



Live NSW



Developing the NSW spatial digital twin and the
pursuit of live data sharing

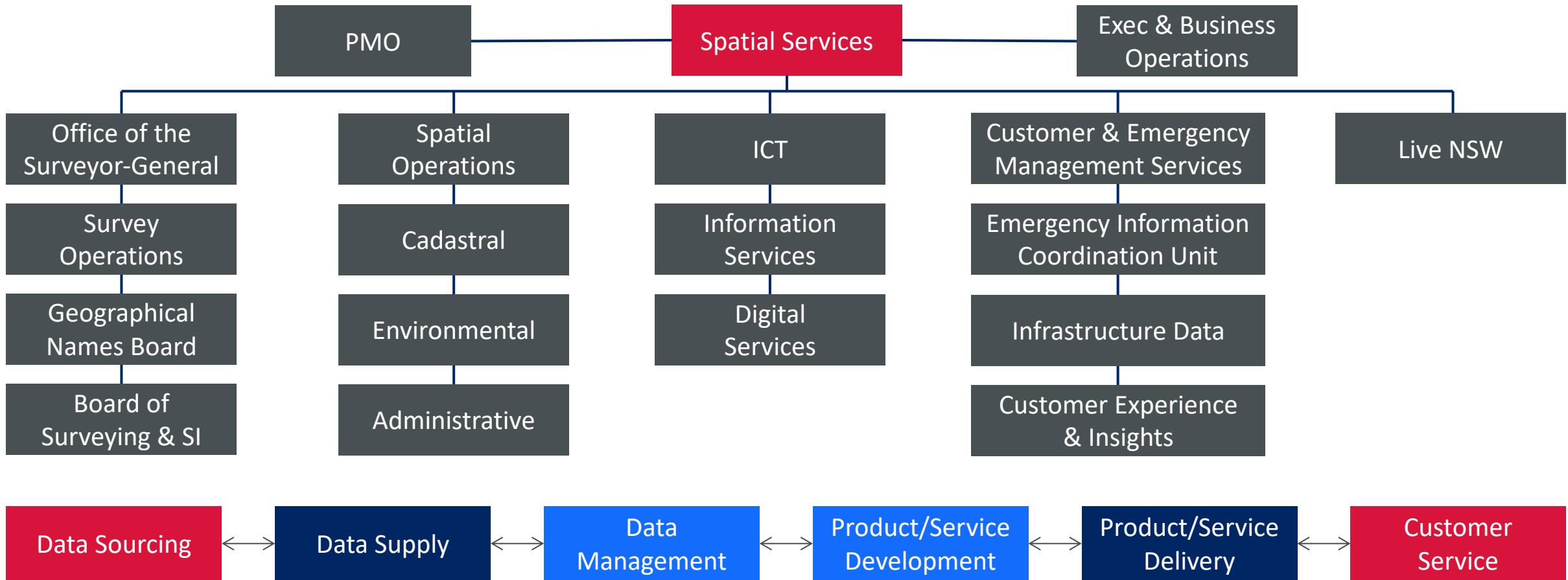
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Spatial Services

Department of Customer Service

22 February 2023

DCS Spatial Services

Department of Customer Service – Digital NSW



NSW Spatial Digital Twin

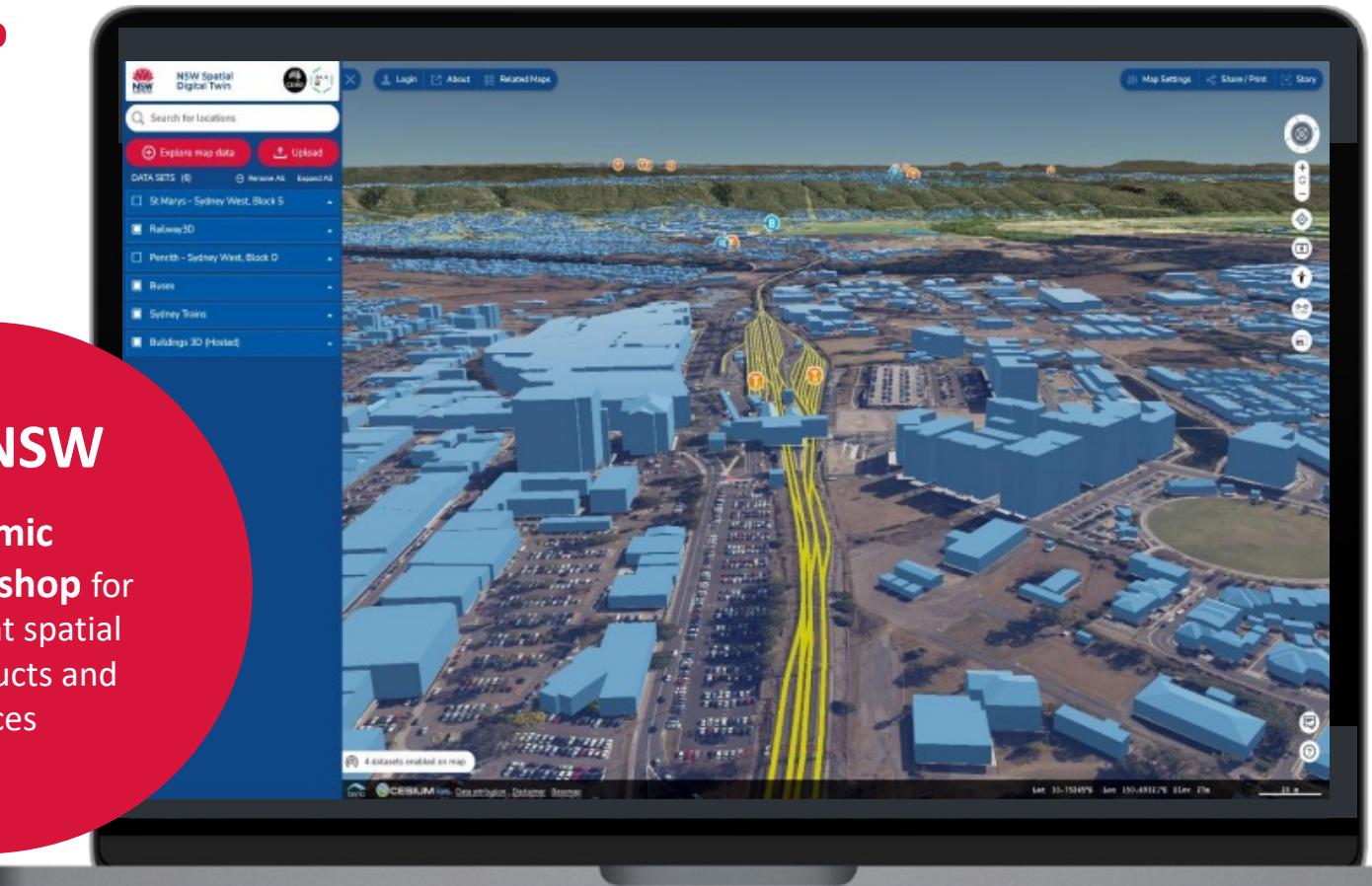
powered by the Live NSW program



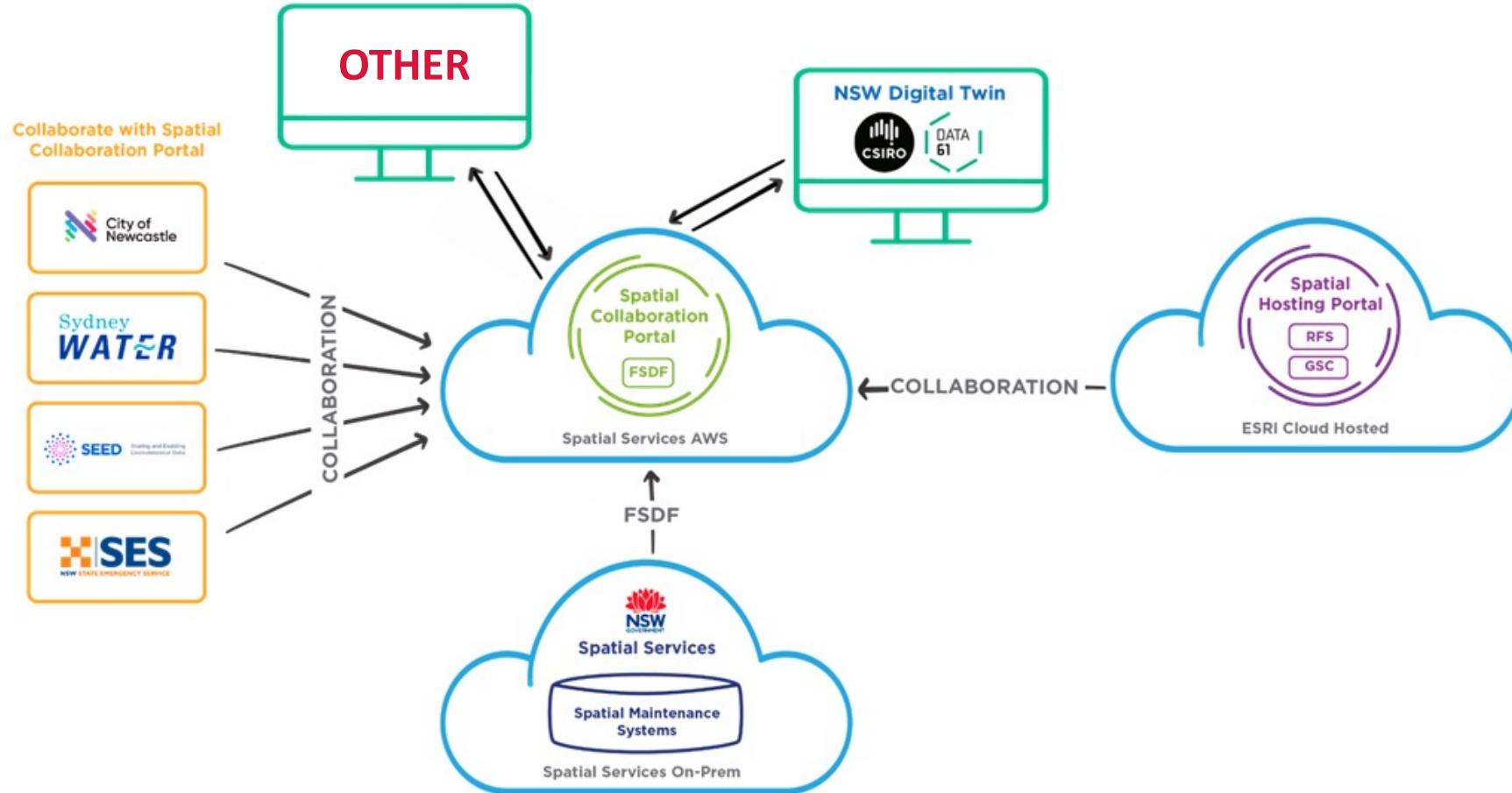
\$40m funding from the Digital Restart Fund to deliver

- Transformation of foundation spatial data, systems and processes
- State wide gravity model
- Visualisation and customer engagement capabilities

LIVE NSW
Dynamic
one-stop-shop for
government spatial
data, products and
services



Collaboration and federation of geospatial data



Open, secure & restricted data

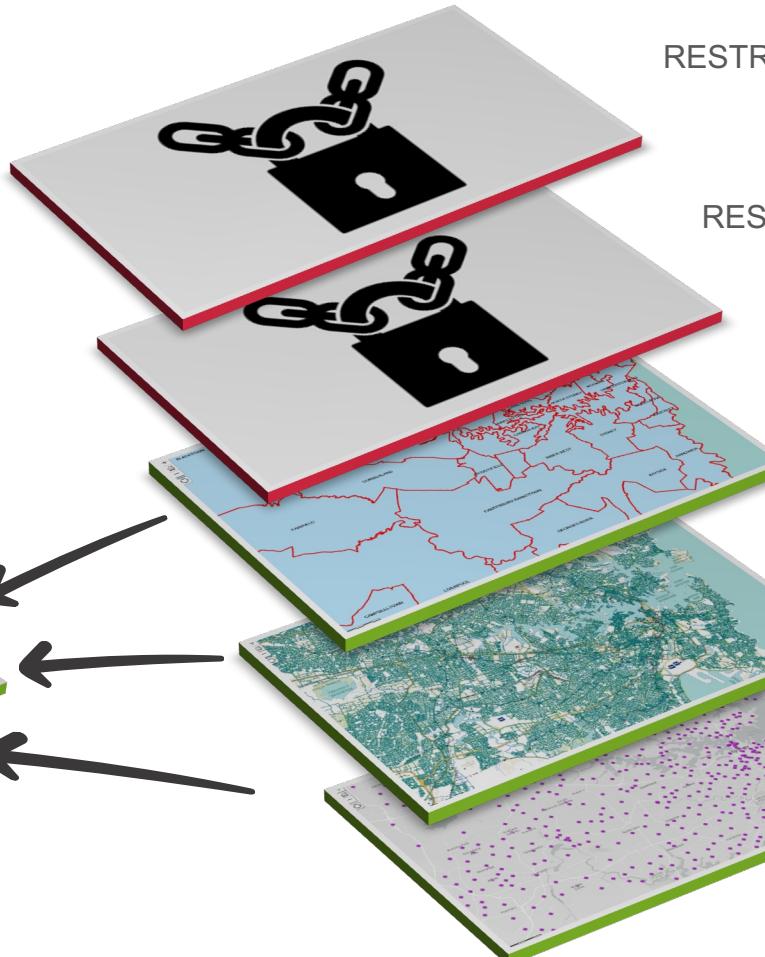
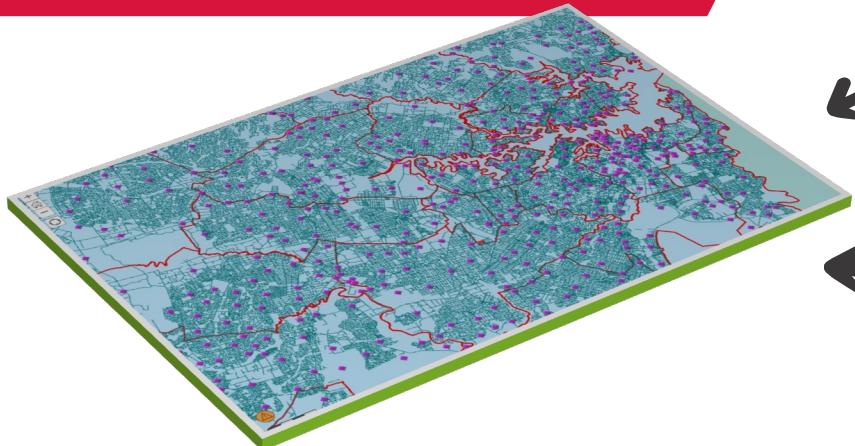


Ability to collate multiple data layers

Sensitive data can remain restricted

Make open data layers available for use

Allows improved agency data collaboration



RESTRICTED DATASET

RESTRICTED DATASET

NSW ADMINISTRATIVE BOUNDARIES THEME
LOCAL GOVERNMENT AREA

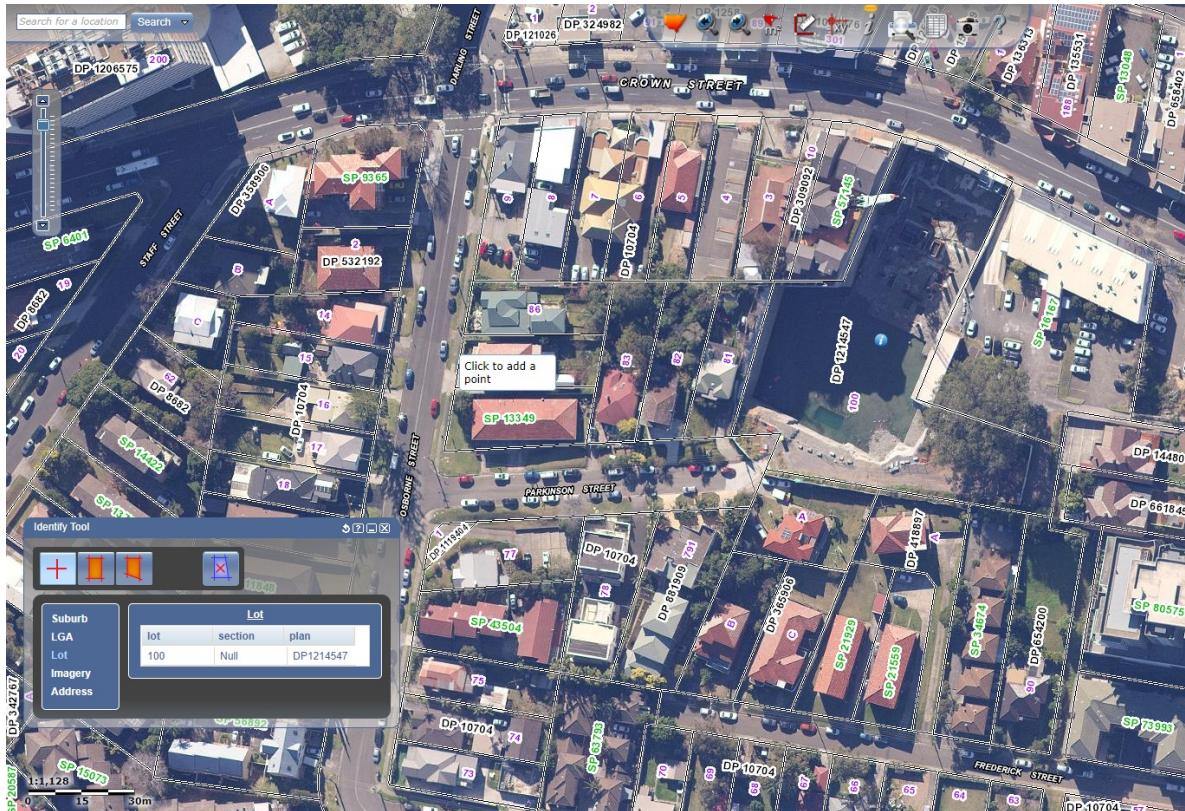
NSW TRANSPORT THEME
ROAD SEGMENT

NSW FEATURE OF INTEREST
CATEGORY
PLACE POINT

Land parcel and property



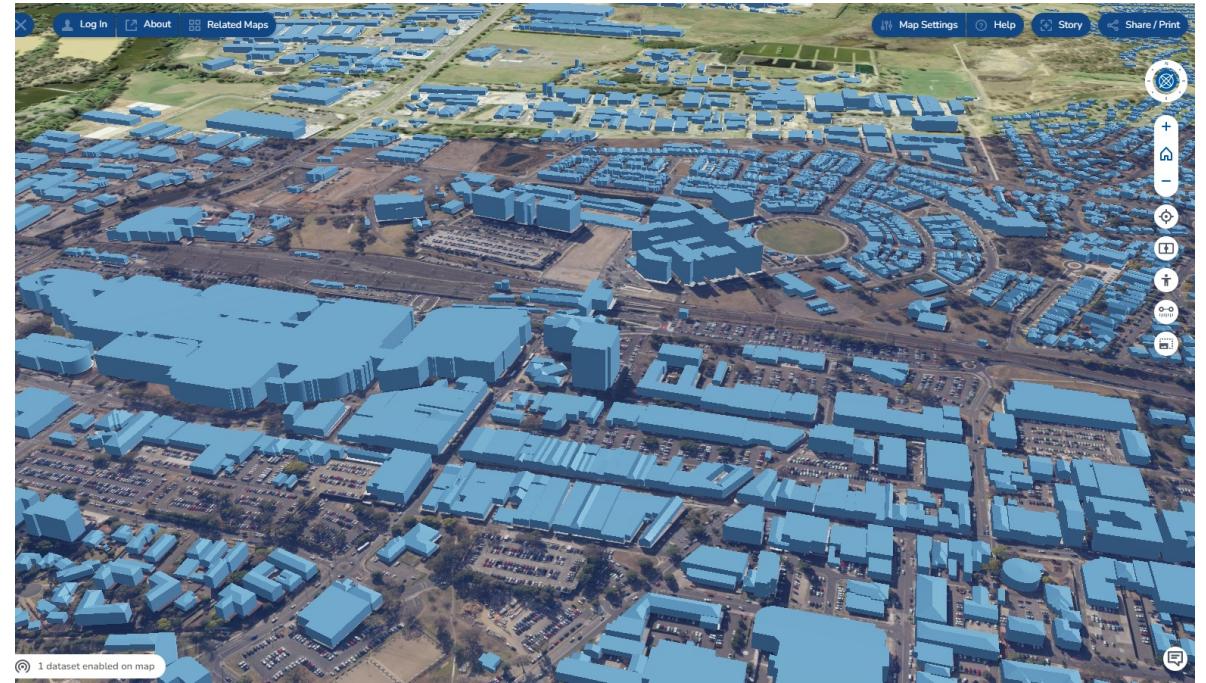
SIX Maps – 2D view



3D strata: registered (white),
DA approved (green)



Buildings and settlements



Live data sharing – transport (State Government)

The image shows a screenshot of the NSW Spatial Digital Twin application. The interface includes a top navigation bar with the NSW Government logo, CSIRO logo, and DATA 61 logo. Below the navigation is a search bar labeled "Search for locations" and buttons for "Explore map data" and "Upload". A sidebar on the left lists "DATA SETS (2)" for "Buses" and "Sydney Trains", each with an "IDEAL ZOOM" button, an opacity slider (set to 80% for Buses and 100% for Sydney Trains), and a message indicating "Next data update in 00:00:03". The main area is a satellite map of a city with several orange and blue circular markers containing letters (T, B). A legend at the bottom left indicates "2 datasets enabled on map". The bottom right corner shows coordinates: Lat 33.74818°S Lon 150.69049°E Elev 50±106m and a scale bar of 50 m.

NSW Spatial Digital Twin

CSIRO DATA 61

Log In About Related Maps

Map Settings Help Story Share / Print

Search for locations

Explore map data Upload

DATA SETS (2) Remove All Collapse All

Buses

IDEAL ZOOM ABOUT DATA

Opacity: 80 %

Next data update in 00:00:03

Sydney Trains

IDEAL ZOOM ABOUT DATA

Opacity: 100 %

Next data update in 00:00:03

2 datasets enabled on map

terria Cesium ion Data attribution | Disclaimer | Basemap

Lat 33.74818°S Lon 150.69049°E Elev 50±106m 50 m

Live data sharing – transport (State Government)

This screenshot displays a live data sharing interface for transport, specifically for NSW State Government. The interface includes a map of a railway station and surrounding urban areas, overlaid with real-time data from two datasets: Buses and Sydney Trains.

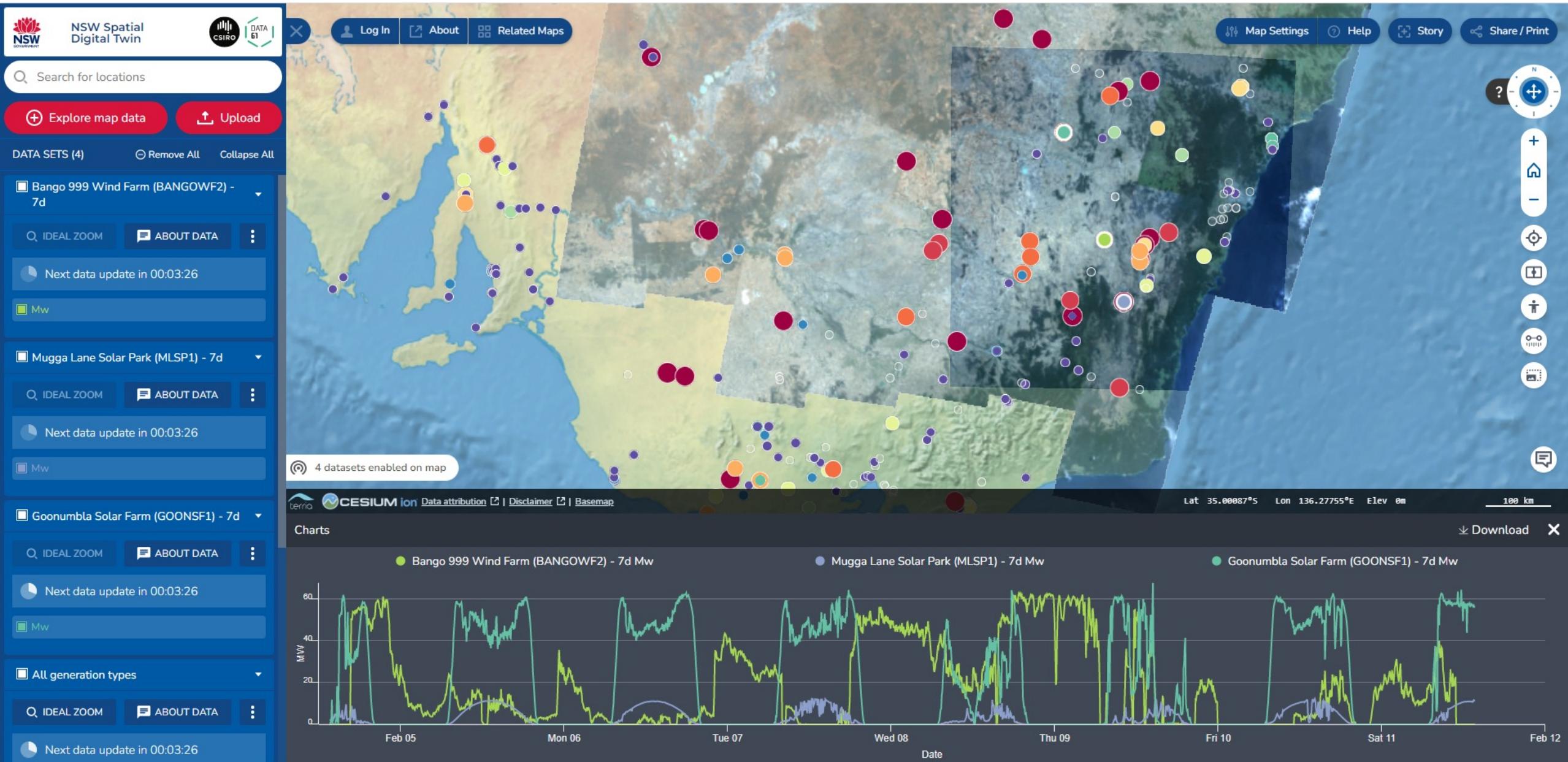
Left Panel (Data Sets):

- Buses:** Shows 2 datasets enabled. The opacity is set to 80%. The next data update is in 0:00:04.
- Sydney Trains:** Shows 2 datasets enabled. The opacity is set to 100%. The next data update is in 0:00:04.

Map Interface:

- Top Bar:** Includes links for Log In, About, Related Maps, Map Settings, Help, Story, and Share / Print.
- Search Bar:** A search input field with placeholder "Search for locations".
- Data Overlay:** The map shows several blue bus icons and orange circular markers containing a white letter "T", indicating train locations or stops. The map also features railway tracks, parking lots, roads, and buildings.
- Control Buttons:** On the right side, there are zoom controls (+, -, home, and a compass icon), a "2 datasets enabled on map" notification, and coordinate/altitude information at the bottom right (Lat 33.74986°S, Lon 150.69384°E, Elev 51±107m).

Live data sharing – power generation (Federal Gov)



Live data sharing – people movement (Local Gov)



Communities, industry and government all benefit from the NSW SDT



Case Study: School Infrastructure NSW (SINSW)

- SINSW is responsible for the delivery and management of a **portfolio of 2,200+ schools**

Problem:

- SINSW developed over **80 business cases in 2020 alone**
- Compared with construction, the business case phase can take up to **twice as long to complete**

Opportunity:

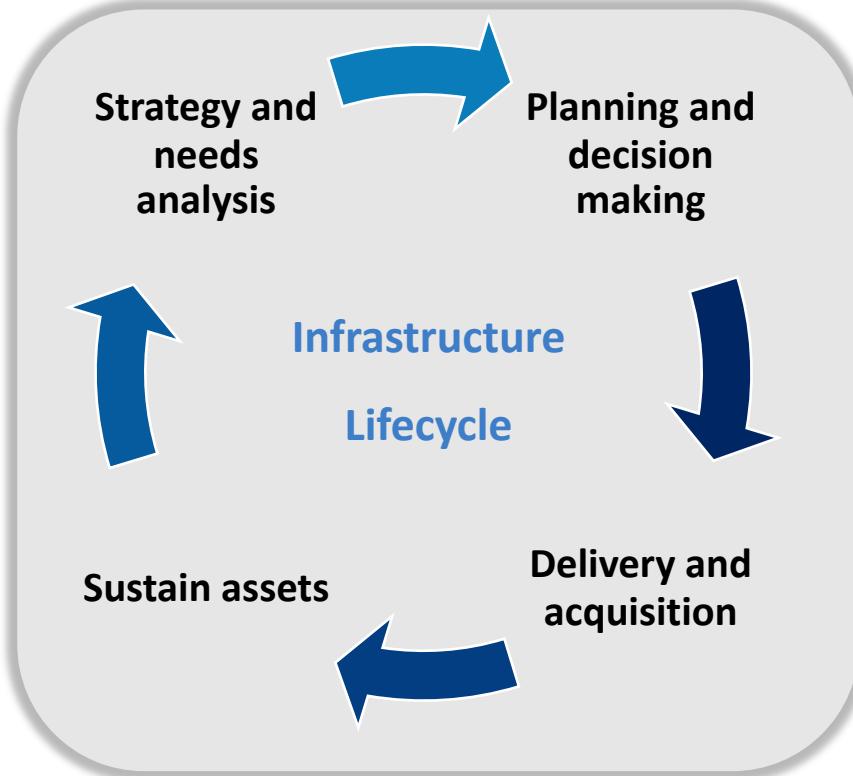
- Combined with other technologies, the Live NSW Spatial Digital Twin (SDT) program will support the **digitisation and automation of the business case process**
- SINSW estimates that this will lead to a **45% reduction in time** to deliver a strategic business case

Benefit:

- SINSW **estimates savings of \$202m over 10 years**, in avoided strategic business case costs
- This benefit will be generated by the SDT and realised by SINSW



School Infrastructure NSW: opportunities



- There are **considerable opportunities** to improve efficiency and effectiveness throughout the infrastructure lifecycle.
- These include improved **due diligence** as part of *Strategy and Needs Analysis* to more efficient **master planning and cost planning** and digital twins for **maintenance and management** of school assets.
- Initial focus has been on the efficiency of due diligence. Completing early data-driven due diligence enables School Infrastructure NSW to more efficiently understand risks and opportunities.

Progress to date: due diligence pilot

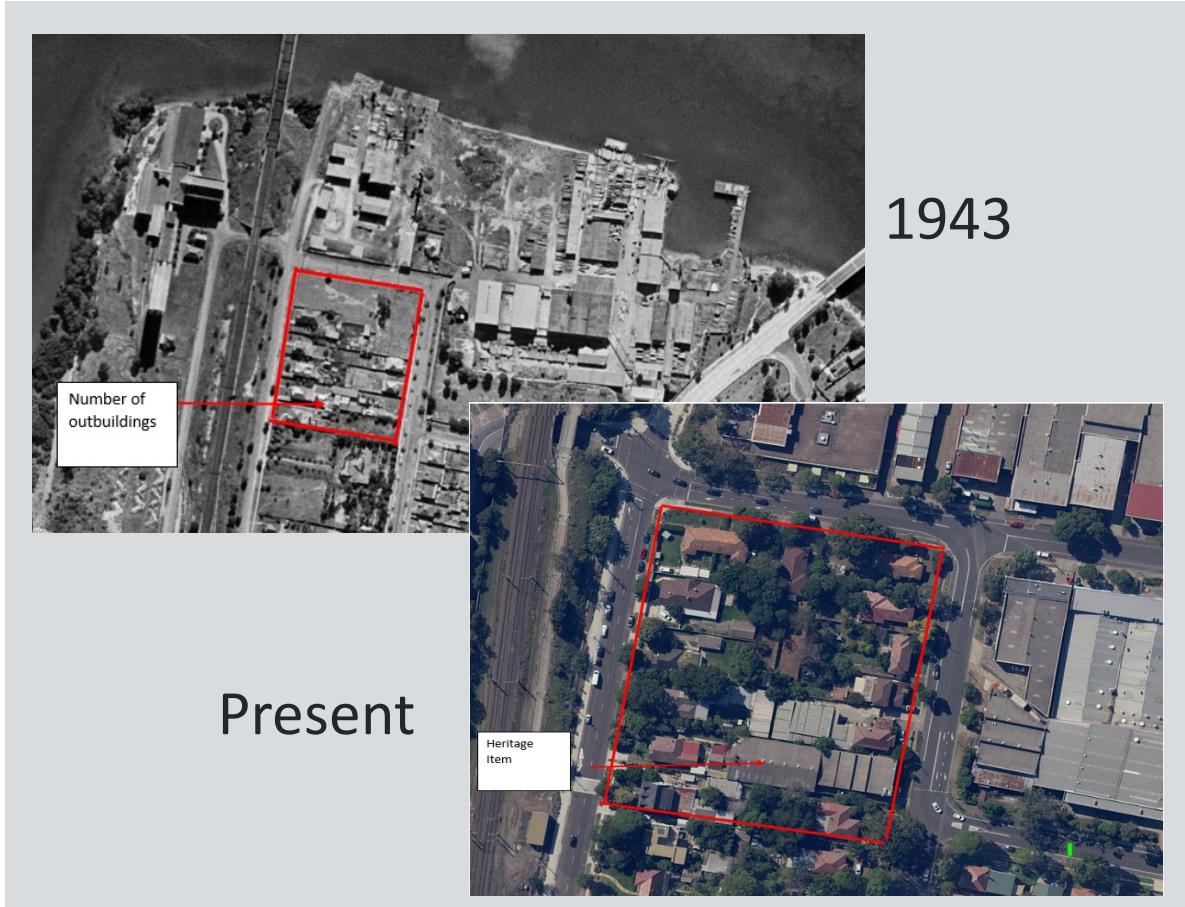


A standardised approach to due diligence was developed and piloted on **473 sites in 4 weeks**

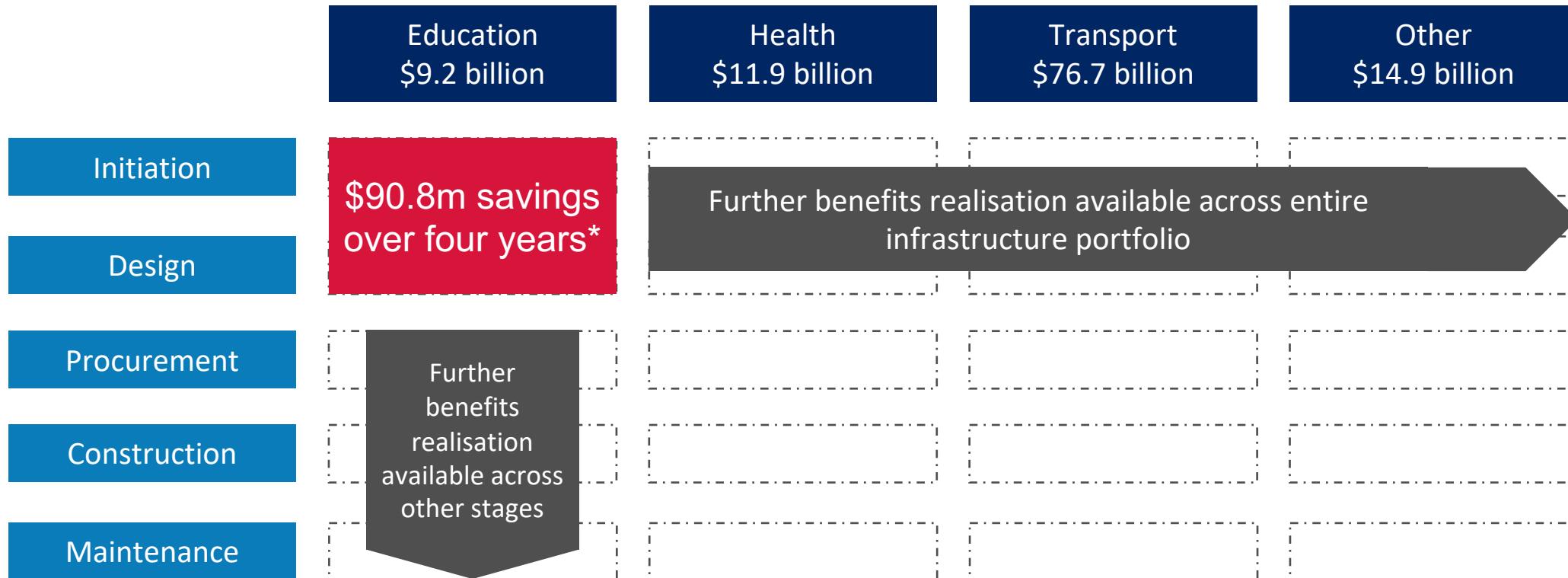
The productivity benefits and avoided costs in this pilot alone are an **estimated \$4.4m**

Current plans require due diligence for a **further ~1200 school sites**

- ✓ Reduction in the number of procurements and consultants required
- ✓ Clear, well-informed procurement scopes to reduce scope creep
- ✓ Project information identified, developed and converted to asset management information to support a complete project process
- ✓ Supporting the development of project documentation and implementation of modern methods of construction
- ✓ Focusing our consultants on the issues/risks rather than 'the doing'



NSW SDT – key enabler to efficiently deliver NSW's infrastructure portfolio



A 1% efficiency saving across infrastructure portfolio = \$1.1b savings potential

Questions?

