CARVING A PATH TOWARD RELIABLE AUTOMATION: SECO TOOLS OVERHAULS VALUABLE, HIGH-VOLUME CNC PRODUCT AND SALES DATABASE IN WEEKS WITH HULFT

Seco Tools is one of the world's largest providers of comprehensive metal cutting solutions for milling, stationary tools, hole making, and tooling systems. They offer a range of tools, from micro milling for medical manufacturing to equipment needed in automotive and aerospace development. Their customer base includes all of the global automobile manufacturers, several world-wide distributors, and hundreds of smaller companies. With an annual revenue of USD 1B, Seco Tools is present in more than 75 countries and employs over 4,000 people.

Disparate systems and manual processes meant team projects could take up to 8 months

Seco Tools manufactures custom tooling for computer numerical control (CNC) machines for thousands of distributors worldwide. The company had over 150,000 different tools identified in the online catalog and at the start of the project, over 150,000 part-files stored as XML, and 30,000 excel sheets. Each part-file contains a computer-aided design (CAD) drawing, the geometry, and technical features of the part. The actual CAD drawing was kept in a different file referenced with a URL field in the original XML.

These systems did not operate in sync with one another and required time consuming human interaction to complete bill of materials (BoM's). The online catalog drives the creation of bill of materials for new customers, which involves technical features, comparisons of geometry, and other complex measurements for precision in pricing and subsequent production. Without a database that allowed accurate comparisons, creating a bill of materials meant the Seco Process Engineering team had to reference the online catalog and then perform all the calculations manually. When complex and larger jobs comprised of hundreds of part-files, it could take up to three weeks to create a bill of material and provide budget estimates. A project this size would often be passed over due to time constraints getting the information to the customer.

"As a company, we needed an automated and faster way to handle with parts and part-files, as well as document the way parts fit together. Creating and maintaining a single-source database became a top priority for us," said Bob Tennant, process engineering manager, Seco Tools.

High-speed data migration: Original plan, three years. With HULFT, under six months.

Transferring part-files from all the different sources into one database was projected to be a three year and manually intense project. In the end, Seco Tools decided to utilize HULFT Integrate to

Customer Highlights

- Over 150,000 tools, 150,000 XML documents, and 30,000 excel sheets containing CAD data were migrated into the new system in under 10 hours

- Assembly drawing were able to be produced in second versus a week or days from other departments

- Project completed in six months and without additional headcount

- Automating parts and part-files led to improved departmental productivity

automate this process and complete the project within six months. HULFT Integrate was able to read, merge, cleanse, rotate, and tessellate the data, which allowed the department specialist to finally create a database, the tools data management (TDM) system, that was required to automate processes.

The original part data was stored in Azure as XML and the CAD drawings were kept in a different file referenced with a URL field in the original XML. This all needed to be downloaded, cleansed, and then uploaded to the new TDM. Through this process, HULFT Integrate read all 150,000 part-files and discarded 80,000 legacy parts that were no longer in use. The remaining 73,000 current part-files were then grouped by how they were to be utilized and installed with all pertinent fields into the system.

No developers? No problem. HULFT offsets software development time.

HULFT Integrate's drag-and-drop data integration architecture allowed all the engineering work to be completed by the lead machinist at Seco Tools. HULFT's integration team worked closely with the machinist – who had no background in software development -- during the initial phase to provide domain-expertise, training, and guidance. In the end, the ease of use of HULFT Integrate empowered Seco Tool's non-development teams to take the reign in refining and enriching the HULFT experience according to specific requirements.

Keeping track of part-files became very easy and automated once the database and process were in place and active. For all future changes, over 150,000 tools, over 150,000 XML documents, and approximately 30,000 excel spreadsheets can be transformed and inserted into the new system in under 10 hours. HULFT also scans the website for changes and updates the database with no human intervention. Updates can be kicked off over night to track changes and allows coordinated tracking and understanding of custom part-files, achieving much higher productivity.

Looking into the future with HULFT

Seco Tools has identified several additional areas in the businesses to utilize HULFT, and is exploring HULFT Data Capture for transforming flat data formats to digital for purchase orders, check processing, and reporting purposes.

Moving forward, Seco Tools intends to connect several of its disparate software solutions, such as an IOT plant floor metrics solution, to track machine data to provide the manufacturing unit customers a deeper understanding of what's happening with their tools in real-time.

"The bottom line is that our systems need to evolve along with the changing workforce requirements. When companies reduce complexity and provide tools that eliminate tedious grunt work, our people will use them. HULFT is helping us reduce the time it takes to access the information we need, ultimately making us smarter and more agile to stay competitive," said Tennant.

Want to learn more?

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