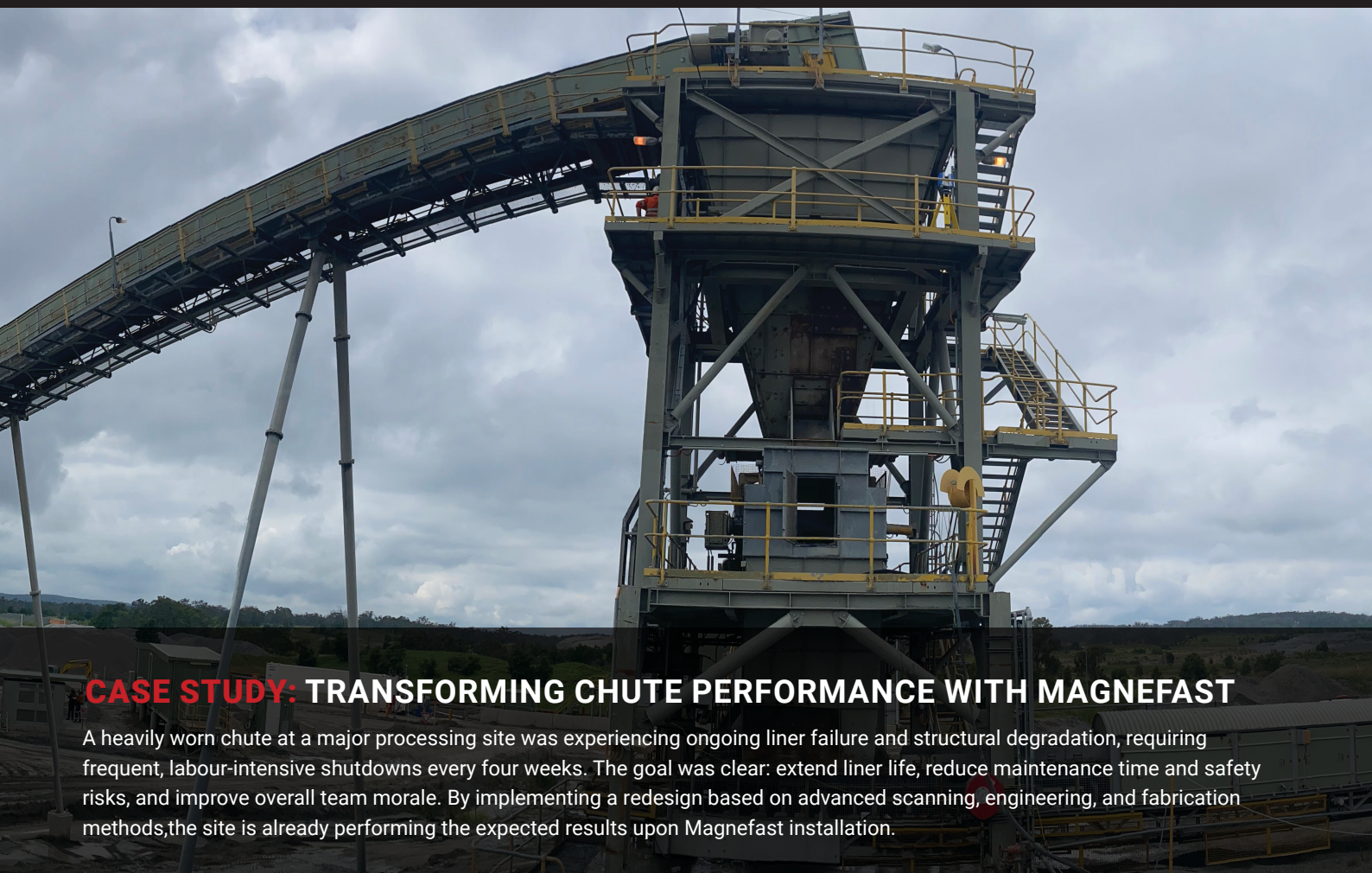




CASE STUDY: TRANSFORMING CHUTE PERFORMANCE WITH MAGNEFAST

A heavily worn chute at a major processing site was experiencing ongoing liner failure and structural degradation, requiring frequent, labour-intensive shutdowns every four weeks. The goal was clear: extend liner life, reduce maintenance time and safety risks, and improve overall team morale. By implementing a redesign based on advanced scanning, engineering, and fabrication methods, the site is already performing the expected results upon Magnefast installation.



LOCATION: New South Wales

APPLIC.: Transfer Chute

SOLUTION: Magnefast

ISSUES ON SITE:

The existing chute was plagued with a range of issues that significantly impacted maintenance efficiency and operational uptime.

- Severely bent and bowed chute walls
- Frequent wear liner failures — changeouts required every 4 weeks
- Multiple holes and temporary patch repairs
- Corroded studs/nuts made liner changes slow and difficult
- External scaffolding was needed, increasing safety risk and time

- Minimum of 3 personnel required for every liner replacement



For more information, please contact Wear Panels team below:



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IMPLEMENTATION:

Simplifying the liner replacement process was critical – not only to reduce physical strain but also to improve the psychological impact on the maintenance team by easing frustration and stress.

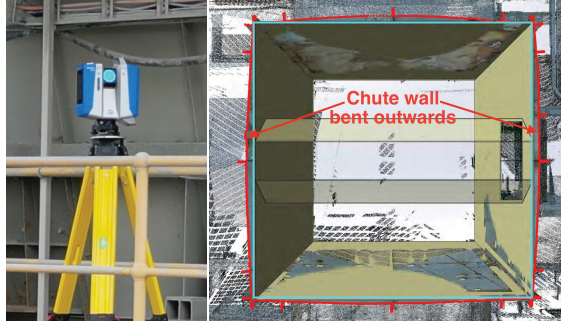
To achieve these objectives, a structured engineering-led approach was adopted.

- Laser Scan** – Captured existing geometry with high accuracy.
- CAD Model Development** – Created a digital twin of the chute to assess deformation and design constraints.
- Redesign to Eliminate Bowing** – Reinforced structural integrity and improved liner fitment.
- Wear Panel Mapping** – Identified high-impact zones to optimise liner layout
- Fabrication** – Custom wear liner panels and chute modifications built to spec
- Installation** – Installed without scaffolding or hot work, using a new fastening system for rapid changeouts

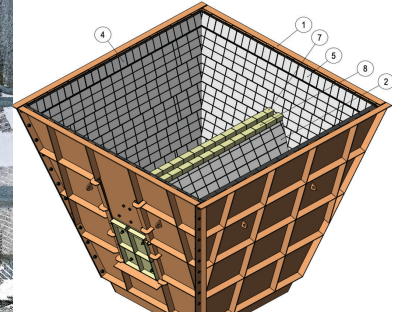
By combining advanced scanning, smart modelling, and precision fabrication, the team delivered a long-term solution tailored to the site's unique conditions.



Laser Scan and Chute Image



Chute Redesign and Wear Panel Map



52+ Weeks Extension
in Wear Liner Life

>50% Reduction
in Labour and Downtime

100% No Hot Work or Scaffolding

100% Boosted Morale
for the Maintenance Crew

**Forecasted results, further updates to follow after next regular inspection.*

PROJECT UPDATE:

The redesigned chute, commissioned and put into service in March 2025, has demonstrated the value of a strategic, engineering-led approach.

By using advanced laser scanning and CAD modelling, we developed an accurate retrofit solution tailored to the site's unique wear patterns and structural challenges. This approach is already showing strong potential to deliver a longer-lasting wear system, along with forecasted savings in time, labour, and safety risks.

The simplified liner change process has also positively impacted team wellbeing and morale. As the chute remains in service, further updates on performance will be done on the next regular inspection.



Before



After

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