Case Study

Cold Chain Management for Improved Supply Chains

SLK delivers actionable insights for a more robust and profitable container cold chain business.

Case Summary

Transportation of cold chain products has always been a challenge. SLK co-innovated with a fortune 100 manufacturer to create a smart cold chain monitoring solution that led to an 8% improvement in profitability.

The Challenge

Cold chain products are transported in climate-controlled containers to preserve the quality of goods. However, refrigeration-equipment malfunctions, long wait times in hot locations like docks, and delays in approvals of USDA shipments could cause cargo damage in transit. Scarcity of cold chain technicians and the inability to detect equipment failure upfront for preventive maintenance results in high operational costs and frequent, costly replacements. The client wanted to create a solution that could monitor cold-chain containers and deliver real-time actionable insights to shippers who can take preventive action to minimize losses.

The Solution

SLK partnered with the client to co-create a cold chain monitoring solution and built it on the Microsoft Azure Services Platform with end-to-end solution ownership. We created algorithms that predict faults before a breakdown happens. The solution processes device data from 600,000+ & increasing containers globally. We also identified and deployed multiple constraints and influencers impacting the business. The solution has real-time intuitive dashboards that consider 40+ factors and ten alarm types. Today, the solution monitors 600,000+ modems covering 60% of the world's existing reefer containers and is used by 18 of the top 20 shipping lines.

Business Impact

| 8% Margin improvement | Improvement in container availability | Reduction in operational costs |

SLK's Efforts Showed Quick Results:

The ability to track and monitor containers in real-time helped create new efficiencies in the cold chain:

- Enabled 45% improvements in container availability
- Preventive maintenance and minimized losses during transit reduced operational costs and improved profit margins. This also helped reduce secondary damage claims by 8%
- Ability to identify faults before breakdown resulted in 99.9% guaranteed equipment uptime
- Enabled proactive and on-time USDA approvals

Together SLK and the client have solved a major pain point for the entire industry and helped create more resilient cold supply chains.

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SLK

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