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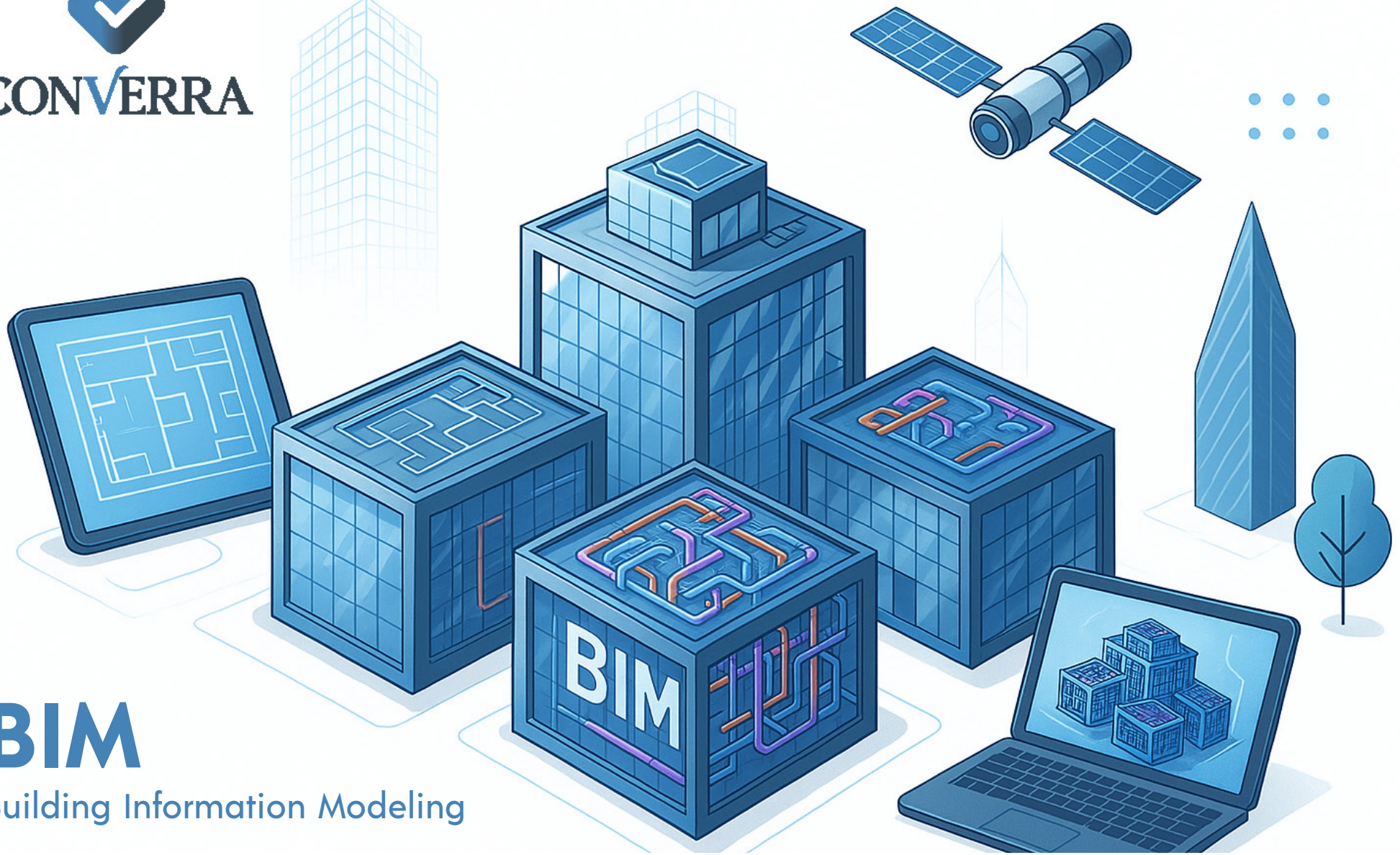

BIM

Building Information Modeling

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CONVERRA

OUR EXPERTISE

About Converra BIM

Digitize. Optimize. Lead.

Converra BIM operates at the forefront of **digital transformation** in the **built environment**—empowering clients to lead with **clarity and confidence** in a data-driven world.

Rooted in c**ollaboration, precision, and strategic foresight,** we bridge the gap between **vision and digital delivery.** Our expert-led approach transforms technical ambition into scalable, lifecycle-ready outcomes—supporting smarter decisions, streamlined workflows, and sustainable value creation.

As part of the Converra group, we uphold the same principles of **independence, excellence, and purpose-driven delivery.**

Empowering Built Environments through Digital Foundations

Strategy. Standards. Success.

Converra BIM delivers **strategic leadership** across the **digital project lifecycle**. We offer **collaborative consulting** to co-develop **BIM strategies, audits, and implementation plans**; we work hands-on with clients to deliver **BEPs, manage clash coordination, and implement 4D/5D simulations, COBie, and digital twin models.**

As a trusted partner to **developers, consultants, and public agencies,** we enable seamless **digital delivery—grounded** in **standards**, driven by **precision,** and focused on **long-term value.**

Our Capabilities

- **End-to-End BIM Expertise:** From audits and strategy to execution, enabling data-driven project delivery across all stages.
- **Integrated Digital Advisory:** Aligning design, construction, and asset management through standards-based BIM solutions.
- **Specialist BIM Services:** BEPs, clash detection, 4D/5D modeling, COBie, digital twins, and lifecycle-ready asset information.

How We Work

Our delivery model is grounded in strategic foresight, data-driven analysis, and collaborative execution.

- We tailor our approach to align with each project's unique risks, goals, and value drivers.
- Every recommendation is backed by clear, defensible insights and analytical depth.
- We integrate legal, technical, and commercial perspectives to ensure holistic solutions.

We don't just deliver BIM services—we enable confident decisions that build resilience and long-term value.

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CONVERRA

OUR FOUNDATION

OUR TEAM

At the heart of Converra's BIM practice is a multidisciplinary team blending global expertise with local insight. Our professionals span architecture, engineering, digital strategy and project controls—bringing both depth and clarity to every digital delivery engagement.

We lead with technical precision, strategic collaboration, and commercial awareness - combining innovation with pragmatic frameworks to help clients navigate complexity and build with confidence.

OUR VISION

To be a globally trusted consultancy enabling clients to deliver smart, sustainable, and future-ready built environments.

We envision a world where complexity is simplified through clarity, and every challenge sparks innovation, resilience, and progress.

OUR MISSION

To deliver intelligent, high-impact consultancy grounded in precision, trust, and integrity.

We empower clients to navigate complex built environment challenges through expert analysis, strategic guidance, and digital excellence.

Our commitment goes beyond outcomes—we build lasting partnerships and raise industry standards with every engagement.

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CONVERRA

OUR SERVICES

BIM Training, Implementation & Auditing

Capability Building for Confident BIM Delivery

Converra's BIM services empower teams to adopt, scale, and sustain digital delivery with confidence. We work alongside clients to build internal capability through targeted training, hands-on implementation, and performance-driven auditing.

From onboarding to optimisation, we establish structured, standards-aligned workflows that support clarity, compliance, and collaboration—ensuring your teams deliver smarter, faster, and with greater consistency across the project lifecycle.

- Role-based BIM training with ISO 19650, workshops, labs, and digital tools.
- Setup support for BIM tools, templates, workflows, and CDE.
- Align consultants, contractors, and owners from project start.
- Develop BEPs with LOD, milestones, and roles.
- Streamline model reviews, handoffs, and approvals.
- Audit models and improve standards and processes.

BIM Modeling (LOD 100-500)

Data-Rich Models Built for Purpose and Precision

We create BIM models from LOD 100 to 500, tailored to each phase of the project lifecycle with precise geometry and structured data. We support design coordination, quantity takeoffs, and facility management with accurate, standards-compliant modeling.

This results in purpose-built models that drive informed decisions and ensure seamless project delivery from concept to operation.

- Create LOD 100–500 models aligned with project stages and requirements.
- Build coordinated architectural, structural, and MEP models.
- Add structured data for COBie, IFC, and client needs.
- Follow standards with QA checks and audit-ready outputs.
- Prepare clean, federated models for smooth coordination.

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OUR SERVICES

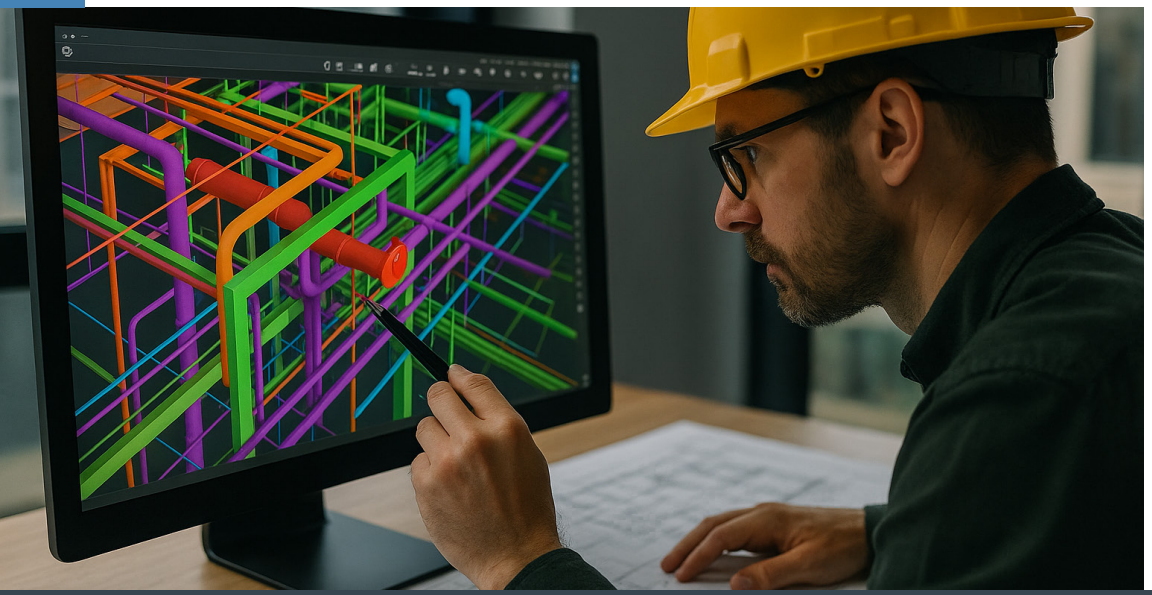
BIM Execution Plan (BEP) Development

Driving BIM Clarity Through Structure and Standards

We craft project-specific BIM Execution Plans that bring structure, clarity, and alignment to every stage of delivery. Our BEPs define roles, standards, and collaboration protocols—ensuring all stakeholders work toward shared goals with consistency and accountability.

By establishing a clear framework for information management and model development, we help teams reduce risk, streamline coordination, and deliver with greater precision across the project lifecycle.

- Create BEPs based on project goals, contracts, and ISO 19650.
- Define BIM roles, approvals, and communication workflows.
- Set modeling standards, naming rules, and data formats.
- Plan information delivery and structure the CDE process.
- Outline QA checks, model reviews, and compliance steps.
- Link BEP with design, construction, and handover plans.



Clash Detection & Coordination

Integrating Design Logic to De-risk Delivery

We enables early clash detection and resolution through detailed model analysis and structured coordination. Our rule-based checks and collaborative reviews help reduce design conflicts, minimize rework, and keep projects on track.

We foster clear communication and alignment, ensuring all stakeholders coordinate efficiently from design to construction.

- Detect clashes and share clear, trackable reports.
- Manage clean, federated models with correct setup.
- Assign, track, and resolve issues using digital tools.
- Fix conflicts early to optimize design and buildability.
- Follow QA checks and standards like ISO 19650.

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CONVERRA

OUR SERVICES

4D/ 5D Simulation, AR & VR

Immersive Foresight for Informed, Aligned Delivery

Converra BIM combines time, cost, and immersive tech to visualize projects before construction. Our 4D/5D simulations enable accurate planning and budgeting, while AR/VR enhances design validation and engagement.

This insight-driven approach helps teams foresee challenges, align decisions, and deliver with confidence.

- Link schedules to models to simulate construction sequencing and logistics.
- Connect cost data to model elements for real-time budgeting and forecasting.
- Visualize site usage and safety to improve planning and coordination.
- Use AR/VR for interactive design reviews and immersive walkthroughs.
- Communicate design and construction strategy clearly through visual tools.
- Integrate BIM with digital twins and IoT for long-term asset management.

COBie & FM Ready BIM

Bridging Construction and Operations Through Structured Insight

Converra BIM team delivers COBie & FM-ready BIM models enriched with structured, validated data for seamless transition from construction to operations. We embed operational insight early, supporting maintenance, lifecycle planning, and asset tracking.

This creates a digital foundation that connects design, build, and facility management with clarity and long-term value.

- Structure and capture data using COBie standards for consistent FM readiness.
- Model with accurate asset details and naming to support facility operations.
- Validate data for completeness, accuracy, and compliance before handover.
- Format and map data for smooth integration with FM systems and tools.
- Collaborate with FM teams to deliver usable, maintenance-focused information.

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INDUSTRIES WE SERVE

At Converra BIM, we combine global expertise with deep industry insight to deliver solutions that are digitally advanced, technically precise, and strategically aligned. Our teams bring together engineering, commercial, and digital capabilities to support the full lifecycle of infrastructure and built environment projects.

Whether driving industrial growth, enabling sustainable energy, or shaping smarter cities, we operate with clarity, coordination, and purpose. From early design and planning to construction, operations, and asset optimization, our work is grounded in insight and built on experience.

We turn complexity into clarity and deliver lasting value across the industries that power progress

Buildings

- Commercial Real Estate & Offices
- Urban Residences & Housing
- Civic & Cultural Spaces
- Educational Campuses
- Healthcare & Wellness Facilities
- Hospitality & Mixed-Use Developments

Energy and Petrochemical

- Exploration & Production
- Facilities Refining & Petrochemical Plants
- Liquefied Natural Gas (LNG) & Gas Processing Facilities
- Pipelines & Energy Transportation
- Power Generation Infrastructure
- Energy Storage & Transmission

Industrial Infrastructure

- Manufacturing Plants
- Data Centers
- Warehousing & Logistics Hubs
- Industrial Parks & SEZs
- Water & Wastewater Treatment Plants
- Specialized Processing Facilities

Innovative Construction & Technology

- Smart Building Projects
- Modular & Prefabricated Construction
- Digital Twin & IoT Solutions
- Construction Technology Integration
- High-Tech & R&D Campuses
- Smart Cities & Innovation Zones

Sustainable Buildings & Renewables

- Net-Zero & Passive Buildings
- Solar & Wind Energy Facilities
- Sustainable Retrofits
- Eco-Certified Commercial Developments
- Eco-Urban Planning & Resource Systems
- Energy Monitoring & Smart Grid Integration

Transportation

- Airports & Terminals
- Railways & Metro Transit Systems
- Expressways & Highway Corridors
- Urban Streetscapes & Smart Roadways
- Bridges, Flyovers & Tunnels
- Ports, Freight & Transit Facilities

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CONVERRA's CORE VALUES

Strategic BIM Expertise

We offer deep domain knowledge across BIM strategy, delivery, and governance—grounded in regional understanding and aligned with global standards like ISO 19650.

Innovative Digital Solutions

From 4D/5D simulations to digital twins, our approach leverages advanced tools and workflows to streamline delivery, reduce risk, and enhance decision-making.

Proven Project Impact

Our track record includes successful BIM implementations across sectors—enhancing coordination, reducing rework, and delivering FM-ready as-builts with lasting operational value.

Collaborative, Client-First Approach

We co-create tailored digital strategies with stakeholders—prioritizing transparency, flexibility, and alignment with your commercial and technical goals.

Scalable, Sustainable Delivery

Our solutions grow with your needs—balancing innovation with practicality to ensure long term value, efficiency, and readiness for future digital demands.


BIM

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Converra BIM

BIM

BIM stands for building information modeling, which is a process involving the creation and administration of digital models that represent the form and function of buildings.

Building information modeling (BIM) is an essential workflow process in the architecture, engineering, and construction (AEC) industry. By capitalizing on 3D models and shared data environments, BIM workflows enable a holistic approach to designing, constructing, and managing buildings.

BIM allows designers to use data and 3D modeling to tell a better story of the building. This leads to transparent and more effective collaboration, reductions in project costs and timelines, improvements to design quality and building safety, and optimized facility management.

The Core Principles of BIM

1. Intelligent 3D Modeling
2. Collaborative and Seamless Communication
3. Structured Data and Interoperability

LOD in BIM

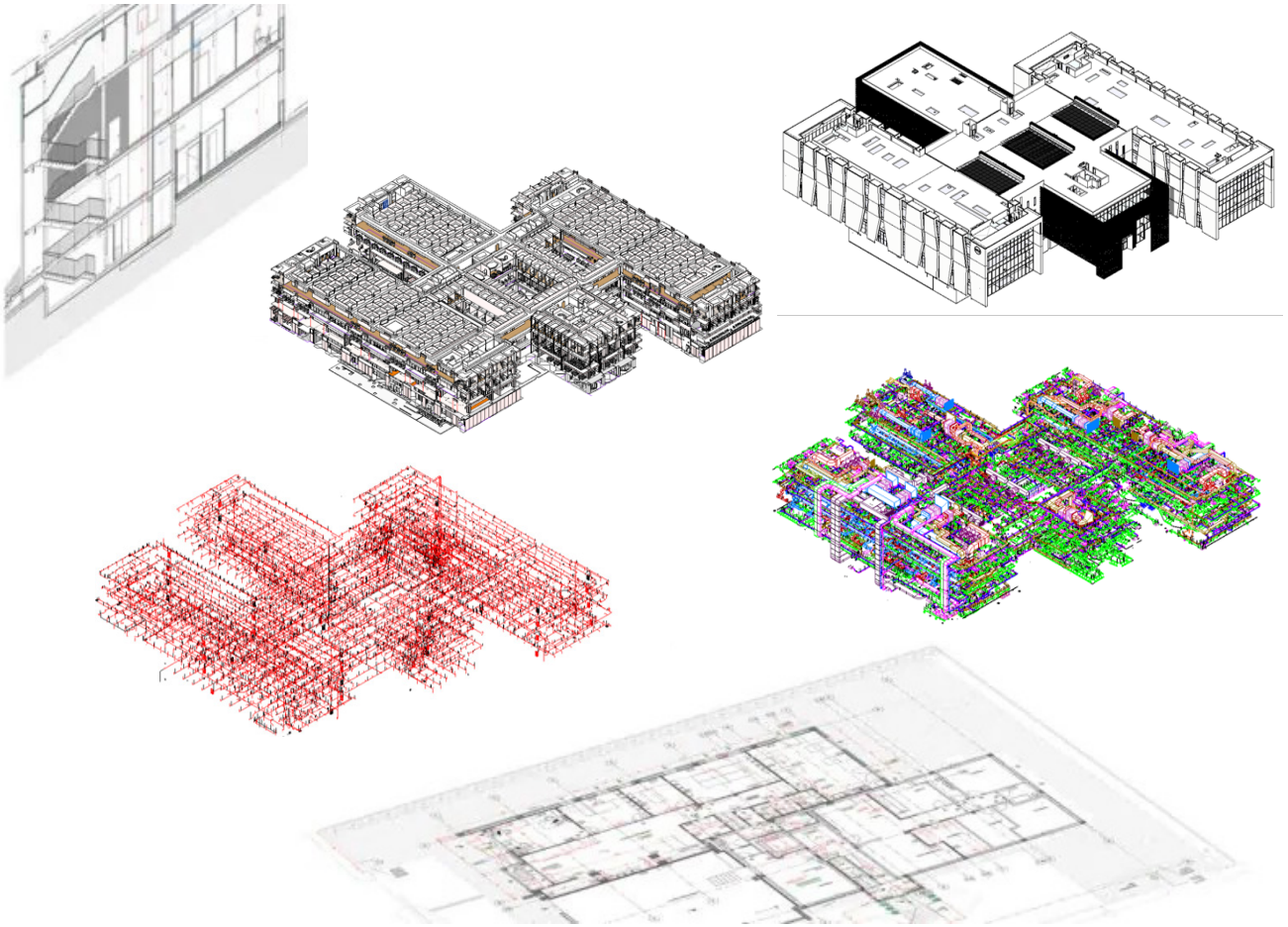
The term LOD is an acronym that has two different meanings, depending on whether you consider its British or American definition.

For the British, LOD indicates the "Level of Definition" of the BIM architectural model and is a concept introduced by PAS 1192.

For the Americans, on the other hand, it is the "Level of Development" of an element of the BIM model. In this case, the term "level of development" was preferred to the term "level of detail" in recognition of the fact that a graphically detailed element does not always correspond to a high level of actual project development.

LOD defines the content of a BIM project at different stages of its development and grows as the project progresses and enriches with details, evolving from a simple initial concept to a construction-ready model.

LOD consists of 2 elements:
Geometry or visual representation of a project – LOG (Level of Geometry);
Data attached to objects in the BIM model – LOI (Level of Information).



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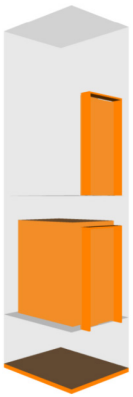
The AIA (American Institute of Architects) has published an LOD framework for the AIA G202-2013 Building Information Modeling Protocol to suggest a standard framework representing the different development levels of each project element and to facilitate communication and data exchange among the various stakeholders involved.

The established development levels are:

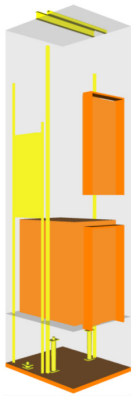
LOD 100 (symbolic representation) – is the elementary model of the project and is graphically represented with a symbol or another generic and schematic representation
LOD 200 (generic system) – the model element is graphically represented within the model as a generic object with approximate quantities, dimensions, shape, position, and orientation. Non-graphical information can also be linked to geometric elements
LOD 300 (specific system) – the model element is graphically represented within the model as a specific system, where the object has specific quantities, dimensions, shapes, positions, and orientations. More in-depth non-graphical information is linked to geometric elements compared to the previous level
LOD 400 (fabrication) – the model element is graphically represented within the model as a specific system, where the object has specific dimensions, shape, position, quantity, and orientation with additional details for its realization, assembly, or installation. More in-depth non-graphical information is linked to geometric elements compared to the previous level
LOD 500 (verified representation – as built) – the model element is a verified representation on-site in terms of dimensions, shape, position, quantity, and orientation. Definitive non-graphical information is linked to geometric elements.

Elevator LOD 100

Elevator LOD 200

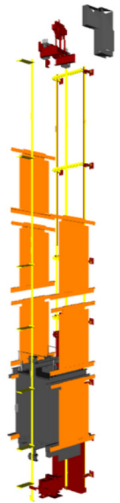


Elevator LOD 300



Elevator LOD 400

Elevator LOD 500



Source: bimforum.org

LOIN in BIM

LOIN stands for Level of Information Need. It's a framework, introduced in ISO 19650, that defines the specific information requirements for a project at different stages, ensuring that the right data is available to the right people at the right time. LOIN focuses on the content and purpose of the information, rather than just the graphical representation of elements, as in LOD. The concept of LOIN starts from the awareness that the degree of detail of a model is not an absolute parameter but must be evaluated based on different conditions.

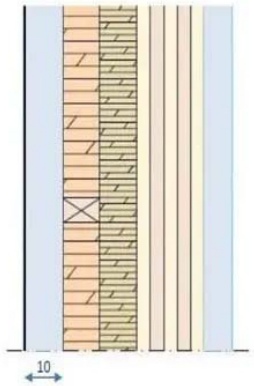
In practice, the levels of information need indicate how many and what information must be included in each object based on:

1. Purpose (why?)
2. Deadlines (when?)
3. Actors involved (who?)
4. Organization in one or more breakdown structures (what?)

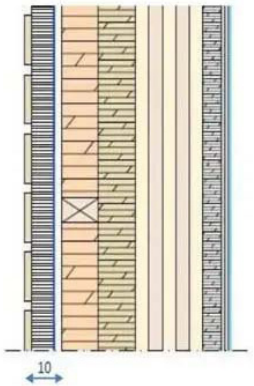
The level of information need is given by the combination of 3 types of information:

1. Geometric
2. Alphanumeric
3. Documentation

Low Level of Detail



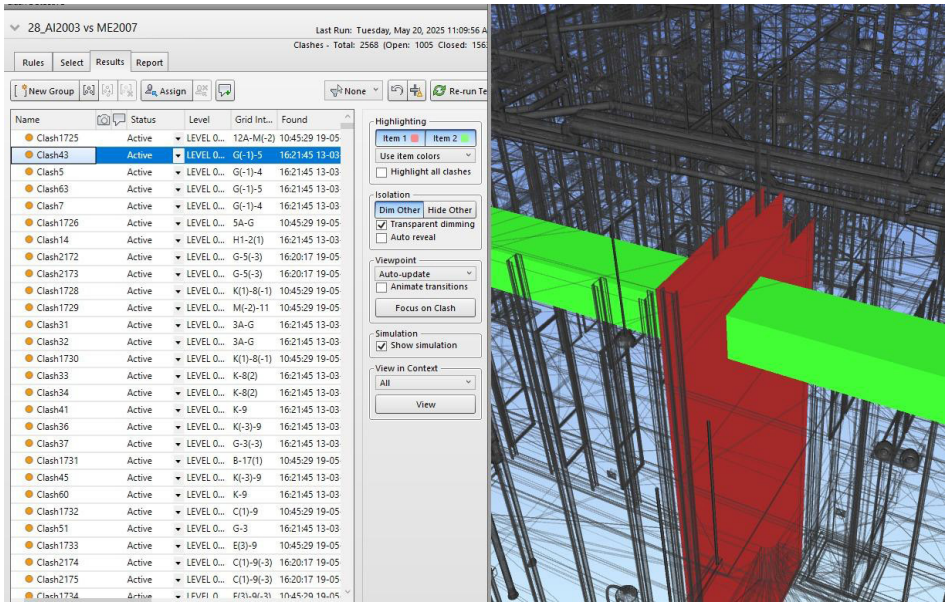
High Level of Detail



Source: biblus.accasoftware.com

Clash Detection in BIM

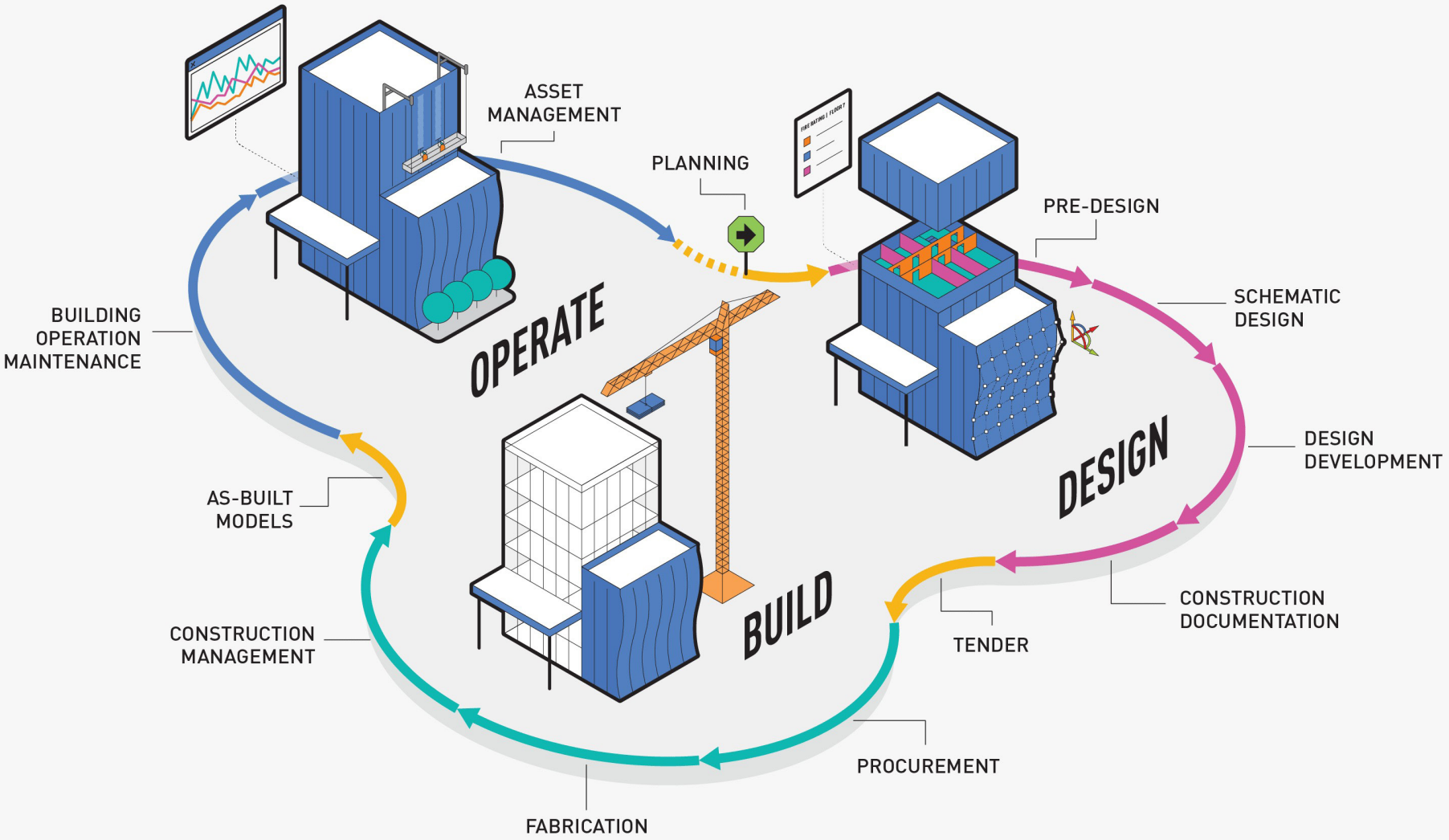
Among the multifold benefits of Building Information Modeling (BIM) is its ability to detect and resolve conflicts between different building systems before construction. It is a process known as clash detection which is crucial in preventing errors, delays, and reworks during construction. It allows project teams to identify and resolve issues such as pipes intersecting with structural elements or ductwork conflicting with electrical systems in the virtual environment, saving time and resources in the field.



Types of Clashes

1. Hard Clashes: These occur when more than one building element occupies the same space or overlaps other building elements. For example, a duct running through a beam.
2. Soft Clashes: These involve spatial or clearance issues where elements don't physically collide but are too close to one another, violating the required buffer space. For example, insufficient clearance around HVAC (Heating, Ventilation, and Air Conditioning) equipment for maintenance access.
3. Workflow Clashes: These happen when scheduling or sequencing issues arise, such as when different teams' tasks overlap, causing potential delays or workflow disruptions.

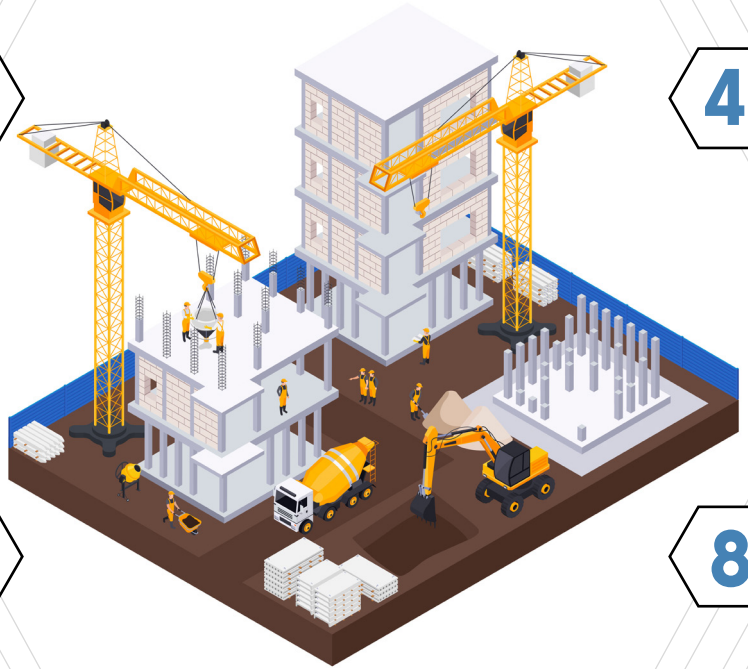
Lifecycle of a Project



Source: www.vectorworks.net

Importance of BIM

1. REDUCTION OF DATA DUPLICATION
2. BETTER COLLABORATION BETWEEN TEAMS
3. CONTROL OF INCONSISTENCIES BETWEEN DIFFERENT MODELS
4. SHORTER PROJECT LIFECYCLES
5. OPTIMIZATION OF COSTS AND RESOURCES
6. IMPROVED FACILITY MANAGEMENT
7. AUTOMATIC UPDATE OF THE OVERALL MODEL
8. SAFER CONSTRUCTION SITES
9. INTEROPERABILITY
10. VISUALIZATION OF THE SUPERCHARGED PROJECT



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Dimensions in BIM

1D
SCRATCH POINT

RESEARCH
- EXISTING CONDITIONS
- REGULATIONS
- WEATHER SIMULATIONS
- SUN ORIENTATION
- FUNCTIONAL PROGRAM

IMPLEMENTATION
- CONSULTING
- BIM EXECUTION PLAN
- SERVER REPOSITORY
- SOFTWARE

CONCEPT DESIGN
- STRATEGIES
- AREA ESTIMATION
- COST ESTIMATION
- GENERAL VOLUMETRY
- ACCESSIBILITY
- VIABILITY

2D
VECTOR

PRODUCTION
- 2D DRAWINGS
- DOCUMENTATION
- VIEWS AND PLAN

IMPLEMENTATION
- PROGRAMMING
- PARAMETRIZATION
- FILE MANAGEMENT
- COMMUNICATIONS

DS DEVELOPMENT
- ROOM DATA SHEETS
- LIST OF DELIVERABLES
- SCOPE DEFINITION
- MATERIALS
- STRUCTURAL LOADS
- ENERGY LOADS

SUSTAINABILITY
- LIFE CYCLE ESTIMATION
- CONSTRUCTION SOLUTIONS
- PRIMARY MEP SYSTEMS
- ENERGY PRODUCTION
- CERTIFICATION STRATEGIES

3D
SHAPE

REPRESENTATION
- RENDERING
- WALKTHROUGHS
- LASER SCANNING

IMPLEMENTATION
- BIM OBJECT CREATION
- VISUAL PROGRAMMING
- CLASH DETECTION
- MODEL CHECKER

FINAL DOCS
- DETAILED DESIGN
- ASSEMBLIES
- STRUCTURAL DESIGN
- MEP DESIGN
- SPECIFICATIONS

SUSTAINABILITY
- ISOLATION VALUES
- SUN PROTECTION
- DAYLIGHT
- REQUIREMENTS

4D
TIME

PRODUCTION
- MODEL FEDERATION
- VIRTUAL CONSTRUCTION
- SCHEDULING
- PROJECT PHASING
- TIME LINING
- CONSTRUCTION PLANNING
- EQUIPMENT DELIVERIES
- VIRTUAL VALIDATION

SYSTEMS
- PREFABRICATION
- STRUCTURAL CONSTRUCTION
- MEP CONSTRUCTION

SIMULATIONS
- LIFE CYCLE SIMULATION
- SUN SIMULATIONS
- WIND SIMULATIONS
- ENERGY SIMULATIONS
- CERTIFICATION CHECK

5D
COST

PRODUCTION
- QUANTITY EXTRACTIONS
- DETAILED BILL OF QUANTITIES
- FABRICATION MODELS

CONTRACTS
- FEES COMPARISON
- TRADE SELECTION
- LOGISTICS

SUSTAINABILITY
- CERTIFICATION EVALUATION
- LIFE CYCLE COST
- COMPARATIVE STUDY

6D
PERFORMANCE

RESULTS
- KNOWN ALTERNATIVES
- CERTIFICATION
- AUDITED BIM MODEL
- PERFORMANCE REPORT

VALUE ENGINEERING
- SIMULATIONS
- ENERGY PERFORMANCE
- SYSTEM PERFORMANCE
- ARCHITECTURAL PERFORMANCE
- CONSTRUCTION PERFORMANCE

SAVE ESTIMATION
- COMPARATIVE COST
- CONSTRUCTION BENEFITS
- RETURN ON INVESTMENT
- TIMING RISK
- SELECTED ITEMS TO BE OPTIMIZED

RE-DEIGN
- CERTIFIED BIM MODEL

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Converra BIM

Dimensions in BIM

5D
COST

PRODUCTION
- QUANTITY EXTRACTIONS
- DETAILED BILL OF QUANTITIES
- FABRICATION MODELS

CONTRACTS
- FEES COMPARISON
- TRADE SELECTION
- LOGISTICS

SUSTAINABILITY
- CERTIFICATION EVALUATION
-LIFE CYCLE COST
- COMPARATIVE STUDY

6D
PERFORMANCE

RESULTS
- KNOWN ALTERNATIVES
- CERTIFICATION
- AUDITED BIM MODEL
- PERFORMANCE REPORT

VALUE ENGINEERING
- SIMULATIONS
- ENERGY PERFORMANCE
- SYSTEM PERFORMANCE
- ARCHITECTURAL PERFORMANCE
- CONSTRUCTION PERFORMANCE

SAVE ESTIMATION
- COMPARATIVE COST
- CONSTRUCTION BENEFITS
- RETURN ON INVESTMENT
- TIMING RISK
- SELECTED ITEMS TO BE OPTIMIZED

RE-DEIGN
- CERTIFIED BIM MODEL

7D
SUSTAINABILITY

ASSESSMENT
- ENVIRONMENTAL IMPACT STUDIES
- ENERGY CONSUMPTION ANALYSIS
- RESOURCE EFFICIENCY
-WASTE MANAGEMENT STRATEGIES
-ECO-FRIENDLY MATERIAL SELECTION

CERTIFICATION
- SUSTAINABILITY CERTIFICATION PLANS
- LIFE CYCLE ASSESSMENT (LCA)
- ENERGY PERFORMANCE CERTIFICATION
- BUILDING ECO-LABELING

IMPLEMENTATION
- SUSTAINABLE DESIGN STRATEGIES
- CARBON FOOTPRINT REDUCTION
- GREEN ENERGY SYSTEMS
- PASSIVE DESIGN ELEMENTS

8D
SAFETY

RISK ASSESSMENT
- HAZARD IDENTIFICATION
- SAFETY COMPLIANCE CHECKS
- EMERGENCY PLANS
- SAFETY REQUIREMENTS AND STANDARDS

IMPLEMENTATION
- SAFETY TRAINING MODULES
- SITE SAFETY MANAGEMENT SYSTEMS
- CONSTRUCTION SAFETY MONITORING
- HEALTH AND SAFETY MEASURES

EVALUATION
- SAFETY PERFORMANCE REPORTS
- RISK MITIGATION STRATEGIES
- SAFETY IMPROVEMENT FEEDBACK
- COMPLIANCE AND INCIDENT TRACKING

9D

PROCESS IMPROVEMENT
- WORKFLOW OPTIMIZATION
- RESOURCE ALLOCATION EFFICIENCY
- VALUE STREAM MAPPING
- CONTINUOUS IMPROVEMENT

WASTE MINIMIZATION
- REDUCTION OF MATERIAL WASTE
- LABOR EFFICIENCY ANALYSIS
- SUPPLY CHAIN OPTIMIZATION
- INVENTORY CONTROL

IMPLEMENTATION
- LEAN MANAGEMENT PRACTICES
- WORK STANDARDIZATION
- REAL-TIME MONITORING
- FEEDBACK LOOPS FOR IMPROVEMENT

10D

DIGITAL FABRICATION
- PREFABRICATION DESIGN
- 3D PRINTING IN CONSTRUCTION
- MODULAR CONSTRUCTION UNITS
- ASSEMBLY OPTIMIZATION

AUTOMATION
- ROBOTICS IN CONSTRUCTION
- AUTOMATED INSTALLATION PROCESSES
- SMART EQUIPMENT AND MACHINERY
- REAL-TIME CONSTRUCTION DATA

ADVANCED TECHNOLOGIES
- AUGMENTED AND VIRTUAL REALITY
- INTERNET OF THINGS (IoT) INTEGRATION
- DATA ANALYTICS FOR DECISION SUPPORT
- AI-POWERED CONSTRUCTION

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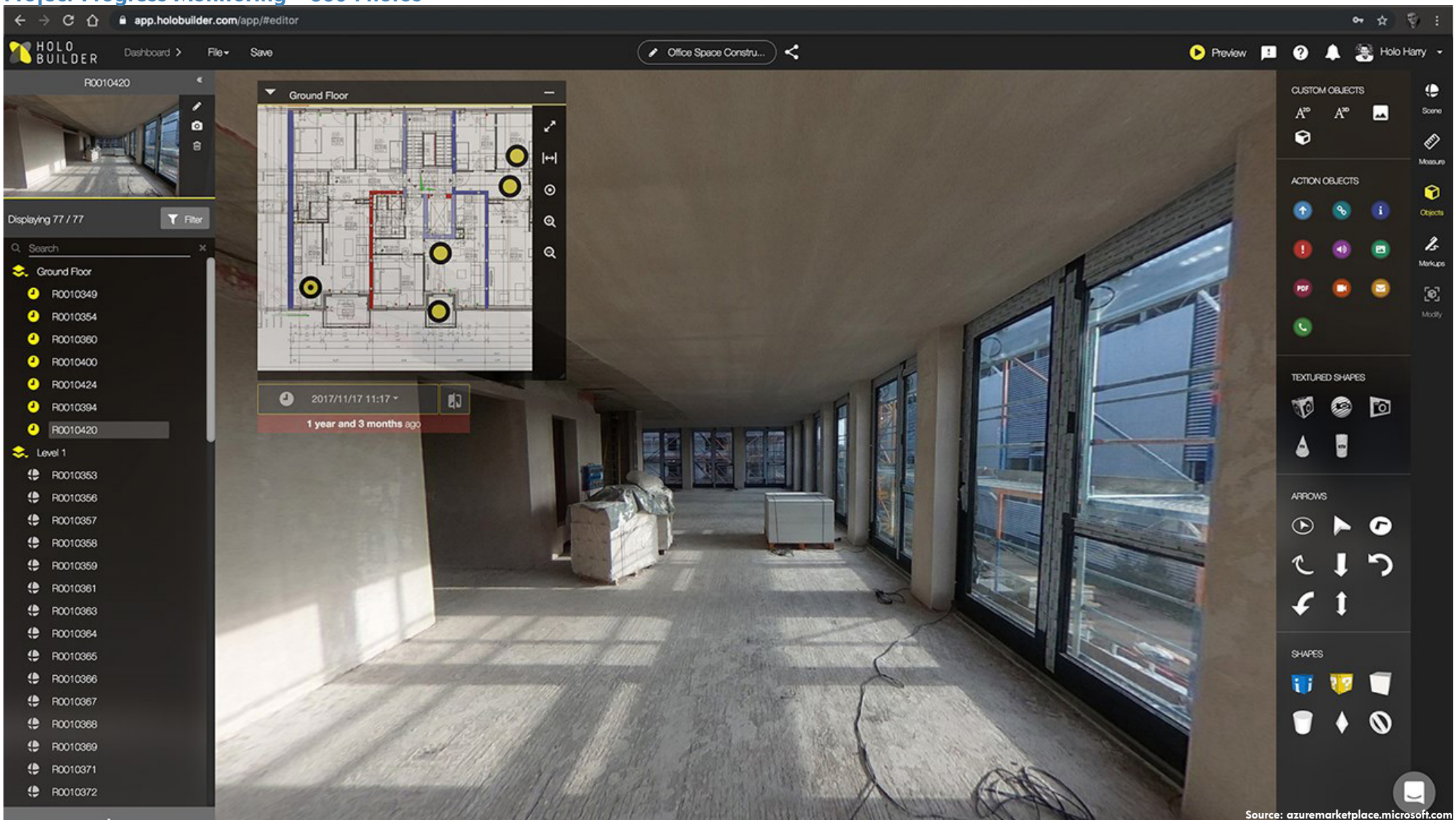
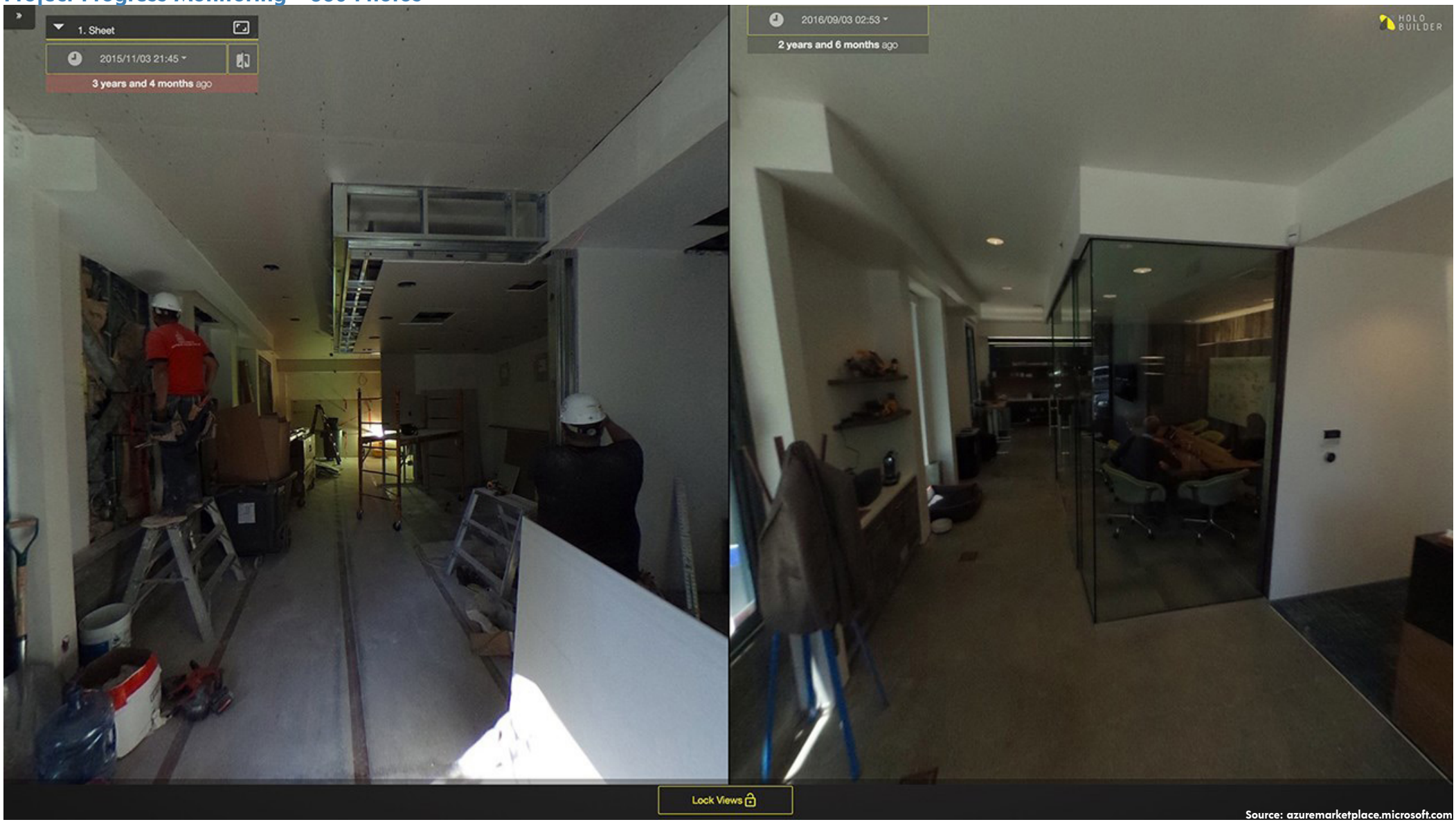
BIM

Project Progress Monitoring - 360 Photos



Project Progress Monitoring - 360 Photos



Project Progress Monitoring - Laser Scanning

Project Progress Monitoring - Laser Scanning

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