BIM and FM: Bridging the gap for success
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FM LEADERS DISCUSSION FORUM, 6 September 2012

Introduction

Gareth Tancred, CEO, BIFM

Building Information Modelling (BIM) is one of the most talked-about concepts in the built environment. However, the view of it within the facilities management (FM) arena is mixed. Certainly there is the perception that FM as a profession has been slow to engage with the development of BIM. The design, engineering and construction professions have been engaged for longer with the government and are therefore closer to where it wants the building industry to be with regard to applying BIM to the development and operation of the UK’s built environment.

Soon, all public sector facilities managers will need to be up to speed as the government requires fully collaborative 3D BIM (with all project and asset information, documentation and data in electronic form) on all public sector projects by 2016. This pressure has galvanised the BIM debate, and is likely to impact on the private sector as more enlightened clients and integrated supply teams embrace the collaborative spirit of BIM as advocated by the Latham and Egan reports of the late 1990s.

This paper focuses on the issues surrounding BIM and how they relate to facilities management – both as a profession and as an industry. The report’s content is taken from the first BIFM FM Leaders Forum on the theme ‘BIM and FM: Bridging the gap for success’. One thing was very clear from the discussion – BIM might have emerged from the construction side of the built environment sector, but it must not be ignored by the FM industry. Equally importantly, BIFM must lead the engagement to ensure the profession is in a position to influence the technology’s development, and ultimately benefit from it by realising the efficiencies over a building’s full lifecycle that BIM could offer.

Yes, there is much to clarify and many obstacles to be overcome, but it is obvious that BIM is not going to go away. It is not a fad – it is a process to be added to the skill set of the UK facilities management profession, and as such BIFM has a vital role to play in promoting understanding and best practice.

Thank you to everyone who has contributed to this report and who took part in this FM Leaders Forum. This paper is designed to provoke more debate and inform members, so please do engage with us as we engage with BIM.
A government view: Bridging the gap

Deborah Rowland, Head of Facilities Management, Government Property Unit, Cabinet Office

The FM community is becoming increasingly aware of BIM, but not totally sure of the benefits to them. There are many benefits that BIM can bring FM by aligning the construction and design to the operational use of the asset. This is a real opportunity to make a difference to the way we manage our projects and work collaboratively with the construction and design industry.

This realisation has brought about the development of the Government’s Soft Landings (GSL) approach. GSL provides a process to ensure BIM is embedded and adopted into future development in a way that supports facilities managers and will be mandated in 2016 alongside BIM level 2.

In essence Soft Landings ensures the involvement of facilities managers, as a way to improve performance of assets and to meet the requirements of those that use them.

To enable this to happen across a wide range of assets we need support from FMs at an early stage, not only on individual projects, but to ensure that the development of the data technology and BIM tools will be fit for purpose.

Broadly these principles ensure:

- Early engagement of FM and the end user during the design and construction process
- Delivery and operation of building purpose is considered as a key element of the design
- Continued commitment to aftercare post-handover from the design and construction teams
- Post-occupancy evaluation and feedback to design and construction teams to ensure lessons learnt are captured for future projects
- BIM will provide a fully populated asset data set to feed into CAFM systems and modelling will enable planning modifications. This data will need to be maintained throughout the building lifecycle.

“To enable this to happen across a wide range of assets we need support from FMs at an early stage, not only on individual projects, but to ensure that the development of the data technology and BIM tools will be fit for purpose.”
The realisation that facilities managers and end users need to be involved seems to be gaining momentum not only within Government and industry bodies but end users too.

Speaking at a BIM event in mid-September, BAM gave a presentation which was tackling this point, how they as a construction company are now seeing BIM as a tool for FM and the benefits of early engagement.

Balfour Beatty is now combining efforts for both construction and FM sides of the business with their version of soft landings which they call ‘Perfect Landings’. These are just two examples but I think it provides evidence to show how it is gaining momentum and being adopted across the industry.

Within GSL there are a number of trial projects where industry is actively engaged in testing and developing the GSL process elements and development of BIM for FM.

This is just the beginning of the BIM/Soft Landings journey, and I am expecting many more developments to appear in the coming months. This is a real opportunity to make a difference to the way we manage our projects and work collaboratively with the construction and design industry.
Executive summary

Building Information Modelling is not a magic bullet. It is not the remedy to cure all the problems facing facilities managers, and tends to have its detractors and evangelists in equal measure. Overall, though, the initial finding of the BIFM FM Leaders Forum on BIM and FM is that our profession and the FM industry must engage with the development and implementation of BIM.

BIM is a process. It is not a tool or solution. It is a holistic approach to the design, construction and management of the facilities used in the built environment. At present the technology tends to be confined to the construction phase, where design and engineering teams use three-dimensional, real-time, dynamic building modelling software to create a building information model that encompasses geometry, spatial relationships, geographic information, and quantities and properties of building components. If appropriate operational information could be incorporated into this model, end users would have all the information they need to operate the building contained in one central database without having to maintain separate asset management systems.

Potentially, BIM can help create and maintain facilities that are more efficient, have lower carbon emissions, cost less to run and are better, more effective and safer places to live and work. However, this will not be possible without the involvement of integrated delivery teams.

Indeed, it became abundantly clear during the discussion that the critical element to BIM is collaboration. The Egan and Latham reports into the construction industry of the late 1990s argued that true value could not be delivered unless the entire supply chain worked as a team, including the client. These reports, and subsequent revisions via the Strategic Forum, were endorsed by the former Construction Industry Board and are supported by the Construction Industry Council (CIC). The CIC, Constructing Excellence and organisations such as CIBSE and BSRIA are currently taking the concept further, notably by stressing the importance of whole life costings – a fundamental element of the BIM process.

The facilities management profession has so far had very little input into the evolution of BIM. However, the UK government’s embrace of the technology, and the fast-tracking of its implementation via the CIC, has made it imperative that FM engages now. The government has declared its objective of fully collaborative 3D BIM (with all project and asset information, documentation and data in electronic form) on all public sector projects by 2016. Facilities management, particularly in the public sector, will feel a pressure to conform.
This came through loud and clear from the discussion. Rob Manning, BIM implementation director for the Government BIM Task Group, for example, urged BIFM to support his Cabinet Office work package on the delivery of FM information. But there is much more to be done – not least in overcoming barriers to engagement such as language and inconsistency of data.

Because BIM has largely evolved from the construction side of the built environment hierarchy, there tends to be a language gap between designers and builders focused on capital expenditure, and FMs and property teams focused on operations – or the revenue end of the equation. What this really highlights is a gap in the perceived value that facilities management brings to the wider built environment. Construction teams still operate in a silo, albeit a bigger, more encompassing silo that includes designers, engineers, builders, suppliers and sometimes clients. But it does not reach out to facilities managers and property teams.

One alarming factor that emerged from the forum is that construction still does not understand FM. But if BIM is all about lifetime value and whole life costings, the knowledge and expertise of FM cannot be ignored. This creates a compelling strategic stage from which to promote facilities management.

There are details to be overcome, though. In addition to the language gap there are issues around data exchange and interoperability. BIM requires the development of open systems and standardised data – libraries of knowledge that can be utilised by any CAFM or asset management system. Without such standardisation, collaboration could become unworkable – but who oversees the process? Who makes the rules?

The FM profession must involve itself in the development of BIM if the technology’s true potential is to be realised. BIFM has committed to this, and its engagement is likely to take a number of forms. In particular, BIFM needs to:

- Continue to raise the profile of FM across the construction industry, demonstrating its value and how it can help deliver more effective buildings
- Clarify what is meant by the lifetime value of buildings, particularly the fact that it includes operational as well as construction costs
- Keep pushing for the involvement of facilities managers at specification stage, where they would be in a position to work with designers on creating digital plans of work
- Become involved in the development of standards, systems of classification and datasets, ensuring that the technology is developed in a way that is useful for FMs
- Ensure it is in a position to lead best practice for FM as the industry adapts to BIM.

BIFM has recently set up a working group focusing on BIM and how BIFM can shape its development. BIFM is also closely aligned to the Government Soft Landings project.

What happens next will be exciting and vitally important for the future of facilities management in the UK.
The panel

Leaders from across the facilities management sector and beyond are invited to take part in the FM Leaders Forums. This forum’s participants included:

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<th>PARTICIPANT</th>
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<tr>
<td>Ismena Clout</td>
<td>Chairman</td>
<td>BIFM (facilitating)</td>
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<td>Jason Clark</td>
<td>Projects director</td>
<td>UBS</td>
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<td>Paul Dove</td>
<td>Critical environment manager</td>
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<td>Rob Farman</td>
<td>Principal</td>
<td>Abacus FM Engineering Consultancy</td>
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<td>Roger King</td>
<td>Director projects &amp; programme</td>
<td>Telereal Trillium</td>
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<td>Manus Kyle</td>
<td>Sales consultant</td>
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<td>Rob Manning</td>
<td>BIM implementation director</td>
<td>Government BIM Task Group</td>
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<td>Neil Oliver</td>
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<td>Martin Read</td>
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<td>Sunil Shah</td>
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<td>Chris Stoddart</td>
<td>General manager, Heron Tower</td>
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<tr>
<td>Gareth Tancred</td>
<td>CEO</td>
<td>BIFM</td>
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<td>Jacqueline Walpole,</td>
<td>Business analyst</td>
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<td>Also present:</td>
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<tr>
<td>Andrew Brown</td>
<td>Freelance PR, editor and writer</td>
<td>Frank and Brown</td>
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For further information about the participants, their experience and expertise please refer to pages 20-21.
BIM and FM: Bridging the gap for success

The discussion

BIM and FM

Ismena Clout: BIM is a hot topic in the building environment at the moment, but to date the conversation has been held very much from the construction angle. So our sub-heading today is ‘BIM and FM: what’s it got to do with us?’ Is it valid, viable and relevant for FM? I will start by asking: do you agree with the BIM evangelists who say this is a huge opportunity for FM to demonstrate our strategic value to building owners, end users and the construction industry?

Rob Farman I think we have to set BIM in the context of the government’s construction strategy. There is a feeling among some people involved in this area that the BIM cart has gone in front of the Government Soft Landings (GSL) horse. When the construction strategy came out on 31 May 2011 it didn’t mention GSL, which is a development from the BSRIA Soft Landings Framework. Government Soft Landings is about integrating people, place and process, with BIM as the technology. Basically there is a strong desire to make government projects collaborative, with FM involved in the early stages within integrated project teams. The idea is to make GSL mandatory across all government departments, using BIM as a communication platform – which may come as a surprise to people around this table who are probably thinking of it more as a design tool.

Jason Clark I agree, BIM is a process, not a tool. It’s a way of sharing information collaboratively, not just with the FM and the construction teams, but also with the contractors, the designers and the client.

Rob Manning The way that I always look at soft landings is that it’s early planning of commissioning, early planning of handover, early planning of how you’re going to operate the building. It’s giving FMs the opportunity to tell designers what information they really need at the early stages of the project development, so it’s linking the project to the operation. And information modelling is the enabler to help us get it right in the first place.

Sunil Shah We’re talking about better buildings here, and FMs operate buildings and make bad buildings better. FMs can feed information in at the front end so you’ve got a better building to begin with.

It’s giving FMs the opportunity to tell designers what information they really need at the early stages of the project development, so it’s linking the project to the operation.
Building operators should already have good-quality asset management processes and data collection in place. BIM can assist in making those processes and data collection more efficient. It is not a cure for bad practices.

That’s how you sell it to the broader property and asset management industry – a process that gets full engagement from inception all the way through to operation and beyond. However, while I think the construction industry has done a fantastic job of selling the cost benefits of BIM, what clients are going to ask is what are the cost benefits for facilities management? Will it make the operation and management of buildings slicker, safer, more effective? As a client and building operator I have not seen a lot of the cost benefits of BIM per se.

It’s all about the total cost of occupancy and hitting that bottom right hand corner of the page, because that’s where decisions are made and that’s what the board will pay attention to.

The ongoing operational cost benefit needs to be fleshed out more. The main cost benefit is obviously the mobilisation of the facilities management within the building, something that has always been a bit of a nightmare with the volumes and volumes of O&M manuals that are delivered after the building is occupied. Because it’s a communication process we have the information provided in a set basic format from all the suppliers of all the equipment and services within the building, so it starts off as an electronic O&M manual for the building that’s available at point of handover and prior to point of handover. That is one great benefit that I see for it. And the soft landing is all about getting the services in your building functionally operational from the outset, with all statutory requirements being met.

How close are we to this happening in practice?

I’m working on the Soft Landings group as well and you can see the FM strategy is actually behind the construction strategy within central government, because things like how central government is going to procure FM services across the central government estate is unclear. Joining up the government departments has always been a massive challenge, and while we are seeing some of it happening now it’s quite a slow burn, and in the private sector it’s often not a lot better.
Jason Clark We’ve got a new building coming online in 2016 and from my point of view the government didn’t do enough to go to level 3 BIM – probably because it was driven around construction savings rather than operational savings. So we’ve had to try to predict where the ‘operational’ platform providers are going to go with BIM. I’ve talked to a lot of people and I’ve asked ‘what are you doing with BIM?’, and the answer is generally not a lot. The next question is ‘OK, if you do something with BIM, what do I need to capture now that would make it easier in future?’, and again, silence. So we are having to decide ourselves, create our own BIM model datasets as we move into fit-out.

Practical benefits of BIM for FM

Ismena Clout: So that’s the business case. But what are the practical benefits of BIM? How can it make FMs’ lives easier?

Rob Farman I was working in a large building at Canary Wharf, each floor 50 by 50 metres, and every weekend we were moving things around, demounting and remounting partitions, and because it had a data centre you had to have a strict process, because you might be affecting fire alarms and other sorts of systems, creating problems that might ultimately affect the data centre. Having the BIM to do moves and changes is something that would be very useful to a facilities manager.

Paul Dove It’s obviously useful in mobilisation training. Understanding the plant space in the 3D view would be a big benefit.

Having the building information to do moves and changes is something that would be very useful to a facilities manager.

Rob Farman Not only that, in the early stages of design, if you’ve got people with a practical maintenance background sitting alongside the designers saying hang on why are you putting that there, you haven’t left me enough room for this, you’re avoiding maintenance problems down the line.

Roger King Can BIM make actual maintenance easier and cheaper?

Jacqueline Walpole If you’ve got good asset history, information and lifecycle costs, you can easily change your maintenance strategy.

Jason Clark The important thing is to build a common dataset to collaborate with. You need to bring in the lifecycle replacement dataset, the manufacturers’ literature information, the design information, because that’s going to be used time and time again, collaboratively. If I want to move a wall I need to know where the fan coil unit is, I don’t want to send a guy out to survey it. I want the model to tell me what are the rule sets around that fan coil.
unit, what kind of maintenance gap do I need? I don’t care if my central database is in CAFM, in Revit, I don’t care so long as it’s a common database, so that when I make a change and synchronise it back to that database, when someone else comes along to make a change they’ve got that data.

BIM and existing buildings

Gareth Tancred It’s easy to see that this has all got to happen with new builds. But what about existing buildings? Where’s the motivation to bring BIM to a retrofit?

Manus Kyle There are health and safety benefits as well as time and cost savings. One well-known and quite old government building had a point cloud survey done and they’re going to put the results into a BIM model because that’ll give them spatial awareness of the assets as well as data. They’ll know what sort of space they have at certain points and can safeguard the engineers that are going to have to go into those spaces. If there’s asbestos there, is there enough space for it to be dealt with? Also things like way finding, helping you to work out the best way to get to something that’s in a very narrow space in a void.

Rob Manning We are involved in refurbishing a prison for the government and we’re doing a laser scanned plan survey. We just have to work out how we can append information to the survey.

Jason Clark Regardless of the stage of the project, there are many ways to develop a model. Laser scanning is getting cheaper. For two and a half grand a day you’d be surprised how much they can scan. I have found that some designers don’t want to design in BIM, but there are people in Asia who’ll take your 2D drawings and build the 3D model for me for the same sort of cost.

But to me this isn’t the spirit of BIM, because it needs to be a live collaborative process.

Roger King I see BIM working in new build; I see it working in major refurbishments. There are obvious benefits for existing portfolios, but that’s much more of a challenge and potentially requires a different approach.

Regardless of the stage of the project, there are many ways to develop a model.

Rob Manning There are all sorts of debates about this with refurbishment. Do you do a light model for the visualisation side of it, and do you just put the data for the small piece of refurbishment into your asset management system or your FM management system? Or do you try and put all of the data into the model? It’s a major task for operators to keep on updating a model with a lot of information in it. We probably don’t know what the answer is yet.
Barriers to FM engagement

**Ismena Clout:** What are the barriers to FM’s engagement with BIM?

**Sunil Shah** The construction industry has a predetermined view of FM and how FM operates, which clouds judgment in terms of the knowledge and the data that’s put together as part of the BIM system.

**Rob Farman** The language that people on the design and construction side use, and people in the BIM industry who talk a lot about software protocols and so on, is not the sort of language you can talk to facilities managers in. It’s very important that we get FM managers, designers and constructors talking together, understanding each other, and exploiting BIM.

**Ismena Clout** What about construction firms who have strong FM arms? Do their construction and FM divisions communicate?

**Jason Clark** We’ve used suppliers like these on both the operational side and the construction side, and they don’t talk to each other.

**Paul Dove** They don’t share their knowledge at all. On the construction side they’ve got some really good tools, but they didn’t use them operationally.

**Jason Clark** But you shouldn’t rely on your suppliers to integrate your model just because they are one organisation. Use BIM as a supplier integration process to deliver your requirements.

**Manus Kyle** But FMs don’t necessarily have a big voice when it comes to making demands for what they want or need. The cost benefits talked about tend to apply to the construction side, so the BIM model almost finishes at the end of construction. The handover is almost forgotten about. It’s been the same way for 15 or 20 years; FMs don’t necessarily make enough noise. It’s only in the last year or so that we’re seeing owner occupiers asking for 3D models that can be used effectively, rather than a load of hardcopy drawings.

**Gareth Tancred** You’re exactly right, FMs often don’t have a voice when some of those big capital decisions are made. A lot of those decisions tend to be based around the capital spend of a project rather than the lifecycle and operational cost, and there’s some work to be done on awareness there.

**Chris Stoddart** I think a lot of FMs are actually frightened of construction. They don’t understand the processes, they don’t understand the relationships, and they certainly don’t understand the contractual relationships of main contractors and their suppliers. They tend to stay away until the last possible stages before they get...
involved, and then they think ‘Oh God, I’ve got to start cleaning this on Monday.’

**Rob Manning** Until now forms of contract and designer appointments have not required construction teams to have a contractual interest in the operation of the building, it’s only now that construction teams are beginning to do that. FM came into real being in my opinion when PFI started; it was an immature industry that didn’t know how to make that communication, but it does now. It knows what it wants and it can bridge that gap.

**Rob Farman** Design and construction needs to explain BIM a lot more to FM, and FM needs to explain itself a lot more to construction and design.

**Ismena Clout** Is the government giving a lead on this?

**Rob Manning** It’s about contracts, it’s about FM defining its requirements. What the government is doing from its own perspective is looking at the existing plans of work, the RIBA plan of work, the BSRIA framework of design responsibilities and so on, and creating a data hierarchy on a digital plan of work. So for each of the work stages, from strategy into concept, through construction and handover and into operation, it is saying what are the questions that the client wants to have answered? What do we need to know at those decision points? What do we need in order to operate the asset? Then below that it lists the deliverables, and among those are all the FM-related questions. If you use this as a framework for RIBA to respond to and BSRIA to respond to, you’re beginning to impact on the appointment documents that go to designers and go to contractors. You’re beginning to say what you want in terms of operation during the design phase. If BIFM could contribute to this idea of a digital plan of work, that would be very powerful.

**Ismena Clout** But how do the construction and operational sides talk to each other and exchange information in practice? Isn’t there an issue of data compatibility and interoperability?

**Neil Oliver** One of the core issues that comes out of developing digital plans of work is the need to define datasets – define exactly what you call something. Datasets are absolutely key to the issue of interoperability for different tools, to enable software from different manufacturers to talk to one another.

**Jacqueline Walpole** In America it’s a requirement that in any fit-out the information is provided in set format so that it can be imported in if required. That’s where COBie is sitting at the moment.

**Rob Manning** In the UK the government is targeting level 2 BIM, which accepts a series of architectural, structural and MEP models requiring a tool to pull them together. The government can’t spend on any number of interfaces between Planet FM, Maximo, Revit, Bentley and all those products, and it cannot support proprietary software so it has to have something that’s open. So it is adopting the freely available, non-proprietary system called COBie as an information exchange mechanism between information models and asset management systems.

“**It’s about contracts, it’s about FM defining its requirements.**”
Rob Farman  My big concern is that at the moment using COBie is basically about dumping information from a spreadsheet. As far as I can make out it’s not much more than taking the asset register for PPM and then sticking it into CAFM. Isn’t that just a palliative?

Jacqueline Walpole  COBie at the moment is a very small subset of the data in a full building model, and information needs to be imported and exported into different programs. We have construction firms who want to get the full building model into a CAFM system, and in America they are aiming to use COBie data to provide spatial locations, information about assets and equipment, and PM schedules. However, the PM schedules data that I have seen drops far short of what anyone in FM would expect to see. They want to get everything going through, including whole life costings, but at the moment all we have is the definition of the first level, exporting in either XML or Excel and CSV format and importing that in.

Rob Manning  COBie doesn’t automatically link across to the definitions that we have elsewhere, it needs a clear classification system. Until we have what they call industry foundation classes that actually work, we’re not going to get to level 3. So there’s a big activity going on there, with a real opportunity for BIFM to contribute.

Jason Clark  But at some point there’s going to be a common dataset and COBie is a starting point. That might not be suitable for everyone, but generally that’s going to be the starting point, and then you bespoke it to your requirements. Don’t create a database with data you don’t need, don’t share and is unmanageable. Define the data you require to provide good-quality operation information you need and will share between your many operation platforms.

Ismena Clout  Are there other issues around standards and definitions?

Jacqueline Walpole  One thing with the definitions being developed for BIM data is the Uniclass classifications that define types of equipment. My big worry is that new, different specifications coming in are not all matching up. It’s scary. Why are people going to a lot of effort to reclassify equipment, yet are not talking to the different organisations who, for example, define the maintenance for that equipment?

Define the data you require to provide good-quality operation information you need and will share between your many operation platforms.

Rob Farman  There is some progress. RICS, for example, has issued the New Rules of Measurement 3 (NRM), which cover maintenance costing and lifecycle costing – that’s a first in the industry. Overarching that is BS8544, the guide on lifecycle costing of maintenance during the in-use phases of buildings, which will shortly be published. A lot of us in the industry use SFG20, the standard for maintenance specification for building services, which focuses on the water, heating and ventilation side. There was nothing on lifts or escalators, nothing on fabric, not an awful lot on electrics.
That’s now being trebled in size to cover as far as possible all aspects of the building, including fabric, and pick up everything that’s statutory. And with the CIBSE Guide M maintenance engineering and management, we are revising Chapter 13 to re-estimate the lives of a much wider range of building plant.

**Ismena Clout** So we need to have an overarching way to make sure the organisations developing these standards are talking to each other, and are mindful of what is happening in such areas as BIM.

**Rob Manning** This is not just down to the institutions. This is a real problem, establishing the level of detail, and it’s not something the government can define. It can set the framework for the level of detail required at each stage, but remember this goes right down to the component detail, and that means you need to turn to the supply side – the product suppliers, the Construction Products Association, contractors, design companies, FM companies – and say OK guys, get together, and define what the level of detail is.

“So we need to have an overarching way to make sure the organisations developing these standards are talking to each other.”

**Jacqueline Walpole** And this is where we need to speak out as the industry that has to maintain and operate those items. It’s all well and good that the people who manufacture equipment think we need this information, but we need to make sure they are providing information in an adequate form.

**How should BIFM engage?**

**Ismena Clout:** BIFM has been slow to fully engage but we’re turning that around. We now have a BIM working group, we have a board member who’s responsible for BIM. Now I would like to ask all of you, what else do you think BIFM can do? How would you like us to move forwards?

**Rob Manning** I invite you to join Cabinet Office BIM work package 104 group, which is about plans of work. Just come along and see if there’s some benefit for the FM industry in what we’re doing. I know there is because it is about contractually bridging the gap between construction and FM, saying that FM information must be delivered as part of the design construction. I also think you should be engaged with PAS 1192 Part 3. In writing a document about operational process we are engaging facilities management expertise.

**Jason Clark** Raise general awareness, articulate for all of us how we make the business case for FM, and lose some of the...
myths about BIM and FM’s role in BIM. Make sure you’re firmly embedded in all these publications and standards and things like that. In every industry magazine manufacturers are claiming that they are producing BIM intelligent objects, and yet you’ve had no engagement in that to make sure that the datasets they’re providing in their model is going to be suitable for ongoing maintenance.

**Roger King** You could articulate the benefits for clients, for FMs themselves, and the supply chain. The supply chain is particularly important because that’s where the money is spent and where the efficiencies can really be driven, and the accountants on the board will be looking for that. Also guidance notes would be useful, setting out best practice: this is how we brief projects, this is how we engage with structural projects, this is what BIM means to us.

**Paul Dove** Introduce some sort of clarity around how asset management links in with other operating systems, and the benefits for FM around that.

**You could articulate the benefits for clients, for FMs themselves, and the supply chain.**

**Chris Stoddart** I think there’s a lack of understanding and knowledge among BIFM members, so there’s an education package to be thought through. Maybe there’s a bit more we can do through pre-bolted-up roadshows that we can just give to the regions. And perhaps something should go into the BIFM qualification package on this, because I’m not sure BIM sits in there at the moment and obviously it is the future.

**Rob Farman** The BIFM-accredited universities are keen to learn how FM is going to use BIM, so they can teach it to their students, who ‘can hit the ground running’ with it just after graduation.

**Jacqueline Walpole** I agree that we need to be involved with the definitions for the new builds. I like the idea of a BIM education package, but I also like the idea of an FM education package that can be put out to roadshows to educate different organisations and people on FM requirements.
Conclusion and recommendations

If there is one thing to draw from the first BIFM FM Leaders Forum, it is that like it or not, BIM is something FM must engage with – and that engagement must begin as soon as possible.

BIM offers a tremendous opportunity for facilities managers to add meaningful value to the design or refurbishment of a facility. FM should therefore be playing a central role in contributing to the BIM process.

There were few dissenters around the table. Everyone agreed that BIFM needs to educate its members and the wider FM community, not just about what BIM is, but crucially what it has to offer FM.

The group suggested that BIFM should engage with BIM through a range of activities. These include:

- BIFM should join the Cabinet Office work package 104 group and become involved in the development of PAS 1192 Part 3.
- BIFM needs to involve itself in the process of classifying products and structuring data for BIM.
- BIFM must define the business case for BIM as a process within FM and make clear its benefits for facilities managers, clients and the supply chain. It should also raise awareness of BIM’s importance to the FM profession and encourage its members to find out more, perhaps by providing links and advice about groups to join and events to attend.
- FM World should maintain its focus on BIM, work with various stakeholders to help articulate the business case for BIM, and publish informative articles such as a case study on UBS.
- The CIC’s new chain of Regional BIM Hubs could be publicised through BIFM.
- BIFM needs to clarify the BIM relationship with asset management and risk management, commissioning any research that might be necessary.
- Once BIFM has committed itself to a vision for BIM and FM, it should spread the word through an education package, including roadshows. BIFM qualifications need to take account of BIM (and other institutions should be prompted to do likewise).
- Members and service providers should be challenged by asking: what are the five most important things to do regarding BIM?

This demonstrates that there is certainly a lot of work to be done.
BIM is a way to create better designed, better managed and longer-lasting sustainable facilities for the UK. It could also be the catalyst for building strong and valuable strategic bridges between FM and the other built environment professions. In fact, BIM provides BIFM with a platform from which to engage with the whole of the UK built environment supply chain. To this end, it is vital that BIFM adopts a strategy for BIM.

As several participants in the discussion made clear, FM is still not wholly understood or appreciated by the other professions in the construction supply chain. More worryingly, FMs do not always make the effort to properly connect or liaise with their counterparts in construction.

On the technical side, there is confusion around the management and creation of data: definitions of systems, standardisation of product models and interaction of software are all potential stumbling blocks.

Tackling problems like these requires campaigning know-how, research expertise, and the capacity to liaise with the government and like-minded bodies such as CIC, BSRIA, CIBSE and RIBA. And no organisation is better placed than BIFM to drive all this forward on behalf of its members and the FM profession.

Future action recommendations:

This report highlights specific themes and areas in which BIFM should consider future action:

- The need of FM to continue to raise its profile within the construction industry
- The need of FM to demonstrate how it can support better building design and in turn benefit the lifetime cost of a building
- How facilities managers can be involved at specification stage
- How FM should contribute to the development of standards, systems of classification and datasets to ensure that BIM technology is developed in a way that is useful for FMs
- Ensure that BIFM leads best practice for FM as the industry adapts to BIM
- BIFM should lead cross-industry collaboration between the construction and design industries and FM.
About the panel

Jason Clark, Projects director, UBS

Jason is closely involved in overseeing the development of UBS investment bank’s new £340 million London HQ at 5 Broadgate in the City of London. The project is about to move into the fit-out stage.

Ismena Clout, Chairman, BIFM (facilitating)

Ismena became the 11th chair of the BIFM in July 2012. She has been a key account manager for PowerPerfector since 2009, focusing on partnering with FM companies around the UK. Before that she worked for many years as a client-side operational FM.

Paul Dove, Critical environment manager, UBS

Previously head of operations at UBS, looking after data centres and trading facilities, Paul recently moved to the 5 Broadgate project team (see Jason Clark, above) to ensure an operational input into the development of the new build.

Rob Farman, Principal, Abacus FM Engineering Consultancy

Rob, a self-employed FM engineering consultant with extensive experience of hard FM, has been invited to participate in the BIM Task Group’s work on PAS 1192 Part 3.

Roger King, Director projects & programme, Telereal Trillium

Telereal Trillium is one of the UK’s largest property companies, with over 8,000 properties nationwide and customers ranging from private companies to local authorities and central government departments. Roger is from a construction background but works within an integrated asset, facilities and projects team.

Manus Kyle, Sales consultant, Excitech

Excitech is a leading provider of consultancy, training, software and support for CAFM, EDM, IT and CAD, including Autocad and Revit Architecture. Manus is interested in how single environment information modelling can be brought through into FM.

Rob Manning, BIM implementation director, Government BIM Task Group

Rob is currently seconded to the government’s BIM Task Force. A building services engineer by training, Rob – a past president of CIBSE – leads a team of support officers responsible for paving the way for the introduction of information modelling in government departments.

Neil Oliver, Life cost specialist, Inani

Neil, a trained quantity surveyor, is head of Inani Ltd, which specialises in project management, cost, resource and carbon modelling and applied research projects. Neil is interested in bringing whole life appraisal through from early design to operational issues within the building.
Martin Read, Editor, FM World

Martin is already involved in the BIFM BIM Working Group, and intends to promote a wider understanding of BIM and its significance for FM through articles in FM World, the BIFM’s magazine.

Sunil Shah, Director, Acclaro Advisory

Sunil has worked as a consultant for most of his career specialising in FM, construction and whole building lifecycle.

Chris Stoddart, General manager, Heron Tower, Cushman & Wakefield

Chris comes from a construction background and specialises in mobilising ‘very large or very tall’ buildings. His employer has commented that he has ‘a unique insight into the lifecycle of property and the impacts of real estate on an occupier’s business.’ He is also chair of the BIFM Fellows Forum and sits on the BIFM members’ council.

Gareth Tancred, CEO, BIFM

Gareth runs BIFM on a day to day basis and implements the board’s strategy for the benefit of members and the FM profession. A qualified accountant, he has worked as finance director at several large companies and also managed various large property portfolios, which involved taking responsibility for FM.

Jacqueline Walpole, Business analyst, FSI

FSI (FM Solutions) is the developer of the Concept and Concept Evolution suite of products. Jacqueline, formerly an independent FM consultant, came to FSI to work on the strategic development of the products and work with the real needs of the FM business.
Glossary

**BIM**
Building Information Modelling. A process involving the generation of digital representations of the physical and functional components of a facility. The resulting building information models become shared knowledge resources to support decision-making about the facility from the conception stage, through design, construction and operational life up to eventual decommissioning.

**BIM Task Group**
Set up by the Cabinet Office following the government’s announcement of its Construction Strategy on 31 May 2011. The task group is responsible for implementing collaborative 3D BIM (with all project and asset information, documentation and data in electronic format) on government projects by 2016.
www.bimtaskgroup.org

**BSRIA**
The Building Services Research and Information Association (BSRIA) provide specialist consultancy, testing and research services for construction, building services and facilities management.
www.bsria.co.uk

**Cabinet Office work package 104**
Entitled ‘Plan of Works’, this project within the government’s BIM initiative is being carried forward by the Construction Industry Council (CIC). Institutions such as RIBA are working with the CIC to develop BIM-enabled digital plans of work that could be used across the design and construction industry to facilitate the implementation of BIM in government projects.

**CAFM**
Computer-aided facilities management. Any software package or system designed to support facilities management. Well-known examples include Concept from FSI and QFM from Service Works

**CIBSE**
Chartered Institution of Building Services Engineers.
www.cibse.org

**CIBSE Guide M**
CIBSE Guide M: Maintenance Engineering and Management (2009) is an update of the guide to ownership, operation and maintenance of building services published in 2000. It covers such issues as owning and operating costs, economic life factors, energy efficiency and maintenance, maintenance strategy, and different types of maintenance technique.
CIC
Construction Industry Council, the representative forum for the professional bodies, research organisations and specialist business associations in the construction industry. The CIC is working with the government’s BIM Task Group to raise awareness of the BIM programme, deliver a consistent message to the supply chain and share best practice.
www.cic.org.uk

COBie
Construction Operations Building Information Exchange. COBie is a means of capturing and sharing structured information about new and existing facilities, originally developed in the US. Its data can be viewed in a simple spreadsheet such as Excel. COBieUK:2012 is a digital data exchange format being prepared as part of the government’s BIM initiative.

CSV
Comma-separated values.

FM
Facilities management.

GSL
Government Soft Landings. A policy led by the Cabinet Office FM Category Team as part of the government construction strategy. The aim is to ensure that design and construction are aligned with operational asset management, and to implement greater use of outcome-based specifications against clear performance criteria.

Industry Foundation Classes
Industry standard data structures for exchanging information about construction projects, intended to be neutral and open specification and not under the control of a single vendor. It is an object-based file format with a data model developed by buildingSMART, and applies to the physical components of a building as well as related information.

MEP
Mechanical, electrical, plumbing.

NRM

O&M
Operations and maintenance. O&M manuals must legally be provided as part of health and safety documentation for a building following any significant building work. They are usually compiled by the main contractor or the contractor’s specialist consultants.
PAS 1192 Part 3
PAS 1192 is a Publicly Available Standard for the delivery of BIM-enabled information. Part 2 is currently under development, focused on design and construction information. Part 3 will cover the operation and management of assets.

PFI
Private Finance Initiative. A method of funding major capital investments where private firms, usually construction companies or service providers, are contracted to complete and manage the projects. The public services are leased to the public and the government authority makes annual payments to the private company.

PM/PPM schedule
Preventive maintenance or planned maintenance (PM) is the same thing as planned preventive maintenance (PPM). A PM or PPM schedule is a list of preplanned maintenance events over a specific period, typically 52 weeks.

Point cloud survey
A method of generating a BIM from an existing building. Laser technology is used to survey the spaces in an existing building to create a digital ‘cloud’ of geometrical points. This data is used to generate the geometry of the building which can be imported into a BIM-enabled CAD package. Materials can be identified and detailed specification information can be added.

RIBA
Royal Institute of British Architects, www.architecture.com

RICS
Royal Institution of Chartered Surveyors, www.rics.org

SFG20
The standard maintenance specification for building services. Includes detailed maintenance information for all principal types of heating, cooling and ventilation, installation and plant, and electrical services in buildings commonly in use within Europe.

TCO
Total cost of ownership. An estimate of the total cost of a building, including direct and indirect costs, over its lifetime (including operating costs).

Uniclass
Unified classification for the construction industry, published in 1997 by NBS (National Building Specification) on behalf of CPIC (Construction Project Information Committee). It is a classification scheme made up of a series of tables, each representing a broad facet of construction information.

XML
Extensible Mark-up Language, similar to HTML, designed to transport and store data.
About FM Leaders Forums
The FM Leaders Forum is a medium through which BIFM gathers together leading minds and practitioners from the facilities management sector and beyond to debate different subjects and topics to inform the membership, the FM sector and the BIFM.

Those involved in each forum depends on the subject area being addressed, leaders from across the sector and where appropriate from outside the sector will be invited to take part in the discussion forum.

About BIFM
The British Institute of Facilities Management (BIFM) is the professional body for facilities management (FM) in the UK. Founded in 1993, the Institute represents and promotes the interest of members and the wider FM community.

The Institute delivers a range of services and benefits, including information, qualifications, continuing professional development, training and networking for over 12,500 individual and corporate members.

Our strategy is to increase participation and collaboration, promote professional standards, support career development and build an effective relationship with stakeholders including government.