Smart Infrastructure Management

Implementing Building Information Management (BIM) technology and processes in Transport and Main Roads

Noel Dwyer | Engineering and Technology Branch, Department of Transport and Main Roads
What is Building Information Management (BIM) / Digital Engineering?

‘A BIM is a digital representation of physical and functional characteristics of a building or structure forming a reliable basis for decisions during its life-cycle – from conception to demolition.’

– BuildingSMART
Why use BIM / Digital Engineering?

Drives value for money
BIM History

2011
United Kingdom mandate BIM implementation by 2016

2015
Queensland Industry meeting

Queensland Industry engagement

Mar 2016
State Infrastructure Plan 2023 BIM requirements

Mar 2016
Smart Information Communication Technology (ICT) inquiry

Transport and Main Roads dedicated BIM resource

Queensland BIM Working Group (QBIMWG)

National Digital Engineering Working Group (NDEWG)
Parliamentary Inquiry into Smart ICT (Mar 2016)

The inquiry investigated harmonising data formats and creating nationally consistent arrangements for data storage and access.
BIM at the State level

Queensland BIM Working Group (QBIMWG)

**2015**
- Transport and Main Roads established and led.

**2016**
- **Policy Lead** – Department of Infrastructure, Local Government and Planning
- **Technical Lead** – Transport and Main Roads.

**Activities**
- Align with National Digital Engineering Working Group (NDEWG)
- Terms of Reference
- State of Play Report.
BIM in action
Current focus

Drives value for money
Trial specifications

- Project BIM Brief
  - Employer Information Requirements (EIR)
  - BIM Management Plan (BMP)

- Common Data Environment (CDE)
BIM case studies

Angellala Creek Bridge

Wulkuraka Maintenance Centre (NGR)

Mackay Ring Road
Gully Pit Attributes

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<tr>
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Solibri Sectioning
Street Lighting Ducts
Typical Pile design and construction information
BIM pilot

Ipswich Motorway (Rocklea to Darra – R2D)

- R2D EOI released
- Project specific EIR developed
- The department’s standard EIR will be used as the starting template for
  - Cross River Rail project
  - Future Transport and Main Roads major projects
Future Challenges

• IFC File Format Definition
• Data quantity storage
• Management Protocols
• Governance
• Updating Data
• “Digital Amnesia”
Key points

• Digital Engineering to become business as usual on all major projects

• It is NOT just an IT system

• Asset classification is critical to enabling Digital Engineering

• Most of the technology already exists.
Questions

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Thank you