



CPD  online

# Australian Capital Projects – Risk Management, Project Controls and COVID-19





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Director of KPMG Australia

2 June 2020



ENGINEERS  
AUSTRALIA



RISK ENGINEERING  
SOCIETY

Risk Engineering Body of  
Knowledge (REBOK)

# Australian Capital Project, Risk Management, Project Controls, and COVID-19

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June 2020





# Introduction & Disclaimer



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# Agenda for Today



- Brief Introduction to KPMG Major Projects Team
- Australian Capital Projects
  - Life before COVID-19, challenges
  - Life with COVID-19, risks & uncertainties
  - Life beyond COVID-19, opportunities
- Q&A

# KPMG Major Projects Advisory



We partner with our clients to plan for and achieve **success** and the **optimum value** of an **effective PMO**, along their project and asset lifecycle.

## Planning Support

The strategic planning and project support function is focused on supporting management decision-making. This will typically include ensuring project alignment with strategy, prioritisation, benefits realisation management, reporting via management dashboards, and supporting the escalation of risks, issues, changes and decisions.



## Centre of Excellence

The CoE function is focused around supporting all areas of projects and establish support projects. Services include facilitation and coaching to support the effective planning, mobilisation and ongoing control of the projects, including systems, processes and procedures, competencies, legacies, and lessons learnt as well as the development of the required strategies/frameworks and their support.

## Independent Assurance

This function provides oversight, scrutiny and challenge of projects to ensure that the agreed outcomes are delivered and the associated benefits realised.

In addition, an independent regular quantitative risk assessment measures and monitors confidence levels in achieving project key objectives.

## Delivery Support

The delivery support function provides specialist support to projects, particularly early in a project to help ensure consistent and fast-tracked project implementation. This support can also be provided at any stage throughout the project's lifecycle where specialised support or skills development is needed.

# Life before COVID-19







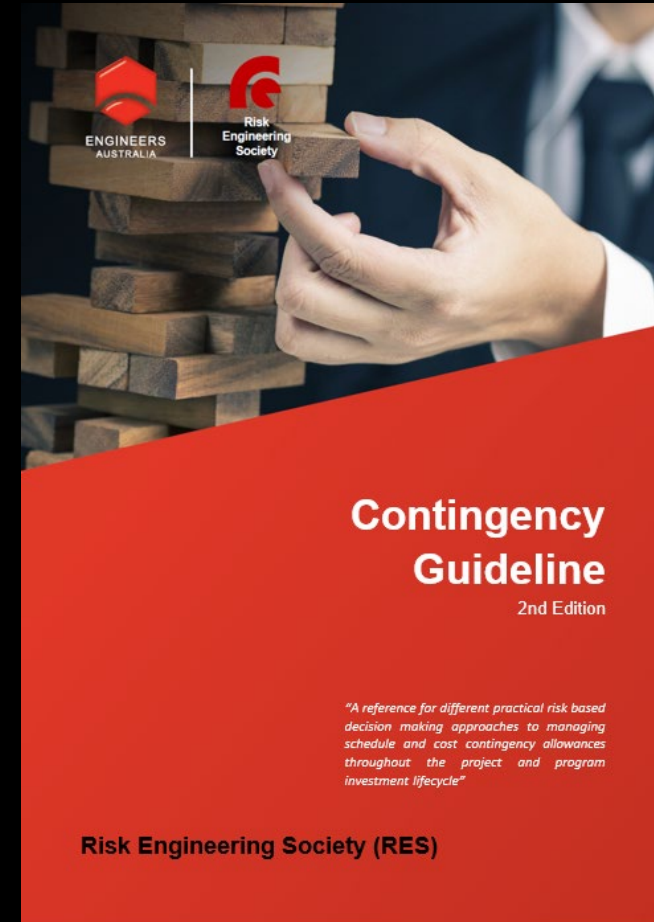
Actually, EVERYTHING WAS **NOT** AWESOME

2001-2016, Transport, **\$28b** more, Aus  
RCR Tomlinson collapsed after **120 yrs**, Aus  
High Speed 2, UK  
Crossrail, UK  
Hong Kong-Zhuhai-Macao Bridge  
Grand Paris Express, France  
Muskrat Falls hydro-electric, Canada  
California High Speed Rail, US  
Carillion, UK

**Transparency**  
**Accountability**  
**Culture**  
**Technology & Data**  
**Strategic Misrepresentation**  
**Risk & Contingency Management**

- An **INTERESTING** Journey since **2013!!**

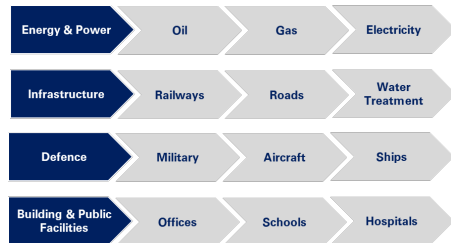
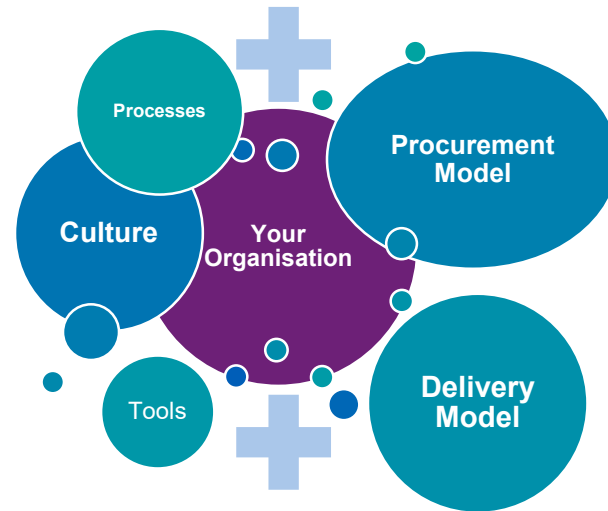
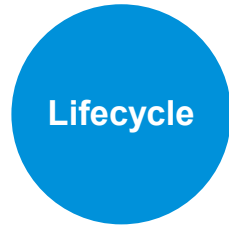
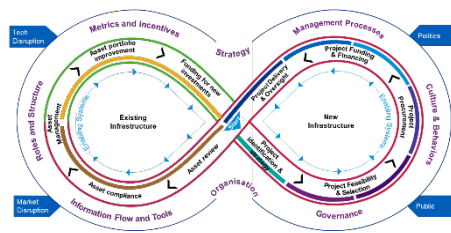
*“A reference for different practical risk based decision making approaches to managing schedule and cost contingency allowances throughout the project and program investment lifecycle”*



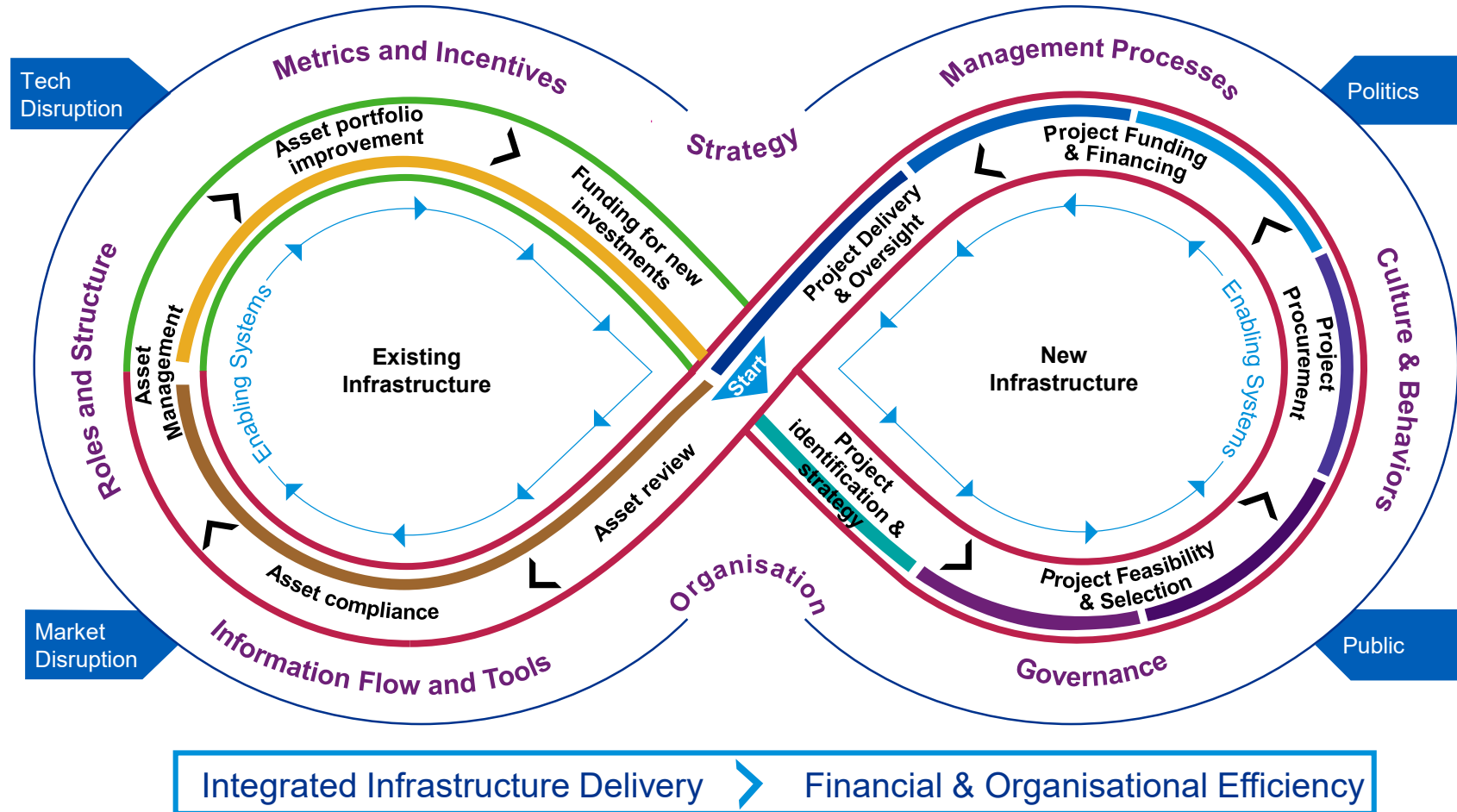
# Life with COVID-19



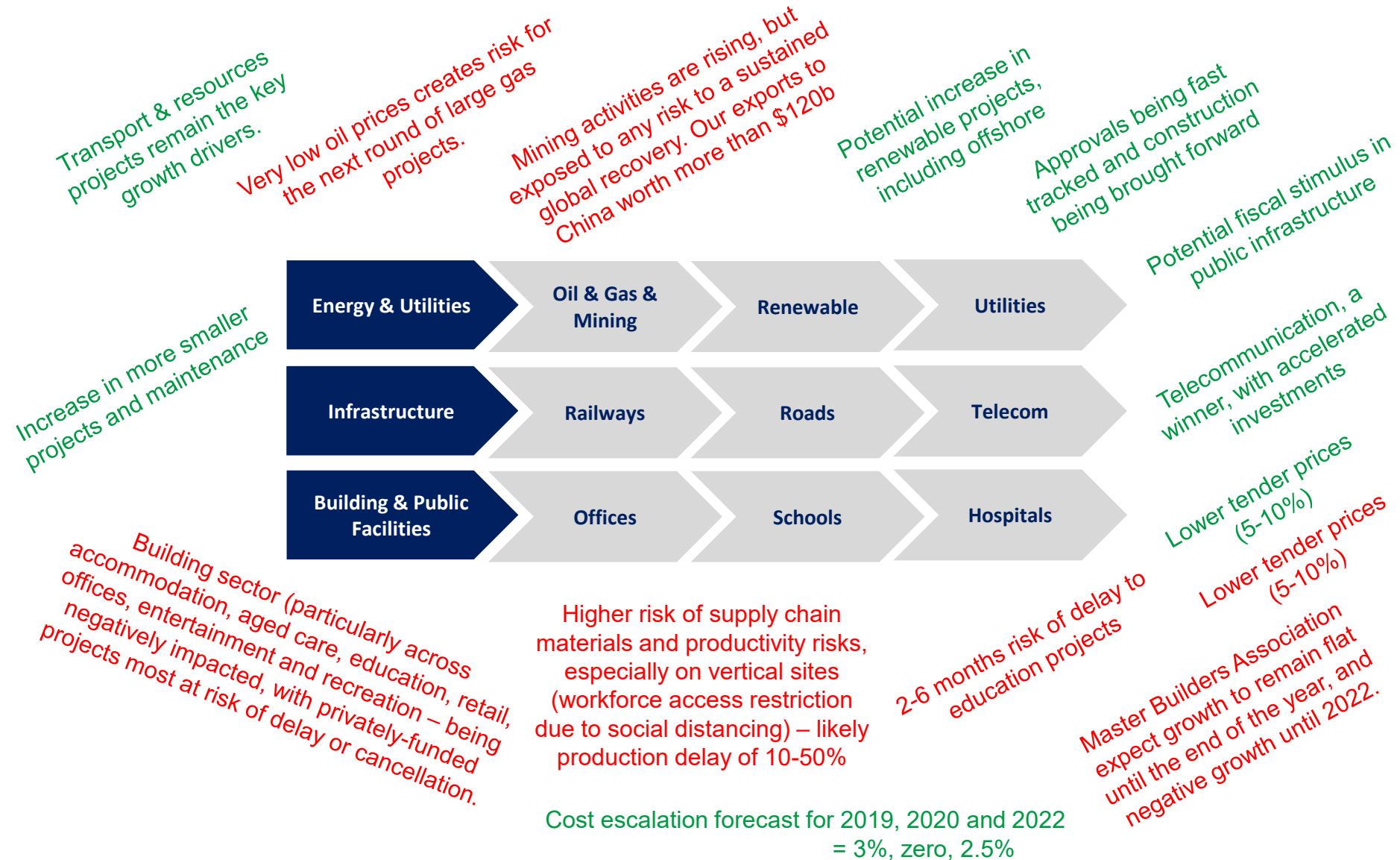
# Capital Projects & COVID-19 – Conte



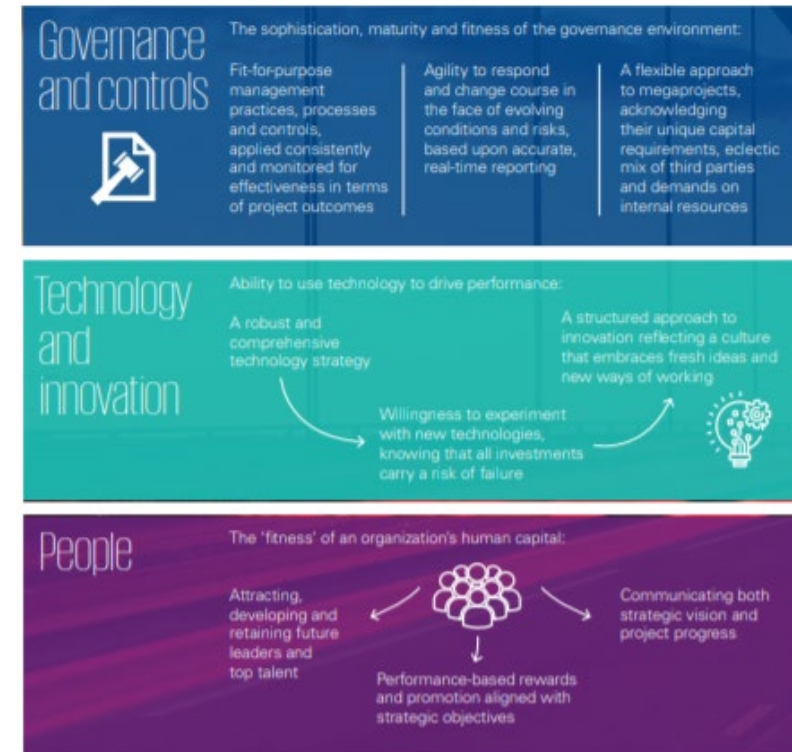
# Capital Projects & COVID-19 – Lifecycle



# Capital Projects & COVID-19 – Sector



# Are we ready for challenges ahead?



# Future-Ready Index – Australia



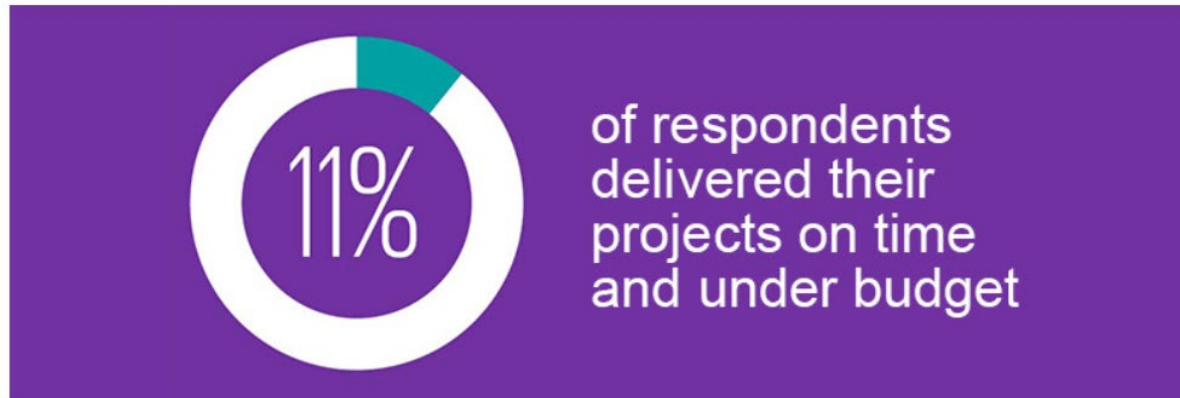
**No**  
Integrated Project  
Controls



**Partial**  
Integrated Project  
Controls

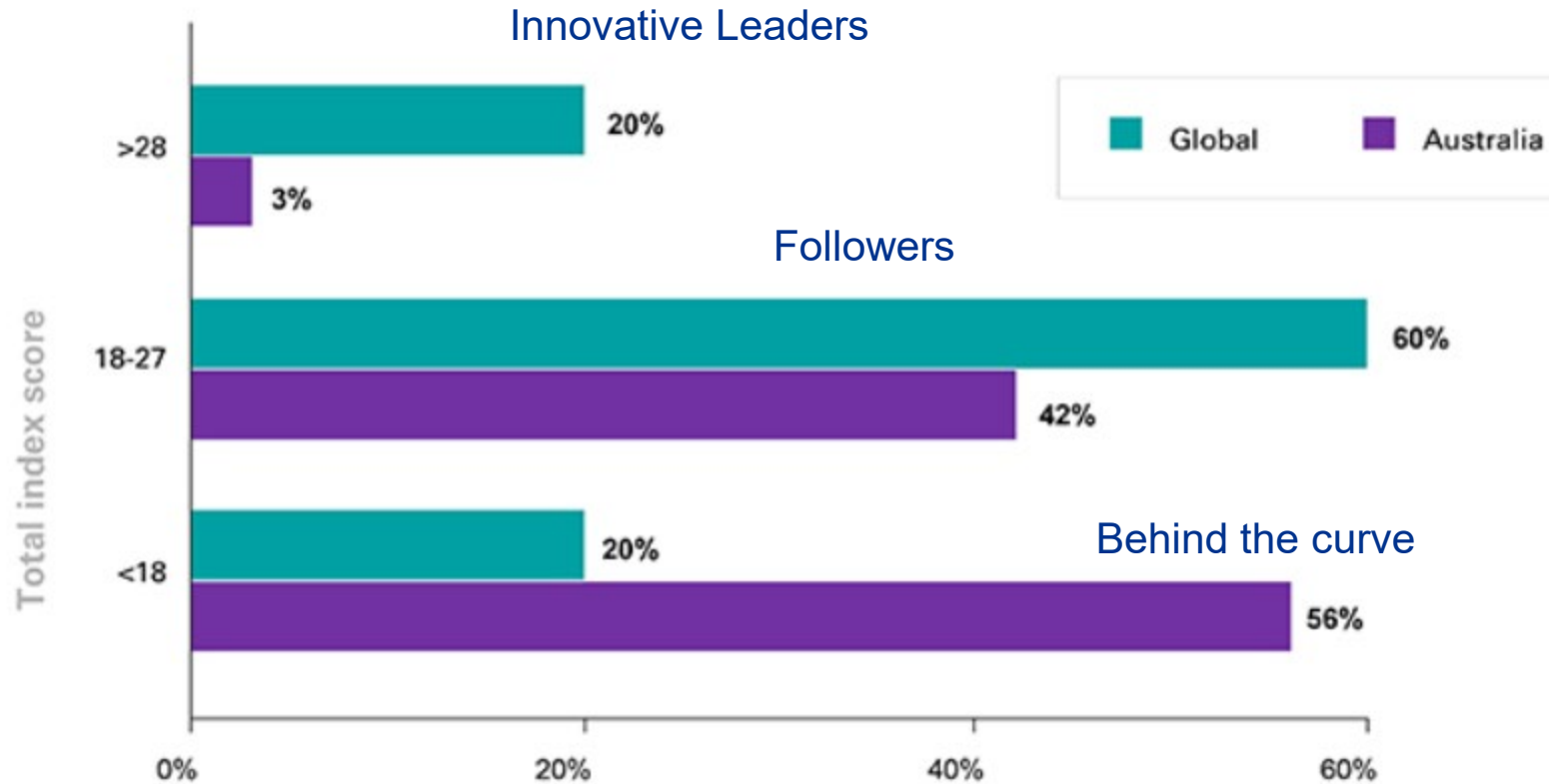


**Full**  
Integrated Project  
Controls





# Future-Ready Index – Australia vs. Global



# TIME FOR CHANGE

# Life beyond COVID-19

# Opportunities to address challenges

- Poor prioritisation leading to funding of **wrong projects**
- **Misrepresentation** of risks and uncertainties
- Not suitable **procurement model** for project risk profile
- Optimism bias on **reliable project cost and timing**
- Reactive project risk management rather than **proactive**
- Qualitative risk assessment rather than **Quantitative Risk Analysis**
- Inefficient use of **technology and data analytics**
- Not regularly measuring the **likelihood of success (assurance)**
- Poor transparency of project **decision making**
- Poor determination and management of project **contingency**

# Action Plan – Development Phase



- Establishing suitable PMO & Project Controls
- Establishing effective Enterprise Risk Management (ERM)
- Establishing effective Assurance Program
- Define best material spec's & supply chain
- Select appropriate procurement and delivery method, e.g.
  - Advanced payment and owner supply material
  - Including phased delivery
- Undertake Quantitative Risk Analysis
- Become 'digitally native', e.g.
  - Remote working
  - Drones for progress measurement
  - BIM (including 4D and 5D)
  - Web-based project management and controls platform
  - Collaboration platforms



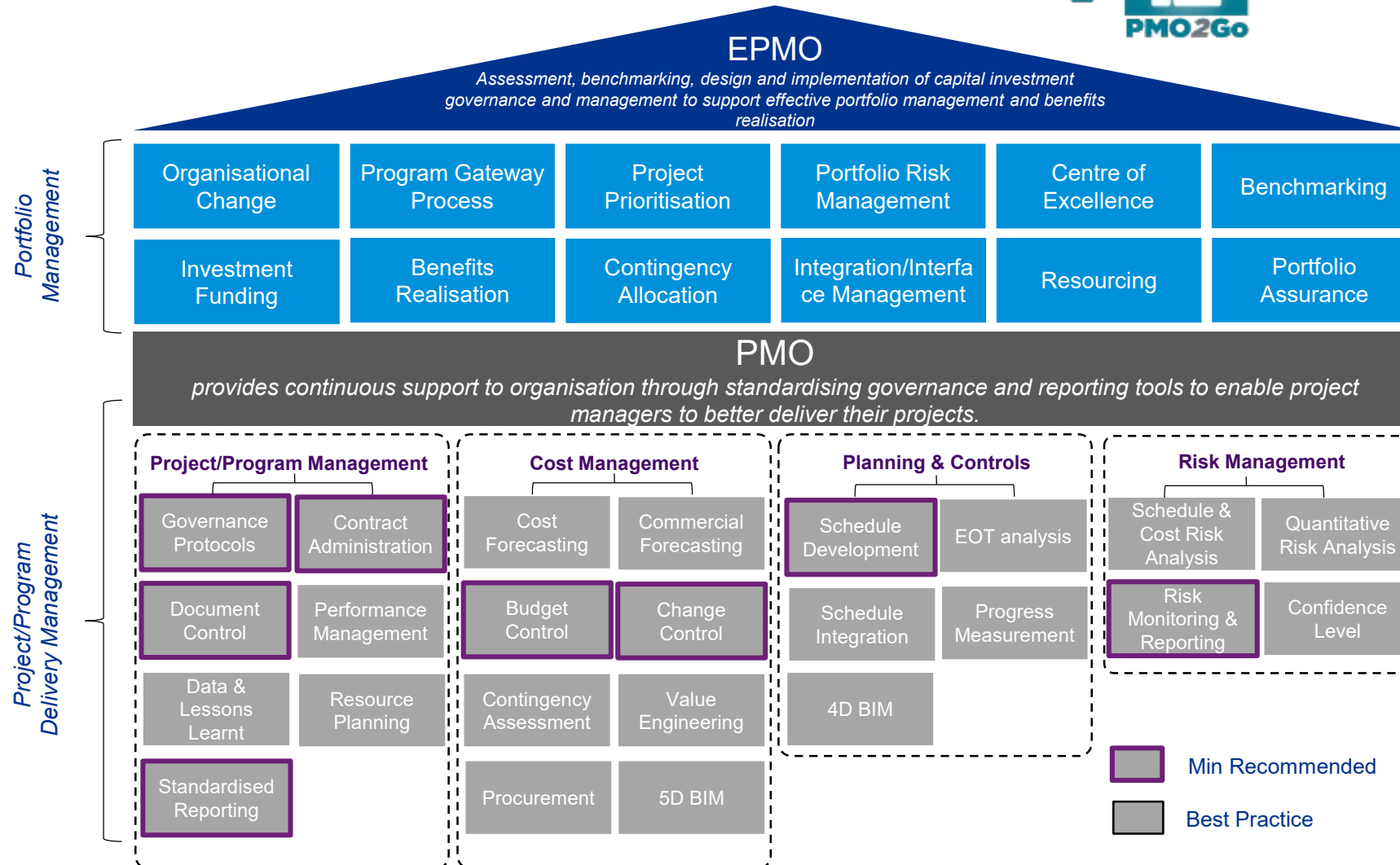
# Action Plan – Construction Phase



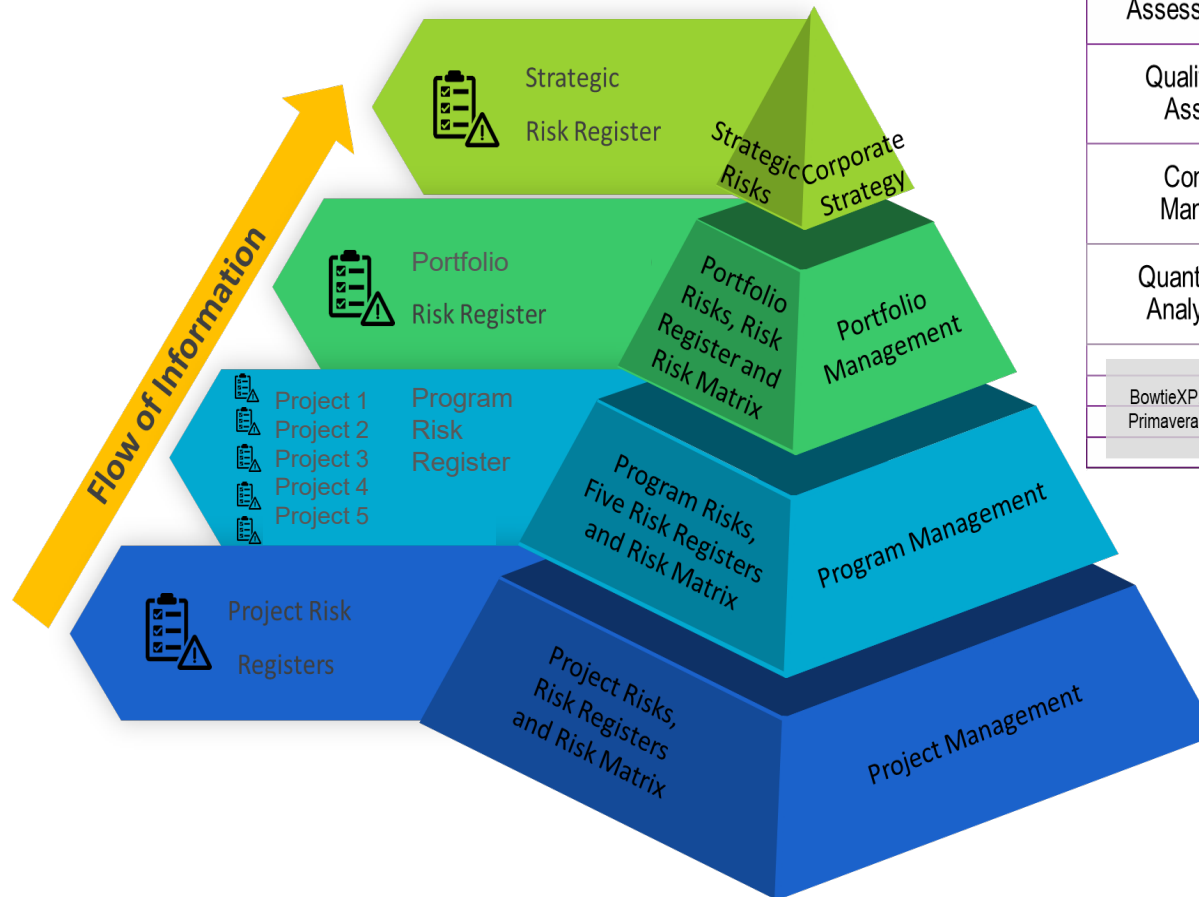
Previous initiatives plus:

- Undertake Contract Review, e.g. obligations, NOD/EOT clauses, termination clauses, liabilities, deliverables, certifications, etc.
- Consider additional shifts or different labor agreements
- Regular Quantitative Risk Analysis (QRA) for both cost and schedule
- Regular schedule and cost health check & forecasting
- Capture data and use data analytics

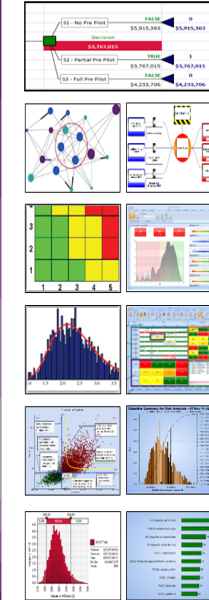
# Effective PMO & EPMO



# Effective Enterprise Risk Management (ERM)



Risk-Based Decision Making (RBDM)	<ul style="list-style-type: none"> <li>Quantitative Decision Trees</li> <li>Probabilistic Optimisation</li> </ul>
Dynamic Risk Assessment (DRA)	<ul style="list-style-type: none"> <li>Bowtie Risk Analysis</li> <li>DRA</li> <li>Enterprise Risk Management</li> </ul>
Qualitative Risk Assessment	<ul style="list-style-type: none"> <li>Risk Workshop Facilitation</li> <li>Risk Register</li> </ul>
Contingency Management	<ul style="list-style-type: none"> <li>Contingency Determination</li> <li>Contingency Allocation</li> <li>Contingency Control</li> </ul>
Quantitative Risk Analysis (QRA)	<ul style="list-style-type: none"> <li>Joint Confidence Level (JCL)</li> <li>Schedule/Cost Risk Analysis</li> </ul>
<b>Tools and Technologies include:</b> BowtieXP, DRA, Palisade Decision Tools & @Risk, Oracle Primavera, Primavera Risk Analysis, Deltek Acumen Fuse & Risk, Risk Facilitator, CURA, Active Risk Manager (ARM)	



# Effective Assurance Program



Focus Areas for Assurance							
Governance Structures	Budgeting and Estimating Standards	Corporate Policies and Standards	Environment, Health and Safety Standards	Reporting Standards	Resource Management Standards	Quality and Technical Standards	Schedule Management



**Transparency  
Accountability  
Culture**

**Technology & Data**

**Strategic Misrepresentation**

**Risk & Contingency Management**



# Integrated Project Engineering Congress

Risk | Project Controls | Systems Engineering | Asset Management Council | College of Leadership & Management

May 2021

COMING SOON





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# Thank you

Today's presenter:

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Community of Practice