

BUILDING INFORMATION MODELING – MACHINE COMPUTATION WITH HUMAN COMPREHENSION



BIM – What is it?



Drawings =
Albums



CAD =
Compact Disk



BIM =
Database



BIM – What is it?

- Noun: “Building Information Model” is a 3D computer representation of a building, i.e. a Virtual Building, that is constructed of smaller parts (objects) that include and convey graphical and non-graphical information.
- Verb: “Building Information Modeling” is a process of designing, engineering, constructing and maintaining a building that uses a coherent computer representation (i.e. Virtual Building) of the facility.



B I M... as a process

Information is the key

- Typically, Information was built and lost, and then, often rebuilt.
- *But sometimes it was lost forever!*



B I M... as a process

Information is Complex!

And there is a lot of it



B I M... as a process

Information is Complex!

And there is a lot of it

So we made it "Machine
Computable"

And we tried adding more
people

But that created even
more complexity



BIM... *as a process*

- We needed it to be
“Human
Comprehensible”



BIM... *the Solution*

- BIM unifies Information
in a Database and
gives it Context
 - Unified Information is
accessible a variety of
ways:
 - 3D Views
 - 2D Views
 - Tables and Schedules
 - Reports

But it is all the same
Data



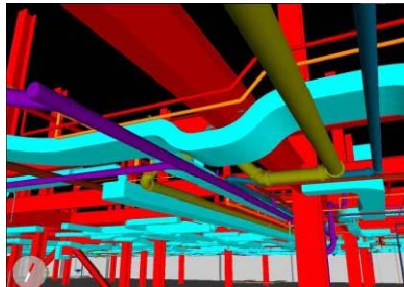
BIM... as a process

- BIM makes Information:
 - Human Comprehensible
 - and
 - Machine Computable

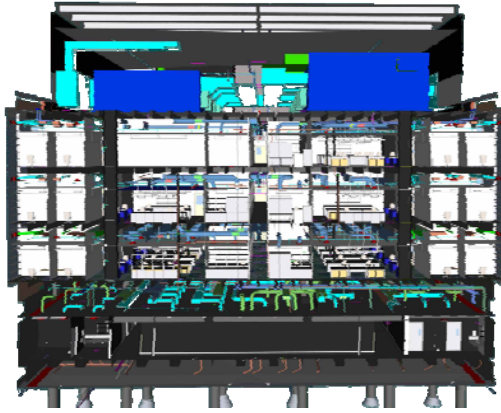


BIM... as a process

- BIM lets us build it first in the computer before we build it for real.



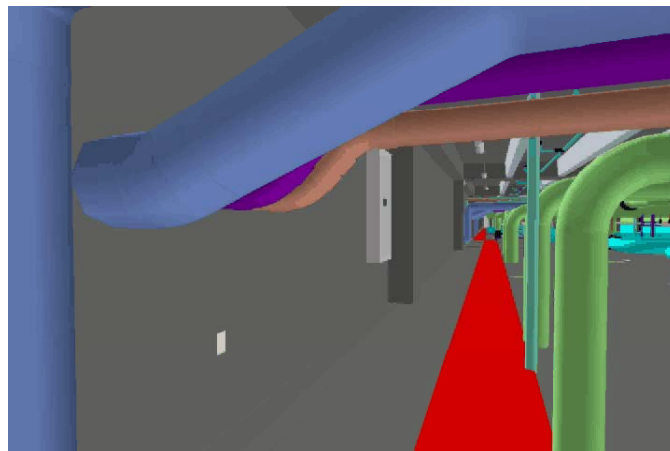
BIM... *as a process*



USACE Battlefield Health and Trauma – Ft. Sam Houston



BIM... *as a process*

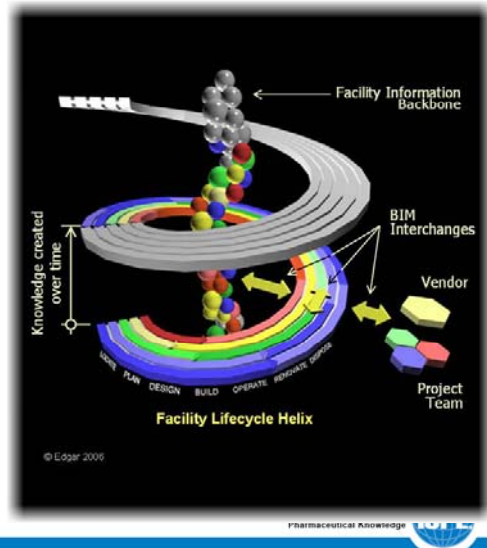


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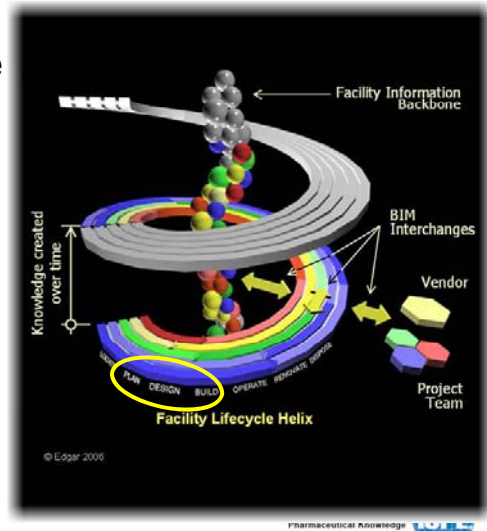
BIM... as a process

- Information is:
 - Saved
 - Improved
 - Reaffirmed
 - Transparent
 - Usable
 - Increasing in Value
 - *The sky is the limit!*



What's in it for you, as an Owner?

- The truth is that the Facility Information is only built to the extent that is supported by the business case.
- Each project is different.



BIM... *Exchange Information*

- Expertise needs to be applied by different contributors.
- This creates separate datasets, which can still be part of a Unified BIM, if the data is synchronized.
- Therefore, Lossless Information Exchange is needed
- But how, if we need different tools for our specialties?
- We need a common language (data format)
- And the key is being selective about what information should be shared and when.

Because...

When everything is a priority, nothing is a priority.



Image: HHMI Electron Microscope Production Suite, laboratories, mechanical systems and structure.

BIM – Leverages visualization to provide a faster “Time To Insight”. This gives facility managers the tools to manage users expectations during the design process, providing for faster, more accurate sign-off on design decisions.





The combination of data and graphics provides a greater level of clarity to facility information. This color coded floor plan allows facility managers, human resources and accounting to baseline their data off of the BIM data.

**WHAT ARE YOUR
PRIORITIES?**

**WHAT IS YOUR
BUSINESS CASE?**

