



**GR ENGINEERING SERVICES**  
ENGINEERING CONSULTANTS AND CONTRACTORS

# CAPABILITY STATEMENT







Mt Morgans Gold Project

Client: Dacian Gold Limited

## Contents

4	Company Overview and History
5	GR Engineering at a Glance
6	Management Systems
7	Our Values
7	Financial
8	Management Team
10	Value Engineering
10	Project Capability
11	Engineering Capability
12	Project Delivery Capability
14	Project Delivery Track Record
16	Technical Capability
18	Project Studies and Development







GR Engineering is a process engineering, design and construction company providing high quality solutions to the global resources and mineral processing industry.



GR Engineering has successfully delivered projects on time and on budget under both EPC and EPCM models.

## Company Overview and History

GR Engineering is a process engineering, design and construction organisation. We strive to provide workable, innovative and cost effective solutions and quality services to the global resources and mineral processing industries through integrated, efficient and practical designs whilst maintaining a high level of safety and operational performance. GR Engineering personnel have the capability and proven track record to undertake projects from the initial evaluation and study phase through to design, construction, commissioning and operational support.

GR Engineering was formed in October 2006 under the direction of Joe Ricciardo, previously Managing Director of JR Engineering Services (JR) and General Manager of Roche.

Initially undertaking feasibility studies and project delivery services for the gold and base metals sectors in Australia, GR Engineering expanded and now deliver projects internationally for a broad range of metals and industrial minerals (including heavy minerals and mineral sands).

GR Engineering became an ASX public listed company in April 2011. The company's shares are majority owned by Executive and Senior Management thereby promoting a 'hands on' approach to company operations and management.

Many of the staff employed by GR Engineering have worked together over a twenty year period, and form a strong, stable and reliable team. GR Engineering believe that the company success is a direct result of employing experienced and loyal people having a professional work ethic.

The GR Engineering offices in Perth and Brisbane service clients in Australasia, Africa, Europe and the Americas.

In April 2014, GR Engineering acquired Upstream Production Solutions (UPS) which provides specialist operations and maintenance in the oil and gas sector.

In February 2020, GR Engineering acquired Arizona based multi-disciplinary engineering firm Hanlon Engineering and Associates Inc. (Hanlon). Hanlon has an experienced management team, solid technical and commercial base and longstanding relationships with major mining companies including Barrick, Freeport and Kinross. The Hanlon head office is in Tucson.

In May 2021, GR Engineering acquired Mipac which is a global leader in operational technology, control systems and engineering services. Mipac provide expert services to mining, minerals, chemicals and manufacturing businesses.





## GR Engineering at a Glance

### An experienced multi-disciplinary team

GR Engineering employs personnel who generally have 10 to 20 years industry, design and project delivery experience with a strong operations management and implementation background. Most of our personnel have worked together in project teams to successfully deliver feasibility studies and projects in the mineral processing industry. GR Engineering currently employs over 300 professional engineering and support personnel in addition to a directly employed multi-discipline site construction workforce consisting of Structural, Mechanical, Piping and Electrical (SMPE) trades. Combined with UPS, Hanlon and Mipac, the GR Engineering Company employs in excess of 1000 professional and trades personnel.

### Long term relationships driving value for our clients

GR Engineering personnel have an intimate appreciation of the company's culture, ethics and values. Our most significant asset is the quality of our people together with our ability to develop and mentor new personnel.

GR Engineering has an excellent reputation with financing institutions, providing confidence in completed feasibility studies prepared by GR

Engineering, our successful and proven industry record in executing project design and construction on time and on budget is a hallmark of GR Engineering.

### Successful track record of 'company-making' projects

GR Engineering has delivered 'company making' projects for mining companies recognising the critical importance of cost, time and performance to all stakeholders. Inaugural company making projects delivered by GR Engineering include:

- ◆ Integra Mining Limited (Randalls)
- ◆ Avoca Resources Limited (Higginsville)
- ◆ Doray Minerals Limited (Andy Well)
- ◆ Catalpa Resources Limited (Edna May)
- ◆ Western Areas Limited (Cosmic Boy Project)
- ◆ CBH Resources Limited (Rasp Project)
- ◆ PT Batu Temang Raya (Wetar Copper Project)
- ◆ Auctus Minerals (Mungana Project)
- ◆ Independence Group NL (Nova Nickel Project)
- ◆ Dacian Gold Limited (Mt Morgans Gold Project)
- ◆ Gascoyne Resources Ltd (Dalgarganga)
- ◆ Galena Mining Limited (Apra Base Metals Project)
- ◆ Calidus Resource Limited (Warrawoona Gold Project)

# Our Values

GR Engineering is founded on a strong belief in our Core Values. These Core Values drive our people and underpin our corporate goals. Our values are:

- ◆ Provision of a safe, healthy and hazard free workplace
- ◆ Our clients are our focus
- ◆ A commitment to innovation and quality
- ◆ Our people are our most significant asset
- ◆ We will always act with honesty and integrity
- ◆ Respect for the community and the environment

Our Values support our Vision, “to be a market leader in safe, quality, cost competitive and timely engineering solutions to the global mineral processing market”.

**Success achieved through visible and stable leadership, continuous education and a commitment to our values and policies.**

## Management Systems

### Workplace Health and Safety Management

GR Engineering is founded on a strong belief in our core values. These values drive us to constantly improve our working environment. Our commitment to occupational health and safety of all our employees and subcontractors is managed to ensure a safe working environment where no-one works in an unsafe manner. We are committed to the target of “zero harm”.



GR Engineering has an excellent safety record and we are proud of our safety performance. GR OHS Systems are accredited to ISO 45001 (Certifying Body: Lloyds Registrar (LRQA); Licence Number: MEL6037923). GR Engineering is also Federal Safety Council accredited and permitted to design and deliver projects with NAIF participation.

### Environmental Management

GR Engineering understands the potentially sensitive nature of our client’s business and project locations and the potential impacts and interfaces with the local environment and communities.

GR Engineering works with our clients and their stakeholders and strives to identify and reduce potential environmental impacts at the design stage with the aim of delivering projects with zero environmental incidents.



## Quality Assurance



GR Engineering operates a Quality Management System that is accredited to AS/NZS ISO 9001-2015 (Certifying Body: Lloyds Registrar (LRQA); Licence Number: MEL6037923).

GR Engineering utilises a propriety software database PHA Pro to conduct HAZAN and HAZOP assessments. The software has numerous features to simplify the recording of base information, generate quantitative risk data, record corrective actions and preparation of a risk register and summary reports.

## Financial

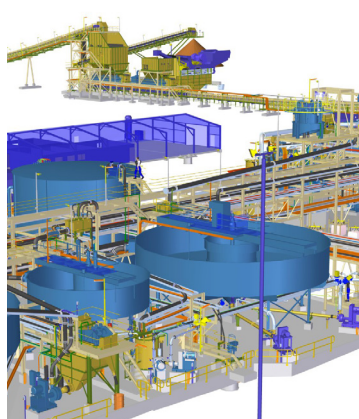
The continued successful growth of GR Engineering in Australia and internationally is reflected in the increasing size of the company and it's ability to deliver strong financial outcomes over a long period of time.

In an industry where financial management and cost control is vital, GR Engineering utilises Greentree and other systems to manage project costs. The system is recognised as ideal for our industry and allows GR Engineering to accurately track and manage all financial aspects of our company and projects in real time.

GR Engineering maintains a comprehensive suite of insurance policies typically associated with engineering and construction including: Public and Product Liability, Professional Indemnity, Workers' Compensation and Plant Equipment Insurances. Certificates of currency for insurances can be provided on request.

Visit the GR Engineering website to view our most recent annual report and other stock market information.

**ASX listed company with an excellent record with financial lending institutions and a track record of successful project delivery.**



# Management Team

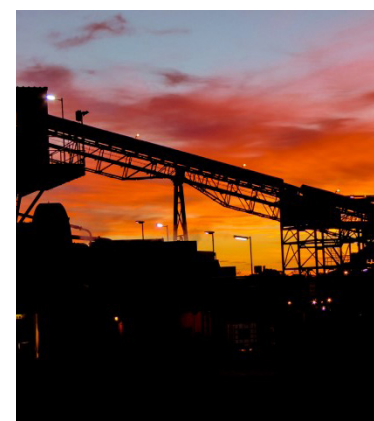
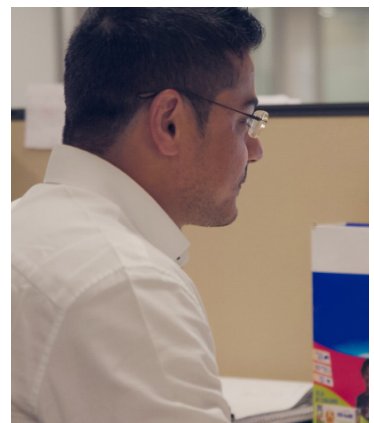
## Company Board

Phil Lockyer	Non-Executive Chairman
Geoff Jones	Managing Director
Tony Patrizi	Executive Director
Peter Hood	Non-Executive Director
Joe Totaro	Non-Executive Director
Omesh Motiwalla	Company Secretary and CFO

## Senior Management

Dave Sala Tenna	Manager Projects
Steve Kendrick	Manager Projects and Quality Systems
Ryan Kriedemann	Manager Engineering
Brian Masters	Manager Project Development
Tom Marshall	Manager Eastern Region/Americas
Peter Allen	Manager Technical Services
Faye Turner	Manager Human Resources
Terry Condipoderro	Manager Health, Safety and Environment

Well known and highly regarded Board and Executive Management Team.







Ok Tedi Crusher Relocation Project, PNG

*Client: Ok Tedi Mining Limited*



# Value Engineering

The earlier GR Engineering is involved, the greater the value-add to our clients. Strategically, we seek opportunities to become involved in projects at an early stage and offer the full suite of project studies which are conducted using in-house resources.

The earlier our involvement the greater our influence on the project design outcomes, offering our clients a wealth of knowledge from our operational and development experience.

GR Engineering utilises an in-house developed software system to assist value engineering, innovation and improve project outcomes.

Optimum project results are achieved through early assessment of issues such as:

- ◆ Process Design and Test Work Management
- ◆ Flowsheet Optimisation
- ◆ Layout and Infrastructure Development
- ◆ Equipment Selection and Trade-off Studies

- ◆ Electrical and Control Systems Design
- ◆ Hazard, Risk and Operability Assessments using PHA Pro Scheduling and Constructability Planning
- ◆ Logistics Planning
- ◆ 3D Modelling
- ◆ Business Readiness and Commissioning
- ◆ Asset Management Development during Design
- ◆ Life of Project Planning and Closure Planning
- ◆ Technical and Operating Support

**GR Engineering has excellent vendor relationships and technology partners supporting quality, value-add solutions and innovation.**

# Project Capability

GR Engineering is recognised in the mining and minerals industry as a process engineering, design and construction organisation has the ability to deliver quality designs with on time, on budget and on performance project outcomes.

These services are provided to a broad client base primarily in the following market sectors and processes:

- ◆ Gold and Precious Metals
- ◆ Base Metals
- ◆ Industrial Minerals
- ◆ Iron Ore (including Magnetite)
- ◆ Battery Technology Metals
- ◆ Gravity Separation Processes
- ◆ Beneficiation Processes
- ◆ Paste Backfill Facilities for Underground Mines
- ◆ Project Infrastructure

GR Engineering has delivered a number of first or 'company making' projects for exploration companies transitioning to producers. GR Engineering has received repeat business from a broad range of our clients and take pride in the excellent reputation held in the industry.

GR Engineering Project Managers take full responsibility for the projects to which they are assigned from feasibility study to commissioning and are attentive to the client's requirements and requests. The Executive Management team is involved in the routine operations of the business and accessible to our clients.

GR Engineering is committed to providing innovative solutions with minimum delivery time, cost effectiveness, superior functionality, safety and reduced environmental impact.



# Engineering Capability

## Design

GR Engineering provides full detailed design and drafting services, including design, safety and constructability reviews, to identify value opportunities.

Our engineering staff are long standing industry experts with technical competence and operational experience who engage with our clients and technology partners to ensure innovative, fit for purpose solutions are identified and incorporated into our projects.

Many of our design engineers have more than 15 years' operational experience within the minerals industry and bring vast practical knowledge to the design table.

## 3D Design for enhanced constructability and operability

GR Engineering has invested heavily in the software systems that allow format and application adaptability. Designs are modelled in 3D to enhance constructability and operability. Significant capital and operating cost savings can result.

- ◆ Solid Edge 3D Modelling
- ◆ Microstation V8
- ◆ AutoCAD
- ◆ STRAND 7
- ◆ MICROSTRAN
- ◆ Fluid Flow 3
- ◆ JK Simmet
- ◆ Bruno (Metso)
- ◆ Plant Designer (Sadvik)
- ◆ SysCAD

Sandy Ridge Project

Client: Tellus Holdings Ltd

## Attention to Quality for robust design

GR Engineering operate a Quality Assurance and Quality Control (QA/QC) system which is applied within the design environment as well as within project implementation.

Design, checking, authorisation and review processes are robust and deliver quality designs.

GR Engineering can design using a range of Standards depending upon project location, industry specific requirements and international codes.

GR Engineering has developed a series of internal Standards which, in many instances, surpass applicable country nominated standards.



# Project Delivery Capability

GR Engineering delivers its projects via various contracting models including EPC (turnkey fixed price project management, design and construction), EPCM (cost reimbursable) or Alliance based (shared risk and reward) arrangements and is focussed on delivering projects utilising in-house project management, design and construction resources.

GR Engineering employs quality, high calibre personnel with a strong operations management background. Our personnel have previously delivered successful feasibility studies and projects in the mineral processing industry.

GR Engineering currently employs approximately 300 professional engineering and support personnel in addition to a directly employed multi discipline site construction workforce consisting of SMPE trades and support employees.

GR Engineering works with a complete spectrum of clients ranging from junior mining/exploration companies undertaking their first project, through to well established major Australian and international mining houses.

GR Engineering personnel have the capability and proven track record to undertake projects from the initial evaluation and study phase through to design, construction, commissioning and operational support.

Project Services provided by GR Engineering include:

- ◆ Project studies (concept through to bankable feasibility)
- ◆ Engineering and procurement
- ◆ Construction and commissioning
- ◆ Asset management plans and system development
- ◆ Operations and technical support (audits, reviews and consulting)
- ◆ Infrastructure development

The ability to deliver on the full suite of services from feasibility study to commissioning gives our clients the benefit and certainty of one point of accountability for the entire project.

**Over 300 professionals employed  
across the full range of engineering and  
construction disciplines.**



Carosue Dam Paste Backfill Project

Client: Saracen Gold Mines Pty Ltd

Sunrise Dam UFG Project

Client: AngloGold Ashanti Australia Limited



Nova Nickel Project

Client: Independence Group NL (IGO)

# Project Delivery Track Record

A summary of GR Engineering's recent projects. Further details for references are available on request.

2021/22



\$48M

Cosmos Expansion Project

Western Areas Ltd  
EPC / Australia

\$75.5M

Warrawoona Gold Project

Calidus Resources Ltd  
EPC / Australia

\$59.5M

Norseman Gold Project

Pantoro Ltd  
EPC / Australia

\$73M

Mt Ida Gold Project

Aurenne Alt Resources Ltd  
EPC / Australia

Abra Base Metals Project

Galena Mining Ltd  
EPC / Australia

\$89.5M

Thunderbox Expansion Project

Northern Star Resources Ltd  
EPC / Australia

\$101M

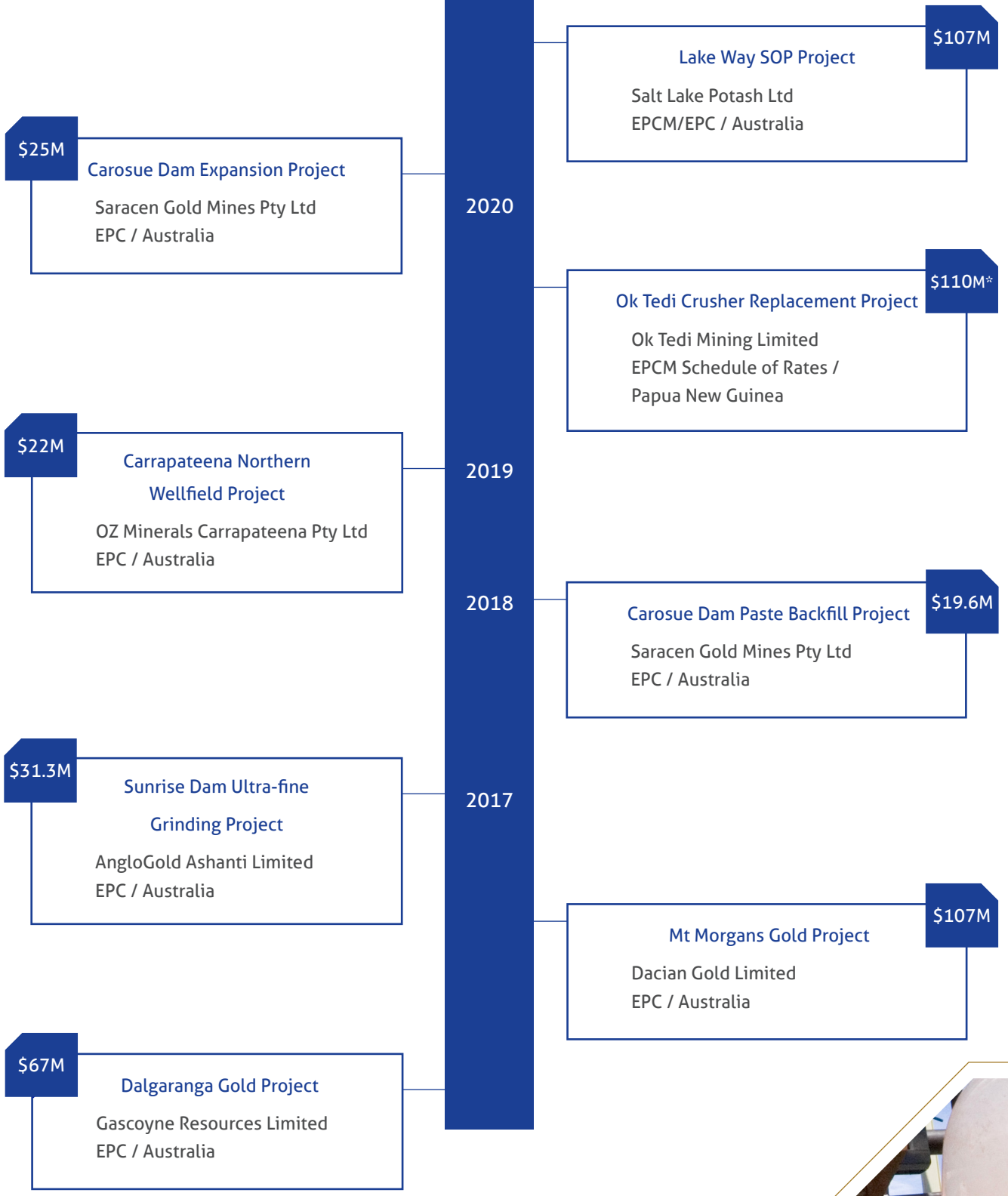
Thunderbird Mineral Sands Project

Kimberley Mineral Sands Ltd  
EPC / Australia

\$175M

*All figures in Australian Dollars.*





GR Engineering take pride in our quality of work and reputation in the industry.



# Technical Capability

## Technical Advisory Services

GR Engineering offers a range of services that extend beyond the handover of a project facility. The services offered include:

- ◆ Asset Management and Life Cycle Support
- ◆ Technical Audits
- ◆ Operational Consulting Services
- ◆ Technology Development and Innovation



GR Engineering's patented, web-enabled soft data management application, Asset Data + Plus offers seamless management of operational assets through the Proactive Maintenance Data Management (PMDM) process. Asset Data + Plus ensures correct application of the PMDM process which enables clients to experience a significant reduction in the number of unplanned emergency breakdown tasks. The result will be increased productivity, reduced downtime along with a culture of continuous improvement, monitoring and management.

## Project Development and Study Management

GR Engineering has a team of personnel focused on project development and the pipeline of potential projects.

GR Engineering has experience in undertaking all levels of study from scoping or Preliminary Economic Assessment (PEA) to Definitive (or bankable) Feasibility Studies and has extensive experience in delivering documentation under NI43-101.

GR Engineering believe that real value is generated for our clients by having an early involvement in project studies that go on to become project deliveries by our company. Key study team personnel stay with a project from feasibility study stage through to design, engineering, construction and commissioning, resulting in time efficient and seamless project delivery.

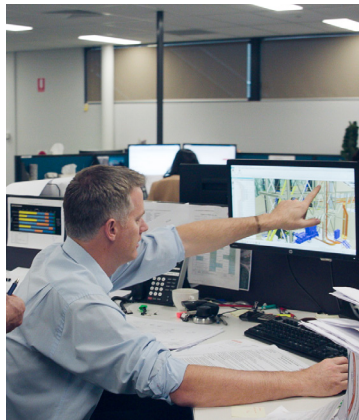
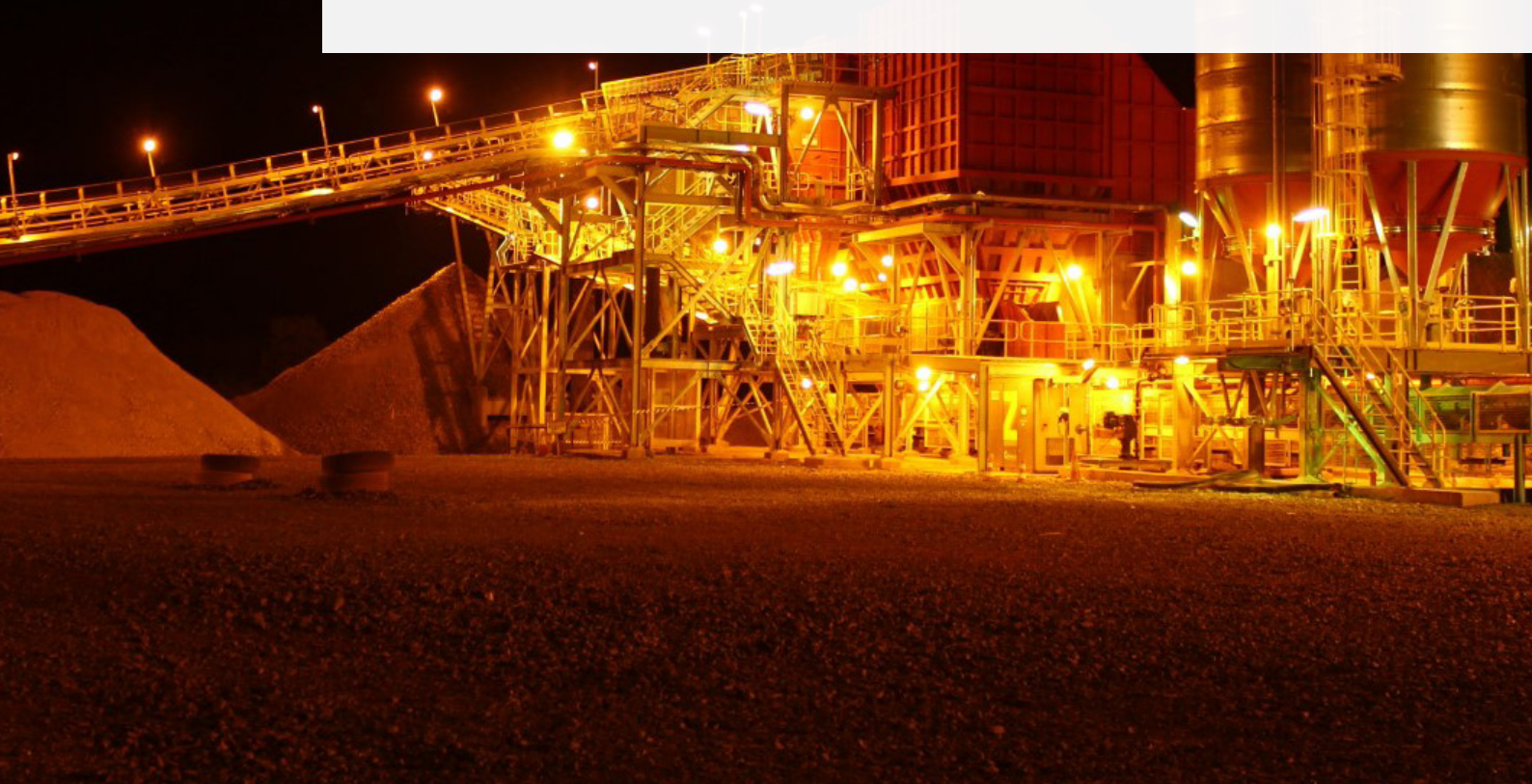
GR Engineering Study Managers generally have in excess of 20 years industry experience and personnel are tailored to the commodity under study. We have personnel available with experience in most mineral commodities and this depth and experience sets us apart from our competitors.

**GR Engineering has an excellent track record for the successful completion of resource sector studies.**



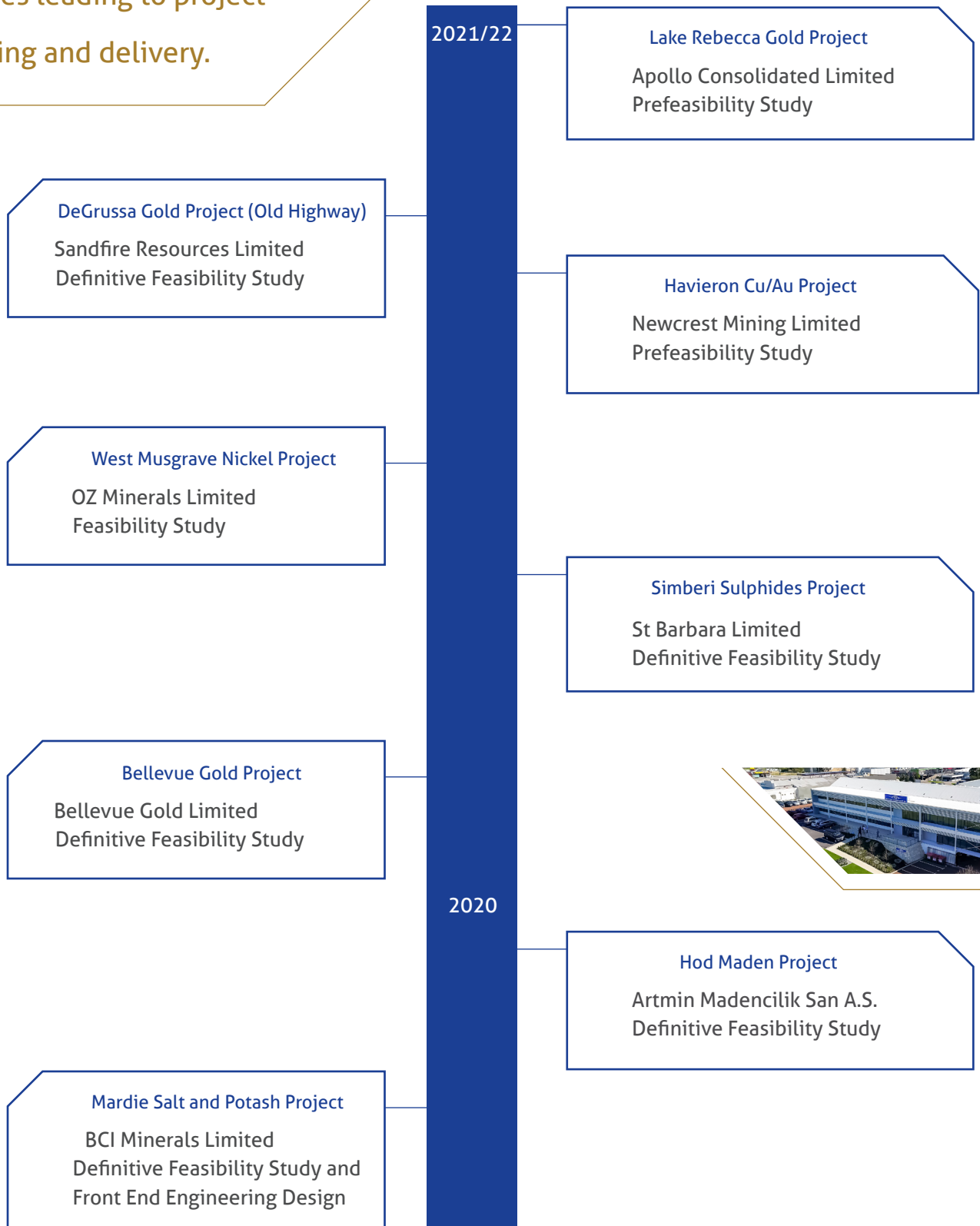


GR Engineering focuses on providing integrated, efficient and practical designs to achieve innovative and cost effective solutions.

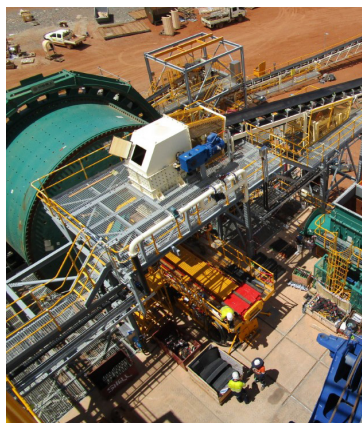
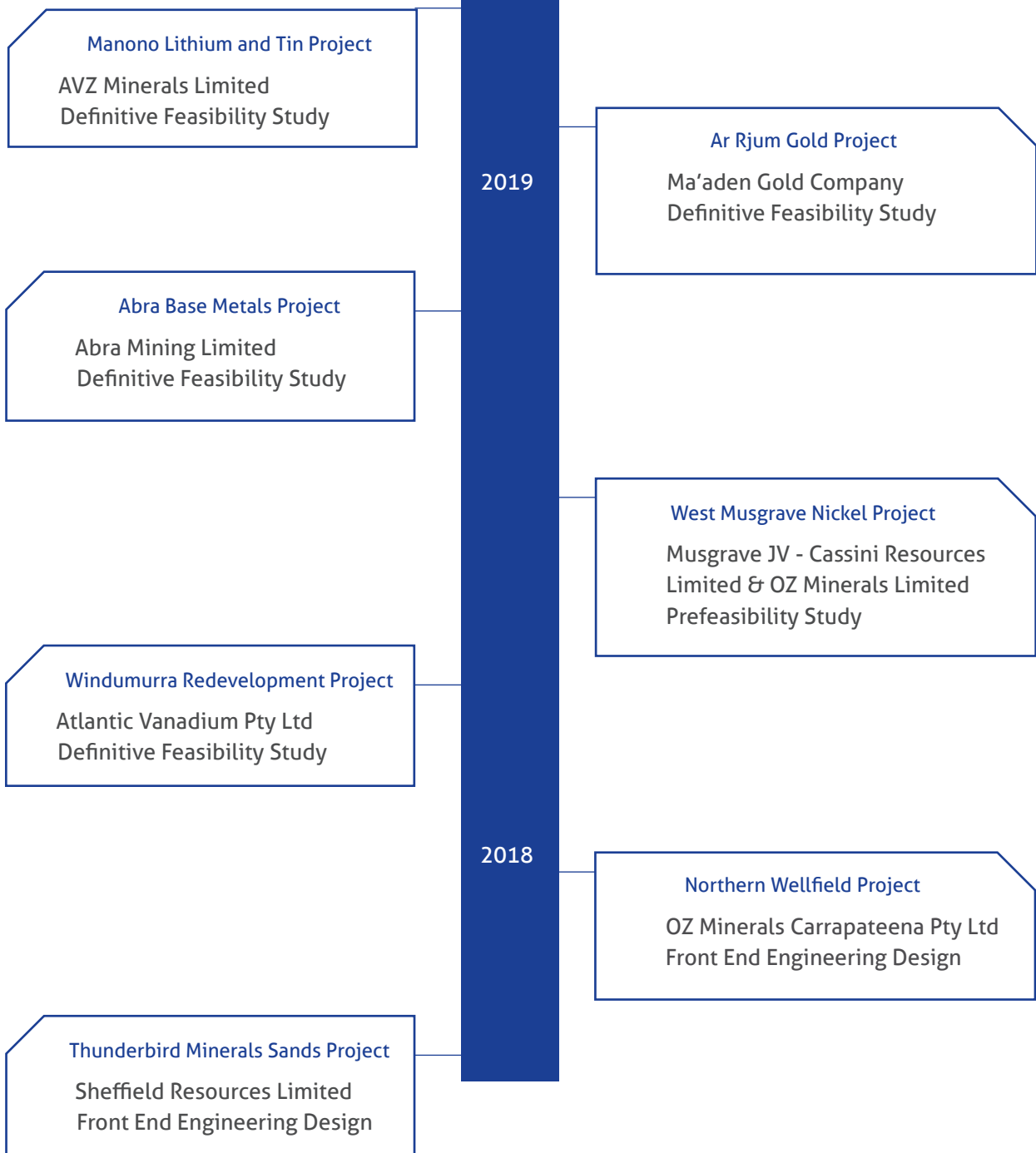


# Project Study Track Record

A summary of GR Engineering recently delivered feasibility studies leading to project funding and delivery.







Study work performed by GR Engineering has enabled many of our clients to secure funded development.

## Contact

Geoff Jones  
Managing Director  
Ph: +61 8 6272 6149  
Mob: +61 419 925 921

Brian Masters  
Project Development Manager  
Ph: +61 8 6272 6130  
Mob: +61 488 493 641

[gres@gres.com.au](mailto:gres@gres.com.au)  
[www.gres.com.au](http://www.gres.com.au)

### Australian Office Details

71 Daly Street  
Ascot WA 6104  
PO Box 258  
Belmont WA 6984  
Ph: +61 8 6272 6000

Level 3, 42 McDougall Street  
Milton QLD 4064  
PO Box 1290  
Milton BC QLD 4064  
Ph: +61 7 3838 8000

### United States Office Details

Hanlon Engineering and  
Associates Inc - Head Office  
2502 N. Huachuca Drive  
Tucson, Arizona 85745  
Ph: +1 520 326 0062

