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The role of Facilities Management

THE role of a facilities manager is to ensure that a building is suitable for individuals to work in. This includes making sure services such as cleaning, security and parking is of a good quality. They also manage building maintenance like heating and air conditioning systems. They ensure that an organisation has the most suitable working environment for its employees and their activities.

Facility management (or facilities management or FM) is an interdisciplinary field devoted to the coordination of space, infrastructure, people and organization, often associated with the administration of office blocks, arenas, schools, sporting complexes, convention centres, shopping complexes, hospitals, and hotels.

FM covers two main areas. The first area is "space and infrastructure" (such as planning, design, workplace, construction, lease, occupancy, furniture and cleaning).

The second area is "people and organisation" (such as catering ICT, HR accounting marketing, hospitality), which covers the people and the organisation and is related to work psychology and occupational physiology.

According to the International Facility Management Association (IFMA): "FM is the practice of coordinating the physical workplace with the people and work of the organization. It integrates the principles of business administration, architecture and the behavioural and engineering sciences."

FM may also cover non-core functions, which are activities other than business services, and vary from one business sector to another. FM can be flexible as a role, and is subject to continuous innovation and development and under pressure to reduce costs and add value to the core business of public or private sector client organisations.

The facilities manager has a responsibility to control and manage environment and safety related issues that could put employees at risk of sickness, injury, loss of business, prosecution and insurance claims. There is the risk that the confidence of customers and investors in the business may be affected by adverse publicity from safety failings.

Fire safety is also the responsibility of the FM, who will have in place maintenance, inspection, and testing for all the fire safety equipment and systems, including records and certificates of compliance.

Security of the site can be the responsibility of the FM or under the control of a separate department, however, it is often the FM's responsibility to protect the employees and business with maintenance of security hardware.

The day-to-day running of the building is essential, with cleaning operations taking place outside of business hours. There may be a facilities' management "help desk" for anything that warrens more than periodic maintenance. The help desk can be contacted by telephone, and response to these calls are prioritised. They may include issues such as inaccurate temperature of a building that cannot be resolved, faults with lighting, or errors with equipment such as photocopier being jammed.

BIFM:

An exclusive interview with Julie Kortens

Julie Kortens, Chairman of the British Institute of Facilities Management (BIFM), speaks to UK Construction Media about her aspirations for the Institute and the future of facilities management in the construction industry.

For the uninitiated, what would you identify as being the core aims and objectives of the BIFM?

At our heart is working with Facilities Management (FM) professionals to equip them with all they need to deliver exceptional FM for their organisation. But hand-in-hand with that is to raise the profile of FM as a profession and educate business leaders and other professions about the value and impact that FM can make to operational performance, for the benefit of business, the economy and society.

What is your own professional history? How did you become Chairman of the BIFM?

Having spent several years working in HR, I took up my first role in facilities management in 1998 and have never looked back. It is an amazing profession, accessible to people from all cultures, all levels of experience and all academic backgrounds and I have been proud to play an active role in the development of the profession. I have volunteered in many capacities for BIFM, chaired the Women in FM special interest group, acted as a Non-Executive Director and have had the privilege of being Chairman since 2014.

How is the BIFM able to support member companies?

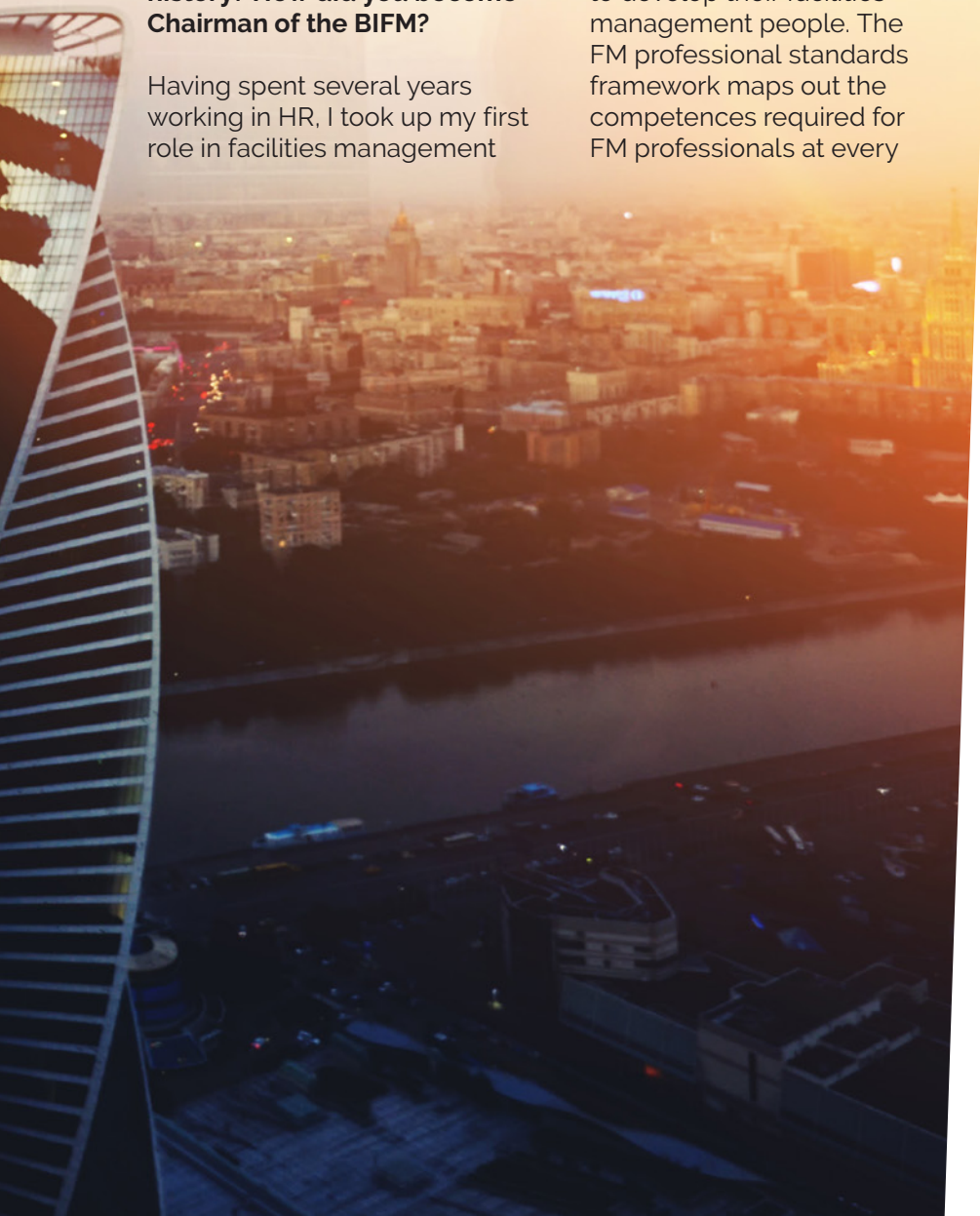
We work with employers to develop their facilities management people. The FM professional standards framework maps out the competences required for FM professionals at every stage of their career and through membership, qualifications and training employers can build up true staff development programmes to help develop the skills and expertise of their employees. We have many group members and are working closely to develop true strategic partnerships, helping them tailor and adapt our framework to provide the professional rigour of our standards but also adapt to their corporate goals and priorities.

We also work with businesses operating in the FM space to raise the profile of key issues, conduct research and, as corporate members, they can work with our communities and share specialist knowledge through our special interest groups.

From architecture and interior design to maintenance and waste management, the BIFM's corporate membership spans a wide range of sectors. Are the fundamentals of facilities management the same irrespective of the industry? Is it at all difficult representing so many different sectors?

We have in our membership both the client and supply side of the profession. For instance, the FM professionals operating in businesses across the economy where the core purpose of the organisation might be anything from educating pupils, to discovering a cure for cancer or producing best in class products. On the supply side we also work with FM service providers and a range of specialist organisations that supply into the FM market, with organisations from interior design, maintenance and waste management.

From my experience I can see that the core of successful FM



is management expertise (financial, people and project) and as such many of these skills are transferable across sectors and specialisms. Similarly because of the range of responsibilities FM's invariably have, there is an inherent need for excellent communication and interpersonal skills to be able to manage the expectations and needs of a range of different stakeholders.

In different sectors there are always different skills and challenges and, as with any profession, you take your core professional skills and adapt them to the environment you are operating in. FM is no different. For example a soft service, customer facing FM role will have different skills requirement than someone who has a building engineering based role.

With the support of an amazing volunteer network we are also able to support a range of specialisms and sector specific professionals. We have special interest groups focusing on core FM specialisms such as Health and Safety, Workplace or Risk and Business Continuity and also sector based communities for example in Retail and Education.

What do you see as being the current issues within facilities management? What strategies are in place to address these issues?

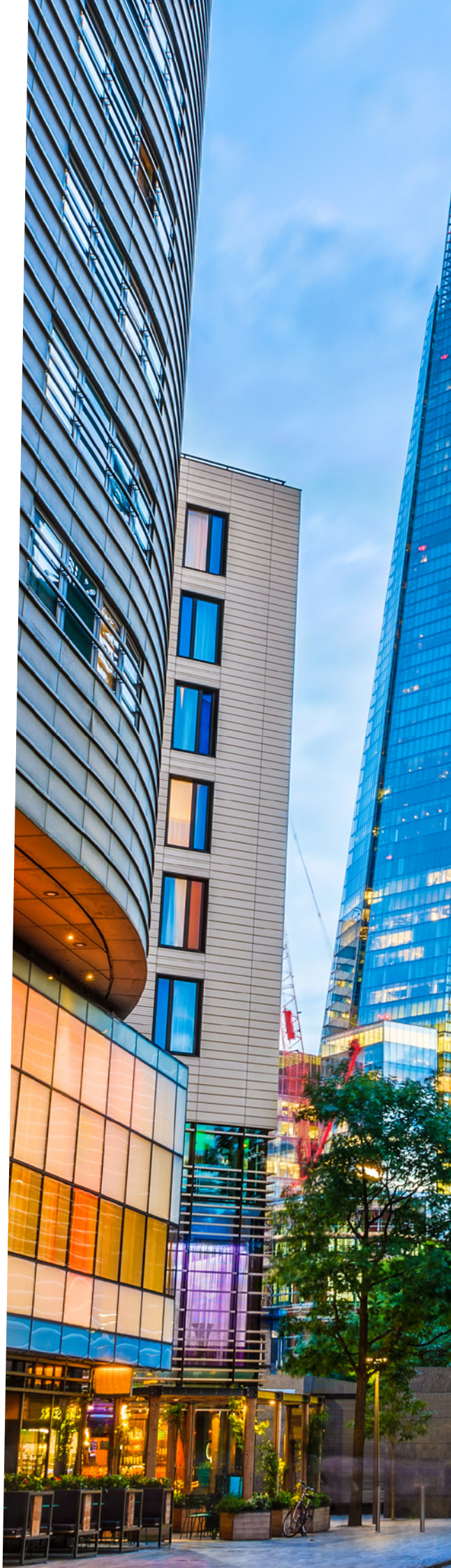
I prefer to describe these as challenges rather than issues because facilities management has come such a long way in recent years. We are valued business partners in most organisations and our impact on overall business performance is increasingly recognised by the C-Suite. However, it is still apparent that in some sectors there continues to be a focus on cost-based procurement processes which do not recognise that it is people, strong partnering relationships and knowledge that deliver the value.

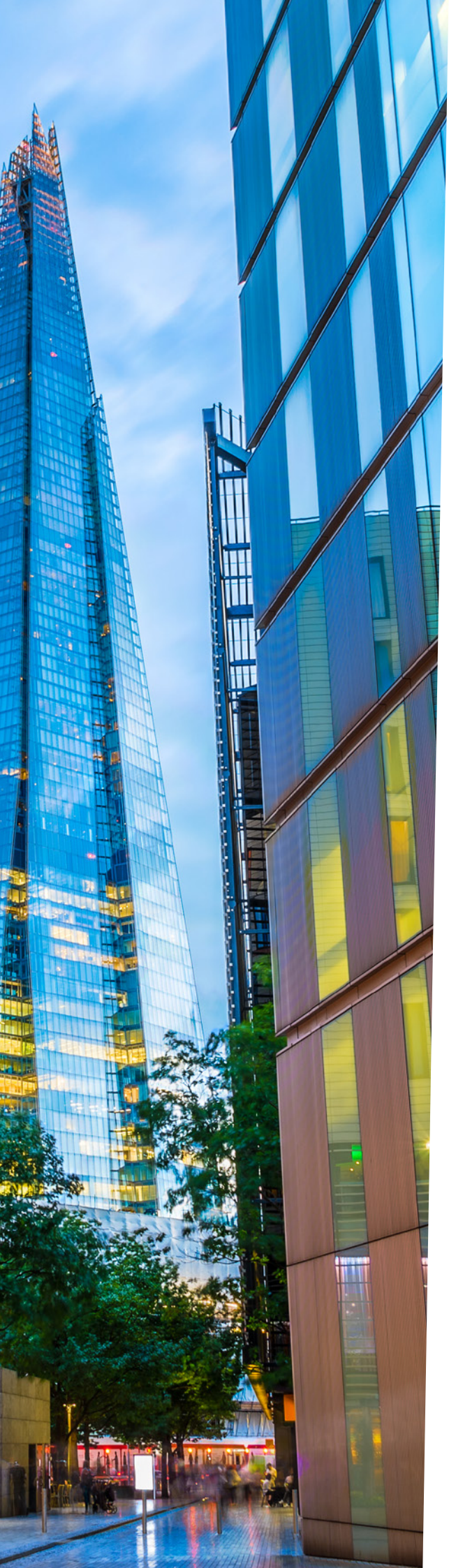
Collaboration with our colleagues in human resources, IT and finance is still a priority for us all. Working together to embed values and business imperatives is essential and FM has a key role to play in this arena. Our BIFM annual conference, ThinkFM, has focused on collaboration and productivity over the past few years to emphasise the role that we can play to create competitive advantage in business and add impact on society.

In your experience, do people fully understand the concept of facilities management and the influence it has on work environment and efficiency?

I think understanding has improved significantly over the past few years. People talk about FM being a young industry, but the understanding of the impact and value that FM can have on organisational performance and productivity, ultimately delivering value to the bottom line, has increased.

However, as with any profession this varies across organisations depending on their understanding of how to leverage FM as part of their strategy. For example we see pioneering companies creating work environments built, sustained and managed with the sole purpose of helping create happy, healthy, empowered individuals. These environments have great workspaces





fostering appropriate cultures and collaboration within their business.

However, for others this is not on top of their priority list – perhaps due to other struggles or due to a lack of understanding of the difference FM can make. In businesses where the customer experience is fundamental to the organisations' success you often see far more buy-in to the role and importance of FM.

Obviously, there is still work to be done recognising the full remit and opportunities that FM provides. But, as well as the institute engaging in cross industry groups, I think it's so important that BIFM also helps equip FM professionals with the skills and knowledge to be able to champion the value of their teams and the services they provide within their own organisations.

What advice would you have for companies looking to implement a facilities management strategy?

A facilities management strategy must link directly to and generally underpin the strategy of the business. Understanding the values and needs of the business is essential. I think that it's sometimes forgotten that the facilities management team is often the voice and face of the business, meeting and greeting clients and the public and providing the working environment which is the embodiment of the culture and values of the business.

How is the implementation of Building Information Modelling (BIM) impacting facilities management? What advantages does BIM afford facilities managers industry-wide?

Although the BIM agenda has been driven by the public sector in recent years, in my experience there is also an awareness and understanding across the private sector. I believe that many feel that the working practices promoted by BIM already exist, particularly on new build projects. That said it will be interesting to see how this pans out. The good news is that it will continue to raise the profile and understanding of FM as a profession with other construction professionals across the built environment.

Many believe that long-term increased usage of BIM will provide better opportunities for FMs to maintain and engage with asset data which will potentially help expand a building's lifecycle and increase operational efficiencies. This should also provide metrics that can help record and demonstrate the value that FM offers.

How do you see the BIFM continuing to develop in the months and years to come?

In the immediate future we will be continuing our work with FM employers to develop strategic partnerships through the institute's learning and development opportunities, and look at ways in which we can progress and advance the skills–base across the sector using our professional standards.

We're also delighted to have been contacted by an increasing number of international FM professionals and employers, all seeking to take up training and development for their teams, raising standards across the globe and taking full advantage of the BIFM offering.

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BIM4FM:

An exclusive interview with Geoff Prudence

In an exclusive interview, UK Construction Excellence speaks to Geoff Prudence - Chair of CIBSE Facilities Management, the BIM4FM cross industry workgroup and BIFM Building Services - about Building Information Modelling, its implementation and the ramifications for facilities managers industry-wide.

Could you provide our readers with an introduction to BIM4FM?

What would you identify as being the Organisation's remit? BIM4FM is one of several 'BIM4' organisations feeding into the BIM Task Group, with a view to delivering on the Government's drive to implement Building Information Modelling.

What's really unique about BIM4FM is that we have all the interested parties in the industry - the established institutions and associations - around the table. These include CIBSE FM, RICS, RIBA, BIFM, CIOB, BSA, BSRIA and B&ES, (formerly HVCA). Everybody interested in BIM from an FM perspective is collaborating, which is quite unique. Ordinarily, when bringing any organisations or areas together, there are always tensions and varied views, but it's been very good so far.

How did you come to work with BIM4FM?

There was a need for a built environment approach for FM and, because of my passion for driving things forward in the industry and my views on impartiality, I was asked to get BIM4FM off the ground and lead the Group for a couple of years.

My professional background is as a Chartered Engineer in building services. I have progressed FM in a number of areas and more recently the private and public sector, but my heart is still in engineering and building related design, risk and operations. This was an ideal opportunity to bring together a view for the industry.

When did you first become aware of the concept of BIM?

I'd heard of BIM previously - people had told me that it was about information - but the first real detail came from Tim Dwyer, a forward thinking academic in the building services industry.

I saw a presentation of Tim's in 2011 and, by coincidence, he was one of the first people I heard talk about how BIM could really benefit the industry.

How is BIM uptake in the FM industry progressing currently?

It's interesting. A lot of the leading design consultants and construction practices are embracing it. Last December however, the BIM4FM Group hosted a breakfast seminar - 'BIM Level 2 - ready, willing and able?' - in the City of London, which was very well attended. We found mixed views. During a straw pole at the end of event, only a handful of people openly felt that were 'ready' for BIM.

Generally, there hasn't been a great uptake in most sectors. There are those who see it as a market opportunity, but there's also a feeling of 'who's going to pay for it?' Really, it's about effective management right the way through the process rather than 'buying into BIM', but there's certainly mixed feelings and a lot of my colleagues are saying the same.

BIM Level 2 is now a requirement for all government contracts but, with respect, how much is the Government actually going to be building? There are lots more public and private sector contracts, and BIM is only going to stick when the intelligent clients ask for it, specify it and be exact on what they're after. That's what will really drive it.

Does BIM implementation require a change in business culture?

On the FM side, certainly. At the end of the day, it's about driving cost. As I said; who's going to pay for it? But a lot of the bigger FM companies - certainly those with a construction arm - are seeing BIM as the smart move and are altering their business models accordingly. They are the minority rather than the majority however. Many are still in denial, which is why BIM4FM is trying to explain the opportunities, where the impact is, and why facilities managers need to get involved sooner rather than later. There's a lot of uncertainty and people are afraid to ask, but these sessions will hopefully engage with them. People have to realise it is an opportunity, not a threat.

How is BIM adoption able to benefit FM?

Looking at it end to end; it really is the opportunity to be there from the beginning, to influence the design, and to hold and capture the right information.

There are key elements that facilities managers need to be asking for - the asset list and the types of maintenance, equipment and communication - and, if built into the design, these will make handover much easier and more effective. That's the benefit from an FM perspective. Life cycle considerations are more evident and BIM can only enhance that area. I have continued to promote that 'a building is for life - not just for commissioning'.

How is BIM4FM engaging with facilities managers to demonstrate that benefit?

It's been about four years since BIM4FM's inception. We've held events, web communication and published guidance to help get the message out there. That message has remained consistent throughout each separate institution and association involved, which is something that I'm really proud of. We're all pushing a single unified message to our own member companies.

We have to make people aware however. At the event in December, it was a common light-hearted point but, even now, if we went around a room and asked 'what does BIM mean to you?', 3D modelling and software would always come up. There are certain reoccurring themes but no consistent approach.

BIM isn't the physical building information; it's about building information through the process rather than handholding or baton changing. That's where the real opportunity is.

Where have the greatest challenges for BIM4FM come from?

For us as BIM4FM, there's an obvious design/operation gap which has always been an issue in practice.

BIM4FM was also set up to engage impartial institutions and associations, but we agreed under the terms of reference that we would allow specific manufactures to be brought in for a meeting or to get a view for a paper.

The challenge then has been keeping BIM4FM impartial. A lot of the people who really have a story to tell naturally have a commercial interest as well - be they a consultant, software or FM provider. That doesn't mean they want something out of it commercially; but it does mean that naturally they sense an opportunity through their own lens - whereas we're trying to remain impartial and to say what's best for FM in the construction, design and operation loop.

For more information on BIM4FM please visit: www.bimtaskgroup.org/bim4fm-group/

And there's an app for that:

The opportunity exists for geometrically and geographically accurate 3D mapping to transform any mobile device into a pocket-sized construction control centre.

ENSURING the construction industry has the right digital foundations continues to present an exciting challenge for the technology industry at large. The UK Government mandate for Building Information Modelling (BIM) is making its way through different stages, from task-force to meeting the required accreditation milestones.
BIM has changed the face of many public sector infrastructure projects, but at other levels of large scale projects, there is still a substantial opportunity to support sites where traditional methods prevail. That's where innovative and cost-effective mobile solutions can accelerate change.

Developments in planning, visualisation and modelling

The ability to map 3D structures onto a site-friendly device, like a tablet or mobile represents a wide open door for construction teams, surveyors and civil engineers.

At the start of the process, visualising the building within a 3D geospatially accurate context means a range of options can be set out before work starts. This has very practical realisations and ultimately reduces the risk of the inevitable scope-creep.

With a malleable and fully programmable 3D mapping tool there is great flexibility in its application. For some, it is vital to be able to track which products and materials are going to be used where, so cost savings can be realised. For others, perhaps in large urban settings, site safety and the flow of heavy construction traffic will be a concern and consideration, and this can be accurately mapped and planned.

Future-proofing is also a benefit. Having a robust and accurate tool that can integrate extensive data on electrics and plumbing into the plans, at an early stage, is an important investment that can be used throughout the build. Overlaying relevant digital content on the visualisation of a building or site offers a powerful connection between the desired end result and the data. Perhaps most importantly it provides an easy check for any building project, as it ensures all components of the build are easily, clearly and cost-effectively remembered and recorded for later on.

Communication flows

The communication flows linked to urban and building planning continue to be disrupted by technology. Endless-committees, hand drawn diagrams, processes have previously made it a hard, and ultimately frustrating experience to get involved with.

Here, digitisation has been an extremely positive force as it means that more automated intelligence can be applied to the planning process. From the point of view of the construction industry, shared 3D mapping data means planners will be able to get hold of more real-time content to inform their decision making.

The broader communications piece is naturally around the bigger impact of significant changes caused by urban developments.

As an example, ARUP, the architectural practice responsible for Manchester's inward regeneration and building development, recently used 3D mapping to showcase its development plans for the city.

This made it easy to help a range of interested parties visualise new buildings, and developments, as well as allow ARUP to deliver real information about the transport implications and how proposed developments works layered in over the existing infrastructure. ARUP created its own app, which resulted in a cost effective way of engaging both clients and the public.

Providing added value

What's particularly interesting in this space is the capabilities for accurate interior modelling. This goes beyond the design aesthetics and extends to integrating the data and content generated through the lifetime of a build.

A first stage of any project is a digital representation, or models, of how things would look to the prospective buyer. With 3D mapping it is possible to take this much further. In a diverse global economy potential buyers are often internationally based, and as well as showing off a building, it is increasingly important to be able to provide an convenient, easy to view summary of the entire build – and all its data. With this in mind, the world of 3D mapping offers the construction industry a powerful tool that can be adapted for numerous situations and projects. Complex data sets on efficiency, compliance and resource usage can be built up over time, and presented in easy to read charts or graphs.

Digitisation using 3D mapping on the construction site goes beyond the build itself. The future is for it to be integrated into the life of the building, enabling all interested parties to work quickly and effectively together on site, from planning through to sale.

By Ian Hetherington, CEO, eeGeo

Intelligence & Innovation:

Fire safety in the UK construction industry

THE construction industry faces a unique set of challenges when it comes to fire safety. Construction sites play host to a range of potentially hazardous machinery, materials and situations which, if improperly tended, could lead to a costly disaster. It's a high-risk environment - almost 65,000 construction workers in the UK sustained an injury at work in 2014/15. The risk is two-fold - a fire in an active build project can cost constructors millions, or even the loss of the entire project, but far more important is the risk to contractors' lives. A thorough and intelligent fire monitoring and prevention system is essential to keep employees and investments safe.

To increase the difficulty of this process, site managers must ensure that a fire risk assessment has been carried out and a fire safety strategy put in place for both the contractors' village, made up of modular offices and facilities, and the building under construction. These measures must cover several important considerations. First of all, a temporary and dynamic means of sounding an alarm within the building under construction depending on contractors' location within the build, ideally through manual call point and sounder combinations which can be moved as required. Then, a more static and complex FDA system must be implemented for the village. On top of this, support including emergency lighting, extinguishers, evacuation assembly points, staff training and a fire warden programme must be put in place.

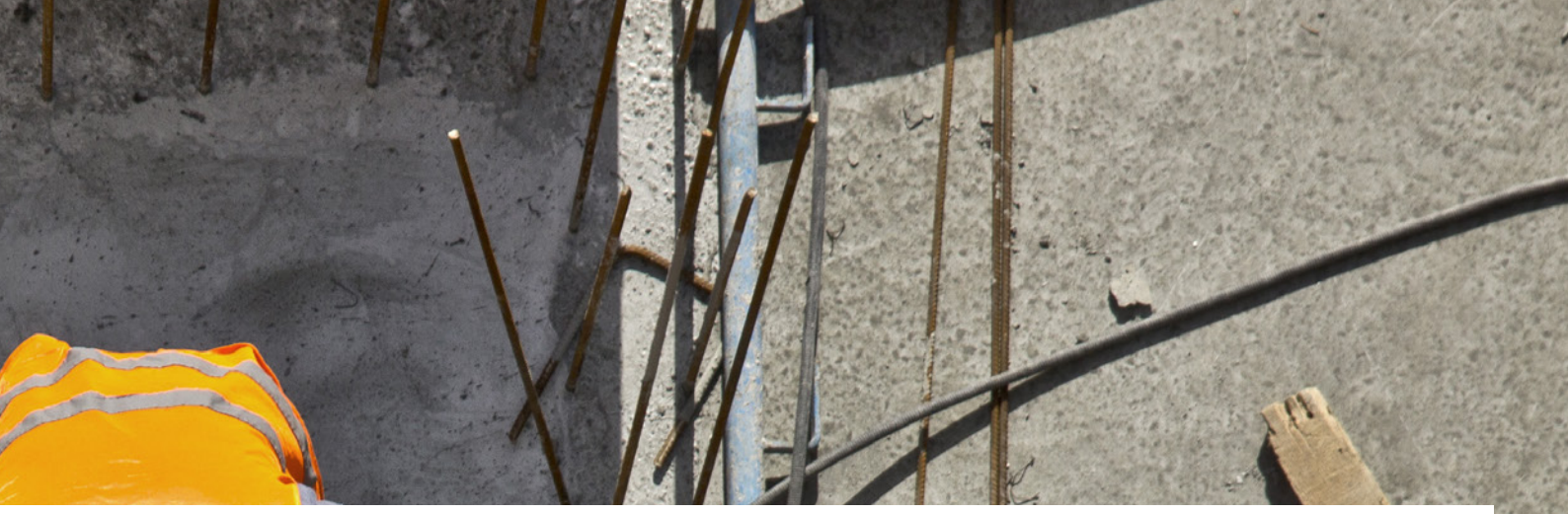
There are technological solutions to many of these problems. For example, radio-enabled fire safety devices, which can transmit alerts across a large site. Given the evolving nature of a construction site, a connected capability is essential to increase the efficiency and accuracy of fire safety programmes, and such systems can be easily removed and re-installed multiple times. In sites which have the capacity to carry IP cables, it's also worth considering the benefit of intelligent connected fire detection and alarm systems which can collect and analyse data to better determine the true state of a fire incident, reject false and unwanted alarms and help site managers improve accuracy and overall safety without a large hike in outlay.

The minimisation of false and unwanted alarms is also a key issue to consider when it comes to fire safety. Construction companies have a responsibility to protect not only their own employees, but also the lives and interests of the communities around them, and it's essential to avoid any unnecessary risk or disruption to either group. Repeated false alarms could result in a genuine alert being missed. False alarms can also cause unneeded fire brigade callouts, which will only damage corporate reputations and relations with the local community, as well as putting victims of real fires at risk.

Reducing interruptions

Clearly, whatever the project, any site installed with a fire detection system must ensure it reduces false or unwanted alarms. Should a construction site be evacuated, crucial deadlines could be missed. If a project using costly hired plant experiences a false alarm, highly pressurised decisions will have to be made about whether to extend the rental period. Even worse, should a large number of false alarms occur, it could result in the unfortunate consequence of those onsite becoming complacent to the sound of an alarm and failing to respond to the warning of a real fire.

More broadly, false alarms are an incredible drain on public resources. According to the London Fire Brigade (LFB), around a third of all calls attended to are false alarms, leading to many fire brigades reviewing their policies - repeat offences increase the risk that the response to a genuine incident will be delayed. Some site managers could be unaware that the local fire brigade might not respond to an alarm activated by an automatic fire detector due to their policy of not answering false alarms.



Automatic alarms are hard to verify. As such, site management needs to ensure either that fire wardens are well-trained in correct reporting procedure, or that fire detection equipment is capable of discerning between, say, dust and smoke. Furthermore, since January 2014, the LFB charges companies if it has to attend more than ten false alarms in a 12-month period. This is to ensure fire-fighters are available to attend in a real emergency rather than held up at the scene of a false alarm.

Implementing a modern technological strategy

For construction companies looking to improve safety and reduce false and unwanted alarms, it is clearly advisable to implement a well thought-out fire safety strategy that takes into account the necessary risk assessments across each of these possible triggers and situations. This is crucial in order to identify and wherever possible eliminate the potential scenarios in which false and unwanted alarms could occur.

If an existing system has been prone to false alarms, it is advisable to look at incorporating intelligent fire alarm detection devices. By using interactively-adjusted algorithms these can establish if the detected properties of carbon monoxide, heat, smoke or particles correspond to those held in memory for real fire events. By utilising this type of detection technology, dust from an angle-grinder will not trigger an alarm, for instance.

It can also be incredibly beneficial to have a wireless radio-enabled system in place to ensure that detectors across the site are integrated, to aid the early detection and verification of fires. Once a fire detection and alarm system is in place, although it might sound very basic, site teams must ensure that absolutely all staff tasked with using the fire controls are trained to do so - a mis-chosen fire extinguisher or ill-advised escape route could mean the difference between life and death.

Constant vigilance

With an appropriate fire detection and alarm system installed, there must be a programme of planned, preventative maintenance in place to support it. In England and Wales this is a legal requirement under Article 17 of the Fire Safety Order (FSO), and its equivalent in Scotland and Northern Ireland. The advisory engineering best practices as to how maintenance should be carried out can be found in British Standard, BS 5839-1:2013.

Site managers should ensure that their fire detection and alarm system is maintained by a competent servicing organisation. Where the construction period is too short to merit a regular testing programme, those responsible for installation of battery-operated temporary units should nevertheless ensure the compliance of their devices at the point of installation.

The number of maintenance visits required is determined by the fire risk assessment and should take into account the level of risk (to life, property and construction continuity), complexity and size of the system. Such maintenance visits will allow the servicing engineer to work with the site team to identify any persistent causes of false alarms.

All construction sites must be protected by a well-designed, installed and regularly maintained fire detection and alarm system. Throughout this process, reducing false and unwanted alarms has to be high on the agenda as not only will this help to ensure the highest levels of safety, but it will help to reduce the amount of resources teams have to dedicate in order to manage the time-consuming and potentially costly repercussions.

By Lee Jasper, Head of Product and Solutions Group, Tyco

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