



National Institute of Building Sciences
Facilities Information Council
National BIM Standard



National BIM Standard Purpose

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Cost Implication: \$15.8B Lost Annually

- Abstract:

Interoperability problems in the capital facilities industry stem from the highly fragmented nature of the industry, the industry's continued paper based business practices, a lack of standardization, and inconsistent technology adoption among stakeholders.

- Case

- \$15.8 billion in annual capital facilities interoperability costs for 2002
- Two-thirds are borne by owners and operators during facility operation and maintenance (O&M)



Note: US Construction industry estimated at \$374B → \$15.8B represents approximately 5% of total

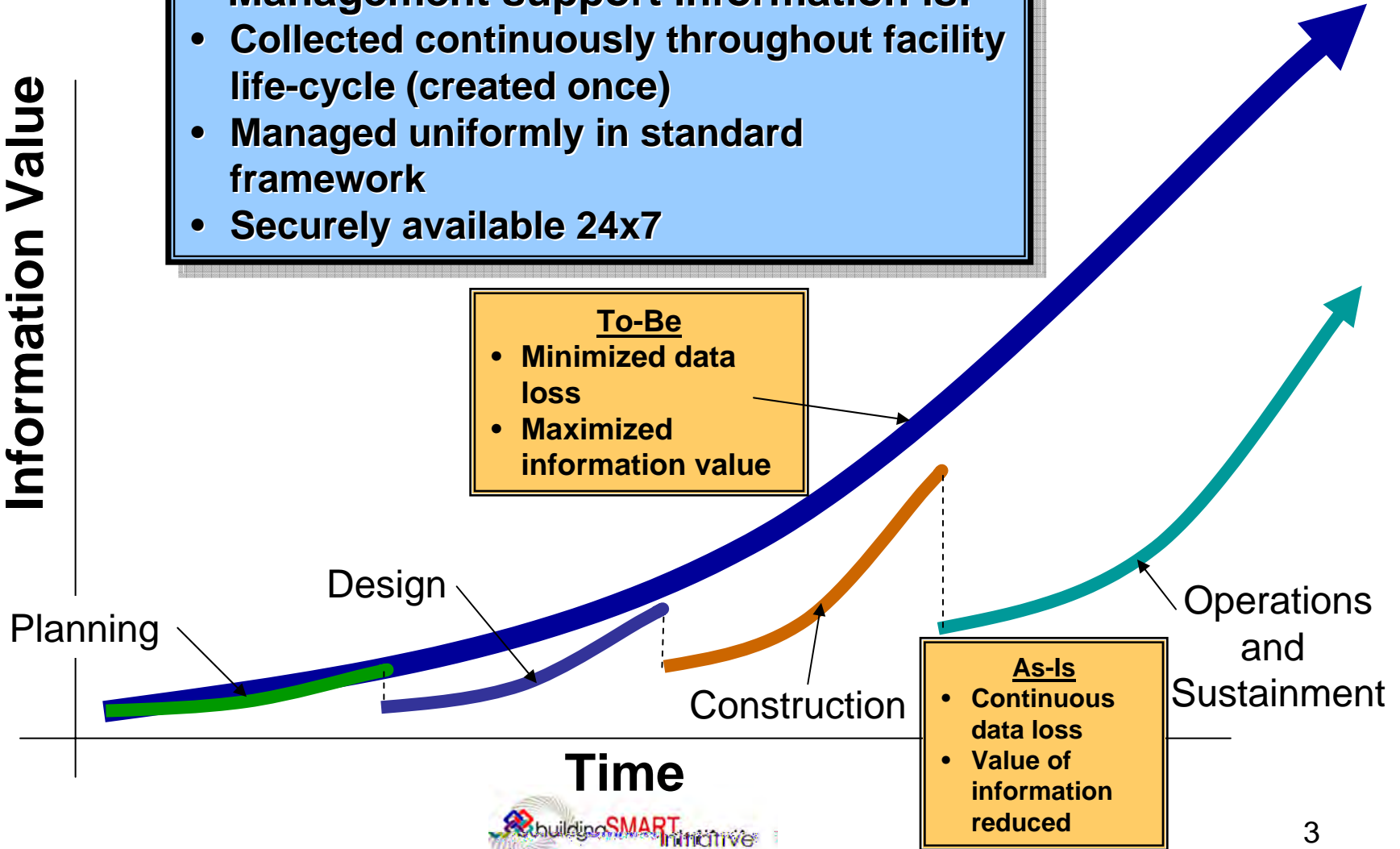


To-Be Concept

Management support information is:

- Collected continuously throughout facility life-cycle (created once)
- Managed uniformly in standard framework
- Securely available 24x7

Information Value





Nearly 2 Years Later . . .

- Problem likely much larger when you include peripheral participants and mission related users
- Now at least \$30B lost, next year \$45B – when do we plan to do something about it?
 - The fact that we only “discovered” the problem 2 years ago does not mean that the problem is not much worse.
- Problem is dollars are wrapped up in “just how we have always done business”
- Today data is available to fix the problem, we simply have not chosen to take on the problem...



Proposed Multiple Front Solution

- Think and Act Globally
 - IAI - buildingSMART
 - National Building Information Model Standard
 - National Call to Action
- And Think and Act Locally
 - GSA, USCG, COE and others implementing BIM
 - DoD Business Transformation
 - I&E Business Enterprise Integration
 - BIM Implementation





International Alliance

North American Chapter
German Speaking Chapter
UK Chapter
Japanese Chapter
Singaporean Chapter
Nordic Chapter
French Speaking Chapter
Australasian Chapter
Iberian Chapter
Italian Chapter

Chinese Chapter – Just included IFC's in National Standard





National BIM Standard

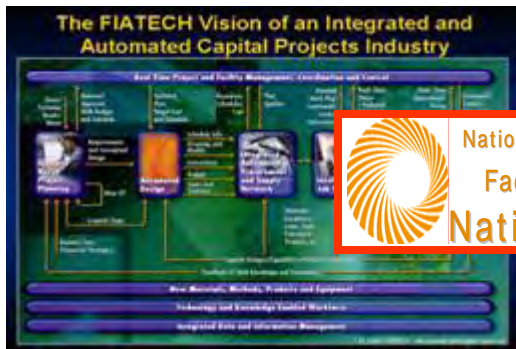
- Something we have already gotten started on -
 - Goal 1 – Overall scope and definition of BIM
 - Goal 2 – Release Version 1 of NBIMS by December 2006
- On schedule – Scoping, Development, Testing & Communication Teams active and producing – working with international efforts
- Definition:
 - A Building Information Model (BIM) is a digital representation of physical and functional characteristics of a facility. As such it serves as a shared knowledge resource for information about a facility forming a reliable basis for decisions during its life-cycle from inception onward.
 - A basic premise of BIM is collaboration by different stakeholders at different phases of the life cycle of a facility to insert, extract, update or modify information in the BIM to support and reflect the roles of that stakeholder. The BIM is a shared digital representation founded on open standards for interoperability.
 - The US National BIM Standard promotes the business requirement that this model be interoperable based on open standards.

Approved March 1, 2006 – NBIMS Exec Comm.





BIM Enabled Construction Industry



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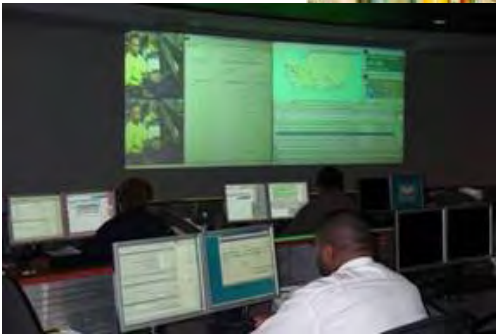
- ## Areas of Coordination
- Owners
 - Planners
 - Realtors
 - Appraisers
 - Mortgage Bankers
 - Designers
 - Engineers
 - Cost & Quantity Estimators
 - Specifiers
 - Contracts & Lawyers
 - Construction Contractors
 - Sub-Contractors
 - Fabricators
 - Code Officials
 - Maintenance & Sustainment
 - Renovation & Restoration
 - Disposal & Recycling



Supporting Other Related Efforts



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- Areas of Support**
- Scoping, Testing, Simulation
 - Safety & Occupational Health
 - Environmental & NEPA
 - Plant Operations
 - Energy & LEED
 - Space Management
 - Security
 - Network Managers
 - CIO's
 - Risk Management
 - Occupant Support
 - First Responders



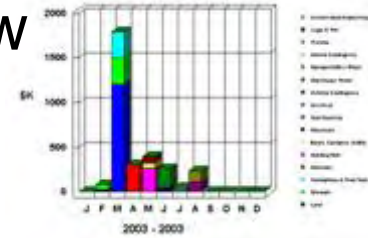


BIM's Multiple Business Views

Legal View



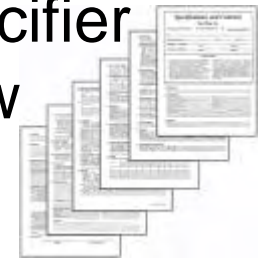
Financial View



Designer View



Specifier View



Owner / Occupier View



Sustainers View



Environmentalist View





National Call To Action

- An effort just as significant as the reinvention of the automotive, aviation and semiconductor industries
- 2006 – 2009 Preparation & Education
 - Establish vision for construction industry of the future
 - White House call for a Blue Ribbon Panel
 - Develop a National Agenda and action plan
 - Develop Annual metrics to achieve
- 2010 – 2020 Industry Transformation Years
 - Implement action plan





Policy Driver for Federal Marketplace: Executive Order 13327 (6 Feb 04)

- Addressed deficiencies in
 - Real property management and **accountability**
 - Supporting **business processes and information**
- Solutions
 - **Identify and categorize all real property** (e.g., develop an inventory)
 - Prioritize actions; identify and pursue goals
 - Establish **Federal Real Property Council (FRPC) for guidance, coordination**, and facilitation of success
- Expected results include
 - **Accountability**
 - **Actionable support asset management plans**
 - **A regular and well-organized inventory of asset information**
 - **Real-time access to high quality property data**

