

# Supply Chain Modelling

## Industrial, Mining

The decision was made to save US\$800m of capital expenditure by forgoing the building of a new plant and improve supply chain management in order to utilise third party manufacturing options.



## Client

Our client is a multinational industrial corporation operating in over 50 countries worldwide and servicing customers in more than 100. They are the world's leading provider of commercial blasting systems, tunnelling support systems and mining chemical products.

## Purpose

The client required a detailed supply chain model to allow them to compare the cost of building and operating a new chemical manufacturing plant in Latin America against increasing shipments from international manufacturing supply points.

### The key requirements included:

- The key engine of the model involved mapping supply and demand points into a series of matrices, along with logistics costs depending on shipment sizes and regularity. The optimiser included any physical or contractual constraints and supply preference to determine the best allocation of supply to meet required demand;
- Integrating external data from external workbooks and data sources, including SAP and existing S&OP systems. Forecast was able to facilitate this in a robust way by using a series of import sheets and a system of error checks;
- Scenario handler modelling demand by country and various supply chain and logistics options with the ability to capture multiple scenarios and compare them alongside one another;
- Presentation of model outputs at various executive meetings to demonstrate findings, discuss scenarios and identify value. Forecast was able to add value by providing comparison of scenarios, with the ability to change region/demand point view during the presentations;

## Approach

Forecast worked closely with the client marketing team to understand product demand and pricing across multiple markets throughout Latin America, Africa, and Asia. We then worked with supply chain and procurement teams to understand available sources, costs and logistics options including seasonal factors, commodity price movements and exchange rate impacts. Forecast also worked with the manufacturing project team to integrate the capital investment parameters into the new optimiser model. Forecast's model scenario handler was a key aspect of the tool to support the client's executive team decision process.

## Outcome

The integrated marketing and supply chain optimisation model allowed the client's executive team to understand the full impact under various scenarios. The decision was made to save US\$800m of capital expenditure by forgoing the building of a new plant and improve supply chain management in order to utilise third party manufacturing options.

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