

CASE STUDY

BlendOpt

Train to Vessel Blend Day of Operations Scheduling



Paradyn Integrated
Value-chain
Optimisation



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CASE STUDY

Train to Vessel Blend
Day of Operations Scheduling

Make High-Quality Decisions

BlendOpt Value-chain
Optimisation Platform

The Challenge

A multi-mine Coal exporter in South Africa needed a "Day of Operations" system to track port inventory and optimize the delivery of coal onto vessels. To make informed and accurate decisions required daily live data updates of train arrival status, coal quality lab results, inventory reconciliation, vessel berthing and vessel ETA.

Coal transport consisted of railing multiple grades from each of several mines, with tracking and management of coal qualities including ash, volatile matter, sulphur, moisture and NCV.

The Solution

Using BlendOpt the client was able to monitor the stockpile levels and qualities using regularly updated data from the coal terminal, with the predicted qualities falling within 0.6% of the vessel COA. The port management team were able to view new tippings to the stockpiles, with validation showing when the tipping qualities were outside grade specifications and therefore presented a quality risk. The inbuilt optimisation module of BlendOpt also removed the requirement for trial-and-error blend development. BlendOpt's highly configurable ETL pipeline GUI was used to rapidly configure and integrate the client's data sources within the application.

The Value Unlocked for our Client

By selecting high discount grades to add to the blend, that would not normally be considered during manual blend development, BlendOpt provided a solution where the client was able to increase the value of some of their blends by over 30% with the blends still meeting the contractual requirements.

BlendOpt's ensured transparency and confidence in daily decisions with significant impact to client cash flow, while data integration and live dashboards allowed non-technical users to rely on BlendOpt as a single source of truth for viewing and understanding the client's port operations.

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

 Increased blend values by over 30%



Quality within 0.6% of vessel COA



Improved transparency and confidence in daily decisions


 **Integrated Value-chain Optimisation**



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