

Alstom Uses aPriori to Model Supplier Costs for 100,000+ Parts While Implementing Zero-RFQ



CASE STUDY

The Zero-RFQ initiative has dramatically accelerated Alstom’s sourcing process by automating supplier selection. By collaborating with suppliers to configure aPriori’s digital factories to reflect each supplier’s cost structure, Alstom benefits from near-instant quotes without sacrificing accuracy.

THE CHALLENGE

Generate Time-Sensitive Manufacturing Cost Models for a High Volume of Diverse Components

Within the Rolling Stock Division, the largest in the company, Alstom’s Design to Cost department is charged with both evaluating new projects and developing cost models to facilitate more effective supplier negotiation. The group works with different branches of the company spread across the entire globe.

They needed a tool that could generate manufacturing cost models for a diverse variety of train car components. A single car requires thousands of distinct parts, and Alstom’s global operations offer many different car designs.

The right tool would need to offer detailed manufacturing cost models that could cover the shell of the rail car and everything inside.

In many cases, Alstom needed to source simple components at the last minute, leading to a scramble to find savings and source the part without delaying product development. Every new RFQ introduced a risk for delay, as suppliers could take up to three weeks to return a quote. Rushed RFQ processes also limited Alstom’s ability to wait for multiple quotes for maximized savings. In the past, with RFQ’s going out at the last minute, Alstom often could not afford to wait for every bid to come back. This time crunch often forced them to simply accept the first bid returned.

The Design to Cost team faced the challenge on how to support an urgent timeline while ensuring the most cost-effective option possible.



The Zero-RFQ initiative has **dramatically accelerated** Alstom's sourcing process by automating supplier selection.

THE SOLUTION

Alstom Uses aPriori Digital Manufacturing Simulation to Model Manufacturing Costs for 20,000+ Parts Per Year

Alstom's team selected aPriori as a tool capable of modeling manufacturing costs for the huge variety of components that go into rolling stock products. **aPriori quickly matured as a solution used across virtually all the products managed by the Rolling Stock Design to Cost team.**

Digital manufacturing simulation is an essential capability for a team charged with generating a high volume of manufacturing cost models across a number of sub-systems. The department uses aPriori for both simple parts and extremely complex assemblies like complete car body shells.

Once a 3D CAD model for a part is uploaded into the PLM system, aPriori generates a digital twin of the design. Its production can then be modeled with aPriori's digital factories, which have been configured to reflect the capabilities and cost structures of different suppliers. With the ability to generate supplier-specific manufacturing cost models directly from 3D CAD files, Alstom's purchasing team is now able to award purchase orders to suppliers based on the aPriori output, avoiding the need for lengthy quoting and negotiating timelines.

THE RESULTS

More Cost-Effective Sourcing with Expanding Zero-RFQ Capabilities

Alstom has been using aPriori since 2013. Over 30 active users on the Design to Cost team are spread across France, India, the US, and South Africa. Since their initial implementation of aPriori, the Design to Cost team has used it to generate manufacturing cost models for hundreds of thousands of parts. In a recent representative 12-month period, aPriori handled around 26,000 different parts.

The Zero-RFQ initiative has dramatically accelerated Alstom's sourcing process by automating supplier selection. It significantly reduces the purchase process lead-time while also directly enabling better cost efficiency, as the Alstom team can compare simulated quotes from a variety of suppliers without imposing a delay. By collaborating with suppliers to configure aPriori's digital factories to reflect each supplier's cost structure, Alstom benefits from near-instant quotes without sacrificing accuracy.

Overall, the end-to-end process to establish Zero-RFQ with a new supplier takes the Design to Cost team about four weeks. Once it is in place, Alstom can simply send a new PO to the supplier: who will start manufacturing the part within days. The suppliers collaborating

Alstom's team estimates that the Zero-RFQ process is driving a **40% savings** on recurring costs.

in the Zero-RFQ process also report significant improvements for them through efficiency savings in resources on responding to RFQs, stronger relationships and enhanced win forecasting.

Alstom's team estimates that the Zero-RFQ process is driving a 40% savings on recurring costs. This estimate includes part prices only and does not include the reduction in Alstom resources required to support new RFQ's. This improved efficiency in purchasing also enables more focus on supplier negotiation for commodities outside of the Zero-RFQ process, supporting the drive for even further savings.

NEXT STEPS

A Growing aPriori User Base to Accelerate Zero-RFQ Implementation

Alstom plans to continue rolling out aPriori to additional users across its global operations. In addition to a continued high volume of manufacturing modeling work, this expanding team continues to work to integrate new suppliers with Zero-RFQ capabilities.

Alstom is also expanding use of aPriori to new product categories, like train interiors. The Design to Cost team plans to continue using aPriori to drive value wherever it can across Alstom's extensive portfolio of transportation solutions.



300 Baker Avenue | Concord, MA 01742 | Tel: 978.371.2006 | Fax: 978.371.2008 | info@apriori.com | www.apriori.com