Index

A
Adobe Acrobat, 166
AGC. See Associated General Contractors of America
gcXML, 69, 151, 161, 162, 168n
AIA. See American Institute of Architects
Airbus, 4
AISC. See American Institute of Steel Construction
American Institute of Architects (AIA), 93
AIA Contract Documents, 137
AIA C106-2007, Digital Data License Agreement, 137
AIA E201-2007, Digital Data Protocol, 137
AIA E202-2008, BIM Protocol Exhibit, 137
AIA Technology in Architecture Practice (TAP), 46
American Institute of Steel Construction (AISC), 150, 151, 152n
API. See Application Programming Interface
Application Programming Interface (API), 151
ArchiCAD. See Graphisoft ArchiCAD
Arkansas Precast, 82
Associated General Contractors of America (AGC), 69, 137, 151, 161
architecture, 9, 82, 89, 108, 117
Architecture 2030, 9, 25n
AutoCAD. See Autodesk AutoCAD
AutoCAD Architecture, 38t
Revit, 18, 38t
Navisworks, 18

B
BIM Protocol Exhibit. See American Institute of Architects
Beck Technology
dProfilier, 18
Bentley Systems
Bentley Architecture, 18, 38t
Bentley Building Electrical Systems, 38t
Bentley Building Mechanical Systems, 38t
Bentley Structural, 38t
BLS. See Bureau of Labor Statistics
Boeing, 4
buildingSMART
buildingSMART alliance, 68, 69, 79, 82, 117, 151, 161, 163, 167, 168, 169n, 172, 173
buildingSMART International, 39, 68, 79, 151, 154, 164
Bureau of Labor Statistics, 5, 6, 6f, 25n, 101, 110n

C
CAD. See Computer-aided Design
CAFM. See Computer-aided Facility Management
Center for Integrated Facility Engineering (CIFE), 6f
CIFE. See Center for Integrated Facility Engineering
CII. See Construction Industry Institute
CIMSteel Integration Standards, 150, 151, 152
CIS/2. See CIMSteel Integration Standards
clash detection, 18, 37, 103, 118, 142, 168
collaboration, 35, 43, 57, 65, 106, 109, 110, 111, 112, 141, 142, 172, 175, 176, 177
Computer-aided Design (CAD), 14, 28, 33, 40, 82, 101, 106, 107, 142, 145
Computer-aided Facility Management (CAFM), 166
concrete, 11, 38, 80, 82, 83, 84, 85, 86, 88, 92, 154, 160, 174
ConsensusDOCS, 93, 137
Construction Industry Institute (CII), 10, 69
Construction Specifications Institute (CSI), 167
CSI. See Construction Specifications Institute

D
design-build, 89
Digital Data License Agreement. See American Institute of Architects
Digital Data Protocol. See American Institute of Architects
dProfiler. See Beck Technology

E
E201-2007. See American Institute of Architects
E202-2008. See American Institute of Architects
Ecotect, 18
estimating, 18, 62, 63, 86, 138, 139, 148, 162
Excel. See Microsoft Excel

F
FIATECH, 69, 70, 71, 72, 82, 88, 172

G
General Services Administration. See U.S. General Services Administration
Geographical Information Systems (GIS), 45t, 51, 53t
Georgia Institute of Technology, 82, 150, 152
Georgia Tech. See Georgia Institute of Technology
Gehry, Frank, 107, 108
Gehry Technologies, 108
GIS. See Geographical Information Systems
Global Positioning System (GPS), 15, 53t, 145t
GPS. See Global Positioning System
Graphisoft, 113f
Graphisoft ArchiCAD, 18, 38t
green building, 9, 25, 67, 88
GSA. See U.S. General Services Administration

H
HKS, Inc., 82
High Concrete Structures, Inc., 82
human resources, 98, 100, 101, 105
HVAC (heating, ventilation and air-conditioning), 38t, 92, 122

I
IAI. See International Alliance for Interoperability
ICC. See International Code Council
IDM. See Information Delivery Manual
IES VE-Ware, 18
IFC. See Industry Foundation Classes
IFD. See International Framework Dictionary
Industry Foundation Classes (IFC), 38, 39, 45t, 54, 54t, 68, 69, 85f, 149, 151, 152n, 154, 155, 164, 168, 176f
Information Delivery Manual (IDM), 117, 118, 154, 155, 157, 168n, 176f
Intelisum, 19
intelligent objects, 148t
International Alliance for Interoperability (IAI), 39, 68
International Code Council (ICC), 117, 162, 169
International Framework Dictionary (IFD), 167f
interference checking. See clash detection interoperability, 8, 33, 39, 45, 54, 65, 66, 68, 69, 144, 146, 147, 149, 152, 159, 176

L
Labor productivity, 4, 5, 6, 7, 13, 25n, 77, 101, 102n, 103, 107
laser scanning, 19
Leadership in Energy and Environmental Design (LEED), 18, 67, 88n, 113f, 118, 148t, 157, 173
lean construction, 25n
LEED. See Leadership in Energy and Environmental Design

M
mechanical, electrical, and plumbing (MEP), 38t
MEP. See mechanical, electrical, and plumbing Microsoft Excel, 62, 84
Visio, 82
Model View Definition (MVD), 117, 118, 119, 168, 176f
MVD. See Model View Definition

N
NASA. See National Aeronautics and Space Administration
National Aeronautics and Space Administration (NASA), 22, 163, 164
National BIM Standard (NBIMS), 44, 46, 69, 70, 72, 139
National CAD Standard (NCS), 45t, 52, 97
National Institute of Building Sciences (NIBS), 55n, 68, 69, 88n, 161, 163, 168n, 169n
National Institute of Standards and Technology (NIST), 152n
Navisworks. See Autodesk, Navisworks
NBIMS. See National BIM Standard
NCS. See National CAD Standard
Newforma Project Center, 40, 133
NIBS. See National Institute of Building Sciences
NIST. See National Institute of Standards and Technology

O
Omniclass, 146, 151n
Onuma, Kimon, 62, 103, 127n
Onuma Planning System (OPS), 19, 62, 116, 124f, 125, 126f,
OPS. See Onuma Planning System

P
parametric, 51
precast concrete, 38t, 80f, 82, 83f, 84f, 85f, 86, 88n, 154, 174
prefabrication, 63
procurement, 69, 70, 71f, 100f, 113f, 145t, 147t, 150

Q
QA. See quality assurance
Quality assurance, 97
Quantapoint, 19
quantity takeoff, 92

R
radio-frequency identification (RFID), 66, 74
Revit. See Autodesk Revit
RFID. See radio-frequency identification

S
safety, 14, 79, 114, 144, 148t
service-oriented architecture (SOA), 45t, 50, 51t, 144
shop drawings, 63, 83
SMARTcodes, 117, 162, 163, 169n
SOA. *See* service-oriented architecture
Solibri, 18, 38t
SPECSINTACT, 164
steel, 3, 12, 38, 80f, 150, 152n
supply chain management, 3, 4, 5, 12, 21, 65, 66, 67, 143, 144, 146

T
takeoff. *See* quantity takeoff
TAP. *See* American Institute of Architects
Technology in Architectural Practice (TAP). *See* American Institute of Architects
Tekla Structures, 38t

U
user interface, 31, 54t, 125, 146, 163, 172
USGBC. *See* U.S. Green Building Council
U.S. General Services Administration (GSA), 154
U.S. Green Building Council (USGBC), 25n, 67, 88n

V
value engineering, 176f
virtual design and construction, 176f