who feed back information to the innovation team on how the products and the production process can be improved.

Quality and performance are key for any company and a tour around the testing facility shows how they achieve this. A trip into the wind tunnel — yes into the actual wind tunnel (at only half the normal test speed!) gave us all a first-hand experience of how products are capable of withstanding extreme wind and rain. That together with tests for impact, sound, snow (and drainage of water beneath snow during freeze/thaw cycles), colour fastness of coatings, corrosion resistance of fixings to mention

just some of the tests, show the extent to which they ensure they produce a quality product.

The company first introduced roof windows onto the market in 1948 and has since retained a large warehouse full of spare parts for all their roof windows and can supply parts for all their roof windows that have gone out of production. They have also retained all the dyes that produce the various metal profiles and cutting blades for shaping the various timber profiles. They are therefore able to supply spares for all their products long after they have ceased production — another fact I didn't know.

The ethos of the company (that they practice across all areas of the business) is one which many companies in the UK would do well to follow.

The trip to Denmark was certainly far more informative than I imagined it would be and the rest of the party were similarly impressed. We, at the North West Region who went on the trip, would all like to thank VELUX as a company and our hosts Simon, Scott and Wai in particular (and all their colleagues in Denmark) for their hospitality and for an excellent trip. Thanks also need to go to Nooshin for arranging the trip.

North West Region members outside the VELUX facility at Østbirk



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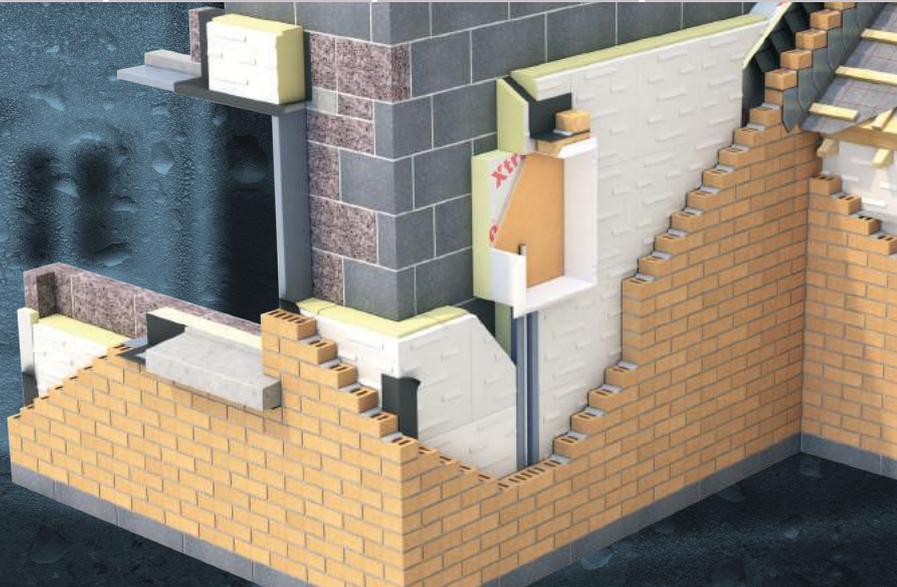
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