

THE SMART MANUFACTURING ECOSYSTEM

AUTOMATING CAM EXPERTISE WITH SOLIDWORKS CAM



THE LOOMING CAM SKILLS CRISIS

Ask manufacturers about the biggest challenge facing their industry and most will mention a shrinking pool of experienced talent near the top. A combination of the current workforce aging out and a lack of new trained talent coming in is draining today's manufacturers of reliable CNC programmers and their expert knowledge of manufacturing techniques. It's causing a widening skills gap, but if you're a shop owner or manager, you probably already know this. You'll also be aware that a lack of experience is costing time and money in both your design and manufacturing processes.

What you might not know is that a smarter solution to the experience problem exists. When looking to replace the loss in CAM expertise, what if you used your existing design and engineering teams (who have little or no CAM training) to help fill the gap, rather than adding more people to your team?

While this sounds like an "easier said than done" scenario, it's not impossible. After all, if there was a way to capture lost expert knowledge, your team could easily make up for lack of know-how by automating and standardizing processes.

This thinking leads to new possibilities, with clear advantages for workflow. The first advantage is the ability to bring critical manufacturing in-house, which will help control quality and reduce manufacturing costs exponentially. Other benefits include a better understanding of manufacturing processes during the design phase, and a faster development cycle, which is something manufacturers of every size need.

As these advantages become clearer, the critical question changes from "Could my design and engineering teams fill the gap?" to "What tools will allow me to do this?"

A NEW WAY TO AUTOMATE WITH “RULES-BASED” MACHINING

Proven machining strategies, or rules, embedded into the software allow for faster toolpath creation—in many cases, five to ten times faster. These rules are included out of the box, and can be easily modified while the CAM user is programming by simply changing the parameters and clicking save.

In essence, rules-based machining is like having a built-in manufacturing consultant helping to make decisions for the team. It allows novice CAM users to get up to speed quickly by automating the tedious and repetitive tasks associated with most mainstream CAM software. It also aides experienced users by allowing them to program much faster.

Ultimately, this technology can be transformative because it allows manufacturers to fully automate the design-to-manufacturing process. It also opens the door for new “build to order” possibilities, with custom parts that are automatically designed and programmed. What has traditionally required hours of engineering and CAM programming time can now be automatically designed and programmed in seconds.

MACHINING STRATEGIES IN USE

According to a survey conducted by Geometric, over 32 percent of top shops are currently using machining strategies for turning processes.³

	ALL SHOPS	TOP SHOPS	OTHER SHOPS
High-Speed Machining	46.6%	54.1%	44.7%
Hard Turning	34.3%	32.4%	34.8%
Hard Milling	28.7%	27.0%	29.1%
Large-Part Machining	27.0%	35.1%	24.8%

MORE POWER. MORE CAPABILITIES. MORE THAN JUST A SMARTER APPROACH TO MANUFACTURING

Bring your manufacturing processes into the new age of automation with SOLIDWORKS 2018. Discover powerful tools and features, including SOLIDWORKS CAM, that will help revolutionize your design-to-manufacturing process on a single, unified platform.

Learn more about SOLIDWORKS 2018 and all our Solution Processes by visiting <https://launch.solidworks.com>

References:

1. Business Advantage, *CAD Trends 2016/Survey*, <http://www.business-advantage.com/CAD-Trends-Results-2016.php>.
2. National Association of Manufacturers, *Top 20 Facts About Manufacturing*, <http://www.nam.org/Statistics-And-Data/Facts-About-Manufacturing/Landing.aspx>.
3. Geometric, *Machining Tool Sales PowerPoint*.

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