



WireCrafters Automates Processes and Reduces Design Time with Two Custom Software Programs

The Organization

Established in 1967 as a wire job shop, [WireCrafters](#) is now the nation's top producer of wire partition products and industry leaders in the use of innovative technology to automate processes.

When this family-owned business opened, it focused on its Style 840 Wire Partition System, which opened the door to many new applications for wire partitions. Over the years, WireCrafters added complementary products, including welded wire partitions that are far superior to similar products on the market. Further pulling them in front of the competition were the recent additions of two lasers for manufacturing miscellaneous sheet metal parts, a robotic welder that quickly and accurately applies baseplates to post, and a state-of-the-art powder coat finishing line.



The Challenge

Common with companies that have been operating for several decades, WireCrafters had outgrown its process of moving products from quoting to design to manufacturing.

"Over 50% of WireCrafters jobs have a custom element to them," said Aaron Eubank, National Sales Manager, WireCrafters. "Our volume of business rapidly increased after the COVID-19 pandemic. We were getting on average 50 orders a day from dealers around the country. The process of manually creating 2D drawings based on hand sketch layouts submitted by the sales department had become cumbersome before the pandemic. We knew we needed to automate the process, but there would need to be a process and set of rules assigned to each design."

The Solution

WireCrafters had been introduced to IMAGINiT in 2017 when IMAGINiT acquired Advanced Solutions Inc. (ASI). Pleased with the service received from ASI—including initial discussions about this challenge—and impressed with IMAGINiT's capabilities, WireCrafters continued the conversations with IMAGINiT.

"We met with an IMAGINiT team that included representatives in both manufacturing and software development who explained that they had helped numerous other manufacturers in similar situations," said JR Marsteller, Engineering Manager, WireCrafters. "After listening to us describe our goals and asking questions to clarify their understanding, they presented a proposal to build a custom system called Engineering Takeoff Automated Processes."

Engineering Takeoff Automated Processes (ETAP)

The IMAGINiT solution consisted of:

- Completing discoveries and determining the appropriate level of effort to create a full solution that would significantly increase efficiency
- Starting with the early-stage ETAP developed by the ASI team in Autodesk AutoCAD software
- Using Autodesk Factory Design Utilities to build custom, self-supporting, web-based libraries of parts needed for each item number those engineers could access at anytime from anywhere; Start with the largest product line and complete all product lines in eight to 10 phases
- Training the engineers on the ETAP system and the sales manager on the web portal
- Updating the user interface

Expanding the Automation to Include Sales

As the ETAP project was underway, the IMAGINiT and WireCrafters teams met to discuss further streamlining the workflow by automating the sales quoting process.

"WireCrafters was experiencing challenges with our existing sales configurator," said Aaron. "It was not web based and did not communicate with our ERP system. This led to issues with non-compatible part numbers, duplicate work by having to reenter data and reporting issues"

Having experienced IMAGINiT's ability to understand and address complex challenges, WireCrafters expanded the engagement to include a web-based Sales Configurator tool, custom built by IMAGINiT using Autodesk Forge, that salespeople and distributors could use to create professional computer-generated quotes that could be converted into an AutoCAD approval drawing using the ETAP system.

The Results

This project has dramatically improved the speed in which WireCrafters gets its products from the design stage to the shop floor.

"For a long-term project like this, it's critical to team with a partner committed to your success," said Milt Tandy, President, WireCrafters. "IMAGINiT has been that partner for us. Not only did they custom design two technology solutions that works seamlessly, they also continue to work as an extension of our team, participating in every step of the process and sharing our enthusiasm as we reach new milestones."

Previous Process – Time Consuming and Manual

Before automating the processes, a salesperson from a WireCrafters dealer would discuss a need with a client, sketch the design, and send it to WireCrafters' sales department, where a sales person would lay it out as a hand sketch or using the previous configurator. From there an order would be placed and that hand sketch or configurator layout would be redrawn into an AutoCAD approval drawing by the drafting department

Once approved by the customer, engineers would determine all the details and create specific cut sheets for each custom part and released into the shop for manufacturing.

New Process – Automated, Fast, and Accurate

With the new automated process, the salespeople use the Sales Configurator tool to create a computer-generated quote, which the client can review/edit/approve on the spot. The Engineering department picks up the layout from the Sales Configurator, verifies accuracy, and inputs the information into the ETAP program. The ETAP program populates an intelligent 3D model with item information stored in the Cloud and creates an accurate detailed approval drawing for the customer and detailed cut sheets that the Takeoff department can download.

"We are experiencing a **40% decrease in the time a design spends in our Engineering departments**," said JR. "Our company and our customers are reaping the benefits; our teams can take on more work with faster turnaround times on approval drawings and get custom jobs into the shop much quicker."

In addition to speeding the initial sales-to-drafting-to-takeoff process, IMAGINiT made it possible to import a quote into the ERP system along with the parts list, eliminating the need to do any dual entry on quotes or orders.

Aaron concluded, "WireCrafters looks forward to adding additional product lines to the sales configurator and ETAP system spending less time on manual work and focusing on innovation and customer service."

Realize competitive differentiators with IMAGINiT's CAD software development services. Regardless of your unique situation, our team can bridge the gap between your technology and your business needs.



Solutions Beyond Software

IMAGINiT Technologies, a division of Rand Worldwide, helps architects and engineers become more proficient in the use of 3D technologies to design, develop and manage complex engineering projects faster and more cost-effectively.