

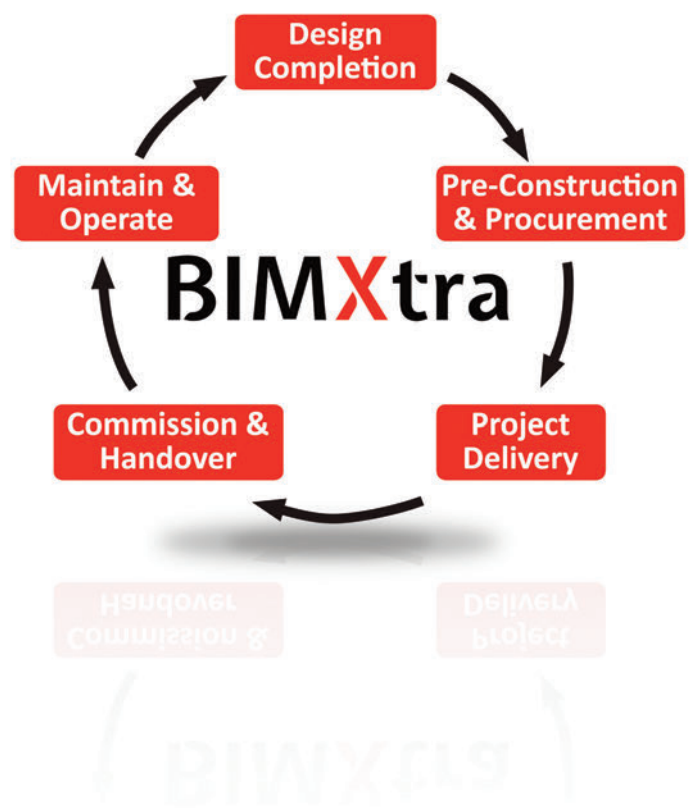
Game changing products for the built environment

Bringing the simplicity and opportunity of BIM to all

BIM means lots of things to many people and risks being one of the most mis-used words in construction, however BIM represents the enabler to a transformation that is engulfing not only the UK but also the global design, engineering & construction market; and why, because BIM enables us to work together more easily, in a modern digital environment. Using BIM we are encouraged to share information bringing efficiency and visibility, to ultimately, reduce the risk and cost of our projects. In addition we influence and improve the ongoing operation of our assets, delivering a better more intelligent output for our clients and in doing so providing them with more value in their portfolio of assets.

BIM enables people to interact with their projects in a visual environment, but is increasingly focussing on “the I in BIM”, the INFORMATION, which is held within the modelled objects as data. With modern BIM tools, information previously held in separate and disconnected documents, can be created and held within the modelled objects as the central repository for core project information.

Like the automotive industry before us, the efficiency and simplicity of a managed information process contributed to the renewed success of manufacturing. The effect has been that we buy more cars, appreciate the fact that they are more reliable, last longer and cost less to use and maintain – vehicle manufacturing is in new health.



The expectation is the same for the construction industry, allowing us to define and communicate our requirements better, iron out issues before arrival on site, remove unnecessary waste in the process and provide, for the Client, a better service and an intelligent model that can help better manage the clients asset through its operational lifecycle.

Not surprisingly achieving the utopia from this transformation, like all transformations has it's challenges, however, much has been done to

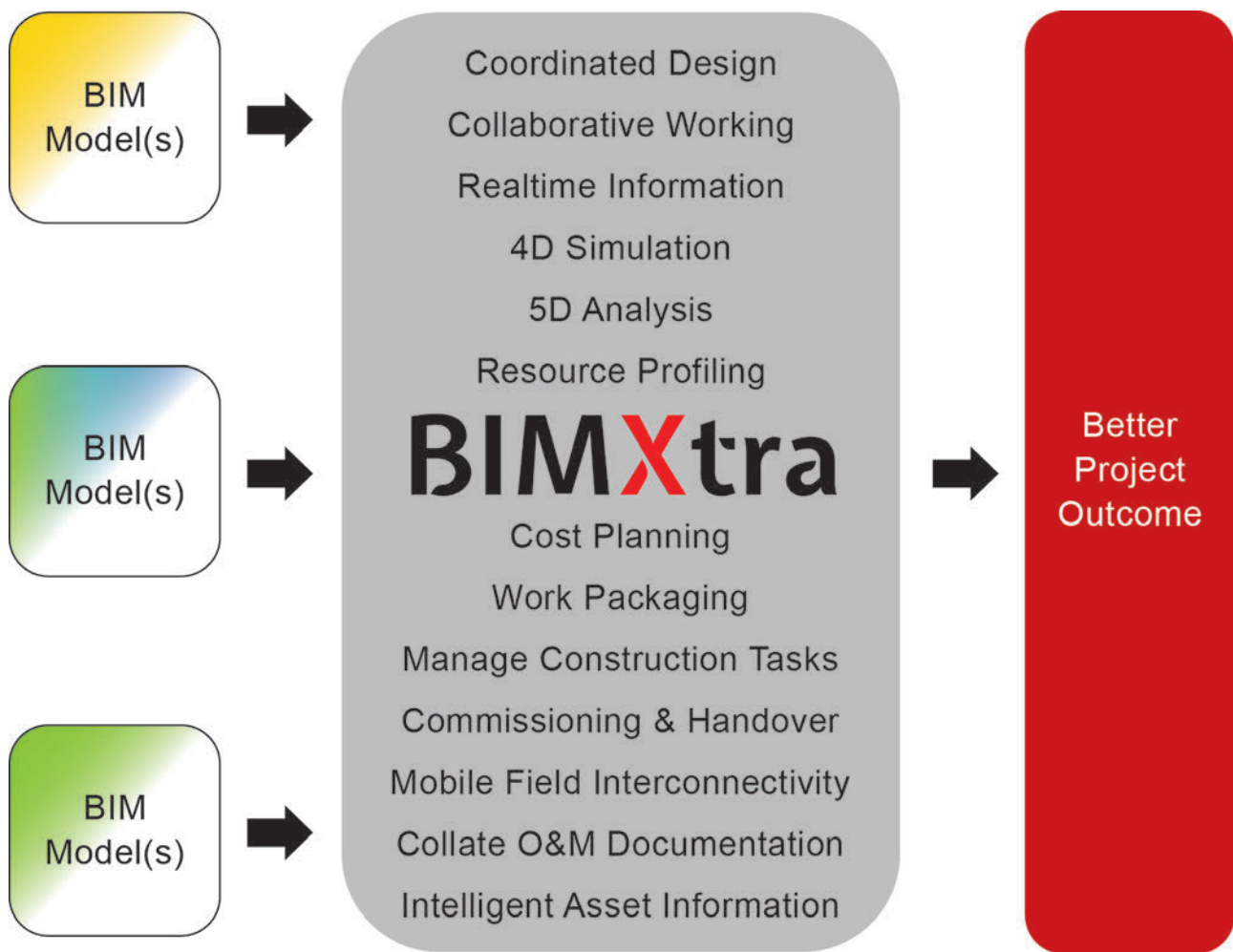


address the needs of industry through new technology, and the guidance for the new BIM enabled project delivery process is established in the British Standard and PAS 1192 series, but to maximise the benefits of these new tools we need to consider the working practice changes that are also needed in many environments.

Driven by a focus on low cost procurement that can result in uncertain end out cost and, subject to your position in the supply chain, insufficient consideration of whole life operational cost, together with margins driven ever lower in a highly competitive market we are often faced with risk aversion rather than more proactive risk management.

However, in some parts of our industry suppliers and manufacturers are fully integrated with 3D CAD-CAM tools either direct to manufacture or through the creation of fully co-ordinated pre-assembled or pre-manufactured modules that dramatically reduce the onsite work and risks in installation and in doing so provide a higher quality product, manufactured and tested in a controlled environment.

The vision of BIM is that all parties in the supply chain collaborate across the same source of information, and make informed decisions based on better information with an improved awareness of the repercussions on others.



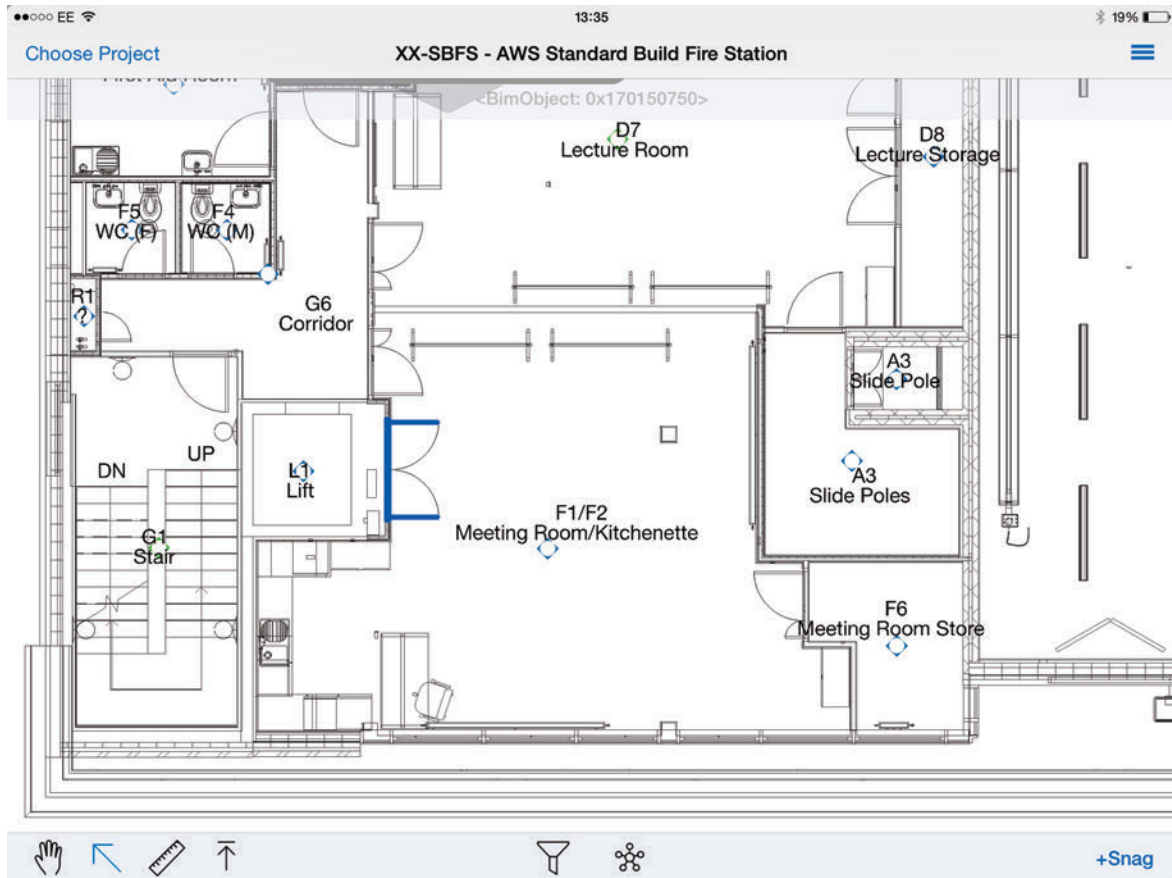
BIM delivers the maximum benefit when all parties take part, the leadership of key Clients like Government, who acknowledge the benefits in project delivery and on-going asset management has been instrumental in establishing BIM as a modern working practice.

The prize for all of us is a better, more efficient, higher quality, world leading industry.

Providing a simple solution to the technology and workflow issues of BIM is where Clearbox can support the process.

Clearbox

Clearbox are a technology provider looking to bring the opportunity of BIM to all through their digital information hub BIMXtra which enables simple access to the information based around a true common data environment. BIMXtra addresses many of the issues of BIM by bridging the gap between the complexity of the BIM authoring tools and the plethora of project tools that characterise the current construction market. BIMXtra not only supports project delivery during the design and



construction phase but delivers out the intelligent asset information at handover to provide a new level of opportunity for Facility Management and Asset Management.

BIMXtra takes information from BIM and makes it available to all in the simplest of approaches. Each user has access to the information they need in the right format at the right time, allowing the influence of BIM to be shared out from the design through the entire project delivery phase. BIM in BIMXtra not only enables interrogation and exploitation of the visuals but also extends and enables the full digital information management of the project.

Developed by individuals with years of experience of delivering design and build projects, and who use BIMXtra tools themselves on their own projects, BIMXtra will help enable consultants, contractors, and SMEs alike to enjoy and benefit from BIM.

So if you are starting your journey or have uncovered some of the complexities of BIM then we can support you to meet the requirements of Level 2 BIM and beyond as a hosted solution. As 2016 approaches and the gap between the haves and have not's of the BIM world grows there is no better time to jump on board and benefit from the lessons learnt from some of the early adopters.

In this, the first of four articles leading to the 2016 deadline we aim to take you on a journey of the simple functionality that is now readily available, as well as reassure individuals of the benefits of BIM that can be realised in case studies. In the next papers we will address the solutions and some case studies to allow users to appreciate the scale of the benefits and the simplicity and ease with which this can be achieved starting with the interface to programme.

BIM and the SMEs:

Opportunity is knocking

SMEs are key to the UK's BIM journey, so their uptake is vital to ensure our BIM leadership. David Philp, Head of BIM at Mace and the UK BIM Task Group explains their importance...

In 2013, there were 4.9 million businesses in the UK, with over 99% categorized as small or medium sized businesses (SMEs) i.e. employing between 0-249 people. Of this populace the SME community's share of construction turnover in the UK private sector was 72.4%.

Given that SMEs are the backbone of our sector, we must ensure that they have sufficient digital capacity and capability to ensure that the UK remains at the forefront of BIM leadership across the globe. But why should they care? Why should they consider investing in change?

The reality is they have to compete on a new basis with fierce international competition for the provision of skills and products and ever tight project affordability constraints. It is self-evident, therefore, that to flourish with the backdrop of these challenges that they must reform and unlock more efficient ways of working.

BIM really offers SMEs the opportunity to raise their game and contend in the heavy weight classes. Despite often being resource constrained, the SMEs are a motor of innovation with inherent change characteristics often not found in bigger organisations, coupled with faster decision making processes. It is essential, however, that SMEs build adequate knowledge capital in the BIM space to improve their value creation processes to:

- Sell or export this knowledge to another organisation as part of their offering; and,
- Improve their offering, such as manufacturers who can liberate the data associated with their products to increase exports, create new markets or simply get specified earlier in the construction process.

There is much evidence to support the hypothesis that digital enabled workflows benefit the SME in the built environment. Organisations such as David Miller Architects (DMA) have seen both direct and indirect benefits through their BIM implementation; growing from a small to medium size practice through the efficiencies they are achieving, but also how they are being perceived differently by clients and through meritocracy competing for larger and more prestigious commissions.

Additionally, the tier 2 and 3 communities play an important part in enabling the larger tier 1 organisations. It is therefore essential there is a symbiosis between these parties to help each other up-skill and exchange digital data.

So where should an SME start their journey? Firstly start with the free stuff.

1. Perhaps I am a tad biased on this but visit the BIM Task Group website www.bimtaskgroup.org. This is a treasure trove of great resources on the BIM standards and processes. Be sure and



visit the labs space and read the fortnightly newsletters.

2. Read PAS1192-2:2013 and PAS1192-3:2014 which looks at information management for the capital and operational phases of construction projects using BIM. These can be downloaded free of charge from the BSI website. They can be also be accessed via the BIM task group website.

3. Build a network – trust me, BIM is about open innovation and collaboration. Join the dots with your local Regional BIM Hub <http://www.bimtaskgroup.org/cic-bim-regional-hubs/> and the BIM4SME working group <http://www.bim4sme.org/> who are doing great work to raise the awareness and value proposition of BIM for smaller organisations.

4. Capability. You are probably already doing some BIM efforts but perhaps you don't even realise it. Have a review of how you create or manage your digital data. Do you use a common data environment? Work out where you are on your point of departure and determine what up-skilling is necessary to close the gaps. Consider both: knowledge of processes as well as skills on digital toolsets.

5. Have a play about. Most technology vendors offer free viewing, or indeed in some cases, free clash detection tools. Often viewing and reviewing models will be all you need and you can do it for free.

Do your duty. Ensuring the UK construction sector builds on its rich heritage and makes a big step into the digital frontier will be massively driven by the uptake of the SME community, so remember you can't hit a home run unless you step up to the plate.

Our digital universe is growing exponentially as are the opportunities. Big data, and the increasing value of the internet of things will all create new exciting prospects for the SME players in our fast changing built environment.



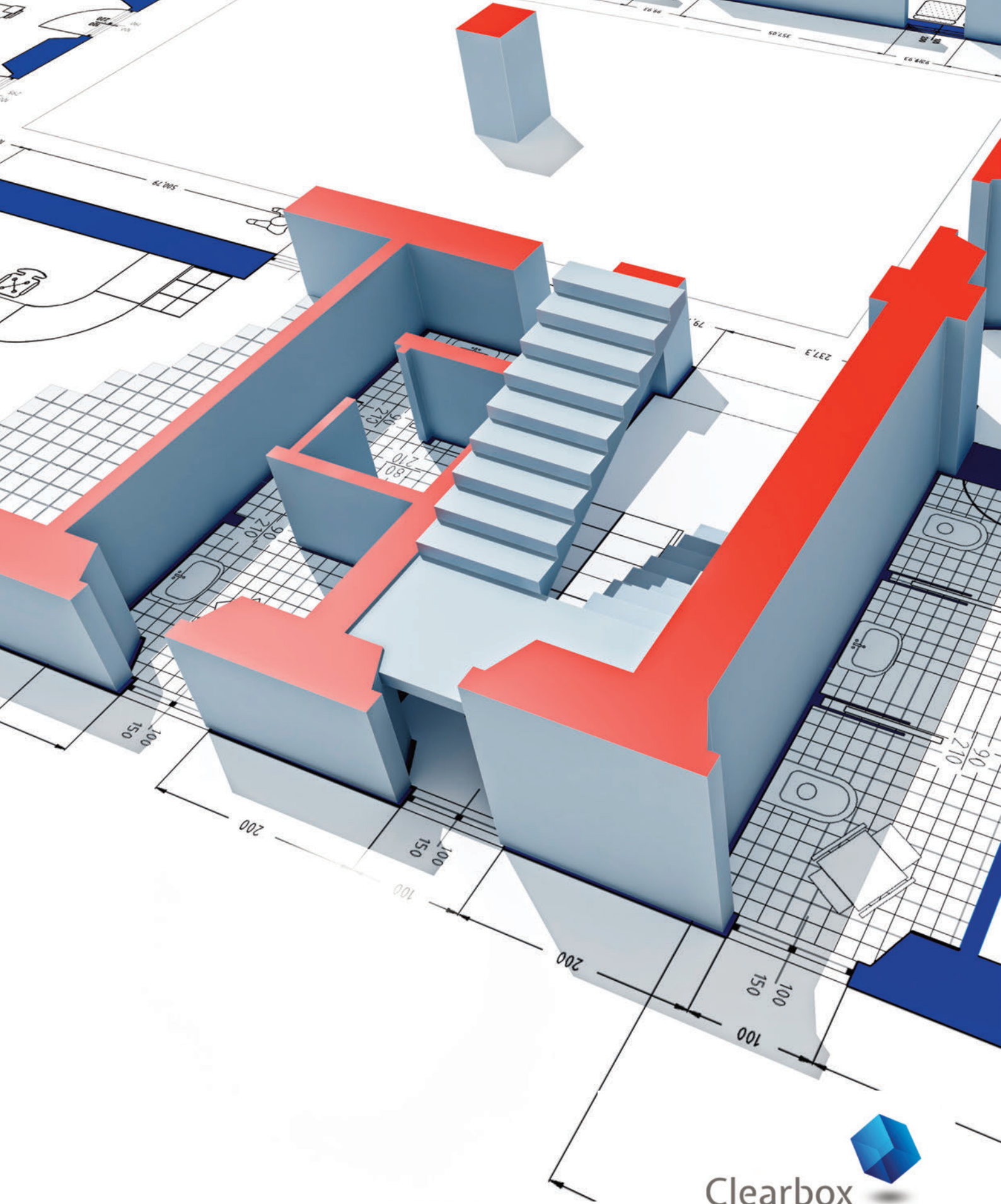
David Philp MSc BSc FRICS FCIQB FGBC
Head of BIM at Mace and
Head of UK BIM Task Group

Mace

Tel:+44 (0) 20 3522 3000

www.macegroup.com

www.twitter.com/MaceGroup



0800 085 9872
www.clearboxbim.com

Graeme Forbes
Managing Director
Clearbox
sales@clearboxbim.com