

Project 2.9

Broadening NPV through a multi-criteria optimisation framework based on CRC TiME values research

Why the project?

The current industry practice prioritises maximising Net Present Value (NPV) for shareholders, often neglecting diverse stakeholder perspectives. This one-sided approach, dominated by the interests of the operating company and shareholders, overlooks varying stakeholder views on mining's value, risk, and timelines. Without considering these perspectives, the foundation for informed dialogue is incomplete, impacting support levels among stakeholders. Recognising the uniqueness of each mining project and the need for transparent, impartial analyses, this project aims to address these inconsistencies. By incorporating a broader range of stakeholder perspectives, it seeks to foster constructive dialogue essential for sustainable mining operations.

What does the project aim to achieve?

This project aims to research diverse stakeholder perspectives on value, risk, and time horizons in mining activities, integrating them into a multi-criteria optimisation framework. By quantifying these perspectives, it seeks to broaden potential strategies for informed dialogue and engagement. Emphasising clear communication, the focus is on quantifiable impacts for financial calculations, leveraging insights from Foundational Project 2.1 on stakeholder values.

The project will develop a methodological approach to model these values, optimising the project by modifying the objective function and input variables to align with each stakeholder's proposition. It contributes to CRC TiME's objectives by enhancing valuation and decision metrics for mine closure, improving strategic decision-making and communication processes.

What other outcomes are sought

The research will reshape life-of-mine planning by incorporating multi-stakeholder perspectives beyond simple NPV maximization, allowing decisions based on various metrics like environmental stewardship, risk mitigation, and social license. It will enable transparent modelling of ESG-related criteria, aligning with broader stakeholder engagement, a core value identified in Foundational Project 2.1. Including each stakeholder's views in strategic decision-making calculations is vital for meaningful engagement.



Who will benefit from the project?

Traditional Owners, Mining Companies, Local and regional communities, Mine planning and design software companies, Local, State and National Governments, research institutions.

Engagement Opportunities?

Industry partners will be invited to provide data related to mine planning that can be used to develop and test the multi-criteria optimisation process and algorithms.

Timeline

May 2024 - May 2026.

How does this align with CRC TiME Impact objectives?

Mines are closed in ways that deliver social, economic and environmental value

Closed sites are repurposed to enable a faster transition to diverse and resilient local economies

Mine closure business solutions drive new commercial and/or regional closure opportunities

Continued investment in Australian resources

Policy, decisions and management systems reduce risks



Project Partners

Curtin University, Quantified Strategies, South 32, Rio Tinto, MMG, BHP, Hanson, Iluka, Newmont, Roy Hill, Deswik, Anglo American, Office of the Queensland Mine Rehabilitation Commissioner



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