



# DRIVING INDUSTRY 4.0 AT MABE

## ALTAIR® RAPIDMINER® USER BEHAVIOR PREDICTIONS HELP OPTIMIZE APPLIANCE PERFORMANCE.

### About the Customer

Mabe manufactures home appliances, including stoves, refrigerators, washing machines, dryers, water purifiers, and more. The company is based in Mexico City and markets its white goods under its own brand as well as several others, including GE Appliances, in more than 70 countries. Mabe is an early leader in the development of connected products that allow its customer service personnel to monitor the health of its appliances in the field. Altair has been at the center of Mabe's product development process for years, and Mabe is now working with Altair to deploy and enhance its connected products strategy.



With Altair's help, we can expand our technology solutions and leverage AI and data analytics tools to enhance our products and improve the entire customer experience.

Martin Ortega, design leader,  
Mabe



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**LEFT:** Mabe is one of the leading appliance manufacturers internationally, and has been manufacturing refrigerators since the 1950s. **RIGHT:** Using Altair AI Studio, the team was able to gain insights into consumers' behavior and the refrigerators' performance.

### Their Challenge

Mabe gains a wealth of valuable information from its connected products, including its popular refrigerators, that improve customer satisfaction and promote repeat business. Mabe wanted to leverage historical data from the field to gain new insights into how to optimize the frequency of compressor and air circulation fan operations in its refrigerators to save energy while also keeping food fresh based on how often the door is opened and how long it stays open.

The Mabe team understood that consumer interaction can affect its appliances' automated processes. As such, the team hypothesized that adding models that can predict consumer behavior might help optimize the refrigerator's automatic routines, resulting in better performance and energy savings.

### Our Solution

Altair set out to solve the problem by using Altair® RapidMiner® artificial intelligence (AI) capabilities, specifically those found in Altair® AI Studio™. Mabe's dataset contains over a million records, so efficient processing was important. Together, Altair and Mabe built an AI workflow that extracts, cleans, prepares, and transforms their data to predict consumer behavior based on the days of the week.

Altair has worked with this type of data and these types of workflows before – as such, its experience was key in helping Mabe achieve its goals. The Altair team leveraged their in-depth expertise in processing time series data, and Mabe provided business insight throughout the process to ensure the analysis would align with the team's objectives.

Altair and Mabe collaborated throughout the proof of concept (PoC) and met weekly to exchange feedback. Mabe experimented with the AI workflow using data pulled directly from the field. The solution was the creation of a workflow that gathers data from different tables in a database, transforms and prepares it, and outputs recommended changes to the automated functions in the product to optimize its efficiency. The team used the resulting workflow to score new data and glean insights into how consumers are using refrigerators and how the products are performing.

Mabe's engineering team deployed the workflow using Altair® AI Hub™. The whole project took about 60 days. The Mabe team was delighted with the quick turnaround given the amount of data required and the fact that Altair AI Studio and Altair AI Hub tools were new to the Mabe engineering team.

### Results

Overall, the Altair workflow will help Mabe predict consumer behavior to optimize their refrigerators' performance and efficiency, ultimately helping customers keep their food fresher for longer.

The model will be tested against historic datasets to compare real-world consumer behavior with its predictions. The ability to analyze, model, and deploy this type of model with a large, historic dataset enables Mabe to leverage AI as part of its white goods product development effort, giving their team a better understanding of how big data can break down barriers and unleash innovation.

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