Victoria Cross Integrated Station Development

ROBORIGGER

Project Overview:

Client: Sydney Metro

Project: Victoria Cross Intergrated Station Development

Value: AUD$1.2 billion for station and over station development

Location: North Sydney

Date: 2022

Unit: AR10 (WLL 10 tonnes)

Usage: Controlling the orientation of structural formwork, reinforced steel and stillages whilst lowering down access shaft.

Underground station, 31 metres below ground level, located in the heart of the North Sydney business district.

Controlling loads in 2.5m wide shaft

During the Victoria Cross integrated station development, the bottom level of the site was 31 metres below ground level, with loading decks installed on the levels above. Materials being lifted in and out of the 7 metres by 2.5 metres shaft included structural formwork, reinforced steel, stillages as well as palletised items. The construction schedule was governed by the capability of the crane to support the underground operations through the single access shaft.

To control loads when lowering through the shaft without hitting the screens, a 60 metres tagline would have been required, which was not practical or safe. Roborigger allows control without a tagline. The lifting team was able to keep loads controlled during transit, mitigating risk to both personnel and structures.

Underground works fed by only one crane. Roborigger increases crane efficiency dramatically.

Lendlease adopted the Roborigger AR-10 for the project lifetime to guarantee that all loads were positioned and controlled securely in the air during the lift. Two remotes were used, one by the Roborigger operator (rigger or dogman) positioned at ground level and another in the lower basement.

The rigging team also utilised Roborigger for all general lifting activities due to the safety benefits of better load control when lifting around obstructions such as the slipform, formwork, scaffold, and hoists.

The data provided from Roborigger's analytics platform allowed the lifting operations to be analysed. Issues that caused delays were identified and corrected.