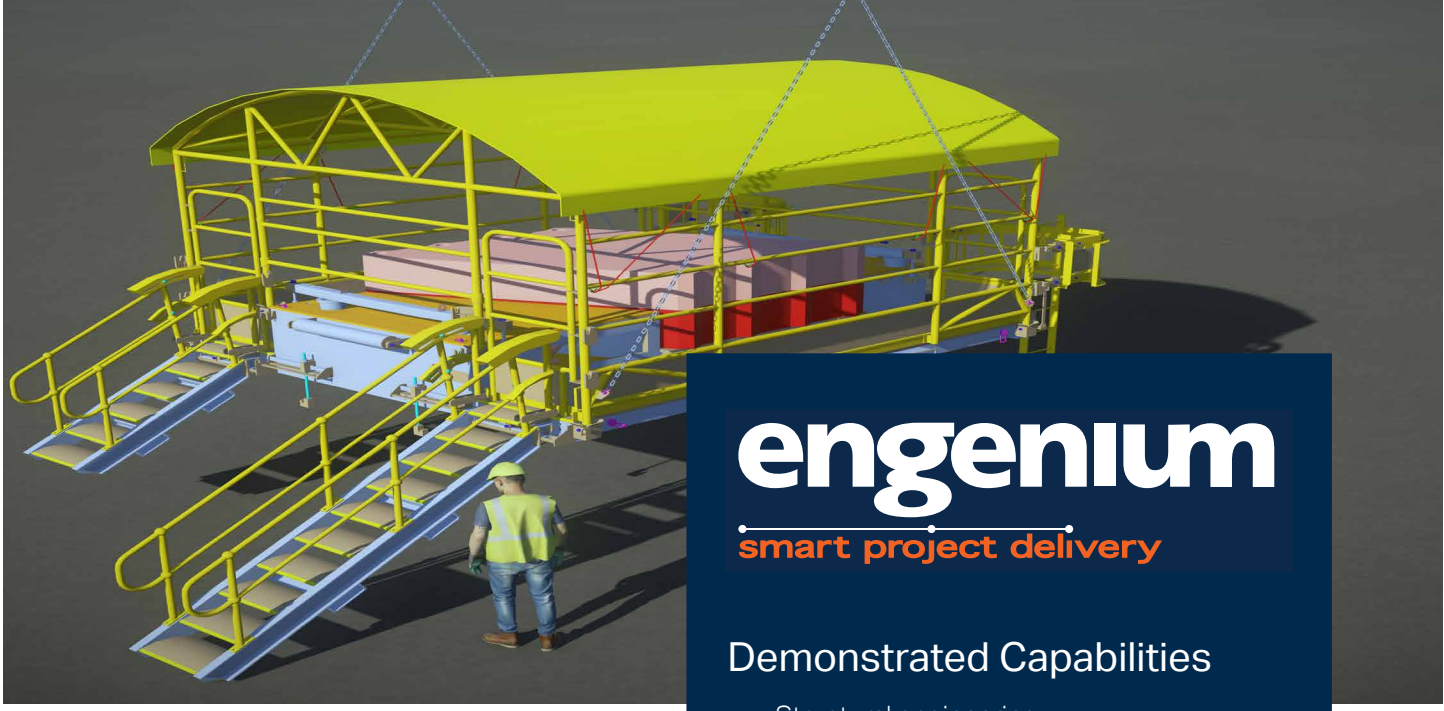
Project Profile



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Demonstrated Capabilities

- Structural engineering
- 3D modelling and drafting
- Safety in design
- Stakeholder engagement

Belt Splicing Table Detailed Design

Project Location

Pilbara, Western Australia.

Scope

This project included detailed design and fabrication support for a lightweight belt splicing table to be used on several identified assets (conveyors and balanced machines) at a well known port in the Pilbara region of Western Australia. This design included all necessary attachments such as belt clamps adjustable handrails, multiple stair and step modules, adjustable ladders and a ladder cradle.

As part of this project, the existing conveyors were assessed to ensure they could adequately support the new belt splicing table and modifications were designed where required.

Business Objective

Several conveyors and balanced machines were identified by the client as being unsuitable to accommodate the existing belt splicing table, associated substructures, and required temporary scaffolding due to weight and access limitations.

The new belt splicing table needed to meet specific weight, accessibility and functionality requirements in order to successfully replace the existing belt splicing table for use on these selected assets.

Challenges to Overcome

This belt splicing table has been designed for installation on 20 different assets each of which present different safety risks and design challenges. The belt splicing table was modelled against 3D laser scan data of each existing asset, which improved the effectiveness of the design reviews and eliminated expensive rework during fabrication and installation.

The most challenging aspect of this project was to create a lightweight design that still met all access and functionality requirements requested by the stakeholders. To achieve this, the design was developed using a combination of steel and aluminium and regular design reviews were undertaken with the project stakeholders throughout the project.

Safety in design was a significant part of this project given the range of assets that the design needed to cater for, and risk reviews became a major part of the design development process. The 3D models with laser scan data were particularly valuable during these reviews as they provided a very accurate visual representation of the likely scenarios that maintenance crews would face.

Project Outcome

The optimised belt splice table design has provided the client with equipment that meets the functional and safe access requirements for the task, whilst being versatile enough to operate across 20 different locations.

Delivering Value. Delivering Results.