

SEAMBA



Introduction

In both BIM and AI, nobody can predict the next one or two years. So we envision the next ten.

When it comes to BIM and AI, what was standard just six months ago is already obsolete.

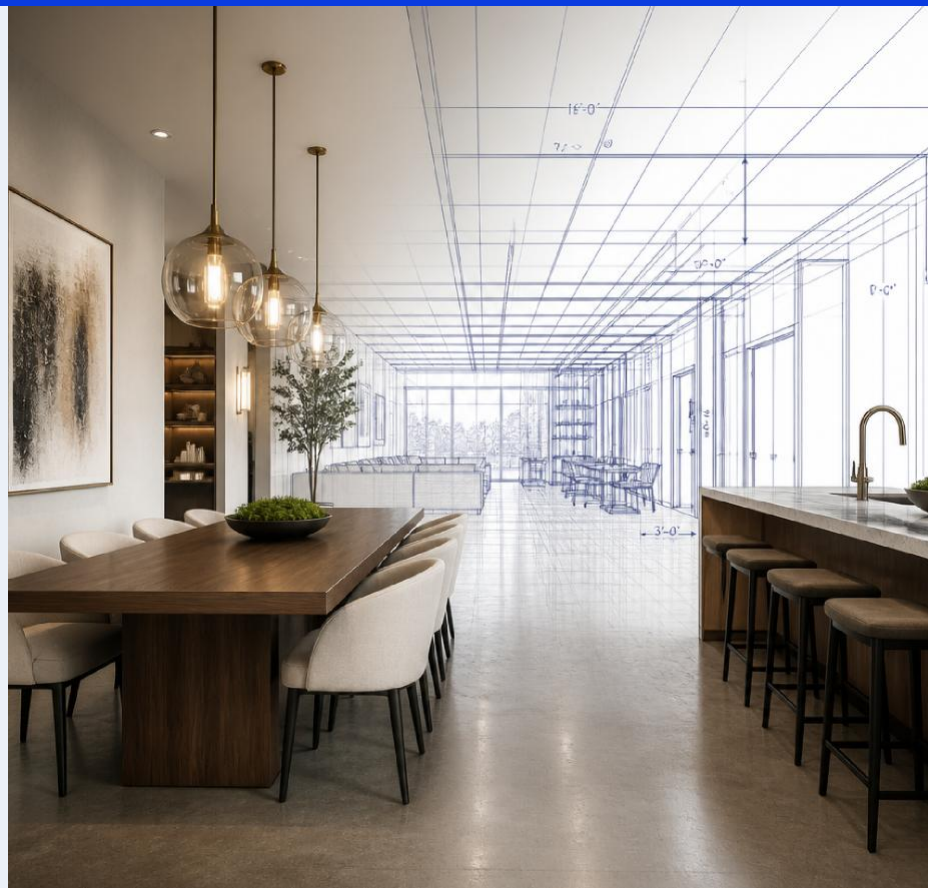
As new tools emerge, operational flows are constantly disrupted, leaving us chasing “what comes next.”

A roadmap for even the next one or two years can easily be outpaced by the technological progress.

So, we reverse our perspective.

Ten years from now—in 2036—what should spatial design look like?

We define the destination first, then work backward to shape what we do today.



Current BIM Levels

The BIM field has a shared benchmark known as “BIM Maturity Level.” From paper-based drawings through to 3D modelling and integrated information management, all elements are increasingly connected through data—including design, construction, and operations.

This framework, developed in the UK, has become a global benchmark, with BIM Maturity Levels defined up to Level Three.



Level 0 Paper-Based

Workflows are centered on paper-based or 2D drawings, with each person working independently. There are few or no systems for data integration.



Level 1 2D/3D Hybrid

2D CAD remains the primary workflow medium, with limited use of 3D. Digitalization has progressed, but workflows remain fragmented for individual disciplines. Collaboration remains limited.



Level 2 Full 3D

Persons in each discipline create 3D models and share data through a common work environment to develop designs.



Level 3 Information Integration

All persons share and work using a single integrated model in real time. Design and construction are connected through information.

The Future as Envisioned by SEMBA

Beyond Level 3, the industry has yet to establish clear definitions.
Based on existing level definitions, SEMBA defines Levels 4 and 5 as follows.



Level 4 Expanded Co-Creation

Collaboration among professionals is transformed by AI and data integration. Design precision and speed improve dramatically, but professionals remain in control.



Level 5 Infinity Freedom

Control over spatial design expands beyond professional expertise.
AI augments knowledge, enabling clients and users to directly participate in shaping spaces.

Level 5

Infinity Freedom

Level 5 is a stage where space does not end with construction, but continues to evolve. Design, experience, and operations become seamlessly connected through data and AI.

Clients and users become direct participants in the process, so spatial design is no longer exclusive to professionals. As AI learns from accumulated data, spaces continue to adapt and evolve during use.

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The Future of Spatial Design Under BIM Level 5

Level 5 transforms three spatial creative processes: creation, simulation, and optimization. AI and data become embedded throughout all processes, enabling anyone to participate in shaping spaces.



Create

Intuitive Creation Unbound by Expertise

By interpreting input from clients and users, AI proposes feasible design options based on accumulated spatial data.



Simulate

Simulations of Experiential Value

Before construction is completed, AI simulates indoor environments and user behavior based on BIM data. User experiences can be evaluated in advance in terms of visual aesthetics, lighting, acoustics, and lines of user movement.



Optimize

Automation of Post-Occupancy Evaluation and Improvement Proposal Generation

Even after construction is completed, AI, integrated with BIM data, analyzes usage data and generates improvement proposals in response to changing conditions, including seasonal changes, customer demographics, and revenues. By implementing these proposals, the space continuously evolves toward a more refined environment.

SEMBA's "Three Cs" BIM Strategy

SEMBA is pursuing a Three Cs strategy to realize Level 5 BIM.

Contents

R&D

Advancing Research at the Frontiers of BIM and AI

- Developing advanced BIM and AI applications, including office layout optimization, performance predictions, and behavioral change analysis
- Researching potential BIM solutions to address challenges throughout the architecture and spatial design industries
- Commercializing simulations for lighting, HVAC, and disaster management

Commerce

Deploying BIM

Deploying BIM Across Internal and External Workflows

- Improving efficiency by standardizing workflows with BIM and CDE.
- Establishing a framework for BIM education and introduction throughout the SEMBA Group, including overseas offices
- Expanding customer relationships through CDE to strengthen collaborations with manufacturers and design firms
- Creating new business ventures centered on BIM, including BIM education services

Communication

Outreach Activities

Bringing the Top BIM Brand in the Spatial Design and Construction Industry to the Wider World

- Deploying the results of "Contents" and "Commerce" endeavors in areas outside of the industry
- Positioning global collaboration with co-creation partners at the core of SEMBA brand promotion and communication
- Attain the top position in BIM within the spatial design and construction industry

SEMBA's BIM Maturity Level

Implementing Level 4 while aiming for Level 5

Level 3

Level 4

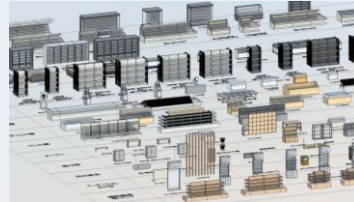
Level 5

SEMBA's BIM Initiatives



Interior BIM Visualization

Adopting a collaborative spatial design process wherein stakeholders explore and develop design options on the spot by utilizing BIM, AI, and realistic CG renderings prior to construction.



Enhancing Space Creation via BIM Data

Collaborating with manufacturers to organize and utilize BIM databases for furniture and other products, thus improving design speeds and quality while enabling more advanced data applications for the future.



Promoting BIM's Spread Throughout the Spatial Design and Construction Industry

Promoting BIM adoption across the spatial design and construction industry and among clients through proposals, public forums, and educational services, while fostering the next generation of industry professionals.



MOU with Autodesk

We have signed a memorandum of understanding (MOU) for a strategic partnership with Autodesk, a U.S.-based global leader in BIM, to drive digital transformations across the spatial design and construction industry.

As Space become increasingly open to people,
information and space become seamlessly integrated as one.

BIM serves as the foundation,
enabling the visualization of spatial value and more sophisticated utilization of space.
Beyond that, the potential of spaces will diversify and continue to expand.

Infinity Freedom

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Infinity Freedom