SOLIDWORKS CAM CHEAT SHEET

Elevator Pitch

SOLIDWORKS CAM is an integrated 2.5-axis milling and 2-axis lathe programming solution by SOLIDWORKS. By utilizing the emerging technologies of Model Based Definition and Knowledge Based Machining, SOLIDWORKS CAM can rapidly transform your Design to Manufacturing process by improving communication, reducing errors, reducing cycle times, and increasing your product quality.

SOLIDWORKS CAM Value Proposition

Positioning: SOLIDWORKS Cam is powered by CAMWorks, the first Gold Partner CAM solution designed exclusively to operate in SOLIDWORKS. SOLIDWORKS Cam is a unique parametric knowledge-based machining CNC programming software that uses patented technology to provide a smart, easy & efficient way to manufacture today's products.

Common Objections
- We don't need a Cam system, our parts are very simple to manually program.
- We already have an expensive Cam system that only does Cam.

Response
SOLIDWORKS Cam is a tool that can automatically create complex CNC programs in a fraction of the time it takes to manually program simple parts.

Seamless integration inside of SolidWorks means that the design model and CAM model are the same and a similar interface with the same intuitive menus, toolbars and view manipulation, allows users to quickly master the software. Full model to tool-path associativity automatically updates the tool-paths and Cam data to design changes made to the model.
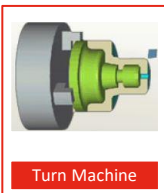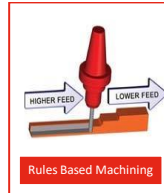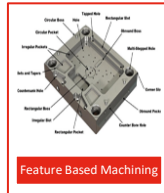
Power Questions for Sales:
- Is your existing CNC programming solution integrated within SOLIDWORKS?
- How much time do you spend reworking CNC programs when a design changes?
- Are your machining times competitive within your industry?
- Do your customers send you native cad files that result in translation difficulties?

Power Questions for Technical:
- Do you wish you could teach your system how to machine different features and then re-use this knowledge automatically in the future?
- Do you wish you could make a change to your SOLIDWORKS part and then have your tool-paths update automatically?
- Do you constantly have to select geometry faces & edges to identify it for machining?
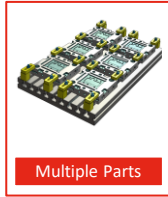- Could you benefit from hi-speed machining tool-paths?
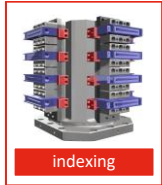
SOLIDWORKS CAM- Productivity Tools

	Who?	Pains Addressed	Questions to Ask	Operational Benefits	CAM STD	CAM PRO
Mill Machine	• CNC Programmers	• Inefficient manual programming of mill machines & no ability to update tool-paths when design changes	• Is it time consuming to reprogram a part when design changes are made?	• Seamless integration within the design environment, SOLIDWORKS CAM offers true associative 2-1/2 axis machining automatically accommodating changes to the part model, which eliminates time consuming CAM system rework due to design updates. Mill machine capability also supports wood routers, 2-1/2 axis profiling found on water jet, laser, plasma & flame cutting machines.	X	X
Feature Based Machining	• CNC Programmers • Cost Estimators	• Constantly required to mouse select solid modeling geometry to machine. • Inaccurate cost estimations of machined parts.	• Do you get tired of constantly picking the geometry for holes, pockets, profiles and other common manufacturing features?	• With Our patented Automatic Feature Recognition (AFR), SOLIDWORKS Cam recognizes over 20 features, including irregular pockets, taking the drudgery out of the day-to-day programming needs. AFR also works on all imported geometry such as IGES, STEP, SAT and others. Cost estimators can utilize the benefits of AFR to automatically calculate the number of setups and machine time to better predict costs.	X	X
Rules Based Machining	• CNC Programmers	• Inconsistent machining strategies from one programmer to the next results in lower productivity.	• Does the quality of your CNC programs vary based on how experienced your CNC programmer is?	• SOLIDWORKS Cam ability to associate the best machining strategies with a particular feature using our proprietary rules based engine and recalling them for future programming is the key to reducing programming time by as much as 90% compared to other traditional CAM software. These rules can be applied to features found using Automatic Feature Recognition or Interactive Feature Recognition.	X	X
Tolerance Based Machining	• CNC Programmers	• Failure to program to mean tolerance sometimes results in scrap and rework.	Is your company considering moving from paper drawings to Model Based Definition?	• SOLIDWORKS Cam uses the engineering tolerances and annotations in the SOLIDWORKS model to automatically select the correct machining operations while also adjusting asymmetric tolerances to mean tolerances	X	X
Turn Machine	• CNC Programmers		• Are long cycle times for rough machining currently leaving you unable to compete with your competitors?	• SOLIDWORKS Cam high performance roughing capabilities allows programmers to reduce cycle times by up to 80%, reduce programming times by up to 50% and increase Tool Life by up to 500%.		X

SOLIDWORKS CAM

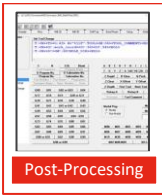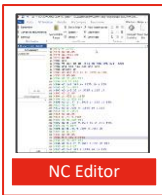## SOLIDWORKS CAM - Productivity Tools (Cont'd)

	Who?	Pains Addressed	Questions to Ask	Operational Benefits	CAM STD	CAM PRO
Multiple Parts	• CNC Programmers	• Easily program pallets of similar or different parts and also model clamps and holding fixtures.	• Do you need to program more than one part at a time? • Do you need to specify holding fixtures and clamps as avoid areas?	• Allows users to accurately model fixtures and clamps using SolidWorks assembly mode to avoid costly crashes with tools. Also includes full fixture offset and sub-programming support for automatic programming of multiple part setups.		X
indexing	• CNC Programmers	• Need to utilize rotary axis positioning on vertical and horizontal mills	• How do you create CNC programs that utilize A-axis or B-axis rotary table positioning?	• SOLIDWORKS Cam automatically indexes the rotary axis to the proper angle prior to the creation of 2.5d tool-paths so proper alignment is always guaranteed. Supports traditional A-axis vertical mills, B-axis horizontal mills and traditional 5-axis mills (A and B together). Positioning only		X
Hi-Speed Machining	• CNC Programmers	• Slow rough cycle times and premature failure of expensive cutters.	• Do you have long rough mill cycle times? How much money do you spend on cutters each year for rough milling?	• SOLIDWORKS Cam utilizes *Volumill* for high performance roughing capabilities which allows programmers to reduce cycle times by up to 80%, reduce programming times by up to 50% and increase Tool Life by up to 500%.		X
Post-Processing	• CNC Programmers	• Generalized post-processors sometimes don't take advantage of all the features on a cnc machine.	• Do you sometimes wish you had a system that would allow you to write or modify a post-processor?	• SOLIDWORKS Cam ships with generalized post-processors for common machine controllers (Mill and Turn) that allow companies to become productive immediately. Our Universal Post Generator (UPG) allows programmers to create, customize or modify their post-processors to exacting specifications, taking full advantage of the advanced capabilities found in today's modern machine controllers.	X	X
NC Editor	• CNC Programmers • Shop Floor	• G-code can be difficult to understand and modify.	Do you sometimes have the need to edit the G-code after post-processing?	• SOLIDWORKS Cam NC-Editor is easy to use and includes powerful features like specialized editing, file compare, back-plot, solid simulation and Distributed Numerical Control (DNC) to improve the productivity of CNC programmers.	X	X