

Mining & Metals - EPCM

We make things happen. Problem-solvers with a passion for transforming our world.



Beca Mining & Metals

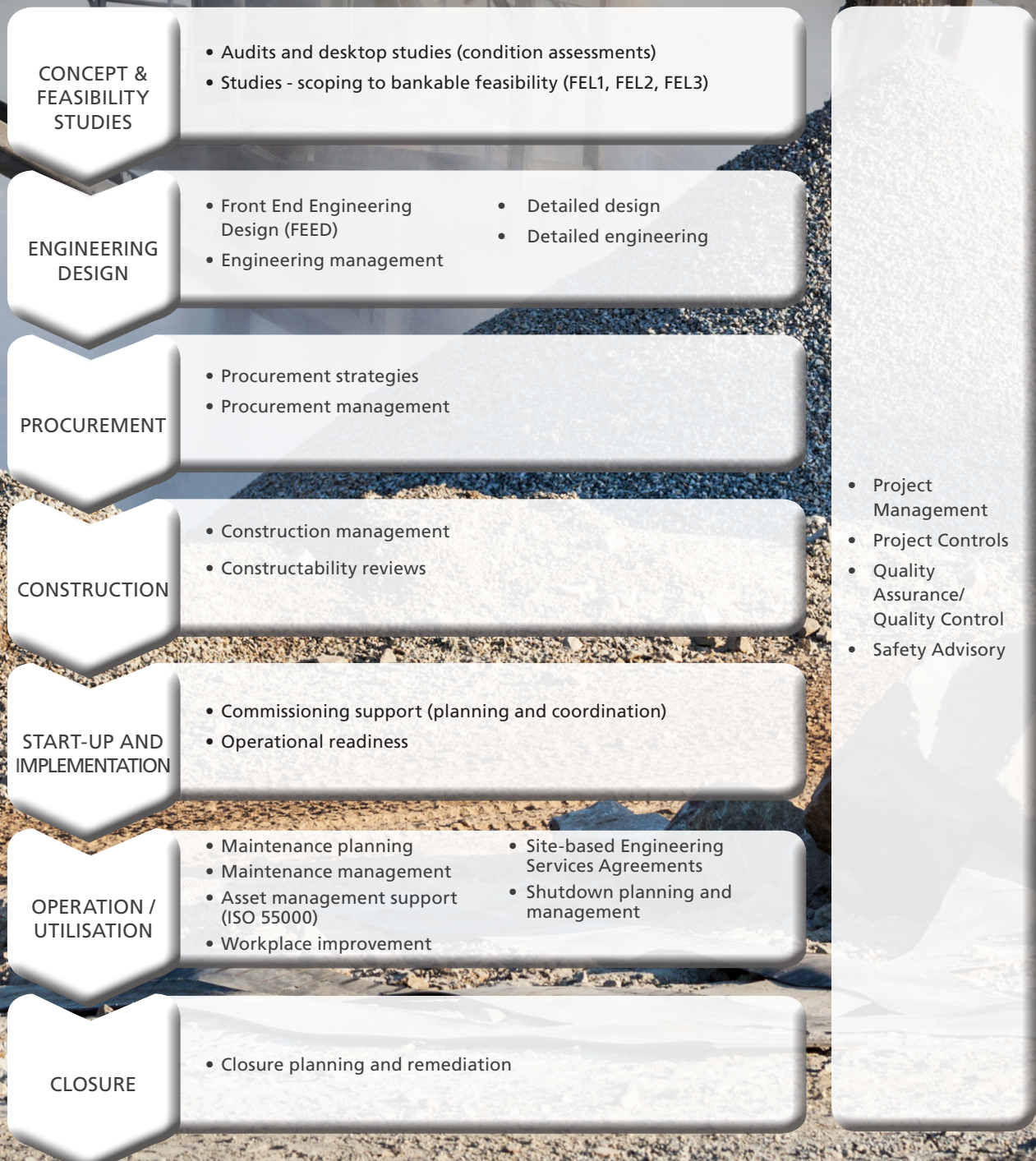
Beca is a leading provider in the mining and metals market across Australia, New Zealand, the Pacific and Asia, underpinned by a global network of technical specialists, project managers and advisors. We provide multi-layered engineering, project management, operations and maintenance services throughout the project lifecycle as listed in the below diagram.

We draw on the experience and knowledge of our entire team across the Beca Group to deliver mining solutions. We collaborate with our clients and with contractors to understand the requirements of each project, and then assemble a team of engineers, project managers, project services and construction managers best suited to complete the task.

We have previously achieved benefits for our clients such as:

- Site-wide efficiency increase
- Shorter duration shutdowns
- Improved project outcomes
- Energy and water consumption reduction
- Capacity and productivity increase from process design improvements
- Reduction in health, safety and environment incidents
- Cost savings from a sound procurement strategy

Engineering Services



Engineering Disciplines

Challenges to the mining and metals industry are increasing – from the need to reduce operating costs to developing resources in widespread locations. Creating more certainty for your project and operational outcomes has never been more important.

Whether tackling a plant shutdown in remote Indonesia or debottlenecking an ore feed preparation plant, we can provide international mining and metals knowledge, combined with a can-do approach.

With a strong commitment to build and maintain long-term relationships, we make it our goal to thoroughly understand your business and deliver your project successfully.

Our years of experience in the mining and metals market, combined with a global network of technical specialists, project managers and advisors, means you can take advantage of multi-layered engineering, project management and operations and maintenance services. This includes plant shutdowns, brownfields modification or feasibility studies.



Mechanical

- Mobile plant
- Dump stations
- Crushing & screening
- Overland & plant conveyors
- Stacking / reclaiming
- Tankage
- Milling & grinding
- Process equipment & piping
- Load out
- Industrial ventilation
- Pyrometallurgic equipment
- Pressure vessels / boilers



Structural

- Heavy industrial process building
- Bins, hoppers, silos, domes & stacks
- Workshops
- Mine site amenities
- Reinforced concrete structures



Process

- Process design
- Site wide utilities
- Debottlenecking
- Process simulation



Civil

- Foundations
- Roads
- Bridges
- Haul roads
- Dump station retaining walls & abutments
- Stockpile pads
- Rail loops and sidings
- Airstrips
- Ports, jetties & wharves
- Landfills



Electrical

- High voltage
- Low voltage
- Network balance & protection settings
- Instrumentation, control & automation



Environmental

- Environmental impact assessments
- Audits, licensing & permits
- Environmental monitoring & modelling
- Environmental management plans
- Social assessments & community engagement
- Sustainability & waste management



Water

- Site wide water balance & management
- Supply mains & pump stations
- Raw water supply
- Process water treatment
- Stormwater modelling, sediment control & flood studies
- Fresh water diversions & levees
- Erosion and sediment control planning



Geotechnics

- Dry cake tailings solutions & slurry tailings storage conversions
- Earth & rock fill dams
- Mine pit geotechnical
- Plant site geotechnical
- Seismic engineering & hazard studies
- Subsidence

EPCM

Beca has built an excellent reputation for the engineering design, procurement and construction management of projects for clients in the energy and industrial sectors.

We manage risk throughout the project lifecycle and deliver solid outcomes to engineering challenges. Our approach looks not only at technical solutions, but also at broader aspects of project delivery which can start at concept stage and follow through to commissioning and handover.

Engineering

Our engineering services include the preparation of drawings and technical specifications for the basic and detailed engineering components according to the client's requirements and established budgets and schedule. We manage the quality, progress and performance of engineering activities as well as the content of engineering documents. Our services also include technical analysis of bids, recommendations, verification of supplier and contractor documents, technical support during construction, testing, commissioning, and the preparation of as-built drawings.

Procurement

Beca has experience in managing the procurement of materials, labour, services and equipment to help reduce risk and increase value in industrial projects.

We provide a range of procurement management services which can be tailored to meet the needs of each client and applied in succession throughout the project. These include procurement strategy, procurement schedule, document preparation, procurement management and expediting, and in-plant inspection of project materials and equipment.

Construction Management

Working closely with our clients we manage the construction services of each project, including the development and co-ordination of the site's health and safety programme, the management and co-ordination of contractors, construction cost planning and control, the administration of construction contracts, as well as engineering support at the site, including the technical supervision of work performed.



Beca has consistently delivered high quality work and significant effort to make the Off Gas projects work... The ability to bring in resources that have both the technical expertise and familiarity with the site and working conditions is an advantage to us both.

Martin Holmberg, Superintendent Central Engineering
PT Inco

Project Management

In support of our project delivery we rely on best practice systems and technology – a standardised study execution workflow, a comprehensive enterprise timesheet capture system, and an enterprise-wide quality management system – and we use modern software based design and project management tools. Our internal project management philosophy is outlined in the Beca Project Management System (BPMS), which has been developed to provide consistency of practice across all Beca project managers.

This system forms the basis of our approach to project management from the business analysis stage, when business needs are identified, through to final commission and handover. Throughout the full project lifecycle for each phase we identify the key activities, client approvals and outputs necessary for completion of those phases.

Risk Management

Beca provides a comprehensive risk management service to our industrial clients, tailored to suit the demands of a project from a simple facilitated risk management workshop to a fully detailed risk mitigation plan with risk-based cost estimates and delivery programmes.

On project commissions, we work with our clients to complete an analysis of the risks involved using industry-standard templates such as AS/NZS 4360:2004. This assessment enables clients and the project team to understand the potential impact of risks and to gain greater certainty about quality, time and cost commitments.

Once the risks have been identified, we help implement practical solutions to actively monitor and manage those risks.

Cost Control

Beca provides full project services in cost management and quantity surveying. We assist clients' with financial outcomes to projects through a detailed understanding of project objectives, drivers and constraints.

Our computerised estimating and cost reporting systems provide detailed cost information at all stages of project development and project construction, allowing ongoing monitoring of actual costs against original budgets. Similar systems monitor and provide regular progress reports for procurement contracts during the construction phase.

Our experience has been almost 100 years in the making. We combine our skills and insights with those of our clients, using the power of partnerships to think, design and develop creative solutions together.

Health and Safety

We have developed company-wide policies and procedures relating to Health & Safety based on AS/NZS 4801:001. We adapt the procedures to meet country or state specific legislative requirements as determined by the job location.

In addition, our quality management system includes a series of safety-related Work Instructions for office and field work activities, as well as Safety in Design (SiD) considerations. Beca has a commitment to initiating project safety performance at the design stage, aiming to eliminate hazards, reduce risks from hazards that cannot be eliminated, and provide information on residual risks if they are significant.



A Collaborative Approach

We believe our values are fundamental to how we work and why people work with us.

Our Values

Partnership

We value longstanding relationships and connection with clients, business partners and with our colleagues across the globe. Trust, integrity and teamwork are the foundations of our culture.

Tenacity

We stick by our clients and the need to solve their complex problems and challenges. Our perseverance, attitude, systems and disciplines focus our efforts into the delivery of excellence.

Enjoyment

We thrive on challenges and take pride in being innovative and delivering successful solutions. We enjoy each other's company, celebrate our achievements and have fun along the way.

Care

We respect each other, our clients, the environment and our community. Safety and care are embedded in our work practices and are key to the positive solutions we deliver for our clients.

About Beca

Proudly employee-owned, Beca is one of the largest and most diverse engineering and related consultancy services companies in the Asia-Pacific. We assist clients across a wide range of markets including Industrial, Power, Buildings, Public Sector, Transport and Water. As well as numerous engineering consultancy services, we provide holistic project services from concept to commissioning, including project management, cost management, planning,

urban design, architecture, land information, valuations and software services.

Beca operates from three key market hubs: New Zealand, Australia and Asia. With more than 3,000 technical and decision support staff, we strive for excellence and client satisfaction, building on our long service record as trusted advisors to many existing clients and delivering value to our new ones.

Contact Us



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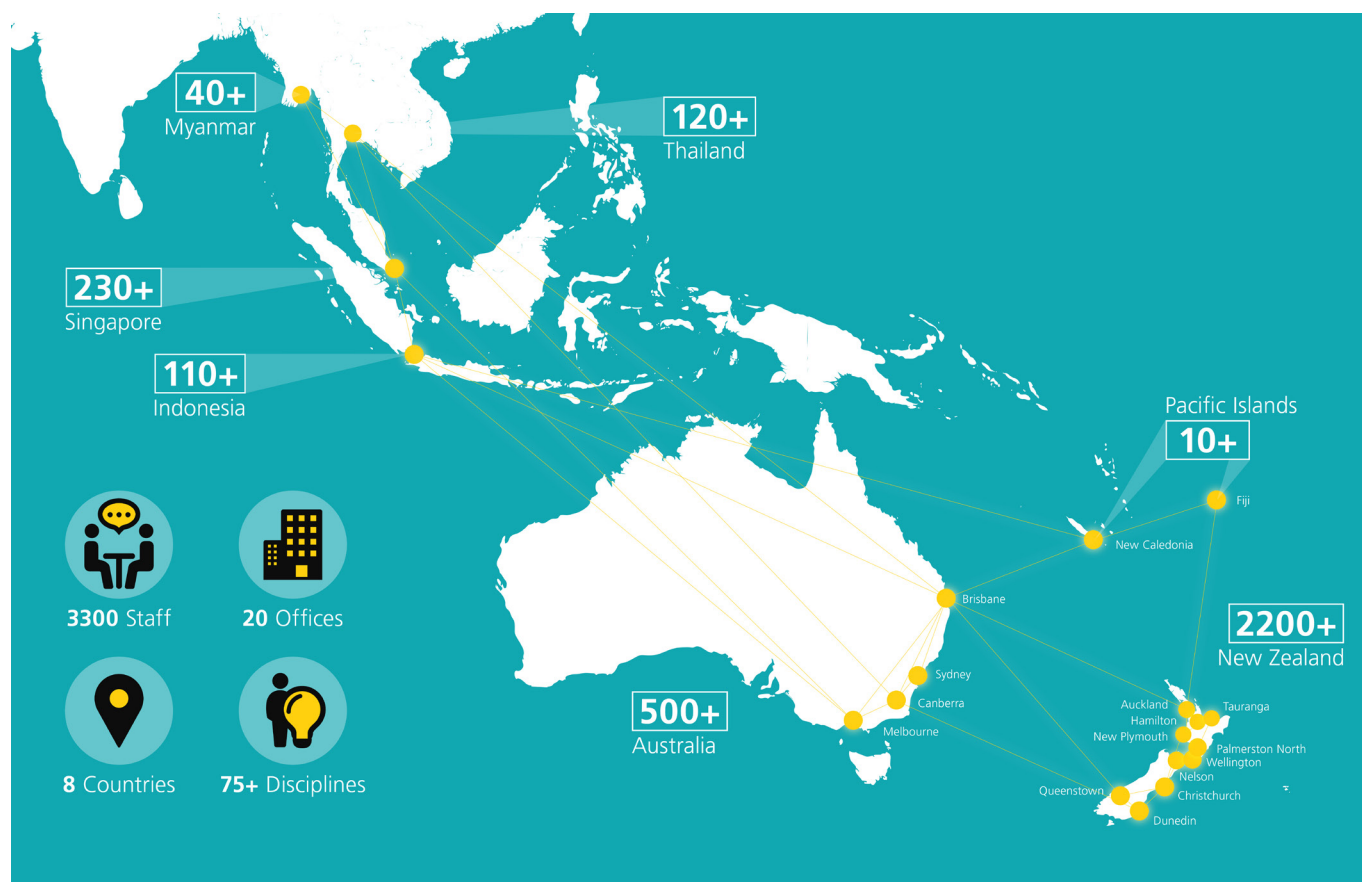


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