

User name: Spark and WSP

Project name: Noth East Link central package

Location: Melbourne, Victoria, Australia

Background:

- Victoria's largest infrastructure project, the North East Link will improve connectivity in Melbourne's freeway network, removing 15,000 trucks from congested roads.
- Successful delivery required Spark to bring in seven design consultancies, including WSP, who is responsible for modeling and communicating the complex geological site conditions and risks.

Challenges:

- Needed to rapidly model, capture, visualize, and integrate the voluminous ground engineering data for multidiscipline design evaluation.
- Required flexible, comprehensive geotechnical software and a connected data environment.

Solution:

- Using Leapfrog, PLAXIS, and ProjectWise, WSP developed, refined, and delivered 3D subsurface models that were integrated into the federated project model for design analysis and construction planning.
- Through comprehensive geotechnical modeling, the team optimized risk management and design compliance and were able to recycle excavation materials.
- The 3D geological models will be incorporated into a digital twin to support tunnel operation and emergency management.

Outcomes:

- The open digital twin helped the team collaborate and bring together data in a geospatial context and at scale, improving infrastructure delivery and performance.
- Outcomes from the project work helped to save 1,500 hours and AUD 16 million.

Quote: "Facing the sheer volume of site investigation data available for the North East Link Project, Spark together with WSP leveraged the efficiencies provided by Bentley's Leapfrog Works, PLAXIS and ProjectWise digital environments to rapidly deliver up-to-date subsurface ground modelling for using in design analyses and construction planning." – *James Matrin, Lead Geotechnical Manager, Spark*

Image caption/courtesy 1: Using Leapfrog, PLAXIS, and ProjectWise, WSP developed, refined, and delivered 3D subsurface models. *Image courtesy of Spark and WSP.*

Image caption/courtesy 2: Working in a connected digital platform streamlined workflows, saving 1,500 hours in collaborative modeling. *Image courtesy of Spark and WSP.*

Image caption/courtesy 3: The 3D geological models will be incorporated into the digital twin to support tunnel operation and emergency management. *Image courtesy of Spark and WSP.*

For more information, please contact Bentley PR at PR@news.bentley.com.