

CASE STUDY

Optimising product portfolios over a 10-year planning horizon

BlendOpt



**Integrated Value-chain
Paradyn Optimisation**



www.paradynsystems.com



contact@paradynsystems.com



Australia: (+61) 390 285 495

USA: (+1) 717 945 0964

CASE STUDY

Optimising product portfolios over a 10-year planning horizon

Make High-Quality Decisions

BlendOpt Value-chain Optimisation Platform

The Challenge

An open-pit coal mining operation in Latin America containing many pits with varying coal quality over time needed to optimise a product portfolio across a long-term planning horizon of 10 years. The operation involved washing of a fixed proportion of material placed onto ROM stockpiles and crushing activities. Exported coal is transported to the port via railway and the operation has an annual production capacity of over 31 million tonnes. The product portfolio consisted of many products based on fixed CV ranges. The operation presented a challenge for optimisation because the highly constrained complex blending problem presented minimal flexibility in delivery of alternative products or adjusting quality specifications. Additionally, product portfolio mix had to align with the frequency distribution of the grade of mined coal.

The Solution

Using BlendOpt the client modelled numerous stockpiles, blending decisions and product portfolio distributions over many years. For our client's subject matter expert, this manual process was very time consuming and prone to mistakes, despite their intimate knowledge of the operation. BlendOpt was utilised by the operation as a value-chain solver for integrated operations by optimising the blending decisions while satisfying the product distribution and operational constraints.

The Value Unlocked for our Client

With BlendOpt our client tested multiple "What If" conditions to ensure robust planning of different product portfolios, in order to discover an optimal plan for their long-term planning problem. BlendOpt's user friendly UI and data validation ensured provided transparency and confidence in the generated result. Our client reduced the time taken in planning activities by an order of magnitude, allowing users to spend more of their time on critical tasks such as day to day operations. The data-integration and reporting functionality of BlendOpt also allowed the operation to utilise BlendOpt as a single point of truth for discussion with other stakeholders within the organisation.

The BlendOpt Solution

Paradyn's BlendOpt value-chain platform powered by Collaborative Mathematical Optimisation (CMO) can help you:

- Satisfy constraints in your value-chain
- Optimise for any objective including tonnage, revenue, and cost
- Optimise and integrate operational, tactical and strategic planning from minutes to years
- Improve collaboration and synchronisation between planning and operations
- Publish reports to relevant stakeholders
- Reconcile forecast with actuals
- Optimise reserving, processing, blending and logistical decisions
- Product portfolio optimisation
- 'What-If' scenario analysis



Read our articles to learn about Paradyn's innovative value-chain optimisation technology and how it can help your operation.



The Benefits


 Optimal portfolio planning


 Automated data validation

 Transparent model driving actionable insights

 **Integrated Value-chain Optimisation**
Paradyn

 www.paradynsystems.com

 contact@paradynsystems.com

 Australia: (+61) 390 285 495

USA: (+1) 717 945 0964