

WINNER

ARUP JACOBS JOINT VENTURE Auckland Light Rail Utilities Clash Detection Interactive Model

What was the problem?

Auckland Transport are investigating light rail to improve transport in the city. Arup and Jacobs in a joint venture (AJJV) was commissioned to create the reference design for the 29km route. As with any infrastructure project in a built-up area, underground utility interfaces are a construction risk with respect to cost, programme and safety.

What were the key outcomes?

5183 clashes were reduced to 443, saving 790 hours engineering - a staggering saving. Further to this, the creation of an additional machine learning process that scored the assessments, reduced the remaining 443 by 60%, improving the already significant time (and therefore cost) savings.

How did you address it?

An entirely new automated system was created to detect the clashes that consolidated existing utilities' asset information into a common data environment. A machine learning algorithm was applied to further reduce any manual assessments. Aside from the project benefit itself, the entire city transport system will benefit from minimised and more efficient works periods during construction, in turn reducing impact on the community and environment too. This innovation is a game-changer and has the potential to significantly impact broader infrastructure projects in Australasia, and globally.

For more information about this project or to contact Arup or Jacobs please visit their website:
www.arup.com.au or www.jacobs.com

