

Glossary and Acronyms

2D: Two dimensional (a flat drawing showing only length and width)

3D: Three dimensional (solid drawing showing length, width and height)

4D: 3D drawing plus time (scheduling) information

5D: 4D drawing plus cost information

AEC: Architecture, Engineering and Construction Industry

API: Application Programming Interface - a type of connectivity software that provides for data sharing across different platforms; this is an important feature when developing new or upgrading existing distributed systems. This technology is a way to achieve the total cross-platform consistency that is a goal of open systems.

Application: Software

ASP: Application Service Provider (former name for SaaS – see below)

B2B: Business to Business: electronic commerce transactions between businesses

- BIM: "Building Information Modeling," which is a model-based technology linked with a database of project information. The term is claimed by Jerry Laiserin to have been coined by Professor Charles (Chuck) Eastman, of the school of architecture and computing at Georgia Institute of Technology, Atlanta, and author of *BIM Handbook: A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors*, John Wiley & Sons, Inc., New Jersey, 2008. Phil Bernstein, Autodesk Vice President of Building Industry Strategy and Relations, said in an AIA lecture in 2009 that he created the term.

BIM Authoring Tools: Software applications including the following that are used for creating and revising the Building Information Model:

Autodesk, San Raphael, California: Revit
<http://usa.autodesk.com/adsk/servlet/index?id=3781831&siteID=123112>

Bentley, Exton, Pennsylvania: Microstation <http://www.bentley.com/en-US/Products/MicroStation/>

Graphisoft, Budapest, Hungary: ArchiCAD <http://www.graphisoft.com/>

Nemetschek, Munich Germany: Allplan <http://www.allplan.com/> and
Vectorworks <http://www.nemetschek.net/>

BIM Audit and Analysis tools:

Energy analysis: Ecotect <http://ecotect.com/>
Code compliance checking: Solibri Model Checker <http://www.solibri.com/>
Clash detection: Navisworks
<http://usa.autodesk.com/adsk/servlet/index?siteID=123112&id=10571060>

COTS: Commercial Off-the-Shelf software (such as Revit or AutoCAD)

Enterprise: A loosely formed grouping of companies established for a common purpose, such as designing or constructing a building

Extranet: a private network that uses Internet protocols, network connectivity, and possibly the public telecommunication system to securely share part of an organization's information or operations with suppliers, vendors, partners, customers or other businesses. An extranet can be viewed as part of a company's Intranet that is extended to users outside the company (e.g.: normally over the Internet).

IAI: International Alliance for Interoperability
(<http://www.buildingsmartalliance.org/>) The Alliance is a global standards-setting organization representing widely diverse constituencies—from architects and engineers, to research scientists, to commercial building owners and contractors, to government officials and academia, to facility managers, and to software companies and building product manufacturers. Alliance members are committed to promoting effective means of exchanging information among all software platforms and applications serving the AEC+FM community by adopting a single Building Information Model (BIM). The National Institute for Buildings (NIBS) "buildingSMARTalliance" is the former North American Chapter of the IAI.

iDAM: Internet Digital Asset Management software

IFC: Industry Foundation Classes: created by the International Alliance for Interoperability (IAI) (www.iai-na.org); specifications for AEC project information sharing through the project life cycle, globally, across disciplines and technical applications, published in the EXPRESS language for software development and in eXtensible Markup Language (ifcXML) for eCommerce and Internet purposes.

Intranet: a private computer network that uses Internet protocols, network connectivity to securely share part of an organization's information or operations with its employees.

IPD: Integrated Project Delivery

Mashup: A web page or application that combines data or functionality from two or more external sources to create a new service, such as using a Google Earth .kmz file to locate your building in Autodesk Architecture for the sun location to produce correct shadows.

NBIMS: National Building Information Model Standards created under the control of NIBS's "buildingSMARTalliance"

NIBS: National Institute for Building Science (<http://www.nibs.org/>) ; a non-profit, non-governmental organization bringing together representatives of government, the professions, industry, labor and consumer interests to focus on the identification and resolution of problems and potential problems that hamper the construction of safe, affordable structures for housing, commerce and industry throughout the United States; authorized by the U.S. Congress in the Housing and Community Development Act of 1974, Public Law 93-383. In establishing NIBS, Congress recognized the need for an organization that could serve as an interface between government and the private sector. The Institute's public interest mission is to: improve the building regulatory environment; facilitate the introduction of new and existing products and technology into the building process; and disseminate nationally recognized technical and regulatory information.

OCPM: Online Collaboration and Project Management (through an SaaS software such as Autodesk's "Constructware")

PIM: Project Information Management - similar to OCPM through software such as Newforma

Raster: In computer graphics, a raster graphics image or bitmap, is a data structure representing a generally rectangular grid of pixels, or points of color, viewable via a monitor, paper, or other display medium. Raster images are stored in image files with varying formats

Raster Graphics File Formats:

BMP: also called "bitmap" or device-Independent bitmap (DIB); an image file format; not compressed; no animation; Microsoft developed it and uses it for Windows.

GIF: "Graphics Interchange Format" is a bitmapped image file format with very good compression format for image files, but supports a maximum of 256 colors, so is not used for pictures; can be used for publishing on the web; supports animation.

JPG: also called JPEG; "Joint Photographic Experts Group" bitmapped image file format; is widely used for photographs; supports 16.7 million colors; no animation; .

MP3: digital coding and compression standard for audio and video files; from MPEG: "Moving Picture Experts Group" there are MPEG-1 (or MP1) and MP2 earlier file formats, also.

PNG: "Portable Network Graphics" bitmapped image file format with very good compression for image files. It was created as a free substitute format for the GIF format which originally required payment of royalty fees to the inventors of the compression format; can be used for publishing on the web; does not support animation.

TGA: Truevision Graphics Adapter format; (TARGA is an acronym for Truevision Advanced Raster Graphics Adapter) raster graphics File Format developed by Truevision, an early manufacturer of graphics cards for computers; video games still use this format.

TIF: also called TIFF; "Tagged Image File Format;" developed in mid 80s for desktop scanner format; standard format for high resolution photographs.

SaaS: Software as a Service: a web based software application accessible via the Internet; customers pay to use the software on demand but do not own it; it is used for transfer of information or program management on a design and/or construction project, share information, drawings and images; example: NewForma (www.newforma.com)

SMS: Short Message Service (text messaging) a means of sending short messages to and from mobile phones.

NCS: National Cad Standard from the NIBS buildingSMARTalliance

UDS: Uniform Drawing System - the UDS was created in 1998 by the Construction Specifications Institute (CSI), in conjunction with the American Institute of Architects (AIA), in a effort to bring the same benefits of standardization to the drawing side of the construction documentation that the CSI MasterFormat has brought to specifications. It is now a part of the NIBS buildingSMARTalliance "National CAD Standard" (NCS) available at <http://www.buildingsmartalliance.org/ncs/>

Tekla: Finnish software company that created the industry standard BIM program for steel and precast concrete structural design and fabrication called "Tekla Structures" <http://www.tekla.com/us/Pages/Default.aspx>.