

Data Analytics Delivers Business Impact

CEVA Logistics Relocates Transportation Hub to Deliver Faster Service, Higher Profit



The **CEVA Logistics Management Team** knew that they could drive greater profitability out of their complex US ground transportation hub-and spoke network by **optimizing their hub locations**. After four unsuccessful attempts working with industry consulting firms, **CEVA chose Teranalytics to drive this initiative**, starting with the Western United States.

Follow-on opportunities: Replicate the successful Western United States pilot throughout CEVA's global operations to drive greater profitability. In parallel, team with Teranalytics to optimize driver schedules.

THE CHALLENGE: Changing Customer Shipment Patterns Impacted Existing Network Efficiency

CEVA's original hub network was efficient and served customers well. Over time, however, new customers came on board and existing customers' needs changed, resulting in higher costs than necessary. CEVA's management team suspected some of the hubs were in sup-optimum locations. However, quantifying the problem, and finding the solution, remained elusive, even after working with outside experts. Specifically:



Reduced competitiveness: Greater distance between customers and hubs increased shipping time.



Operational inefficiency: Trucks and drivers were servicing longer than optimal routes, increasing the need for both.



Reduced profitability: Longer shipment times increased costs in the face of competitive price constraints.



Daunting mathematics: The toughest challenge was to effectively quantify the location problem to make it possible to optimize the hub locations.



CEVA Logistics, a \$12 billion international entity, is one of the world's leading supply chain management companies, providing best-in-class contract logistics and freight management. CEVA employs 98,000 professionals in 800 facilities, spanning 160 countries.

CEVA's ground transportation network in the U.S. comprises regional trans-shipment hubs fed by a multitude of local stations. Customer shipments originate at CEVA stations and pass through one or more hubs en route to the final destination. CEVA trucks or truckers for hire carry cargo as quickly as possible through this massive network.

THE SOLUTION: Teranalytics network optimization guided by CEVA Experts



Initial Optimization: The Teranalytics team used customized algorithms to analyze CEVA's hub and spoke network, leveraging historical shipment data. This exercise identified hubs that were no longer well-positioned, recommended alternative locations, and confirmed that other hub locations remained optimal.



Data matching intuition: Teranalytics early results confirmed what the CEVA experts' believed but had not been able to support with data. The CEVA team decided to conduct a deep dive to further study the impact of relocating one hub that was predicted to return the maximum business and financial gain.



Deep dive: Relocating hubs is both expensive and risky. To further test the outcome of the simulation, the Teranalytics team pulled extensive cargo movement and financial data related to the chosen hub. They customized an algorithm to evaluate the full range of location-specific constraints, demand fluctuations, and economics, providing a close fit with actual business conditions.

THE RESULTS: CEVA Management Confidently Relocated a Major Regional Hub



Unambiguous outcome: The deep-dive study solidly quantified the expected level of savings for relocating this hub, giving CEVA executives confidence to progress with moving the hub.



Financial impact: CEVA expects that relocating this one hub will increase profitability by \$2.5 million per annum while continuing to enable exceptional customer service.



Ability to see the big picture: CEVA management now has the ability to analyze their hub locations throughout the network on an ongoing basis and redefine their service regions as traffic loads evolve.



Positioned for greater optimization: CEVA's next initiatives will be the analysis of their international ground transport hubs, as well as air and ocean networks.



"Previous consultants claimed to understand our business, and delivered questionable recommendations. By contrast, Teranalytics, listened, learned, and customized their algorithms in alignment with our business. We trust their numbers."

Global Ground & Rail Manager

