8292 - Extracting Value from BIM in Construction

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Recent events in NZ have accelerated change in the construction industry.
Contractors are utilising technology to adopt new construction layout workflows.
Value drivers for contractors differ from traditional survey practise.
Evolving Technologies

• BIM
  – Not just ‘big’ projects

• Robotic Total Station
  – Democratising precision layout

• Integrated Workflows
  – Blurring traditional roles
‘BIM to Field’ Workflow

• Continuous
  – Enter or exit the workflow anywhere

• Collaborative
  – May involve multiple stakeholders

• Technology Driven
  – Data exists and exchanged as part of the BIM
Case Study Overview

• Seismic strengthening & upgrade
  – ~1700m² ‘Brownfield’ site working in existing structure

• Structural Steel contractor engaged over 5 phases of work:
  1. Roof Bracing
  2. Panel & Wall Bracing
  3. New mezzanine floor
  4. New canopy & stairs
  5. New suspended ceiling
Model Validation

- Onsite conditions captured
Model Validation – Value

- Enabled confidence in connection design
- Reduced risk of rework during installation onsite
- Reduced risk of delays during installation onsite
Value Drivers for Contractors

- Contractor focus on productivity
- Surveyor focus on accuracy
- Manage the Risk
BIM to Field Challenges

• **Survey Control**
  - Documented and shared (BIM Execution Plan)

• **Data Management**
  - In a 3D environment

• **Services opportunity for Surveyors**

Q. “Where is the control?”
A. “Just use the wall mate”
Conclusions

• Building Information Modelling continues to drive change within the building construction industry
• Evolving technology is allowing Contractors to connect the virtual model to the real site with high precision
• Surveyors have an opportunity to add value with services in this emerging environment