CASE STUDY

# How to Automate RFQs in Manufacturing


## Company Details

**Industry**
Contract Manufacturing

**Number of Employees**
127

**Revenue**
$27.6 Million

**Website**
https://www.harbec.com/

**aPriori Products**
aP Pro

### The Problem

Diverse Manufacturing Processes Drastically Slow Down the Quoting Process

### The Solution

Identifying the Right Cost Modeling Software for Multiple Manufacturing Processes

**The quoting process hasn't changed in years. And while some companies are still waiting weeks between request for quote and delivery of the quote, contract manufacturer, Harbec, is looking toward the future. Is it possible to reduce the quoting process down to a day or two – or even further – to just a couple of hours?**

**What if it was possible to automate the quoting process altogether with highly-accurate digital factories and manufacturing simulation? For Harbec, this wasn't just a pipe dream. It's become their reality after using aPriori to digitize their factories.**

## The Problem with Traditional Quoting Methods

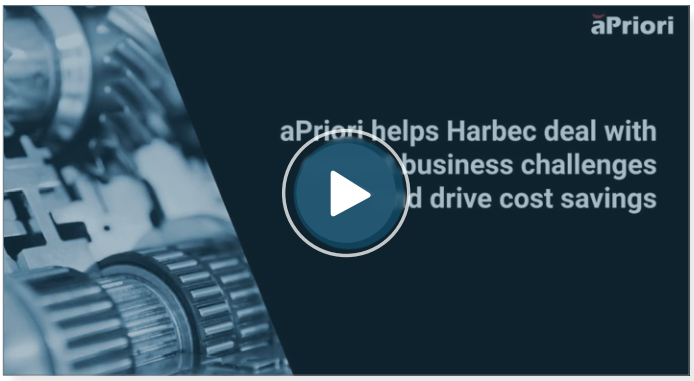
Harbec's senior management identified an automated quoting process as a primary operational goal. They needed technology that could speed up their quoting to their customers to enable superior response times while ensuring consistent, accurate cost models.

The challenge? Diverse manufacturing processes and complex parts can drastically slow down the quoting process.

Harbec's quoting group navigates the challenge of developing accurate cost models across unusually diverse manufacturing processes, including injection molding, mold building, CNC machining, additive, manufacturing/3D printing, and more, with multiple specialty processes available under each of these categories. stay competitive over the long term. To respond, they developed a digital transformation strategy centered on three pillars.

"Traditionally our quoting times were at industry standard. But we wanted to do **better than standard!**"

In this 2-minute video clip, **Harbec describes the business challenges they were facing** quoting for their customers as quickly as possible, and how the search for a technology like aPriori became a business priority.




The diverse set of manufacturing variables that Harbec offers creates a serious business challenge for churning out timely and accurate quotes. Each of these processes comes with different overhead, burden rates, machining costs, and even more—a variety of complex cost drivers.

As a true contract manufacturer, Harbec often quotes assemblies that include several of these processes within the same product design.

"Harbec historically **relied on manual quoting using tools** like spreadsheets, generic setup times, and experience-based estimates of cycle times."

While their sophisticated quoting team successfully created accurate quotes for customers, the complexity introduced a variety of operational burdens. HARBEC needed to train quoting specialists across a multitude of concentrated manufacturing processes.

"Another issue we dealt with was a lot of variability in the quoting results from different folks. It was our goal to reduce that variability to single percentage points."

The Harbec quoting team emphasized cross-training, but the immense diversity of required quotes inevitably pushed specific team members and working groups to build upon their specialist knowledge for different manufacturing categories.

## How Cost Modeling Software Automates the RFQ Process

Harbec knew they needed superior technology to solve for their multiple complex manufacturing processes.

First, they needed to identify the goals of the new solution.

## Requirements for Harbec's RFQ Automation Solution

The right solution would need to allow all quoting team members to effectively generate quotes, limiting reliance on specialized individual knowledge of various manufacturing processes.

Harbec identified aPriori as the cost modeling software that could address their business-critical requirements, while offering potential for further use cases down the road, such as design for manufacturability.

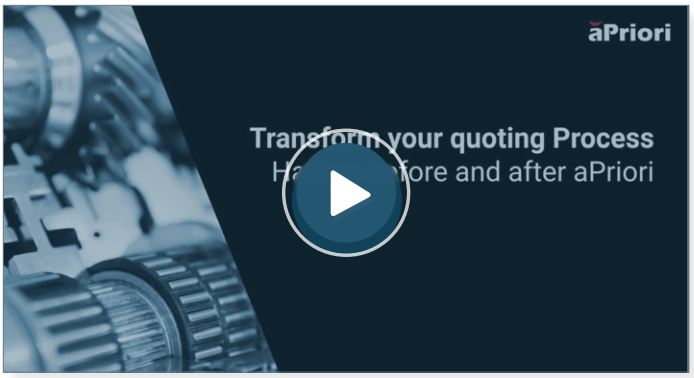
Unlike cost estimation tools considered by Harbec in the past, aPriori analyzes the actual geometry of a component directly using 3D models. And it can be applied across all requisite manufacturing processes.

Harbec started their aPriori deployment with their largest departments first: CNC machinery and injection molding.

"We worked with a number of people at aPriori. **We were able to customize our digital factories** so that they were representative of our business."

But what were the results? Let's take a closer look. In the short video, **Harbec explains their quoting process before and after aPriori.**

**Automated RFQs with aPriori**




**Quoting Before aPriori**

- HARBEC only had one expert available to quote.
- Time to quote took about 2-3 days
- Several pieces of software and systems were used with up to 24 hours of run time
- Re-quotes took a comparable amount of time and effort causing significant delays in quoting

**Quoting With aPriori**

- There are 5 fully onboarded quoting users
- Expert resources are freed up to focus on what they do best
- Less than 24 hours to quote a part
- Consistent geometry and feasibility feedback made requoting faster than ever

In a matter of months, Harbec implemented customized quoting capabilities for their critical manufacturing processes in aPriori. They now benefit from fully automated quoting across injection molding, mold building, CNC machining, and additive manufacturing. New products leaving Harbec's facility are quoted using aPriori.

Harbec's aPriori implementation incorporates proprietary formulas, allowing them to capture their preferred quoting approach within the software.

aPriori can then utilize digital manufacturing simulation to generate cost models in a fraction of the time required by manual, spreadsheet-driven quote estimation (in many cases generating a same-day quote).

Harbec's new automated approach is resulting in highly accurate cost models for virtually every quote. In addition to dramatically accelerating the quoting process, aPriori has also helped reduce the gap between quoted and actual costs. aPriori is also integrated with Harbec's ERP system, importing and exporting product data directly to/from the ERP system to streamline the quoting processes as much as possible.

# Tips for successful RFQ automation with manufacturing simulation

- Take Advantage of the Configurability of aPriori
- Utilize Available Resources
- Have an Engaged Team
- Understand the Cost Model

## Integrating aPriori Across Additional Teams at Harbec

In addition to cost models, aPriori offers direct feedback on design variables that could be modified to potentially achieve a more cost-effective design. Currently, Harbec communicates any notable manufacturability issues to customers via screenshot. Harbec plans to implement a more comprehensive system for reporting manufacturability analyses based on aPriori's digital manufacturing simulations, including full budgetary pricing that allows customers to see precisely how their design choices are driving the quoted price.

Harbec is also planning to roll out aPriori's capabilities to other teams outside of quoting. The next step will be training engineers to work with aPriori directly. This additional use case will not only empower engineers to directly quote components for customers, but to begin utilizing aPriori's design for manufacturability features to work with customers directly to develop the most efficient possible design.

Harbec is excited about having the full suite of aPriori solutions and capabilities available to their organization at their fingertips.

## WANT TO LEARN MORE?

CLICK HERE to learn more about the aPriori manufacturing insights platform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