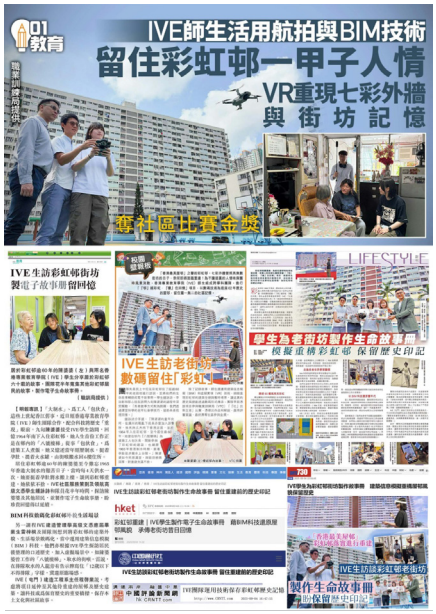
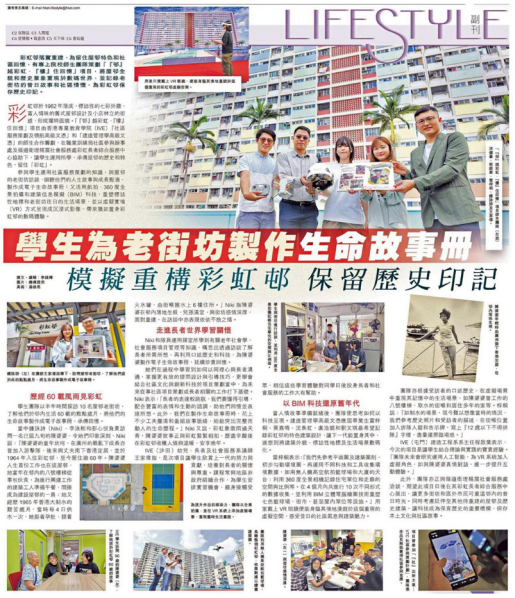
Hung Kin Ho, Benson

Making history as Hong Kong's first Chartered Infrastructure Engineer, Benson specializes in integrating Building Information Modeling (BIM), Computer Vision, and Artificial Intelligence (AI) into transportation and education. His pioneering work includes projects "Automatic BIM/GIS Data Mapping", "Infrastructure-BIM (I-BIM)" applications for light railway and road systems and "AI-driven Intelligent Traffic Junction" solutions. Actively engaged in industry leadership, Benson serves on the Construction Industry Council (CIC) BIM Assessment Panel and contributes to Chartered Institute of Logistics and Transport Hong Kong (CILTHK) committees. He also supports public service through roles on the Road Safety Campaign Committee and the Appeal Tribunal (Buildings Ordinance). His contributions have been recognized with numerous honors, including Fellowship of the Higher Education Academy (HEA), HKIBIM Awards, 2021 Greater Bay Area STEM Excellence Award. He is honored to be named "Young BIMer of the Year 2025" and remains committed to advancing BIM innovation for smarter infrastructure and societal progress.

Memory Information Modeling: Exploring the Application of Building Information Modeling on Community-Centric Project-Based Learning





Media coverage highlights BIM, VR preserving Choi Hung Estate's heritage.
Image Courtesy of Vocational Training Council

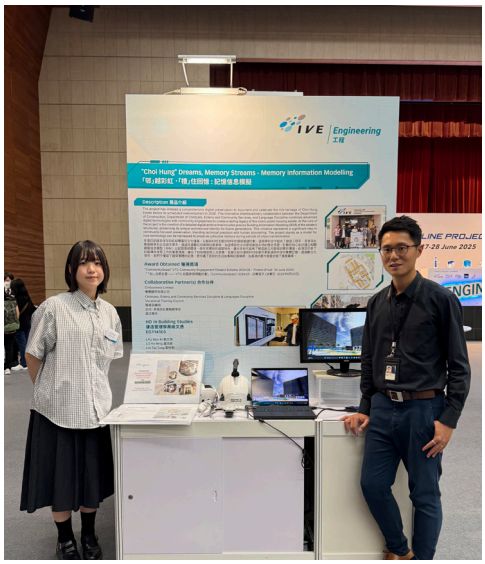
My interest in BIM stems from its untapped potential to serve people and communities, driving purposeful industry innovation. In Hong Kong, old housing estates hold generations of collective memory, yet BIM is often seen only as an engineering tool. I aim to use BIM as a carrier of cultural heritage, preserving not just buildings, but the stories within them. As Hong Kong's first Chartered Infrastructure Engineer, I explore how BIM, combined with AI and digital twins, can be tailored to our urban fabric, serving people and heritage while meeting high technical and ethical standards. True innovation means leveraging BIM for bigger goals: decarbonization, equity, and resilience.

Needs or reasons of the innovation

The need for our innovation, Memory Information Modeling (MIM), arose from gaps in preserving heritage and BIM's limited role in cultural documentation. While digital tools like 3D scanning exist, they underutilize documenting "lived-in" spaces where community stories matter. BIM traditionally focuses on physical structures, neglecting social and emotional layers. Hong Kong's redevelopment often prioritizes physical change over culture, threatening community identity. MIM was created to bridge BIM with social heritage, capturing both physical structures and lived experiences.

The concept of the innovation

MIM integrates BIM, 3D scanning, UAV photogrammetry, and community narratives to holistically document built environments, capturing physical and socio-cultural layers.



Choi Hung BIM booth featuring OpenSpace and Trimble that cut production by 70% in 2 months drew diverse attendees.
Image Courtesy of Vocational Training Council

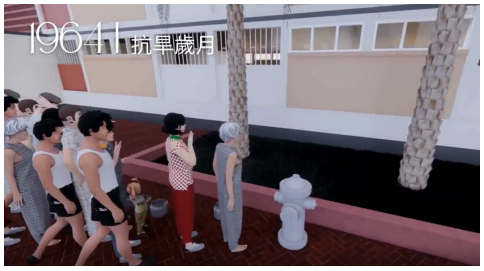
Challenges encountered during the process

Challenges included merging diverse data types while balancing technical accuracy and emotional authenticity, coordinating interdisciplinary teams, navigating on-site physical constraints, upholding ethical protocols with residents, and ensuring BIM model consistency.

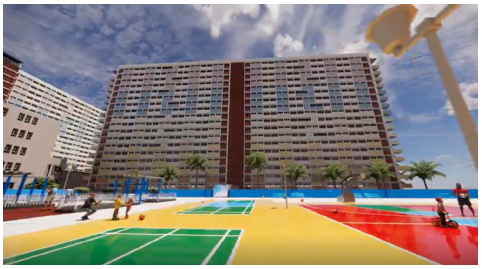
Outcomes and sustainable development

MIM successfully expanded BIM into a framework capturing both physical and socio-emotional essence, creating a “living archive” of community memory. It offers a scalable global model, integrating technical innovation with community-centric methods to preserve cultural legacy, strengthen bonds, and ensure urban development safeguards social heritage.

I encourage local BIM fellows to prioritize people-centric innovation, moving beyond technical models to embrace human stories and public engagement. Secondly, champion cross-disciplinary collaboration, blending BIM with AI, AR, or blockchain, and learning from social science and heritage disciplines to serve broader goals like sustainability, equity, and cultural continuity. Let BIM be a bridge between technology, people, and communities.



1964 BIM model revives Choi Hung’s water rationing queues.
Image Courtesy of Vocational Training Council



Modern 3D rendering recreates Choi Hung’s vibrant communal sports space.
Image Courtesy of Vocational Training Council

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