IFMA & BIM for Lifecycle Management

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Chair, 2011-12 IFMA Board of Directors
&
Associate Professor and Chair Integrated Facility Management
Georgia Institute of Technology
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MANAGING CEUs AND CFM® MAINTENANCE POINTS

You are eligible to receive Continuing Education Units (CEUs) and Certified Facility Manager® (CFM) maintenance points for attending sessions at Facility Fusion.

To receive CEU points you must pay the $12 processing fee, log onto ceu.experient-inc.com/FFN121 and pass a five-question assessment developed by the speaker. CEUs can only be earned upon successful completion of the assessment.

To receive 20 CFM maintenance points you must place your registration confirmation notice into your maintenance records. No assessment is needed if you only want to earn CFM maintenance points.

An official IFMA transcript will be emailed for successful completion of courses at Facility Fusion. Individuals seeking continuing education credit from other organizations must contact those organizations for instructions on self-reporting their credit hours.
CEU codes are no longer needed to receive CEU points.

Simply pay the $12 CEU processing fee at registration, visit the registration kiosks or log on to ceu.experient-inc.com/FFN121 and take the five-question test assessments.
Facility Fusion Evaluations are online!

Evaluate sessions at the registration kiosks or online at ceu.experient-inc.com/FFN121

Your feedback is vital to our conference planning.
Meet Our Presenter:

“IFMA Junkie” since 1995 – Atlanta Chapter President, 1997

24-year Facility Management professional with GSA, Financial Services Corporation, American Cancer Society and most recently at Sprint Communications

10-year professor at Georgia Tech in the graduate (Master of Science) Building Construction and Facility Management degree program

Tenured in 2008 and also joined IFMA’s Board of Directors later that year

As First Vice-Chair last year, attended the BIM Forum in Atlanta

“and the rest is history!”
BIM & FM

• The first thing grabbing my attention:
  “We know you need something different and we don’t want to get it wrong.”
  Chuck Mies – Autodesk, BIM Solutions

• IFMA should be leading this effort for users and occupiers – do we understand?
BIM & FM

• Then Chair, Francis Kuhn appointed Roper, Moss & Young to a task force for a minimum timeframe to look into:
  – The need for FM BIM strategy by IFMA
  – Identify users, their experiences and issues
  – Recommend next steps and courses of action for IFMA in this area
  – Identify experts to participate in recommendations
BIM & FM

• Members:
  – Kathy Roper, Georgia Institute of Technology
  – Mike Moss, IFMA and Don Young, IFMA
  – Michael Schley, FM Systems
  – Rod Stevens, Pioneer
  – Andy Fuhrman, BricsNet/Cisco/OSCRE
  – Robert Blakey, CBRE and R&C Council
  – Successful users of BIM FM???
  – Attorney familiar with design/construction contracts???
BIM & FM

• A first issue: “What do we call it?”
  – FM BIM
  – BIM for FM
  – Users BIM
  – BIM for Asset Management
  – BIM for Lifecycle Management
BIM for Lifecycle Management

- The Task Force recommended the following:
  1. Educate IFMA members about BIM for Lifecycle Management – “Own it!” (critically important to educate FMs who don’t know what they don’t know) major focus for 12-18 months including Facility Fusion 2012 in Chicago in April
  2. Attention to strongly highlight BIM for Lifecycle Management in IFMA publications
  3. Coordinate with AIA’s FM Knowledge Group to co-sponsor November webinar by Deke Smith of NIBS on FM Implications to FM. “IFMA endorsed”
BIM for Lifecycle Management

4. Building Smart Alliance at EcoBuild presence of IFMA (December in DC) - Also promote to IFMA members.

5. Tie BIM for Lifecycle Management recommendations to IFMA Balanced Score Card (BSC)

6. Have IFMA staff representation, as well as volunteer participation, on NIBS and other standards orgs. As standards and discussions move forward IFMA should have a strong voice at the table.
BIM for Lifecycle Management

7. Recommend the Whole Building Design Guide (WBDG) of NIBS as a network and repository for information on BIM for Lifecycle Management with strong IFMA input.


October 2011 IFMA Board approval
BIM for Lifecycle Management

• In six short months the recommendations have basically been accomplished
• Long-term commitment to BIM for Lifecycle Management education and information by IFMA
• Help FM professionals understand the benefits, issues and complexities
BIM - definition

A complete 3D digital representation of a building system or subsystem that is both a visually accurate model of a building and a database for recording the breadth of information developed and associated with building components.
BIM...difference...

- Previous design and construction of building relied on drawings - Limitations of 2D drawings
- BIM represents objects in the design
- BIM design tools define objects parametrically so if a related object changes, other objects also changes
- BIM can accommodate equipment and property *information*
BIM importance...

- Because 3D objects are machine readable
- At the design phase & construction phase, errors and change orders are greatly reduced
- BIM can be used for cost estimation or tracking
- Lighting, acoustic, sustainability or other analysis can be done while designing so that it can inform the designer of the effects of changes.
- During construction more is known and less error and delay (Clash Detection)
- More uses of BIM data are waiting to be discovered and developed.
BIM for Lifecycle Management

• That’s where we come into the picture
• Design and Construction are already benefitting from the use of BIM
  – Savings in time and waste
  – Improved customer understanding and satisfaction
• Facility Management primarily benefits from the INFORMATION captured during design and construction
BIM in the Lifecycle

Space, System & Equipment Layout

Design → Build → Operate

Product Data, As-Built Layout, Tag & Serial No., Warranties & Spares

National Institute of Building Sciences
http://www.wbdg.org/resources/cobie.php?r=om
Benefits of BIM specific to FM

Streamline Closeout & Integrate Facility Mgmt

- Provide Accurate As-Built
- Provide Electronic Closeout Documentation
- Access all Information in the Field through Central Database
- Increase Life Cycle of Equipment
BIM for Lifecycle Management

• NavisWorks and other software to translate manufacturers’ information into our BIM models and COBie

• COBie?
  – Construction Operations Building information exchange
  – Part of the National BIM Standard
BIM for Lifecycle Management

- COBie deliverables
- Building Smart Alliance – Means & Methods
**BIM for Lifecycle Management**

**COBie spreadsheet**

From GSA, 2010 EcoBuild presentation
BIM for Lifecycle Management

• National BIM Standard:
  – Version 1 - Part 1: Overview, Principles, and Methodologies for public use. This document, which includes contributions by more than thirty subject-matter experts in the capital facilities industry, incorporates industry comments and now contains new and expanded information about the NBIMS production and use process.

  – With the release of this document there remain many Building Information Modeling (BIM) issues to discuss, coordinate, and resolve, not only throughout the United States, but also with our international counterparts. It is hoped that this effort will facilitate discussion and lay the groundwork for ongoing organizational and operational activities.

United States Coast Guard (USCG)

- BIM for facility planning and asset management
- USCG team realized a 98% time savings
- USCG plans, designs, builds, and manages a portfolio of 8,000 owned or leased buildings
- Comparison of the manual and BIM based assessment processes

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<thead>
<tr>
<th></th>
<th>Manual</th>
<th>BIM-based</th>
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<tbody>
<tr>
<td>Typical Building Size(SF)</td>
<td>20,000</td>
<td>20,000</td>
</tr>
<tr>
<td>USCG Total SF</td>
<td>16,500,000</td>
<td>16,500,000</td>
</tr>
<tr>
<td>Time to edit one data(sec)</td>
<td>2</td>
<td>0.04</td>
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<tr>
<td>Total time in hours</td>
<td>9,166</td>
<td>183</td>
</tr>
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- Metrics for implementing BIM-based facility planning

<table>
<thead>
<tr>
<th></th>
<th>Traditional design</th>
<th>BIM-based design</th>
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<tbody>
<tr>
<td>Number of projects</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Average project size</td>
<td>5,000 sf</td>
<td>5,000 sf</td>
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<tr>
<td>Average time to complete</td>
<td>10 months</td>
<td>1 month</td>
</tr>
<tr>
<td>Total time to complete 35 projects</td>
<td>350 months</td>
<td>6 months</td>
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Resources

- **Whole Building Design Guide.org**
  - COBie training worksheets and videos
  - Interoperability standards
  - National BIM Standard (and future updates)
- New BIM Case Studies book to be published by Wiley with IFMA endorsement (2013)
BIM for Lifecycle Management

• Questions?
• Your experiences or ideas?
• Let’s continue to learn together through IFMA!
• Thanks! Kathy.Roper@gatech.edu
IFMA Credentials
Open doors to new possibilities!

Facility Management Professional
Build your career on a solid foundation.

Sustainability Facility Professional™
Establish sustainable FM knowledge and business practices.

Certified Facility Manager®
Earn recognition for your expertise.

Visit www.ifma.org/credentials
Thank You!

For attending this educational offering at IFMA’s Facility Fusion.