



One Island East

26 May 2011

BIM on FM

HKIFM



Building Information Modelling (BIM)



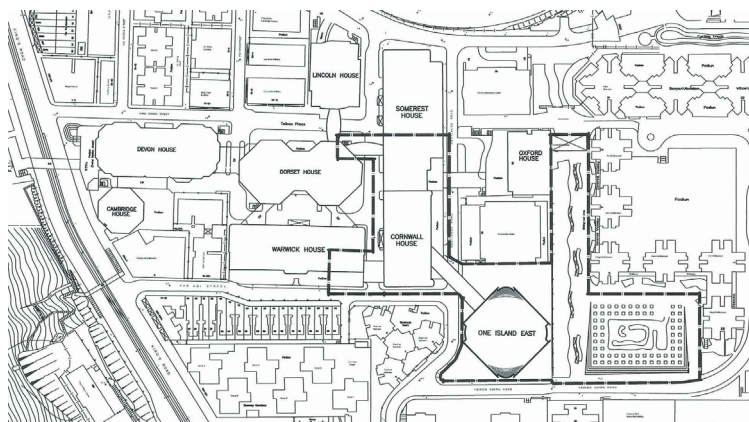
Agenda

- Introduction of One Island East (OIE)
- What is BIM
- Why use BIM
- Application of BIM in OIE
- Areas for Improvement



Introduction of OIE

- Site Location



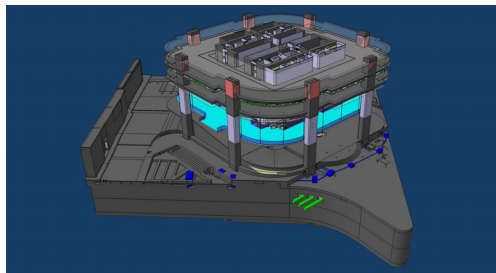
Introduction of OIE



- Office building with basement loading areas
- 1.5million sq ft
- 70 storeys
- 308m tall
- Pedestrian link with Island East



Introduction of OIE



Introduction of OIE

Background Timeline

- 2005 Feb Started construction of the model
- 2005 May Tender of main contract – Stage 1
- 2005 Sep Tender of main contract – Stage 2
- 2006 Mar Commenced main contract – Gammon
- 2006 Oct Concreting 16/F core wall
- 2008 Mar Occupation permit

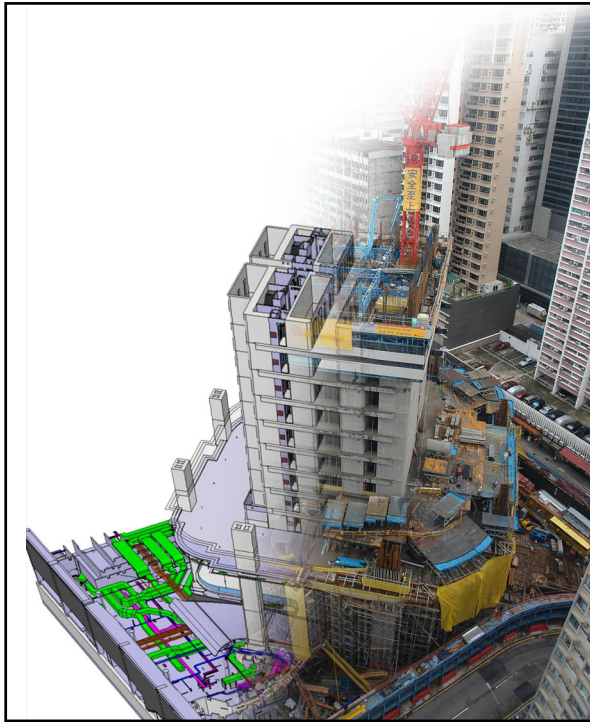
Digital Model Consultant GehryTechnologies
Software Digital Project



What is BIM

- No need to introduce this to the expert audience today



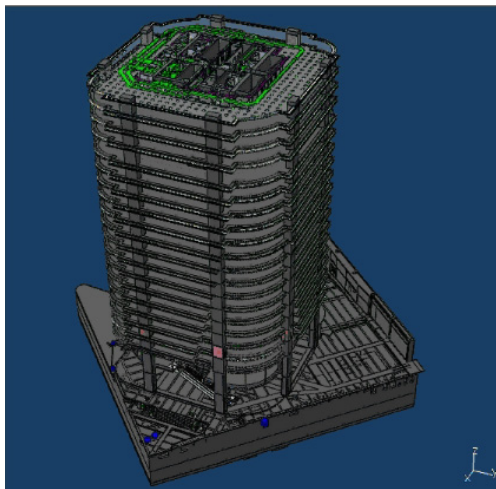


BIM

- A *3D model-based* building lifecycle information management technology utilizing one database for all design and construction elements and processes used throughout the design, construction, operation and deconstruction of the building
- The new technologies and working methods sometimes referred to as “building lifecycle management” (BLM).

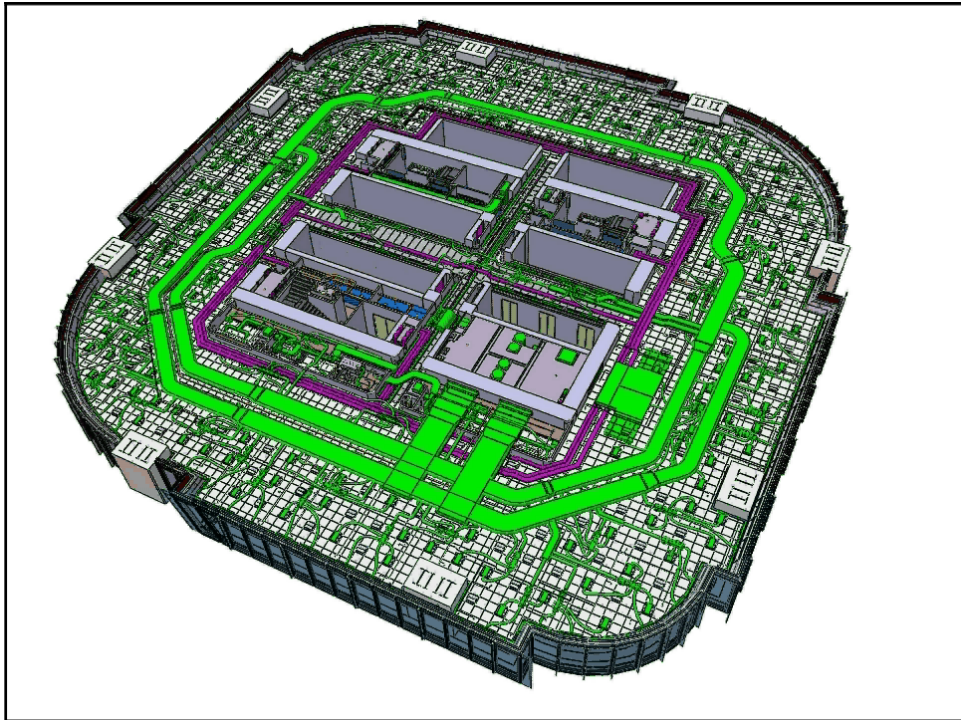


What is BIM



Model-based
Technology





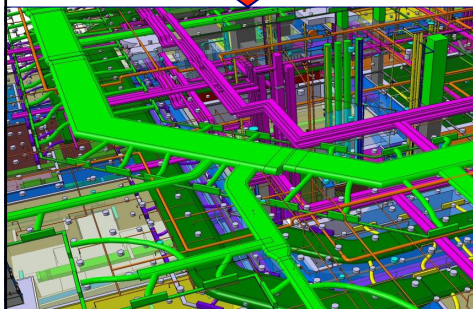
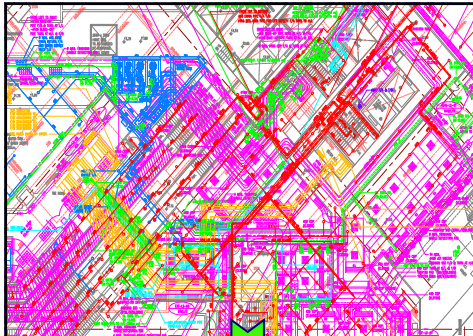
Why Use BIM

- Architects are usually asked to construct models to describe the design
- Architects usually construct working models to visualize space
-
- **3D IS A MUST**

Why Use BIM



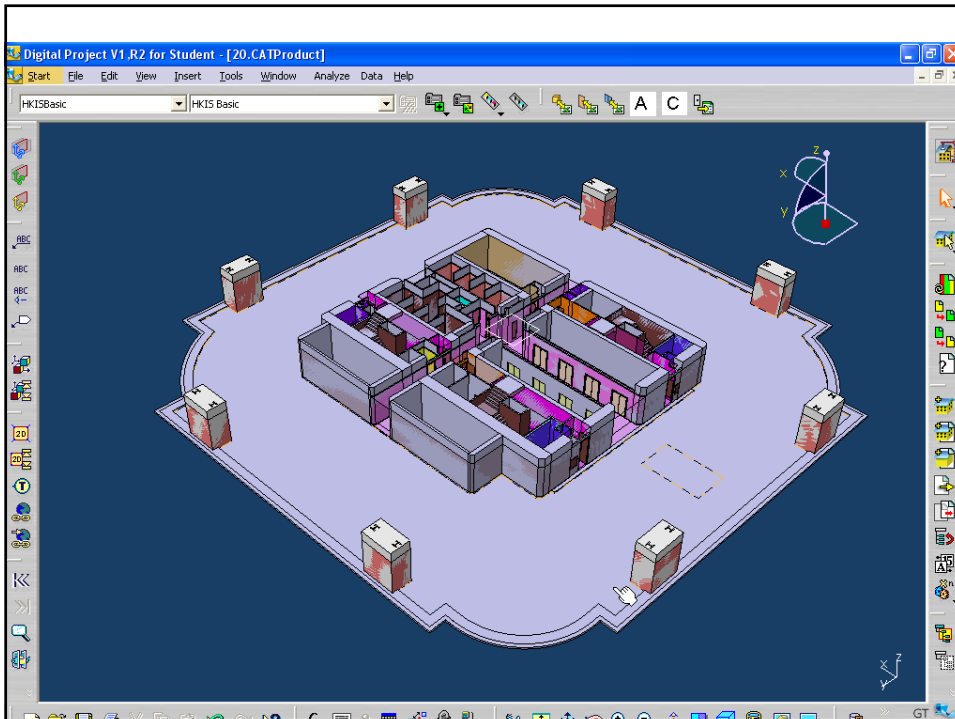
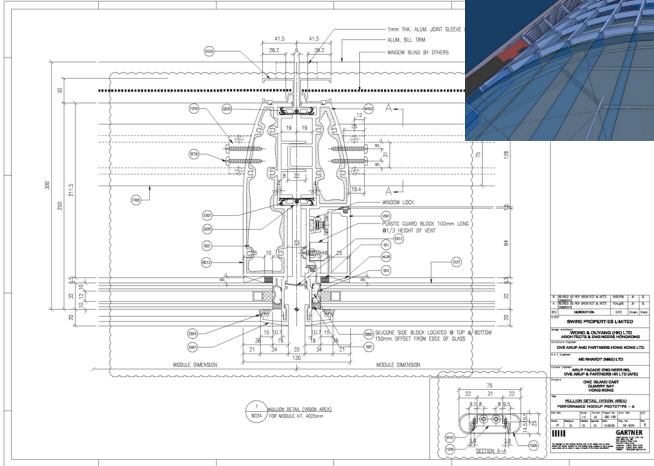
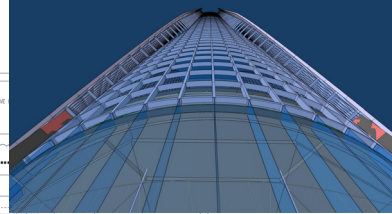
- Comprehensive 3D geometric co-ordination
- Detail design accuracy
- Reporting of clashes and design conflicts
- Waste prevention
- Risk reduction
- Digital taking off for tender document
- Same data-based model for construction and life operation of the model



- As clashes and design conflicts are resolved during the design stage, less waste from abortive works is produced on site
- Various options can quickly be studied to determine environmental impacts
- Detail design accuracy reduces material wastage
- New analysis and simulation tools are available to directly optimize life cycle energy efficiency

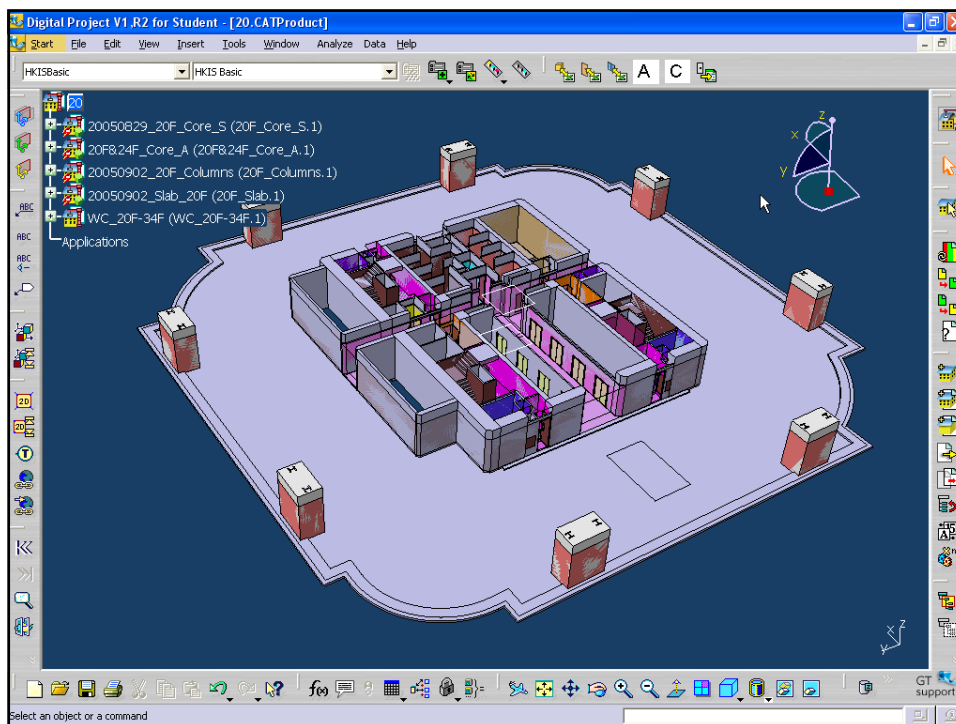


Why Use BIM



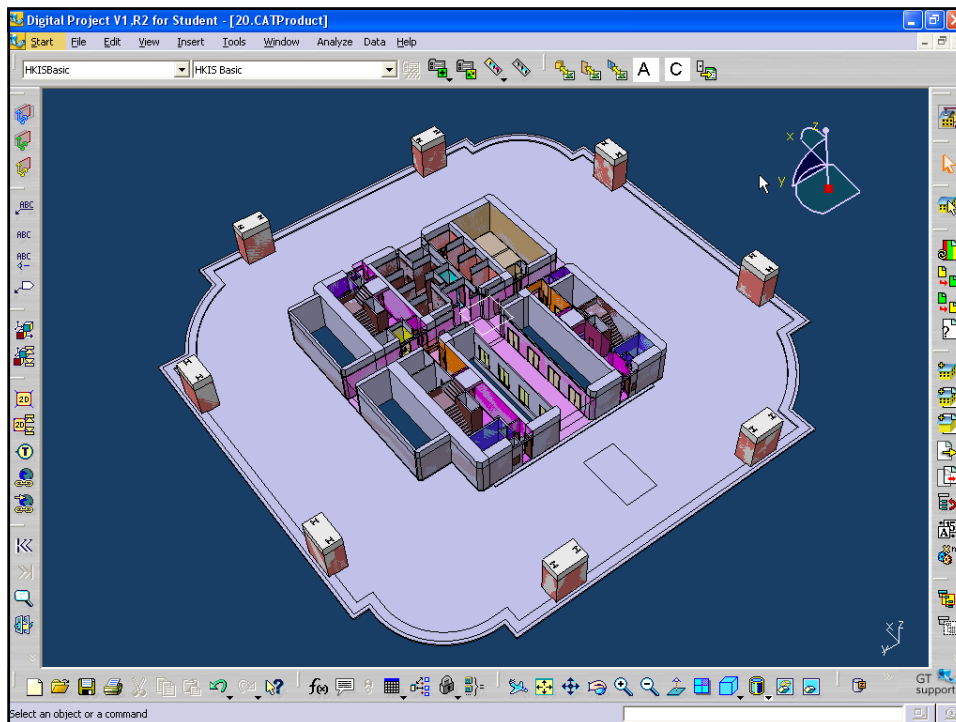
Application of BIM in OIE

- Extraction of material list and BQ



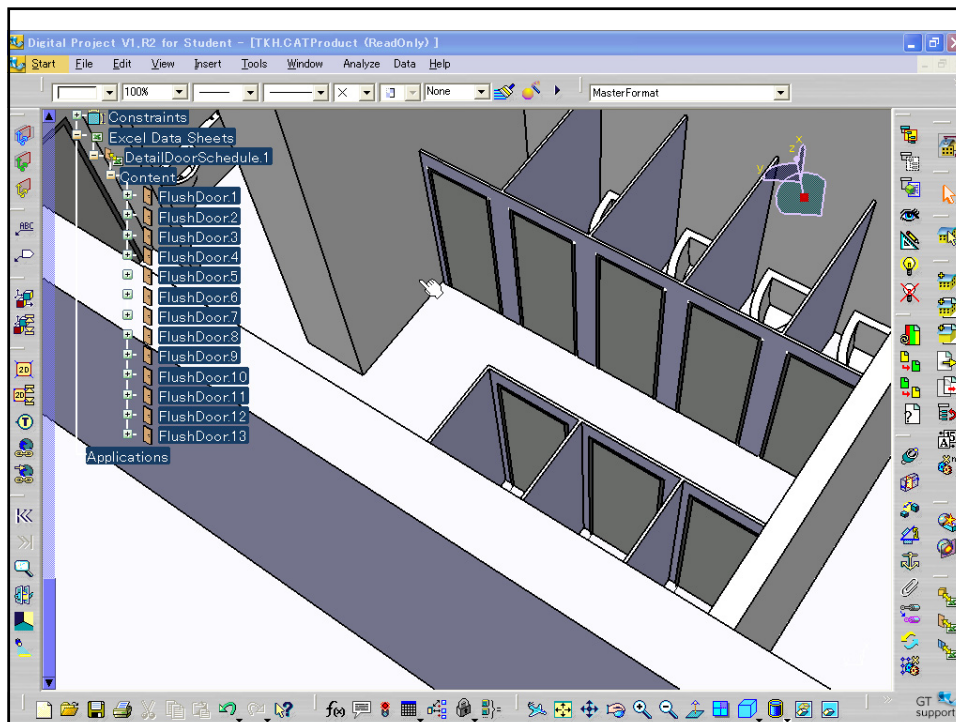
Application of BIM in OIE

- Extraction of door schedule



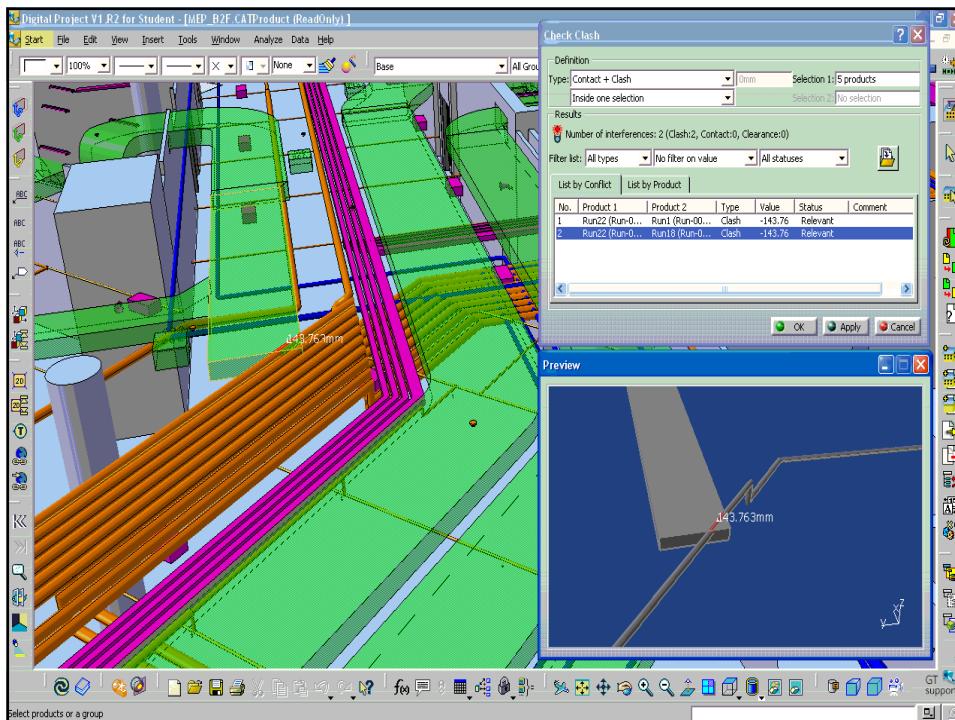
Application of BIM in OIE

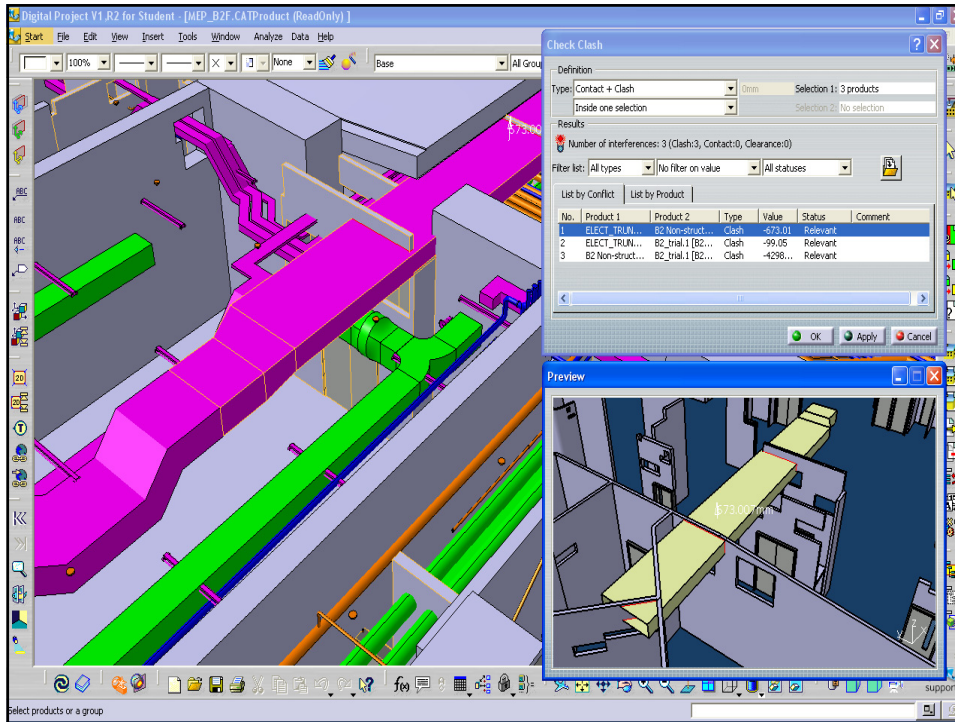
- Management of design changes



Application of BIM in OIE

- Checking clashes and design conflicts for detail design





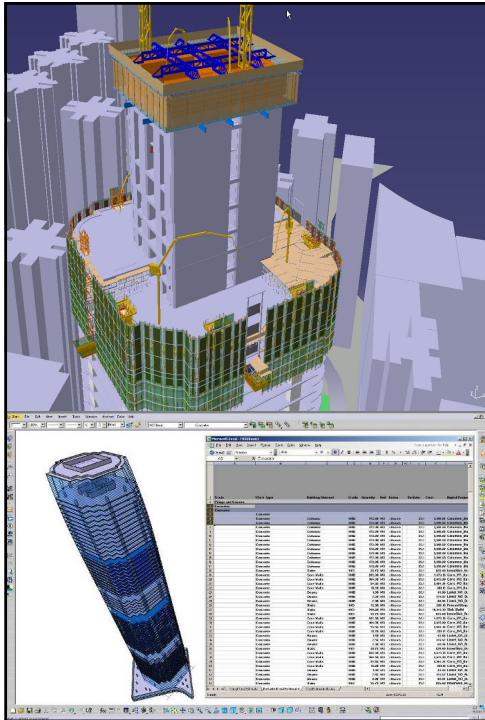
Application of BIM in OIE

Conventional Bidding

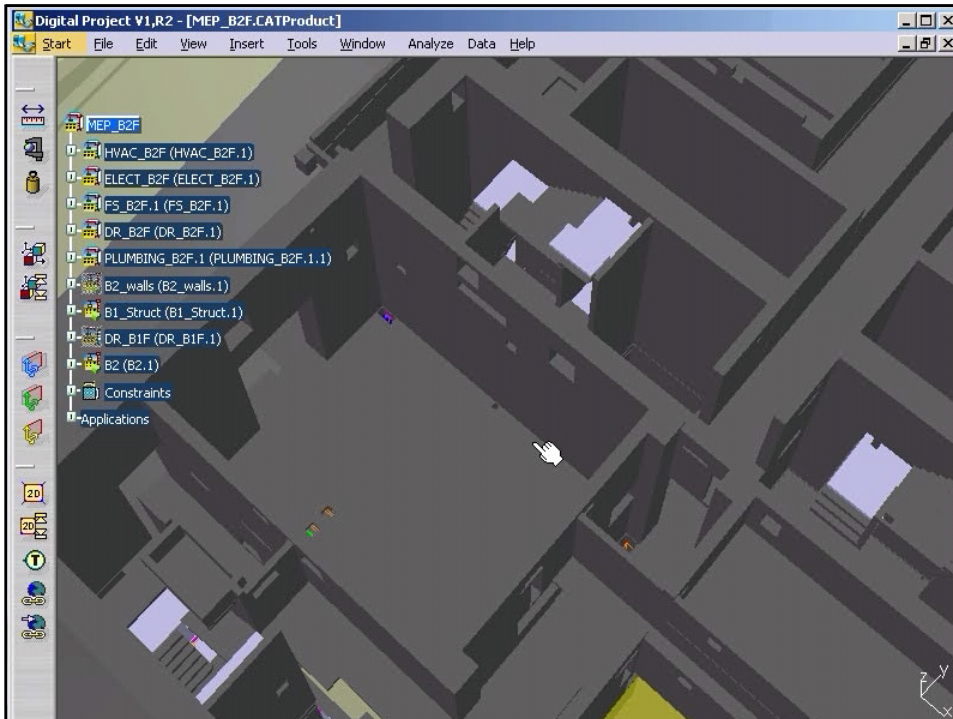


Paperless Bidding





- *Virtual construction* process simulation enables optimized building lifecycle planning
- As clashes and design conflicts are resolved during the design stage, significant cost savings are made by *minimizing abortive works* and the associated costs for remedial works
- Automated *digital* quantity take offs in the preparation of tender documents saves consultants time and increases accuracy
- Due to the increased accuracy and level of detail of the project BLM information, construction risk is reduced and cost accuracy is increased
- Building Maintenance efficiency is enhanced through direct, internet-based, real time feedback from the actual building to the BLM information management technology

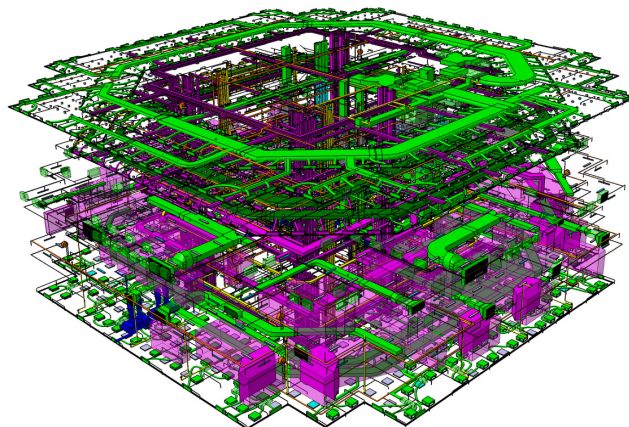


Areas for Improvement

- Negative players to face new ideas
- The whole team to build and to use the model
- Cost
- Hardware support
- One common system for the industry
- Government support



Get ready
We are definitely entering a BIM world





Q&A

 SWIRE PROPERTIES