Key Features

Precise modeling was required to represent the intended geometries of the large-scale rooftop steel wind funnel and ground level integrated art. Automated study processes were used to expedite the entire design and construction period.

During the construction, site progress was recorded to the BIM model on an iPad so that the progression rate can be calculated automatically, thereby enhancing productivity.

BIM was used for simulation of natural lighting for optimal lighting control. Simulation of emergency evacuation was carried out to maximise the benefit of BIM model data.
Mapletree Business City II

Key Features

Collaboration meetings attended by client, consultant, main contractor and sub-contractors to resolve issues found in 3D BIM model on the spot. Shop drawings only generated after the issues are resolved.

Construction schedule (4D), including floor cycle schedule in AM/PM cycle, added into BIM model.

Effective analysis and forward planning conducted by comparing cycle model with actual site progress.

Complex landscaping feature incorporated on top of undulating terrace using BIM. The exact form and quantities (5D) are then extracted and shared with the main contractor for construction.

Mapletree Business City Pte Ltd
DCA Architects Pte Ltd
Shimizu Corporation
Bintai Kindenko Pte Ltd
APP Engineering Pte Ltd
DN Hybrid Pte Ltd
Yishun Community Hospital

Key Features

Sun shading analysis and computational fluid dynamic simulations evaluate air flow and comfort level for users of naturally ventilated spaces.

Combined service design BIM model to monitor and verify progress of on-site installation work.

Engage stakeholders such as dentists, nurses, facilities management (FM) operator and hospital planning department by using 3D model of a dental consultation room to improve visualisation and understanding of the Dental Consultation Room at actual construction site.

MOH Holdings Pte Ltd
Alexandra Health System Pte Ltd
CIAP Architects Pte Ltd
Beca Carter Hollings & Ferner (S.E.Asia) Pte Ltd
Parsons Brinckerhoff Pte Ltd
Zeb-Technology Pte Ltd
Kimly-Shimizu Joint Venture
Shinryo Corporation
Singapore Technologies Electronics Limited
Fujitec Singapore Corporation Limited
Draeger Medical South East Asia Pte Ltd
Chubb Singapore Pte Ltd
Crown Construction Pte Ltd
Magnificent Seven Corporation Pte Ltd
Tropical Environment Pte Ltd
Spectrum Audio Visual Pte Ltd
Swisslog Pte Ltd
Envac Singapore Pte Ltd
Nam Lee Pressed Metal Pte Ltd
Watercraft Engineering Pte Ltd
TTJ Design & Engineering Pte Ltd
NEC Asia Pacific Pte Ltd
Amber Skye

Key Features

Enhanced visualisation with virtual walkthrough of finished construction

4D and 5D BIM used for construction scheduling and cost study. Using BIM based construction schedule and cost information, management and project team have better project visibility and control at various construction stages achieving time and productivity savings

Early identification and clarification of design and modelling errors prior to construction

Interoperability – working with specialist sub-contractor on different BIM platforms: Tekla BIMsight used for seamless sharing of information across different BIM platforms to lessen time spent on information verification, resulting in better collaboration

CS Amber Development Pte Ltd
Kimly Construction Pte Ltd
DLE M&E Pte Ltd
DLM Pte Ltd
Projalma Sdn Bhd
(Singapore Branch)
Early design intent BIM model developed and used to perform a series of simulation studies to evaluate performance and efficiency of proposed design.

Integration of all three design models from respective disciplines into one single federated model for clash detection and resolution.

Clash detection tool was used during discussions amongst consultants and contractors to determine typical and frequently encountered clashes including installation clearances for quick resolution.

BCA Academy
RSP Architects Planners & Engineers (Pte) Ltd
Squire Mech Pte Ltd
Progressive Builders Pte Ltd
Our Tampines Hub

BIM used to accurately pinpoint and highlight areas of concern in early stages before commencement of construction (Example: underground MRT, etc.)

Detailed superstructure, reinforced concrete body and façade models created for construction. Provision of detailed dimensioning for accurate on-site construction for support truss system.

Detailed mechanical system models created, merging all mechanical systems for clash detection. Accurate bill of quantity is taken off from BIM

Key Features

GOLD PLUS

People’s Association
DP Architects Pte Ltd
T.Y. Lin International Pte Ltd
AECOM Singapore Pte Ltd
Davis Langdon KPK (Singapore) Pte Ltd
Hexacon Construction Pte Ltd
Trans Equatorial Engineering Pte Ltd
Weewah Integrated Engineering Pte Ltd
King Wan Construction Pte Ltd
Shinryo Corporation (Singapore Branch)
Fujitec Singapore Corporation Ltd
TTJ Design & Engineering Pte Ltd
AVA Global Pte Ltd
Arcadis Project Management Pte Ltd
Westgate

Key Features

Effective visualisation and verification for space planning using BIM

Clash detection and resolution were carried out before construction commenced

Structural design optimisation using 3D BIM model achieved practically and economically without compromising the building design and aesthetics

Energy modelling allows designers to minimise energy needed while maximising Green Mark score for project

CapitaLand Group
RSP Architects Planners & Engineers Pte Ltd
Shimizu Corporation
Bishan Nursing Home

Key Features

Checks are done for all the critical items (eg. basement carpark height clearance). Compared with a 2D section, the 3D model allows reviewing the ceiling height at any location easily.

BIM creates a visualisation for the client to address their concern of whether equipment can fit into the room. Any changes to the machine/equipment model (eg. washing machine, extraction fan) can easily and quickly be input into the model so necessary changes/modification can be done.

Universal Design path clearance ensures that the path around the nursing home have met the required widths for Universal Design compliance. Clashes will also be flagged out and addressed accordingly.

Ministry Of Health
RSP Architects Planners & Engineers Pte Ltd
Squire Mech Pte Ltd
HPC Builders Pte Ltd
BIM software for structural design saved time and led to productivity improvement

Fewer drawing discrepancies in modelling complex geometry designs

Through structural BIM software, overall elevation and section comes ready with the 3D model for construction unlike in 2D Auto CAD whereby structural consultants issue blown-up details of structure construction drawing
Jurong East Nursing Home

Adopts an iterative model authoring and model coordination process to efficiently update the model based on outputs from design meetings and model coordination meetings.

BIM coordinators ensure that models are kept in acceptable conditions by following model validation checks schedule and checklists to assess the individual models for errors and warnings. QA / QC checks are to be done prior to sharing of models to ensure models sent out are of acceptable quality for sharing and coordination.

RSP Clash Coordination Standard used for documentation of clashes. Issues identified in the model tagged using a clash marker which uses colour codes and comments to identify the primary discipline to resolve issues.

Ministry Of Health
RSP Architects Planners & Engineers Pte Ltd
Squire Mech Pte Ltd
HPC Builders Pte Ltd
Singa Hills

Teambuild Land Pte Ltd
Laud Architects Pte Ltd
BK Consulting Engineers Pte Ltd
ELEAD Associates Pte
Spazio Construction Pte Ltd

Key Features

Contractors was able to better understand design intent through 3D visualisation with a BIM coordination meeting with the consultant team. Consultant team benefits from the contractor's experience and input to resolve construction issues.

3D model created with the BIM model to create a walkthrough and perspective for client presentation. This allows streamlining of the decision-making process by various stakeholders to achieve early sales launch.

Conveniently access to BIM on-site through mobile apps and laptop.
Tanjong Pagar Centre

Guocoland Group
Architects 61 Pte Ltd
Samsung C&T Corporation

Key Features

Provide the client opportunities to develop as-built models further for facility management in the future.

Integrating multidisciplinary design inputs using a single 3D model allows interface issues to be identified and resolved before construction, eliminating cost and time impacts due to redesign. The model also enables new and existing assets to be integrated seamlessly.

Contractors minimise construction risks by reviewing complex details or procedures before going on-site.
The Panorama

Key Features

In the conventional method of presenting drawings, all interfacing lines are trimmed. With BIM, all interfacing lines are retained. All other drawing information (e.g. elevation and drop symbol) will not be compromised.

This proposal was approved and supported by the consultants.

Portable BIM enables convenient model navigation using iPad. It makes models readily available to all stakeholders.

Shorter time required for quantity take-off and higher accuracy. For concrete columns alone, the minimum time saved to do quantity take-off for one tower block is 55 minutes.

GOLD

Pinehill Investments Pte Ltd
MKPL Architects Pte Ltd
Meinhardt (Singapore) Pte Ltd
United Project Consultants Pte Ltd
Tiong Seng Contractors Pte Ltd
Team Fire Pte Ltd
Accise Engineering Pte Ltd
Trancom Engineering Pte Ltd
Natural Cool Airconditioning & Engineering Pte Ltd