Leveraging Electronic Construction Data to Lower Operational Costs

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Learning Objectives

- Cost of Operating a Building
- Where We Are: Electronic Construction Documents
- Where We’re Going: Integration with Maintenance Management Systems
Where You Spend Your Money

40-YEAR LIFECYCLE COSTS

- Operations: 50%
- Alterations: 25%
- Financing: 14%
- Construction: 11%

Source: National Research Center
The End Game:
What Our Customers Say
What are the Facility Management Challenges?

1. Funding and Staffing Shortages
2. Effective Documentation of As-Builts, Equipment Data, etc. (Both the initial collection and the ongoing maintenance of documentation)
3. Development and Management of Maintenance Processes
4. Renovation and Maintenance of Existing Buildings
5. Achieving Sustainability and Energy Savings Goals

“Having usable as-built information to maintain and expand the facilities.”

“Collecting and maintaining equipment data information.”

“Standardizing information, better communication.”
What’s Currently Missing to Effectively Manage Your Facility?

“Not too many gaps, but information is spread across a wide array of media and is held by different people and groups, making it inefficient to access or share.”

1. Accurate and Complete As-Builts and O&M’s
2. Effective Dissemination and Communication of the Information

- Accurate and Complete As-Builts and O&M’s
- Effective Dissemination and Communication of the Information
- Real-Time Performance Data for Measuring Energy Usage
- Development of a Long-Term Capital Planning and Asset Management Plan
What We Did – First Step: Paperless Project Sites
The Old Way
Paperless
Paperless
In The Field
Paperless Projects Naturally Lead to eCloseout
Why eCloseout?

> Better deliverable
  > One stop shop for As-built / O&M / Warranty information → Model
> Increases efficiency → Reduces cost of ownership
> A green decision
Facility Management

MAJOR EQUIPMENT

> Linking O&M – Facility Management Models
> Less Paper
> Database Managed
> Developed during construction
Challenges

> Links destroyed
> Not being put into Maintenance Management System
> Information doesn’t integrate with what Facility Managers are using! ➡️ Can take days, weeks, MONTHS to enter into Maintenance System

eCloseout is as useless as paper if it doesn’t link to CMMS
The Next Step: Putting Data Into Maintenance System
What You Already Have

Programming → Design → Construction → Digital Prototype → Operations

- REVIT Model (Design Team)
- NAVISWORKS Model
- REVIT As-Built Model
- FM USE
- CMMS
- Field Updates

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Project Overview

- Renovation of a prominent building on campus that houses executive officers of the University
- Construction Budget - $3.3 million
- Overall Project Schedule – 20 months
Leverage the use of an EXISTING model to supplement Facility Management
What We Found

> eCloseout and going paperless SETS the project up for a successful FM handoff initiative

> Unorganized electronic information is no better than stacks of binders.

> Pushing the operations data into customer’s Computerized Maintenance Management System (CMMS) significantly increases usability of the information

> To deliver a successful facility management solution, facilities and administration must be involved from the very beginning
What To Ask For

> 3D Model in Revit
> 100% Accurate model, updated with as-built information (Construction Manager or Outside Consultant)
> Translated to CMMS (Construction Manager)
Thank You