

Building the Fiture of Manufacturing together!

The Future of CAM in Your Shop Today!

SolidCAM is the complete CAM Solution for your Manufacturing, with revolutionary iMachining, best Mill-Turn and Swiss CNCs support, seamlessly integrated and fully associative into SOLIDWORKS, Solid Edge and Inventor.

With the new SolidShop, SolidCAM provides an all-in-one ecosystem to verify CNC G-Code, digitally manage Shop Floor data and monitor CNC machines production for maximum productivity.



Solid CAM.

Sim 5 X. Milling

SolidShop

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Dear CNC Machine Shop and Manufacturing Managers,

Modern manufacturing relies on powerful and versatile CNC machines. All your CNCs make up the backbone of your production and your profits – but how are you going to leverage them in the best possible way? How will you program all your CNC-machines – current and new, standard to complex, no matter what controller – with one single CAM-solution?

We are confident that you want your CNCs to machine with maximum performance, cutting the maximum number of parts in the shortest possible time, with lowest cutting tool costs, and with minimal wear on your CNC machines. SolidCAM's amazing and patented iMachining provides optimal toolpaths, most efficient feeds and speeds generated automatically by our unique Technology Wizard, will enable you to achieve amazing savings in cycle time and tool life!

If you employ complex Multi-channel Mill-Turn and Swiss CNCs to increase your productivity, we offer today the absolute best CAM Solution for easy programming of these complex CNCs. And together with SolidShop – an end-to-end ecosystem for digital, connected, and efficient production – we finally can provide you all the tools to meet the demands of modern, digitized CNC manufacturing

Interested? Read on and we will tell you how!

Dr. Emil Somekh Founder and CEO of SolidCAM

- Program smarter machine faster
- The most intuitive user interface in CAM
- Seamlessly integrated and fully associative to SOLIDWORKS, Solid Edge and Inventor
- Unique and revolutionary iMachining 2D/3D technology
- Complete milling solution from 2,5D Milling, to 3D Milling and up to Sim5X
- Mill-Turn up to highly complex multichannel machines, including Swiss-Type
- Certified postprocessors for all CNC machines and brands in the market
- SolidShop: The complete Ecosystem for digital manufacturing





Overcome all the Manufacturing Challenges for Modern Machine Shops



Best-in-class, complete CAM-Solution seamlessly integrated in SOLIDWORKS, Solid Edge and Inventor.



Easy to learn and to use. Fast programming for Maximum Productivity.



Supports all CNC machine types and brands in the market - up to complex multi-channel Mill-Turn and Swiss CNCs.



Automatic Feature Recognition and Machining, using pre-defined templates for fast programming.



Advanced collision control and machine preview shows the complete machine kinematics during programming.



Certified post-processors which reliably generate the G-code – specially tailored to customer requirements.



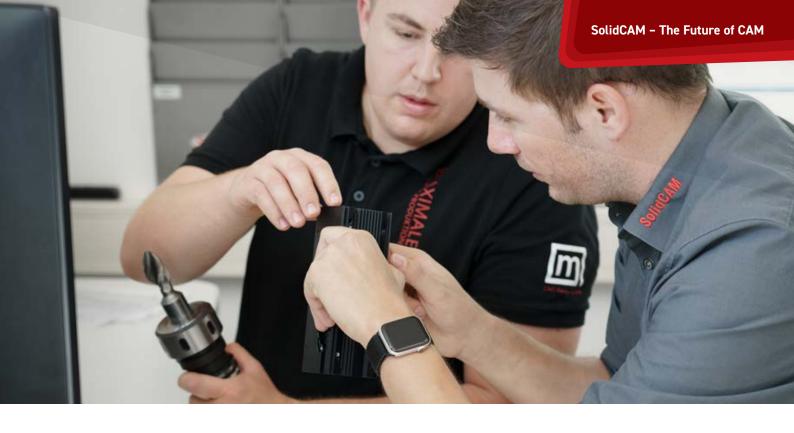
Process Data Management facilitates shop floor digitization



Real-time monitoring and data collection from CNC machines



Direct, simplified access to CAM data on the shop floor



AMAZING TECHNICAL SUPPORT - WORLDWIDE

SolidCAM employs a large team of very experienced technical staff, supporting customers and resellers in programming parts and customizing Post-Processors – all over the world.

In our technology centers all our Milling, Turning, Mill-Turn and Additive technologies are thoroughly checked and can be demonstrated live on our latest CNC machines. Customers, resellers, technology partners and participants of our trainings all benefit from this practical experience.



The SolidCAM crew is the best in the business. Of all the CAM software I have owned, this is far and above all others. The support is top notch. They constantly tell you to "Just call us" if you are stuck, or have a question. Others make you submit a ticket, and they will get back to you. SolidCAM answers the phone!

Randy Knight | Knight Design LLC



SolidCAM's seamless integration into SOLIDWORKS makes it a very intuitive CAD/CAM system. Coupled with Solid-CAM's excellent, and responsive, customer service, this software package is both easy to use and very powerful. The iMachining system in SolidCAM is outstanding and delivers everything that is promised.

Brian Mugavero | National Manufacturing



SolidCAM so far has been not only the easiest learning curve, but one of the most powerful pieces of CAM software I've used. Could I do all of the same things in other software? Yes, but not as easy and the fact that in under six months I can do more in SolidCAM than anything else, that's saying a lot since I come from some big CAM players like ...

Duncan Lewis | Halcyon MFG Inc.



All SolidCAM support and application engineers have a strong technical background as well as CNC and manufacturing experience.



Modern technology and training centers enable us to test, demonstrate and train latest CNC, CAM and Additive technologies.

Faster from the CAD model to the finished workpiece.

We live this motto in technical support and in our technology centers – day after day!



ABOUT SOLIDCAM

With more than 40 years of experience in the development and support of SolidCAM, we have created the most powerful CAM solution that takes your CNC machines to maximum productivity.

Founded in 1984, SolidCAM's strategy of integrating with the most popular CAD systems has created tremendous growth and established SolidCAM as the ultimate solution for integrated CAM systems.

SolidCAM's Add-ins for SOLIDWORKS, Solid Edge and Inventor provide seamless, single-window integration and full associativity to their design models.

OUR MISSION

In today's world of manufacturing, productivity counts, and every CNC-machine must be utilized to the maximum. SolidCAM provides the ability to drive CNC machines in the most efficient and productive way.

In 2011, we launched the revolutionary iMachining, taking the machining industry to a new level. Still today, the patented iMachining technology offers tens of thousands of users unique, amazing benefits, including more than 70% faster machining times and dramatically increased tool life. In addition, iMachining's patented Technology Wizard guides machinists all over the world to perfect machining results on every single part.

SolidCAM is the perfect solution for multi-tasking machining needs, with the ultimate in programming flexibility and configurability. With full channel synchronization, you can optimally program multi-turret

and multi-spindle operations, then watch SolidCAM's simulation of your part being machined in multiple stages. SolidCAM best supports Swiss-Type and Mill-Turn machines, including multi-channel synchronization.

SolidCAM's large customer base spans across all industries including aerospace, automotive, electronics, medical, optics, energy, mold making, prototyping, and more. SolidCAM customers include Job Shops, medium size Engineering and Manufacturing companies, large Aerospace and Automotive companies as well as technical colleges and vocational institutions.

We believe that the perfect CAM solution involves both, the best software and the best support. SolidCAM's technical and postprocessor support, appreciated by tens of thousands of our customers, is a core philosophy of our company and is routinely enhanced to provide maximum service to our customers.

THE SOLIDCAM ADVANTAGE

- Easiest-to-use CAM system with short learning curve
- Seamlessly integrated in SOLIDWORKS, Solid Edge and Inventor, with extensive import of all common CAD data formats
- Patented iMachining amazing and unique technology
- The leading integrated CAD/CAM solution that can control the most complex Mill-Turn & Swiss-Type CNC-machines
- Boosting productivity and profitability, SolidShop turns SolidCAM into a full manufacturing Ecosystem, that moves manufacturers way beyond CAM programming.



SOLIDCAM TECHNOLOGY PARTNERS

Our worldwide cooperation with a large number of leading suppliers of CNC machine tools, CNC controllers, cutting tools, tool holders, fixtures and clamping, as well as toolpath verification and tool data integrators, has great benefits for SolidCAM's large customer base.





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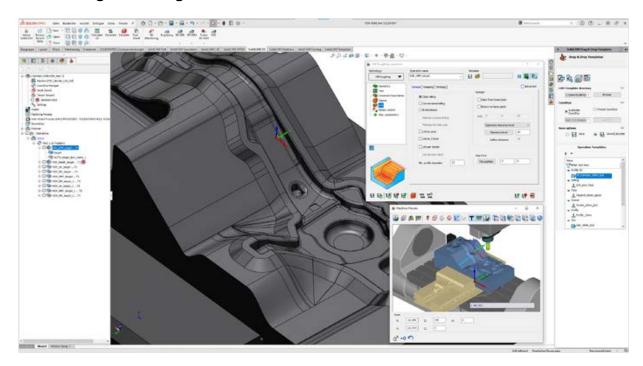








The complete, 'Best-in-Class' CAM Suite for Profitable CNC-Programming in SOLIDWORKS



Major Benefits of SolidCAM seamlessly integrated in SOLIDWORKS:

- SOLIDWORKS look and feel through seamless single window integration – with full support for modern 4K displays
- Full associativity: toolpaths automatically update when the SOLIDWORKS model changes
- SolidCAM works in the SOLIDWORKS assembly mode to define fixtures, tooling and vices

With the single-window integration, all machining operations can be defined, calculated and verified without leaving the SOLIDWORKS assembly environment.

All 2D and 3D geometries used for machining are fully associative to the SOLIDWORKS design model. If you make any changes to your SOLIDWORKS model, all of your CAM operations will be automatically updated.

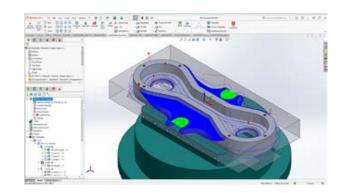
SolidCAM + SOLIDWORKS is scalable for all CNC machine types and applications. The integrated CAD/CAM Solution, is available from SolidCAM, as a bundle-package.



Customers rave about SolidCAM's integration in SOLIDWORKS

- This approach shortens the learning curve for programmers, offers greater geometry editing and manipulation power to manufacturing and provides a common tool for supporting interaction between designers and machinists."
- If changes are made on the manufacturing side, we capture them on both the design side and the manufacturing side because SOLIDWORKS and SolidCAM are fully associative."
- The integrated approach facilitates discussion and resolution of manufacturing issues because everyone is working with the same model and modeler. We communicate issues and features a lot better working with an integrated system."
- The integrated approach has a lot of advantages, including saving time, accessing a single geometry file, and using the intelligence of our design data in a more efficient, systematic way."
- SolidCAM is the Swiss pocket knife for machining. With the modules for the 2.5D, 3D, simultaneous 5-axis machining and rotary milling, all daily machining tasks can be done quickly from the complex drilling pattern to the most demanding 5-axis impeller. Program the part, simulate and off you go on the machine. The software delivers, what it has promised!"

You Never Have to Leave the SOLIDWORKS Window!

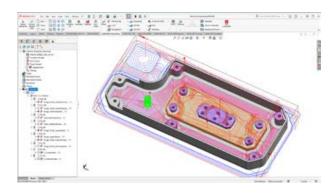


- Since loading the SolidCAM trial version integrated in SOLIDWORKS, I've been able to program complex parts and run them without concern. The machine seems to run smoother than before, cutters last longer and confidence levels are high. I am able to train others here to use SolidCAM with ease. The software is pretty self-explanatory and the tutorials are easy to follow."
- The tight integration with SOLIDWORKS makes my design-to-production life cycle easy and fast. The SolidCAM support team is rock solid. I do some pretty complex 4-axis production projects and SolidCAM handles them very nicely."



Patented iMachining: "Truly Amazing"

This is what customers, machine tool manufacturers and tooling companies alike say about iMachining. The revolutionary iMachining CAM module, fully integrated in SOLIDWORKS, will make you and your CNC machines more profitable and more competitive than ever before.



The Revolution in CNC Machining

- Increased productivity due to shorter cycles times 70% savings and more!
- Oramatically increased tool life 5 times and more
- Unmatched hard material machining
- Outstanding small tool performance
- 4-axis and Mill-Turn iMachining
- Automatic, optimal feeds and speeds
- High programming productivity
- Shortest learning curve in the CAM industry

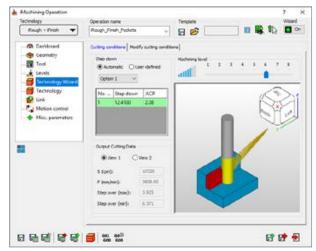
Unique Technology Wizard

SolidCAM's iMachining has the exclusive patented iMachining Technology Wizard, the industry's first and only Wizard that automatically calculates optimal cutting conditions for every segment of the iMachining toolpath.

The Wizard provides synchronized values of feed rate, spindle speed, axial depth of cut, cutting angles and chip thickness based on the mechanical properties of the workpiece and tool, while also taking into account the technical limits of the CNC machine.

The "iMachining level slider" lets the user choose from 8 selectable levels, to automatically adjust for "real-world" fixture, tool holding and machine conditions. The slider makes it easy to overcome standard problems with spindle rigidity, fixture rigidity and cutting tool stability.

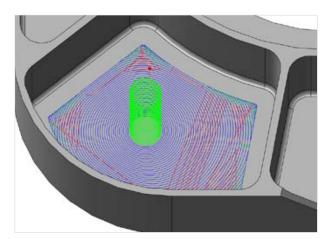
All SolidCAM customers worldwide, who use iMachining, are enjoying immense savings and have gained a real competitive advantage.





iRough, iRest, iFinish and Multi-tool Technologies

- Combined roughing, finishing and rest material functionality in one single job.
- Multi-tool: Easily define and edit related jobs that use multiple tools, all from within a single interface. Geometry and Levels are synchronized and rest material is tracked automatically.
- iRough + iFinish: Optimized roughing and finishing in the same job with the same tool. Ideal for prototyping and the machining of soft materials.
- iFinish: Suitable for hard materials and precise machining with separate tool for finishing floors and walls.
- Optimized rest roughing and bottom finishing of 2.5D features with various strategies.
- Automatic recognition and removal of rest material remaining through the drill tip.



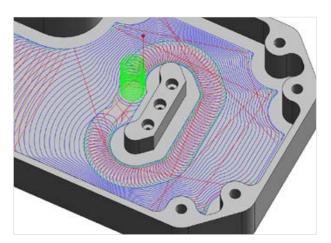
Most efficient iMachining Morphing Spirals toolpath

Distinctive & Proprietary iMachining Toolpaths!

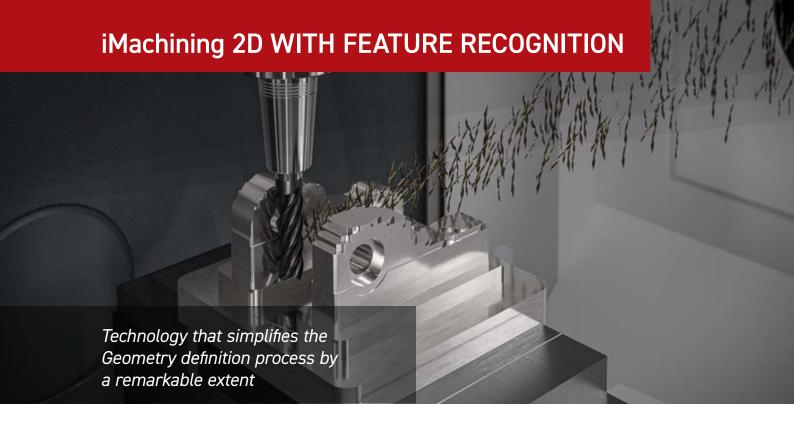
Morphing Spirals – iMachining uses an advanced, patented morphing spiral that gradually conforms to the geometry of the feature being machined rather than a conventional offset toolpath. This maximizes tool to stock contact or "tool in the cut" time.

Channels and Moats: Divide & Conquer – In order to most efficiently attack large areas of material removal as well as stand-alone islands, they are separated or subdivided into smaller sections using iMachining's patented Moating technology. This maximizes the continuous morphed spiral cutting.

Eliminate Wasted Time & Motion – iMachining toolpaths only cut the stock that needs to be removed, eliminating "air cuts". From the initial approach, right to the last cut, rest material tracking ensures every toolpath is always efficiently cutting material.



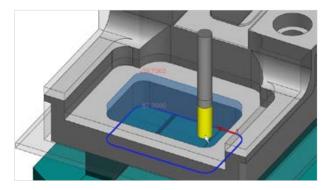
Moating: Intelligent Division of Areas to maximize Morphed Spirals



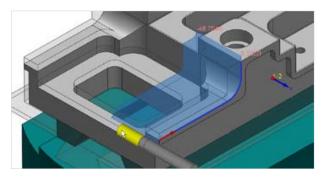
iMachining 2D's Feature Recognition technology detects and defines the part machinable features by utilizing the solid model data, with minimal input from the user.

Feature Recognition Modes

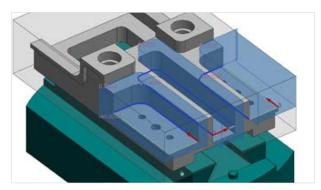
- Faces: Smart Face technology builds chains by just the simple selection of faces. Entire pocket features and their levels, which can consist of varying depths, are recognized automatically.
- Chains: Machinable areas are recognized by chains in combination with the solid model data. Perfect for features not having a floor face to select, such as when milling through pockets and side profiles.
- Outside Feature Recognition: Machinable stock surrounding the target is recognized and its levels are detected automatically.
- Chains without Feature Recognition: Option to use SolidCAM's standard chaining method, without iMachining's Recognition and Protection functionality.



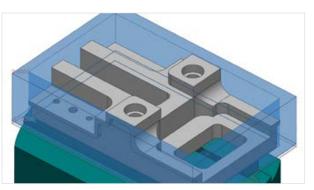
Chains Recognition for Through Pockets



Chains Recognition for Side Profiles



Faces Recognition



Outside Feature Recognition



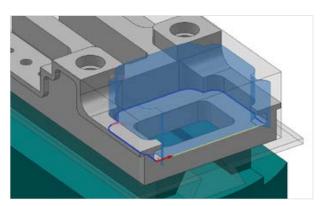
Recognition + Protection

Taking into account the Stock/Updated Stock and Target models, iMachining 2D automatically:

- Detects and avoids part features that create undercut areas
- Detects and extends stock material in open pocket areas
- Detects rest material at every stage of the machining process
- Protects the solid geometries against cutting tool collisions

Dynamic Display of Depths and iMachining Region

iMachining generates and displays a preview of the machinable regions and their levels. The machining geometry can have varying depths and its preview is dynamically updated on job editing, all of which can be visualized in the SOLIDWORKS Graphics Area.



iMachining's Faces Recognition: Features that make undercut areas are handled with ease

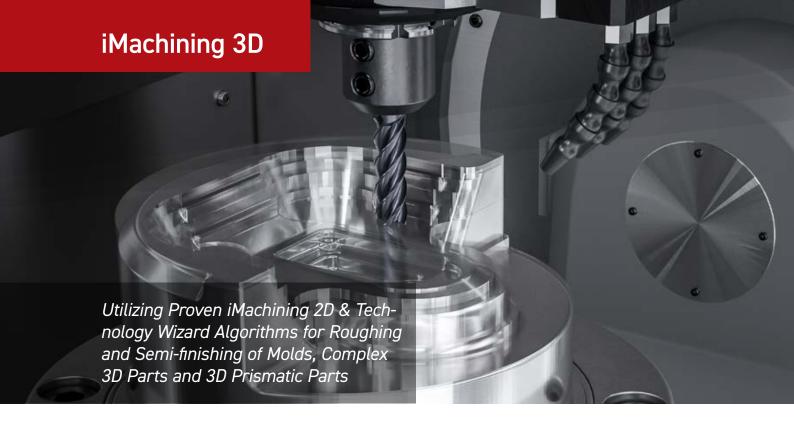


We have found all the claims for iMachining to hold true for our applications in Dixons Surgical – incredible tool life, faster cycles, lighter cutting loads reducing vibration in poor work holding situations (mill-turn), and protection of small diameter cutters. The user interface is very clear and simple, and programming iMachining is faster than traditional strategies."

Jay Dixon, Dixons Surgical Instruments

We discovered that SolidCAM reduced our NC programming time by half. On our previous CAD/CAM system, we had to substantially edit G-codes to make the program operate. Now, with SolidCAM, the post processor produces perfect NC-code, making it far simpler and quicker to produce a new CAM program."

Bob Luck, Alcon Components Ltd



iMachining 3D provides amazing 3D machining results, regularly saving 70% in machining time, reaching up to 90% in many cases.

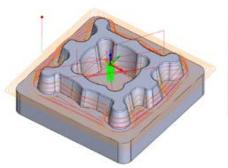
iMachining 3D automatically produces a complete, ready to run CNC program, with optimal cutting conditions, achieved by the expert knowledge-based Technology Wizard, to rough and rest rough an entire 3D part in a single operation.

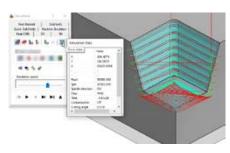
iMachining 3D uses sophisticated analysis algorithms to determine the optimal order of its rough and rest rough toolpaths. Combined with its unique local machining feature, full-depth Step down, intelligent Step-up and smart positioning, iMachining 3D achieves the shortest possible cycle time for roughing and semi-finishing of molds, complex 3D parts and 3D prismatic parts.

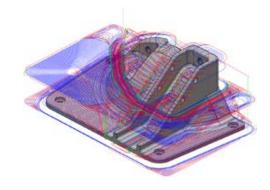
iMachining 3D provides a complete machining solution when combined with other SolidCAM technologies, such as 3D HSM for finishing molds and complex 3D parts or iMachining 2D for finishing 3D prismatic parts.

iMachining 3D is a Must-Have!

- Quick solid geometry selection and automatic target model protection
- Optimized machining of each Z-Step, using proven iMachining 2D technology
- Deep roughing with the whole flute length, resulting in shorter cycle times and increased tool life
- Rest material machining in small upward steps, optimized for constant scallop height, further shortens cycle time
- Intelligent localized machining and optimal ordering eliminates retracts and long position moves, producing the shortest times in the industry
- A dynamically Updated Stock model and "Cut only the Rest material" mode eliminates all air cutting
- Toolpath automatically adjusts to avoid collisions between the tool holder and Updated Stock model, at every stage of the machining process





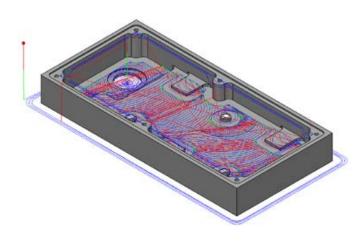






iMachining 3D for Prismatic Parts

Programming times for prismatic parts are drastically reduced with iMachining 3D. In a single operation, rough and rest rough an entire 3D prismatic part that includes any number of pockets and islands, without chaining or sketching a single contour. With just the solid geometry and cutting tool as input, iMachining 3D calculates the rest - automatically and optimally.





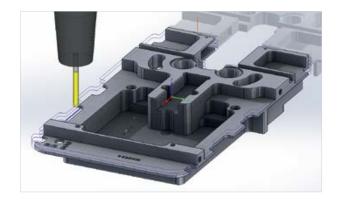
Growth at the company is continuing at a very healthy rate with an emphasis on lean manufacturing. The introduction of SolidCAM has contributed to this expansion, enabling the company to manufacture more complex parts in a shorter lead time, raising throughput, and maximizing the productivity of our machines."

Dan Patrick, Big Bear Plastics

SolidCAM has enabled us to get the time down on downtime! It's allowed much more synergy going from one complex product to the next, more so if you have a complete new set-up on tooling. We need to make sure that from one set-up to the next that the downtime is as minimal as possible."

Shaun Palmer, Director, Oracle Precision Ltd





The most straightforward, easy-to-use interface, seamlessly integrated in SOLIDWORKS, combined with the latest toolpath technology, provides the fastest, most powerful and easiest to create 2.5D CNC Milling toolpaths.

Easily work on parts, assemblies, and sketch geometry to define your CNC machining operations. Quickly place fixtures and components for full visualization.

Best of Both Worlds: Complete Interactive Control + Feature Recognition

SolidCAM provides both interactive and automated 2.5D milling operations on SOLIDWORKS models. Designed for both the novice and advanced user, SolidCAM offers the best of both worlds, with your choice of fully controlled selection of geometry, parameters and CNC programming strategies or Automated Pocket and Drill Recognition and machining with Feature Recognition.

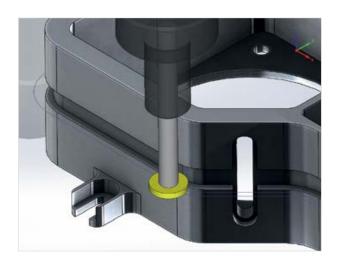
Interactive 2.5D Mill Operations

Besides the standard 2.5D milling profiling, pocketing and drilling operations, SolidCAM offers:

- Chain modification options (offsetting, trimming, extending etc.), enabling changes to geometry without changing the CAD model
- Automatic rest material machining to cut the material remaining after using larger tools
- Chamfer machining using the same geometry defined in Profile and Pocket operations
- Thread Milling operation for machining of standard internal and external threads
- O Variable levels of pockets and profiles in a single job
- Engraving of text on flat and wrapped faces and middle line engraving of a multi-line text
- Contour 3D operation drives the tool along a 3D curve, cutting the model at different depths
- Machining of geometry wrapped around rotation axes, by transforming movement from linear to rotary
- Special operation for machining of the side slots with undercut by a T-slot tool

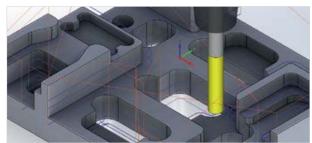






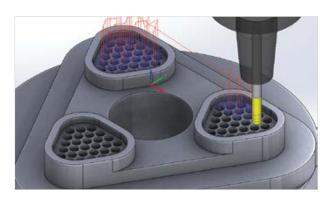
Pocket Recognition

Takes SolidCAM's powerful pocketing operation to the next level, by automatically identifying all pockets on the CAD model. All strategies and options of the standard Pocket operation are available, combined with variable levels and depths recognized from the model faces.



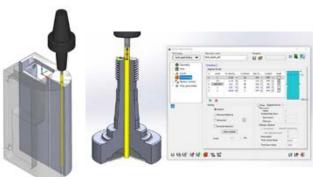
Drill Recognition

Automatic recognition and grouping of holes from the solid model with option to modify resulting geometry. A single Drill Recognition operation can machine groups of holes on varying levels and depths.



Multi-Depth-Drilling

This powerful Drilling operation gives you full control allowing you to customize your drilling operation at every step and every depth. This is the perfect Drilling operation for Deep drilling and Cross hole drilling.



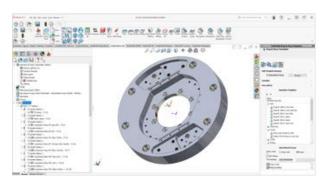
AUTOMATIC FEATURE RECOGNITION & MACHINING



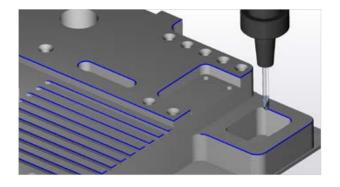
Advanced Pocket Recognition

SolidCAM AFRM sets the new standards. Instead of machining each individual pocket in a separate operation, all pockets, no matter whether they are open, closed, blind or through pockets, are being identified with their corresponding depth and Z-level and machined in one operation. Full fixture protection in pocket, pocket recognition and 2D drilling allows you to machine your parts while protecting your fixtures.

- All strategies and options of the standard pocket operation are available, combined with variable upper levels and depths recognized from the model faces. User controls the choice of the Tool, Technology and Cutting Strategy.
- Automatic recognition and machining of fillets on the pocket floor
- Automatic rest material recognition on each pocket
- The perfect tool for multi pocketed parts

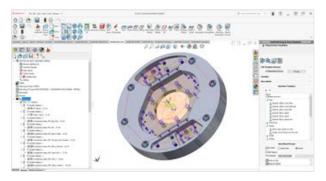


Drag & Drop Hole Wizard Process applied to a single hole feature



Chamfering and Deburring

SolidCAM automatically recognizes all sharp edges where a chamfer can be applied. The user only sets the depth of the chamfer, the cutting diameter of the tool and a safety offset. SolidCAM's chamfer recognition automatically avoids vertical walls and machines as much as possible, while protecting the part from collisions with the shank. The option Dynamic Tool Diameter results in less wear and tear of the tool, which is particularly helpful with hard materials.



Drag & Drop Hole Wizard Processes applied to the entire part



Advanced Drill Recognition

SolidCAM automatically identifies all drills on the solid model and generates the necessary CNC operations.

- To select the drills to be machined, powerful filter tools such as diameter, Z-level or drill depth are available.
- Spot drills can be generated on all drill positions, where the depth relates to the diameter of the drill tool being used.

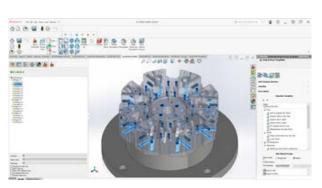


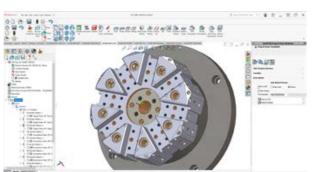
Drill features detection & Automatic Toolpath generation

SolidCAM's Hole Wizard, with Drag & Drop Machine Processes

SolidCAM's Hole Wizard, with Drag & Drop Machine Processes optimizes the task of programming multiple operation for complex holes:

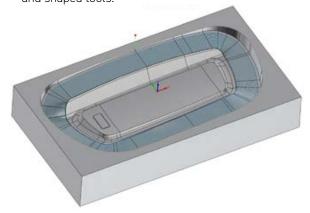
- All holes in the CAD feature, including subordinate patterns are recognized.
- All Geometry and Dimensional parameters of the CAD Feature are available for use in the machining process, including Hole Wizard tolerances.
- Complex logic including conditional equations provides greater flexibility.
- Simple, Counter Sunk, Counter Bored & Tapped hole sets are programmed with a single mouse click.







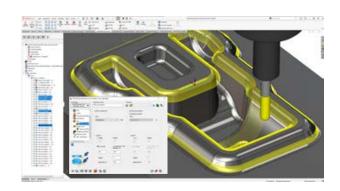
SolidCAM's HSS is a high speed surface machining module for smooth and powerful machining of localized surface areas in the part, including undercuts. It provides easy selection of the surfaces to be machined, eliminating the need to define boundaries. It supports both standard and shaped tools.



Powerful Surface Machining Strategies for Smooth, Gouge-Free & Optimal Toolpaths

SolidCAM's HSS Module provides numerous surface machining strategies, that produce an efficient, smooth, gouge-free and optimal toolpaths to finish the selected surfaces.

HSS provides special toolpath linking options, generating smooth and tangential lead-ins and lead-outs. The linking moves between the toolpaths can be controlled by the user to avoid holes and slots, without the need to modify the model's surface. Retracts can be performed to any major plane.

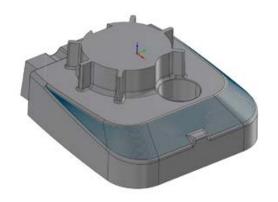


Total Tool Control to Machine Only the Areas You Choose

HSS is the CAM module that takes your 2.5D machining far beyond profiles, pockets and faces, providing a 3D machining capability by driving along specific surfaces on prismatic and 3D parts.

The HSS toolpath is focused on single or multiple surfaces and excels in creating a flowing toolpath on a group of surfaces that form a complex 3D shape, e.g. fillets.

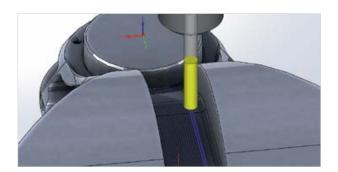
Experience total tool control to machine only areas you choose, without the need for constraint boundaries or construction geometry.





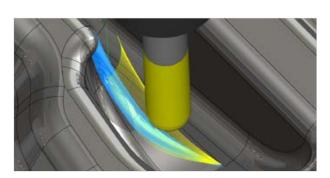
Advanced Gouge Control for Holder, Arbor and Tool

Complete collision control is available for Holder, Arbor and Tool. Adjoining Check surfaces that are to be avoided can be selected. Several retract strategies are available under full user control.



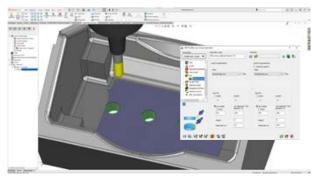
Advanced Linking

Total freedom to control tool entry and tool exit motion, no surface modifications needed. Toolpaths can be extended or trimmed, gaps and holes can be jumped and you can choose from multiple lead-in/lead-out options.



Important Module for Every Machine Shop

The advantages of SolidCAM's HSS module translate into significantly increased surface quality. The HSS module is an important and valuable add-on for every machine shop for the machining of all types of parts.



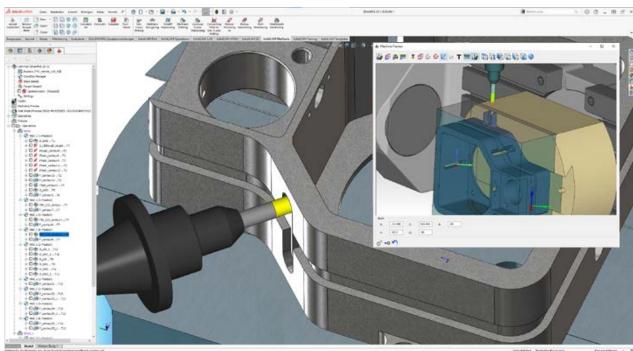
Linear High Speed Finishing toolpath on selected surface

Handling Undercut in HSS

Use Tapered, Lollipop, or T-Slot tools for undercuts or geometry that is difficult to cut.







A common scene in any machine shop today is that 4- and 5-axis CNC machines are increasing production, providing faster cycle times.

SolidCAM provides an effective and easy way to program on multiple sides of a part. Moreover, SolidCAM excels in indexial 4/5-axis machining.

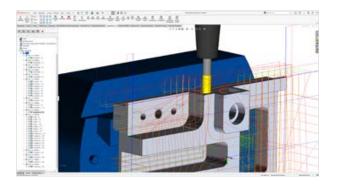
Easiest Definition of Coordinate Systems for Indexial 5-Axes!

Tired of dealing with construction views, copying models, and rotating them in space for new alignments? Do you still copy and transform geometry to separate layers for indexial programming?

Experience single machine home position, with One-click orientations for indexed setups – SolidCAM speeds up multisided machining by eliminating multiple coordinate system constructions. Define a Coordinate System on the fly by simply picking a face, and continue programming your part.

- SolidCAM's "select a face and machine" feature offers the fastest approach to indexial programming.
- Our coordinate system manager keeps track of all necessary data for each tool orientation.
- SolidVerify simulation displays tool holders and fixtures, alongside material removal for all machining operations.





Efficient, Edit-Free G-Code for Multi-Axis Machines

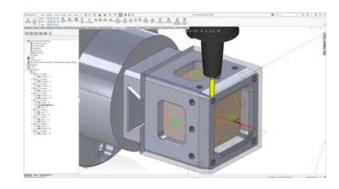
SolidCAM offers multiple options to get efficient G-code for multi-axis machines.

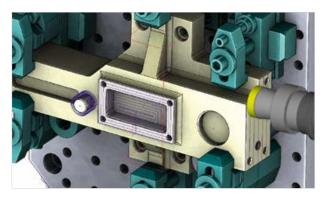
SolidCAM's post processor can be configured to handle all rotations and work offset shifts, eliminating the need for setting up multiple work offsets at the machine. Whether your controller can calculate part rotations internally or it needs the post processor to handle rotations, SolidCAM has you covered. For controllers with advanced plane rotation or coordinate rotation

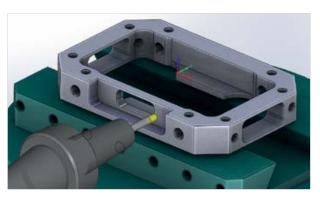
functions, SolidCAM's post processors are built to utilize these internal CNC functions. If your machine lacks such functions, you can input the part location within Solid-CAM and the G-code will automatically handle all of the transformations for each rotation.

Our approach to indexial milling is straightforward: from software to G-code we make the process for indexial milling as seamless as single-sided milling.

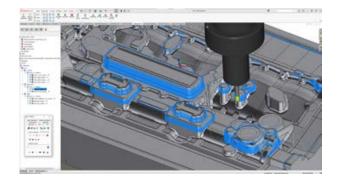
No specialized functions or software tricks are required to machine multi-sided parts – it just works!











SolidCAM's High-Speed Machining (HSM) offers unique machining and linking strategies for 3D high-speed toolpaths. It smoothens the paths of both cutting moves and retracts, wherever possible, to maintain a continuous machine tool motion – an essential requirement for maintaining higher feed rates and eliminating dwelling.

- 3D machining taken to an entirely new level of smoothness, efficiency and smart machining.
- The finest toolpaths available anywhere for complex 3D parts, aerospace parts, molds, tools and dies.

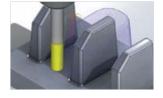


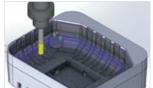
HSR - High Speed Roughing

SolidCAM HSR provides powerful high-speed roughing strategies including: HM roughing, contour, hatch, hybrid rib-roughing, and rest roughing.







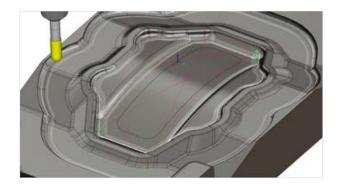


High Speed Finishing

With SolidCAM's HSM module, retracts to high Z levels are kept to a minimum. Angles are smoothed with arcs wherever possible, ensuring that retractions never exceed what is necessary. This minimizes air cutting and machining time.

- Efficient and smooth toolpath that translates to increased surface quality, reduced wear on your tools and a longer life for your machine tools.
- High Speed Machining is a must in today's machine shops to meet demands for ever-shorter lead and production times, lower costs and improved quality.





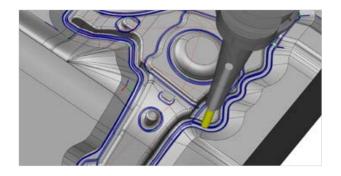
SolidCAM's HSM module features several enhancements to CAM technology that make high speed operations possible, e.g. avoiding sharp angles in the toolpath and generating smooth and tangential lead-ins and lead-outs.

- Tool stays in contact with the material as much as possible, reducing non-machining moves.
- Working area can be precisely controlled using a comprehensive set of options, including silhouette boundaries, cutter contact area boundaries, shallow area boundaries, rest area boundaries.
- HSR/HSM toolpaths can be edited after toolpath creation using working areas, Z-level limits or a combination of both to control cutting moves or to exclude specific areas from machining.

3D Machining to the Highest Level

SolidCAM's HSM module is a powerful solution for all users who demand advanced High-Speed Machining capabilities. It can also be used to improve the productivity of older CNCs with reduced air cutting and smoothing arcs thus maintaining continuous tool motion.

Let us show you how HSM takes 3D Machining performance to the highest level – all with your current machines.





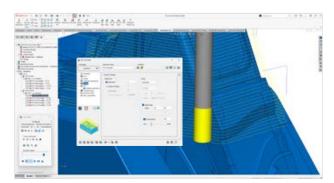






Pro 3D HSR / HSM

SolidCAM Pro 3D HSR and Pro 3D HSM are new generation high speed technologies for machining any complex mold or die casting. Pro 3D HSR generates safe, optimized and efficient toolpaths for Roughing and Rest roughing, and Pro 3D HSM completes the Semi-Finish and Finishing machining processes.



- Ultra-fast calculation: the advanced toolpath algorithm leverages the full computing power of the latest workstations with up to 24 cores
- Fast programming with minimum user input to define High-Speed Machining jobs with optimized toolpath for reduced machining times.
- Best-in-class Contour and Hatch toolpath patternsin Pro HSR to quickly and efficiently remove material in Roughing and Rest roughing process and variety of finishing toolpaths patterns to completely finish both shallow and steep regions and corners.
- High quality, precise surface finish thanks to optimized point distribution and advanced arc-fit options.
- Intelligent collision avoidance system considers fixture devices, tools, clamps, jaws etc.

- Supports High-Feed Cutters
- Intelligent Tool Length Calculation reports the minimum tool length needed to machine the part with defined Tool, Holder & Part Geometry, so the user can employ the right tool – neither too long nor too short
- ◆ Smart Feed rate control for complex core and cavities: Pro 3D HSM intelligently modulates the machine's velocity in corners. This sophisticated control facilitates higher feed rates in less constrained sections, optimizing overall machining time while mitigating undue tool wear and preventing undesirable markings on the corners.
- Accurate and efficient Arc generator efficiently creates arcs in any plane (XY and ZX/ZY planes).







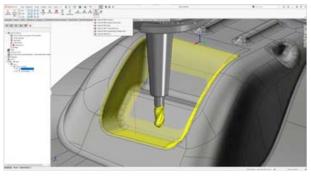
Excellent surface finish of $0.4 \mu m$ with SolidCAM HSM strategies

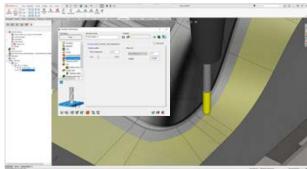


Geodesic Machining

SolidCAM's Geodesic Machining enables machining of complex 3D Shapes (Solid Model & Surface Groups) with a toolpath that has constant stepover and undercut areas. This module generates a pattern of toolpath with measurable constant step over. The stepover remains constant even on steep and shallow walls as it machines different surfaces or an entire model. SolidCAM uses a global distance field without a fixed direction. Typically, a stepover is calculated with reference to a vector direction, but in Geodesic Machining global distance and a stepover are used without a fixed direction.

- Various toolpath patterns are available
- Constant 3D distance between consecutive cuts
- Works effectively even in undercut situations
- Utilizes single entry and exit move



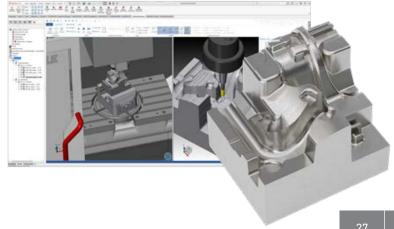


Auto 3+2 High Speed Roughing

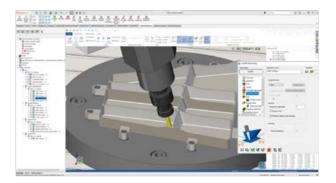
Hybrid High Speed Roughing with 5X-transitions between THSR Jobs

SolidCAM's Auto 3+2 THSR Hatch and Contour technologies detect and process undercut areas in the specified range of processing angles. The functionalities of these technologies remain mainly the same as Turbo 3D HSR with an added advantage of Auto 3+2 Axis support.

The Auto 3+2 module is useful to efficiently machine undercut areas and gaining increased access from a single direction. It minimizes the number of operations with different machining directions.

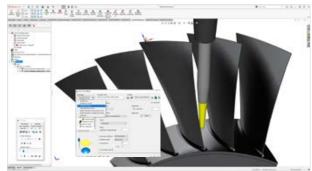






Benefit from the most tested and proven 5-Axis machining toolpaths in the industry, with a user-friendly interface, collision checking and the most advanced control over all aspects of the toolpath:

- Wide variety of Simultaneous 5X cutting strategies
- Flow line cutting that produces a toolpath following the natural shape of the component
- Multi-surface finish machining keeps the tool normal to the surface (or with specified lead and lag) to achieve a smooth surface finish
- Advanced tool tilting control including direct control over side tilting and lead/lag angles
- Automatic collision avoidance strategies that assess each part of both the tool and holder
- Multi-axis rest roughing efficiently removes the remaining material of the larger cutter diameter used previously.
- Realistic full 3D machine simulation offering comprehensive collision and axis limits checking



Circular-segment cutters with barrel-, oval- and tapered geometry are being supported in SolidCAM

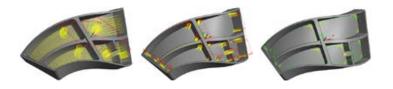
Flexibility and Control

Each 5-Axis machining strategy provides sophisticated options for approach/link control and tool axis control.

Link and approach moves are fully gouge protected and different strategies may be used depending on the distance of the link move. SolidCAM also provides options for control over lead/lag and side tilt angles to give complete control over the final toolpath.

Collision Avoidance for Tool and Holder

Collision avoidance is supported for both the tool and holder, and a range of strategies is offered for avoiding collisions. The Machine Simulation provides complete visualization of the gouge checking.





SWARF Machining

With SWARF machining, the tool is tilted over to cut with its lateral surface. SWARF cutting utilizes the entire cutting length



of the tool, resulting in better surface quality and shorter machining time.

Multiblade Machining

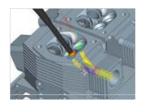
The Multiblade machining operation easily handles impellers and bladed disks, with multiple



strategies to efficiently rough and finish each part of these complex shapes, which are being used in many industries

Port Machining

With this 5X operation you can machine intake and exhaust ducts as well as inlets or outlets of pumps, in castings or steel blocks with tapered



lollipop tools. Roughing and finishing operations can be quickly and easily defined and reliably simulated with complete collision control for the entire tool and holder.

Screw Machining

This operation generates 4-Axis rotary roughing and finishing toolpath for screws using bull nose, ball nose or flat end mills.



Contour 5-Axis Machining

The Contour 5-Axis machining strategy tilts the tool along a



chained 3D profile drive curve, while aligning the tool axis according to defined tilt lines, making it ideal for generating 5-axis toolpath for deburring and trimming.

Multi-Axis Drilling

The Multi-Axis Drilling operation uses SolidCAM's automatic hole recognition and then performs drilling, tapping or boring cycles, at any hole direction, easily and quickly. All the advanced linking, tilting and collision avoidance strategies are available in this operation.

Convert HSM to Sim. 5-Axis

The Convert HSM to Sim. 5-Axis milling operation converts HSM 3D toolpaths to full 5-Axis collision-protected toolpaths. This maintains optimum contact

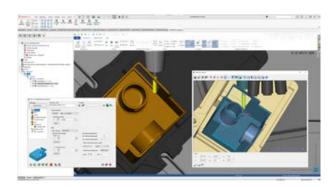


point between the tool and the part, enabling the use of shorter tools for more stability and rigidity.



Simultaneous 5X Edge Breaking

After machining a CAM part, a burr can sometimes be found that have straight edges or non-tangent outer surface topologies. This occurs when the tool chips the metal off the edge, potentially compromising the functionality of the part, endangering the user due to its razor-sharp nature. Removing it is the best option.

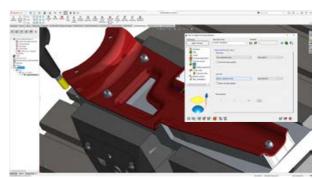


SolidCAM's Edge Breaking operation creates a deburring toolpath on the outer edges of a part geometry. The position of the tool relative to the edge is always the bi-vector between the two surfaces of that edge.

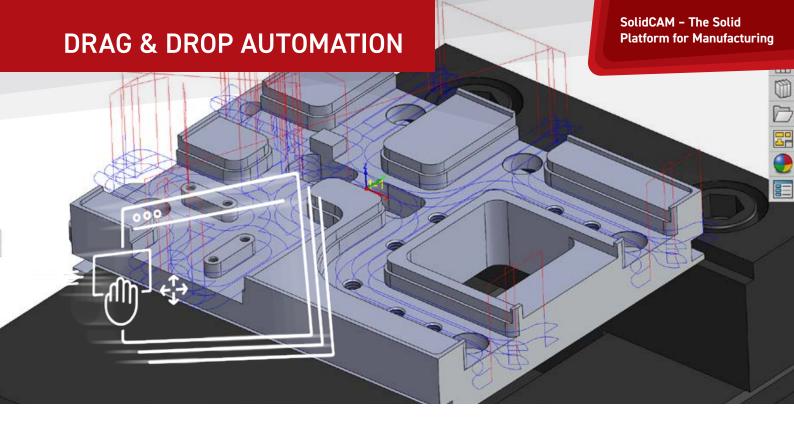
- Enables creation of a fully automatic toolpath by just selecting the part geometry.
- Additional features include Automatic Feature Detection, Linking, Lead-In and Collision avoidance.
- Ball mill cutters and quality geometry input (mesh) are required for the detection feature to work properly.

Simultaneous 5X Edge Trimming

SolidCAM's Edge Trimming operation efficiently machines parts that require edge trimming to get their final shape. This operation uses a highly automated algorithm to create a toolpath to trim the edge thin materials.



- Designed for the edge trimming of thin materials
- Position of the tool relative to the geometry can be defined by various options from only a 3-axis output to a more complex 5-axis output with different tool axis orientation options.
- Axial shift enables the tool to be engaged with a certain value into the material.
- Edge trimming can be automated or user defined, and offers a variety of corner handling functions to create a seamless toolpath.

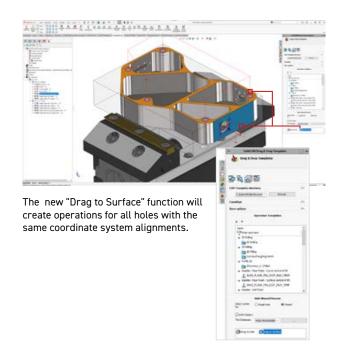


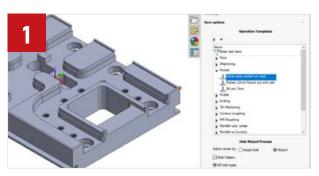
Drag & Drop Templates

One of the most intuitive and fastest ways of programming a part is to use SolidCAM's Drag & Drop templates. These are ready-made templates that you can drag directly onto surfaces and holes.

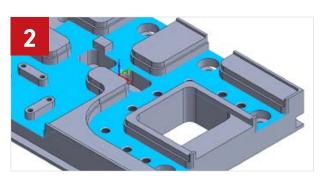
The templates can be created by the user directly from existing jobs and can be flexibly adapted at any time in a clearly structured database.

Drag & Drop is available in a wide span of SolidCAM's operations including 2,5D, iMachining, HSS, HSM etc.

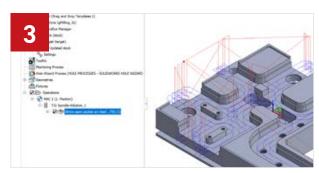




Grab operation template from template directory



Drag the template to the face to be machined



A new Operation is added to the CAM Manager operation tree and the toolpath will be calculated



Precision and Efficiency for EDM

The SolidCAM WireEDM module supports various machining strategies, including Profile, Taper, and 4-axis machining, along with built-in machine macros. It offers flexible strategies with a variable number of cuts, accommodating different materials, wire types, and workpiece thicknesses.



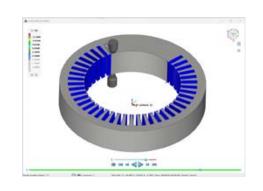
SolidCAM's Wire EDM module ensures high-quality results and optimized machining processes:

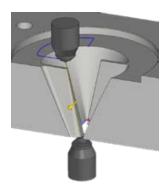
- **Profile Machining**: Achieve accurate and detailed profiles with ease
- **◆ Taper Machining**: Handle complex taper angles effortlessly with two modes constant and variable
- 4-Axis Machining: Perform intricate 4-axis operations for advanced applications
- Built-in Machine Macros: Utilize pre-configured macros for streamlined operations
- Variable Cut Strategies: Adapt cutting strategies to suit various materials and wire types

- 2D Destruction Cuts
- Automatically detects narrow areas where the core might fall and inserts a stop.
- 4-Axis jobs generate thread points based on updated material. Advanced management of Bridges
- Graphical Simulation Preview toolpaths before cutting
- Error Prevention Reduce machine downtime and avoid costly mistakes
- Rough Cuts & Skim Cuts Ensure material removal with fine surface finish
- Corner Strategies Handle sharp corners, small radius, and taper angles effectively.

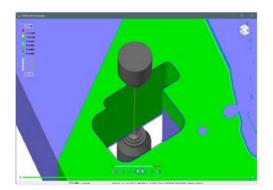
Advanced Simulation

The 3D volume simulation provides a detailed and dynamic representation of the material removal process



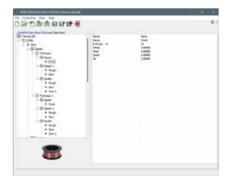






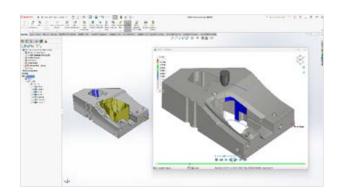
Updated Stock Comparison

This feature helps to identify the difference between the machined stock and the target model, ensuring that all necessary material is removed



WireEDM Database Editor

WireEDM technology database is an essential component for managing EDM CNC-machine parameters and predefined technologies.



Custom Surfaces

SolidCAM allows you to easily select custom surfaces for machining.

SolidCAM WireEDM Benefits:

- Faster Programming Automates geometry detection and toolpath generation.
- **Higher Accuracy** multi-pass strategies ensure superior surface quality.
- Machine Compatibility works with all major Wire EDM brands.
- Reduced Errors Advanced simulation helps to prevent costly crashes and material waste
- Seamless CAD/CAM Integration No need to switch between different software

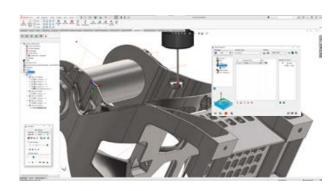


Probing & Measuring Made Easy

Solid Probe is the SolidCAM module that provides capabilities for Home definition and On-Machine Verification, using probes on the CNC machine, to do setup and control the quality of machined parts.

Full visualization of all the probe movements, provided by SolidCAM Machine Simulation, enables you to avoid any potential damage to the Probe tool.





Solid Probe is a Must for Every Machinist using Probes:

- Easy Home definition
- On-Machine Verification
- Tool Presetter support
- Easy geometry selection on solid model
- Supports a wide range of probe cycles
- Visualization of all the Probe tool movements
- Support of different Probe controllers

Combined Probe and Machining Operations

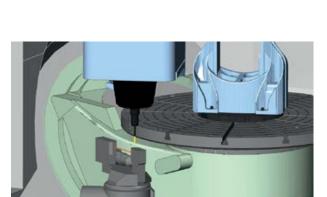
Machining operations and Probe operations are intermixed in the SolidCAM CAM manager and can use the same geometries on the solid CAD model. When the solid model is changed, both the machining and probe operations can be automatically synchronized to the change.





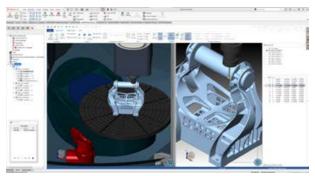
Home Definition

Solid Probe provides an easy solution for home setting, using 16 different cycles, to easily define home positions, replacing manual setup procedures.



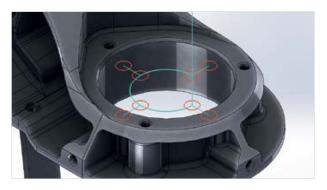
Tool Presetter Support

Solid Probe includes Tool Presetter support to check your milling and turning tools, between Machining operations and tool change events. It also provides tool breakage detection for continuous and safe machining.



On-Machine Verification

Solid Probe cycles are used for measuring machined surfaces, without transferring the part to a CMM machine – the part can be inspected on the CNC machine itself.

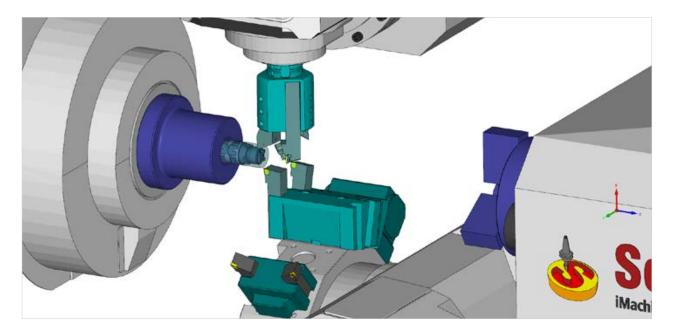


Preview of Cycle Movements

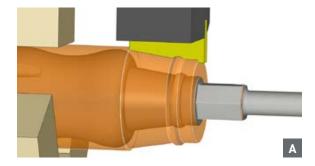
Solid Probe uses the same geometry as the 2.5D milling operations. Full control over tolerances, different sorting options and preview of cycle movements are provided.



SolidCAM Module for Fast and Efficient Turning



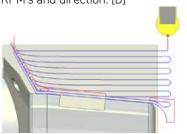
- SolidCAM provides a comprehensive turning package with powerful toolpaths and techniques for fast and efficient turning with fixture and holder protection.
- SolidCAM produces advanced rough and finish profile turning, together with support for facing, grooving, threading and drilling cycles.
- Turning geometries and profile can be generated very quickly, easily adopted or modified for production.
- The Machine Preview allows you to interactively, in machine environment, check and verify your setup and machine position, at every stage of the toolpath, minimizing programming and setup errors.
- SolidCAM turning supports the widest range of machine tools, including 2-Axis lathes, multi-turret configurations with or without sub-spindles.
- Custom turning inserts, shape inserts with multiple cutting edges can be used. [A]

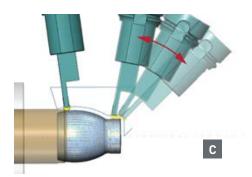


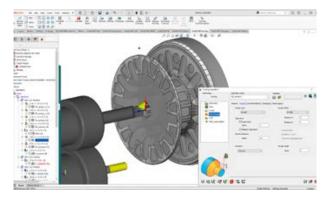


Advanced Turning Capabilities

- Balanced Roughing: two turning tools working simultaneously, or in trailing mode, to perform roughing turning of long and large parts.
- Angled Grooving: performs internal or external inclined grooves, at any defined angle.
- Manual Turning: performs turning according to userdefined geometry, regardless of stock and target
- A new Trochoidal toolpath of round grooving tools for increased efficiency. [B]
- 4th Axis Simultaneous Turning: performs machining of curved profile using the B-axis tilting capabilities of the tool, in order to machine undercut areas in a single machining step. [C]
- Drive Unit Sharing: two tools working simultaneously while single Drive Unit (spindle) rotates with the same RPM's and direction. [D]



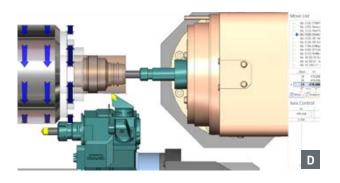




Updated Stock

SolidCAM has the ability to keep the stock updated live within the operations tree. Updated stock is supported from the most basic 2-Axis Turning Center, right through to a CYB Multi-turret, Sub-spindle Mill-Turn CNC-Machine.

On a Sub-spindle Turning Center, when a component is transferred from the main to the sub-spindle, the Updated stock model is transferred with it. Any subsequent machining on the sub-spindle will detect the stock in the state that it left the main spindle, ultimately providing the most efficient machining sequence possible.





A Complete Solution for Advanced Multi-Turret/Spindle Mill-Turn Machines

Modern Multi-Axis machining centers are designed to combine as many milling and turning operations as possible to manufacture workpieces at maximum productivity.

Manual CNC programming of sophisticated parts on complex machines, directly at the machine controller is - if at all humanly possible - unproductive, errorprone and expensive.



TURNING OPERATIONS



Manual

















Face

Turning

Grooving

Drilling

Balanced Roughing

Threading Angled Grooving

Trochoidal Turning

MILLING OPERATIONS





Face



Profile



Pocket











2D iMachining



Translated

Surface

3D iMachining



Engraving



HSR / HSM / HSS



Sim. 5X Blade Machining



Machining



Rotary Machining



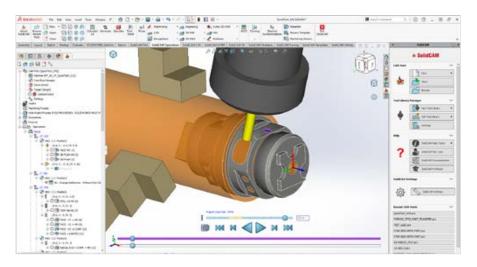
Slot / T-Slot

Multiaxis Drilling

... and many more!



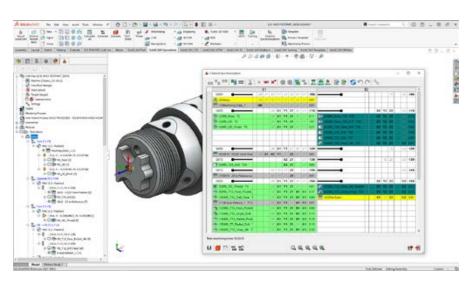
Integrated. Easy-to-Use. Complete.



Within the SolidCAM user interface, seamlessly integrated into your SOLIDWORKS or Autodesk Inventor CAD, you program milling and turning operations on main and back spindles, control turrets, tailstocks, steady rests and linear tool carriers.

Milling operations include the unique and patented iMachining technology available only from SolidCAM.

Short Cycle Times. Maximum Productivity.

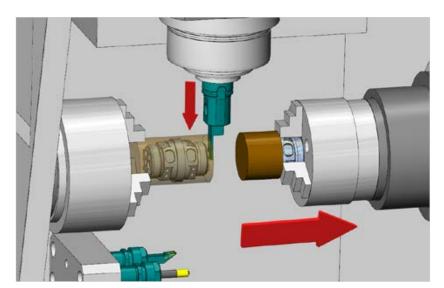


Easy-to-use Operation
Sequence Manager is ideal
for synchronising and
optimising job sequences
across all turrets, channels,
and workpieces on spindles,
maximising production
efficiency. Its intelligent engine
detect possible clashes and
guides you towards solution.

SolidCAM can control an unlimited number of channels and supports a wide range of machine functions and cutting modes.



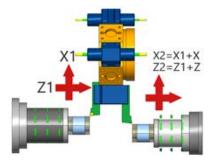
Advanced Rest Material Handling



SolidCAM always keeps the stock updated live, within the operations tree, to optimize the tool-path, avoid air-cutting and to achieve minimal cycle time.

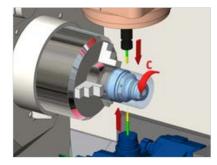
When the workpiece is transferred from the main to the sub-spindle, the updated stock model is also transferred to the new position.

Any subsequent machining on the sub-spindle will detect the stock in the state that it left the main spindle, ultimately providing the most efficient machining.



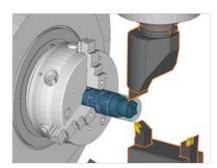
SolidCAM supports three different superimposition modes. A pair of axes can be superimposed one to another, where the slave one follows the master one.

For applicable Mill-Turn machines, Solid-CAM will automatically detect this mode.



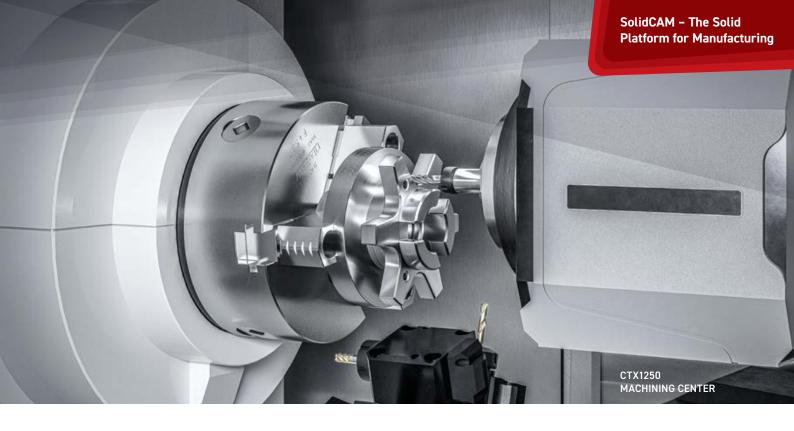
Reduce machining time by sharing axes and drive units.

Synchronize your milling/turning operations, on different turrets, on the same table device, under specific conditions.

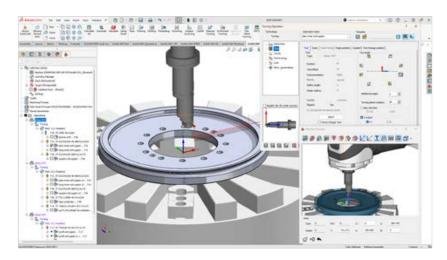


Balanced rough is a special drive unit (spindle) sharing mode designed to increase productivity and stability of part machining.

There are 3 different modes supported by SolidCAM: Simultaneous, Synchronous, and Trailing.



Support for Milling machines equipped with Turning and Tilting axis



Another type of multi-tasking machine that, in addition to 5-axis indexial and simultaneous milling capabilities, may provide an advanced turning operation option to process highly complex parts productively in a single setup.

SolidCAM Mill-Turn tool-path may be applied along these machines withing the same intuitive interface, supported by Machine Preview showing active Fixture, Spin Direction, Tool Orientation, Tilting angle, and axis position.

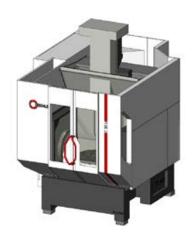
Machines with these characteristics can be configured as Table-Table or Head-Table, and controlling the Turning coordinate system is critical since it can be orientated differently depending on the Tilting angle. SolidCAM ensures and fully controls the Turning Tilting cycles.



Mazak Variaxis i700T



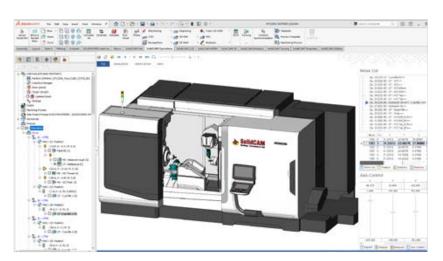
Brother Speedio M140X2



Hermle C32U dynamic



Advanced Machine Simulation



The Advanced Machine Simulation is an essential tool that provides a virtual environment for visualising and verifying the entire machining process, allowing you to detect potential collisions, tool-path errors, and fixture setup issues prior to actual machining, lowering the risk of costly mistakes and downtime.

SolidCAM's Machine Simulation allows you to confidently shift from programming to production, resulting in a smooth and safe machining process.



Chiron FZ08MT



Mazak Integrex i-400S



Doosan SMX2600SX



INDEX G200



Okuma U3000



QuickTech T8HY



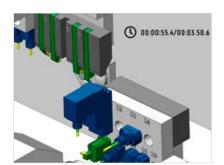
HURCO TMX 8MYi i6



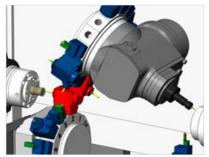
HAAS ST20Y



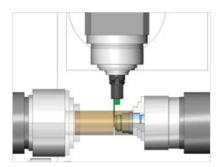
Machine Simulation - Additional Features



The calculated cycle time is displayed in the simulation module.



Collision detection



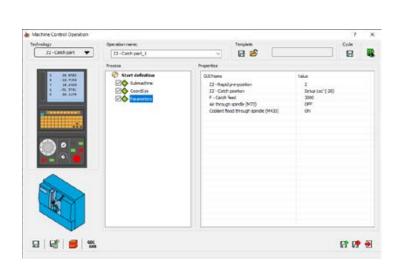
Part transfer: simulating the cut-off process

Machine Control Operations: MCO

With MCOs you can define various CNC machine actions, in addition to machining operations programmed in SolidCAM.

Such actions include:

- Move machine components
- Transfer stock/workpiece
- Clamp/unclamp fixture/jaws/collet
- Program bar feeder
- Control coolants
- Machine mode
- Axes and phase synchronization
- Customize Change Tool routines
- Output any G/M command





SolidCAM Swiss-Type solution – made to your needs



Swiss-type CNC turning centers provide a cost-effective way to produce small, complex, and precision parts by feeding the stock through a guide bushing and cutting it within linearly or revolver-sorted cutting tools in a single setup.

Today, production series on Swisstype machines are shorter, machines are more complex, risky, and unproductive to program manually.



Hanwha XD38II-H-Y2



Citizen D25-M8



STAR SB20R-Type G



Tornos SwissDeco 36TB



Tornos Swiss Nano 7



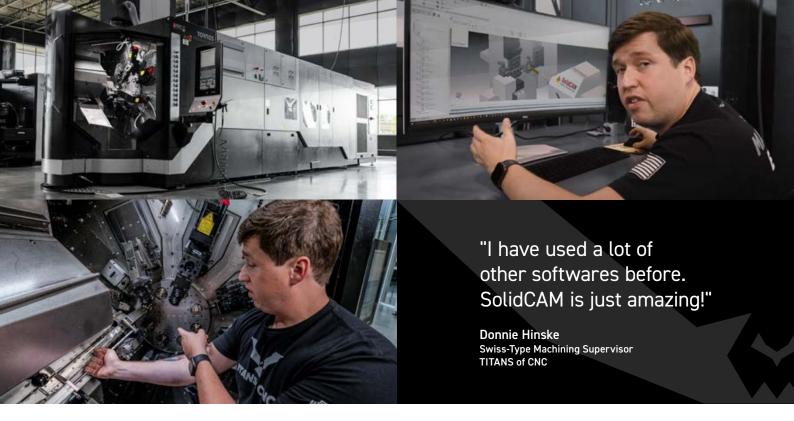
Tsugami B0326-II



Citizen M32-4M8



Tsugami BH38E



The Best-in-class already proven solution

Driven by the already-proven concept of Advance Mill-Turn, SolidCAM develops a set of advanced features and delivers best-in-class the Swiss-Type Solution allowing you to do offline part programming, optimization, tool-path simulation, and verification directly inside your SOLIDWORKS, Solid Edge and Autodesk Inventor. You program setup, milling and turning operations on main and back spindles and synchronize them inside intuitive Operation Sequence Manager.

A wide pallet of Turning and C-, Y- and B-axis Milling operations including the unique and patented iMachining technology available only from SolidCAM ensures every part can be machined.

CITIZEN











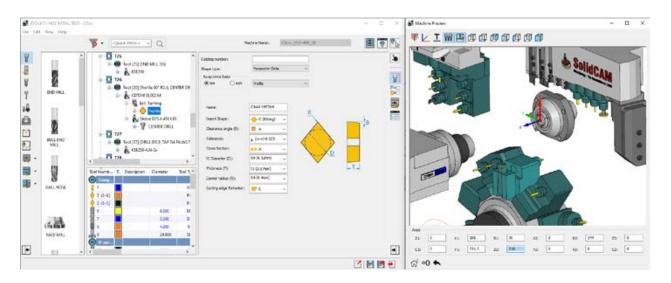




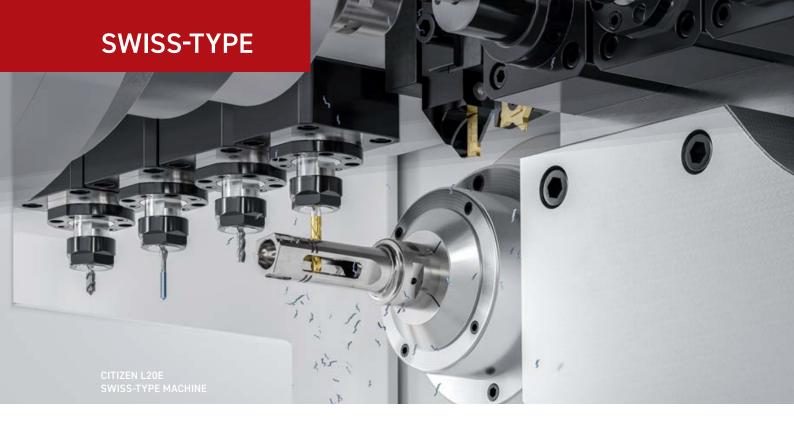


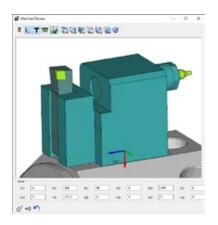


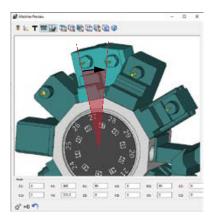
ToolKit - LIMITLESS TOOL MANAGER

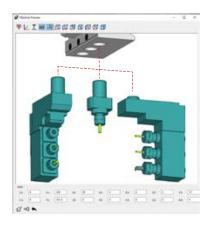


The best tool manager in the CAM industry allows to load, assemble and manage Tools and cutting conditions and guarantees a fast tool configuration switching supported by a virtual machine environment (Machine Preview) and user-friendly interface, eliminating the error of tool setup.







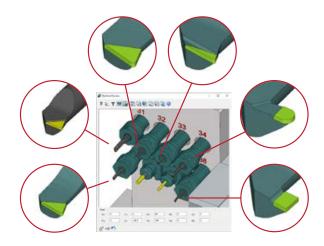


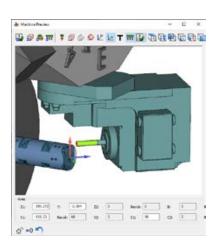
Double sided holder

Revolver Indexing Holder

Angular Holders

Any tool components, including small and custom shaped inserts can be directly imported as CAD data from the tool manufacturer's online catalog. Setting up tool offset and number for each cutter is simple. It is quick and easy to change the tool layout.

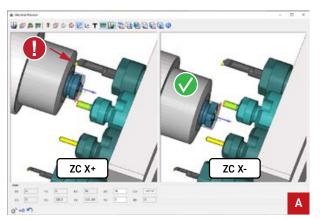


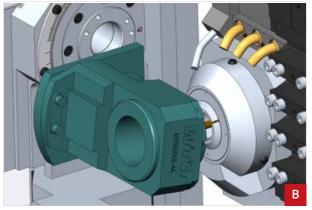


Any kind of Face, Axial, Angular, and Multi-Cutter holder is supported by the ToolKit. If diameter compensation and circular interpolation can be carried out in the machining plane, SolidCAM will immediately recognize this. Regardless of the rotation vector, the angular head machining plane is automatically formed if the controller unit supports it.

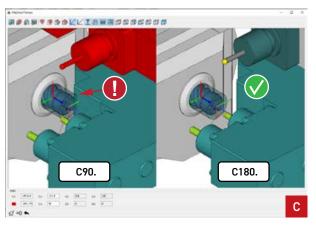


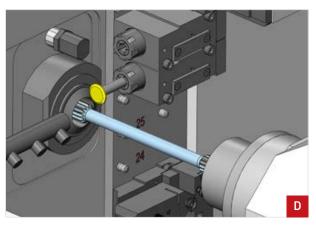
PROGRAM. SIMULATE. PRODUCE!





Milling and Turning operations give complete control over the X-axis (positive or negative) output avoiding potential collisions of neighbor tools with machine components. Polar Coordinate Interpolations cycles (radial or face) are fully supported [A]. Supporting Thread Whirling as an unreplaceable method in the Swiss-Type machines for precisely machining medical screws [B].

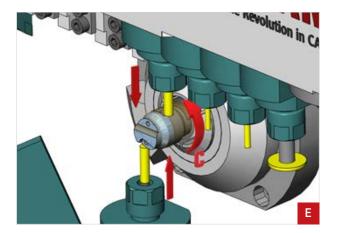


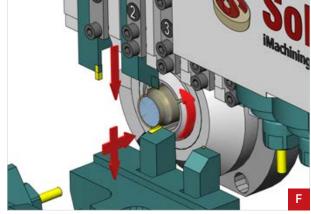


Multi-positional holders may lead to a risky situation of potential collisions or reaching the machine axes soft limits. SolidCAM gives you full control over the C-axis output for the selected contour to keep you away from these situations [C]. Advanced re-chucking and back spindle support machining in the Axes Synchronization [D] and superimposition mode.

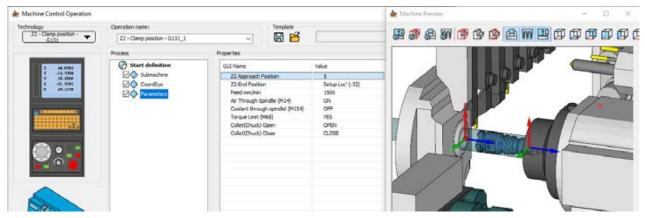


Reduce machining time and stable machining process by sharing axes [E] and drive units [F]. Synchronize two turning operations on different turrets at the same time and under specific conditions use the same spindle or synchronize two milling operations on different turrets on the same rotary axis.





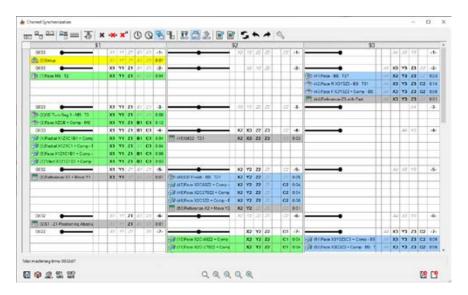
Machine Control Operation: Pre-defined for your needs!



Swiss-Type post-processors are equipped with pre-defined standard MCO cycles that covers all basic and advance machine motions and modes (part transfers, retracts, axes and spindle synchronizations, etc.). Each cycle consist of parameters that requires minimum user input for taking necessary machine actions. Defining MCOs besides standard cycles are also possible.



Synchronize. Optimize. Maximize Productivity.

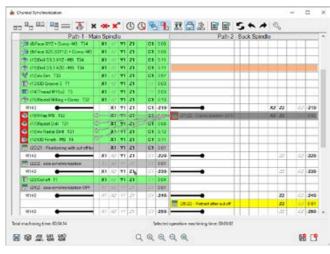


Easy-to-use Operation Sequence Manager is ideal for synchronizing and optimizing job sequences across all turrets, channels, and workpieces on spindles, maximizing production efficiency. Its intelligent engine detect possible clashes and guides you towards solution.

SolidCAM can control an unlimited number of channels and supports a wide range of machine functions and cutting modes.

Operation Sequence Manager - Intelligent clash engine

The Operation Sequence Manager's clash engine holds the generation of G-code or simulation if there is any issue with defined synchronization. If active it will mark operations that require an action, guiding you with pointed arrows with logical comments. The intelligent system holds the logic and checks the possibilities of the synchronization taking into account the machine kinematics, axes sharing, and synchronization wait-marks rules.





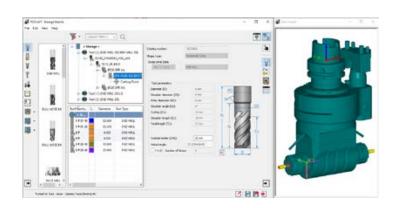
SolidCAM ToolKit: Flexible. Advanced. Complete.

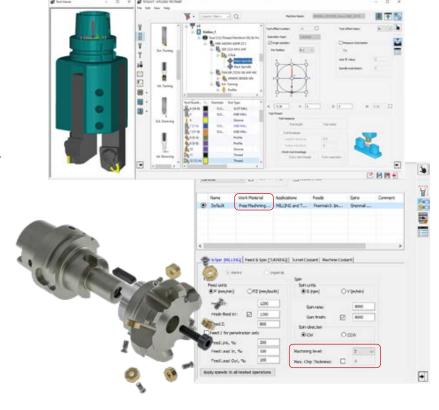
SolidCAM's Tool Table feature, named ToolKit, is a powerful system that facilitates better tool management and provides major enhancements in Tool definition functionality. SolidCAM ToolKit offers three Tool Library types, each having a graduated level of tool managing capabilities:

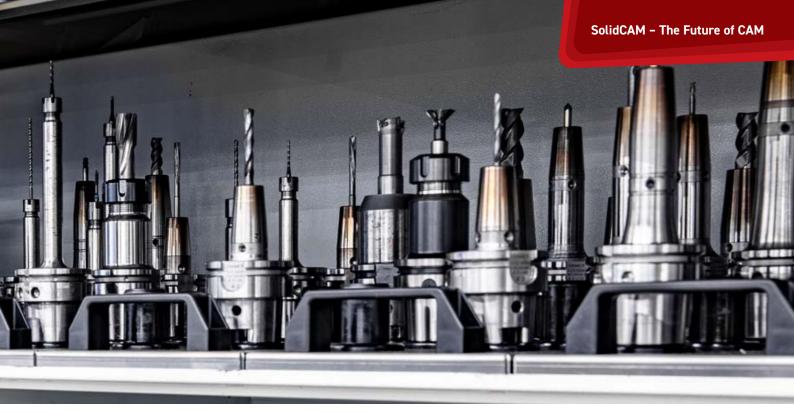
- Tool Components Library
- Tool Assemblies Library
- Machine Tool Setup Library

ToolKit Highlights

- Import any 3D model Milling/Turning/ Fixture component
- Angular holders supported
- Cutting conditions according to workpiece material: the cutter material, work material, and machining level selection affects the maximum cutting speed adjustments generated by the iMachining Technology Wizard.
- Swapping between metric and inch parameter units was never easier.
- Multiple cutting points: pre-define any number of cutting points (tool offsets) on a single cutter component.









• All Tool components are linked: any change may update the tool for all projects where it was used. [A]

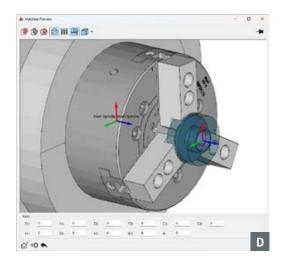
Measure Tool Orientation & Preview

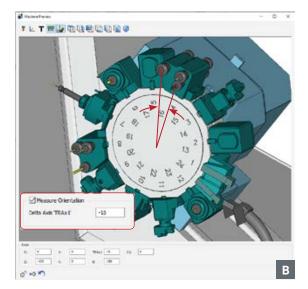
Depending on the turret type, you can measure the tool on a specific spindle orientation, tilting angle, or indexed position and get the Tool offset output and simulation accordingly. [B]

Machine Preview helps you to define and visually check all tools in the machine environment of your CNC machine. [C]

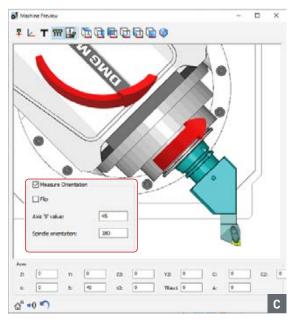
ToolKit - Fixture components

The ToolKit is also a platform for Fixtures, allowing the definition of any Fixture components and assemblies in libraries and their use in applications [D].





Measured tool orientation on indexed capable revolver



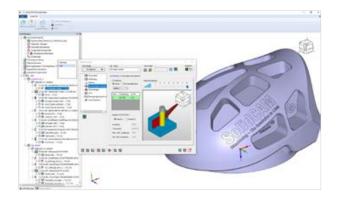
Measured tool orientation on spindle with tilt axis



Powerful Tools for your CNC Operators

In many machine shops, there is a complete separation between CAM Programmers and CNC machine operators. However, it is often very helpful for machine setters and operators to have precise information about the clamping situation and tooling details or to be able to visually simulate the machining process. The SolidCAM workshop editor even allows production staff to make certain changes to the CNC program, such as cutting conditions or infeeds, without having to contact the CAM programmer for every small adjustmens. Your benefits:

- Significantly shorter set-up times as staff can exactly see and visually check what needs to be done.
- Minimize Reliance on 'Dry-Runs': SolidCAM for Operators enables your staff to step-through each move in the G-Code program, reducing setup time and the need to 'dry-run' programs on the CNC.
- Preventing CNC machine and tool damage: Operators see full simulations so they can prevent unexpected crashes or collisions.
- Working efficiently: Operators can make minor adjustments, without needing to rely on the CAM programmer, who might be unavailable or busy programming other parts.
- Full setup picture: SolidCAM for Operators enables your staff to see all details of each operation, including Tools, Setup Definition, Stock Clamping, Work Offsets, and full simulation of the process.
- Lower licence and maintenance costs: use of the low-cost workshop tools for employees who do not require a full SolidCAM licence.



With the software license tool, production managers control, what functions each employee has access to: There are three different versions of SolidCAM for Operators to choose from:

Editor Mode

SolidCAM for Operator Editor mode enables the CNC Operator to open existing CAM parts, created by the SolidCAM Programmers, edit the operations if needed (e.g. change step down or change speeds and feeds), recalculate, simulate, then post-process new G-code, right by the CNC. The optionally available SolidCAM for Operator Editor LT mode enables the CNC machine Operator to open existing CAM parts, view the operations, edit toolkit, view the part setup, simulate, then post-process G-code, right by the CNC machine.

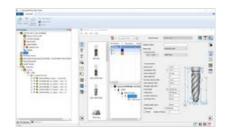
Simulator Mode

SolidCAM for Operator Simulator mode enables the CNC Operator to see the Tool table list with full details, understand the clamping, work offsets, and see simulation of the CAM Part, before running the G-Code on the CNC machine. Simulator mode has no CAM part editing capabilities at all.



Powerful Tool for Operators at the CNC

	EDITOR	EDITOR LT	SIMULATOR
View the model, including Fixtures and location of work offsets	<u>~</u>	~	~
View the tool table in full detail	<u>~</u>	~	~
View all machining operations, data and defined geometries	<u>~</u>	~	✓
View Cutting conditions for each operation	<u>~</u>	~	~
Fully simulate the machining process	<u>~</u>	~	~
Change the Tool data and cutting conditions	<u>~</u>	~	
Calculate operations	<u>~</u>	~	
Regenerate G-Code after edits	<u>~</u>	~	
Change the operations data	<u>~</u>		
Change the setup definition	✓		







Your Complete Ecosystem for Shop Floor Digitization

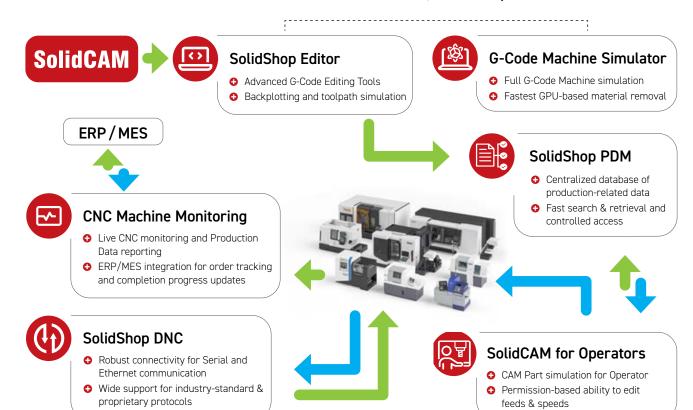
SolidShop is SolidCAM's all-in-one ecosystem for managing, controlling, and monitoring CNC production. It connects CAM programming with the shop floor through integrated modules for G-Code Editing & Simulation, Shop Floor PDM, SolidCAM for Operators, DNC Communication, Machine Monitoring & ERP/MES integration.

By uniting programming, documentation, communication, monitoring, and reporting, SolidShop empowers manufacturers to maximize productivity, eliminate errors, reduce downtime, get a fully paperless workflow and achieve complete traceability across their entire operation.

For years, manufacturers have been searching for an affordable, practical, and proven solution to bring digital control to the shop floor. SolidShop is SolidCAM's answer to all these demands and is designed specifically for production environments, offering:

- Compatibility with legacy and modern CNC machines
- Rapid implementation with short ROI times
- Scalable functionality that grows with your business

SolidShop is SolidCAM's answer to the demands of modern CNC manufacturing — an end-to-end ecosystem for digital, connected, and efficient production.



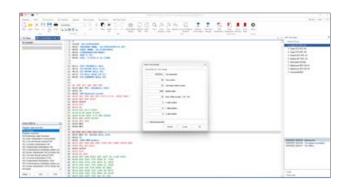


SolidShop Editor - The Industry-Standard G-Code Editor

SolidShop Editor combines a powerful text editing environment with toolpath simulation and comparison tools, making it the go-to solution for working with G-code.

Advanced Editing Tools – Intelligent NC functions, customizable shortcuts, and an easy-to-use interface designed for fast and efficient code editing.

- Backplotting & Toolpath Simulation Visualize toolpaths directly from G-code to validate programs and ensure accuracy before machining
- File Comparison Quickly compare program revisions line by line to identify differences and avoid costly mistakes
- **Transformations & Macros** − Apply rotations, mirroring, scaling, and other transformations, or use macros to automate repetitive tasks
- DNC Communication When paired with DNC, seamlessly upload/download programs between PC and CNC machines
- Code Conversion Translate proven programs between CNC types (e.g. Heidenhain <> FANUC <> Siemens)



- **⊙** Cycle Simulation Verify canned and parametric cycles for turning, milling, drilling, threading, probing, block skips, and conditional logic used by mainstream CNC controls
- Proven Compatibility Supports a wide range of CNC controls, parametric code, subprograms, and cycles

SolidShop Editor provides a reliable, fast, and proven NC editing environment, that reduces programming errors and setup times, standardizes editing and revision control, and improves productivity with efficient program validation.



SolidShop G-Code Machine Simulation – Accurate and Reliable Program Verification

SolidShop's G-Code Machine Simulation is a **field-proven solution for validating NC programs directly from the G-code**, ensuring that what is programmed is exactly what the CNC machine will execute. It provides accurate 3D simulation of both the machine tool and the machining process for CNC machines from 2 to 5 axes, as well as single channel lathes equipped with one or two spindles + C axis and a turret, helping manufacturers avoid costly errors and downtime.

- True G-Code Simulation − Reads and interprets the actual NC code, including macros, subprograms, and parametric commands, to provide an authentic machine run-through
- 3D Machine Environment Visualizes the tool, fixtures, stock material, and the full kinematics of the machine, detecting errors before they occur
- Collision & Over-Travel Detection Identifies potential crashes, axis limit violations, and setup issues that could damage machines or parts
- Rigorous and configurable syntax checker that enables delivering verified code to the CNC
- Lightning-fast material removal simulation using GPU power
- Broad Control Support Compatible with mainstream CNC controls and their unique cycle definitions, ensuring realistic behavior



By simulating NC programs in advance, SolidShop Machine Simulation increases operator's confidence in program reliability, accelerates the process of moving from programming to production and enhances safety by preventing crashes and tool breakage.

SolidShop G-Code Machine Simulation provides a critical tool for manufacturers who want accuracy, efficiency, and risk-free CNC program validation.

Thanks to its tight integration with SolidShop PDM, DNC, and SolidCAM for Operators, the G-Code Machine Simulation module enables operators and programmers to simulate changes that were done at the CNC controller, before they are merged with the approved version.



SolidShop PDM - Centralized CAM & Proces Data Management



SolidCAM for Operators – Shop Floor Access to CAM Data

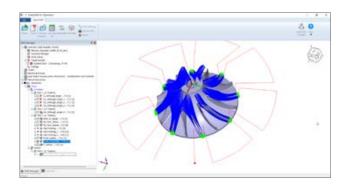
Our manufacturing-oriented Process Data Management module delivers one of the most important steps towards shop floor digitization. Fully integrated into SolidShop Editor, SolidShop PDM manages all types of documents in a centralized database accessible to anyone in the company, through a desktop application or web clients.

The state of the s

- 100% Shop Floor Focused Designed for CNC programmers, machinists, and operators
- ❖ Single Source of Truth Centralized Database that stores CAM files, NC programs, subprograms, setup sheets, tool lists, CAD models, drawings, quotations, e-mails, and more in one central location
- Fast Search & Retrieval Find programs instantly by machine, part, customer, or custom criteria
- Program & Subprogram Management Manage parent/child program relationships and send main programs with linked subprograms directly to CNCs in one click (via SolidShop DNC)
- Secure & Traceable Advanced access controls define user rights, while all interactions are logged for compliance and accountability
- Controlled Access Provides controlled access to the latest approved CNC programs and documents
- Integration with SolidShop Editor Directly open, edit, simulate, and send programs to CNC machines through DNC communication
- Revision Control Track changes and maintain version history for all programs and documents
- ❖ Regulatory Ready Supports ISO 9001, AS9100, and other standards, making it ideal for industries with strict compliance needs, such as medical, defense and pharma
- ♣ End-to-End Integration Works seamlessly with SolidCAM and SolidCAM for Operators, enabling a fully paperless workflow

SolidShop PDM ensures data integrity, security, and compliance, while eliminating inefficiencies caused by outdated or misplaced documents. It improves efficiency by giving programmers and operators fast, reliable access to required data, bringing order, control, and reliability to CNC program management and data-driven manufacturing.

SolidCAM for Operators is designed to give machine operators direct, **simplified access to CAM data on the shop floor**. Instead of relying on programmers or printed documentation, operators can view all relevant information they need in a controlled, user-friendly interface.



- Direct Access to CAM Data Operators can access CAM parts, setup sheets, tool lists, and machining documentation directly from the shop floor
- CAM Part simulation Enables operators to see full Machine simulation of the CAM Part, before starting machining at the CNC machine
- Update of Feeds & Speeds Provides operators the ability to do changes to Feeds & Speeds, as needed
- Integration with SolidShop PDM Ensures operators always work with the latest approved version of CAM files and documents, and to store any revisions they have done
- Paperless Workflow Eliminates printed instructions and hard copies, ensuring revisions are instantly available
- ◆ Traceability & Control Tracks which programs and revisions were used for production, improving compliance and accountability

SolidCAM for Operators enables a **seamless connection between CAM programming and CNC execution**, reducing miscommunication, preventing outdated documents on the shop floor, and empowering operators with machine simulation, editing capabilities and with the right data at the right time. It is a key step toward a fully digital, paperless manufacturing environment.

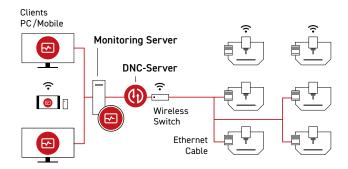




SolidShop DNC - Reliable CNC Communication

SolidShop DNC provides secure, reliable, and efficient communication between CNC machines and the shop floor network. It is a trusted solution for uploading and downloading NC programs, ensuring revision control, and maintaining a smooth data flow across all types of machines.

- Centralized Program Handling Send and receive NC programs directly to and from CNC controls, keeping all revisions synchronized
- Error-Free Transfers Built-in safeguards prevent data loss or corruption during file transmission
- Integration with SolidShop PDM Ensures operators always use the correct, approved program version, to provide traceability, version control, and secure transfer of programs
- ➡ Bi-Directional Communication Changes made by machine operators can be uploaded back to the central system for traceability



- Wide Protocol Support Works with both industrystandard and proprietary protocols
- Scalability Supports shops with just a few CNCs up to large factories with hundreds of CNC machines

SolidShop DNC bridges the gap between machines and digital infrastructure, ensuring **seamless connectivity**, **secure data flow, and full revision control** — a critical enabler for digital manufacturing.



SolidShop Real-Time Manufacturing Data Collection

SolidShop Monitoring provides real-time monitoring and data collection from CNC machines, and other shop floor equipment, giving manufacturers full visibility of shop floor performance. It automatically records production data, tracks machine status, and delivers actionable insights to improve efficiency at the shop floor.

- Live Machine Monitoring Displays the status of every machine (running, idle, setup, etc.) in real time
- Data Collection & Connectivity Collects cycle times, downtimes, spindle loads, part counts, alarms, and operator inputs. With SolidShop DNC, the system captures live PLC signals and CNC part counters
- OEE & KPI Reporting − Calculates Overall Equipment Effectiveness (OEE), MTBF, MTTR, and other userdefined performance indicators
- Custom Dashboards & Reports Visualization via shop floor screens, dashboards, or automatic reports
- ◆ Flexible Connectivity Supports modern and legacy CNC machines, PLCs, and sensors, via dozens of protocols, such as MTConnect, OPC or RS-232/ Ethernet



- Flexible Reporting Detailed reports can be exported to Excel and PDF, or visualized directly through Power BI, Grafana, or custom dashboards
- ERP/MES Integration Interface to business systems for synchronized production data and order tracking.

By combining live monitoring, powerful reporting and ERP/MES integration, Machine Monitoring enables manufacturers to increase production efficiency, reduces operational costs, eliminates downtime, ensuring a data-driven, traceable workflow across the shop floor. This makes SolidShop Machine Monitoring not just a monitoring tool, but a strategic partner in smart manufacturing, digital transformation, and maximum productivity.



Stay Connected with the Machining Digital World

Tool data management has been a challenge for midsize and large enterprises for decades. The digitalization of our machining world is progressing rapidly and SolidCAM is moving fast to ensure our customers benefit the most from the advancing digitalization.

With the new Tool Catalogue, SolidCAM provides advanced interfaces to 3rd Party Tool Management Softwares.

Any interface to specific Tool Management Systems can be accessed directly from within SolidCAM's Tool Table, enabling the import and immediate use of complete tools for machining.

The Tool data may include parametric and 3D/2D data for holder and tools, recommended feeds, spins and machining parameters for milling and turning tools.



SolidCAM provides interfaces to the following external Tool Management Systems:



TDM from tdm systems www.tdmsystems.com





The following 3rd Party products have already developed their Interface to SolidCAM:



Inovatools Eckerle & Ertel GmbH – Tool manufacturer: www.inovatools.eu



www.emuge-franken-group.com











SolidCAM for Education

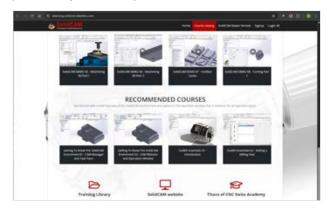
SolidCAM for Education is a global initiative dedicated to supporting schools, universities, and vocational training centers in preparing the next generation of CAM and CNC programmers and manufacturing engineers. The program provides academic licenses with sufficient seat counts for entire schools, as well as special Research licenses for advanced projects and innovation labs. It also offers professional certifications — Certified SolidCAM Academic Associate (CSAA), Professional (CSAP), and Expert (CSAE) — which validate verified skills in CAM programming and machining strategies. In addition, SolidCAM for Education delivers tailored support for teachers and students, access to the SolidCAM Al-Assistant for real-time technical assistance, and curated educational content aligned with modern manufacturing standards.



Beyond the classroom, SolidCAM extends its mission through free SolidCAM for Makers licenses, enabling hobbyists, makers and students to innovate and learn using professional-grade CAM software. The program actively supports numerous competitions for young CAM and CNC talents, summer schools for students, and collaborative educational projects that connect academia with real-world manufacturing challenges. Through its strong global partner network, SolidCAM for Education continues to bridge the gap between classrooms and production floors — empowering educators, inspiring students, and shaping the future of intelligent manufacturing.

SolidCAM Academy

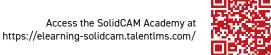
As the official online learning platform for all our users, SolidCAM Academy offers a full library of e-Learning training recordings, delivering in-depth explanations of all SolidCAM software functionalities. The training sessions are based on the latest SolidCAM version, ensuring users receive up-to-date and practical knowledge aligned with the newest features and enhancements, helping users to unlock the full potential of SolidCAM and achieve maximum productivity on the shop floor.



- Structured Learning Path: Step-by-step modules covering all SolidCAM features and machining process.
- **◆ Expert-Led Content**: Lessons and hundreds of videos prepared by SolidCAM's global team of product managers and application engineers.
- Global 24/7 Access: Learn anytime, anywhere, through the SolidCAM Academy online portal.

Empowering CAM Excellence Worldwide

Through the Academy, users can explore every SolidCAM module and gain practical knowledge directly from the people who develop the software. Each course module covers real-world machining workflows, from basic 2.5D milling to advanced multi-axis and multi-channel machining strategies.





The Perfect Place to Demonstrate the Power of SolidCAM Software, with Live CNC-Machining

SolidCAM GmbH | Germany

Our major technology center is located at the SolidCAM GmbH office in Schramberg, Germany. In addition we maintain technology centers in Suhl and Rosenheim. All our Milling, Mill-Turn, Swiss-Type and 5x-technologies are thoroughly checked and can be demonstrated live on our latest CNC machines:

- Hermle C30 5-Axis CNC with Heidenhain controller
- DMG NTX 500 with Upper B-Axis, Lower Turret and Sub-Spindle with Fanuc 31iB5 Plus controller
- Citizen L20 ATC sliding headstock Swiss CNC
- ◆ Alzmetall GS 800/5-FDT 5-X Milling and Mill-Turn Center with Siemens 840 controller
- Okuma Genos M460V-5AX 5X-Milling center with Okuma OSP-P500 controller

SolidCAM customers, resellers and participants of our trainings all benefit from this practical experience.





Join Our LIVE Cutting Webinars from our Technology Centers

Attend our Live-Cutting webinar events to see live the power of iMachining 2D/3D, our advanced Mill-Turn and Swiss solutions. Visit solidcam.com for more information.



SolidCAM UK Ltd. | United Kingdom

SolidCAM UK Ltd, based in South Yorkshire, is the UK and Ireland reseller of SolidCAM. SolidCAM is a Technical Member of the British Turned Parts Manufacturers Association (BTMA). As well as employing Sliding Head Swiss Technical experts, SolidCAM UK features a Star SR-38 Type B Swiss CNC as an integral asset in delivering unrivalled support to the Association's members. In addition, two 5-axis machining centers are being used to test and demonstrate the latest CAM technologies.





SolidCAM Inc. | United States

The USA Technology Center is located at SolidCAM Inc.'s headquarters in Newtown, Pennsylvania. This state-of-the-art facility showcases the full power of SolidCAM with a Hermle C42 5-Axis Milling Center, where we deliver live demonstrations of our most advanced milling toolpaths. It is also equipped with a Star SR-20RIV Swiss CNC, which enables high-precision Swiss-type machining demonstrations.



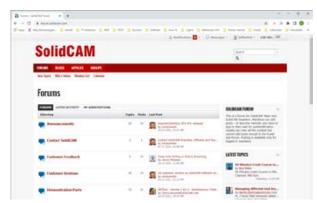
Adjacent to the machining floor is a classroom that provides hands-on, application-focused training. Here, customers gain real-world experience and expert guidance that help them get the most out of their CNC machines with SolidCAM.



Welcome to the SolidCAM Forum

We believe that up-to-date information for our customers and resellers is a priority, so we launched the SolidCAM forum, where everyone can get in depth information about SolidCAM products and future developments.

Check out forum.solidcam.com for more details.



SolidCAM on LinkedIn and Facebook

Join our LinkedIn and Facebook pages for daily posts in your Feed about SolidCAM News, iMachining Success Stories, SolidCAM Professor Recordings, Upcoming Webinars, Events and Product releases.





SolidCAM on YouTube

See recorded SolidCAM webinars and powerful cutting videos of SolidCAM & iMachining, on our SolidCAM YouTube channels:

www.youtube.com/SolidCAMiMachining

SolidCAM on X

https://x.com/solidcam

Follow us on Instagram

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SolidCAM in Your Country

Contacting a SolidCAM office or reseller is easy. The complete list of our worldwide, dedicated distribution and support network is available on solidcam.com







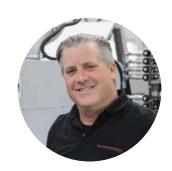






My personal goal was to be able to program all CNC machining operations consistently with a single CAM system. The biggest challenge here was to bring the Swiss-type lathes on board. Thanks to the extensive support provided by SolidCAM, that also worked out wonderfully!"







What matters to us are the structure and quality of the generated CNC programs that go to the machine, as well as how quickly and easily they can be generated. The service at SolidCAM is unparalleled. The technicians have done a great job with the post-processors for our complex Bumotec machines. And if we ever have a problem, someone from the support team is immediately offering help. These days, that isn't a given; it's unique!"

Stjepan Matacun | Production Manager Stuckenbrock Medizintechnik GmbH

ONC programming with SolidCAM enables us to produce much more efficiently on our sliding headstock automatic lathes. Particularly when manufacturing prototypes, changes can be made directly on the model and strategies can be effectively adapted with reference to the CAD model. Checking for collisions or machine limits via the advanced machine simulation is particularly valuable for us. It enables us to check material removal, approach and retreat movements of the tools and if the tool clamping is correct. We effectively avoid programming errors and have experienced a substantial cost reduction."



Waldemar Böshans | CAM-Programming DOPPKON GmbH & Co. KG | doppkon.de