

CAPABILITY STATEMENT



Straight-Forward, Engineering Solutions.

Mechanical • Structural • Electrical Engineering

CONTENTS



03	Who We Are	14	Bulk Material Handling
04	Leadership Team	18	Hard Rock
06	People and Culture	20	Cement
08	Core Services	22	Key Project List
10	Design and Drafting		
11	Project Management		
12	Project Locations		
13	Our Clients		

Who We Are

Capability Statement



Our Purpose

Linear Engineering, established in 2014, in Brisbane, is committed to transforming the engineering industry with client-focused, practical solutions. Our skilled team integrates multiple engineering disciplines to deliver innovative, real-world outcomes. We emphasise transparency, collaboration, and integrity, ensuring our projects are fit for purpose.

Mission

Our mission is to bring elegance back to engineering by making end-user priorities a central part of design. To achieve this, we take the time to understand your processes, people, and business culture before proposing solutions. By fully grasping your challenges, we develop solutions from the ground up. In recent years, Australian engineering has shifted away from prioritising client needs. Our mission is to reverse this trend by delivering a service built on honesty, integrity, and client outcomes.

Vision

Our goal is to transform the engineering industry in Australia. Our engineers are committed to providing nationwide service, moving beyond the traditional, hands-off consultancy model. We adopt a more collaborative approach, working closely with clients to identify the best solutions for their needs. By integrating multiple engineering disciplines, we find innovative ways to deliver practical, tailored results.



We work closely with clients to identify the best solutions for their needs.



Leadership Team

Our leadership team takes a hands-on approach, leveraging our expertise beyond just design and auditing. We have successfully delivered numerous working machines in the field, enabling us to provide valuable insights into constructability, modularisation, and procurement processes. From project inception to completion, our team is dedicated to driving optimal outcomes, ensuring that every aspect of your project is expertly managed and executed.





 **Geoff Hargreaves**
Managing Director



 **Josh Mitchel**
Lead Project Manager



 **Lee Williams**
Principal Engineer

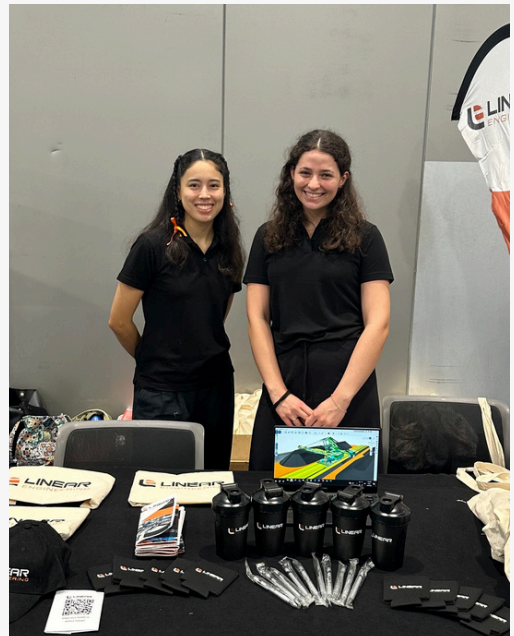


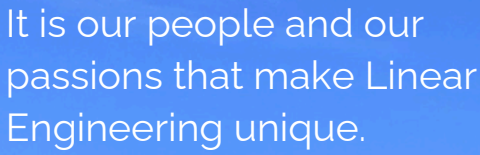
 **Chris Goodrich**
Lead Designer



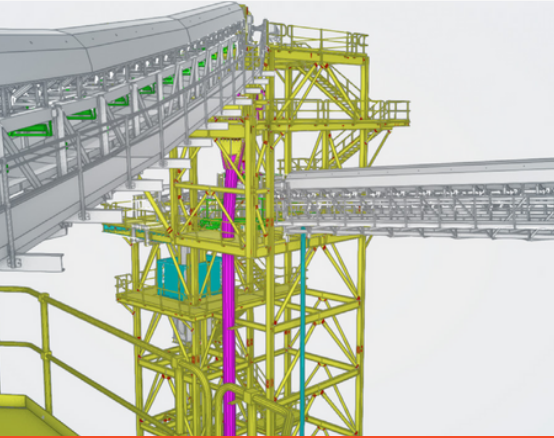
People and Culture

At Linear Engineering, our success is fuelled by a dynamic and supportive culture. We have built a work environment where every team member, from senior professionals to graduate engineers, feel valued and empowered to excel. We invest in our employees' professional development, offering opportunities for growth and encouraging them to push boundaries. We actively engage with undergraduates and graduates, providing them with hands-on experience and mentoring to shape their careers. Our culture fosters a sense of camaraderie and shared purpose, ensuring that our team is motivated and aligned with our mission. By nurturing this positive and engaging work environment, we attract and retain top talent, driving exceptional performance and delivering outstanding results for our clients.

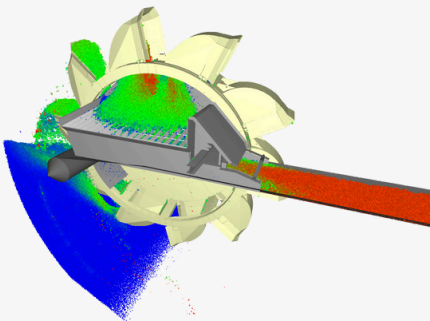




Design and Drafting



Design and drafting are integral to our commitment to precision and excellence. We offer high-quality third-party verification through advanced simulation and mathematical modelling capabilities, including Finite Element Analysis (FEA), Discrete Element Method (DEM), Computational Fluid Dynamics (CFD), and Pipe Modelling. These tools allow us to create detailed, accurate representations of complex systems and ensure that every design element is rigorously tested for performance and reliability.



We help our clients deliver projects on time and on budget.

Our expertise includes mobile machinery designed to AS4324 for bulk material handling machines. Our engineering support services, extend across all aspects of Bulk Materials Export and Heavy Industry, including Mechanical, Structural, Civil and Electrical disciplines. Our approach integrates innovative design techniques with meticulous drafting processes to deliver solutions that are not only technically robust but also aligned with industry standards and client specifications.

Project Management

Linear employs a structured, time-tested approach to ensure the seamless delivery of projects from inception through to final commissioning. Our project management services encompass advisory, procurement, document control, and schedule management. By integrating the essential elements, Linear Engineering oversees every aspect of the project lifecycle, ensuring that all tasks are completed efficiently and effectively. Our expertise in managing complex projects ensures that client objectives are met, risks are mitigated, and the final outcome aligns with the highest standards of quality and performance. With a focus on precision and reliability, Linear Engineering delivers projects on time and within scope, providing clients with peace of mind and exceptional results.

- » Benchmarking: Establishing standards to measure project progress and success.
- » Scheduling: Detailed timelines to ensure timely project completion.
- » Cost Control: Keeping projects within budget through careful planning and monitoring.



Project Locations




- BRISBANE
- GLADSTONE
- BUNDABERG
- MACKAY
- YEPOON
- ADELAIDE
- ROXBY DOWNS
- BROKEN HILL
- COBAR
- LEINSTER
- PERTH
- QUEENSTOWN
- LEINSTER
- PAPUA NEW GUINEA

500+
Projects

30+
Clients



I highly recommend Josh and the team for their outstanding professionalism and quality of work. Their expertise in Machine Design, coupled with great communication with our internal project team, resulted in a successful project.

 Luke Ruhle
Gladstone Ports Corporation Limited

Our Clients



Rio Tinto



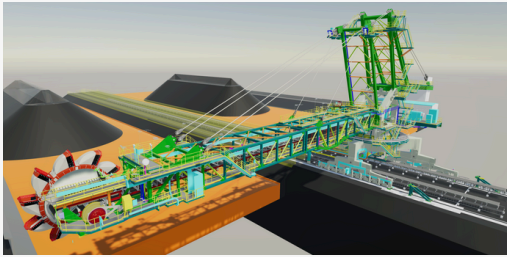
Bulk Material Handling



RECLAIMER RL4

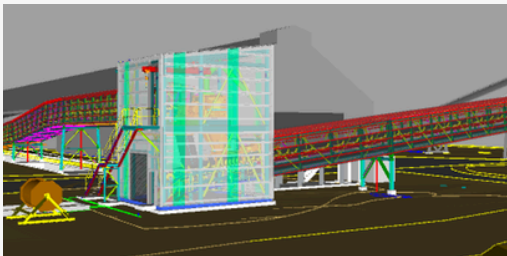
DALRYMPLE BAY

Reclaimer RL4 is a new rail mounted, slewing, luffing, bucketwheel reclaimer that is capable of reclaiming coal at a nominal rate of 5,300tph. Linear's engineers pushed the limits of the industries technologies through discrete element method modelling (DEM), finite element analysis (FEA) and first principles to design the machine. Linear have also introduced innovative systems for collaborative review in real time, as featured in the September 2024 issue of Bulk Handling Review Magazine.



BUNDABERG BULK SUGAR TERMINAL

This project was recently awarded the 2024 Bulk Handling Facility of the Year.



BUNDABERG

STL's existing port facility comprising of wharf, shiploader, conveyors and storage shed was used only for the export of sugar and wood pellets. Linear was engaged to design modifications for existing equipment and new equipment necessary for operation of the existing shiploader with a range of other commodities.





SR6 CABLE REELER

DALRYMPLE BAY

Dalrymple Bay Coal Terminal required a replacement cable reeler on one of its stacker reclaimers. Linear engineering was contracted to prepare a full detail design of the replacement infrastructure, suitable for OEM equipment installation.



GLENCORE GEORGE FISCHER RADIAL STACKER

MOUNT ISA MINES

The project included full detail design calculations of the machine structure, wheel sets and materials handling. The project was delivered by Linear Engineering and was considered a successful delivery by Glencore.



SL1 Owner's Engineer

GLADSTONE

Linear were the GPC Owner's Engineer for the SL1A project from 2017 until 2023 and continue to support the client team during the reconfiguration of the project. The role involved full technical and management oversight of FL Smidth in the design and construct (D&C) Contract for the machine. Linear completed detail design for many of the wharf enabling works to ensure the new machine could be installed and operate smoothly once on site



HYDRATE STOCKPILE UPGRADE



RIO TINTO YARWAN

Detail design for the conveyors and transfer chutes within the constraints of a brownfield site. The conveyors and transfers had to be designed within tight timeframes to meet the project schedule. The alumina hydrate chute designs were optimised using Discrete Element Method (DEM) analysis to simulate transfers and bin/feeder behaviour.

Hard Rock





STRUCTURAL AUDITING

BROKEN HILL

Each year, Linear assists Perilya mine with its structural integrity program by auditing the surface and underground fixed plant equipment.



MINE UPGRADE FEASIBILITY

COPPER MINES TASMANIA

Linear was engaged by MCA and New Century Resources (NCR) to do a MHS upgrade feasibility study. The study involved winter compliance, headframe structural design, underground conveyor and crushing system design and mine shaft conveyor design.





Cement

FISHERMANS ISLAND CEMENT TERMINAL

SOUTHERN CROSS CEMENT

Linear provided RPEQ detail design services for a "terminal conversion" from grain export to cement import. Equipment included air slides, silos, ship unloader and dust suppression.



PORT AUGUSTA

SOUTHERN CROSS CEMENT

Linear developed a full 3D concept and CAPEX for the new facility in South Australia.



Key Project List

QLD



Sugar Terminal Limited
(STL)
Bundaberg

- Bundaberg Sugar Terminal - Common User Infrastructure – Detailed Design and commissioning support for conveyor and shiploader modifications, improving operational capacity and safety.

Water Treatment &
Filtration Solutions (WTF)
Biggenden

- WTP Upgrade – Linear Engineering provided structural and mechanical engineering services for the detail design of a Water Treatment Plant upgrade.

Rio Tinto
Yarwan

- Hydrate Stockpile Upgrade – Detail Design for the conveyors and transfers within the constraints of a brownfield site.

Gladstone Ports Corporation
(GPC)
Gladstone

- RG Tanna Coal Terminal – Shiploader 2 & 3 Hose Reeler – Feasibility Study to recover environmental and risk management performance through improved wash down and cleaning up capacity plus reliable water supply to the fire sprinkler systems.
- RG Tanna Coal Terminal – Shiploader 2 Shuttle Winch Redesign – Detail Design for Shiploader 2 Shuttle System.
- RG Tanna Coal Terminal – Linear were the GPC Owners Engineer for the SL1A project and continue to support the client team during the reconfiguration of the project. The role involved full technical and management oversight of FL Smidth in the design and construct (D&C) Contract for the machine.
- Shiploader 3 VSD Upgrade – Detailed Design, Development of Functional Description and Critical Settings for the major upgrade to Shiploader 3 (SL3) onboard Variable Speed Drive (VSD) system.

QLD

Wiggins Island Coal Export Terminal (WICET)
Golding Point

- WICET Bridge Stacker – The first of its kind in Queensland, Lee (Principal Engineer) was the mechanical lead and managed every aspect of the mechanical design, helping to deliver a unique and innovative design solution.

Dalrymple Bay Coal Terminal (DBCT)
Hay Point

- Bucketwheel redesign – Redesign of the existing machine bucket connection method. Linear performed design verification on the bucket connection method including FEA of the new connection and load paths. The new buckets were installed onto RL1, RL2, SR3A and SR4A.

Glencore
Mount Isa

- Glencore George Fischer Radial Stacker – Detail design calculations of the machine structure, wheel sets and materials handling.

Southern Cross Cement
Brisbane

- Fishermans Island Terminal Upgrade – Detail design services for a terminal conversion from grain export to cement import.

WA

Cosmos
Western Area

- Dewatering Pump Design – Detailed Design of a mine dewatering system from underground to surface.

NSW

Perilya Broken Hill Limited
Broken Hill

- Port Pirie Electrical Audit – Conducted an electrical audit of the Port Pirie site for asset management risk assessment purposes.

TAS

MCA Engineering
Mt Lyell

- Mt Lyell Shaft Rehabilitation – Feasibility Study to recommend to the NCR Board on whether to further explore the requirements of the existing shaft, whether that be as a ventilation intake or as a hoisting facility.

2024



Mechanical • Structural • Electrical Engineering

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