

Unlocking up to **USD 18 Mn** Annual Savings Across Mining Operations

Where fit-for-purpose AI meets real operational outcomes

Business challenge

A global mid-tier mining company operating across multiple mining, processing, and smelting sites in Australia and Southern Africa needed to improve performance across a complex, interconnected operating environment without disrupting production.

The challenge was not limited to a single mine or process. Across geographies, the company faced varying ore characteristics, site-level operating constraints, and inconsistent access to timely decision support.

Key challenges included:

- Variability in ore quality and blending, affecting metal recovery and yield
- High energy consumption across smelting and processing operations
- Limited near real-time decision support for operators and planners
- Siloed data across mining, processing, and smelting value chains
- Inconsistent execution of operational strategies across sites
- The need to deliver and scale measurable value while maintaining operational continuity

The company required more than a standalone technology platform. It needed a scalable, site-relevant approach that could translate operational complexity into measurable business impact and embed AI into daily decision-making in a way that teams across locations could trust, adopt, and sustain.

The Cyient solution

Cyient developed an AI-augmented operational optimization suite combining reusable analytical capabilities with solutions adapted to individual sites and processes. Approximately 60% of each solution was reusable, while 40% was co-developed with the client to reflect site-specific operational requirements.

AI-augmented ore blending

Optimized ore-source combinations by accounting for grade variability, hardness, and downstream processing impact

Process set-point optimization

Used real-time operational data to improve throughput, metal recovery, and process stability

Smelter energy optimization

Identified operating parameters that could reduce energy consumption across smelting and processing operations

Resource and schedule optimization

Improved short-interval control, resource allocation, bottleneck management, and execution efficiency

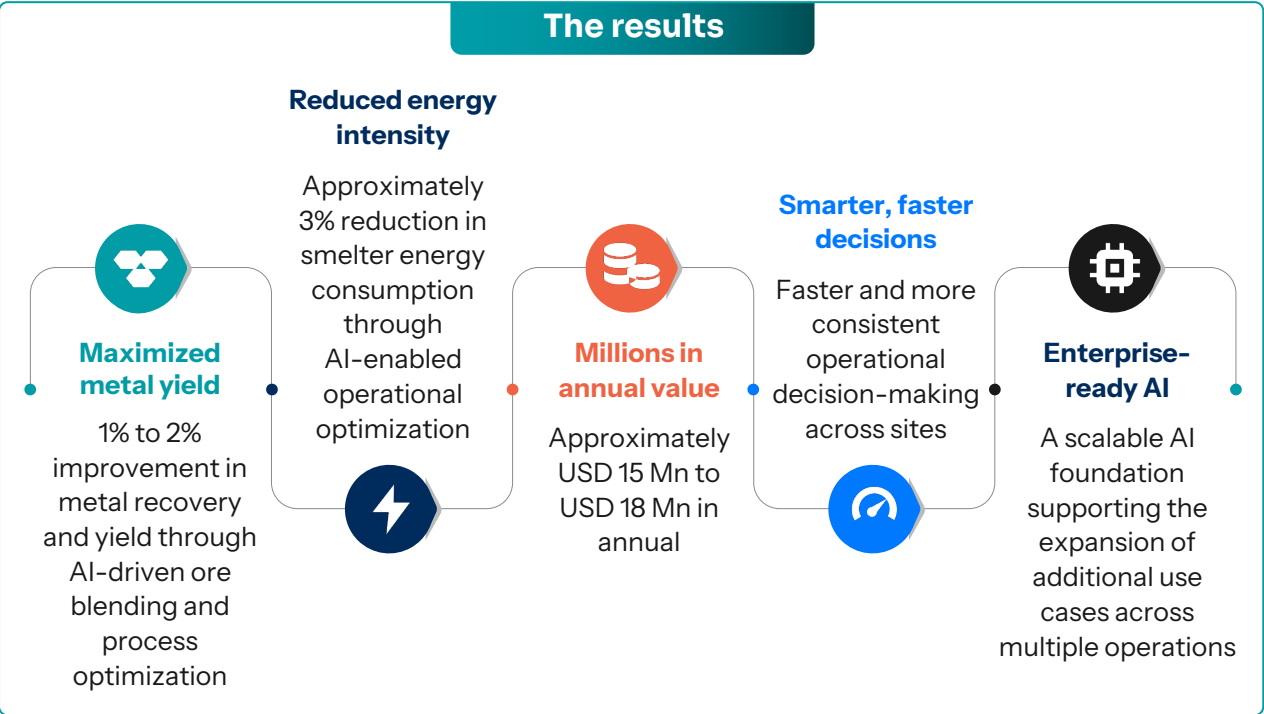
Safety and compliance analytics

Identified patterns across alarms, interventions, and near misses to support safer and more consistent operations

Adoption and capability building

Included solution maintenance, user training, and the integration of new ways of working into day-to-day operations

Each opportunity was assessed against the financial and operational value it could create. Cyient aligned with the company’s stakeholders to quantify value, establish realistic cost boundaries, and secure the commitment of site leaders and operational teams before designing the technical solution. This helped ensure that AI was applied only where it represented the most commercially viable and operationally relevant approach.



Nothing Less in action

The greatest outcome was not optimization of a single process, but the ability to systematically identify and capture value across the entire lifecycle.

Start building an AI roadmap that delivers measurable value across your mining operations.
Speak with our experts, today.

Cyient is a global lifecycle engineering services company powering mission-critical industries from design to aftermarket across products, plants, and networks. With 300+ customers and 15,000+ associates across 30+ countries, we combine human expertise, deep domain knowledge, and AI to deliver intelligent engineering for every lifecycle across Aerospace and Rail, Automotive and Mobility, Connectivity, Energy, Healthcare, Mining, Utilities, and beyond.

To learn how we deliver exemplary outcomes, nothing less, visit www.cyient.com.

North America Headquarters	Europe, Middle East, and Africa Headquarters	Asia Pacific Headquarters	Global Headquarters
USA T: +1860 528 5430	UK T: +44 118 3043720	Australia T: +61 2 8887 8600	Hyderabad T: +91 40 6764 1000