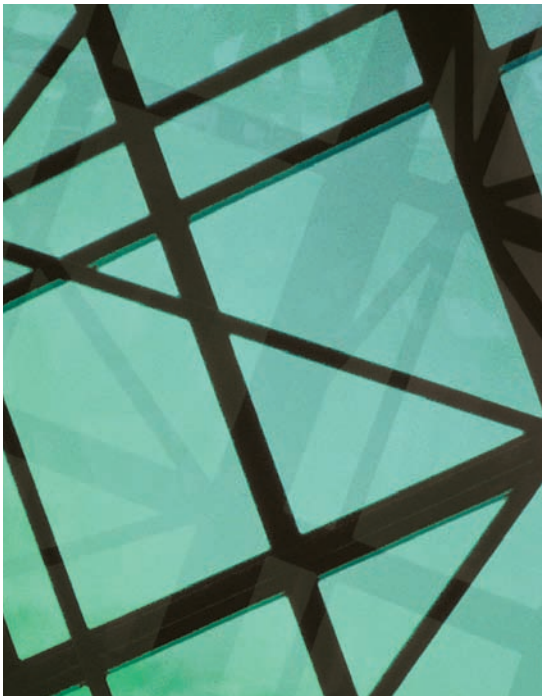




buildingSMART alliance™



Some industries are known for their streamlined processes. The building industry is not one of them. Waste is high—some reports estimate it as much as 57% in the United States alone. Couple that fact with the knowledge that buildings and infrastructure use more than three quarters of the world's raw materials and 60% of its energy consumption, and it becomes clear that building smarter will have a tremendous economic and financial impact, both in the United States and around the world. Building smarter will become more of a national security issue as raw materials become scarcer.

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Technology plays a key role in reducing wasted time and materials. The extremely fragmented building industry is undergoing profound changes. The National Institute of Building Sciences established the buildingSMART alliance in 2007 to coordinate those changes and help streamline the way buildings are designed and operated. For streamlining to work effectively, information has to be shared in an open, interoperable format that is consistent across the industry. When different software programs cannot interface, people are forced to recreate or resubmit the same project information multiple times. This duplicated data entry wastes time and increases the potential for error on an enormous scale. Through information sharing and technology, the Alliance is tackling the complete building life-cycle process, from planning and construction to operation, occupancy and disposal. The potential rewards are huge—cost savings, improved performance (for both buildings and occupants), energy conservation, sustainability and environmental protection of the earth's ecosystem.

The Alliance builds on two preceding Institute programs—the North American Chapter of the International Alliance for Interoperability (IAI/NA) and the Facilities Information Council (FIC). IAI/NA began developing a standard, *Industry Foundation Classes (IFC)*, for the data files that establish the relationships used to describe architectural objects electronically. FIC oversaw development of two standards. The first, which covers two-dimensional, computer-aided design (CAD), is called the *United States National CAD Standard® (NCS)*. The other, the *National Building Information Model Standard-United States™ (NBIMS-US)*, addresses three-dimensional digital technology. Both IAI/NA and FIC were sunset in 2008 in a coordination and consolidation move by the Institute. The Alliance, which now oversees the *IFC*, *NCS* and *NBIMS-US* programs for the United States, recently released *NCS Version 5* and is about to release *NBIMS-US Version 2*, the first consensus edition of the standard.

The Alliance serves as the North American arm of the IAI, now known as the buildingSMART International (BSI) and supports the ongoing technical work of the

international arm, including subcommittees on *IFC*, *Information Delivery Manuals (IDM)*, the *International Framework Dictionary (IFD)* and *Model View Definition (MVD)*.

Participation with industry partners is key to the Alliance achieving its goals. The Alliance has worked with the Construction Specifications Institute (CSI) to develop a reliable shared data dictionary for the building industry; with the Associated General Contractors (AGC) on the development of AGCxml to code AGC's suite of standard paper forms; and with the Open Geospatial Consortium (OGC) to look at *IFC* interfaces for cost engineering, energy and project management. The Alliance also participated in a project sponsored by the Charles Pankow Foundation and the Precast/Prestressed Concrete Industry to determine business processes associated with precast concrete.

In coordination with its development of the *NBIMS-US*, the Alliance has several information exchange projects underway. The highly recognized Construction Operation Building information exchange (COBie), which addresses the life-cycle capture and delivery of information needed by facility managers, has been approved for inclusion into *NBIMS-US*. Another, the Specifiers Properties information exchange (SPie), currently in development, will establish a set of product templates that manufacturers can use to export product data into an open-standard format.

Sharing information is a primary mission of the Alliance. The organization publishes the *Journal of Building Information Modeling (JBIM)* biannually to a circulation of 7,000 readers. In addition, the Alliance website is a place where organizations can come to see what industry initiatives are going on related BIM. It serves as a clearinghouse for BIM initiatives, and includes a list of active projects as well as projects in need of resources.

Representatives from a wide range of industry stakeholders join the Alliance. The organization seeks to be as inclusive as possible, welcoming any person or entity, public or private, engaged directly or indirectly in activities that support its purpose. ■

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