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design, construct and operate our buildings, how might BIM impact the facilities management sector?

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British Institute of Facilities Management to celebrate best-in-class facilities management across the FM sector



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THE OPPORTUNITIES FROM 4D SIMULATION

To enable the people involved in a project to gain an easy understanding of project progress and the planned sequence of works, 4D simulations are well recognised as an excellent medium to communicate.

The same applies at tender stage, when representations prepared by multimedia teams are often used in Client presentations to help explain the Contractors plans.

However, the next level of opportunity, connecting the Building Information Model (BIM) to the programme, an option previously constrained by the lack of available easy use tools, has now become a realisable opportunity.

It is commonly accepted that about 10% of design and construction time can be saved by the use of BIM, 4D communication is part of the step change to realise and improve upon this opportunity. Wherever and whoever you are trying to communicate to, operatives at site inductions, directors at project reviews, visitors to site, or for your own purposes, the power of a visual representation, or indeed an interactive time-lined visual representation is immense.

Technology to date has not made it quick or easy for people to repeat the process of linking dates with objects in a model and enabling rapid re-sequencing, this is a critical downfall as activities are commonly amended and dates changed frequently during project delivery. This is caused because currently, a single model and a single programme are fused together for this one off exercise. This fusion is permanent, so when amendments are required the whole task needs repeating from scratch, wasting time and resource.

Traditional 4D tools are too restricting to make them practical in the delivery phase

The traditional way to link the 3D model to the project programme is to take individual activities and associate them with modelled components. Projects naturally range in size but a good size complex project can easily yield 10,000+ activities and tens of thousands of objects in the model. Currently the task of association is not for the faint hearted and will only be possible if your viewing software can handle the file size of the model in the first place. Once the model and programme are hard-wired, pushing another programme into the same model is generally not possible.

Accessing the BIM at a data level enables new faster ways of working

In BIM we know a lot about the object; we know what it is, its size, its location, potentially its cost and the labour associated with it. Indeed, in a data centric solution to BIM such as the Clearbox BIMXtra solution, all the associated information is held in a central data environment. This can be accessed readily by project stakeholders through a variety of interfaces within the system.

If the model and data association is undertaken in a data environment, the connections, including those between programme and object, can be re-created at will. This is especially important when consultants update models as the re-association can take place with minimal effort. The BIMXtra process relies on its toolsets within the system to find the right objects to associate with the activities, as opposed to current solutions which require the manual adding and updating of codes in the model, which is a task that constantly causes frustration to the numerous people that need to participate to provide the output.

Associate via a data platform and we can add value to the outcome

This approach of associating the model and programme within BIMXtra also allows all the material resources to be aggregated, by activity from the components that are automatically associated with the activities in the programme. This aggregation of the material resources comes with the flexibility to associate cost and labour and allows all of these resources to be pushed back to the programme. In effect the association of the model and programme along with material, cost and labour resources can be updated within minutes, not the days or weeks currently required.

The flexibility and speed of this solution which allows you to derive 4D simulation allows repeatability. It is this repeatability, combined with the effective association of an installation date for every component, that allows the process to be completed quickly at regular intervals, perhaps even a few moments before the inevitable monthly progress meeting!

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Visually compare versions of programmes

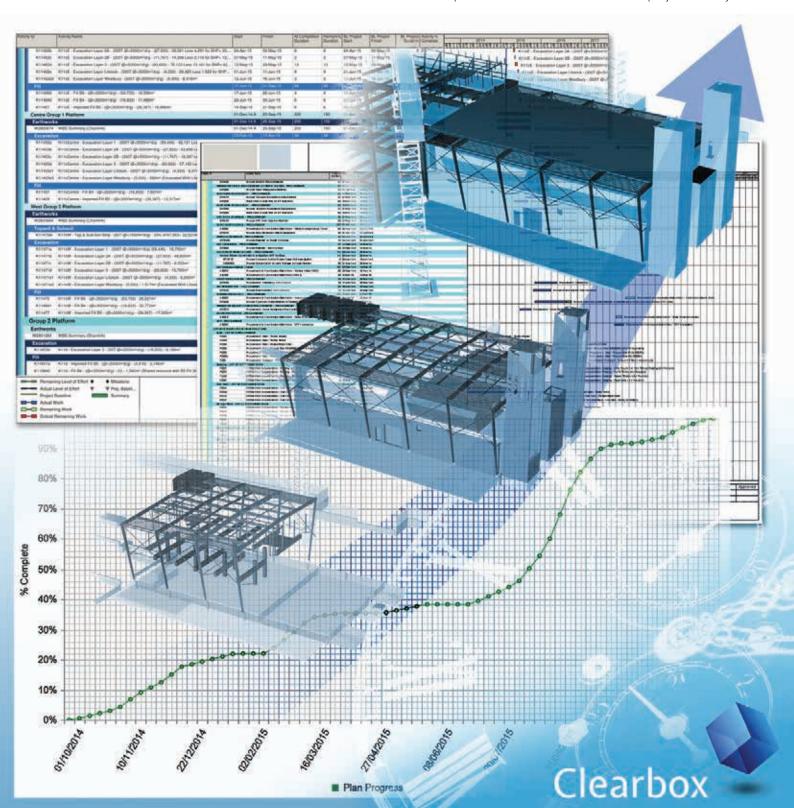
With 4D simulation via the BIMXtra data centric approach taking place outside of the programme and/or the animated sequence, we are also able to run visual programme comparisons i.e. between planned and as built or comparison of different build solutions. This takes place at the same speed as the single programme association and provides valuable simulations and comparisons with minimal effort.

Our ability to associate and repeat, and then compare and repeat the association of model and programme in superfast time changes our ability to be able to use 4D visualisation on the main construction model and in doing so enables better communication to all, and more accurate association

of the work scope with a most essential aspect of our project controls.

At Clearbox we have a unique blend of people, mixing people with many years of project delivery with software engineers to provide focussed technology solutions to overcome project delivery issues.

Our solution to provide 4D simulations is targeted to provide ease of use to those involved in project delivery, not limited to those with specialist training in CAD solutions. It allows you to quickly develop and subsequently change and visualise build sequences with the objective of opening up the benefits to the whole project team, saving time and money in the development of the visualisations and the project delivery.



UK FACILITIES MANAGEMENT SECTOR REPORTS SURGE IN CONFIDENCE

The UK facilities management (FM) sector is increasingly optimistic about prospects for both the UK economy and growth in FM over the coming year.

The FM Business Confidence Monitor, a survey of professionals from the facilities management sector in the UK, found that 70% describe the facilities management business environment as 'positive' or 'very positive' and over half (54%) expect it to improve over the next 12 months, while only 4% believe it will deteriorate.

With the facilities management sector employing roughly 10% of the UK working population and estimated to be

worth £111Bn a year to the UK economy, it is an important bellwether for business performance as a whole.

This sector confidence is translating into job creation and headcount, with an overwhelming majority of FM service providers (87%) anticipating increased turnover in their business and 65% planning to increase their workforce this year.

The findings also point to greater business investment in the sector, with 54% of respondents saying they will increase capital investment, compared to just 3% that expects a decrease.



The research also highlighted the role of the sector in promoting social mobility and offering training and routes into employment for young people, with 47% of respondents stating they are currently hiring apprentices.

However, this broadly upbeat assessment is tempered by concerns about skills shortages, with 47% citing this as a worry over the coming year, which is significant given that 62% of service providers cited competition in the marketplace as the biggest barrier to growth in the next 12 months. These concerns are further supported by 43% of respondents who said challenges in recruiting and retaining staff are obstacles to prosperity.

David Emanuel, Managing Director of i-FM, said: "It is hugely encouraging to see the FM sector brimming with confidence, and the outlook for business performance in the year ahead looks very positive.

"FM is a major contributor to the UK economy, accounting for around 7% of overall GDP, and should be a greater barometer of confidence and success for the wider business world. Across industry and the public sector, there are many examples of facilities management delivering genuine strategic value. Facilities management professionals at the top of their profession provide a critical contribution to areas such as organisational efficiency, staff productivity and wellbeing.

"However, it is not necessarily the norm for FM to be regarded in this way and that is clearly the challenge. Therefore, what this report does is provide the FM industry with a perfect opportunity to promote the discipline to the wider business community, as well as influential groups such as government."

Nicki Thomson, Managing Director and Head of Business Services, Barclays, said: "Confidence is infectious and it is, therefore, encouraging that this report finds the sector in such a buoyant mood given its influence on the health and prosperity of the wider UK economy. As the first bank to have a dedicated facilities management team, we have provided support, funding and guidance to the industry for over 15 years, and much of our time is spent working closely with the service providers who define the industry. This exuberance and energy has certainly been borne out in our recent conversations with these firms - and long may it continue."



INEFFECTIVE WORKPLACE ENVIRONMENTS BARRIER TO PLUGGING PRODUCTIVITY GAP

UK companies are jeopardising their ability to compete in the global economy by failing to adapt their workplaces to meet modern demands, according to new research from the British Institute of Facilities Management (BIFM) and the Chartered Institute of Personnel and Development (CIPD), the professional body for HR and people development.

Highlighting findings from their report – In Search of Better Workplaces – Gareth Tancred, BIFM Chief Executive said: "Over the years there has been a seismic shift in the way we live and work, and the workplace environment in particular has a profound effect on how employees feel about their work and working lives. We are seeing the dawn of the flexible workforce and a surge in trends such as remote working, hot-desking and the design of creative spaces and quirky features requiring businesses to think differently about how they enable work.

"The link between people and place, culture and the physical environment is crucial, yet many businesses are failing to respond and create environments that successfully support the changing nature of work. Good workplace design should not be the sole preserve of private sector organisations with large budgets, and management buy-in on the impact of the workplace in driving performance is imperative in delivering the best outputs from workforces."

The report also reveals that many organisations are struggling to cope with the systematic changes that workplace modernisation requires; particularly large organisations with very ingrained working cultures and organisational structures.

This report is the result of a three month online conversation launched in February this year whereby professionals from sectors including facilities management, human resources, IT, architecture and workplace productivity joined forces to help identify major barriers in creating better workplaces, improving efficiency, driving productivity and job satisfaction and promoting best practice.

In Search of Better Workplaces forms part of a wider initiative, The Workplace Conversation, an ongoing collaboration between BIFM and the CIPD exploring the evolution of the working environment and what the future of the workplace looks like.

Peter Cheese, Chief Executive of the CIPD, the professional body for HR and people development said: "The world of work is rapidly changing and people are at the very heart of this change. Getting workplace design right can have a huge impact on how connected, engaged and productive people are at work. When workplace



design takes into account the nature of work being carried out, how people interact and the unique culture of an organisation, it can unlock tremendous value for both the business and individuals. Those organisations that get it right, feel right, and the proof can be seen not in striking features for design's sake, but in the fact that they have thriving and successful workplaces."

THE FULL REPORT CAN BE DOWNLOADED HERE BUT SOME OF THE FINDINGS CAN BE FOUND BELOW:

- "Recent research clearly shows the link between happy, healthy employees and the quality and quantity of their output at work. There is strong and mounting evidence on how organisational culture and the workplace environment influence the quality of our work and working lives."
- "To make the purpose of workplaces clear a completely different approach is required. This is individual to an

- organisation and what it does and how it does it. The workplace needs to reflect what it is trying to achieve and how it wants to achieve it."
- "When that is clear then it should look at how it works well, a fundamental review of what gets the best out of their people and then build the workplace around that to support the workforce. It doesn't have to be convoluted. Building the case around getting the most from the huge investments in both people and place makes the most sense; given the numbers involved it is certainly a way of getting the attention of the board room."
- "It is crucial that what is seen as best practice becomes common practice. Good workplace design should be available for everyone and not the sole preserve of cashrich private sector organisations. There is a range of starting points and organisations should take steps that are the right size for people within it."





CDM2015 & Facilities Management

The Construction (Design and Management) Regulations 2015 (CDM2015) came into force on 6th April 2015 and significantly affects the way in which facilities maintenance and repair is managed, so far as health and safety is concerned.

What work does CDM2015 apply to?

CDM2015 applies to ALL construction work, no matter who the client is, how long the work will take or how many workers will be involved, including where the work is performed by client employees.

The definitions of construction contained within CDM2015 regulation 2(1) most relevant to facilities management are:

"construction work" means the carrying out of any building, civil engineering or engineering construction work and includes—

- (a) the construction, alteration, conversion, fitting out, commissioning, renovation, repair, upkeep, redecoration or other maintenance (including cleaning which involves the use of water or an abrasive at high pressure or the use of corrosive or toxic substances), decommissioning, demolition or dismantling of a structure;
- (e) the installation, commissioning, maintenance, repair or removal of mechanical, electrical, gas, compressed air, hydraulic, telecommunications, computer or similar services which are normally fixed within or to a structure,

To remove any doubt as to whether CDM2015 applies to the work, regulation 2(1) also contains the definition of a structure, as follows:

"structure" means-

- (a) any building, timber, masonry, metal or reinforced concrete structure, railway line or siding, tramway line, dock, harbour, inland navigation, tunnel, shaft, bridge, viaduct, waterworks, reservoir, pipe or pipe-line, cable, aqueduct, sewer, sewage works, gasholder, road, airfield, sea defence works, river works, drainage works, earthworks, lagoon, dam, wall, caisson, mast, tower, pylon, underground tank, earth retaining structure or structure designed to preserve or alter any natural feature, and fixed plant;
- (b) any structure similar to anything specified in paragraph (a);
- (c) any formwork, falsework, scaffold or other structure designed or used to provide support or means of access during construction work,

and any reference to a structure includes part of a structure;

This extends the normally understood definition of construction from new build and major refurbishment work to ongoing maintenance and repair of buildings, building services and other fixed plant and systems.



The majority of the CDM2015 regulations apply to all construction work, including the preparation of a "construction phase plan" by the contractor.

The following extract from Q&A Briefings – Construction Division - Construction (Design and Management) Regulations 2015 further explains the Health and Safety Executive's interpretation of what is construction.

Q1. Does CDM 2015 apply to all maintenance work?

The definition of maintenance work has not changed. If the task in hand looks like construction work, requires construction skills and uses construction materials, it is construction work. General maintenance of fixed plant which mainly involves mechanical adjustments, replacing parts or lubrication is unlikely to be construction work...

e.g. changing a lamp in a light fitting would not be construction, but repairing or replacing the light fitting would be construction.

How to manage maintenance and repair tasks

CDM2015 requires the client to provide information regarding the project, site and other relevant issues to the designers and contractors on all projects (tasks/jobs). This information will be included within the 'pre-construction information'. This will include where the contractor can park his vehicle and

Enter Client Name and Office Location Pre-Construction Information & Construction Phase Plan Reactive Maintenance and Minor Works (Only One Contractor) Project (Task): Contractor Representative Designer & Contracto Start Times Finish Times Pre-Co Report and sign in at reception before commenting work. Identity badnes to be Parking weifare Facilities Fire action and his exit signs are displayed throughout the office. The fire assembly point is Diploma Avenue. ire Safety The AMS is available to view at reception. The AMS contains a permit to work System (AMS) on must be followed at all times. No known ashestos in the new built information is available in the Health & Safety File (electronic) As-built information in avanua-the HSS Officer, store rooms, plant rooms, walk in freezers and car parks. Construction Phase Plan Work Hazards/Risks Controls (Futer sale system of much or N/A) fork within public areas (memor or en York at height and/or on roof ork below floor or in a confined space

store materials, what welfare facilities are provided and existing rules and procedures.

The contractor must produce a 'construction phase plan' for all construction work; and the client has a duty to ensure that it is produced and used.

The pre-construction information has always been required to be supplied, but it would be useful to have some evidence of this. The construction phase plan is a new requirement on the smaller jobs; under CDM2007 it was only required on notifiable projects.

These documents do not need to be overly complex, as can been seen from the above example, produced by Callsafe Services Limited for the Facilities Manager of an office complex.

It should be noted that the requirements placed on the client with regards to the pre-construction information and the construction phase plan are only two of the duties placed on the client, and therefore the Facilities Manager.

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Email: enquiries@callsafe-services.co.uk
Web: www.callsafe-services.co.uk

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BIFM AWARDS 2015 FINALISTS UNVEIL

The British Institute of Facilities Management (BIFM) has announced the finalists in this year's BIFM Awards. The awards have a long standing heritage of recognising and showcasing best-in-class facilities management (FM); with entries across the spectrum of the FM profession.

FOR 2015, ALL CATEGORIES ARE GROUPED WITHIN THE THREE THEMES OF PEOPLE, **IMPACT OR INNOVATION AND FINALISTS** ACROSS II CATEGORIES HAVE BEEN **CONFIRMED AS:**

PEOPLE

The individuals, teams and organisations who invest in their people, who lead, are cutting edge and drive improvements.

Facilities Manager of the Year

- Julie Anderson G4S
- Lisa Hart Eversheds LLP
- Maurice O'Shaughnessy JLL
 Alan Russell London Heathrow Airport Ltd
- Diane Thorpe Hearst Magazines UK

FM Team of the Year

- Carillion plc Nationwide & Carillion
- Edinburgh Napier University
- ISS Education
- ILL EIMEA
- Wales Millennium Centre

Learning and Career Development

- Arcus
- Edge Hill University
- Harrow Green
- London Heathrow Airport Ltd Engineering & Asset Management
- McFarlane Telfer
- Mitie Client Services

Rising Talent in Facilities Management

- · Tanya Brick, Capita
- Andy John, Amey
- Luke Robinson, CBRE Corporate Outsourcing Limited
- Cheryl-Anne Sanderson, G4S
- · Matthew Tait, Encirc

IMPACT

Demonstrating the real tangible impact good FM brings to business, the environment and society.

Brand Impact

- Britvic PLC
- intu Retail Services How intu Took Flight
- Sodexo Sodexo Brand Ambassador Programme

Impact on Customer Experience

- Carillion plc The Carillion Customer **Experience Centre**
- G4S Infection Control and Ebola Preparedness
- intu Retail Services
- King's College London Fit For King's
- London Heathrow Airport -Terminal 2

Impact on Sustainability

- British Land and Broadgate Estates Energy Reductions and Community Charter in London
- Marks & Spencer Investing in Innovation to Deliver a Future Sustainable Estate
- Royal Bank of Scotland RBS Workplaces, Innovation and Partnerships for Business and Environment
- Skanska Skanska Sustainability Agenda in Facilities Services
- The NEC Leading Change in the Exhibitions Industry



- government department
- Chiswick Park Enjoy-Work Enjoying Work at Chiswick Park
- Halfords Ltd The Retail Support Centre

Societal Impact

- Banyard Solutions e-permits
- Cofely & North East Lincolnshire Council North East Lincolnshire Partnership
- Dysart 57 Ltd A Corporate Response
- Robertson Facilities Management Robertson Communities

INNOVATION

Recognising innovative facilities management technology, systems, products and services, and the benefits they bring from cost-savings to enhanced interaction.

Innovation in Technology and Systems

- BAM FM Optimising FM Using BIM Technology
- CIS Security Transforming Lost Property Outcomes at King's College London
- Cofely Ltd Uncovering Sustainable & Innovative **Technologies**
- Keytree Limited Matrix Booking
- Mitie Miworld, Mitie's Information Management Tool
- NG Bailey Giving Morrisons a Rare Energy Solution
 SAVORTEX Ltd EcoCurve Hand Dryer

New Product or Service of the Year

- IES Holdings Group Ltd IES Service Maintenance Application
- Scanomat TopBrewer
- Skanska Skanska Health & Care Waste Solution
- Kimberly Clark SCOTT® MAX Rolled Hand Towel System

Speaking on the announcement of the finalists, Chair of the Judges, Steve Gladwin said: "The BIFM Awards attract an outstanding calibre of entrants, all of whom I would like to extend my sincere thanks. I am amazed at the examples of exemplary FM that we have seen submitted, and whilst each entry has something to celebrate there can only be a select number of finalists for each category.

"The panels of independent and experienced FM professionals that come together to judge each category saw entrants from all types and size of organisation and assessed each against set criteria and upon their individual merits. I personally and on behalf of the lead and support judges congratulate all those who have been announced as finalists, this in itself is a great achievement and look forward to the awards night to celebrate with you and the FM profession as we unveil the winners."

All winners will be announced at the BIFM Awards ceremony which takes place on 12 October at the Grosvenor House Hotel on London's Park Lane. Over 1,300 guests are expected to attend the ceremony – which is the highlight for many on the FM calendar.

In the run-up to the ceremony BIFM will be announcing further information on the people, teams, projects and organisations that are in contention for an award in 2015. Full details will be available on the website. @BIFMAwards will also be carrying updates on the finalists and the ceremony.

