

Industrial Minerals Provider Increases Network Capacity and Improves Profitability with Daily-Use Network Optimization Model

Challenge

An industrial minerals provider distributes high-quality silica sand to customers across many industries such as oil and gas, renewable energy and paints and coatings. Getting its products to customers is a complex process, and evaluating order profitability is not a cut-and-dried exercise.

As with any bulk product, transportation costs comprise a significant portion of the company's cost structure. The company can ship by either truck or rail, but making the most cost-effective choice involves balancing several variables. To complicate matters, one of its primary industries, oil and gas, is highly volatile, and customers often need the leeway to change or cancel orders, even if the product has already been shipped. Finally, different types of silica sand are needed for different applications. Producing one type also produces by-products that can be used in different applications. However, if the by-products are not sold, they need to be dumped at the company's expense, and that can negatively impact the margin structure of its mining and processing operations.

Many companies come to LLamasoft looking for supply chain modeling tools that will help them answer "what-if" questions about optimal network structure and policies. This minerals provider wanted something a little more immediate. They needed a tool that would help them evaluate the profitability of each order based on a near real-time snapshot of the current network.

Solution

The company deployed LLamasoft supply chain design platform and data management tool. These tools allowed them to consider the entire network instead of just individual orders when determining profitability. In addition, they gained more insight into unprofitable contracts because they were able to look beyond volume. For example, instead of just assessing volume and profitability by customer, they could determine how many non-profitable orders their biggest customers were sending them. For volume-based businesses, this is exactly the kind of insight that can be helpful when re-negotiating contracts.



OBJECTIVE

Evaluate the profitability of each order based on a near real-time snapshot of their current network



SOLUTIONS

LLamasoft network optimization, data management

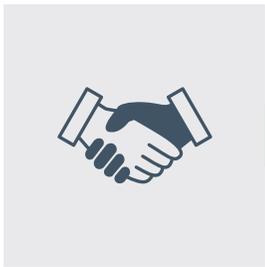


RESULTS

Three percent increase in revenue through improved allocation of existing production capabilities and increased visibility into the network for informed decision-making.

The original scope of the project called for weekly modeling. However, due to the volatility of their industry, project managers changed to a daily modeling cadence. Through excellent data integrity and automatically refreshing the model, the team has ensured this daily process takes no longer than fifteen minutes to run.

Perhaps one of the most interesting aspects of the project is the relationship between the customer and the LLamasoft consultants working in partnership. Due to the company's aggressive time and budget constraints, the entire project was completed remotely – on time and under budget. According to Mike Bucci, LLamasoft's engagement lead for the project, "The customer's commitment to the project, their ability to execute the details, and the strong working relationships developed between their project team and ours all contributed to a highly successful outcome." Now in the next phase of the project, the company has budgeted roughly four hours a week for "coaching sessions" with LLamasoft consultants to ensure the next round of targets are met.



Worked in partnership with the customer



Project completed remotely – on time and under budget



Performed weekly coaching sessions to meet ongoing targets

Results

By following model recommendations, the customer has seen an immediate three percent increase in revenue with no expansion or addition of production sites to the network. The added revenue is coming from better intuition into serving "non-profitable" orders. This is possible because the solution considers the trade-offs across the entire network including associated costs, and the model recommends fulfilling many orders which, considered in isolation, would previously have been deemed "non-profitable" due to associated costs.

Increased visibility into the network also allowed them to make more informed decisions regarding transportation methods and costs.

In addition to the sought-after profitability improvements, the project resulted in a number of side benefits. For example, due to the volatility of their business, plants cannot be operated at 100 percent capacity at all times. Increased visibility into their network allowed them to make more informed decisions regarding plant idling strategies as well as where they might cost-effectively expand capacity.

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