Incorporating BIM into Facilities Management

**Greg Alevras**, VP of Business Development, North America

**Sam Arabia CM-BIM**, Director, Torcon Facilities Solutions
Meet Our Presenter(s):

Greg Alevras - ARCHIBUS

- 10 years managing facilities
- 23 years with ARCHIBUS collaborating with business partners to define and implement solutions for users.
- Working with Product Development and Professional Services to continuously improve ARCHIBUS

greg_alevras@archibus.com
Meet Our Presenter(s):

Sam Arabia CM-BIM - Torcon Facilities Solutions

- ARCHIBUS business partner
- Director of BIM Services and Facilities Solutions
- CM-BIM
- 18 years in construction management with focus in BIM, Revit, AutoCAD, and facilities integration
- Nationally published author / speaker

sarabia@torcon.com - or- www.bimf.com
Review Session Learning Objectives

1. What is BIM and what are its benefits
2. What are the BIM deliverables required for effective facilities maintenance
3. Maintaining as-built data sets
4. ROI of FM solutions
BIM is a process
Collaborative effort
Eliminate Waste

Capture valuable data moving from design/construction to facilities
Drawing data from a BIM model linked to an existing facility management software program will save time and money over the lifecycle of the facility.

Building Information Modeling
Start with the end in mind

1. RFP that captures BIM FM requirements
2. BIM Execution Plan that includes FM program requirements
3. Process of incremental updates and checks QA/QC
4. Designate a responsible person to follow through with these things

Model Driven Data
Site

Building

Floor

Room
Category

Family

Parameter

PM Schedule

Warrantee Information

On Demand repair info.

Etc.
Our understanding is that the true innovative value is in the availability of information. With the transition at occupancy being Building Information Modeling to Building Information Management.
Does your firm plan to increase its use of BIM?

- 59% Yes, plan to increase BIM use
- 24% No, do not plan to increase BIM use
- 17% Unspecified
A new way of thinking about an old problem.
Revit Model
Foundation for Space and Assets
Revit Level Same as CAD Floor Plan
Revit Parameters
Connect to Facilities Data
Query Facilities Information Across Multiple Models
Connect Revit Elements to Facilities Data
Update Asset Location in the Model and Automatically Update Database
Update Facilities Data and Synchronize with Revit Model

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Update Equipment Standard, Serial Number and Other Attributes
Why model visualization?

- Enhanced visualization to see the relationship between spaces, systems and general architecture
- Spatial awareness in work order performance
- Better understanding of secondary maintenance issues
- Elimination of as-built validation
- Space planning scenarios
- Logistical scenarios
How important is your as-built data to you?
Maintaining AS-BUILT data sets

- Hospitals/ Laboratories
- Higher Education/School districts
- Pharmaceuticals
- Offices

✓ How often does change happen?
✓ Are you prepared for that change?
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<th>Requirements- SELF HOSTING</th>
<th>Est. cost</th>
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<td><strong>Computer</strong> (2yr life expectancy)</td>
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<tr>
<td>o Quad core Xeon X-5650 processors 2.67 ghz</td>
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<td>o 32gb dedicated RAM</td>
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<td>o 15K 6 GBS SAS disks</td>
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<td>o RAID configuration full tolerance fail safe back up</td>
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<td><strong>License structure (annual renewal)</strong></td>
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<td>$1200.00 (annual)</td>
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<td><strong>Network server space</strong></td>
<td>$50.00/\text{gb }+/-</td>
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<td><strong>Personnel</strong></td>
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<td><strong>Training</strong></td>
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<td><strong>Total</strong></td>
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## Requirements - *Hosted Model*

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<td><strong>Total</strong></td>
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The ROI of BIM and Facilities

The cost of inadequate interoperability in the U.S. alone is approximately $15.8 billion dollars annually. *

*U.S. Dept of Commerce Technology Administration (NIST)
For every work order it takes between .75 and 2 hours to gather information necessary to complete that work order.*

6356 work orders /yr.

Av. $50.00/hour

$(635,600.00)

Recognized as a potential place for efficiency within an organization

* Penn State University
* DOD & DOD Sandusky Laboratories
* University of California
If we can give Facility Owners the information they need in a minimum of 15 min…

**Annual savings for every year the facility is in operation**

6356 work orders /yr.

Av. $50.00/hour

$583,316.00

BIMf®
Review

1. BIM ends after construction of a facility is finished
2. All the information I need to run my facility was turned over in the BIM model
3. Having BIM incorporated into my FM program will save me time and money
4. Incorporating BIM only has value to a larger organization
5. I need to think about FM Solutions when commissioning begins.
Review

1. BIM ends after construction of a facility is finished **FALSE**
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Review

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4. Incorporating BIM only has value to a larger organization
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Review

1. BIM ends after construction of a facility is finished ❌
2. All the information I need to run my facility was turned over in the BIM model ❌
3. Having BIM incorporated into my FM program will save me time and money ✔
4. Incorporating BIM only has value to a larger organization ❌
5. I need to think about FM Solutions when commissioning begins.
Review

1. BIM ends after construction of a facility is finished **FALSE**
2. All the information I need to run my facility was turned over in the BIM model **FALSE**
3. Having BIM incorporated into my FM program will save me time and money **TRUE**
4. Incorporating BIM only has value to a larger organization **FALSE**
5. I need to think about FM Solutions when commissioning begins. **FALSE**
Thank You!

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