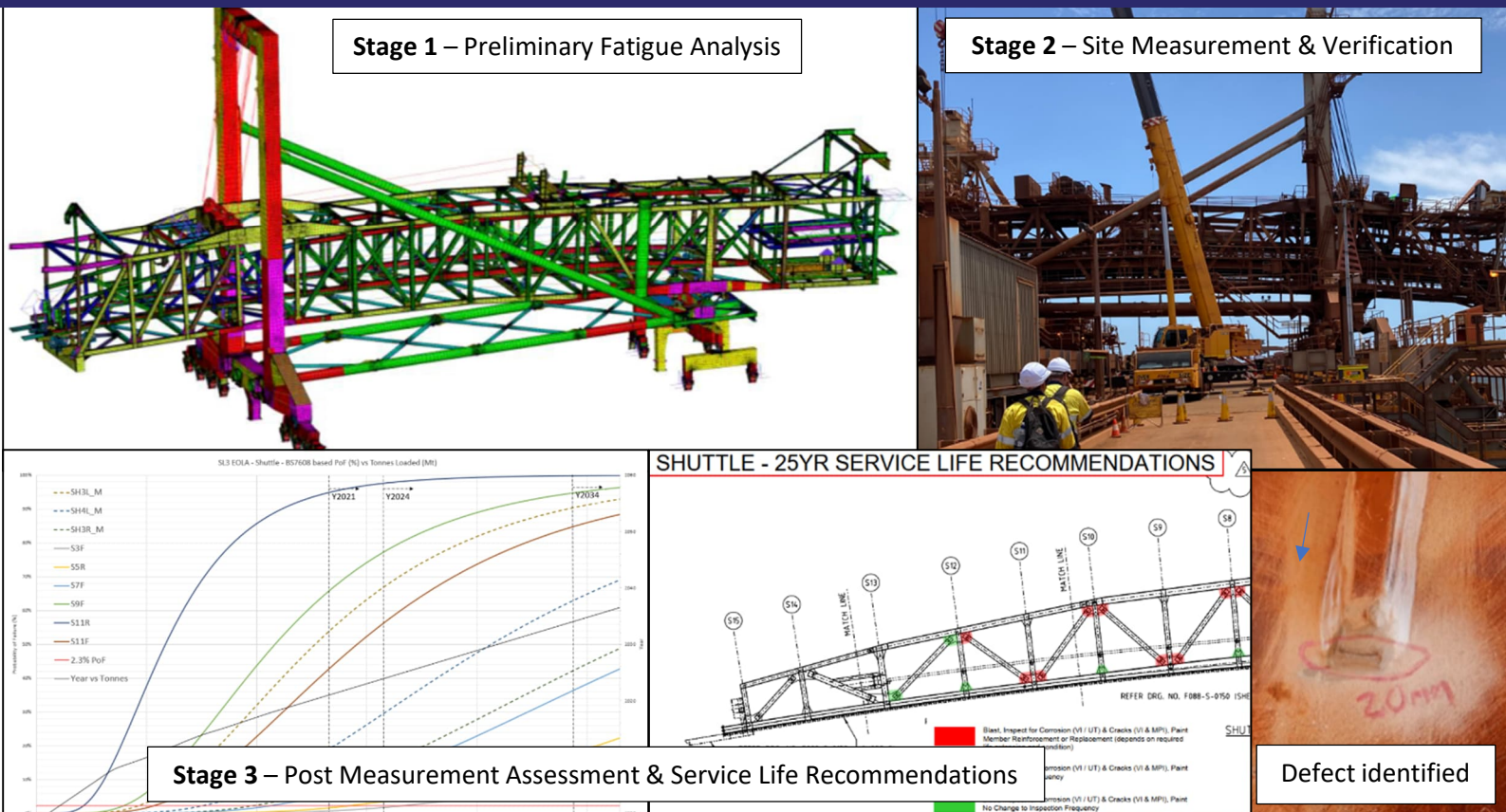


# PROJECT OVERVIEW



# SL3 End of Life Assessment

## Port Hedland, Western Australia

### PROJECT OVERVIEW

#### Project Scope:

- EDC was engaged to undertake an end-of-life (EOL) assessment of Shiploader 3 (SL3) to investigate fatigue sensitive locations and risk of fatigue failure from ongoing operation. The results from this assessment, in combination with other aspects of the machine were then used by the Client to evaluate investment options to refurbish and/or replace the machine.
- This scope included preliminary fatigue assessment using FEA and design loads/cycles, targeted strain gauging and site inspection to validate the model assumptions, post measurement assessment to refine the fatigue analysis and provide service life recommendations.

#### Challenge:

- Correlation of stress differences identified during shuttling between model and site measurement.
- Quantifying impact of machine condition (e.g. corrosion) on fatigue performance of the structure.
- Translating all the findings into service life recommendations and actions to achieve the required service life.

#### Success:

- Enabled the Client to evaluate and define the appropriate refurbishment and/or replacement strategy for the machine.
- Identified non-compliant fatigue locations that required inspections, some of which have been confirmed with fatigue cracks and required remediation.

**CLIENT:** BHP

**SITE:** Finucane Island, Port Hedland

**DURATION:** Sept 2020 – March 2021

