Case Study

HVCCC

DESWIK
RACE Planner

Synchronize train, terminal and vessel operations with industrial mathematics.

Efficiency

Maximize supply chain throughput.

Elevated Planning

Forensically auditable, repeatable and objective planning support.

Automation

Greatly reduced planning time frames.

Optimizing one of the world's most complex coal supply chains.

THE CUSTOMER

The Hunter Valley Coal Chain Coordinator (HVCCC) acts as a coordinating body serving coal producers, haulage providers, track owners, and terminal operators in the Hunter Valley region of New South Wales. The HVCCC coordinates the movement of millions of tons of coal annually through a highly complex supply chain ending at the Port of Newcastle, one of the largest on the East Coast of Australia.

THE PROBLEM

The HVCCC Planning team must maximize the efficiency of the supply chain by objectively coordinating and synchronizing the flow of coal from train load points through the track network and terminal infrastructure onto vessels to fulfill customer orders as cost-effectively as possible.

THE CHALLENGES

The Hunter Valley Coal Chain is an incredibly complex supply chain consisting of: 12 producers; 45 coal mines; 4 haulage providers operating 13 separate fleets comprising 70 separate rail units; and 3 terminals, exporting to customers around the globe.

In any two week period the coal chain can load around 75 separate vessels serviced by over 1000 separate rail journeys.

There is an enormous number of interdependent decisions, that have to be made simultaneously, to ensure the overall system is operating efficiently including:

- Which cycles should each rail unit in each haulage provider fleet undertake in the planning horizon to rail the right coal for the right cargoes?
- How should stockpile space within terminals be allocated over time to store individually assembled cargoes or manage dedicated product stockpiles to ensure maximum velocity of material through the terminal given its available infrastructure?
- When should vessels load, noting they cannot load until all material has been railed and stacked and enough reclaiming and ship loading capacity is available?

THE SOLUTION

Deswik worked with HVCCC to revolutionize the way they optimized this highly complex coal chain by developing a world-class rail supply chain optimization tool—RACE.

- Produce optimized plans automatically in under 20 minutes
- Readily run and compare scenarios to answer questions commonly posed by the supply chain stakeholders they serve
- Easily investigate the impacts of changes to maintenance schedules, coal volumes, rolling stock availability, and vessel arrivals
- Determine, with high fidelity, where constraints might be active in the supply chain at any time

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Learn how to maximize operational throughput and asset utilization today.

SCHEDULE A DEMO