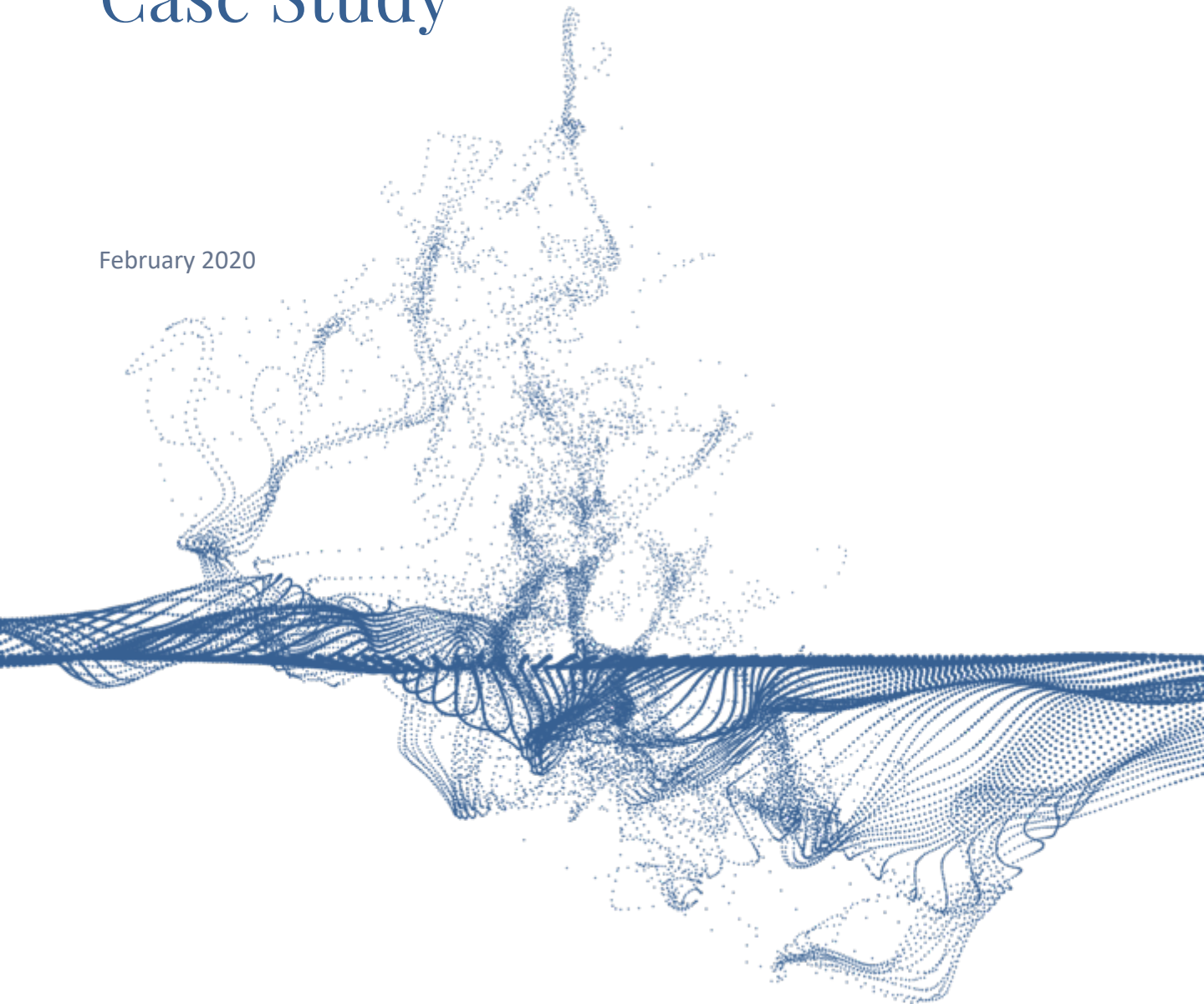




# Inventory Optimization For Value Creation: A Manufacturing and Export Logistics Case Study

February 2020





# About Kelmic

**Kelmic Consulting helps organizations capture opportunities and dramatically improve their operations.**

Helping our clients improve their operations since 2002

We partner with our clients to drive bottom-line impact by addressing and dramatically improving efficiencies in People, Processes, and Property. Our exceptional people draw upon more than 100 years of combined experience to bring you the right perspectives and expertise to help you tackle complex challenges and realize your strategic ambitions.



# Background

## About the Client

- Component export division of major automotive manufacturer
- Division had grown from under \$0.5 million to over \$1 billion in sales in 3 years
- 12 decentralized warehouse locations, globally
- Large fines for shortages
- Excessive cost of airfreight

*“Inventory was aging, indicating too much of the wrong product and too little of the needed products.”*

This component export division of a major automobile manufacturer had grown revenues from less than \$500,000 to over \$1 billion in less than three years.

There was a lack of proper systems and forecasting was based largely on forward release information from the manufacturing plants scattered around Europe and US.

Inventory levels were high and growing, yet shortages were also increasing. Inventory was aging, indicating too much of the wrong product and too little of the needed products.

Warehouses were located close to assembly facilities. These warehouses were contractually required to meet necessary demand and any shortages that resulted in line stoppage generated fines in excess of \$1 million per hour of downtime.

Inventory management was based on total demand expectation sourced from the assembly line projected production schedules. These changed daily. Overall draw of each SKU was consistent with demand plans over the long term (product life cycle) but varied widely from these projections in the short term. Variations in the range of +/- 300% were common.

Communication with assembly lines was poor and generally through e-mail.

Airfreight was used to top-up supply where imminent shortages were expected. These late stage air freight contracts were expensive and often difficult to secure.

The client was in the midst of implementing BaaN as an ERP/MRP solution.

System revisions had not been undertaken due to the BaaN implementation, which was running over 16 months behind schedule. Hence, all forecasting, order tracking, inventory control and planning for the component export division was completed using spreadsheets and no linkages between product managers existed increasing risks of error due to lack of version control.

# Implemented Solution

A completely new methodology of forecasting was developed and implemented. The forecasting methodology used a hybrid approach which combined market information, historical data and customer data to more accurately forecast future demand.

Demand variation was also assessed, and safety stock levels were dynamically set each week based on several critical supply chain factors.

Optimum inventory levels were established, and set based on desired service levels comparing holding costs to negotiated airfreight alternatives. This drove down on-site storage levels by over 45%.

Airfreight was planned and contracts negotiated for 95% of air freight demand driving down airfreight costs by over 27%.

Communication with the assembly lines was significantly improved allowing better understanding of forward release information.

Cooperation with late-stage production plan changes helped reduce fines for line stoppages by over 85%.

Reduction in inventory holding cost

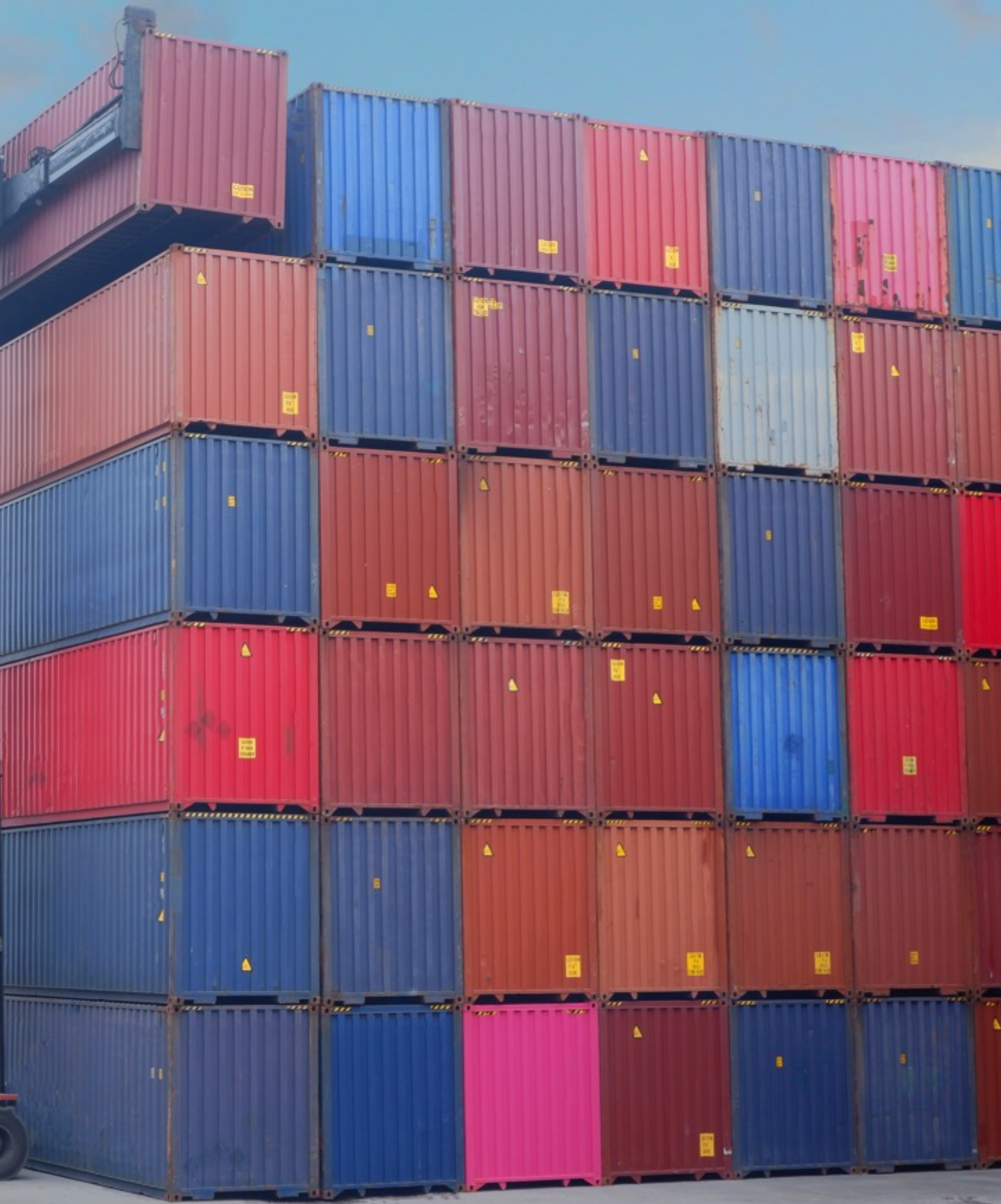
45%

Reduction in fines for shortages

85%

Reduction in airfreight cost

27%



# Key Results Achieved

- Developed and implemented revised forecasting and inventory level optimization methodology enabling the following:
  - 45% reduction in inventory holding cost
  - 85% reduction in fines for shortages
  - 27% reduction in airfreight cost
- Project ROI > 4:1 within 12 months

## ROI

7:1

45%

Reduction

In inventory holding costs

85%

Reduction

In fines for shortages

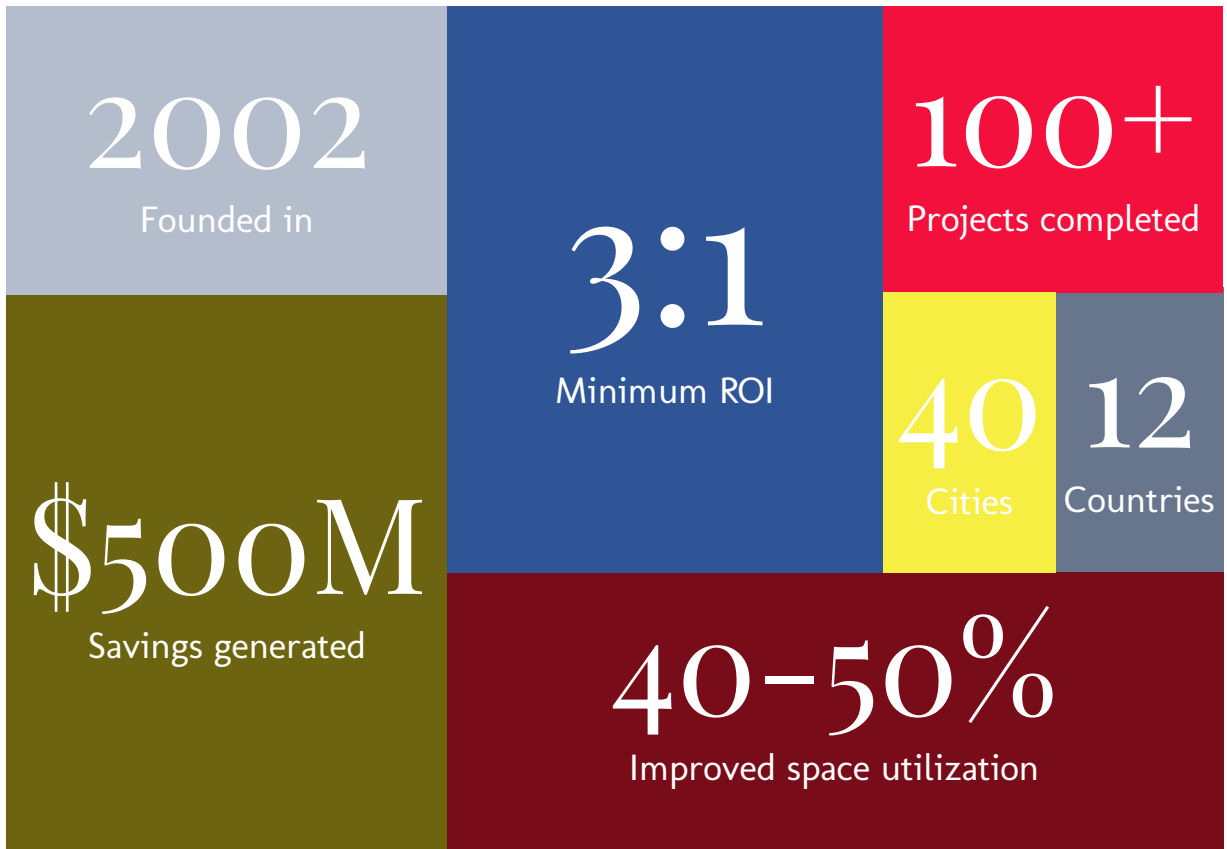
27%

Reduction

In airfreight cost



# Kelmic at a Glance





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