



WHOLE BUILDING DESIGN GUIDE and BUILDING INFORMATION MODELS (BIM)

Earle Kennett

National Institute of Building Sciences



GovEnergy
www.govenergy.gov



WBDG Objectives

- *Effective implementation of unified facilities criteria* allowing for the sharing and consolidation of criteria, procedures and dissemination
- *Partnering and integration* of public and private sector efforts through the appropriate integration of the best federal/private sector criteria
- *Centralized Knowledge Portal* providing single point access to criteria



WBDG User Stats

- Users 200,000 unique users per month
- Document Downloads over 1,000,000 per month



The Whole Building Design Guide



The Gateway to Up-To-Date Information on Integrated 'Whole Building' Design Techniques and Technologies

Participating Agencies:



Design Guidance

Building Types
Space Types
Design Disciplines
Design Objectives
Products & Systems

Project Management

Delivery Teams
Planning & Development
Building Commissioning
Delivery & Controls

Operations & Maintenance

Mandates / References

Federal Mandates
Publications
Case Studies
Participating Agencies
Industry Organizations
Related Links

Tools

WBDG Services



Visit WBDG Partners:

GreenerBuildings



SUSTAINABLE BUILDINGS INDUSTRY COUNCIL



© 2007, National Institute of Building Sciences. All rights reserved. [Disclaimer](#).

THE WHOLE BUILDING DESIGN APPROACH

The goal of 'Whole Building' Design is to create a successful high-performance building. To achieve that goal, we must apply the integrated design approach and the integrated team approach to the project during the planning and programming phases. [Read more](#)



Join us August 5-8, 2007 in New Orleans, LA, and help celebrate the 10th anniversary of the Federal Government's premier annual energy workshop and exposition. [Read more](#)

National BIM Standard™ Version 1.0—Part 1: Out for Industry Review

The first version of the National Building Information Modeling Standard™ (NBIMS) was released for a two month industry review period today. The document titled "National Building Information Modeling Standard Version 1.0—Part 1: Overview, Principles, and Methodologies" provides the capital facilities industry with its first comprehensive look at the full scope of requirements for Building Information Modeling (BIM). [Read more](#)

FEMA Releases New Natural Hazards

WBDG Focus

Journal of Building Enclosure Design



The Building Enclosure Technology and Environment Council (BETEC) of The National Institute of Building Sciences (NIBS) is pleased to announce the continuation of our relationship with Matrix Group Publishing in the production of the *Journal of Building Enclosure Design*—the premier publication for research and development on building enclosure systems for North America. [Read more](#)

Design—the premier publication for research and development on building enclosure systems for North America. [Read more](#)

Previous Focus—[United States National CAD Standard™](#)

Popular Links

Below are a selection of WBDG pages, documents or tools that are frequently requested by users:

- [Building Envelope Design Guide](#)
- [Construction Criteria Base \(CCB\)](#)
- [Construction Waste Management Database](#)
- [Executive Order 13423 Technical Guidance](#)
- [Federal Green Construction Guide for Specifiers](#)
- [Unified Facilities Criteria](#)
- [Unified Facilities Guide Specifications \(UFGS\)](#)

New and Updated Pages

- [Case Study—EPA Region 8 Headquarters](#) **NEW**

Building Types
Space Types
Design Disciplines
Design Objectives
Products & Systems

Project Management
Delivery Teams
Planning & Development
Building Commissioning
Delivery & Controls

Operations & Maintenance

Mandates / References
Federal Mandates
Publications
Case Studies
Participating Agencies
Industry Organizations
Related Links

Tools

BDG Services
CONSTRUCTION
CRITERIA
BASE



© 2007, National Institute of Building Sciences. All rights reserved. [Disclaimer](#).

A building's function strongly influences its design and construction. Consequently, the WBDG provides a branch of information and guidance organized by building use types. For each general Building Type there is a discussion of the attributes and requirements of the type as well as links to information on more specific uses. Each of the specific building types is then linked to a series of Resource Pages explaining standards, technologies and emerging issues relevant to that specific use topic.

[Ammunition and Explosive Storage Magazines](#)



[Archives and Record Storage Building](#)



[Armories](#)



[Aviation](#) > - [Aviation Hangar](#)



[Community Services](#) > - [Family Service Centers](#)
- [Fire Station](#)
- [Youth Centers](#)



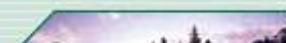
[Educational Facilities](#) > - [Child Development Centers](#)
- [Elementary School](#)
- [Secondary School](#)
- [Training Facility](#)



[Federal Courthouse](#)



[Health Care Facilities](#) > - [Hospital](#)
- [Nursing Home](#)
- [Outpatient](#)
- [Psychiatric](#)



Design Objectives

Each design objective described herein is significantly important, yet it is just one aspect of what it takes to achieve a successful project. A truly successful project is one where project goals are identified early on and where the interdependencies of all building systems are coordinated concurrently from the planning and programming phase. Further, all WBDG design objectives: accessible, aesthetics, cost effective, functional/operational, historic preservation, productive, secure/safe, and sustainable and their interrelationships must be understood, evaluated, and appropriately applied. Each of these design objectives is presented in the context of the others throughout the WBDG web site.

Accessible > *Pertains to building elements, heights and clearances implemented to address the specific needs of disabled people.*

Related topics:

- [Provide Equal Access](#)
- [Plan for Flexibility: Be Proactive](#)



Aesthetics > *Pertains to the physical appearance and image of building elements and spaces as well as the integrated design process.*

Related topics:

- [Engage the Appropriate Language and Elements of Design](#)
- [Engage the Integrated Design Process](#)
- [Select Appropriate Design Professionals](#)
- [Design Awards](#)



Cost-Effective > *Pertains to selecting building elements on the basis of life-cycle costs (weighing options during concepts, design development, and value engineering) as well as basic cost estimating and budget control.*

Related topics:

- [Utilize Cost Management Throughout the Planning, Design, and Development Process](#)
- [Use Economic Analysis to Evaluate Design Alternatives](#)
- [Consider Non-Monetary Benefits such as Aesthetics, Historic Preservation, Security, and Safety](#)



Functional / Operational > *Pertains to functional programming—spatial needs and requirements, system performance as well as durability and efficient maintenance of building elements.*

Related topics:

- [Account for Functional Needs](#)
- [Ensure Appropriate Product/Systems Integration](#)
- [Meet Performance Objectives](#)



ance

es

lines

tives

ystems

agement

ns

velopment

missioning

ontrols

& Maintenance

References

lates

Agencies

anizations

s

ices

CONSTRUCTION

A

al Institute of
ING SCIENCES

al Institute of
ces. All rights
laimer.

Products & Systems

Most buildings are comprised of a great many different, individual components and materials. While the WBDG encourages the consideration of structures as integrated, whole buildings, it also appreciates the need to access information and guidance by Products & Systems. In the near future, you will be able to access information on specific products and systems by selecting sections based on **CSI MasterFormat™** Division or **ASTM UNIFORMAT II** Major Group Element from the menu.

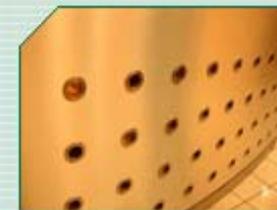
- Products >
- [07 41 13: Metal Roofing](#)
 - [07 92 00: Joint Sealants](#)
 - [09 20 00: Plaster and Gypsum Board](#)
 - [13 48 00: Sounds, Vibration, and Seismic Control](#)
 - [23 05 93: Testing, Adjusting, and Balancing for HVAC](#)
 - [23 28 13: Commercial—Kitchen Hoods](#)
 - [23 31 00: HVAC Ducts and Casings](#)



- Systems >
- [Building Envelope Design Guide](#)



- Specifications >
- [Unified Facilities Guide Specifications \(UFGS\)](#)
 - [VA Master Specifications](#)
 - [NASA Guide Specifications \(UFGS\)](#)
 - [Federal Green Construction Guide for Specifiers](#)
 - [MASTERSPEC®](#)



Design Guidance

Building Types
Space Types
Design Disciplines
Design Objectives
Products & Systems

Project Management

Delivery Teams
Planning & Development
Building Commissioning
Delivery & Controls

Operations & Maintenance

Mandates / References

Federal Mandates
Publications
Case Studies
Participating Agencies
Industry Organizations
Related Links

Tools

WBDG Services



© 2007, National Institute of Building Sciences. All rights reserved. [Disclaimer](#).

Project Planning, Management & Delivery

INTRODUCTION

Successful project management requires team leadership and coordination, diligent project plan oversight of the delivery process. Recognizing the importance of these qualities in satisfying client expectations, the Project Management section offers guidance for the entire delivery team to successfully and efficiently complete a high performance building project.

While this section is still under development, click on one of the following areas to begin your exploration.

- [Project Delivery Teams](#)—Contains guidance on assembling and effectively managing the project team.
- [Project Planning and Development](#)—Contains guidance on how to plan and deliver a project from start to turnover.
- [Building Commissioning](#)—Provides an overview of commissioning drivers, benefits, goals, and processes.
- [Project Delivery and Controls](#)—Contains descriptions of procedures and practices used to manage project scope, budget, and schedule.

Note: Terminology and processes described within this section of the WBDG typically refer to the federal government and may be applicable to other public sector institutions with adaptation for local standards of practice.

MAJOR RESOURCES

Federal Agency Links

DOE Project Management Process ([PDF 28 KB](#))

[NASA NPG 8820.2E-Facility Project Implementation Guide](#)

[Standard Form 330, Architect-Engineer Qualifications](#)—On December 11, 2003, Standard Form 330 was released by the federal government. The new form, which architects and engineers use to provide information on their qualifications and experience when seeking federal projects, replaces SF 254/255 and emphasizes performance-based selection for the procurement of A/E services.

USACE Project Managers Guide

USAF Project Management Online Handbook

VA Project Managers Handbook

Facilities Operations and Maintenance

by Don Sapp
Plexus Scientific



INTRODUCTION

The operations and maintenance (O&M) of facilities covers all that broad spectrum of services required to assure the built environment is available to and will perform the [functions](#) for which they were designed and constructed. O&M is comprised of the day-to-day activities necessary for the built entities to perform their intended function. Operations and maintenance are combined into the one term O&M because an entity cannot operate without being maintained, therefore the two are discussed as one.

At this time the Operations and Maintenance section offers guidance in the following areas:

- [Real Property Inventory \(RPI\)](#)—Provides an overview on the type of system needed to maintain an inventory of an organization's assets and manage those assets.
- [Computerized Maintenance Management Systems \(CMMS\)](#)—Contains descriptions of procedures and practices used to track the maintenance of an organization's assets and associated costs.

Future updates to the Operations and Maintenance section will provide additional guidance in the areas described below.

The scope of [O&M](#) includes the activities required to keep the entire built environment as contained in the organization's [Real Property Inventory](#) of buildings and structures and their supporting facilities such as utility systems, parking lots, roads, drainage structures and grounds in condition to be used to meet their intended function during their life cycle. These activities include routine and breakdown maintenance and repairs, operations of utility systems and grounds care. It varies from O&M of a single building to a complex of many buildings and structures or groups of complexes. As the number of buildings and structures increases, the organization performing the O&M increases in size and complexity. In all cases it requires knowledgeable and skilled management and skilled and trained technical personnel to perform the many varied O&M functions.

MAJOR RESOURCES

A. Planning and Design Phase

O&M activities start with the planning and design of a facility and continue through its life cycle. During the planning and design phases, O&M personnel should be involved and should identify maintenance requirements for inclusion in the design documents. This includes identifying the O&M requirements for the facility and the O&M personnel who will be responsible for the O&M of the facility.

Design Guidance

- Building Types
- Space Types
- Design Disciplines
- Design Objectives
- Products & Systems

Project Management

- Delivery Teams
- Planning & Development
- Building Commissioning
- Delivery & Controls

Operations & Maintenance

Mandates / References

- Federal Mandates
- Publications
- Case Studies
- Participating Agencies
- Industry Organizations
- Related Links

Tools

WBDG Services




Design Disciplines

[Architecture](#)

[Landscape Architecture](#)

[Cost Estimating](#)

[Planning](#)

[Fire Protection Engineering](#)

[Plumbing Engineering](#)

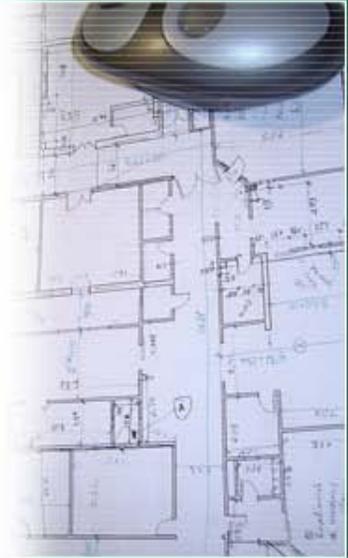
[HVAC and Refrigerating Engineering](#)

[Architectural Programming](#)

[Information Technologies Engineering](#)

[Structural Engineering](#)

[Interior Design](#)



Every building project has a unique set of program goals and technical requirements that demand assembling all the stakeholders and a team of professionals in various design disciplines. Each design discipline has a different set of skills, professional standards, and issues that drive how they operate in the building process. Traditionally, many disciplines provide a specialized technical service that is not always well coordinated with other aspects of the project. ['Whole building,' or integrated, design](#) as a process requires the various stakeholders and disciplines to coordinate and interact as early as possible in the process, and throughout the [life cycle](#) of the project to achieve a holistic solution that may yield multiple benefits.

This Branch of the WBDG has been developed to assist participants in planning, design, and construction programs understand how building design disciplines are organized and practice. This Branch also offers insight into creating opportunities for successful [project delivery](#) through a coordinated, integrated design, construction, and [management](#) process. Each Design Discipline page provides information and guidance from a 'whole building' perspective. In addition, each page includes a discussion of the discipline's professional services, legal definition, their roles and responsibilities in the emerging integrated design process, other emerging issues facing the professional discipline, the codes and standards governing or affecting their practice, and lists of numerous resources relating to each discipline. With this knowledge in hand, each professional will be able to move beyond conventional practice to a more comprehensive, integrated practice.

Design Discipline Pages are also linked to related Resource Pages, [Design Objectives](#), [Building Types](#), and [Space Types](#) that explain strategies, technologies, and emerging issues relevant to that specific Design Discipline. Each design discipline is encouraged to review the other design disciplines. By expanding your knowledge of their roles and responsibilities, you will be able to work together better, identify gaps and omissions, and resolve issues holistically.

More Design Disciplines Pages will be posted when they are available. If you are a qualified professional and would like to develop a Design Discipline Page for any of the following disciplines, please [contact us](#) for more information:

- Archaeologist
- Lighting Designer
- Site Engineer
- Building Envelope Specialist

Design Guidance

- Building Types
- Space Types
- Design Disciplines**
- Design Objectives
- Products & Systems

Project Management

- Delivery Teams
- Planning & Development
- Building Commissioning
- Delivery & Controls

Operations & Maintenance

Mandates / References

- Federal Mandates
- Publications
- Case Studies
- Participating Agencies
- Industry Organizations
- Related Links

Tools

WBDG Services



CONSTRUCTION
CRITERIA
BASE



Integrated Practice

The building industry has been focused on rapidly emerging technologies in building information modeling and interoperability that will radically change the process of design, fabrication, construction, and maintenance of buildings over their life cycle. These same technologies threaten to change traditional industry business and contractual relationships regarding inefficiencies due to design and construction industry fragmentation; risk distribution and ownership of design information; compensation methodology—value based vs. cost based fee determination; leveraging of project information knowledge early in the design process; and intellectual property compensation for knowledge stored in an A/E BIM to be modified by input of project-specific data.

The American Institute of Architects (AIA) has recently announced the establishment of the [Integrated Practice Strategy Working Group \(IPSWG\)](#), which brings AIA knowledge communities and committees together to discuss this potential redefinition of architectural practice.

Building Information Modeling (BIM)

[Building Information Models \(BIM\)](#) based on NIBS International Alliance for Interoperability (IAI) Industry Foundation Classes (IFC) is an emerging technology that enables accumulation and management of facility life-cycle information. IFC-BIM lets architects, engineers, construction managers, facility operators, and facility managers work with (and store for downstream users) tangible components such as walls and furniture, and also concepts such as activities, spaces, and costs.

BIM is a master, intelligent data model, resulting in an as-built database that can be readily handed over to the building operator upon completion of commissioning. The BIM standard could someday integrate CAD data with product specifications, submittals, shop drawings, project records, as-built documentation and operations information, making printed O&M and Systems manuals virtually obsolete.

Wireless Technologies

Organizational/business use of wireless technology is still seen as an adjunct to wired due to network security issues, although more advances have been made in the residential building market. GSA envisions an integrated workplace where plug and play technology enables components to be added to or removed from a basic service infrastructure grid with no rewiring.

[The Center for the Built Environment \(CBE\)](#) at the University of California, Berkeley has wireless technology research projects in development for:

- A programmable [wireless lighting control system](#) that can be used in both retrofit and new lighting applications that greatly reduces the cost of wiring and switching, enables more flexible lighting control that can be integrated with daylight sensing, permits individual user control of workstation lighting, and potentially results in more energy efficiency.
- A combined [wireless communication and micro-electromechanical \(MEMS\) sensor system](#) for sensing, measurement, and control of the building indoor environment; enabling environmental sensing distributed over wider spaces; leading to optimization of building systems, greater energy efficiency, and individualized user comfort.

- Design Guidance
 - Building Types
 - Space Types
 - Design Disciplines
 - Design Objectives
 - Products & Systems

- Project Management
 - Delivery Teams
 - Planning & Development
 - Building Commissioning
 - Delivery & Controls

Operations & Maintenance

- Mandates / References
 - Federal Mandates
 - Publications
 - Case Studies
 - Participating Agencies
 - Industry Organizations
 - Related Links

Tools



© 2007, National Institute of Building Sciences. All rights reserved. [Disclaimer](#).

Building Information Models (BIM)

by Dana K. (Deke) Smith, Chair-NIBS Facility Information Council and National BIM Standard Project Committee and Alan Edgar, Chair-National BIM Standard Communications Task Team

Design Disciplines > [Information Technologies Engineering](#)

[Related Resource Pages](#) [Print](#) [Email](#)

INTRODUCTION

This resource page examines both a description of a Building Information Model (BIM) as well as the collaborative effort currently underway to develop a National BIM Standard.



A 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.

Some have identified BIM as only 3D modeling and visualization. While partially true, this description is limiting. A more useful concept is that a BIM should access all pertinent graphic and non-graphic information about a facility as an integrated resource. A primary goal is to eliminate re-gathering or reformatting of facility information; which is wasteful. BIM standards have many objectives but one of the most important is to improve business functioning so that collection, use and maintenance of facility information is a part of doing business by the authoritative source and not a separate activity.

DESCRIPTION

This description contains two sections. The first section describes desirable BIM characteristics and the second section describes the effort underway to develop a standard for information sharing that will help weave all stakeholders into a common fabric.

Why BIM? Why Now?

The opportunity now exists...

- to build a facility virtually
- to simulate its construction and operation prior to building it physically
- to work out problems and predict its performance
- to coordinate the construction to reduce construction time and eliminate change orders
- to enter data once when it is created as part of the business process then retain it for use later in the lifecycle

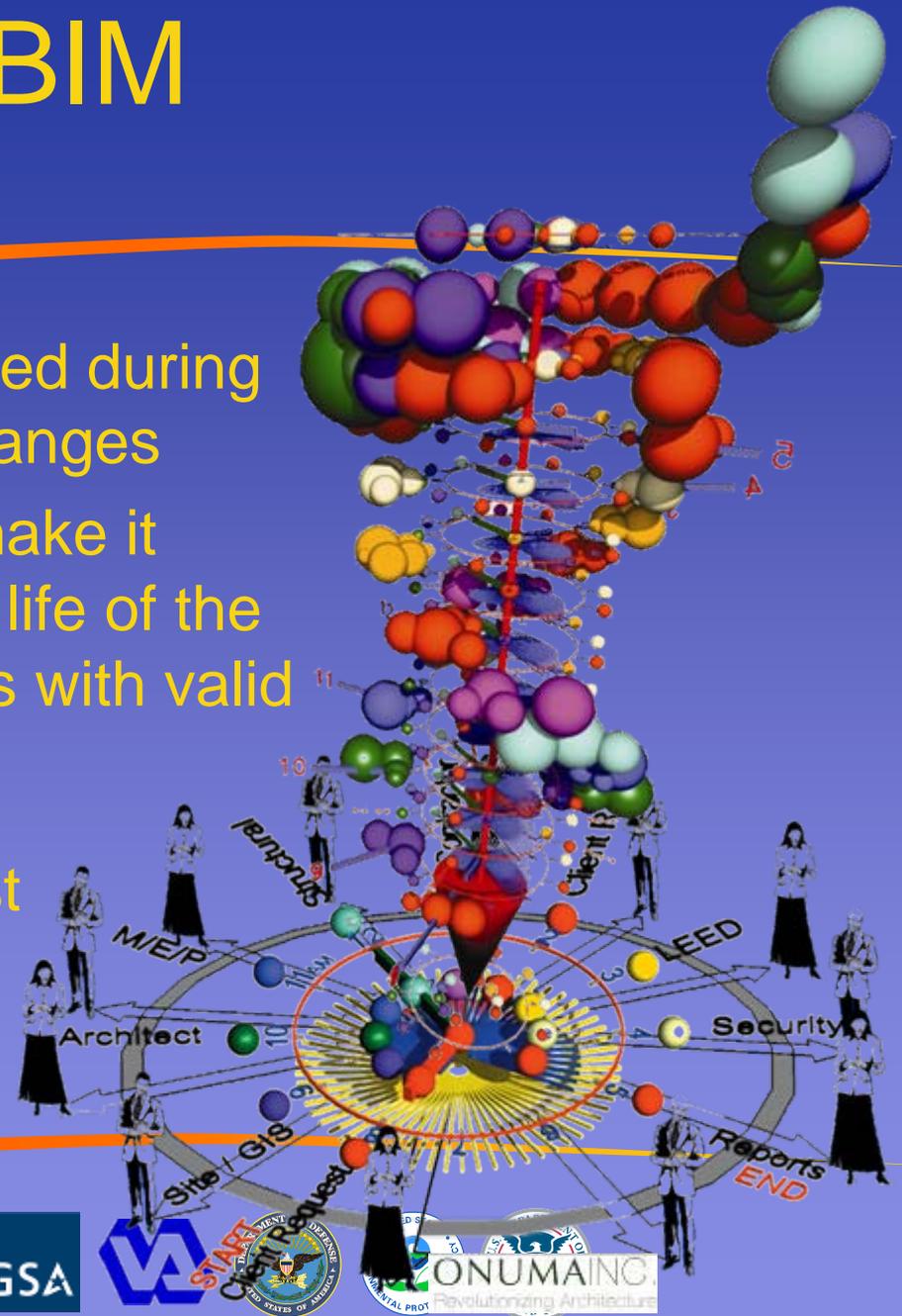
Definition of BIM



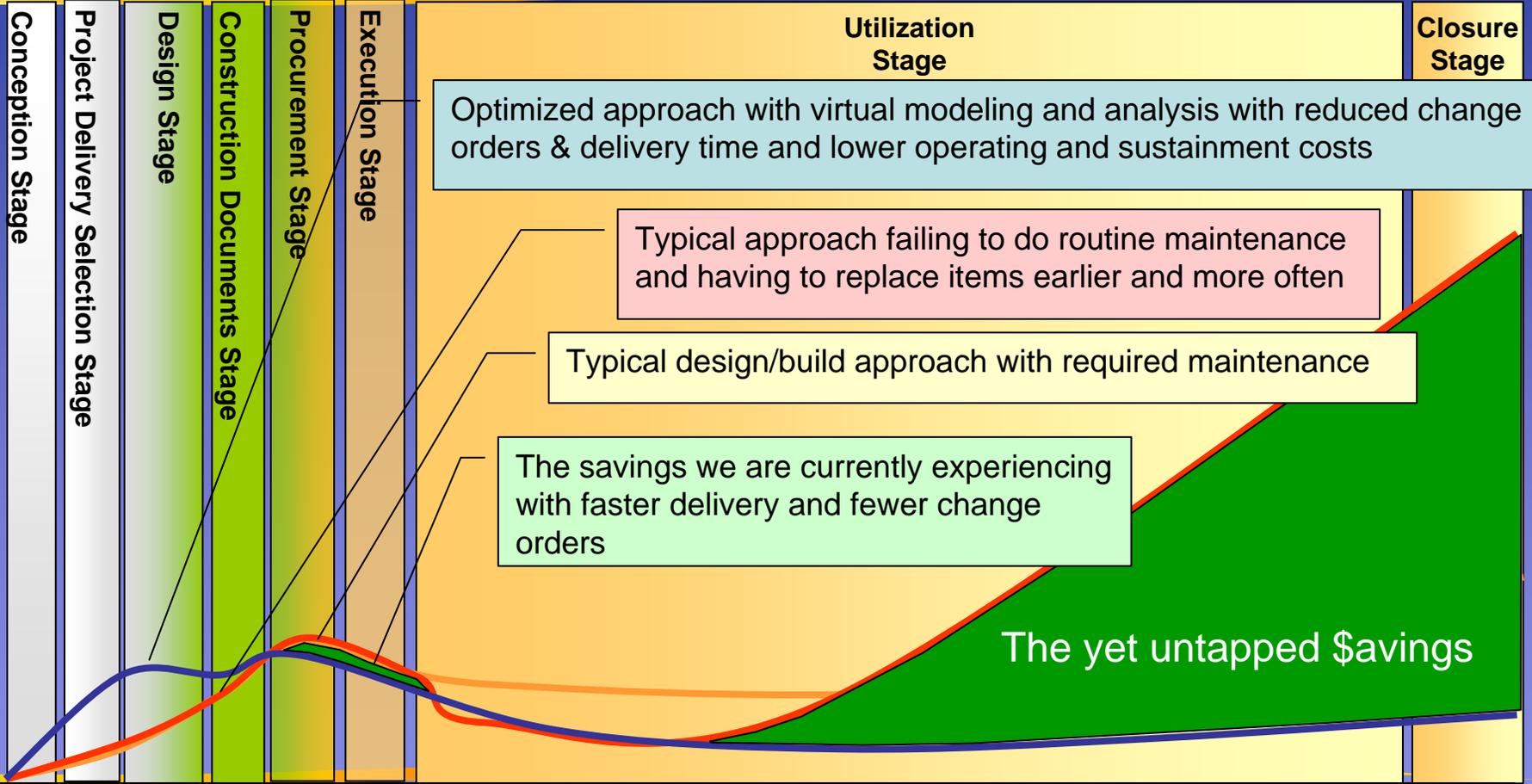
- A Building Information Model (BIM) is a digital representation of physical and functional characteristics of a facility. As such it serves as a shared knowledge resource for information about a facility forming a reliable basis for decisions during its lifecycle from inception onward.
- A basic premise 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.

Building a BIM

- Store data as it is collected during routine information exchanges
- Once data is collected make it available throughout the life of the facility to all stakeholders with valid reasons to access it
- In order to accomplish that the stakeholder must know the information exists and how to gain access to it.

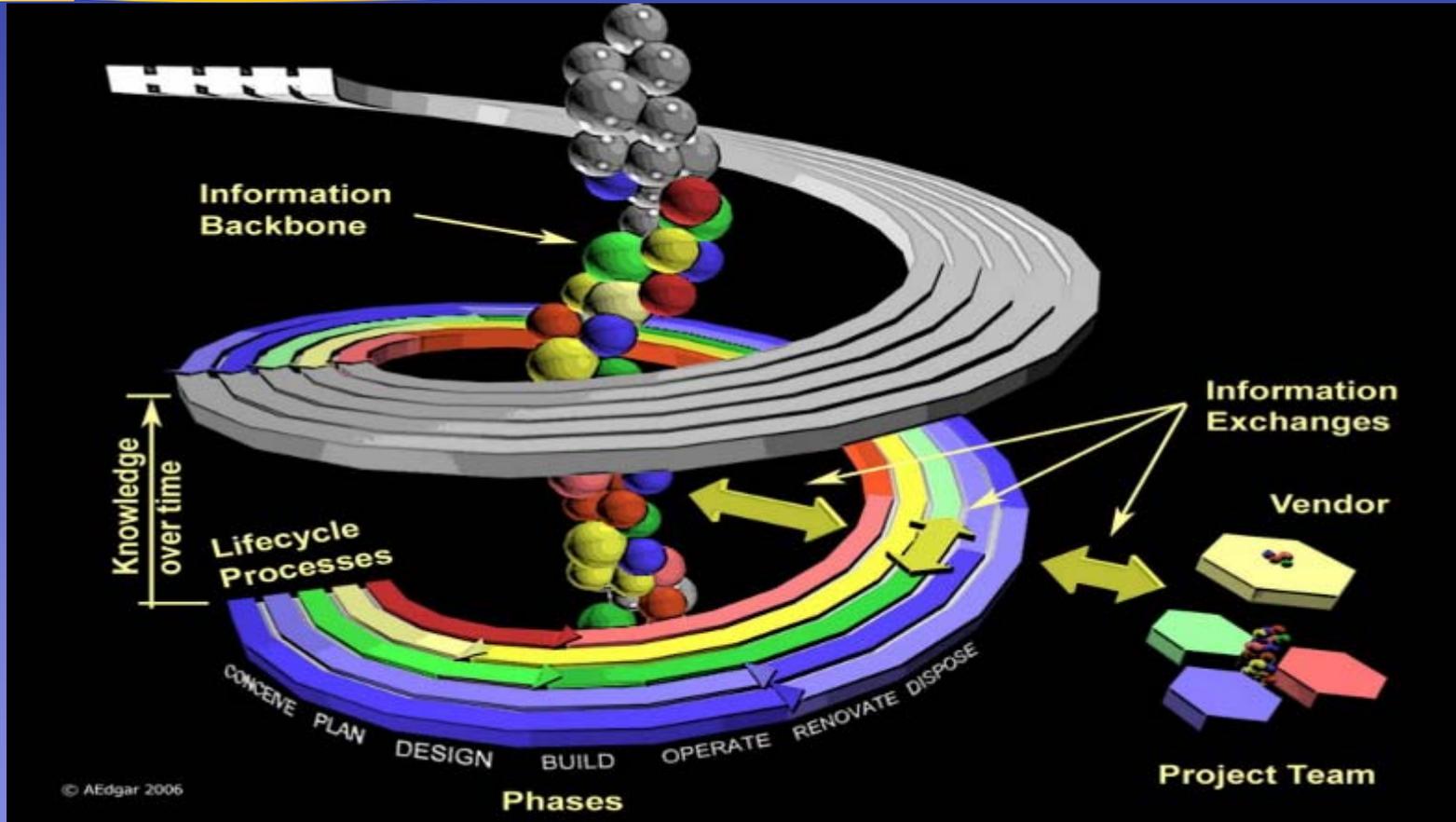


BIM Project Savings Curve

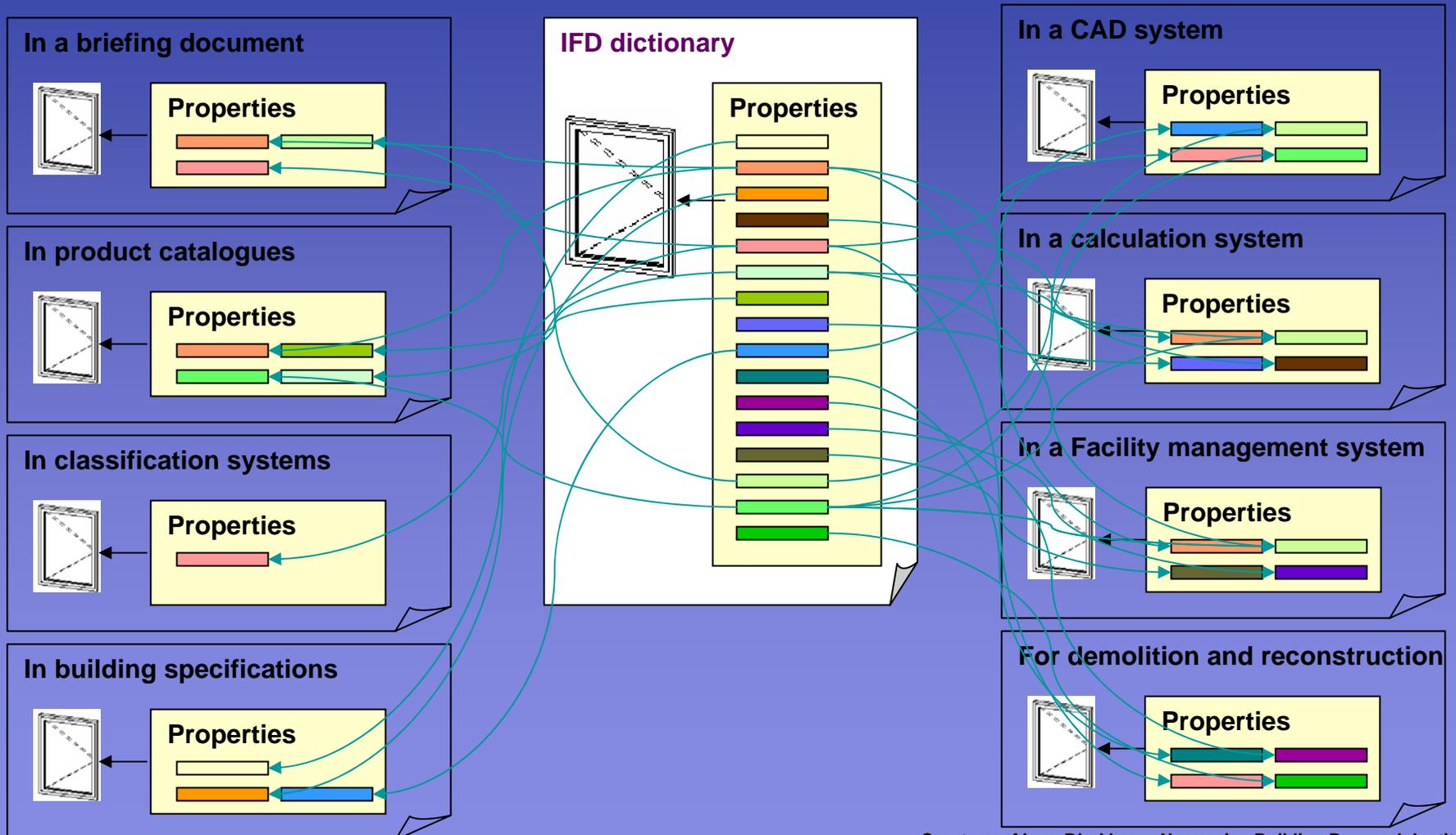


IAI "BuildingSMART" model supports lifecycle data

BIM Development Helix



One object exist in multiple contexts



One object exist in multiple contexts

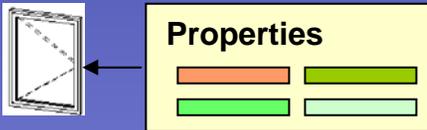
One concept carries the same unique identification in every language

78AF4E98C8D4406B873DBB85E1FE7DB

In a briefing document



In product catalogues



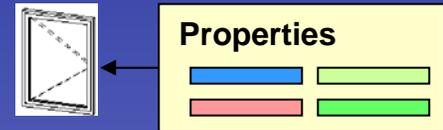
In classification systems



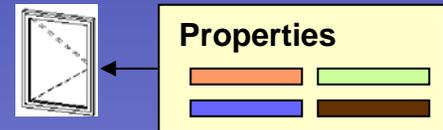
In building specifications



In a CAD system



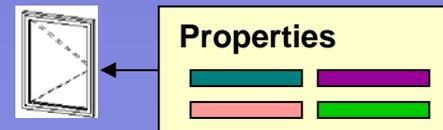
In a calculation system



In a Facility management system



For demolition and reconstruction



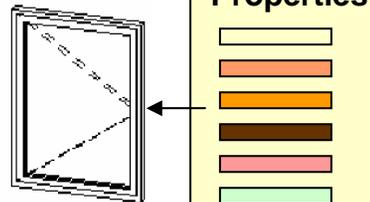
BARBi - Norway

LexiCon - Nederland

NBS - England

SDC - France

NBIMS - Americas



Who Benefits From BIM Implementation?

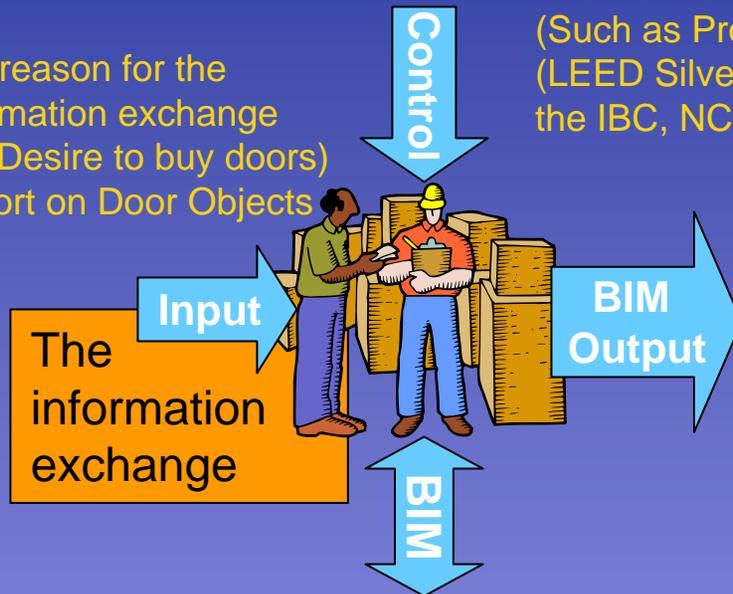


Building Information Model (BIM)

- Facility Information Views
- Owners
 - Planners
 - Realtors
 - Appraisers
 - Mortgage Bankers
 - Designers
 - Engineers
 - Cost & Quantity Estimators
 - Specifiers
 - Contracts & Lawyers
 - Construction Contractors
 - Sub-Contractors
 - Fabricators
 - Code Officials
 - Zoning
 - Facility Managers
 - Maintenance & Sustainment
 - Renovation & Restoration
 - Disposal & Recycling
 - Scoping, Testing, Simulation
 - Safety & Occupational Health
 - Environmental & NEPA
 - Plant Operations
 - Energy, LEED
 - Space & Security
 - Network Managers
 - CIO's
 - Risk Management
 - Insurers
 - Occupant Support
 - First Responders
 - Disaster Recovery
 - Continuation of Operations Plans

Reporting data from BIM through Information Exchanges

The reason for the information exchange (i.e. Desire to buy doors) Report on Door Objects

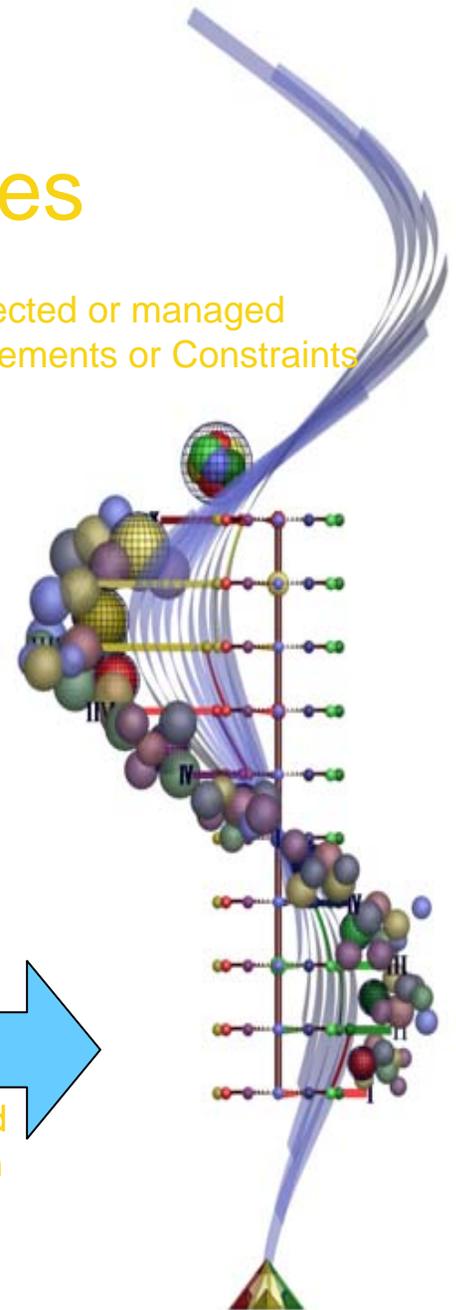


• Normative standards by which data is collected or managed (Such as Programmatic and Project Requirements or Constraints (LEED Silver requested by owner) the IBC, NCS, IFC's and OmniClass™)

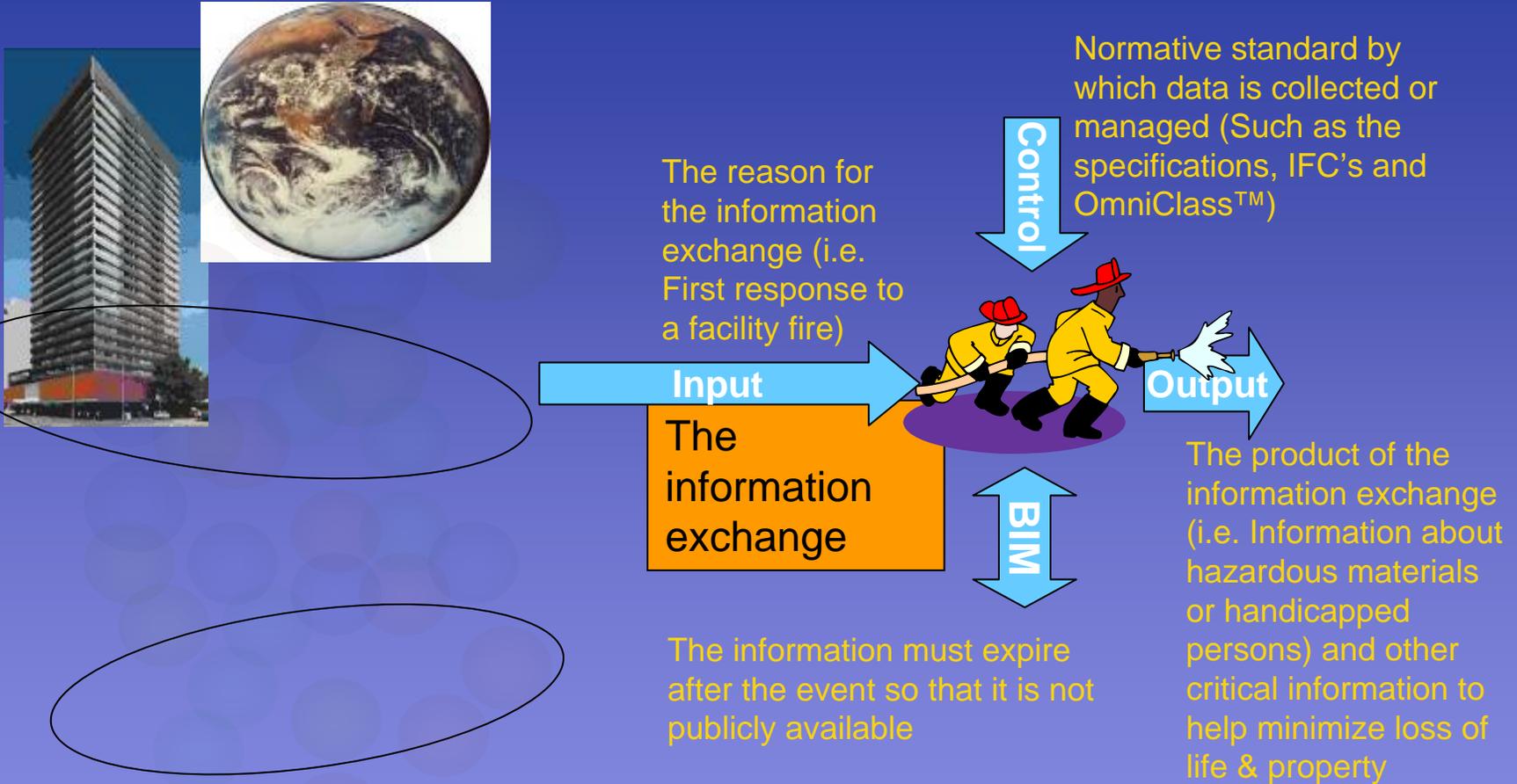
The product of the information exchange (i.e. The quantity and specification data used to purchase and deliver doors.

Existing information already in the BIM is used as input and information that is gleaned from the exchange is also stored in the model (i.e. Attributes about the doors purchased, size, material, cost, instructions, fire rating, etc.) NCS, IFC's, OmniClass

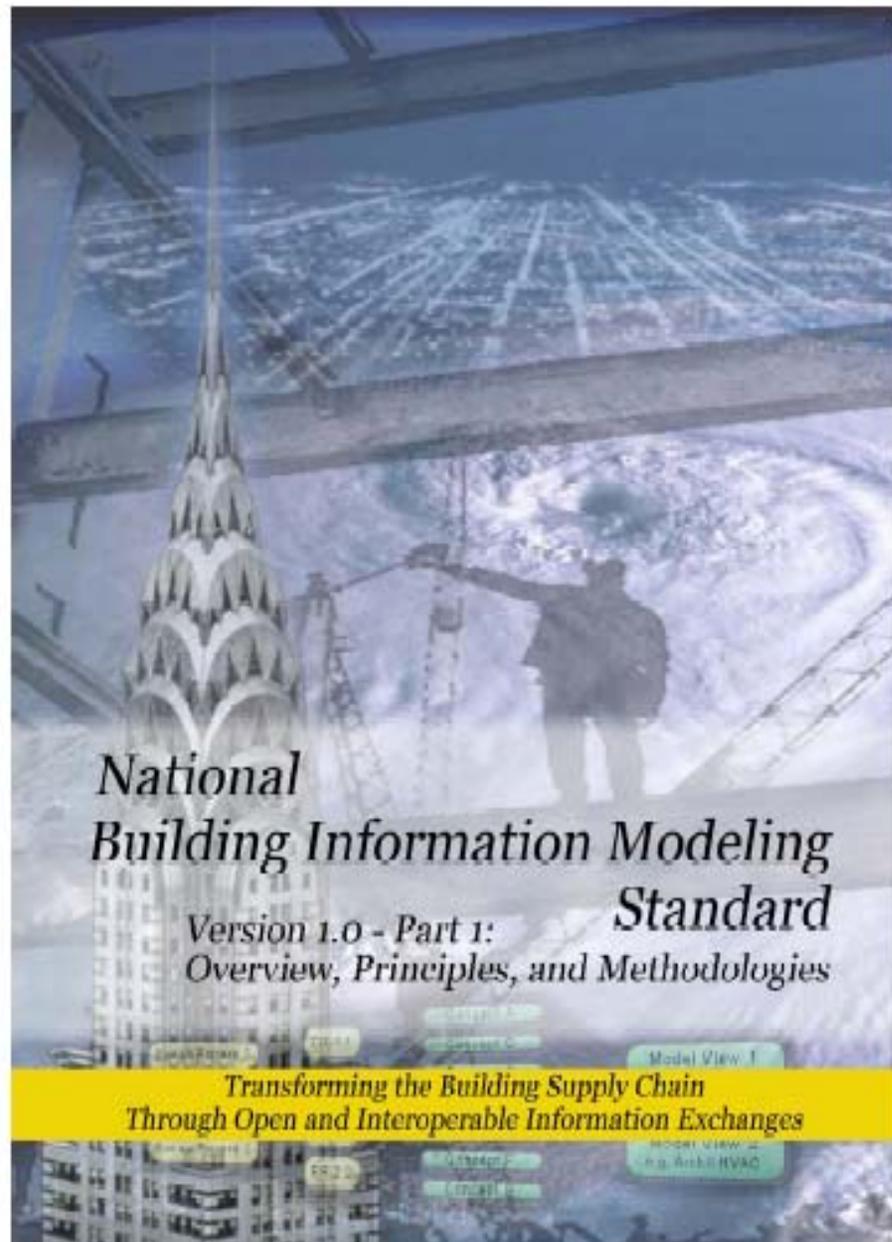
More information is added to the building information model in its appropriate spatially related location



Extracting Information From a BIM



The BIM must be structured in such a way that information can be easily and quickly mined in real time for reporting – prior agreements may be required



*National
Building Information Modeling
Standard*
Version 1.0 - Part 1:
Overview, Principles, and Methodologies

*Transforming the Building Supply Chain
Through Open and Interoperable Information Exchanges*

Copyright © 2007 National Institute of Building Sciences. All rights reserved.

Facility Information Council

A Council of the National Institute of Building Sciences

ABOUT FIC

NATIONAL CAD STANDARD

NATIONAL BIM STANDARD

CONTACT



The Facility Information Council

The Facility Information Council (FIC) is a NIBS Council providing industry-wide support for the development, standardization, and integration of computer technologies and software to ensure the improved performance of the entire life cycle of facilities from design, engineering and construction through operation, maintenance and retirement phases.

The NIBS Facilities Information Council has the following organizational structure established to most effectively accomplish its mission:



EVENTS

First National buildingSMART® Conference at AEC-ST® Fall

Washington, DC
December 10-13, 2007

[Read more](#)

ANNOUNCEMENTS

NCS V4.0 Amendments Approved by NCS Project Committee (NCSPC)

(April 26, 2007)

The NCS V4.0 ballots submitted to a vote of the Project Committee during the 35-day voting period of March 14 - April 18, 2007, passed. All sixty seven (67) ballot items were approved by over 2/3 of the non-abstaining members who cast their votes. Over 85% of the NCSPC members voted on the NCS V4.0 ballots. In accordance with Paragraph 2.15b of the NCS Rules of Governance, the ballot results were reviewed and approved by the NCS Steering Committee on April 25, 2007. The new version of the US National CAD Standard is scheduled to be released in November 2007.

ABOUT BIM

CHARTER MEMBERS

FAQ

PRESS

NBIMS PUBLICATIONS

COMMITTEE

RELATED ACTIVITIES

CONTACT

BECOME A SPONSOR



Welcome to NBIMS!

NBIMS (the National Building Information Model Standard project), is a committee of the National Institute for Building Sciences (NIBS) Facility Information Council (FIC). Since 1992 the FIC mission has been to "improve the performance of facilities over their full life-cycle by fostering common and open standards and an integrated life-cycle information model for the A/E/C & FM industry." The NBIMS Committee continues this tradition by knitting together the broadest and deepest constituency ever assembled for the purpose of creating an open National standard for using BIM efficiently to empower building processes. [The NBIMS Charter](#) spells out the vision and describes the results NBIMS expects to achieve.



What is BIM? Visit [About BIM](#) to read NBIMS' definition and see an example of how open BIM standards should work. Or jump to the [FAQ](#) for the most often asked and answered questions.

Who's signing up? The NBIM Standards Committee is dedicated to bringing together the many organizations already working on pieces of the puzzle rather than trying to reinvent existing capabilities. Charter [signatories](#) already represent many building life-cycle constituencies as well as most of the related professional associations, consortia, and technical and associated services vendors. Yet the Committee is still actively seeking greater involvement; especially from private owners, A/E/C practitioners, property and facility managers, and real property professionals. Read more on the

NBIMS CHARTER MEMBERS



EVENTS

First National buildingSMART® Conference at AEC-ST® Fall
Washington, DC
December 10-13, 2007
[Read more](#)

ANNOUNCEMENTS

Reports from National BIM Conference
View presentations given at the event in Anaheim May 15-17, 2007.

NEWS

ONUMA, Inc. Honored with Two BIM Awards at 2007 AIA National Convention in San Antonio
(May 9, 2007)
[Read more](#)

FIATECH Delivers BIM Standard for the Process Industry
(May 8, 2007)
[Read more](#)



WBDG Future Activities

- New web site design
- Continuing education units
- Applied research
- BIM



Would you like to know more about this session?

- Earle Kennett
- National Institute of Building Sciences
- 1090 Vermont Avenue NW Suite 700
- Washington, DC 20005
- ekennett@nibs.org
- Don't forget to fill out and drop off your session evaluations.



GovEnergy
www.govenergy.gov



New Orleans
August 5-8