

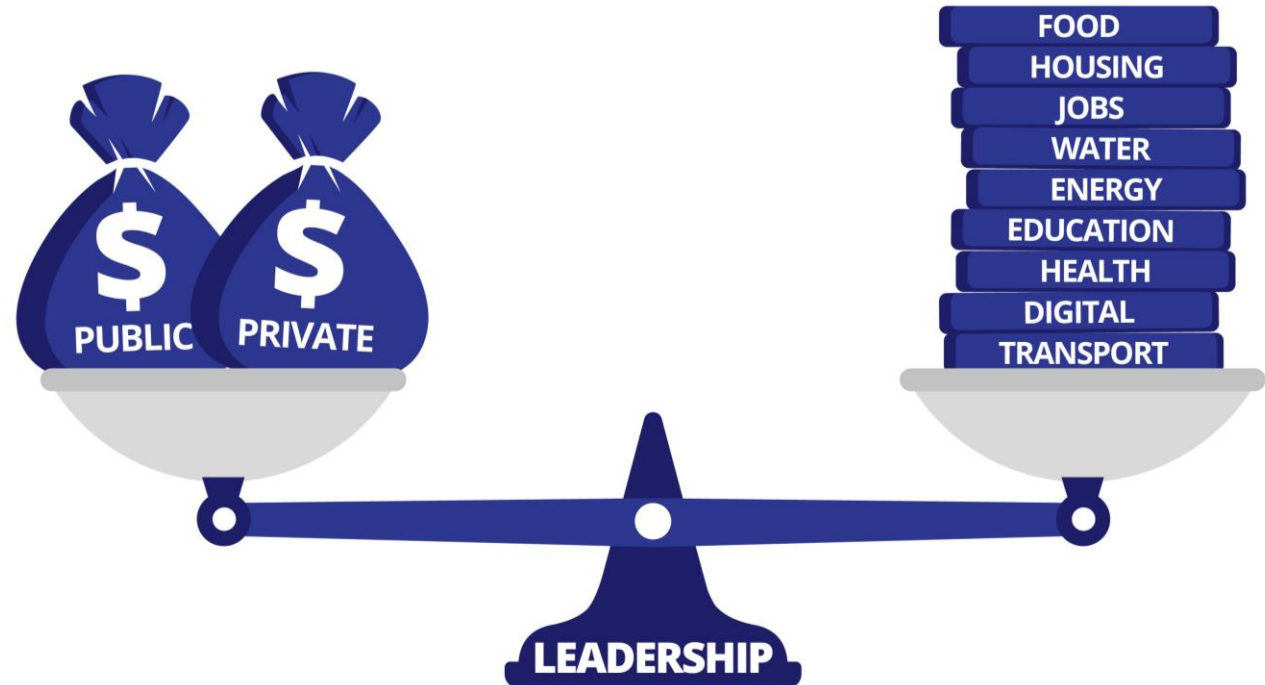


# Infrastructure Association of Queensland Inc - IAQ

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CEO

# The IAQ 'why'

Fostering cooperation between governments and private sector to collectively build a stronger Queensland.



# IAQ Members



Collaboration is in our DNA – Queensland heart + global thinking



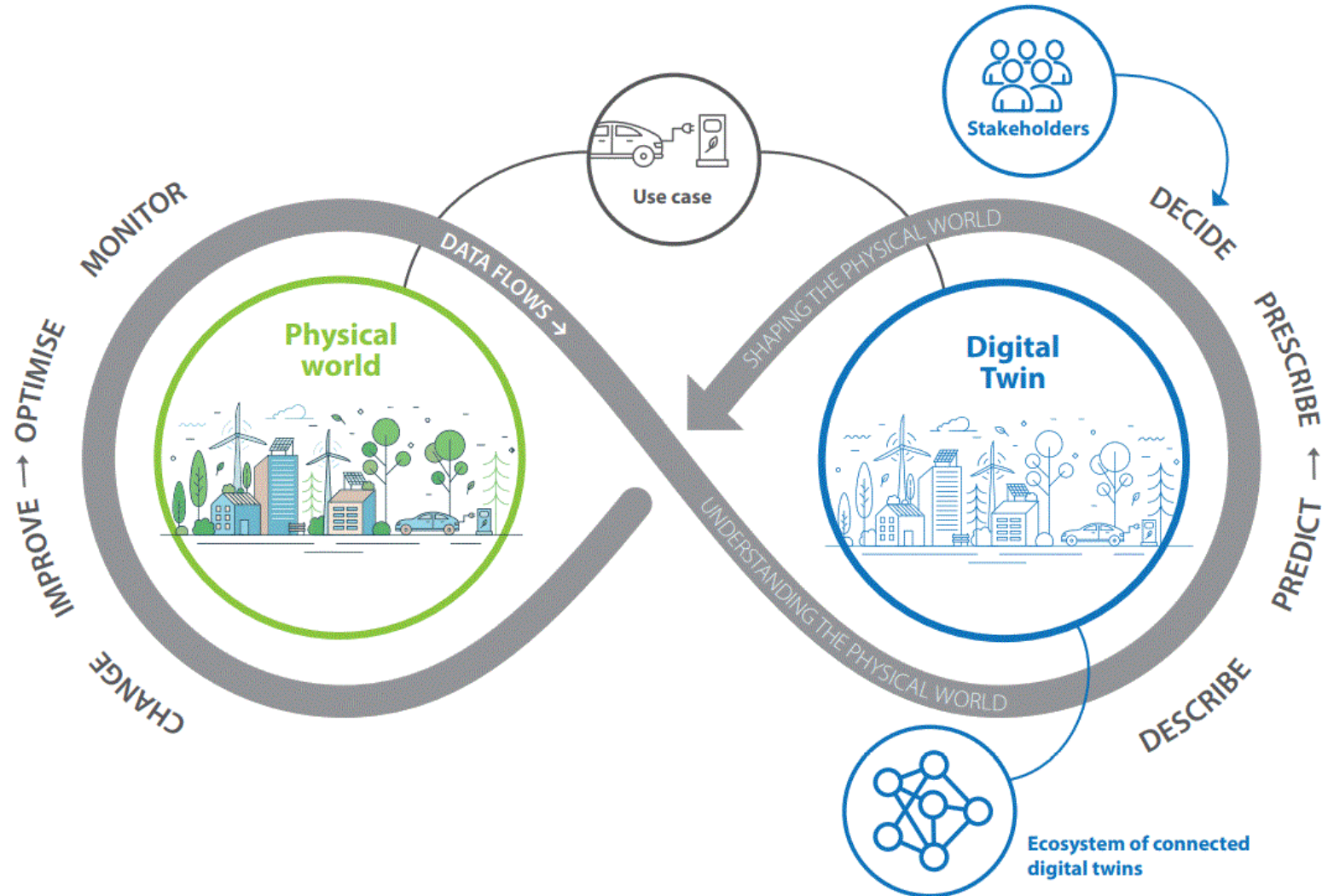
We represent the entire infrastructure ecosystem – people are key to good process...



Major corporates, SME's and sole traders

# Embed and move beyond BIM – IMF is key

A DT applies to the **whole life** of the asset and can be leveraged during planning, construction and operations to make better decisions. BIM policy foundational & Cross River Rail & Brisbane Metro provide great ‘use-cases’ to build out from.



*"The key purpose of a digital twin is to enable better decisions faster, creating benefits through financial, environmental or socio-economic value."*

*"They are not a new fad; they are an inevitable step on your data journey."*

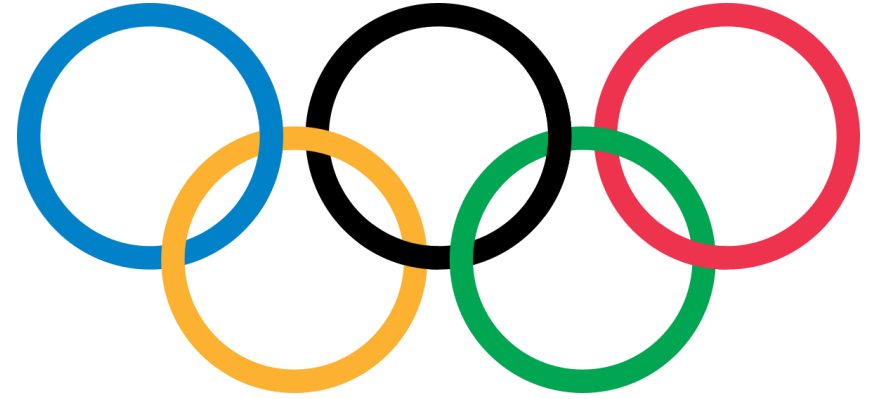
Source: UK Digital Twin Hub

# 2032 Games

A built environment and digital connectivity legacy and leadership legacy

Once in a generation opportunity to invest in our digital system-to-system framework to build connectivity.

We can test our future scenarios with real data to create the best planning policies, make good long-term decisions and correctly prioritise infrastructure spend and land use and event manage the Games!



# IMF – start today build over time

## Digital Dashboard

*A simple example - each builds upon another to form an interconnected system to system ecosystem*



Figure 5. Application of the use case framework to electric vehicle charging

Source: UK Digital Twin Hub

# Mapped pathways to follow

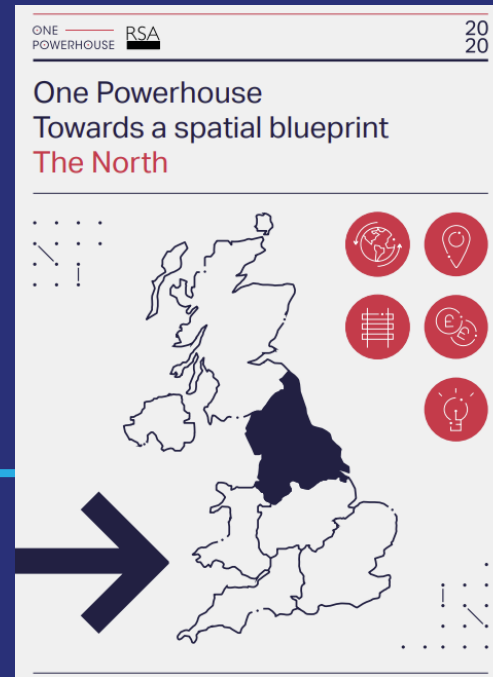
Closer to home examples as well e.g. Living Singapore

Could we partner with Paris and LA to learn lessons and feed into process?

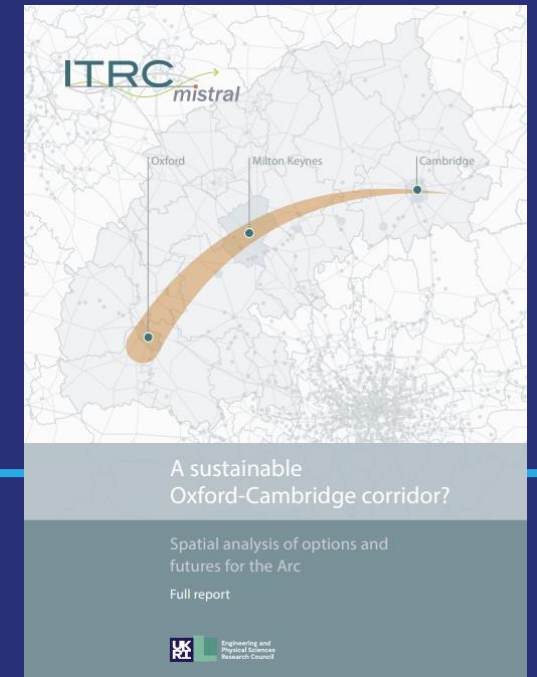
Think of a twin as a “time machine” for all the processes we would map - consider the timeline of development on all fronts from now until past the Olympics - critical big processes and twining of these



The Pathway Towards an Information Management Framework: A Commons for a Digital Built Britain, sets out the technical approach for the development of an Information Management Framework (IMF) to enable secure, resilient data sharing across the built environment.



A spatial blueprint for the Northern Powerhouse. It has been developed having regard to the existing extensive network of economic, social, environmental and urban plans across the North at various levels of spatial geography.



Independent systems-based analysis of the implications of future change, and provide new insights into the implications of the major policy themes related to population change and new transport infrastructure

# Resource links

Materials for this presentation were drawn from member insights and:

- <https://www.itrc.org.uk/wp-content/uploads/2020/01/arc-main-report.pdf>
- <https://www.cdbb.cam.ac.uk/what-we-do/case-studies-tools-and-guidance>
- [https://www.cdbb.cam.ac.uk/files/cdbb\\_econ\\_value\\_of\\_im\\_report.pdf](https://www.cdbb.cam.ac.uk/files/cdbb_econ_value_of_im_report.pdf)
- <https://www.cdbb.cam.ac.uk/what-we-do/national-digital-twin-programme/explaining-information-management-framework-imf>
- <https://tomorrow.city/a/singapore-experiments-with-its-digital-twin-to-improve-city-life/>
- <https://www.digitaltwinhub.org/blueprint>
- <https://data.nsw.gov.au/IDMF/data-management-and-practice/data-security>
- See also reference documents sent to Deborah

*Main member contributors were – Arup, Atkins, DBM Vircon, ESRI Australia, GHD, Logikal & WSP. Noting short time period to respond other members have since provided comment and there is deep and broad interest to assist.*



# Digital Twin

## Data is at the core not the platform

- What are the aims/outcomes we are seeking.
  - We need to determine the value drivers and design for value – government is the major benefactor.
  - Consider scale where we start and where we think we might end up to ensure the use of ONE framework.
  - Technology agnostic and consider cyber security.
  - This will give us the lenses to look through.
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- **There is a job to understand and assimilate the existing data (and the stakeholders that own this) and plug the gaps – start now fantastic digital data analysis tools (inc AI) can assist to capture and create data integrity.**
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- Align industry, academia and government on this agenda – governance is more foundational than the ‘tech’.
  - Then develop the roadmap and choose and design the platform to start scenario planning.
  - This provides the clear evidence to inform decisions.
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# IAQ suggestions

1. Embed and move beyond BIM, partner with industry and academia to think bigger but *build incrementally*
2. Use the 2032 Games as the catalyst - embed digital as central to the OCA and / or City Deal mandate
3. Create the infrastructure plan to match the venues plan embedded within this transformational data driven approach – **Digital Dashboard (framework)**
4. Infrastructure Australia new Digital National Commission recommendation –amazing pilot program seek \$\$\$
5. Start collecting the data NOW across agencies this is KEY – cyber security considerations
6. Develop the ONE framework for the 2032 Games across transport and venues and then scale beyond
7. Think about demand management and security and emergency response – can the framework be adopted and shared and paid for across host cities?
8. IAQ already in discussion to co-design and deliver a panel session on Digital Innovation as an efficiency enabler
9. IAQ can host a collaboration symposium to bring all the players together and hear from use cases, practitioners, academics globally and agencies to commence a roadmap and articulate the cost versus benefit business case. Singapore and UK clients are already lined up though our members when you are ready 😊



# Thank you

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