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50 years of Architectural Technology

As the Chartered Institute of Architectural Technologists celebrates its 50th anniversary, Graham Paterson MCIAT and Tahar Kouider MCIAT summarise how the organisation is embracing and developing BIM...

Celebrating its 50th anniversary in 2015, the Chartered Institute of Architectural Technologists has become well established as the pre-eminent profession for Architectural Technology. CIAT has developed a reputation internationally for excellence in the education and standards of practice which serve the needs of industry and society in contributing to, and creating sustainable built environments.

Unlike UK built environment professional bodies which developed critical mass during Victorian times, CIAT is very much the new kid on the block. Owned by and operated on behalf of its members with a global network of around 10,000 practitioners, employees and undergraduate students, CIAT's business is directed by a small and dedicated group of key staff operating out of Central Office in City Road, Islington. The Institute has 16 Regions and 7 Centres extending across the UK and beyond to Europe, Asia and the Americas. In that context, Central Office epitomises the contemporary digital business; lean, efficient and hosting a network attuned to online dialogue. Lines of communication between members and Central Office tend to be short, direct and effective.

Initially formed in 1965 as the Society of Architectural and Associated Technicians (SAAT) a name change to the British Institute of Architectural Technicians (BIAT) was incorporated in 1986. The early years marked a formative period when recognition and increasing the member base were key aspirations as BIAT successfully became embedded as a lead body within UK construction. In 1994 the title of the Institute changed to British Institute of Architectural Technologists, to recognise the development educationally and in practice of the professionally qualified Architectural Technologist. In its fortieth year, the Institute was incorporated by Royal Charter and full members became Chartered Architectural Technologists (MCIAT).

As the UK's lead body for Architectural Technology, CIAT qualifies Chartered Architectural Technologists and professionally qualified Architectural Technicians. Members have been at the forefront of UK Government's push to digitise construction. In 2012, the Institute surveyed its community on levels of engagement with digitisation. The findings from that study were referenced in Richard Saxon's 2013 report for the Construction Industry Council Growth through BIM.

In ensuring that best information on BIM is available to members, the Institute continues to engage in dialogue with a range of built environment professional bodies and representative groups developing UK BIM templates and standards. These interactions have included input into the key PAS 1192-2 suite, CIC's BIM Protocol and the ongoing work of the Construction Project Information Committee (CPIC).

As around 85% of CIAT qualified professionals work in SME or micro-SME businesses, the Institute has a special interest in small organisations. CIAT's BIM Virtual Group provides a forum to facilitate online communication and to ensure that information regarding BIM/Design Management is communicated and discussed as quickly and effectively as possible. CIAT is a member of the Construction Industry Council and participates in CIC's work-streams including BIM. The Institute is also an active player in delivering on BIM4SMEs mission to promote digital working among the UK's 400k small construction related firms and

assist with guidance and mentoring on upskilling.

In 2015, Ryan Tennyson MCIAT (BIM Technologies) and Dan Rossiter MCIAT (BRE) were selected to contribute to the second phase of CIC's future gazing BIM 2050 group of young built environment leaders representing their professional institutions. BIM 2050 strives to develop a culture which enables a digitally integrated approach to positively impact on the built environment. That mission dovetails perfectly with CIAT's vision and forward thinking.

The Institute actively supports the work of the CIC BIM Regions (formerly BIM Hubs) and David Comiskey MCIAT was a member of the Northern Ireland BIM Hub team which lifted the "Best Use of BIM for Design, Drama and Excitement" award in BIM 4SME's highly acclaimed Build Newcastle Live digital team challenge.

It's not all plain sailing though. Despite UK Government's efforts to put down markers for construction's migration towards Level 2 BIM, the pace of change among SME and micro-firms has been slow, and the "state of readiness" to meet the 2016 BIM mandate has been questioned by industry pundits. Even within larger and early adopting firms, adapting to change needs to embody a questioning and critical approach to digital working. For example, a trainee Architectural Technologist with a US based multi-national engineering and construction consultancy offered some insightful thoughts:

"Seeing technologies like HDS scanning evolving is exciting and motivating for a graduate. But, there does seem to be an over-reliance within the industry on authoring and analytical BIM software to provide answers and fixes; particularly when construction elements generated by different disciplines come together in virtual environments. The guidance I've been given is to focus on the "three Cs", communication, collaboration and co-ordination. That's a very basic and common sense approach which is more about people relationships than technology. If you see an

Graham Paterson   Tahar Kouider

issue on a project, raise it. When the team clicks, it's invariably down to human factors in terms of the way people interact in managing digital data."

Preparing Generation Y for engagement with digital futures and addressing the huge challenges flagged up by UK Government's headline targets for UK construction in 2025 are key strands of CIAT's strategic vision. A number of the Institute's accredited centres for teaching and learning have been tuned into digital working for some years; others are just beginning their BIM journey. Among early adopters, the Robert Gordon University in Aberdeen has been an active player in developing forward thinking pedagogies, both course specific and for cross-discipline working to model and test real-world activities in digital and team-building environments.

In response to a 2014 trawl to ascertain levels of digital working among CIAT accredited universities, one academic course leader noted that for a final year multidisciplinary project involving 250 students, the overriding objective was to place equal importance on students experiencing both the people aspects of collaboration as well as the technical skills, with no bias towards either. UK construction needs extra helpings of these pan-discipline synergies to thrive and move forward.

On the R&D front, University of Wolverhampton's Dr David Heesom MCIAT has been involved in developing an app which allows 2D drawings to spring to life in virtual reality 3D on iPad or smartphone screens. The software used a "mash-up" of BIM and games engine technology to create easy-to-use apps and touchscreen interfaces for non-specialists. During November 2015, researchers from

the University of Abertay Dundee's SIMBIOS research centre are presenting the prototype of an interactive tool for early stage energy analysis of buildings using digital models to the Energy Building Skins conference in Berne. Developed in partnership between researchers, academics and Architectural Technology practitioners, the tool has drawn from Abertay's work and international reputation for developing computer gaming skills.

Hats *off* to digital futures and addressing the challenges of meeting UK Government's trilogy of targets for time, cost and carbon reduction. The Chartered Institute of Architectural Technologists is well and truly on the case. ■

Author biographies: Graham Paterson MCIAT and Tahar Kouider MCIAT

Coming from built environment practitioner backgrounds, Graham Paterson and Tahar Kouider have collaborated on digital working as teachers and researchers for the last 15 years. Tahar is Architecture Programme Leader at the Robert Gordon University, Aberdeen. Graham is a core member of the BIM4SME team and runs his consultancy Urbahnstudio from Glasgow. Along with co-author Copenhagen based Dr James Harty, their book Getting to Grips with BIM is due for publication in December 2015.

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