

KIBIM 2025 International Symposium

Beyond Smart: The Rise of Intelligent Construction

2025.11.14^{FRI} 09:00-18:00

Korean Federation of Science&Technology Societies
Auditorium and Conference Room2



한국BIM학회
Korean Institute of Building Information Modeling



한국도로공사



스마트건설사업단



국토교통부(건설동행위원회)

Co-hosted by: Center for Smart Construction Technology, Korea Expressway Corporation

Welcome Message



Distinguished Members of the Institute, and Respected Colleagues from Academia, Industry, Research, and Government,

On behalf of the Korea Institute of Building Information Modeling (KIBIM), I sincerely thank you for your continued interest and support.

Today, we stand at the forefront of a major global transition toward an intelligent information society. Cutting-edge technologies—such as AI, big data, digital twins, and robotics—are rapidly transforming the architecture and construction industries, shifting the paradigm from smart to intelligent practices.

In response to this global shift, KIBIM is hosting this international symposium to explore the current and future directions of the architecture and construction sectors worldwide. This event aims to provide a valuable forum for sharing insights and strategies that address sustainability, safety, and productivity under the theme “Beyond Smart: The Rise of Intelligent Construction.”

The active collaboration of academia, industry, research, and government—along with the sharing of global perspectives—will serve as a key driving force in shaping the future of intelligent architecture and construction.

Your presence and participation will greatly enrich this international symposium, and we warmly welcome you to join us for a meaningful and engaging event.

Thank you.

2025.11.

President of KIBIM

Seungyeon Choo, Dr.-Ing.



Dear Participants,

It is my pleasure to invite you to the international symposium “Beyond Smart: The Rise of Intelligent Construction”, organized by the Korea Institute of Building Information Modeling (KIBIM).

The theme of this symposium goes beyond simple automation or digitalization, aiming to explore how the construction industry is evolving intelligently through the integration of advanced technologies such as AI, big data, robotics, and IoT.

‘Intelligent Construction,’ which surpasses the concept of Smart Construction, requires new technological paradigms, including autonomous decision-making, predictive process management, and real-time monitoring and simulation. This symposium will cover a wide range of topics that combine academic rigor with industrial applicability, such as algorithm development for technological implementation, platform-based collaborative structures, and data-driven construction and facility management.

Technological innovation cannot be achieved alone—it requires convergence and collaboration. We hope this symposium will serve as a starting point for such efforts. We sincerely encourage the active interest and participation of researchers, practitioners, and policymakers alike.

We sincerely look forward to your participation.

2025.11.

Chair, KIBIM 2025 International Symposium Organizing Committee

Do Hyung Shin, Ph.D.

Program

Moderator : Ham, Young Jib

Time	Auditorium	Conference Room2
09:00~10:00	Registration	
10:00~10:15	Opening Remarks : Seungyeon Choo, Dr.-Ing. (President of KIBIM) Sung-min Cho, Ph.D. (Director of Korea Expressway Corporation) Congratulatory Remarks : Guan Ting (President of The Hong Kong Institute of Building Information Modelling) Jinchul Park (President of Architectural Institute of Korea)	
10:15~10:45	Keynote1 : Eng. Suhail Al Rayes (Tiger Group, Executive Director) * Intelligent Systems for Dubai Mega Projects	
10:45~11:15	Keynote2 : Bernard Kress, Ph.D. (Google, Director of XR Engineering) * Smart glasses and augmented reality headsets for smart construction	
11:15~11:45	Keynote3 : Chan Joo Oh (President & CEO of Autodesk Korea) A connected future for AECO (Architecture, Engineering, Construction & Operation)	
11:45~12:00	General Assembly, MOU	
12:00~13:00	Lunch Break	
	Special Session BIM Leadership in the Public Sector Chair : Cho, Hun Hee	Session 1 Foundations of Smart Construction Chair : Park, Man-Woo
13:00~13:25	Ikhee Cho (Ministry of Land, Infrastructure and Transport) Strategies for Architectural Innovation through BIM and AI in the Era of Digital Transformation	SangUk Han (Professor, Hanyang University) AI-driven Simulation of Earthwork Equipment in Virtual Environments
13:25~13:50	Sunbae Moon (Director of BIM at Korea Airports Corporation) Advancing BIM Adoption in Public Procurement : Policy Directions and Strategies	Minseo Jang (Researcher, Inha University) AI-Based Simulation for Construction Planning Optimization
13:50~14:15	Sunghee Cho (General Manager, Head of the Railway BIM Part at Korea National Railway) BIM Achievements and Strategic Directions for the Future: The Case of Korea National Railway	Hongjo Kim (Professor, Yonsei University) Generative AI-based Automation Technology for Structural Calculation
14:15~14:40	Sangyoon Chin (Professor, Sungkyunkwan University) BIM Governance: The Key to Transforming BIM into a Game Changer for the Construction Industry	Gichun Cha (Research Professor, Sungkyunkwan University) A BIM-AR Based Visualization to Support Construction Site Supervision
14:40~14:50	Break	
	Session 2 AI and Automation for Built Environment Chair : Sim, Sung Han	Session 3 Digital Transformation in Construction Chair : Shin, Dongyoun
14:50~15:15	Wonjo Jung (Leads the Digital Twin Group at Naver Labs) NAVER TWIN XR	SinHoo Lee (CEO, Opticon) Practical Implementation of an Efficient and Scalable BIM Pipeline: A Case Study on the CFW Autoframe Plugin
15:15~15:40	BIN LU (BLUA/CEO&Founder) * AI + 3D Printing from Concept To Intelligent Construction	Jae Woong Hwang (Senior Manager of Hyundai E&C) The Role of the Construction Industry in the Age of Digital Transformation
15:40~16:05	Seongmoo Hong (Team Leader, DAEWOO E&C) Must-See BIM: Data, Python with AI	JungSik Choi (President of the Platform Business Division at Soosung Engineering Co.) Drone-based Asset Management Platform
16:05~16:30	Torgeir Midthun Fadnes, Kristoffer Tungland (COWI) * From BIM Models to Modules: Industrialized Design and construction with OpenBIM and Revit	Namhyuk Ham (Professor, Hanyang Cyber University) Building a sustainable KIBIM Business Model: Revitalizing BIM Education and Certification
16:30~16:55	Award Ceremony	
16:55~17:00	Closing Ceremony	

* Presentation in English

Speaker Biography



Intelligent Systems for Dubai Mega Projects

Eng. Suhail Al Rayes

Eng. Suhail Alrayes is the Executive Director of Projects at Tiger Group with over 40 years of experience in construction, project management, and real estate development across the Middle East. He holds a B.Sc. in Civil Engineering from Mansoura University (1978–1983). His career includes senior leadership roles at Habtoor Leighton Group, Al Habtoor Engineering, and Al Nakhrh Contracting. He has successfully managed the execution of a mega landmarks & prestigious projects. A few to mention are airports, five and seven star hotels, hospitals which included a special structure nuclear science building, super high rise buildings, and the largest worldwide concrete structure. The structure had a shell that covers a lot that measures 70,000 m2 with 5 story buildings that have multiple international standards club facilities.



Smart glasses and augmented reality headsets for smart construction

Bernard Kress, Ph.D.

Dr. Bernard Kress has been involved in Augmented Reality (AR) technologies for the past two decades, from the early days of AR at Google Glass to HoloLens headsets at Microsoft and recently back to Google to tap into the promises of all-day-use multimodal AI assistant on smart glasses AR headsets to improve productivity and efficiency on the workplace. Applications of immersive AR headsets such as HoloLens 2 range from transformation industry to smart construction. He was the 2023 President of the International Society for Optics and Photonics (SPIE.org) and is general chair of the SPIE AR|VR|MR series of conferences in San Francisco. He authored numerous books in the field of AR, published >200 refereed papers and is listed as main inventor on more than 100 patents worldwide.



A connected future for AECO (Architecture, Engineering, Construction & Operation) (AECO 인더스트리를 위한 연결된 미래)

Chan Joo Oh(오찬주)

Chan Joo Oh, President & CEO of Autodesk Korea, has over 30 years of experience in IT and software, with proven achievements in digital innovation. He drives digital transformation in AEC, Manufacturing, and Media & Entertainment by leveraging AI and industry cloud technologies. In his keynote, he will share global insights and present how “Outcome-based BIM,” powered by AI-native and cloud, can integrate processes and data from construction to maintenance, enabling true industry-wide innovation.



Strategies for Architectural Innovation through BIM and AI in the Era of Digital Transformation (디지털 대전환 시대 BIM과 AI를 통한 건축 혁신 전략)

Ikhee Cho(조익희)

Secretary Ikhee Cho, Ministry of Land, Infrastructure and Transport, graduated from the Department of Architecture & Architectural Engineering at Seoul National University. He is currently leading construction policy initiatives on digital transformation, including autonomous vehicles and new town maintenance, and will share public-sector perspectives on BIM.



Advancing BIM Adoption in Public Procurement : Policy Directions and Strategies (공공발주기관의 BIM적용 추진방향)

Sunbae Moon(문순배)

Sunbae Moon, Vice President of the Korea BIM Association, leads the BIM Center at Korea Airports Corporation, where he also serves as the Head of the Digital Twin Division. He actively contributes as a BIM Advisory Committee member and is responsible for overseeing BIM initiatives and projects for airports. With extensive expertise in Building Information Modeling and digital twin technologies, he plays a central role in advancing the adoption of BIM in the aviation sector.



BIM Achievements and Strategic Directions for the Future: The Case of Korea National Railway

(국가철도공단 BIM 추진 성과와 미래 과제)

Sunghee Cho(조성희)

Sunghee Cho is General Manager, Head of the Railway BIM Part at Korea National Railway. She oversees BIM strategy and delivery for railway design and construction and previously led KNR's Indonesia Branch. She holds an M.Phil. (Electrical Engineering) from the University of Birmingham and is a PMP.



BIM Governance: The Key to Transforming BIM into a Game Changer for the Construction Industry

(BIM을 건설산업의 게임체인저로 만드는 열쇠: BIM 거버넌스)

Sangyoon Chin, Ph.D.(진상윤)

Professor Sangyoon Chin, who has been a professor since 1998, holds degrees from Hanyang University and the University of Illinois Urbana-Champaign. He has taught at Dongguk University and Sungkyunkwan University, and is an expert with over 30 years of research in BIM. He is also known for serving as the 4th president of the Korea BIM Society and for authoring the book "Storytelling BIM."



AI-driven Simulation of Earthwork Equipment in Virtual Environments

(AI 기반 토공 장비 가상 환경 시뮬레이션)

SangUk Han, Ph.D.(한상욱)

Professor SangUk Han, a Professor in the Department of Civil and Environmental Engineering at Hanyang University, specializes in applying computational methods and construction informatics. He holds a Ph.D. from the University of Illinois at Urbana-Champaign and a Master's from Columbia University. His recent projects include remote autonomous excavation and AI-driven traffic accident analysis.



AI-Based Simulation for Construction Planning Optimization

(AI 기반 공정계획 최적화 시뮬레이션)

Minseo Jang, Ph.D.(장민서)

Dr. Minseo Jang received his Ph.D. in Civil Engineering from Korea University, specializing in nonlinear analysis for structural stability assessment. At Inha University, he expanded his research into smart construction, focusing on AI-based structural monitoring, process optimization, digital construction technologies, and intelligent infrastructure management systems.



Generative AI-based Automation Technology for Structural Calculation

(생성형 AI 기반 구조계산 자동화 기술)

Hongjo Kim, Ph.D.(김홍조)

Professor Hongjo Kim is a faculty member in the Department of Civil and Environmental Engineering at Yonsei University, where he leads the Smart Infrastructure Lab. His research focuses on generative AI, computer vision, and BIM-based construction automation, with a recent emphasis on applying multi-agent and RAG-based AI to construction engineering workflows.



A BIM-AR Based Visualization to Support Construction Site Supervision

(건설현장 감독 지원을 위한 BIM-AR 기반 시각화 기술)

Gichun Cha, Ph.D.(차기춘)

Research Professor Gichun Cha earned his bachelor's from the Department of Computer Engineering at Tech University of Korea and his master's and Ph.D. degrees from Sungkyunkwan University. His research focuses on the convergence of construction, IT, and AI, with a strong emphasis on applying generative AI and digital twin technologies.



NAVER TWIN XR

Wonjo Jung, Ph.D.(정원조)

Dr. Wonjo Jung, who holds a Ph.D. from Purdue University, leads the Digital Twin Group at Naver Labs. He is at the forefront of developing ALIKE Solution, a large-scale city-level digital twin platform, and also drives global initiatives including projects in Saudi Arabia. His research has recently expanded into the construction sector, integrating BIM and spatial intelligence technologies.



AI + 3D Printing from Concept To Intelligent Construction

BIN LU

Bin Lu, founder of BLUA (2007), is a pioneer of large-scale 3D printing in Chinese architecture. He studied at the University of Applied Arts Vienna (Studio Zaha Hadid) and earned a Master's in Architecture from SCI-Arc. His works, including the world's first 3D-printed retractable bridge "Myriocyclo", span from sculptural installations and facades to public infrastructure and large-scale furnishings, gaining global recognition.

**Must-See BIM: Data, Python with AI****(봐야만 하는 BIM : Data, Python with AI)****Seongmoo Hong(홍성무)**

SeongMoo Hong, a licensed architect and professional construction engineer, is the Team Leader of the Residential & Building BIM Team at Daewoo E&C. His presentation will cover a BIM-based system for quantity takeoff used in budgeting and contracts, along with a data validation framework that leverages Python and generative AI for reliable BIM outputs.

**From BIM Models to Modules: Industrialized Design and construction with OpenBIM and Revit****Torgeir Midthun Fadnes(Technical Director MEP) and Kristoffer Tungland(Leading Digital Specialist)**

Torgeir Midthun Fadnes and Kristoffer Tungland of COWI drive digital construction and industrialized delivery. Combining BIM expertise with software-driven automation, they developed a model-first approach. At KIBIM 2025, they will showcase its impact on a major Norwegian hospital project.

**Practical Implementation of an Efficient and Scalable BIM Pipeline: A Case Study on the CFW Autoframe Plugin****(효율적이고 확장 가능한 BIM 파이프라인 구축: CFW Autoframe 사례 중심으로)****SinHoo Lee(이신후)**

SinHoo Lee is the founder and CEO of Opticon, specializing in architectural automation solutions. A graduate of Seoul National University, he has experience at Generate and Edit Collective, and in 2024 established Opticon to provide B2B digital solutions for construction, real estate, and design. He also teaches computation in architecture and organized Architon, Korea's first AEC Hackathon, in 2025.

**The Role of the Construction Industry in the Age of Digital Transformation****(디지털 전환 시대, 건설산업의 역할)****Jae Woong Hwang(황재웅)**

Jae Woong Hwang is currently an Infrastructure Engineering Department employee at Hyundai Engineering & Construction, where he is responsible for implementing BIM (Building Information Modeling) and Smart Construction for infrastructure projects. He has completed a Ph.D. course in Civil and Environmental Engineering (Structural) at Seoul National University.

**Drone-based Asset Management Platform****(드론기반 인프라 자산관리 플랫폼)****JungSik Choi(최정식)**

JungSik Choi, President of the Platform Business Division at Soosung Engineering Co., Ltd., is currently leading the development of a drone-based infrastructure asset management platform. This work is built on his extensive experience in civil engineering construction, road design, BIM, and construction project management.

**Building a sustainable KIBIM Business Model: Revitalizing BIM Education and Certification****(한국BIM학회 비즈니스 모델-지속가능한 학회 만들기, BIM 교육 및 자격 활성화 방안)****Namhyuk Ham, Ph.D.(함남혁)**

Since 2009, Dr. Namhyuk Ham has built extensive experience in BIM-based design and construction projects, providing consulting and training to various organizations. He has contributed to developing BIM application guidelines for major public corporations and is currently conducting a research project on integrating AI and BIM for apartment complex operation and maintenance.

KIBIM 2025 International Symposium

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	Ahn, Seung-Jun	Hongik University	Ham, Young Jib	Seoul National University

Registration Information

- (1) Pre-registration**
- How to register: Online registration during the pre-registration period
 - Period: Wednesday, October 1 – Thursday, November 6
 - Steps: Visit the KIBIM website (www.kibim.or.kr) > Member Login (bottom of the page) > Academic Events > International Conference > Pre-registration
 - ※ For bank transfer payments (deposit under your name), please transfer to the account below and email your name, affiliation, email, and contact number to kibim@kibim.or.kr by Thursday, November 6.

신한은행 : 100-026-739067 예금주 : 한국BIM학회

- (2) On-site Registration**
- Registration is available on the day of the conference (Friday, November 14)
 - Fill out and submit the registration form at the on-site registration desk

• Registration Fee

Category	Pre-registration		On-registration	
	Regular	Student	Regular	Student
Member	KRW 130,000	KRW 80,000	KRW 150,000	KRW 80,000
Non-Member	KRW 150,000	KRW 80,000	KRW 170,000	KRW 80,000

• Benefits for Institutional Members

Category	Annual Membership Fee	Benefits
A	KRW 5,000,000	4 Complimentary Conference Registrations
B	KRW 3,000,000	3 Complimentary Conference Registrations
C	KRW 1,000,000	2 Complimentary Conference Registrations

※ Those who wish to register as group members must pre-register via the KIBIM website by Friday, November 7 and email their name, affiliation, email, and contact number to kibim@kibim.or.kr

KIBIM 2025 International Symposium

Beyond Smart: The Rise of Intelligent Construction

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Directions



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