

Automation & Control Services Inc, uses SURFCAM Traditional to produce a wide variety of custom solutions for the manufacturing and service industries



Automation & Control Services, Inc. case study

Manufacturing isn't a one-size-fits all industry, which is why Automation & Control Services, Inc., specializes in the design and production of custom solutions for a wide range of needs.

Based in Schererville, Indiana, Automation and Control Services was founded in 1994 and has since served the manufacturing and service industries throughout North America, as well as parts of Europe and South America.

The business supports a variety of industries, including the automotive, primary and secondary steel, pharmaceutical, household products manufacturing, food processing and packaging, material handling, wastewater processing, and healthcare sectors.



“The common link among the needs of our customers is appropriate application of industrial control practices and theory. The customer is the expert in their product knowledge, so it is our job to be the ‘experts’ of the control-system applications,” said Operations Manager Roger Florkiewicz of Automation & Control Services, Inc. “We also provide project-management services to support over-burdened engineering departments and small maintenance departments in dealing with the maze of costs and timing.”

To produce its variety of custom products, the company has paired the SURFCAM Traditional computer-aided-manufacturing (CAM) solution with its Haas mills and lathes since 2007. The company’s primary goals in implementing the new software were greater flexibility and ease of operability between SURFCAM Traditional and the SOLIDWORKS® computer-aided-design (CAD) solution, by Dassault Systèmes.

“Low-volume production needs for custom-designed control panels and the advanced needs for robotic tooling manufacturing made the choice of SURFCAM an easy one,” Florkiewicz said. “We specialize in prototyping and manufacturing custom machines and turn-key robotic cells, as well as the traditional UL508A panel-construction services.”

The power and flexibility of SURFCAM Traditional helps the company to fulfill a diverse array of needs. Specialized cycles designed to meet specific machining challenges simplify the production process without sacrificing quality.

“The ability to quickly do standard canned functions — like drilling, pecking, and contours for control panel cut-outs — along with TRUEMill, gives us one product for both simple and complex 3-axis and 4-axis needs,” Florkiewicz said.

After purchasing SURFCAM Traditional, Automation & Control Services, Inc., was able to expand business by taking on highly specialized work in low production-run quantities. “We now manufacture a line of sophisticated load cells, process instrumentation, and specialty electrical connectors, along with handling our own internal production needs.”

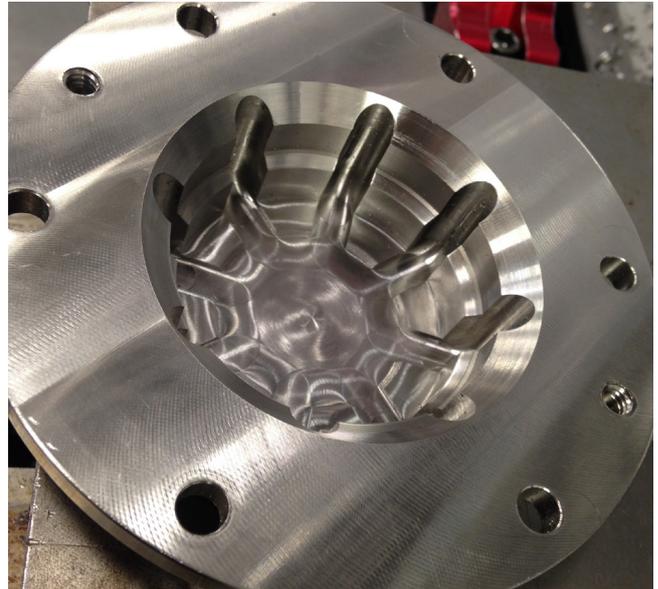
The TRUEMill machining cycle is an optimized roughing toolpath that can be completed with a one-step 3D roughing through pre-finishing operation. This specialized toolpath creates uniform step height across all surfaces, regardless of how many tools are used, while removing material at significantly faster rates and depths of cut than traditional machining. The cycle also offers a synchronized multiple-tool strategy that coordinates up to eight tools in a single operation.



“TRUEMill is an ideal toolpath for increasing efficiency and extending the life of our tools,” Florkiewicz said. “The software offers a variety of machining strategies to suit a range of different demands, and this is one that we are able to use often to remove a significant amount of material while making the most of our tooling.”

Using TRUEMill tool-engagement controls, Automation & Control Services reduced the total cutting time for a 6” X 8” contoured PVC lid with internal 5” NPT threads from 28 minutes to just over five minutes per piece. This was achieved by increasing cut speeds by hundreds of inches per minute for the PVC part. As a result, production costs decreased and volume of the production on the PVC grew by 800 percent over the following two years.

An additional SURFCAM Traditional machining cycle utilized at Automation & Control Services is the step-reduction milling strategy. The step-reduction milling cycle delivers pre-finishing toolpath that removes material in uniform increments across previously machined steps.



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Roger Florkiewicz,
Operations manager

This cycle typically follows a Z-roughing operation, which removes large amounts of material in Z-axis increments in preparation for additional operations. Used after a Z-roughing operation, the step-reduction cycle reduces the height of the steps prior to a finishing operation.

In addition to increasing the company’s production capabilities, SURFCAM Traditional’s ease of use has made it a beneficial tool for less experienced staff.

“Even some of our summer interns and part-time employees are able to utilize SURFCAM’s functionality,” Florkiewicz said. “This not only increases our ability to be productive, but it bodes well for up-and-coming manufacturers who seek to quickly gain real-world experience. We’re training the machinists and designers of tomorrow with tools that will help them, and us, to be as successful as possible.”

Case Study Summary

Company: Automation & Control Services, Inc.

Website: plcexperts.com

Business: Complete turnkey automation solutions

Benefits achieved:

- Ability to quickly perform standard, canned functions
- Increased ability to perform highly-specialized jobs
- Greater machining efficiency
- Extended tool life





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