

COMPANY
Xometry

LOCATION
Gaithersburg, Maryland, USA

SOFTWARE
Xometry Instant Quoting Engine

SOFTWARE DEVELOPMENT KITS
HOOPS Web Platform

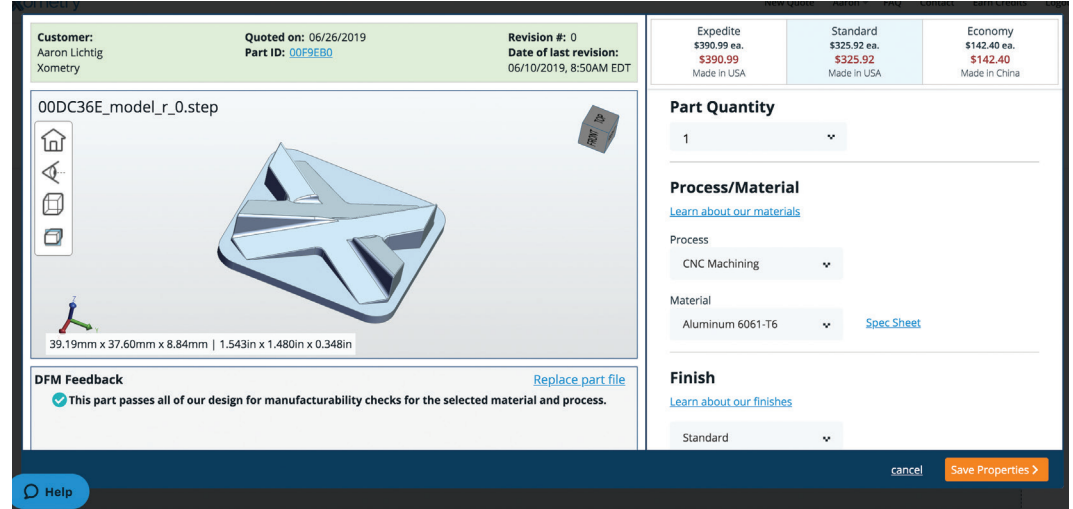
COMPANY WEBSITE
www.xometry.com

Tech Soft 3D Case Study: Xometry

HOOPS Powers Transformative On-Demand Manufacturing Platform

“To provide a frictionless experience for customers, it is critical for us to be able to handle and interpret different types of 3D CAD files. HOOPS Exchange has been integral to our quoting engine for years precisely because it provides the kind of immediate CAD translation needed for us to provide instant quotes and feedback on customer designs.”

— Hunter Guerin, Sr. Product Manager, Xometry



The screenshot displays the Xometry Instant Quoting Engine interface. At the top, it shows customer information (Aaron Lichtig, Xometry), quoting details (Quoted on: 06/26/2019, Part ID: 00F9EB0), and revision information (Revision #: 0, Date of last revision: 06/10/2019, 8:50AM EDT). Below this, a 3D model of a part is shown with dimensions: 39.19mm x 37.60mm x 8.84mm | 1.543in x 1.480in x 0.348in. A DFM Feedback section indicates that the part passes all design checks for the selected material and process. On the right, a pricing table compares Expedite (\$390.99 ea.), Standard (\$325.92 ea.), and Economy (\$142.40 ea.) options. Below the pricing, users can select Part Quantity (1), Process (CNC Machining), Material (Aluminum 6061-T6), and Finish (Standard). A 'Save Properties' button is visible at the bottom right.

The Challenge

Xometry is redefining custom manufacturing through a proprietary software platform that offers on-demand manufacturing to a diverse customer base, ranging from startups to Fortune 100 companies. Since 2014, the platform has provided product designers and engineers with the most efficient way to source high quality custom parts.

“Our goal is to make it easy for all customers – regardless of size – to access on-demand manufacturing and experience its benefits,” explained Hunter Guerin, Sr. Product Manager.

“Connecting customers with our nationwide network of more than 2,500 partner manufacturing facilities – which offer CNC Machining, 3D Printing, Sheet Metal Fabrication, Injection Molding, and other capabilities – makes it simple for customers to get the parts they need, efficiently.”

The Xometry Instant Quoting Engine sits at the heart of the platform, powering the process. Customers upload 3D models of their parts to get started, and the quoting engine instantly analyzes the part’s geometry and properties and then returns cost, expected lead time, and manufacturability feedback.

“The Instant Quoting Engine makes building a quote very straightforward,” said Guerin. “After uploading a model, customers can choose what process they want to use to manufacture it, what material they’d like to build it out of, what finish they want it to have, what the tolerances need to be, and so on. The price and other information will automatically adjust based on their choices – and when they’re ready to order, they simply click ‘Place order.’ That’s all there is to it.”

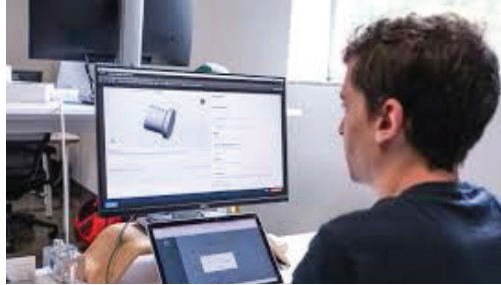


Accurate CAD Translation, and Instant Visualizations in the Browser

Because the integrity of CAD data input is critical to getting accurate price quotes and design for manufacturability feedback, Xometry has long relied on HOOPS Exchange as a key component of its quoting engine. The leading CAD translation software development kit (SDK), HOOPS Exchange delivers access to over 20 CAD file formats through a single interface.

“We have over 10,000 customers, and they all have their preferred CAD systems,” said Guerin “To provide a frictionless experience for customers, it is critical for us to be able to handle and interpret different types of 3D CAD files. HOOPS Exchange has been integral to our quoting engine for years precisely because it provides the kind of immediate CAD translation needed for us to provide instant quotes and feedback on customer designs.”

Allowing customers to get a clear visualization of their custom parts was also a top priority for Xometry, so they incorporated The HOOPS Web Platform, a simple, powerful toolkit for advanced 3D web visualization.



HOOPS Web Platform supports the visualizations within the Xometry Instant Quoting Engine with a purpose-built, high-performance graphics kernel that provides fast rendering and makes it easy for customers to get a clear visualization of their custom part, even as its properties change.

“Suppose a customer uploads a model for a polycarbonate bracket with a regular finish,” said Guerin. “After getting their initial quote, the customer might decide they want to explore making the bracket out of aluminum instead, with a black anodized finish. The HOOPS Web Platform enhances the instant quoting experience by providing clear, sharp product design visualizations – allowing the customer to interrogate the model, in addition to how much it might cost.”

Ultimately, Xometry’s relationship with Tech Soft 3D has very much been an ongoing partnership that helps the company continually find new ways to leverage Tech Soft 3D’s functionality to improve their own offering.

“The entire Tech Soft 3D product team and engineers have been very responsive – and from a technical perspective, they are very clear about what their software can do,” said Guerin. “That makes it easier for us to focus on what we do and continue making the best online platform we can for high-quality custom manufacturing.”

Contact Tech Soft 3D to learn more about how HOOPS Exchange can benefit your organization.

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Industry:

- Manufacturing

Challenge:

- Provide frictionless customer experience for online customer manufacturing platform
- Support diverse customer base that uses multiple types of CAD file formats
- Deliver accurate price quote and manufacturability feedback based on models
- Ensure fast and accurate visualization of custom parts

Solutions:

- HOOPS Platform - Data access, visualization, and publishing for cloud and mobile

Results:

- CAD-agnostic online platform enables customers to upload models created with their preferred CAD systems
- Immediate CAD translation allows analysis of part geometry, enabling instant pricing and feedback on customer designs
- Powerful visualization lets customers see exactly what custom parts will look like if they change manufacturing method, material, or finish