



DATA-DRIVEN FORECASTING FOR ACCURACY IN DELIVERY SCHEDULES



A global label and packaging company used Sonata's machine learning solution to assist their sales order creation with an accurate estimation of shipping dates.



From Sonata Software, **the Platformation™** Company

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Accurate delivery forecasts through
Sonata's Machine Learning model

30000
EMPLOYEES

50
COUNTRIES

\$7.2 billion
SALES IN 2018

CONTEXT AND CHALLENGES

Our client is a manufacturer of pressure-sensitive adhesive materials, tags, and RFID inlays which are used across industries to label and package products. Our client engages in large volume orders in a global supply chain and logistics environment.

Given the upstream nature of the client's business, it is critical for the company to commit definitive ready-to-ship dates for new orders. In reality, sales personnel would estimate delivery dates based on their intuition, often inaccurately, which led to missed deadlines and financial penalties for both the company and their customers.

SONATA SOLUTIONS

Sonata built a data-driven forecasting system using machine learning to replace the traditional, intuition-based approach of the client. The new system was created through:

- Consolidation and cleansing of data from multiple sources across the enterprise
- Analysis of data and identification of predictor variables using Hypothesis testing, Significance Tests, Linear Regression, and Correlation Plots
- Creation of predictive models to estimate shipping dates using Random Forest algorithm and Feature Engineering

With the **forecasting algorithms** in place, sales personnel could now calculate customer order shipping dates based on stock: finished goods, components, and lead time. They could also now plan & schedule production jobs based on machine availability and capacity.

RESULTS

75%

REDUCTION

In Deviation from Promised to
Actual Ship Date

Automated

SCHEDULE

prediction process

Improved

CUSTOMER EXPERIENCE

through accurate delivery
commitments