



living the dream!

Matt Bridgestock, Architect and Urban Designer, uses Building Information Modelling to develop sustainable environments with the emphasis on 'Community'.





To young architects, looking to pursue their own paths after a brief apprenticeship in an established practice, there are many opportunities if they have the focus, skills and tools to develop their own practice.

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Matt Bridgestock – 55° North Architecture

Accordingly Matt Bridgestock, a keen cyclist, recently set up his own practice called 55° North Architecture. From the outset Matt decided that one of the keys to his success would be to use building information modelling to ensure he could deliver designs to clients quickly, accurately and economically. It was also important that his choice supported his sustainable design principles so he chose GRAPHISOFT® START BIM Suite software.

At its core START BIM Suite has a version of GRAPHISOFT’s multi award winning BIM software – ArchiCAD® – which has been tailored to the needs, both functional and financial, of the smaller architectural practice. The Suite is made up of a number tightly integrated software modules which cover “Design” (BIM modelling),

“Energy” (thermal performance), “Services” (MEP services), “Explorer” (real time viewer), and “Specification” (linkage with NBS Specification products). In addition file transfer to and from other design disciplines can be achieved using the many (20+) file formats supported by ArchiCAD (including DWG, DGN, PDF, etc) but better still is to exchange BIM models with structural and services engineers, other consultants and contractors/builders, by using the IFC (Industry Foundation Classes) format, a world-wide ISO standard for the transfer of BIM models.

After university Matt joined John Gilbert Architects, a practice which specialises in architecture and planning, where he worked for 6 years, focussing on social housing. As work slowed down because of the recession, Matt seized the opportunity to set up his own practice where he could concentrate on his real interests in sustainable, low energy, building projects.

Matt started using building information modelling some years ago when he was at the University of the West of England. Since then he has found BIM invaluable in his communications with his clients. “In this sector,” he explained, “people don’t read plans – they can’t necessarily visualise the buildings from them – so it is helpful to be able to do everything in 3D, and to be able to show clients something they can really understand”.

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Making Buildings More Efficient

A challenging project that Matt has worked on involved the design of timber houses for a local Housing Association with the aim of keeping both fuel and construction costs as low as possible – around the £90,000 mark for each pair of semi-detached houses to be situated on the slopes above Loch Lomond in Highland Scotland. Matt prepared a report on the design, planning and financial aspects of the project – working out affordability, whether purchased or rented, for land workers on lower incomes. The definition of rental affordability Matt worked to was when the cost of renting remained below 30% of income – and if fuel costs amounted to more than 10% of income, then the tenant was deemed to be in fuel poverty.

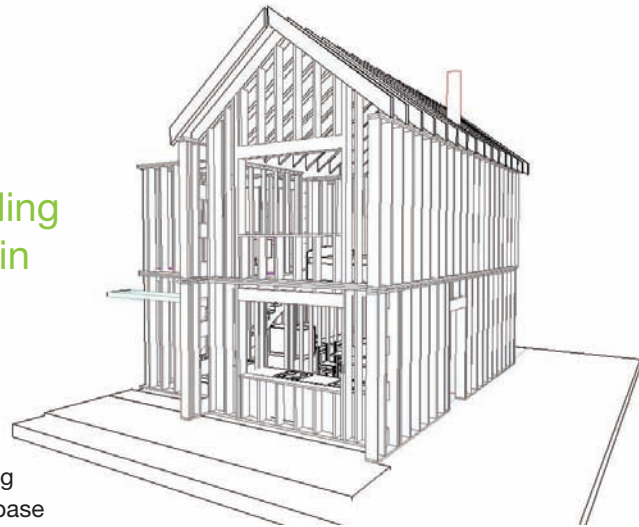
At the preplanning stages of the project, Matt used START BIM Energy (based on award winning GRAPHISOFT EcoDesigner™ software) to optimise the energy usage in each building. An interesting addition to the building costs was the decision to extend the foundations beyond the limits of the initial building. This was done to facilitate future expansion as it is cheaper to do so when the building was being constructed rather than at a later stage. As Matt commented “This helps keep communities together as young couples do not have to move house to accommodate growing families.”

The Brettstapel project is another of Matt’s analytical projects where he used START BIM Energy to initially calculate energy usage and then by exporting the building schedules into Excel he

calculated embodied energy using the University of Bath’s ICE database (Inventory of Carbon and Energy). According to Matt “Common wisdom is that the embodied energy of a building accounts for about 5 to 7% of the total energy requirement for the building over its lifetime but as homes and buildings become more efficient the embodied energy now accounts for a much more significant proportion, maybe more than 30% when measured over a building’s life. Understanding the quantities of material and the associated energy is a key aspect of ensuring that a building with low energy requirements hits other important sustainable and ecological targets”.

Graphisoft START BIM Design was used to prepare the building models and to provide data for the associated analyses. Matt said “Having used BIM on and off for some years it became essential when START BIM Suite made it possible to evaluate the performance of a project within the same software as design work. Instead of guessing the impact of a change to a design it is now quick and simple, using to tools in the Suite, to test the building and get modelled evidence on the performance and embodied energy”. He added “GRAPHISOFT has done a great job in assembling all of the right options for the smaller practice in START BIM Suite – and at an affordable price.”

Matt Bridgestock is passionate about striving to create not only the best designs but also designs that meet the exacting standards of sustainability today and also in the future. START BIM Suite with its ArchiCAD kernel, modular options and attractive pricing has



provided Matt with a powerful toolset with which to realise his ambition to be his own boss, to develop his passion for better sustainable architecture, and the time to enjoy his other passion of cycling.



Graphisoft START BIM Suite includes ArchiCAD SE, unbeatable self learning guide, award winning energy modelling, MEP services design, real time visualisation, integration with NBS specifications, and lots more...

- Great 3D images and real time movies visualisations
- Quick and easy design evaluation and revision
- Integrated sustainable assessment
- Automatic design and documentation co-ordination
- Flexible design development

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About Graphisoft

Graphisoft is the pioneer and leader in developing Virtual Building™ solutions. It is widely acknowledged as the world's #1 supplier of model-based software and services for the building industry. Our clients are at the forefront of the industry – delivering projects that are better designed, more predictable to construct and less expensive to operate.

