

NATSPEC Strategic Outcomes with BIM Seminar

National Digital Engineering Working Group (NDEWG)

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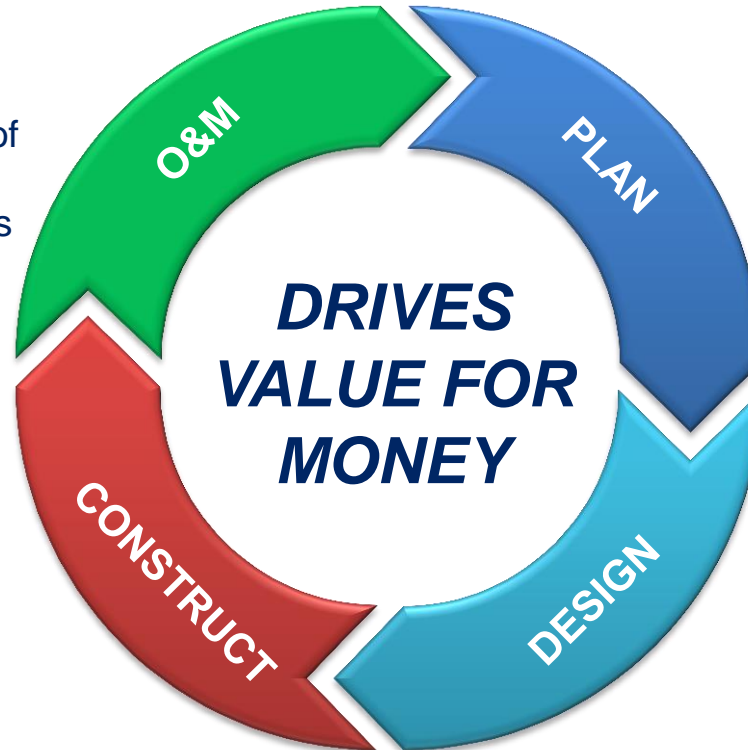
What is Digital Engineering?

DE is a collaborative way of working, using digital processes, that enables more productive methods of planning, designing, constructing, operating and maintaining our assets

This is achieved by creating a **Common Data Environment (CDE)**, that aligns digital information systems and related datasets, such as: CAD, GIS, 3D BIM, electronic document management, project controls (time, cost, risk etc) and asset information

Benefits of Digital Engineering

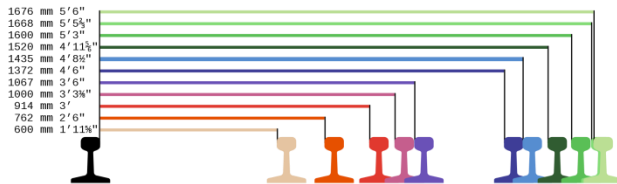
- Seamless data transition (handover)
 - Accelerated understanding of failures or incidents
 - More cost effective decisions
 - More targeted, preventative maintenance
 - Information mobility
-
- Improved safety
 - Reduced risk
 - Improved cost estimating
 - Reduced rework
 - Off-site fabrication
 - Schedule optimisation
 - Improved procurement
 - Enhanced as-built data capture



- Reduced risk
 - Improved cost certainty
 - Improved baseline data
 - Improved optioneering for faster decisions
 - Reduced site investigation
 - Improved prior knowledge
-
- Improved design coordination
 - Transparency of decisions
 - Clash detection
 - Improved accuracy & drawings
 - Early visualisation
 - More effective consultation
 - Improved configuration control & requirements management

Drivers for a National Approach

- ★ Respond to expectations for **government leadership**
- ★ **Improve investment** in government infrastructure
- ★ Harness emerging digital technologies for **whole-of-life benefits**
- ★ **Reduce complexity** for supply chain
- ★ **Align strategies** across jurisdictions
(and avoid modern-day rail gauge issues!)

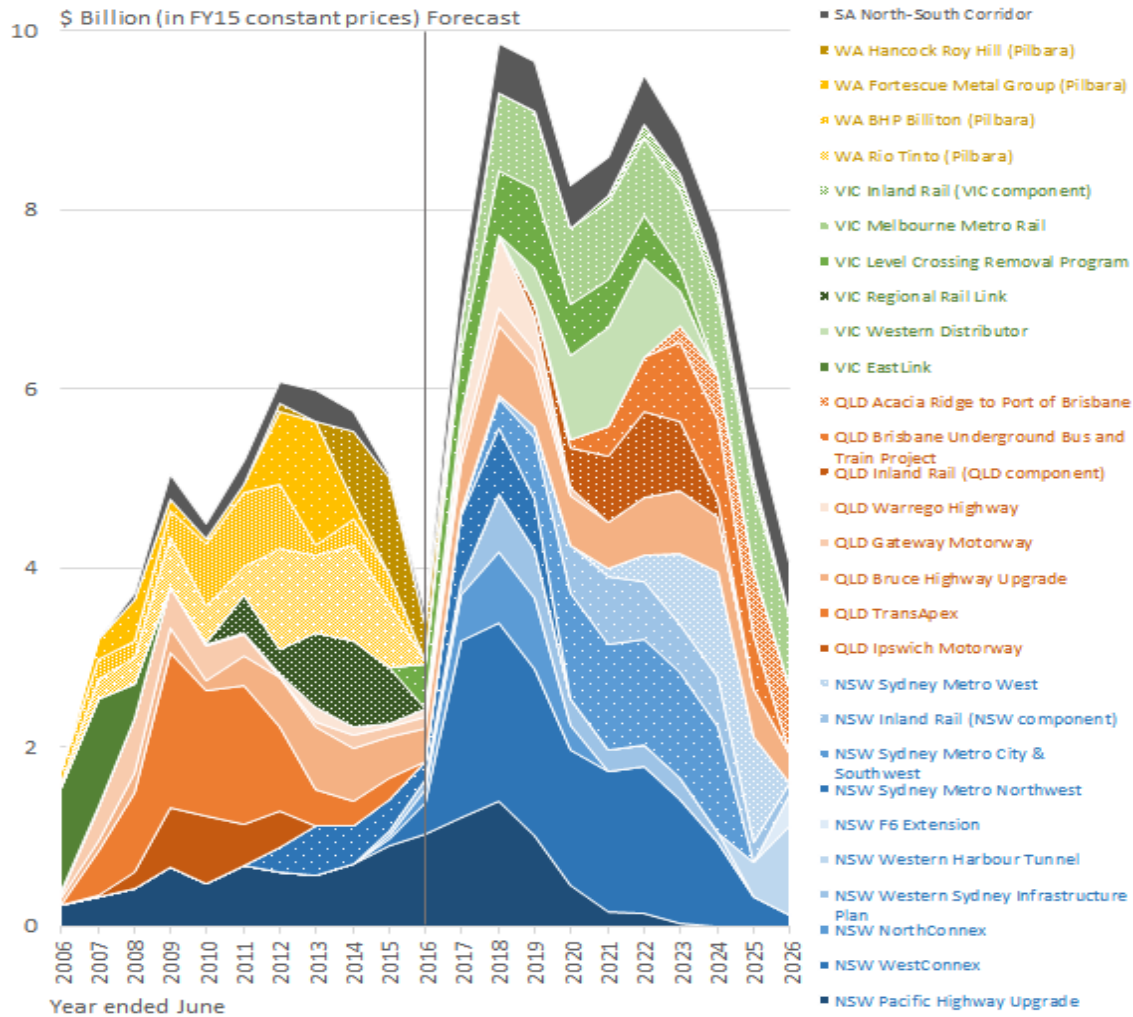


Source: [Wikipedia](#)



Source: [Trainweb.org](#)

Australia's Major Transport Projects



Key:

SA

WA

Victoria

Queensland

NSW

Chart indicates projects with over \$2bn in construction works

Solid area – Road projects
Dotted area – Rail projects

Source: [BIS Shrapnel](#)

National Digital Engineering Working Group (NDEWG)

Vision:

To enable the benefits of Digital Engineering (incorporating BIM) to be optimised for development, delivery and management, of land transport infrastructure.

Objectives include:

- Alignment of jurisdictions towards a nationally consistent approach
- Learn lessons from all sectors and international experiences
- Develop common understanding of DE for public sector infrastructure
- Build capability and promote uptake of DE

Membership

- Established in April 2016
- 16 members from 7 Governments (Commonwealth and Jurisdictions)

Commonwealth Government



Department of Infrastructure and
Regional Development



• Dept of Infrastructure,
Planning & Logistics



• Dept of Infrastructure, Planning
and Local Government
• Dept of Transport & Main Roads



• Transport for NSW
• Roads and Maritime
Services



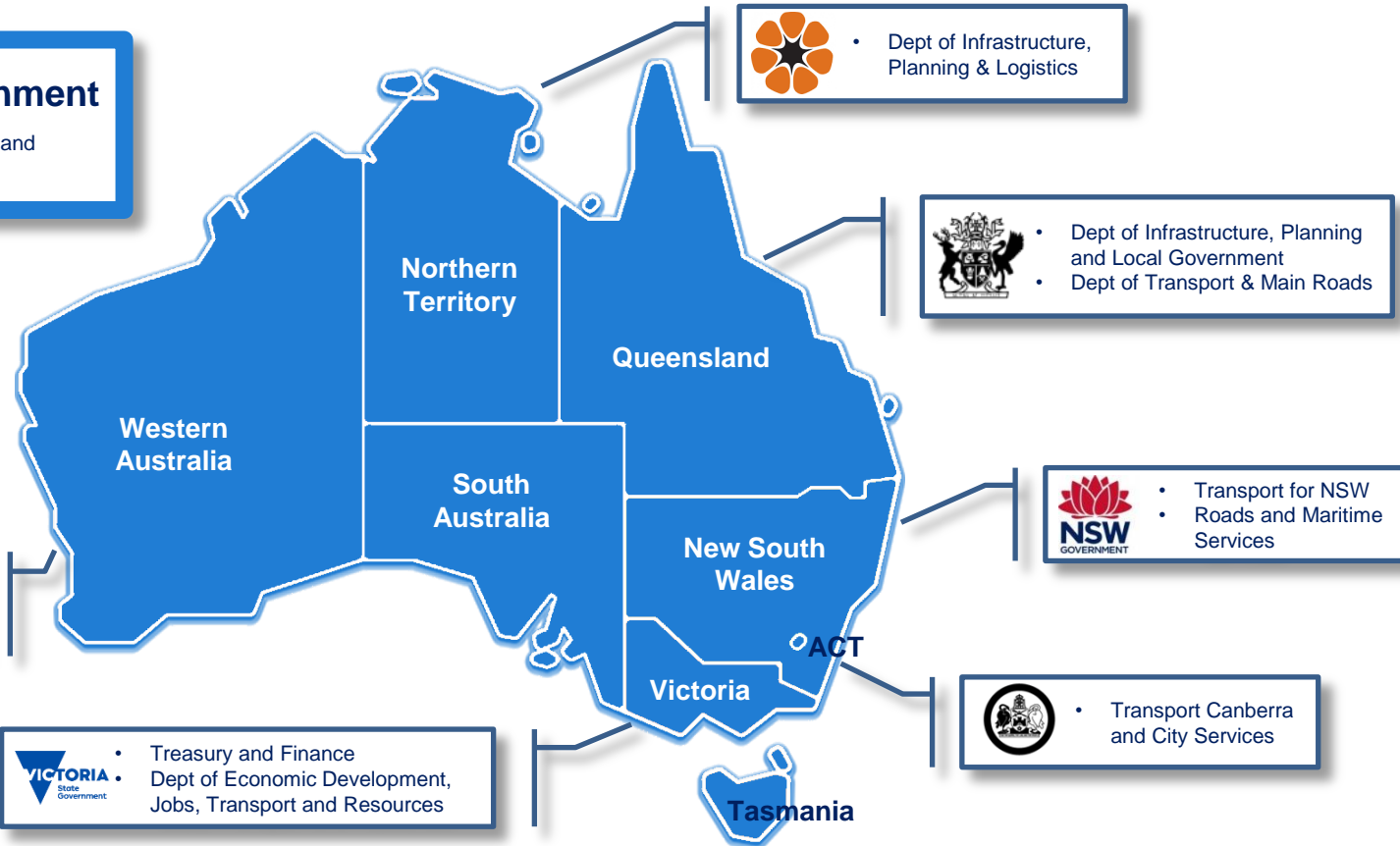
• Transport Canberra
and City Services



• Treasury and Finance
Dept of Economic Development,
Jobs, Transport and Resources



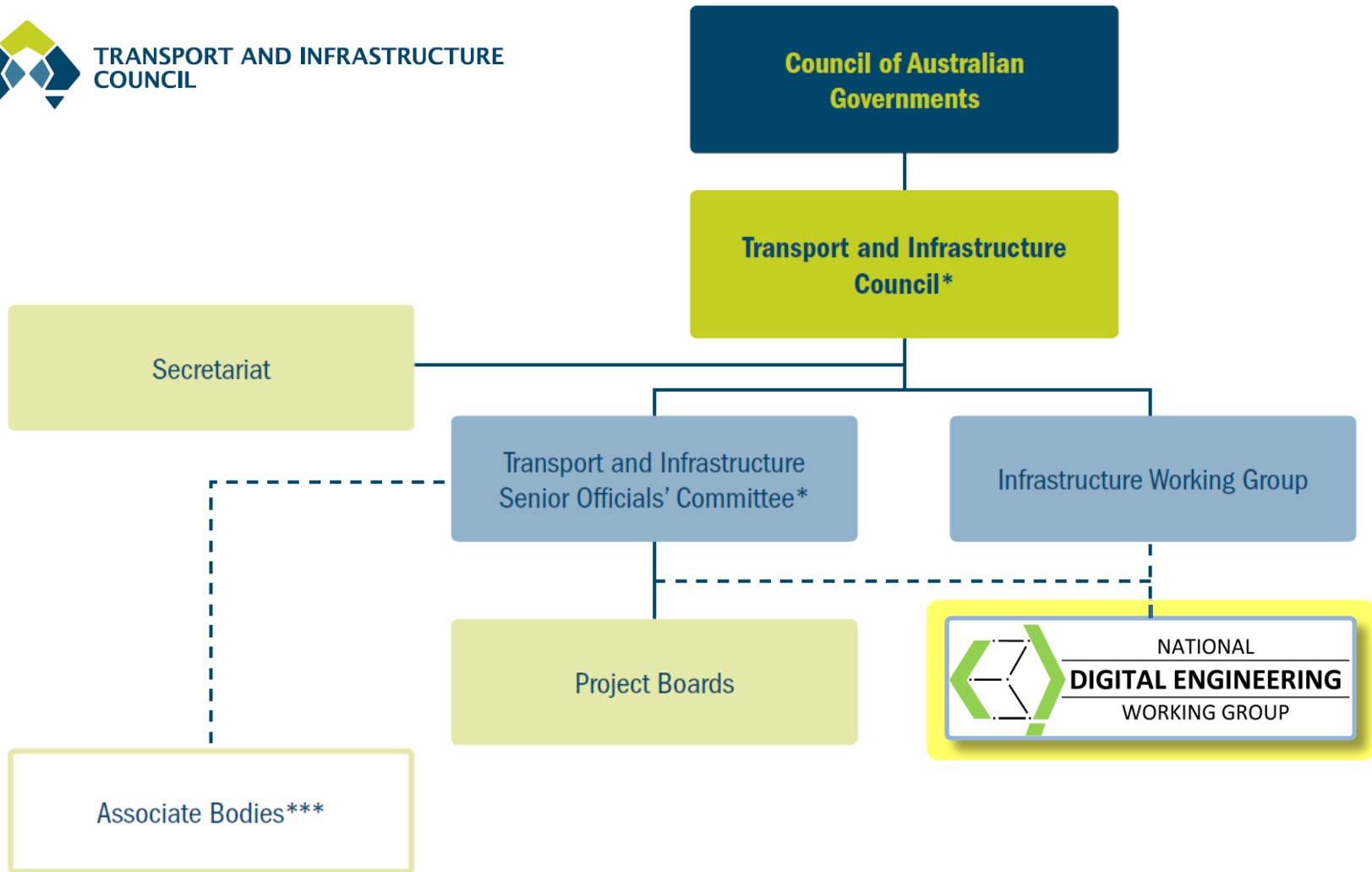
• Treasury
• Public Transport Authority



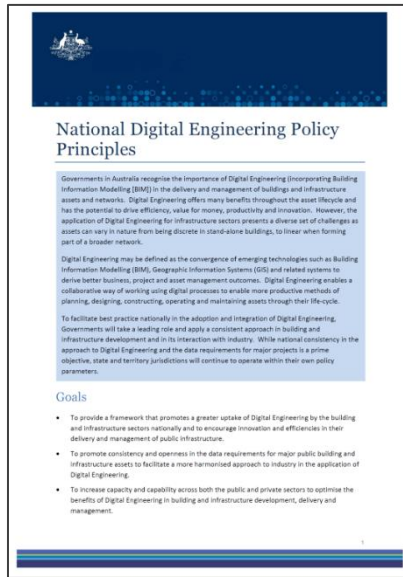
Governance



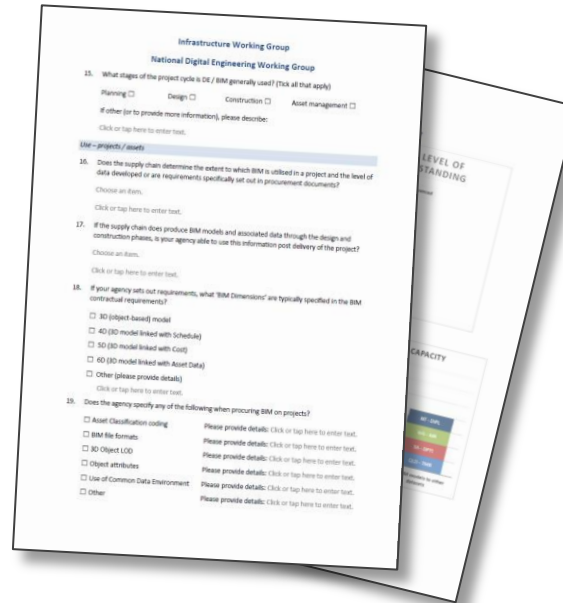
TRANSPORT AND INFRASTRUCTURE
COUNCIL



Progress to-date



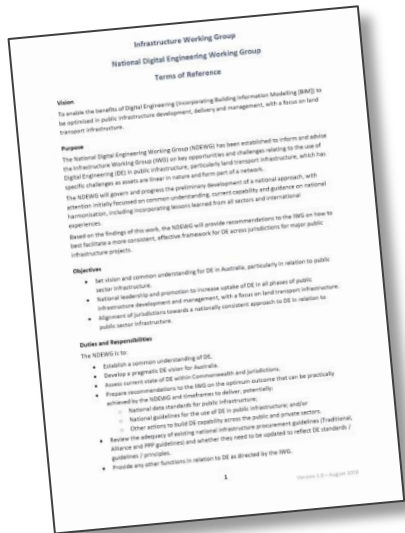
National Principles



National Government Baseline Survey



Industry Consultation



Terms of Reference

Source: [Dept of Infrastructure and Regional Development](#)

Industry Consultation



NATSPEC



National DE Policy Principles

Goals

Provide Framework

Consistent, Open & Harmonised

Build Capability

Principles

Consistent & Scalable

Open & Harmonised

Whole of life

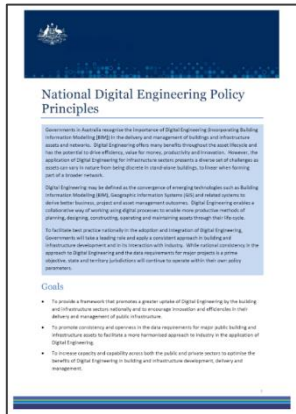
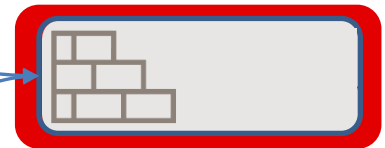
Convergence with GIS

Foster Collaboration

Capture Knowledge

Build Capability

Possible Workstreams



Questions?



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