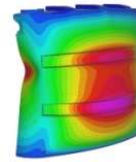


**Date:** August 2025  
**Client:** Elten Logistic Systems Netherlands



**David Beneke Consulting**

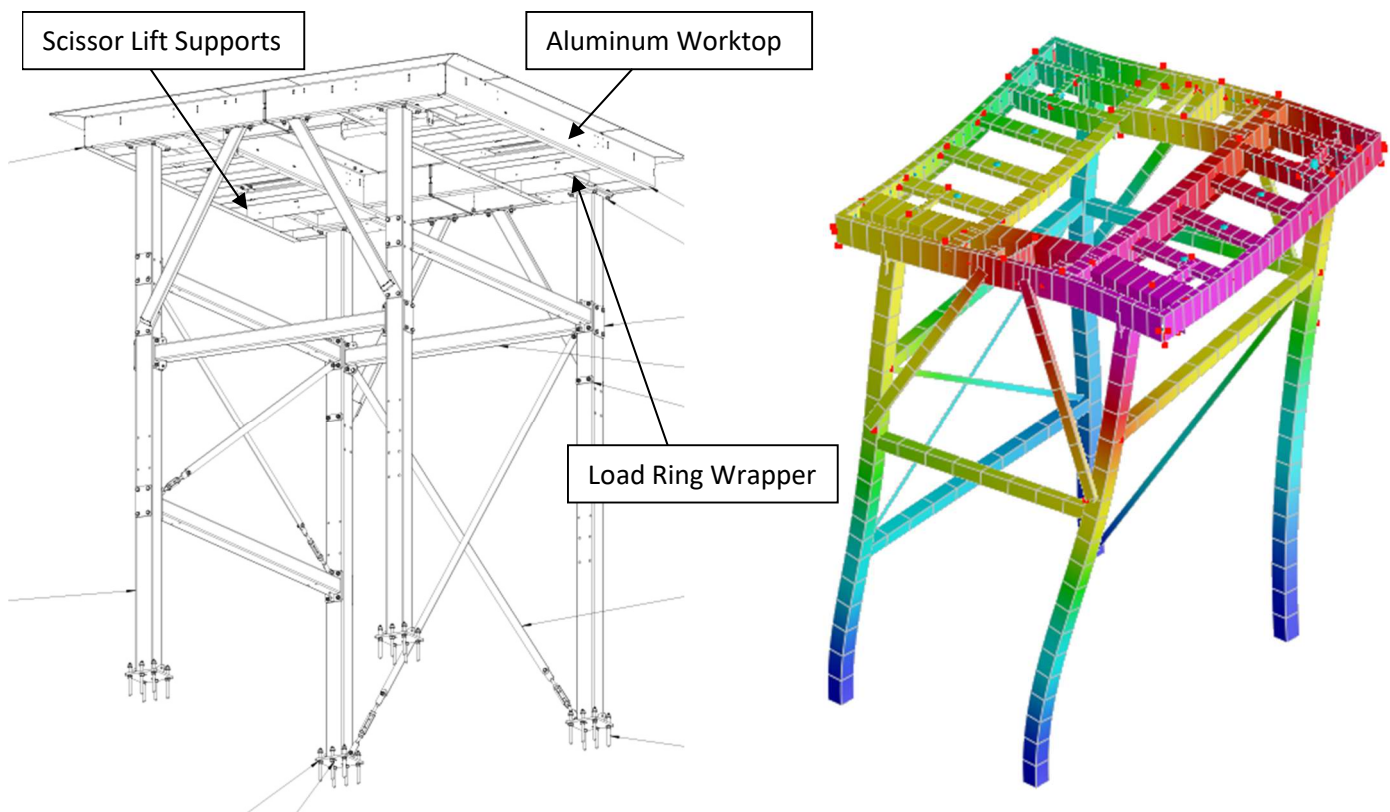
Finite Element Analysis for Engineering

## MEZZANINE STRUCTURE FOR AN ELEVATED PALLETISER

### Project Description:

David Beneke Consulting was commissioned by Elten Logistic Systems Netherlands to undertake 3<sup>rd</sup> party proof checking of a mezzanine support structure that supports an elevated palletiser for a project located in Tarneit, Victoria. The structure is fabricated using hot-rolled steel thus requiring adherence to the AS4100-2020 Australian Steel Structures Standard.

The finite element analysis (FEA) model of the palletiser support structure used 1 dimensional line elements to represent beams, columns, and braces, with extra weight from the fencing added as nodal masses. Key live loads are represented as concentrated point loads at specific spots—covering the scissor lift supports, aluminum worktop, and load ring wrapper. After checking member capacities and connections for static loads (including that of AS1657), the FEA model was subjected to lateral accelerations under seismic conditions with similar member and connection checks undertaken.



The mezzanine support structure (left) and the 1<sup>st</sup> mode of vibration associated with our FEA model

### Contact:

dbconsulting@live.com.au  
davidbenekeconsulting.com

Ph +614 1257 5693

Unit 13/23 Narabang Way Belrose NSW