RRT Simplifies Machine Programming by Switching to Autodesk Inventor CAM

CNC machine cutting out ruggedized coffin boxes for RRT's "Y" power cables.

The Organization

Founded in 1992, **Radio Reconnaissance Technologies (RRT)** provides the U.S. Government and commercial customers with high quality, tactical field-worthy, custom-manufactured equipment designs. The staff of this veteran-owned small business includes electrical, mechanical, software engineers, electronic maintenance, training, communications, and cryptologic personnel with real-world experience in signals intelligence, electronic warfare, and special operations missions.

The Challenge

Historically, RRT has used Autodesk Inventor for new product development and to modify commercial items for use in tactical field environments. They managed the designs in Autodesk Vault, and when the designs were ready for manufacturing, the engineers would send the files to Mastercam. Using Mastercam, machinists would convert the toolpaths to G code to program the milling machines.

"The process worked, but since programming the mills was a manual process, it was time consuming, prone to errors, and tedious," said Pat Gillespie, Vice President, RRT. "We decided to look into automating the process, so it would be faster and more accurate, and would free our team to do more interesting work."

The Solution

Based on a 10+ year history of successful interactions with IMAGINiT for Autodesk software, training, and support, RRT reached out for guidance on replacing Mastercam.

"After learning about our needs, IMAGINiT recommended Inventor CAM by Autodesk," said Pat. "We could use Autodesk Fusion 360, which we already had through the Product Design and Manufacturing collection, to import the data directly from Vault into Inventor CAM, speeding the process and eliminating the chance of data entry errors."

An IMAGINiT engineer demonstrated the software in action. That demonstration, along with a recommendation that covered planning, configuration, training, and support, led to RRT's decision to choose IMAGINiT over the other system and service provider they were evaluating.

RRT engaged IMAGINiT to deliver a comprehensive solution, which included:

1. **Identifying and securing** the appropriate licenses of Autodesk Inventor CAM software

2. **Conducting a planning meeting** to review the implementation process and expectations

3. **Having an IMAGINiT-certified CAM specialist** lead a one-day session to recommend user settings and configurations, create basic tool crib entities, and load post processors

4. **Developing training material** based on RRT's workflows and equipment

5. **Leading a two-day remote training workshop** for three RRT employees
   — Two hours to be used for proof of concepts on RRT's workflows

6. **Creating a guide** on how to use the software to carry out sample project use cases

7. **Ongoing mentoring** based on sample use cases

The Results

By consolidating to one software suite, document management, production, drawings, work instruction development, and rapid proto typing have decreased RRT's lead times on product deliveries while increasing overall efficiencies and improving its production processes and procedures.

Two dedicated employees are trained and certified to use Autodesk Inventor CAM and its associated programs, which they use for prototyping and product development. RRT depends on Autodesk Vault and Autodesk Fusion 360 to maintain all documentation relating to outdated and current product lines.

Both engineers that work with Inventor CAM agree that consolidating to one software suite has reduced errors and the amount of time spent working on projects. They said, "The ease in which we can move from one function/application/program to the other has increased our overall confidence and time management."

"This project has further strengthened our trust in IMAGINiT," said Pat. "As our technology needs continue to evolve, I expect to turn to them for practical advice, thorough solutions, and expert implementation services."

Contact us to learn more about how to increase your team's productivity by automating manual processes.

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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.

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