



**CROSSRIVERRAIL**  
DELIVERY AUTHORITY

# Graeme Newton

## Chief Executive Officer



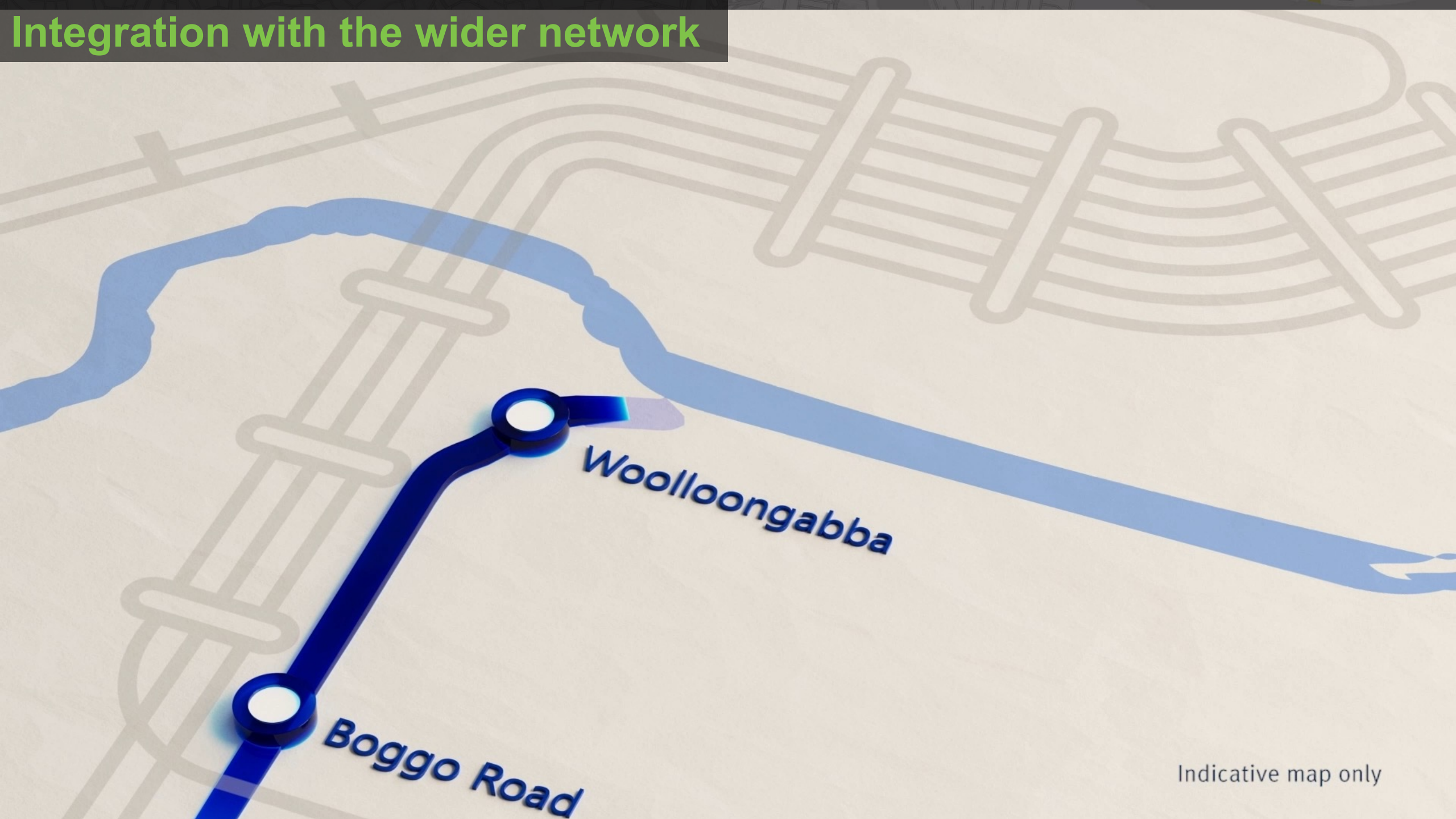
*We acknowledge the Traditional Owners of this Country and the place of our meeting, and recognise the continuing connection to lands, waters and their communities.*

*We wish to pay our respects to the culture of our First Nations Peoples and to Elders past and present.*





# Integration with the wider network



Indicative map only



# Unlocks a bottleneck at the core of our network

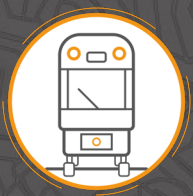
- A single inner city rail line bypasses the CBD
- A single river crossing constrains capacity
- Every train on the network must pass through the same four inner-city stations





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# More than just an underground



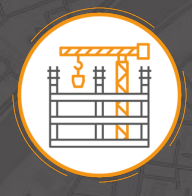
**10.2** km  
new rail line



**5.9** km  
twin tunnels



**4** new  
underground  
stations



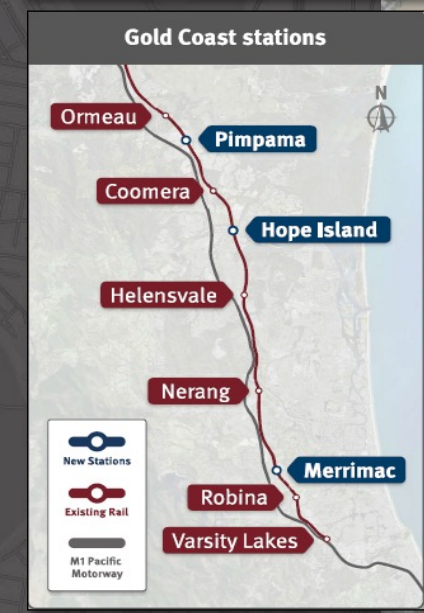
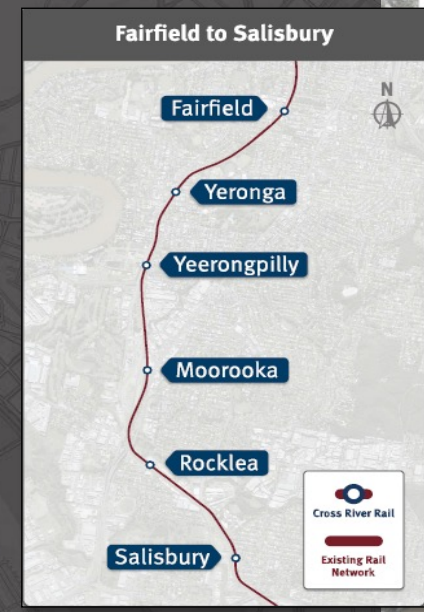
**8** surface stations  
and **2** stabling yards



**3** new Gold  
Coast stations



**1** new world class  
signalling system





# A catalyst for wider rail transformation

Current QR rail network map:



Released 2 August 2022:

**SEQ Rail Connect**  
Preparing South East Queensland's rail network for the future

Department of Transport and Main Roads

Queensland Government

This banner features a photograph of a modern train station platform with a large, geometric roof structure. People are seen walking on the platform, and a train is visible in the background. The text 'SEQ Rail Connect' is prominently displayed in white on a dark blue background, with the subtitle 'Preparing South East Queensland's rail network for the future' below it. The Queensland Government logo is in the bottom right corner.

Future rail network map:





# Gold Coast Faster Rail

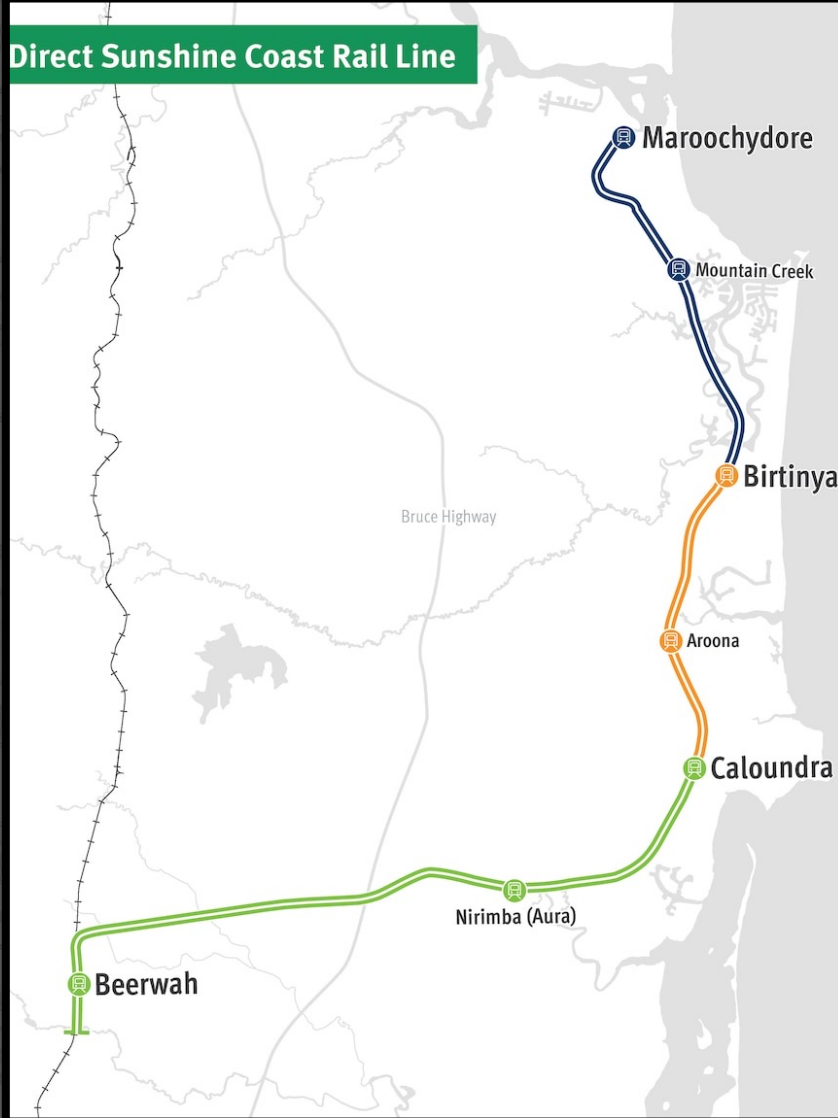
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# New Sunshine Coast line

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**Artist Impression of Future Sunshine Coast Station**









**A project getting real...**



Already completed



Yeronga station



Mayne Yard North



Twin Tunnels



Fairfield station

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# Exhibition









**Date:**  
**Name:**  
**Division:**



Commercial-in-Confidence.



**Queensland**  
Government



**Date:**  
**Name:**  
**Division:**



Commercial-in-Confidence.



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Government



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# Dutton Park station rebuild

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# Six stations Fairfield to Salisbury



Fairfield station



Yeronga station



Yeerongpilly station



Moorooka station



Rocklea station



Salisbury station

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# Rocklea station rebuild

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# Gold Coast stations



## Pimpama



## Hope Island



## Merrimac





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# ETCS - Train fitment

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# ETCS - Testing

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# Station Art...

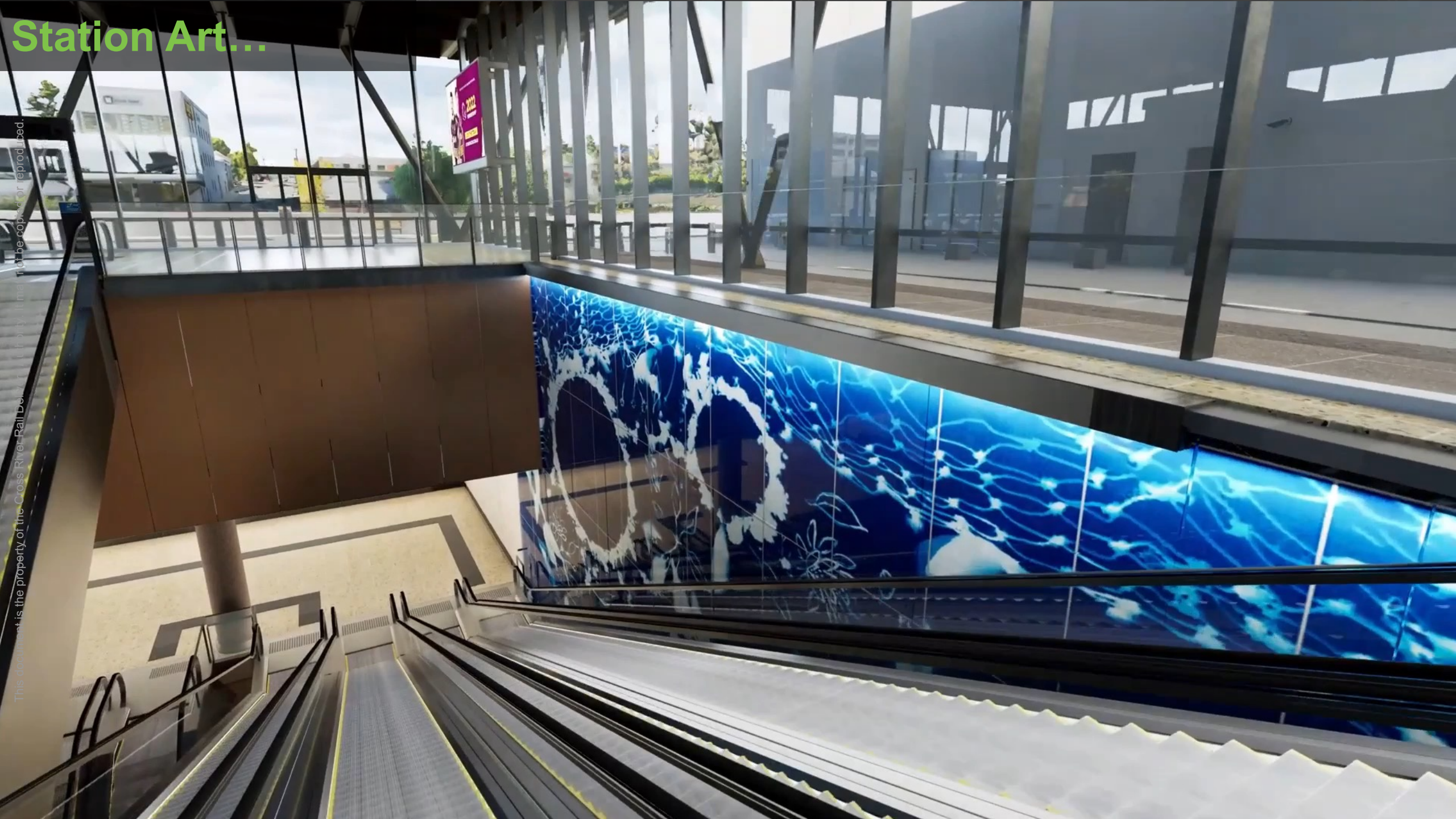
*Installing 14 art works by Queensland's most celebrated and renowned Indigenous artists.*





# Station Art...

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# Woolloongabba

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Commercial-in-Confidence





# Using Digital Visualisation to enhancing Assurance and Acceptance



# Project DNA

- Our Whole of Project **D**igital **N**etwork **A**pproach
- Commitment to an **Operable Digital Twin** of the infrastructure we are building
- To include also a virtual/digital Brisbane for the purpose of Precinct Planning
- Enabling 3D visualisation all the way up to 7D real time operations and maintenance





# A groundbreaking approach

## Common Data Environment (CDE)

- File store, Data Synchronisation and Data Centric Database

## Building Information Modelling (BIM)

- BIM Software Suite
- Common specification across all contracts

## Geographic Information Systems (GIS)

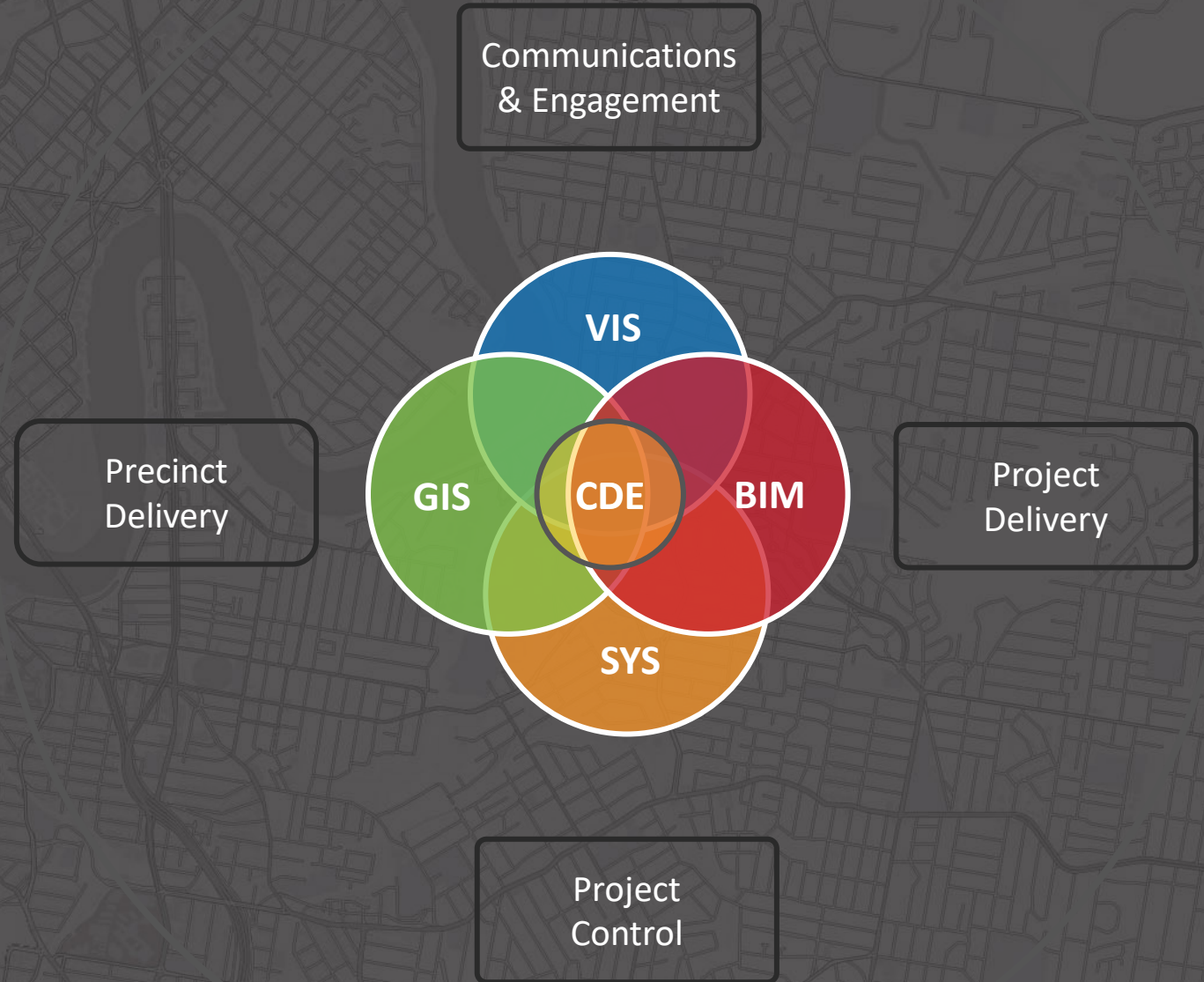
- Esri Software Suite
- Geospatially referenced

## Visualisation and Gamification (VIS)

- Unreal Engine Gaming Software
- Reality Model / Immersive experiences

## Systems & Information Modelling (SYS)

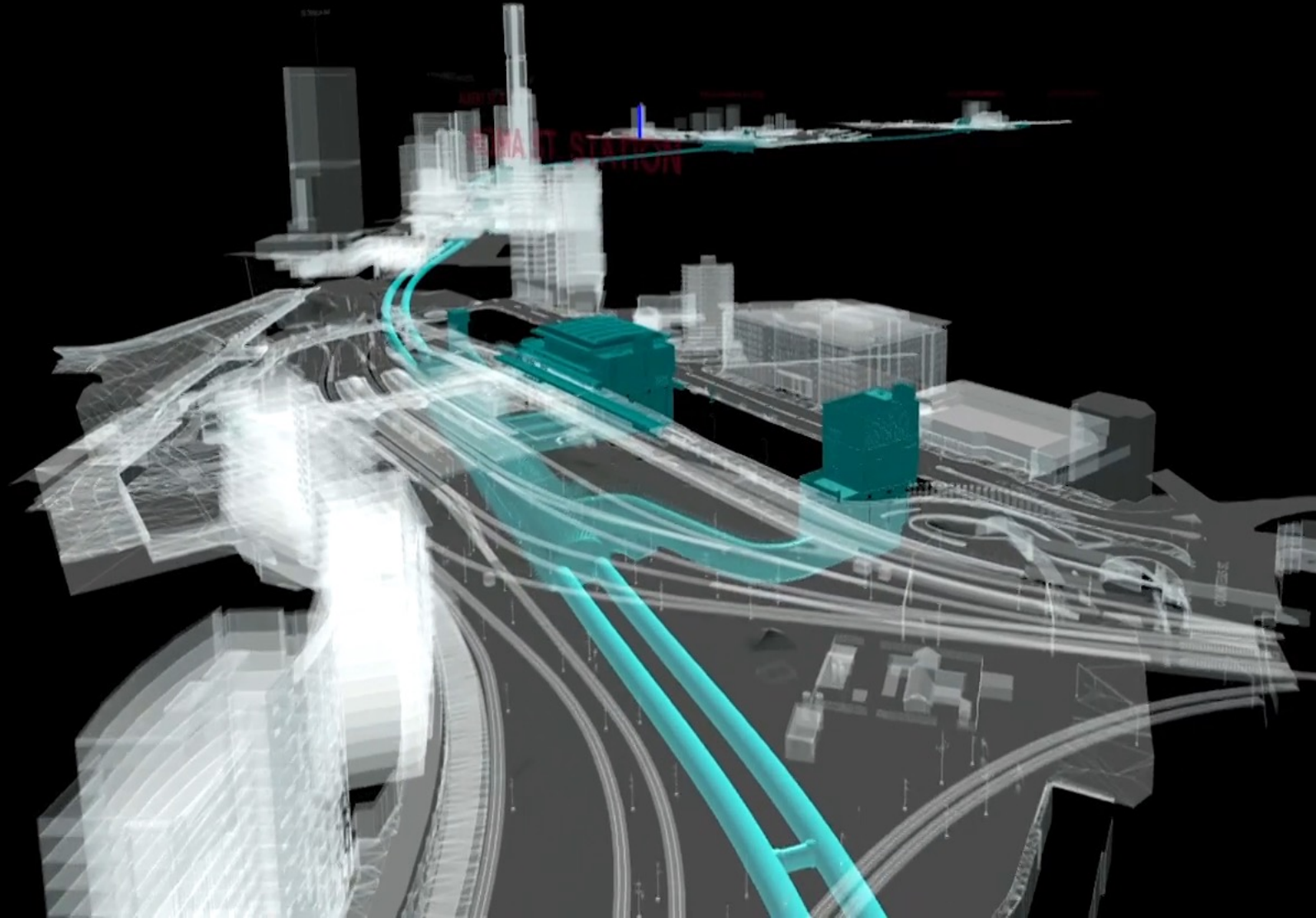
- Data & Information software suites
- Rethinking how and where data is saved





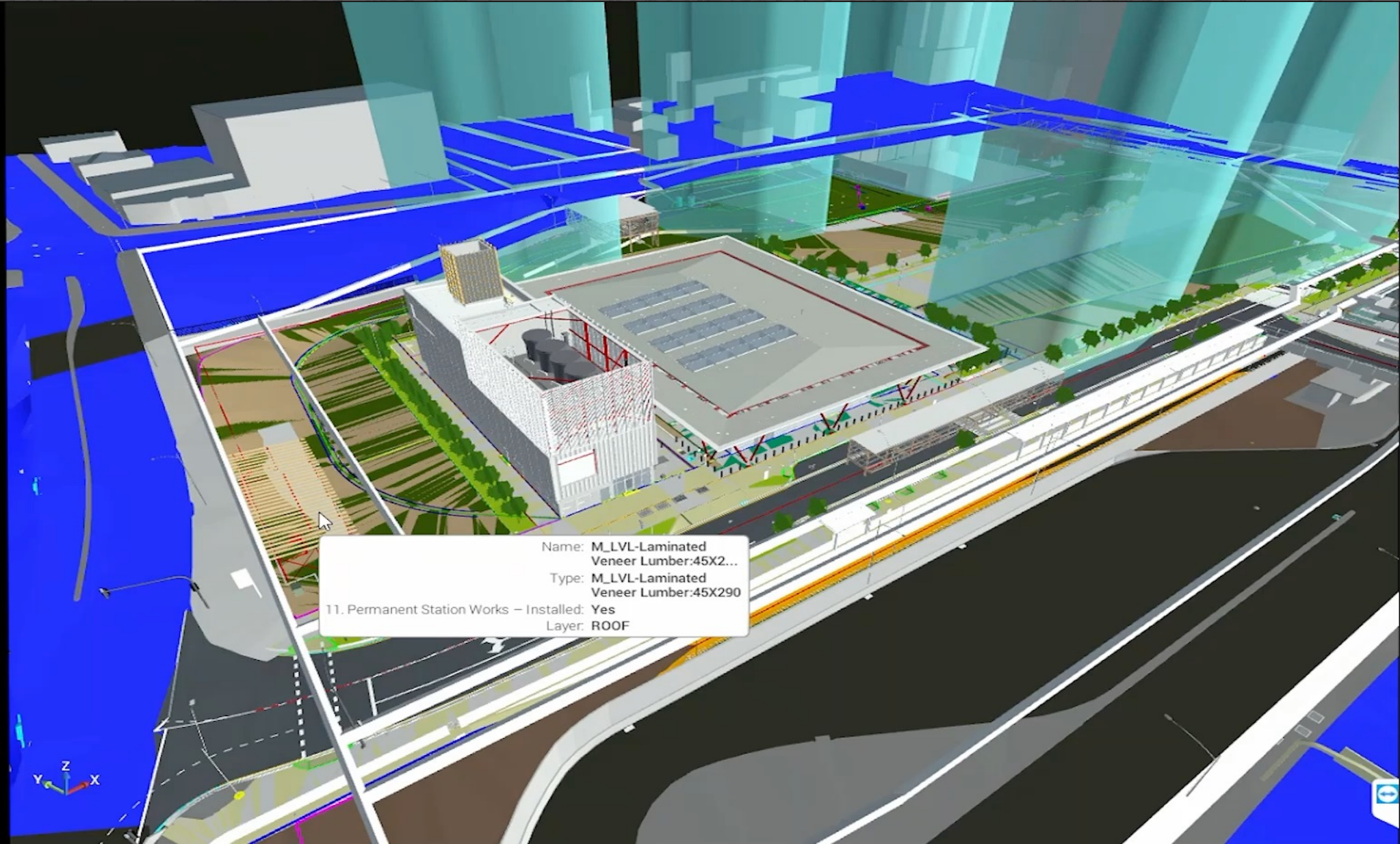
# A single, federated BIM model

- Data as per spec set by CRRDA
- 20 million separate digital assets
- Updated as often as every 4 hours
- Not a Digital Twin...yet





# A day-to-day tool we use to design and deliver CRR





# BIM also moving forward visually





# GIS meanwhile has gone on a journey from 2D maps...

**Cross River Rail Delivery Authority - Web Map**

Property, Planning and Boundaries

- Addresses
- Cadastre (DCDB - not Survey Accurate)
  - Land Parcel Labels
  - Land Parcel
  - Easement
  - Road type parcel
  - Watercourse
  - Volumetric
  - Strata
- Postcodes
- Locality Boundaries
- Local Government Boundaries
- Electorates and Wards
- Zoning - Local Government
- Land Acquisition
  - Cadastre (Survey Accurate)
  - Land Acquisition Plans (R-Plans)
    - Acquisition Plan Received

**(2 of 2)**

### Land Acquisition Plans (R-Plans): Brisbane City

LOTPLAN	27RP11150
LandAcqPlanReceived	T
LandAcqPlanLink	<a href="#">More info</a>
DepthToTopVolumetric	Varies - 26.6m to 28.2m
GroundSurfaceDataSource	Saunders Havill - Ground Survey
AccuracyStatement	Indicative only. Ground level derived from survey information
LOT PLAN	27 RP11150
<a href="#">Zoom to</a>	



...to rudimentary 3D landscapes (with BIM data poking through)





Then the VIS model approach brings everything to life





# Navigable first person using simple controls



Existing

Existing Activation

Albert St Closure

CRR

Section

Photogrammetry

Corridor Surrounds

City Surrounds

Helensvale North



includes concept designs which are not final or approved.





Helps pre-plan public realms and civic spaces





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# Project DNA 2.0

- **Photo-real** and **technically accurate** 3D digital environments
- Used for **acceptance & assurance**
- Will also aid **testing, training, commissioning and operational readiness**

## Practical benefits (for now):

- De-risk system integration
- Find/enables time savings
- Assist stakeholder briefings & community engagement
- Drives 6D maintenance and operation conversations
- Enables 7D real time operation vision



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# Customer journey mapping





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# Signal sighting and marker boards







**What we are building is more than just a railway...**







Boggo Road station

Albert Street station

Woolloongabba station

Roma Street station

Exhibition station



# CROSS RIVER RAIL

**A NEW UNDERGROUND FOR BRISBANE.  
A NEW CONNECTION FOR FUTURE BRISBANE.**





**CROSSRIVERRAIL**  
DELIVERY AUTHORITY

# Thank You

