What BIM really is…and isn't

My guess is that there are basically three kinds of reader on this subject:

Firstly: the *enthusiast*; who maybe knows a lot about the subject having devoured every article and attended conferences not to mention regularly turning out projects with fully integrated building models carrying all the data from which drawings, specifications, O&M manuals, project execution plans and (lifetime) post occupancy analysis are derived.

Secondly: the *disinterested*; being perhaps convinced it is a passing fad that won't affect them particularly as their stock-in-trade might be relatively small and simple projects.

Thirdly: the *scared*.

What I want to try and do in this short piece is reassure the third, maybe convince the second and remind the first 'why'.

What BIM is and isn't about

Hard though it might be I want you to forget 3D graphics for now. Looking at it from this graphical viewpoint is the most intuitive starting point particularly for the visually literate such as AT's and architects but it risks missing (not getting to) the real point. BIM isn't *about* drawings – they are something you produce from it - and it especially isn't *about* façade and interior renderings and visualisations which can also be derived, and undoubtedly to great effect. BIM is about the intelligent interactions of data that enables these things so that for example the information that might create the interior rendering for a walk-through to tantalise a client can be used to help plan escape strategy from the building and help construct life saving simulations. This is maybe an extreme example (and frankly not actually that readily available in proprietary form yet) which has probably scared the third group even more, but it is chosen to help make the point.

BIM isn't necessarily about buying software with 'BIM' on the box and it doesn't *have* to be about a single building model in one place either but is about having all the data available and interoperable in/from any chosen place. What the system vendors have mostly done is package, software that in many instances has been around for a long time before the coining of the 'BIM' acronym, such as to make it easier to use to create what has become labelled a 'BIM environment'. I'm not one of those who therefore calls it 'all old hat' however and I'm quite happy to consider it as 'new' in due deference to the enormous amount of enabling work and development work (and investment) undertaken to make it more user intuitive and friendly and more powerful in what it can do – well done the vendors, keep it up.

What about the 'other M'?

I imagine the *enthusiast*, the well read on the subject, has mused from what they have read so far, "this author is the kind that constantly refers to BIMM rather than BIM" (where the other M is "& Management"). The *disinterested* probably isn't reading this anyway but if they are would be thinking; "isn't 'BIM' enough, why do we need another M?" and the *scared* are getting more scared and wish they hadn't started reading at all.

I frankly have a bit of a problem with the acronym in its entirety. Firstly it isn't just about 'buildings' unless we accept that we 'build' roads, bridges railways etc. so 'building' has to be the irregular verb – *to build* which is not how most people understand it in 'BIM'. 'Information' is the really important bit albeit that we also often, and erroneously, interchange it with the term 'data' once we get into the computing environment. If I'm allowed only one M then the *management* of the information is actually where the big win is. In terms of ultimately improving the product (of construction) the best advice here has been pretty constant since long before the coining of 'BIM' and where one way of managing it is into forms that can create the third dimension in our graphics and to which data sets to create other information can attach: which then equals a Model. However I happen to think the extended acronym looks ugly and rarely use it and, rather like the way most people mispronounce 'Southampton' and 'Northampton' by using the 'h' twice (for the 'th' and for 'ha') I tend to just let the one 'M' mean either/both.

So it is time to start to try to reassure the *scared*. I have no aptitude at all for learning software applications and one of the things that surprises me about many BIM enthusiasts is that they have the capacity to learn the software and 'drive' it most expertly but with much less grasp of why or to what end. So, having said that it is not about drawings per se this is a quote I have used for near enough 30 years. A little over 100 years ago Edwin Lutyens said "*A working drawing is a letter to a builder telling precisely what to build and not a picture to charm [the client*]" – my brackets as it applies to 'charming' anyone with the drafting finesse and artistic/architectural merit (not to be scoffed at but just not the point). Remembering what lies behind this 100 year old wisdom still provides the biggest wins and what the *scared* must understand is that the BIM dimension is the icing on the cake not the cake itself.

The list of things at the beginning that I suggested that the *enthusiast* was perhaps regularly doing was actually planted to scare the self proclaimed *enthusiast* not the already *scared.* To perhaps put a bit of doubt in the minds of those who say "I'm dong BIM" simply because they have shelled out for the software and can create nice images. Sorry, if it stops there it is jolly impressive 3D but not BIM just because it says BIM on your software box/start up screen and you can twirl the result like Dr Who's Tardis. If it goes a bit further (as it invariably would using the software) so that 'objects' graphically created relate intelligently to each other (ie a column knows it has to remain attached to a floor if dimensions are changed) …it is still 3D not BIM. If some of the object attributes (some specification for example) have been attached then…well…you are getting there. However the *disinterested* and/or *scared* with a full set of integrated and coordinated drawings (CAD or manual) with no information missing in terms of attributes like position, orientation, shape, size, components, fixings, proximities and composition backed up by fully referenced and comprehensive specifications filling-in the other data such as more on composition, compliance, durability etc linked to measured quantities of all instances of everything …… (ie drawings, spec and bills) is arguably closer to BIM ideals and probably, with a bit of software training, more likely to make the jump to real BIM.

The 'rub'

When did you ever see a drawings/spec/bills job wherein all those items were perfect - ie absolutely complete, comprehensive and accurate? Real BIM starts to demand this and shines a light on where it isn't so with all of this information to manage I'm afraid it is inevitable that computers have to be involved and the *disinterested* and *scared* will have to join in eventually. Also my example of the exemplary 'traditional' set of production information itself doesn't start to service the extended benefits of BIM such as taking the data (ok call it 'the model' if you must - I'd need another article to tell you why saying 'data' is better) and using it intelligently for project execution purposes and into the whole life of the building (to be trendy you have to call it 'asset' now) for O&M etc.

So I hope I have at least in part reassured the *scared*, sparked a bit of interest in the *disinterested* and given room for realignment thought to the *enthusiasts*

Oh and the editor insisted on an illustration so here is one created from centenarian objects by his staff of the aforementioned Mr Lutyens.

KS August 2011

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