



CargoSmart Uses Big Data to Transform Shipping Processes and analyzes big data events to gain competitive advantage, valuable insight, and vastly improved customer service

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— Steve Siu, CEO of CargoSmart

FAST FACTS

www.cargosmart.com

Data sources: 30 ocean carriers

Vessels tracked: 5,500

Professionals assisted: 130,000

CHALLENGE

According to Steve Siu, CEO of CargoSmart, the shipping industry is expansive and volatile, but using big data will provide a competitive advantage and lead to industry transformation.

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SOLUTION

CargoSmart adopted TIBCO BusinessEvents™ complex event processing and TIBCO Spotfire® advanced analytics technologies to process immense and complex data sets and provide timely alerts to its customers.

BENEFITS

REAL-TIME BIG DATA PROCESSING

To enable better decision-making, efficiency, and cost savings for its customers, CargoSmart analyzes live sea traffic conditions and metrics from multiple carriers. These data sets are huge, and the speed at which they must be analyzed is basically real time. The data is also varied, coming from an expanding universe of wired and wireless devices. This big data volume, variety, and velocity puts significant demands on data storage, event processing, and analytics, but TIBCO technology was made for this challenge.

CARGOSMART LIMITED

CargoSmart is a leading provider of global shipment management solutions that use big data for greater visibility and benchmarking. Its services enable shippers, consignees, logistics services providers, and ocean carriers to deliver cargo on time.

AUTOMATED REPORTING INCREASES VISIBILITY

TIBCO BusinessEvents helps CargoSmart to monitor vessel speed, location at port and at sea, total transit times, routes, berth events, and exception events based on data obtained through the Automatic Identification System (AIS). The system then sends automated alerts to CargoSmart's Global Vessel Voyage Monitoring Center, which in turn, notifies customers.

CargoSmart also delivers performance reports on carrier reliability using expected departure and arrival times, actual departure and arrival times, and journey transit times. Spotfire is used to create views of individual carrier performance, carrier alliance performance, and comparisons of the same routes across a variety of carriers. With these visualizations, CargoSmart customers can more rapidly develop actionable insights about potential business opportunities and threats.

PATTERN IDENTIFICATION TO IDENTIFY RISKS AND OPPORTUNITIES

The TIBCO platform is enabling CargoSmart to monitor for unexpected patterns, an important capability given the speed of new developments in the shipping industry. Using complex event processing to overlay variables like weather conditions and unexpected events, patterns can be identified. CargoSmart customers use the information to rapidly analyze and act on any significant trends, opportunities, and risks arising from events such as developing storms or problems affecting ports.

DATA VISUALIZATIONS FOR COST CUTTING

Bunker fuel is always a major expense for a shipping company, accounting for more than 20% of capital outlay. Speed and distance affect this cost, and determining optimum routes involves a complex interplay of factors including weather, season, ocean currents, and timing. CargoSmart has streamlined the process by developing a vessel speed and route monitoring application. Historical patterns of route selections appear as clusters on the route map. Spotfire is used to visualize these clusters, along with routes employed by most carriers, to derive the most often used route options.

TIBCO BusinessEvents then assesses the route options, detects when vessels take routes different from historical patterns, and provides alerts. Exception cases are significant, especially for vessels that are co-owned by chartered companies and crews. For example, if a carrier can discover that a chartered vessel has stopped for repair and then travelled faster to make up time, it can request a waiver for some of the charter hire cost or the increased cost of fuel for sailing faster from the vessel's owners.

FUTURE

CargoSmart plans to use TIBCO technology to gain visibility into port status. Using current port conditions—including vessels waiting and in berth, departures times at the loading port, arrival times at the discharging port, real-time ocean traffic conditions, sailing directions, and speeds—real-time intelligence on vessel arrival and port congestion can be obtained.

"The digital revolution in the shipping industry will continue," said Siu. "We anticipate that it will expand to include widespread use by individuals working in the logistics industry, and given the wealth of intelligence available, carriers as well as their shipper and logistics service provider customers will be able to enhance decision-making with big data analytics."



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