# BIM HVACTool
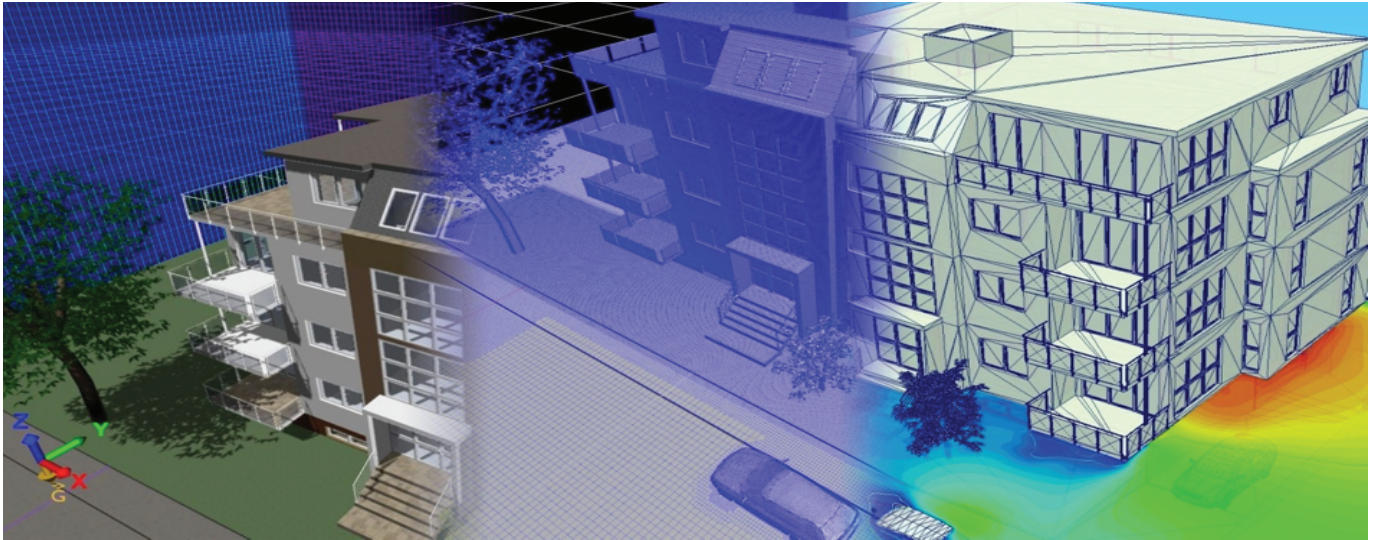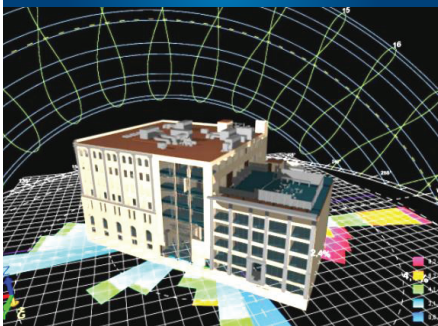
## BIM Centric Building Performance Simulation
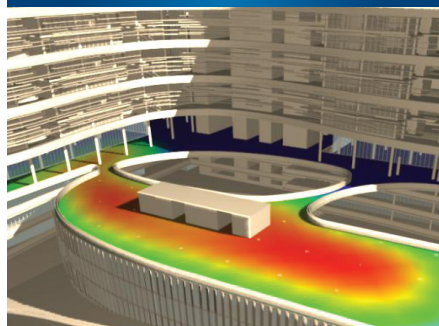
**Integrated Simulation platform for Building Designers**



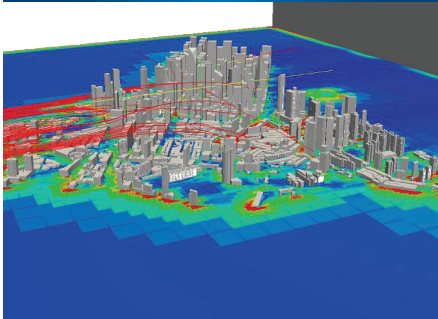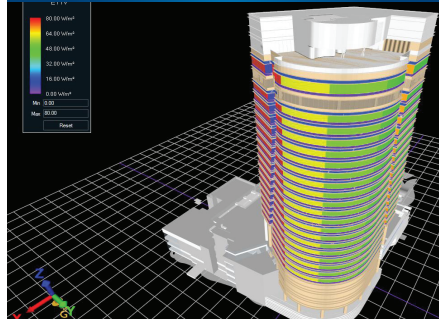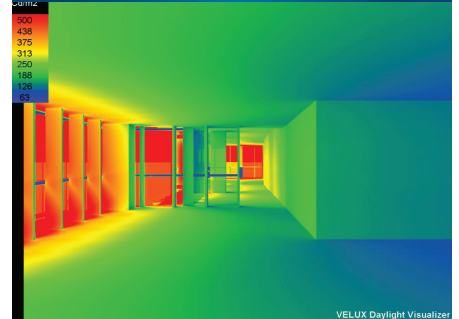| Sun Path | Solar | Shadow |
|----------|-------|--------|



| Computational Fluid Dynamics | Envelop Thermal Transfer Value | Daylight |
|------------------------------|-------------------------------|----------|



VELUX Daylight Visualizer

## ASIA TECH

A S S O C I A T E S

# BIM HVACTool

## Computational Fluid Dynamics

### A Graphical Interface for Building Simulation

Input format supported:

- ☑ IFC
- ☑ gdXML
- ☑ STL
- ☑ Rhino
- ☑ Wavefront Obj
- ☑ Google SketchUp
- ☑ Autodesk DXF

## Urban Wind Simulation

- Supports Open Source Flow Solver.
- Standalone, all-inclusive pre-processor GUI, specifically tailored for building simulation.
- Boundary conditions coupled to Thermal Simulation Modules like Energy Plus.
- Simple Mesh generation and control using SnappyHexMesh.
- Runs on all 64bit Windows Versions from Vista 64bit.
- No Linux system required.
- Interfaces to BIM Formats.
- One-Click Case Setup.

## Advanced Mesh Generation

BIM HVACTool achieves extremely fast setup for CFD simulation:

- Technologically more sophisticated and accurate than other commercial solutions.

- Individualized solutions - we offer great scopes for custom development and CFD solutions literally tailored to your product portfolio.

- Cost savings - Approx. 40% reduction in CFD related costs recorded after deployment at the customer's site.

## CFD Effort - Time is money

Bar chart with y-axis from 0 to 60. Categories: Modelling, Setup CFD, Solving, Postprocessing. Legend: ● Manual  ● BIM HVACTool

## ASIA TECH
ASSOCIATES

119 Genting Lane, #05-01
HB@119 Genting Lane, Singapore 349570
Tel +65 6749 4922  / Fax +65 6745 2898

# BIM HVACTool

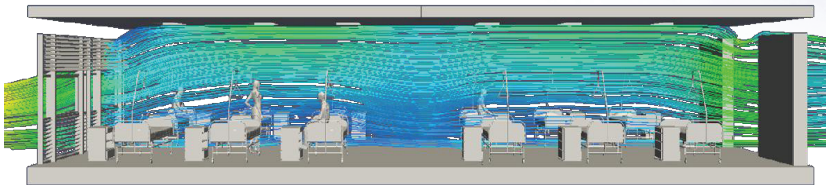## Envelope Thermal Transfer Value Analyzer
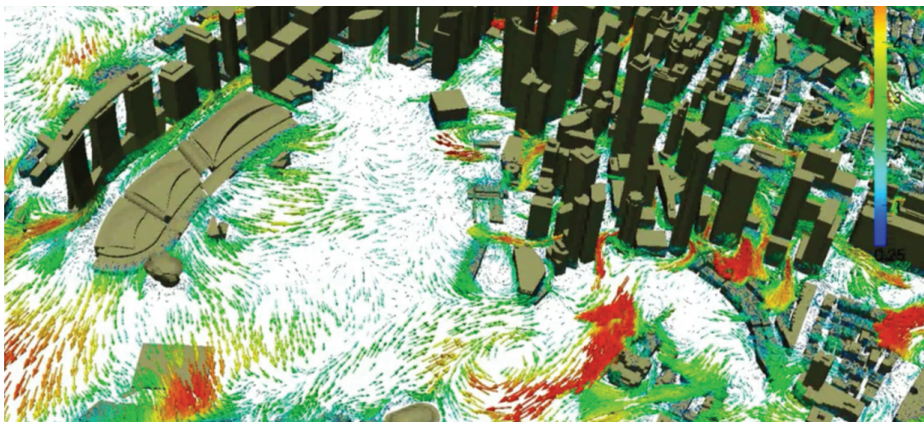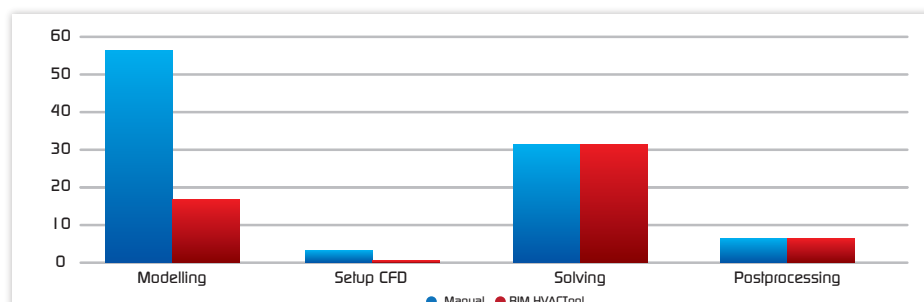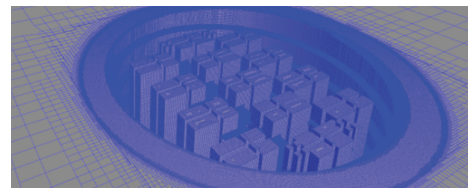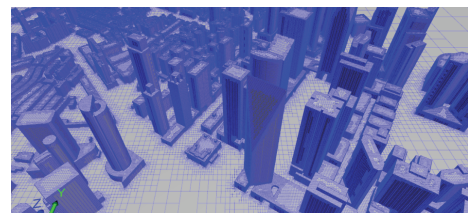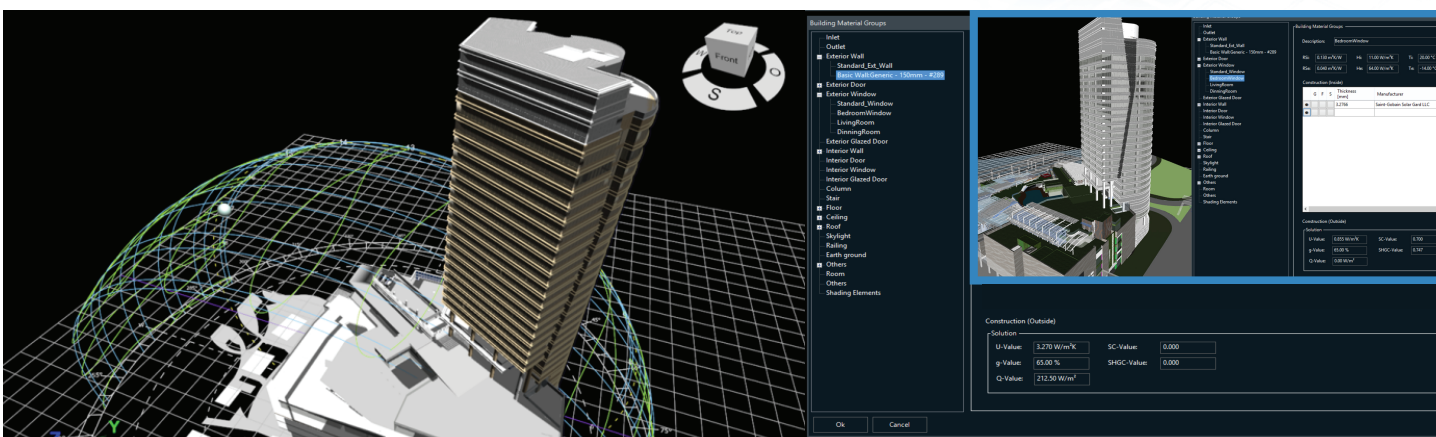
- ☑ BCA Code Compliance (2008)
- ☑ Direct IFC Import
- ☑ Other Supported Formats include STL & Google SketchUp (STL)
- ☑ Fast Facade Identification & Material Characterization
- ☑ Drag & Drop Property Assignment
- ☑ Colour Coded Facade for Easy Identification & Verification
- ☑ Allow Designers to conduct Parametric Study
- ☑ Fully Automatic SC2 & CF Calculations
- ☑ Automatic Report Generation in BCA submission format
- ☑ High Productivity Gains
- ☑ Stand Alone Software

## BIM Centric ETTV/RTTV Computation

## PRODUCTIVITY REPORT

| Task Description | SquireMech (Hrs) | BIM HVACtool (Hrs) | Variance (saving) % |
|---|---|---|---|
| Study of facade and material categorization | 12 | 12 | 0.0 |
| Facade Preparation | 12 | 6 | -50.0 |
| ETTV Computation | 20 | 1 | -95.0 |
| Report Documentation | 8 | 1 | -87.5 |
| Review | 16 | 2 | -87.5 |
| Total Man Effort (Hrs) | 68 | 22 | -67.6 |

## ASIA TECH
### ASSOCIATES

119 Genting Lane, #05-01
HB@119 Genting Lane, Singapore 349570
Tel +65 6749 4922 / Fax +65 6745 2898