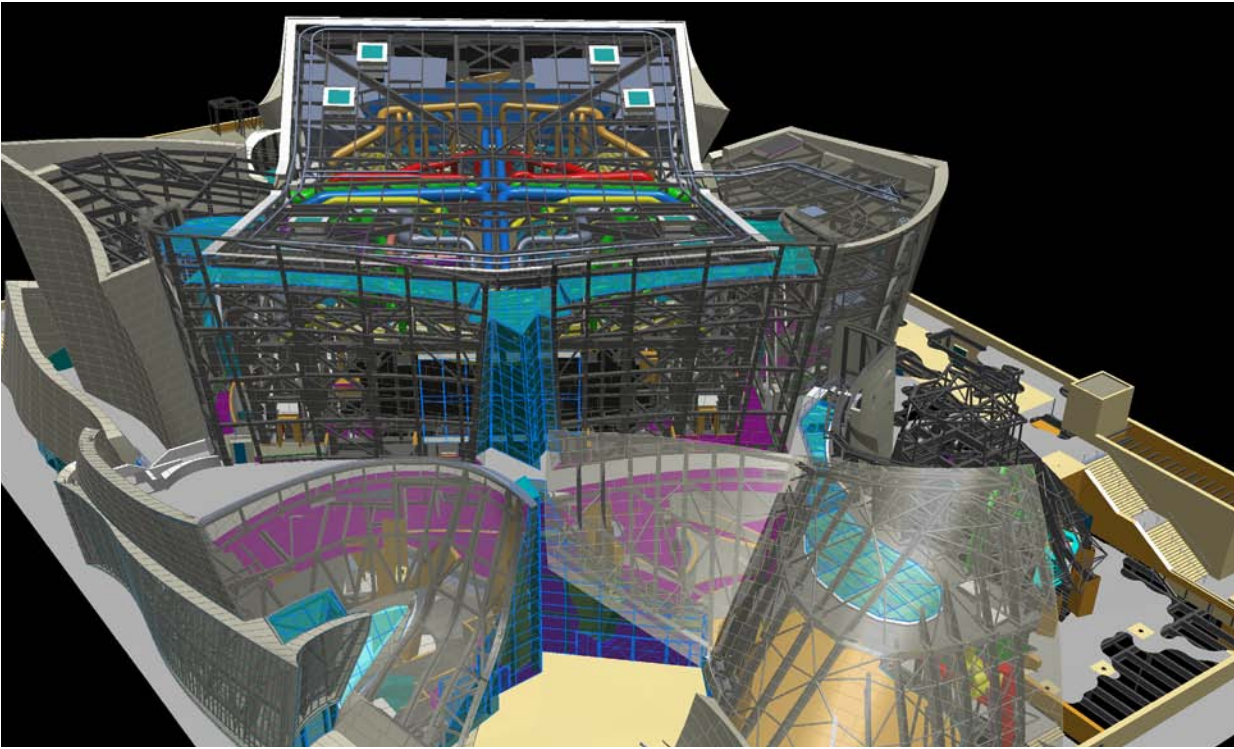




National BIM Standard-United States™



The average person has difficulty reading a blueprint. This might not be a big issue in everyday life, but when a person wants to build a new office building or expand a business, it can have huge, and sometimes expensive, consequences. Owners do not have the luxury of constructing a building and then seeing how it functions in real life. Once it is constructed, the owner and occupants have to work with the results for decades or spend time and resources fixing any problems. A building information model (BIM) allows building owners to see what a new project will look like and how it will function before the structure is physically built. This simulated, three-dimensional model gives the owners an opportunity to “walk through” the building virtually. The information provided during design and construction can save the owner money each day over the entire life of the facility.

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BIMs use advanced digital technology to represent all of the physical and functional characteristics of a building. Using a computer program, the design team collaboratively designs in three dimensions and then adds information about the structural components; plumbing, electrical, heating, ventilation and cooling systems; as well as telecommunications, security systems and material specifications. The result is a three-dimensional virtual building that includes information about everything from the type and diameter of a drain pipe in the ladies' room to the thickness of the glass in the front door. The BIM gives the owner the opportunity to walk through the building virtually and look at every detail. In fact, a BIM reveals more than the owner would see in real life because it shows the complete inner workings of the facility as well as product information from the manufacturer. Once the actual building is constructed, the owner can reference this repository of shared information to maintain the building throughout the facility's life cycle.

BIMs can be cost-saving tools, but the information they contain needs to be consistent across the industry to effectively work, or interoperate, together. When different BIM programs do not use the same coding or definitions for different building components, information can not be shared effectively. This lack of interoperability costs the industry billions of dollars each year.

In 2005, the National Institute of Building Sciences Facility Information Council (FIC) began developing a *National Building Information Modeling Standard™ (NBIMS)* to improve the interoperability of BIMs. The

NBIMS Project Committee set out to establish a common language for describing facility information to create common open standards for sharing information among different applications used by designers, contractors, and facility and asset managers. Like a thesaurus, this would allow different programs to use different words to describe the same thing. The Committee also worked to create common standards for sharing data among different applications.

Federal agencies, including the U.S. General Services Administration, U.S. Coast Guard, U.S. Army Corps of Engineers, U.S. Department of Veterans Affairs, and Smithsonian Institution, began requiring BIMs for construction projects to help integrate service delivery, reduce errors and omissions, and improve facility operations and maintenance.

In early 2008, the FIC released *NBIMS Version 1-Part 1: Overview, Principles, and Methodologies for Public Use*. To date, users have downloaded more than 850,000 copies of the free standard. To improve coordination with other related programs, the buildingSMART alliance™ began overseeing the *NBIMS* after the sunset of the FIC in 2008.

Now in the standards development process for 2012, the name has been changed to *National BIM Standard-United States™ (NBIMS-US)*. The newly updated *NBIMS-US* Version 2 uses a consensus process to incorporate new candidate standards. Many of the Alliance's other BIM-related projects that are candidates to become standards will be added to the *NBIMS-US* through that consensus process. ■



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