

#### **MacConvilles Surveying**

### BIM -What it Means to Quantity Surveying





#### **BIM – What it Means to Quantity Surveying**

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- **Over the set of the s**
- **Opportunity or Threat**
- **Barriers to BIM**
- MacConvilles Journey
- **BIM Benefits**
- **Quantity Surveying The Future**





#### MacConvilles Surveying – Who We Are

- MacConvilles were established in 1938 operating across London and the South East of England
- Chartered Quantity Surveyors, Project Managers, Building Surveyors
  & CDM Advisors
- Multidisciplinary Practice including
  - Wealth, education, retail, ecclesiastical, industrial, residential, and sustainable development
  - **BREEAM**, EPC, SAP, SBEM





### What is BIM to QS



Existing Conditions Models

- Laser scanning

- Ground Penetration

- Radar (GPR) conversions
- Safety & Logistics Models Animations, renderings,

walkthroughs

- BIM driven pretabrication
- Laser accurate BIM driven field layout



#### SCHEDULING Project Phasing

Simulations Lean Scheduling

- Last Planner

- Just in Time (JIT)

Equipment Deliveries - Detailed Simulation Installation

Visual Validation for Payment Approval

- Electrical Value Engineering - What if scenarios - Visualizations

ESTIMATING

(DProfiler)

estimates

- Rebar

 Real time conceptual modeling and cost planning

 Quantity extraction to support detailed cost

Trade Verifications from

- Mechanical/Plumbing

Fabrication Models

- Structural Steel

- Quantity Extractions

Prefabrication Solutions

- Equipment rooms

- MEP systems
- Multi-Trade Prefabrication

- Unique architectural and structural elements



SUSTAINABILITY

- Conceptual energy analysis via DProfiler
- Detailed energy analysis via Ecollech
- Sustainable element tracking
- LEED tracking



#### FACILITY MANAGEMENT APPLICATIONS

- Life Cycle BIM Strategies
- BIM As-Builts
- BIM embedded O&M manuals
- . COBie data population and extraction
- BIM Maintenance Plans and **Technical Support**
- · BIM file hosting on Lend Lease's Digital Exchange System



# **Opportunity or Threat?**

*"There is the potential to create a fully automated cost plan directly from a BIM or its associated database" – RICS Construction Journal Oct 2015* 

BIM might sound like a major threat to quantity surveyors. If cost estimates can be generated from BIM models then will clients need QSs to the same extent in future?

With BIM now carrying out many traditional QS functions, are quantity surveyors and their scale rules about to meet a sticky end?



# **Opportunity or Threat?**

- **I 980's Introduction of Computers & Spreadsheet Software**
- **1990's Introduction of Autocad Systems**

**◎ 2015 – BIM** 

- **Oracle Results in Art of Surveying**
- Significantly improve accuracy and speed up estimating processes





# **Opportunity or Threat?**

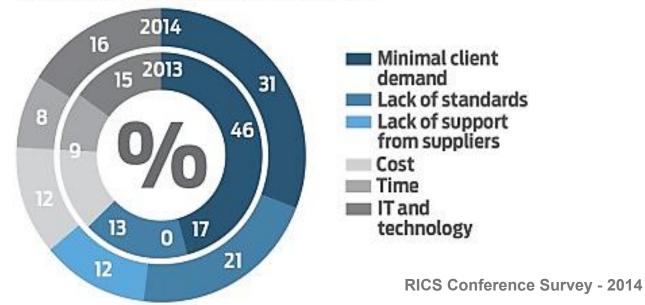
It's hard to argue that the introduction of BIM will be anything other than a good thing for QS's simply because it will eliminate so many mistakes and clashes of plan on site





### **Barriers to BIM Uptake**

#### What are your barriers to BIM uptake?



Top 3 Barriers to BIM:

- Minimal Client Demand
- Lack of Standards
- IT or Technology



#### **MacConvilles - Our Journey**















### **MacConvilles - Our Journey**



#### Software

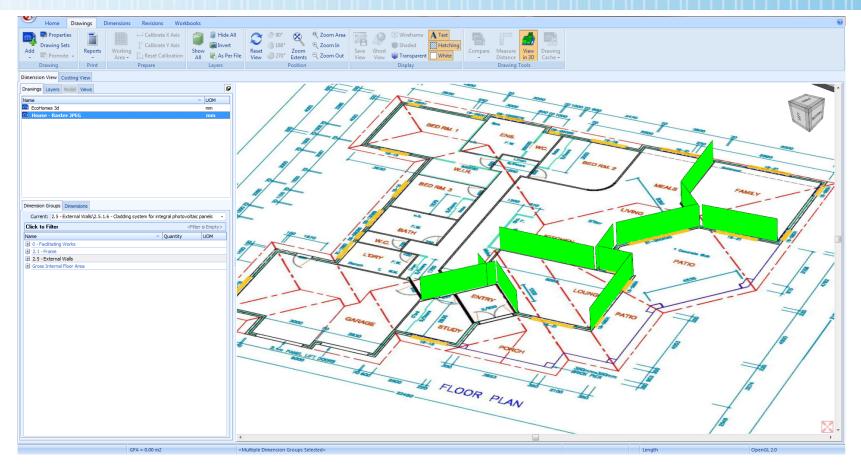
- Monthly Rental
- Good Training
- Good Support
- Compatible with Revit

#### Hardware

**Outputters – Better Graphics Cards** 



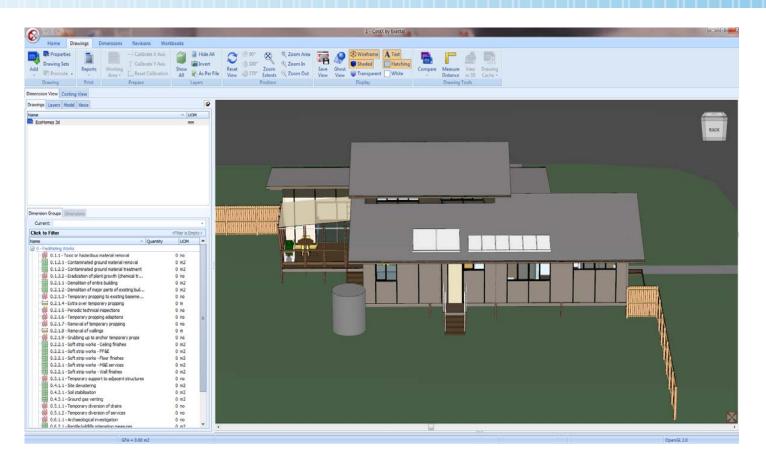




Benefit from a visual connection between model, quantity, estimate and price changes





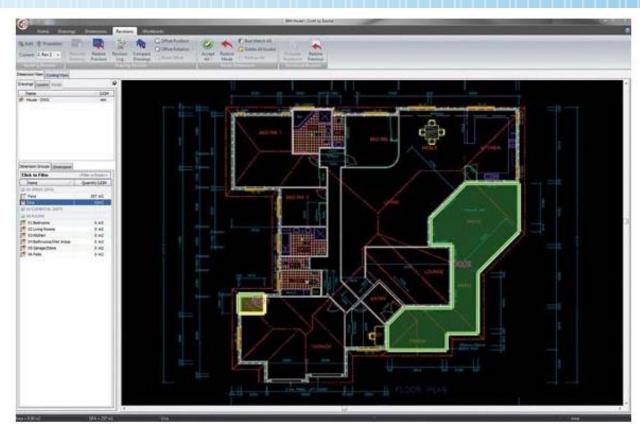


This will help you explain the evolution of the cost plan to your Client and others connected to the project









When revisions occur the software can compare the drawings, highlights the change which allows you to keep an audit trail and update the measurements - this will help you identify scope creep and/or out-of-budget choices.

















# **Quantity Surveying – The Future**

QSs shouldn't fear it. Nothing will ever take over from the experience and expertise of a professional working on a project.

"There can be a very happy coexistence between QSs and BIM. It is not a replacement but a tool - a tool that will cut the amount of time you have to spend on analysis right down and give you the opportunity to direct your talents towards being more creative.





## **Thank You**

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