

XDI Sydney 2018 Project Update

Helping protect critical infrastructure from climate change impacts

XDI Sydney is a three-year city wide pilot, launched in early 2017. The NSW Office of Environment and Heritage(OEH) is working with Climate Risk Pty Ltd to identify areas of climate risk to critical infrastructure, and importantly, the cross dependencies between these different types of infrastructure.

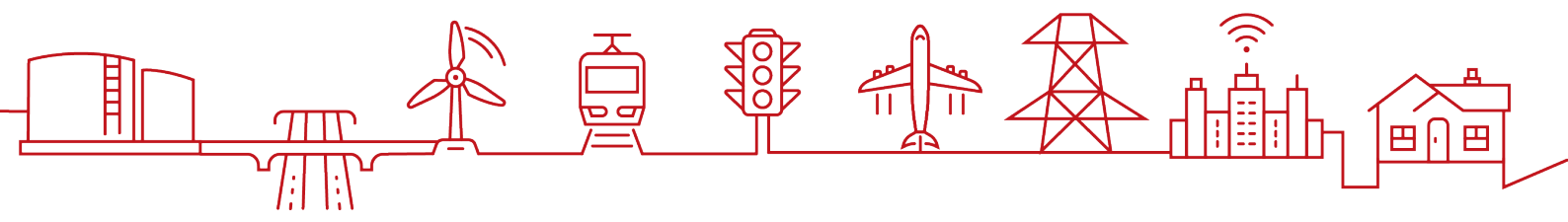
Foundation partners of XDI Sydney are the City of Sydney, Roads and Maritime Services, Sydney Trains, Sydney Water and Transport for NSW and NBN network. All have signed funding agreements with OEH that include data licensing and sharing agreements. Observer partners include Department of Defence, and NSW Office of Emergency Management.

XDI Sydney brings together key infrastructure providers in Greater Sydney to help asset owners and managers understand the physical risks to their assets from extreme weather and climate change, and build collaborative relationships with other infrastructure providers on which they depend. Identifying and quantifying those dependencies is key to the project.

The project utilises *AdaptInfrastructure*, a world first cloud computing technology that provides quantitative insights into climate risk and adaptation, and *XDI Globe*, a powerful results visualisation tool.

Aims of XDI Sydney include:

- Improve infrastructure planning and investment decisions based on the potential impacts of climate change
- Standardise state of asset resilience (SOAR) reporting, including benchmarking, resilience status and targets.
- Encourage significant savings via collaborative adaptation



Significant Achievements 2018:

- A first pass cross dependent analysis of extreme weather and climate change risks for XDI Sydney partners has been conducted. This has involved extensive data collection, upload, and processing.
- 26 new archetypes have been created covering transformers, substations, train stations, platforms, tracks, roads, bridges, signals, and tunnels.
- XDI Globe has been commissioned for the project. Data for approximately 50,000 assets is now installed in Globe, allowing asset owners to view preliminary results.
- Sector benchmarking for cross dependent risk and collaborative adaptation has been achieved.
- Project partners have been trained in the use of XDI Globe.

The XDI Platform

[AdaptInfrastructure](#) brings together geospatial hazard maps, climate change impact projections, engineering data and financial analysis to provide sophisticated risk identification and business-ready cost benefit analysis for adaptation planning across the infrastructure spectrum. AdaptInfrastructure also supports the analysis of resilience investment options, comparing the costs of investment with saved operational costs and other expenses through losses or insurance.

[XDI Globe](#) takes pre-analysed results and displays them in an interactive environment that enables quick identification of risk hot spots. Users are also able to delve deeper to obtain asset level information by hazard, engineering element or area.

These tools enable asset owners detailed, real time insights into hazards, exposure and vulnerability across a complex, interrelated system that can be readily updated.

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