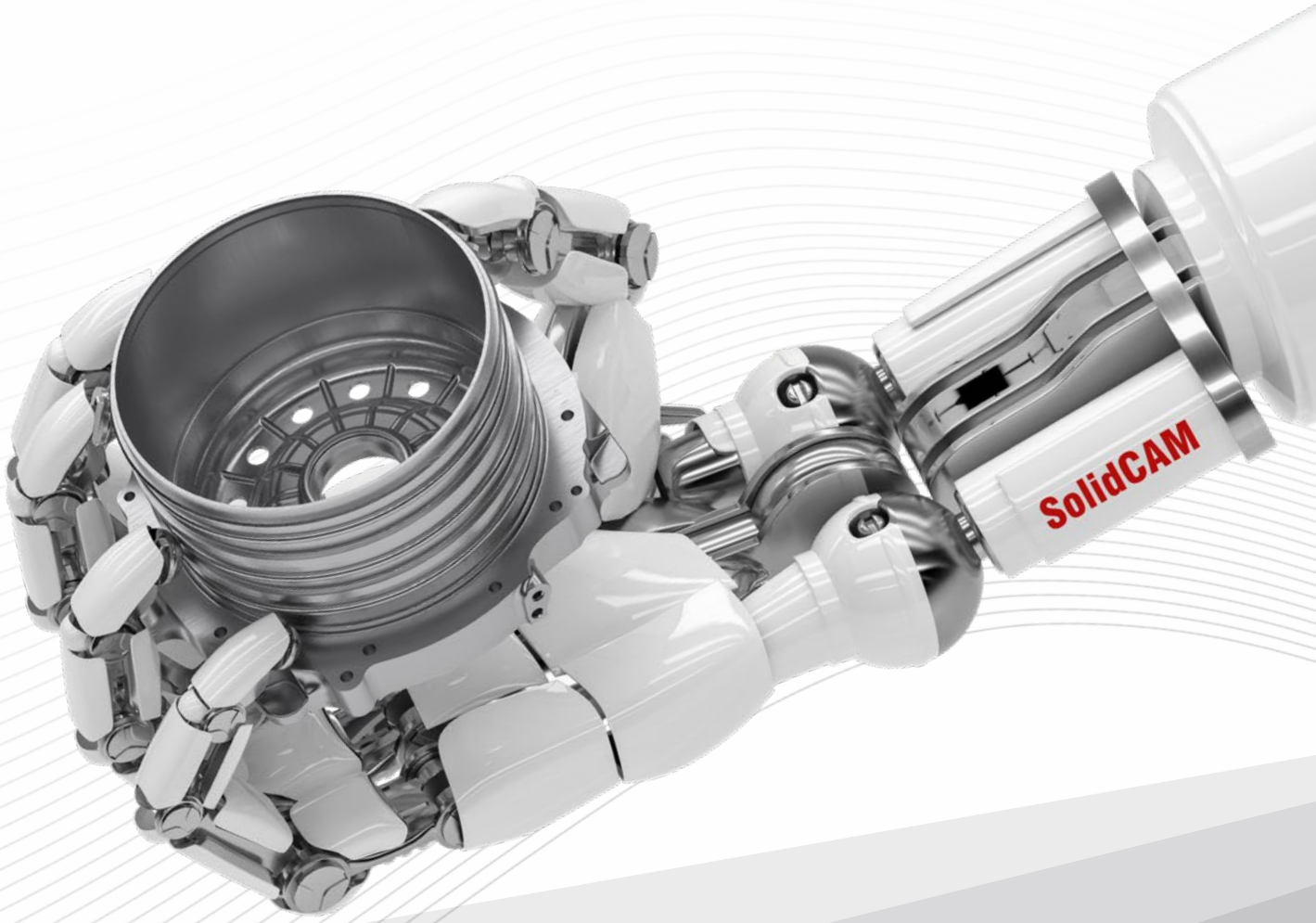
SolidCAM

The Future of CAM in Your Shop Today!

The complete CAM Solution, with revolutionary iMachining, MillTurn+ and Swiss-Type, seamlessly integrated in SOLIDWORKS® and Inventor®



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Dear CNC Machine Shop Manager,

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

We are sure you want your CNCs to manufacture with maximum performance, cutting the biggest amount of parts, in the smallest time possible, with the least amount of cutting tools needed, and with the least amount of wear on your CNCs, as possible!

SolidCAM's amazing and patented iMachining optimal toolpaths, generated automatically by our unique Technology Wizard, will enable you to achieve all above!

Interested? Read on and we tell you how!

- Program smarter – machine faster
- The most intuitive user interface in CAM
- Seamlessly integrated in SOLIDWORKS and Autodesk Inventor
- From 2,5D Milling up to Simultaneous 5x Milling, including the patented iMachining 2D/3D technology
- Mill-Turn up to highly complex multi-channel machines including Swiss-Type
- Certified postprocessors for all CNC-machines on the market

Dr. Emil Somekh
Founder and CEO SolidCAM Ltd.

Overcome all the Manufacturing Challenges for Modern Machine Shops

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

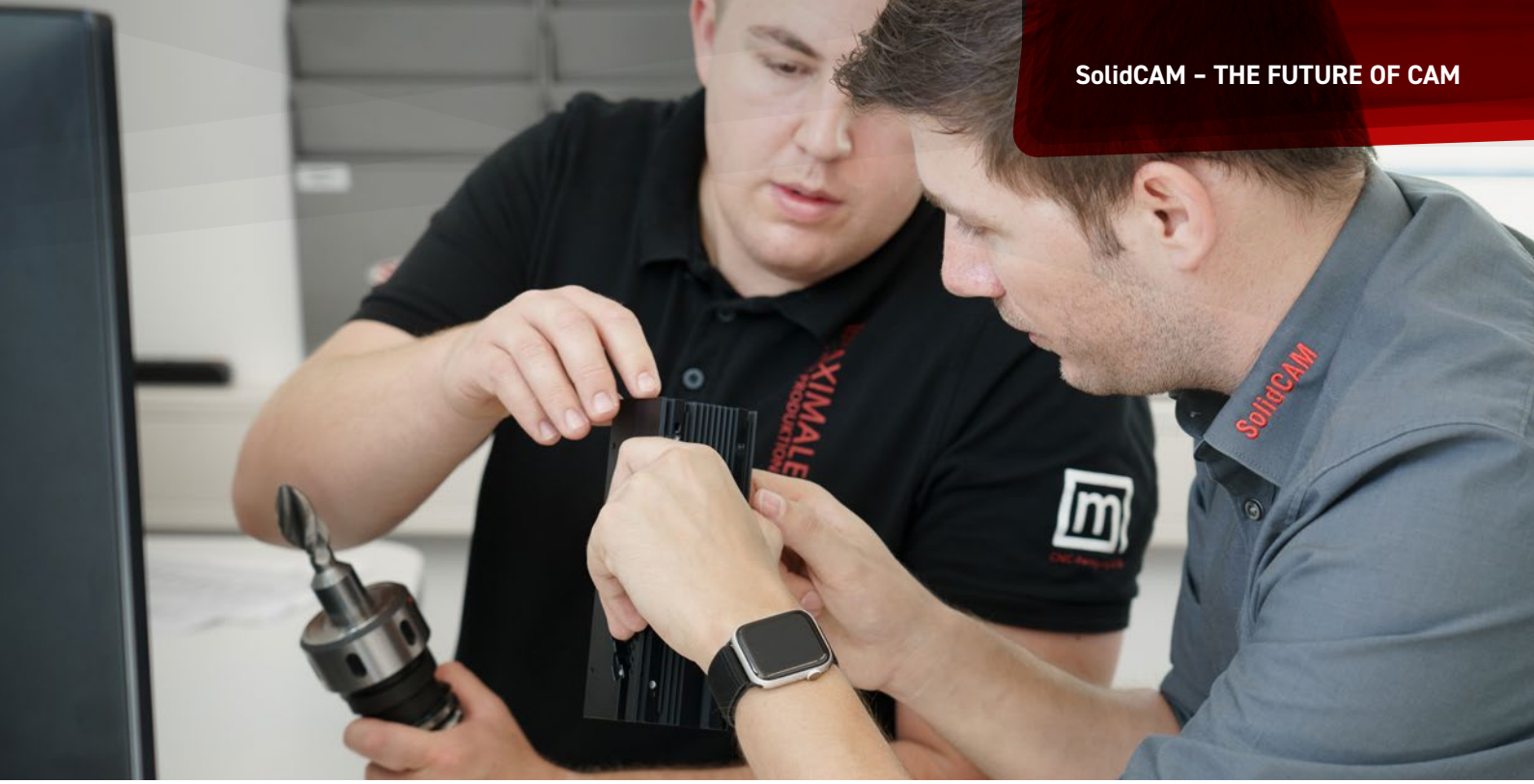
Easy to learn and easy to use. Fast programming for Maximum Productivity.

Support of all CNC machines on the market - up to highly complex multi-channel machines including Swiss-Type.

Feature-based programming and automated recognition of geometries based on specialized templates.

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

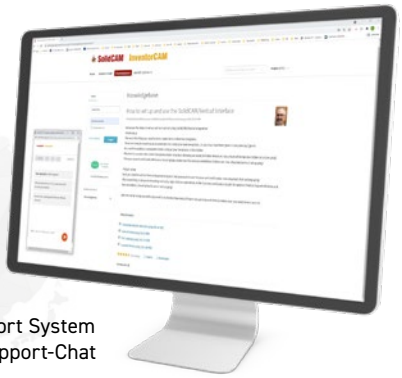
Certified post-processors which reliably generate the G-code – specially tailored to customer requirements.



AMAZING TECHNICAL SUPPORT – WORLDWIDE

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

In our technology centers all our Milling, Turning and Mill-Turn 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.



Online-Support System
with Live-Support-Chat

★★★★★

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 SolidCAM'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 and CAM 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 over 37 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, a Certified Gold-Product for SOLIDWORKS and InventorCAM, an Autodesk Certified Product, provide seamless, single-window integration and full associativity to the SOLIDWORKS and Inventor design models.

OUR MISSION

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

In 2011, we launched the revolutionary iMachining, taking the machining industry to a new level. Until today, the patented iMachining technology has offered thousands of users unique, amazing benefits, including more than 70% faster machining times and dramatically reduced tool wear. 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 turret synchronization, you can program multi-turret and multi-spindle operations, then watch SolidCAM's simulation of your material being machined in multiple stages. SolidCAM completely supports Swiss-Type 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 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 even faster support, directly where needed.

THE SOLIDCAM ADVANTAGE

- Easiest-to-use CAM system with short learning curve
- Seamlessly integrated in SOLIDWORKS and Inventor, with extensive import of all common CAD data formats
- Patented SolidCAM iMachining unique technology
- The leading integrated CAD/CAM solution that can control the most complex Mill-Turn & Swiss-Type CNC-machines

SOLIDCAM TECHNOLOGY PARTNERS

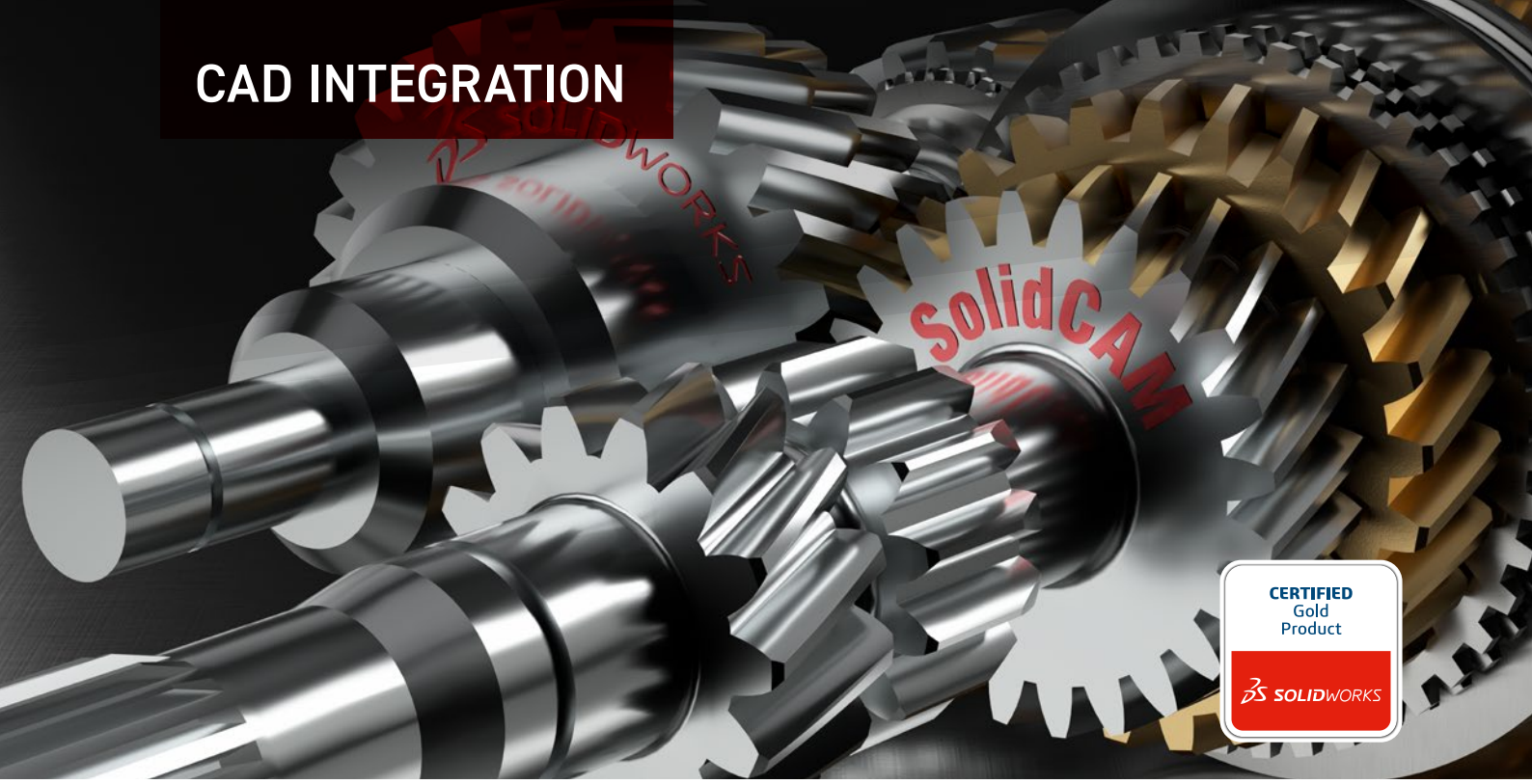
Our worldwide cooperation, with a large number of leading suppliers of CNC machine tools, CNC controllers, cutting tools, tool holders, fixtures and clamping as well as toolpath verification and tool data integrators, has benefits for SolidCAM's software as well as our userbase.

GROB
HERMLE besser fräsen
Cincom
Miyano
HEIDENHAIN
Tongtai
ALZMETALL we drive productivity
DMG MORI
SIEMENS
FANUC
KAAST
HEDELIUS
Hoffmann Group
EMUGE FRANKEN
OKUMA OPEN POSSIBILITIES
brother
ALBRECHT Präzisions Spannfutter
STOCK
röders TEC
Member IMC Group
FAHRION PRÄZISION
BLUM focus on productivity
WIDIA
SECO
MHT INTELLIGENZ FÜR WERKZEUGMASCHINEN
InovaTools GERMAN TOOLS GROUP
KENNAMETAL
MAPAL
SPREITZER
SCHUNK
Karnasch PROFESSIONAL TOOLS

and others ...

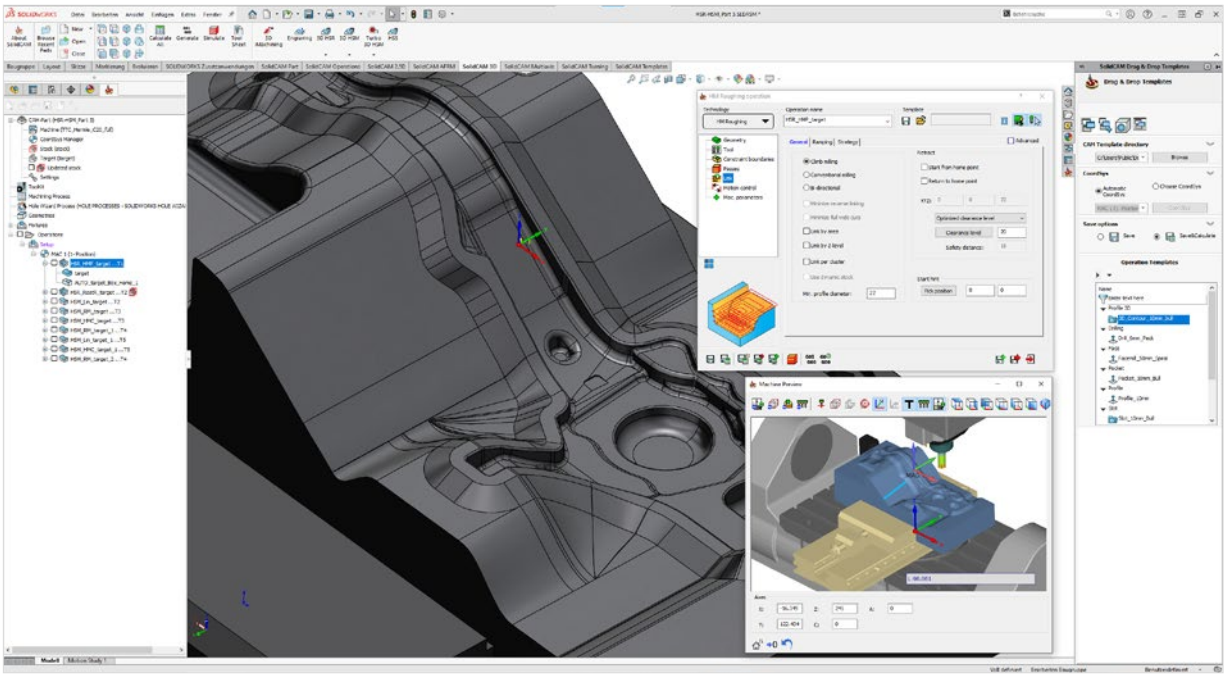
Above listing shows some of our current partnerships. Depending on country and region, technology partnerships & endorsements may vary.

CAD INTEGRATION



CERTIFIED
Gold
Product
SOLIDWORKS

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



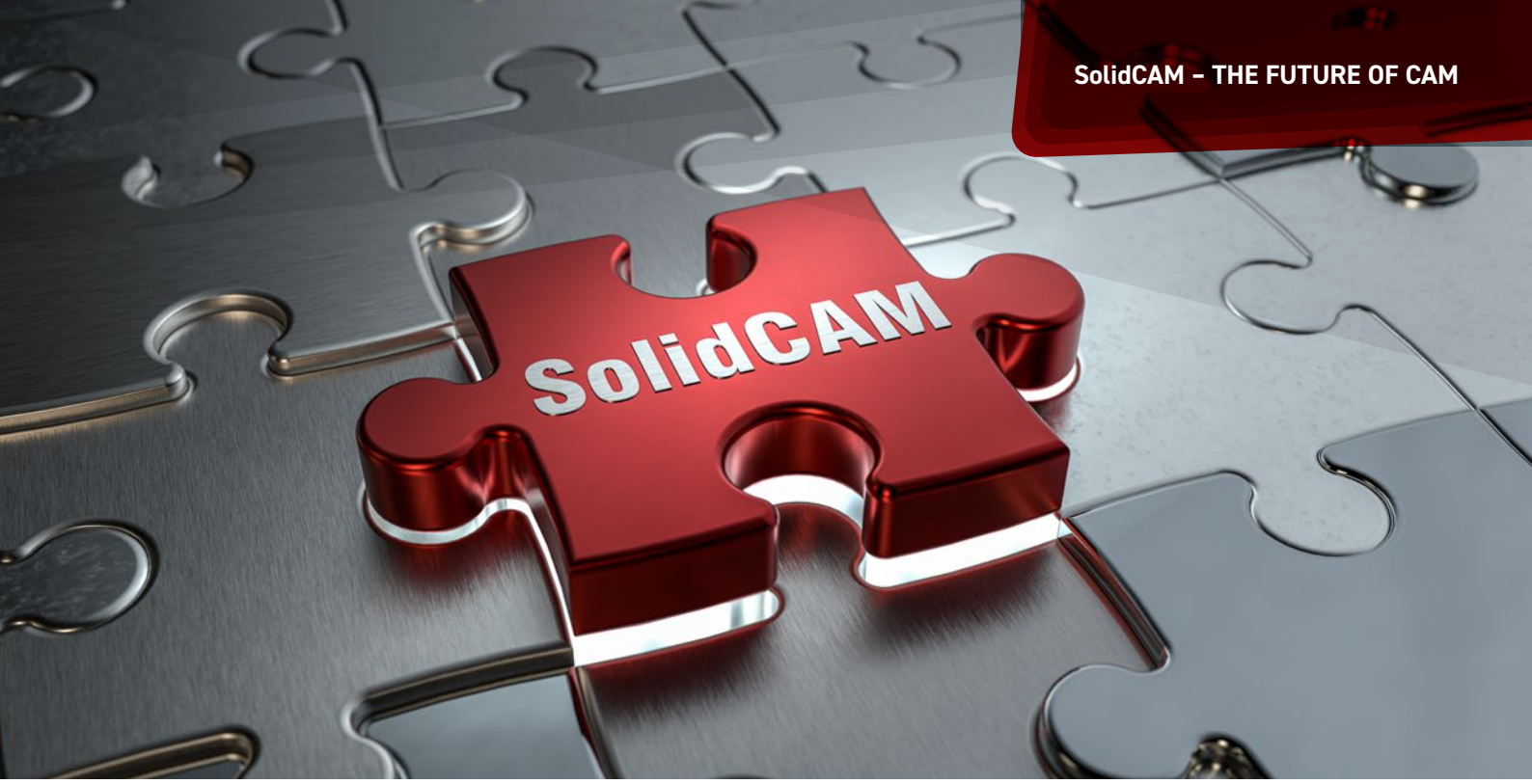
Major Benefits of SolidCAM seamlessly integrated in SOLIDWORKS:

- 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 integrated 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."

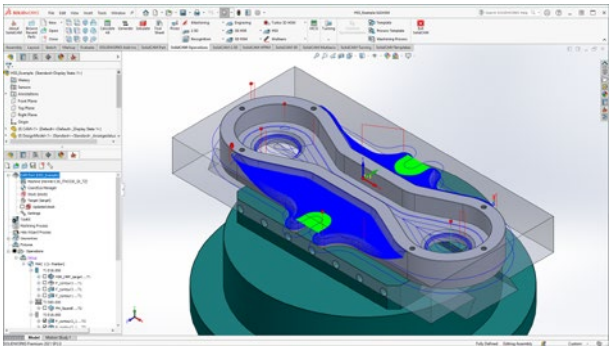
> If changes are made on the manufacturing side, we capture them on both the design side and the manufacturing side because SOLIDWORKS and SolidCAM are fully associative."

> 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."

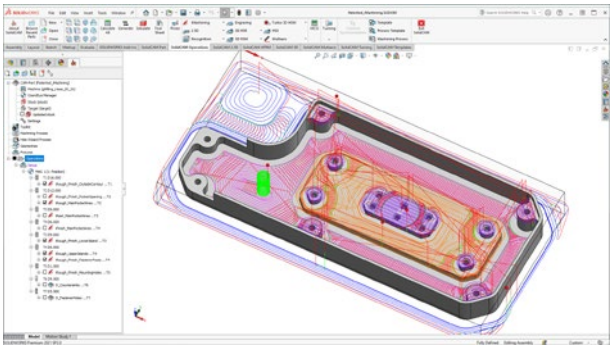
> The tight integration with SOLIDWORKS makes my design-to-production life cycle easy and fast. The SolidCAM support team is rock solid. I do some pretty complex 4-axis production projects and SolidCAM handles them very nicely."

iMachining 2D

Imagine putting the Knowledge and Experience of Hundreds of CAM and CNC Masters in the Palm of Your Hand – Experience iMachining's Exclusive Wizard & Tool Path!

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!
- Dramatically 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

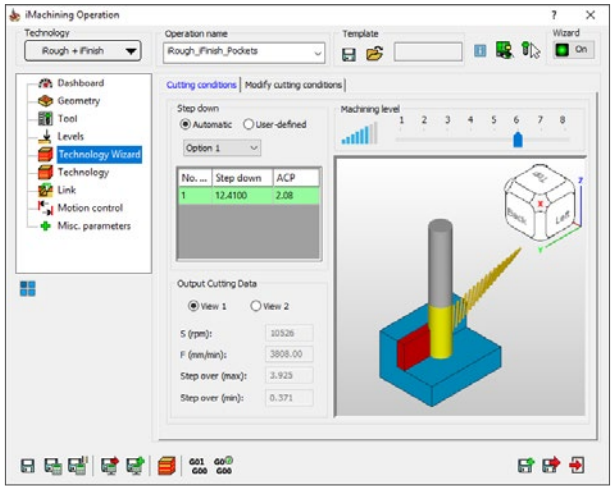
Unique Technology Wizard

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 tool path.

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 workpieceand 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

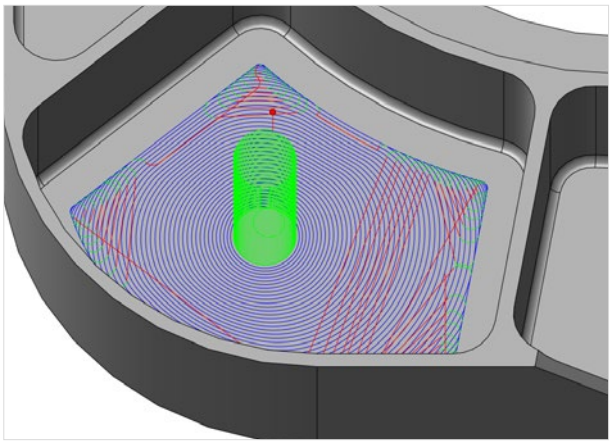
- Combined roughing, finishing and rest material functionality in one single job.
- Multi-tool: Easily define and edit related jobs that use multiple tools, all from within a single interface. Geometry and Levels are synchronized and rest material is tracked automatically.
- iRough + iFinish: Optimized 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.

Distinctive & Proprietary iMachining Tool Paths!

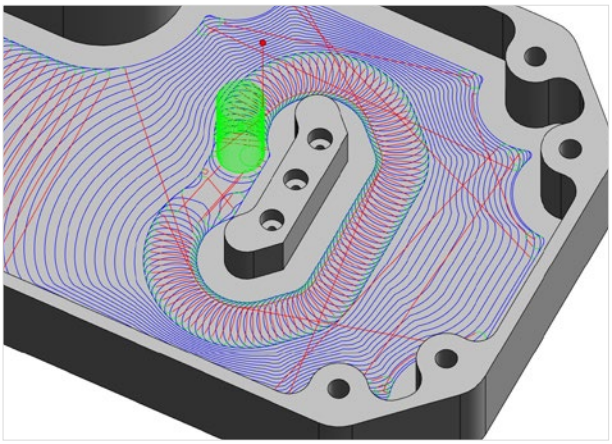
Morphing Spirals – iMachining uses an advanced, patented morphing spiral that gradually conforms to the geometry of the feature being machined rather than a conventional offset toolpath. This maximizes tool to stock contact or "tool in the cut" time.

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 tool paths 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 tool path is always efficiently cutting material.

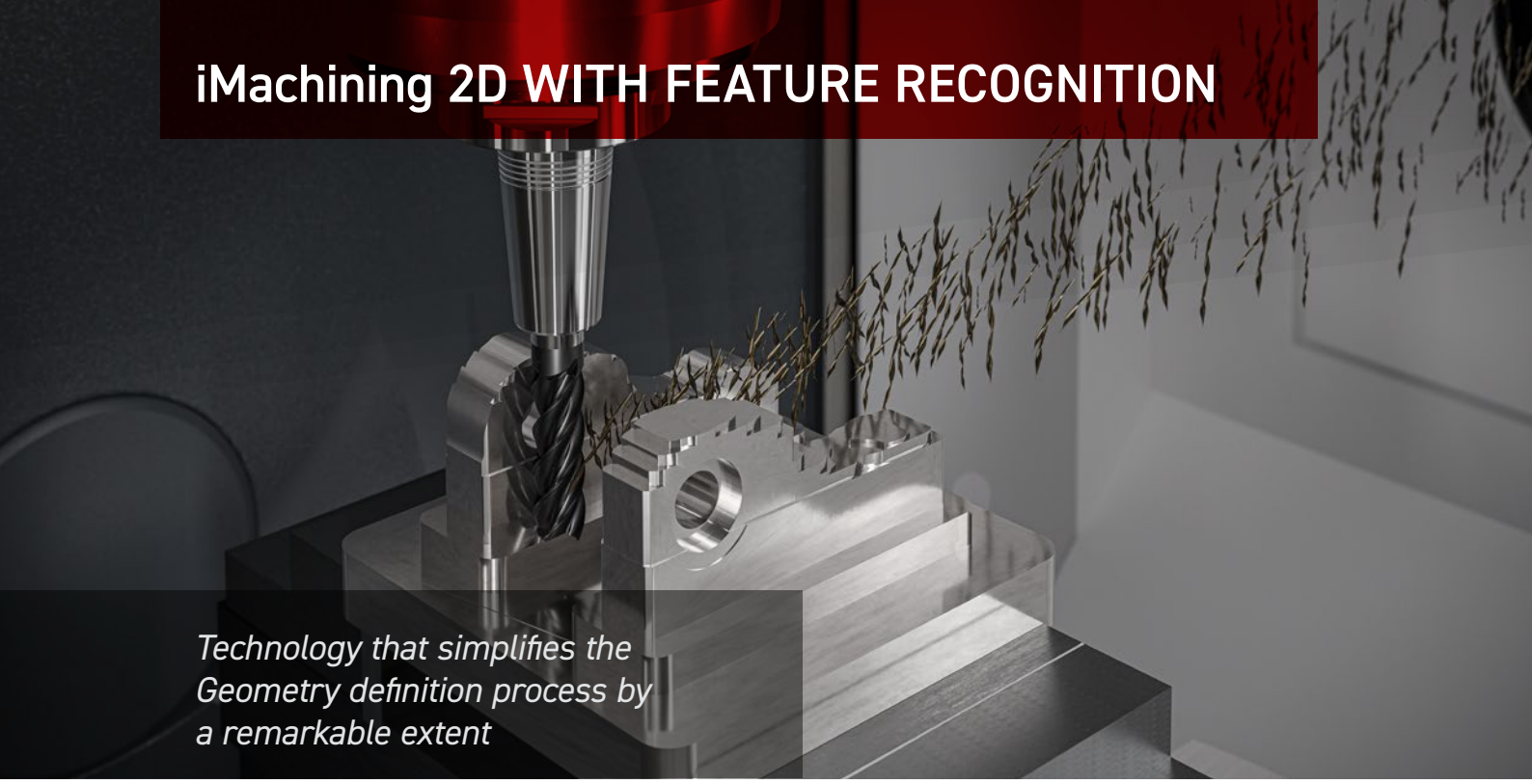


Most efficient iMachining Morphing Spirals toolpath



Moating: Intelligent Division of Areas to maximize Morphed Spirals

iMachining 2D WITH FEATURE RECOGNITION

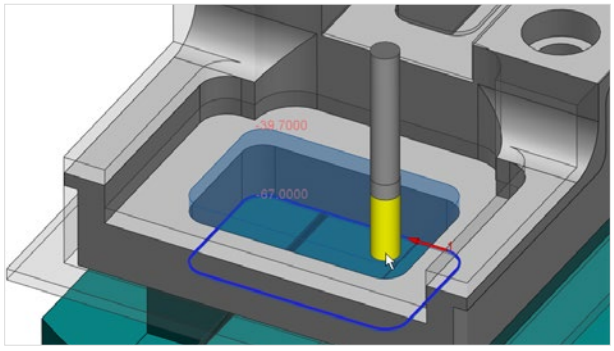


Technology that simplifies the Geometry definition process by a remarkable extent

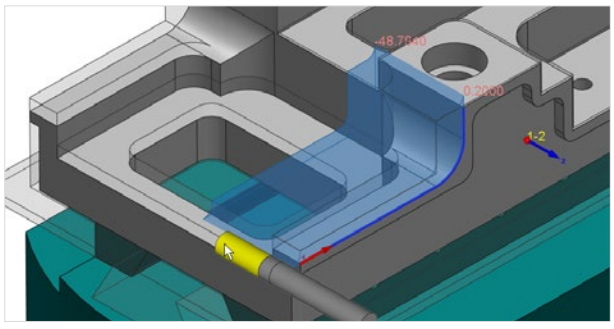
iMachining 2D's Feature Recognition technology detects and defines the part machinable features by utilizing the solid model data, with minimal input from the user.

Feature Recognition Modes

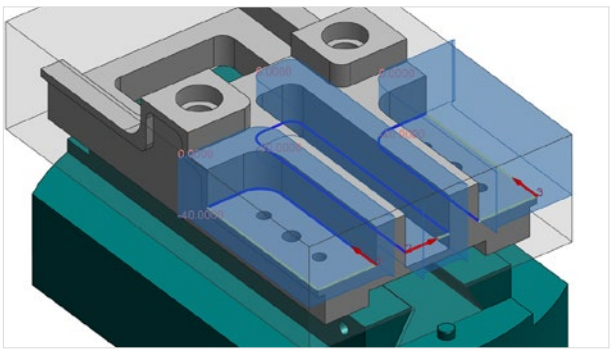
- **Faces**: Smart Face technology builds chains by just the simple selection of faces. Entire pocket features and their levels, which can consist of varying depths, are recognized automatically.
- **Chains**: Machinable areas are recognized by chains in combination with the solid model data. Perfect 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.



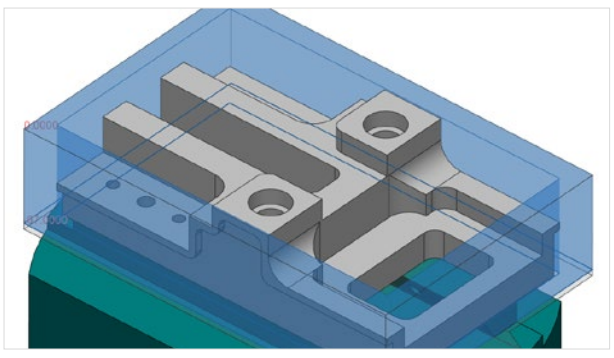
Chains Recognition for Through Pockets



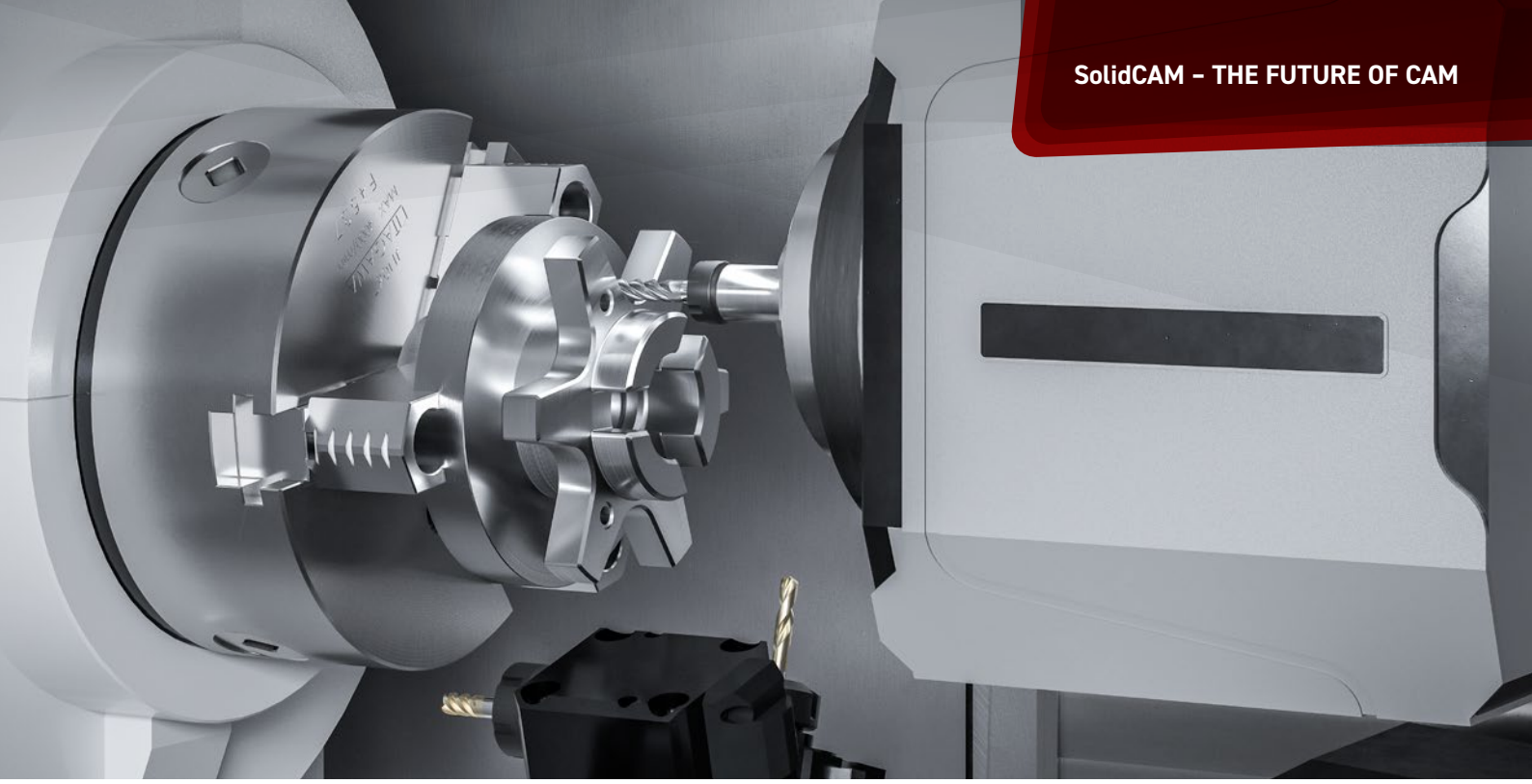
Chains Recognition for Side Profiles



Chains Recognition for Side Profiles



Outside Feature Recognition



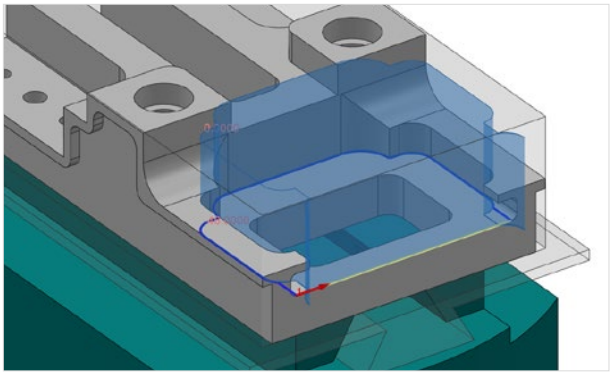
Recognition + Protection

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

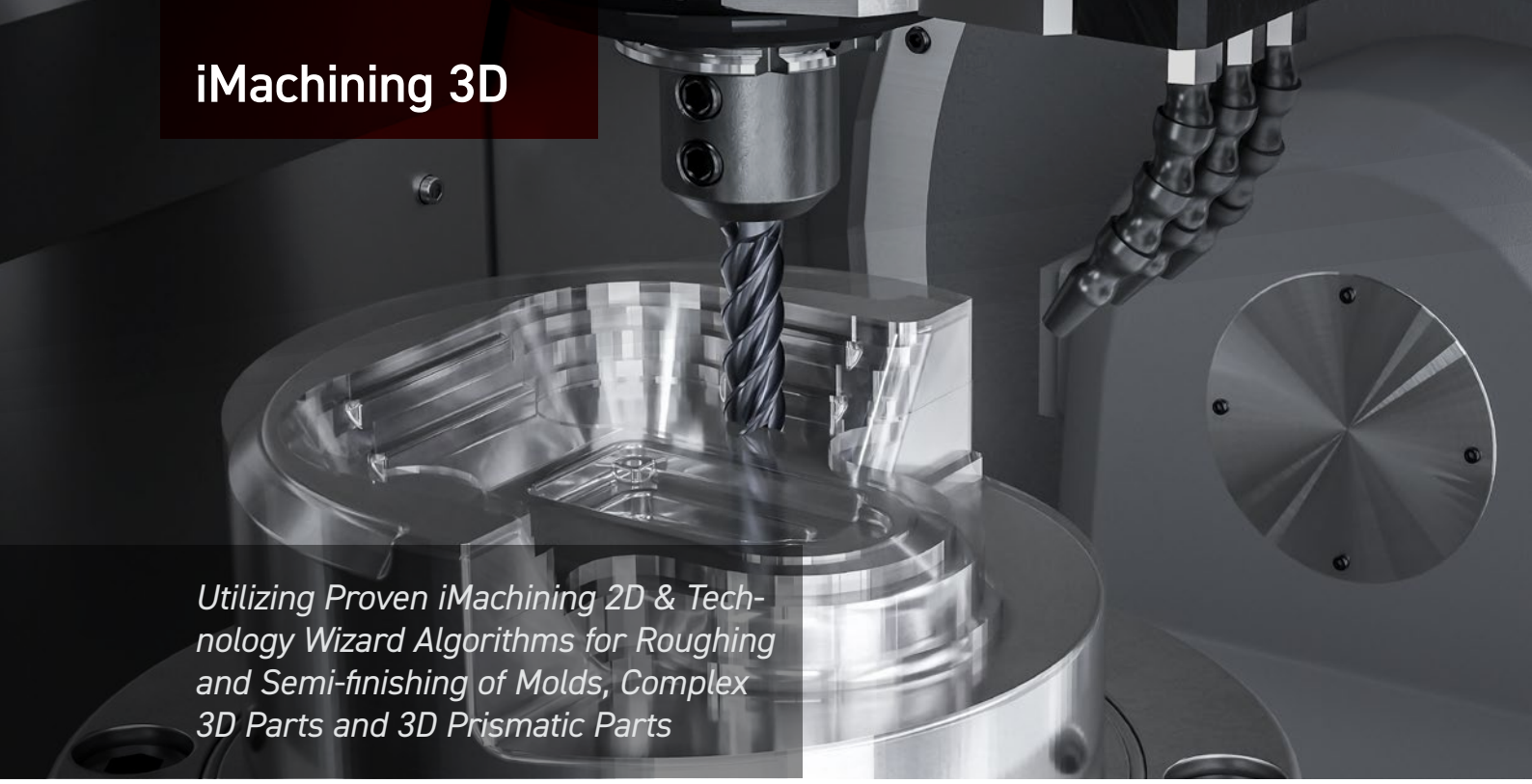
"We have found all the claims for iMachining to hold true for our applications in Dixons Surgical – incredible tool life, faster cycles, lighter cutting loads reducing vibration in poor work holding situations (mill-turn), and protection of small diameter cutters. The user interface is very clear and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



Utilizing Proven iMachining 2D & Technology Wizard Algorithms for Roughing and Semi-finishing of Molds, Complex 3D Parts and 3D Prismatic Parts

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

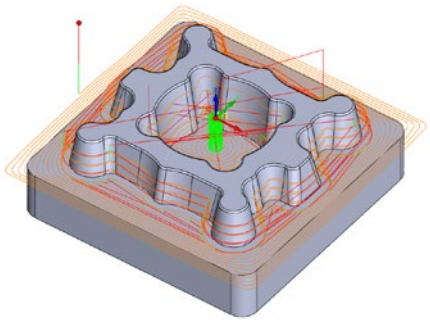
iMachining 3D automatically produces a complete, ready to run CNC program, with optimal cutting conditions, achieved by the expert knowledge-based Technology Wizard, to rough and rest rough an entire 3D part in a single operation.

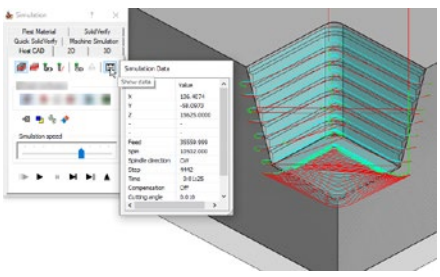
iMachining 3D uses sophisticated analysis algorithms to determine the optimal order of its rough and rest rough tool paths. Combined with its unique local machining feature, full-depth Step down, intelligent Step-up and smart positioning, iMachining 3D achieves the shortest possible cycle time for roughing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

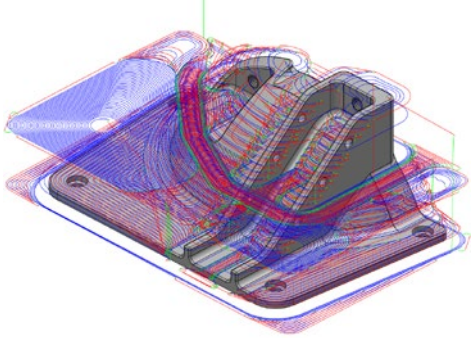
iMachining 3D provides a complete machining solution when combined with other SolidCAM technologies, such as 3D HSM for finishing molds and complex 3D parts or iMachining 2D for finishing 3D prismatic parts.

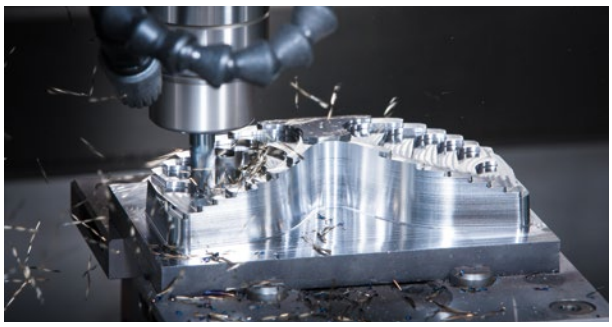
iMachining 3D is a Must-Have!

- 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
- Tool path automatically adjusts to avoid collisions between the tool holder and Updated Stock model, at every stage of the machining process



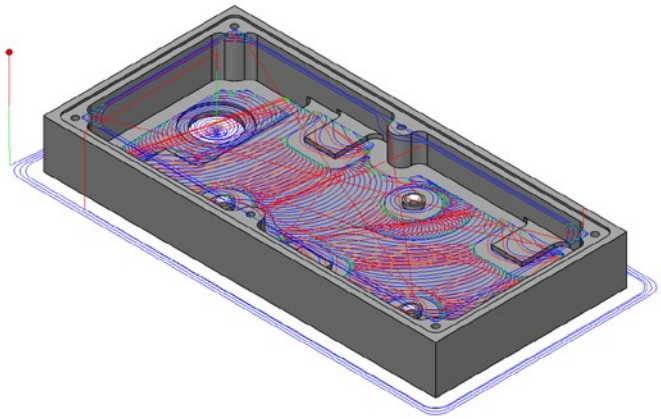






iMachining 3D for Prismatic Parts

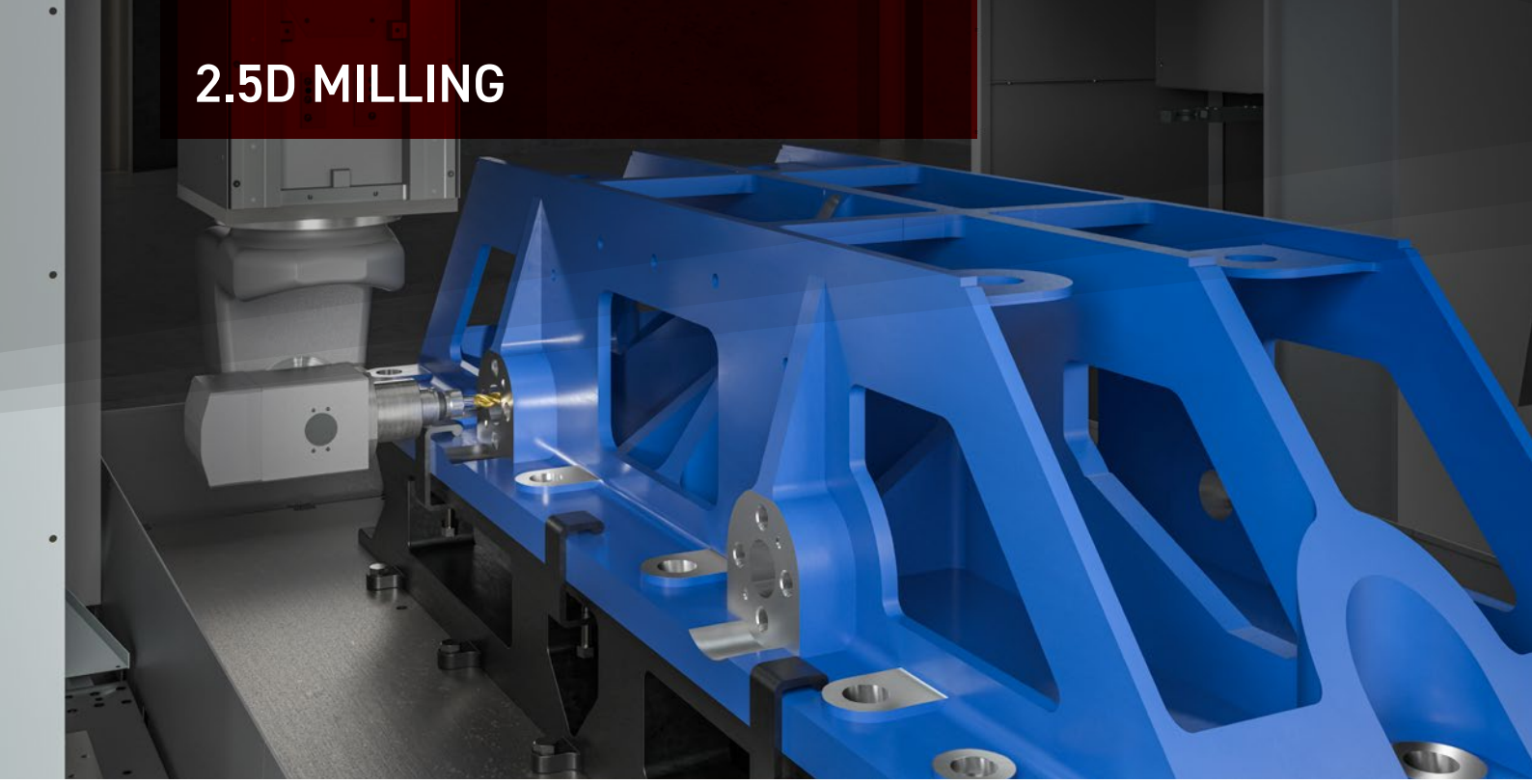
Programming times for prismatic parts are drastically reduced with iMachining 3D. In a single operation, rough and rest rough an entire 3D prismatic part that includes any number of pockets and islands, without chaining or sketching a single contour. With just the solid geometry and cutting tool as input,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

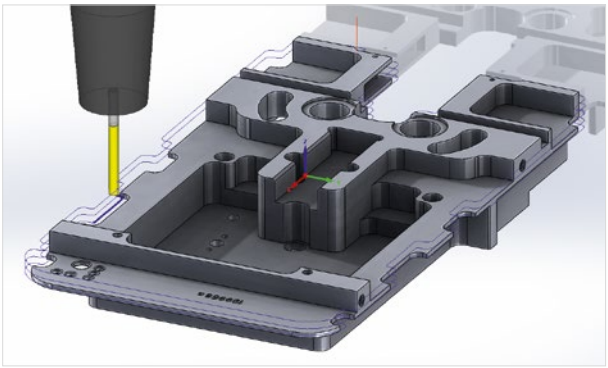


> Growth at the company is continuing at a very healthy rate with an emphasis on lean manufacturing. The introduction of SolidCAM has contributed to this expansion, enabling the company to manufacture more complex parts in a shorter lead time, raising throughput, and maximizing the productivity of our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

2.5D MILLING





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.

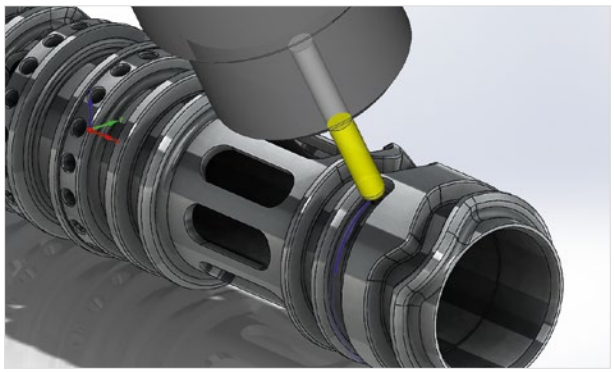
Best of Both Worlds: Complete Interactive Control + Feature Recognition

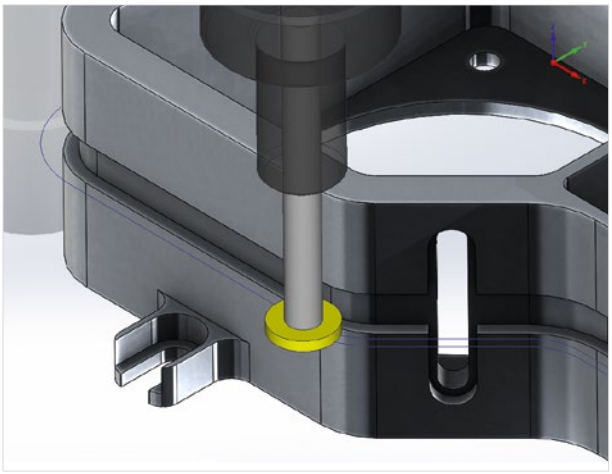
SolidCAM provides both interactive and automated 2.5D milling operations on SOLIDWORKS models. Designed for both the novice and advanced user, SolidCAM offers the best of both worlds, with your choice of fully controlled selection of geometry, parameters and CNC programming strategies or Automated Pocket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

Interactive 2.5D Mill Operations

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

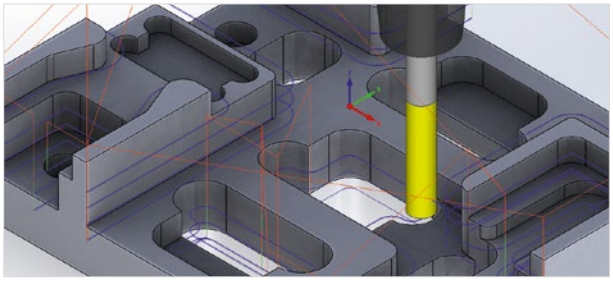
- Chain modification options (offsetting, trimming, extending etc.), enabling changes to geometry without changing the CAD model
- Automatic rest material machining to cut the material remaining after using larger tools
- Chamfer machining using the same geometry defined in Profile and Pocket operations
- Thread Milling operation for machining of standard internal and external threads
- 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





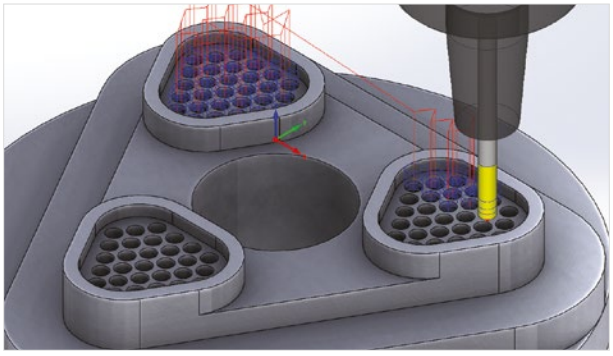
Pocket Recognition

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.



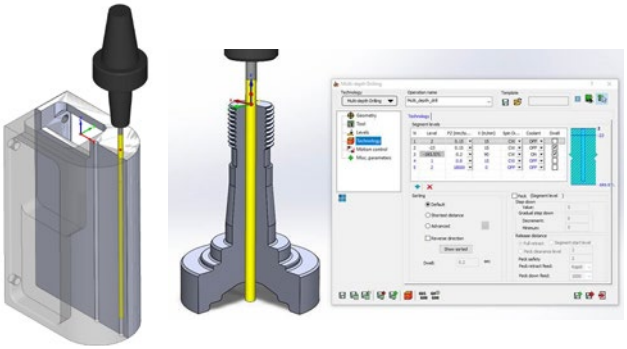
Drill Recognition

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.

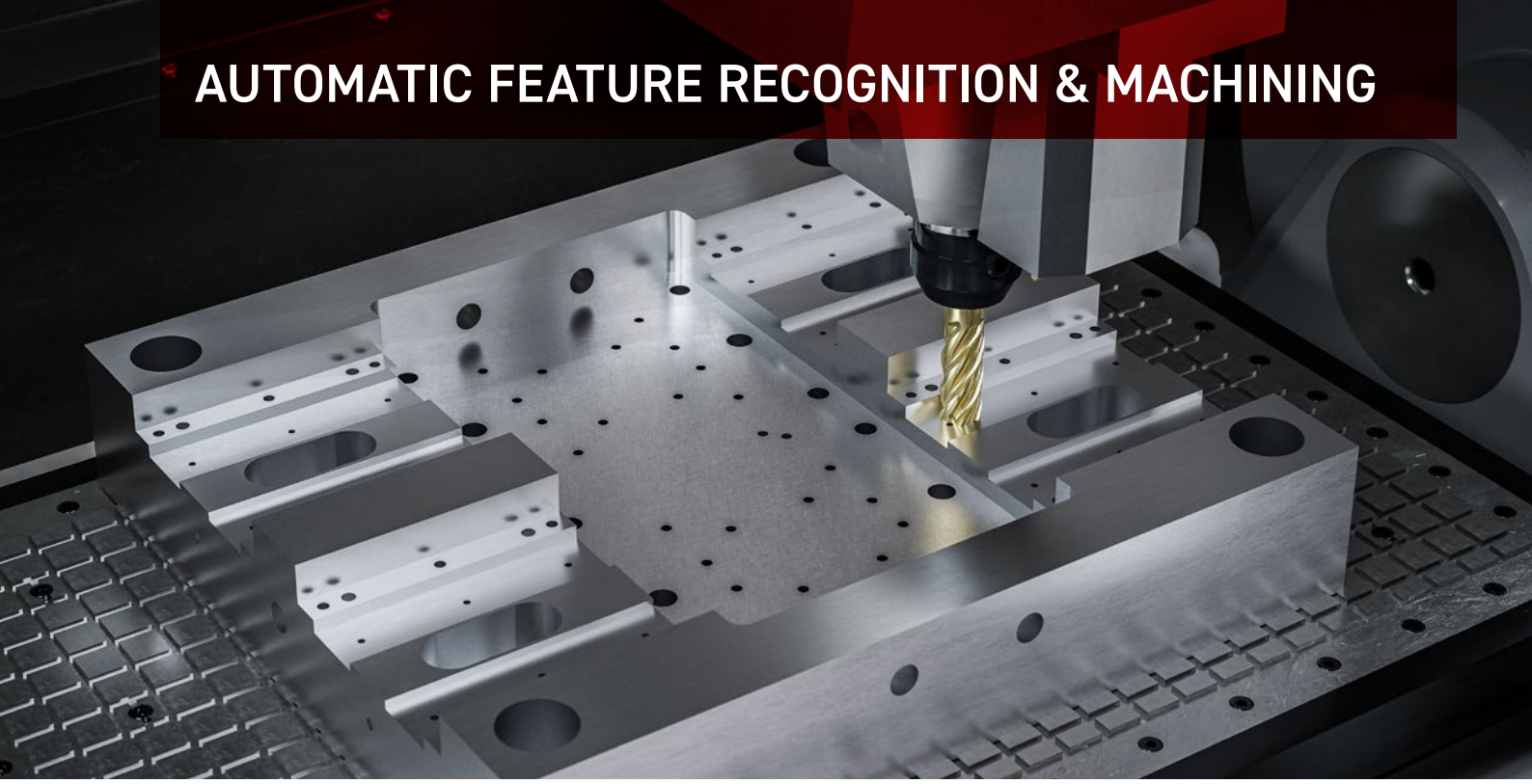


Multi-Depth-Drilling

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 dilling



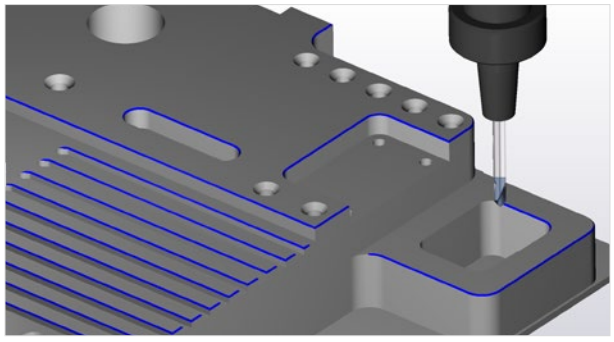
AUTOMATIC FEATURE RECOGNITION & MACHINING



Advanced Pocket Recognition

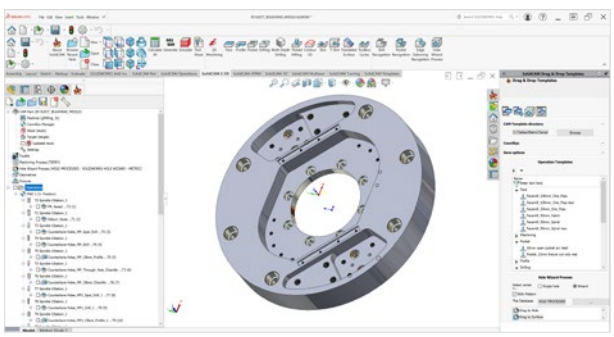
SolidCAM AFRM sets the new standards. Instead of machining each individual pocket in a separate operation, all pockets, no matter whether they are open, closed, blind or through pockets, are being identified with their corresponding depth and Z-level and machined in one operation. Full fixture protection 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

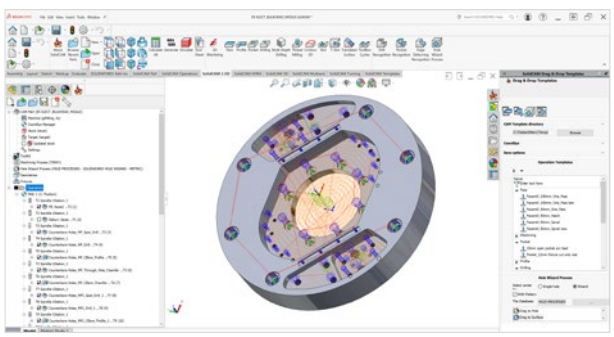


Chamfering and Deburring

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.



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

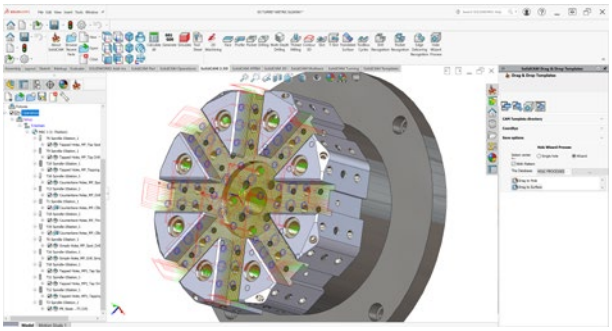


Drag & Drop Hole Wizard Processes applied to the entire part

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.

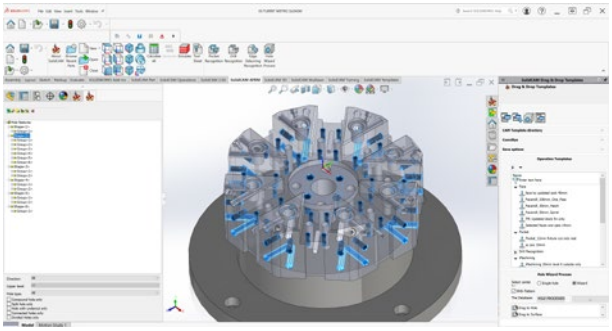


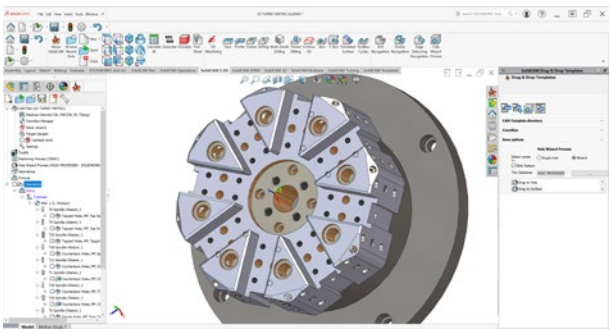
Drill features detection & Automatic Tool path generation

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

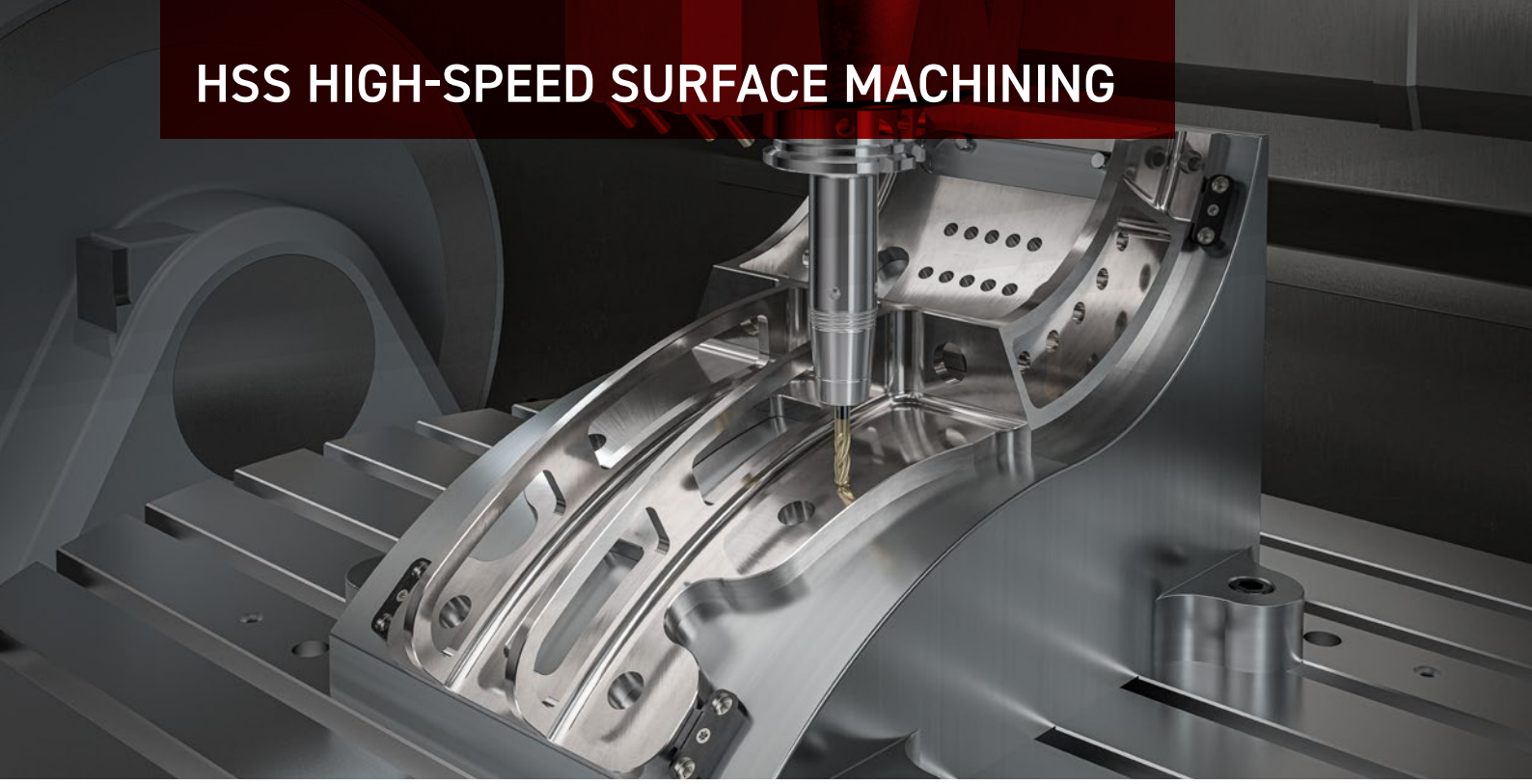
SolidCAM's Hole Wizard, with Drag & Drop Machine Processes optimizes the task of programming multiple operation for complex holes.

- 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.
- Complex logic including conditional equations provides greater flexibility.
- Simple, Counter Sunk, Counter Bored & Tapped hole sets are programmed with a single mouse click.

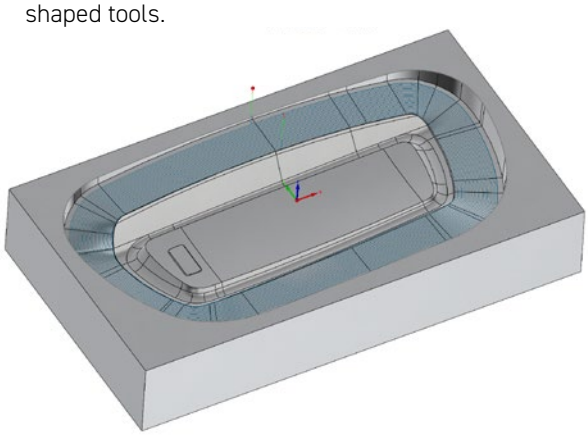




HSS HIGH-SPEED SURFACE MACHINING



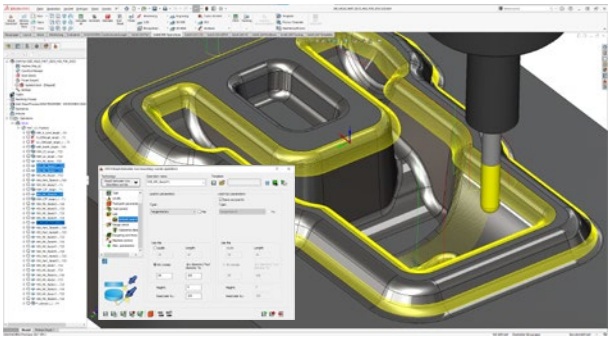
SolidCAM HSS is a high speed surface machining module for smooth and powerful machining of localized surface areas in the part, including undercuts. It provides easy selection of the surfaces to be machined, with no need to define the boundaries. It supports both standard and shaped tools.



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

The SolidCAM HSS Module provides numerous surface machining strategies, that produce an efficient, smooth, gouge-free and optimal toolpath 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.

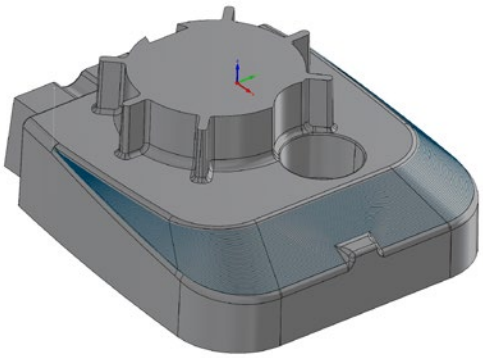


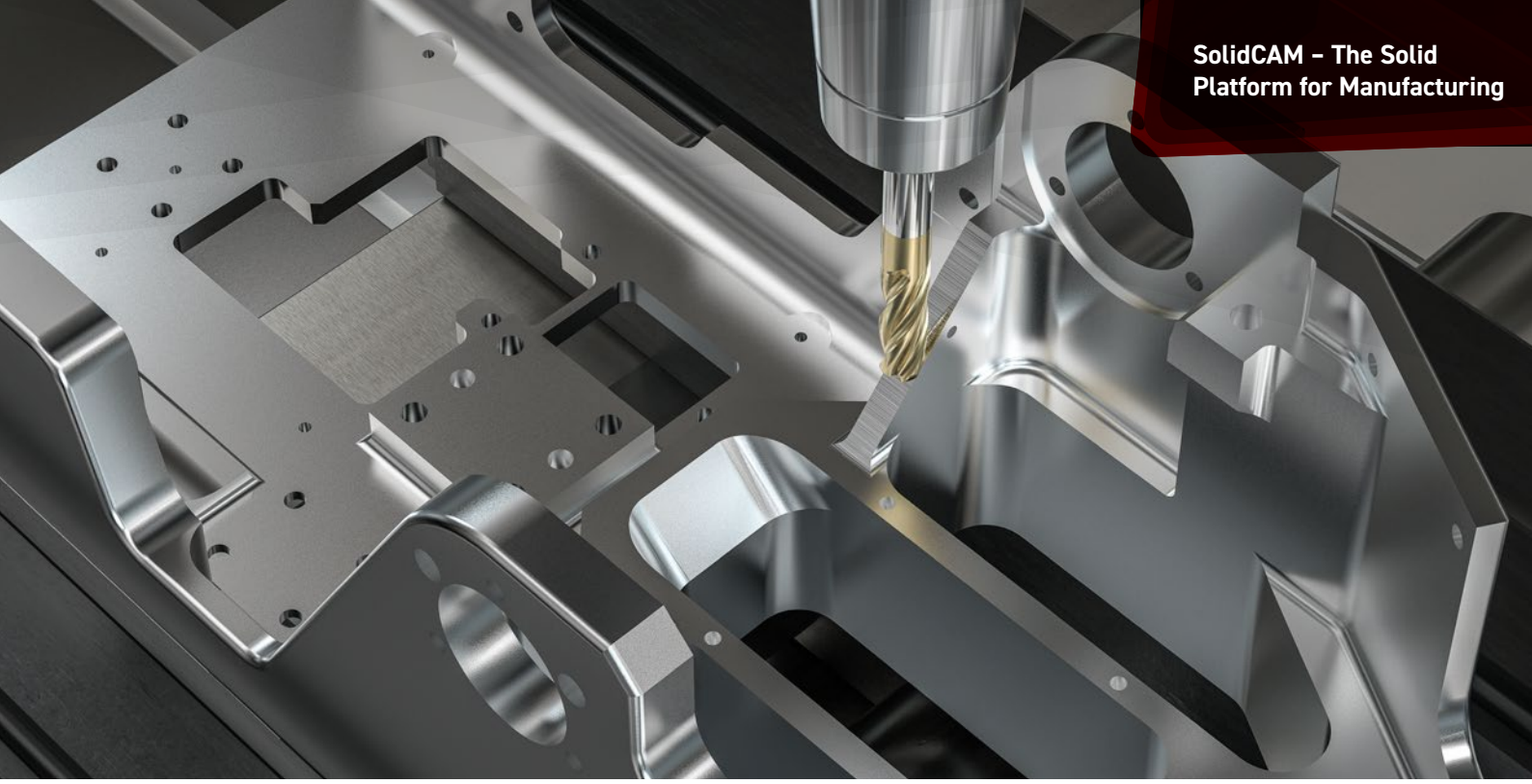
Total Tool Control to Machine Only the Areas You Choose

HSS is the CAM module that takes your 2.5D machining way 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 make up a complex 3D shape, e.g. fillets.

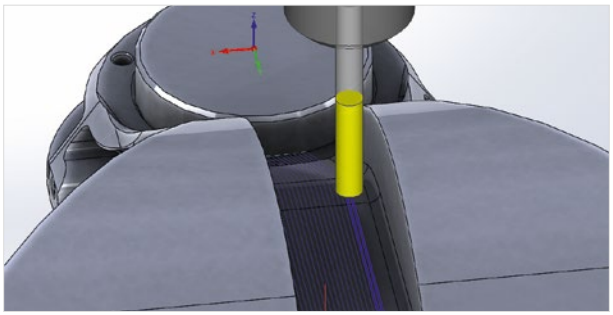
Experience total tool control to machine only areas you choose, without the need for constraint boundaries or construction geometry.





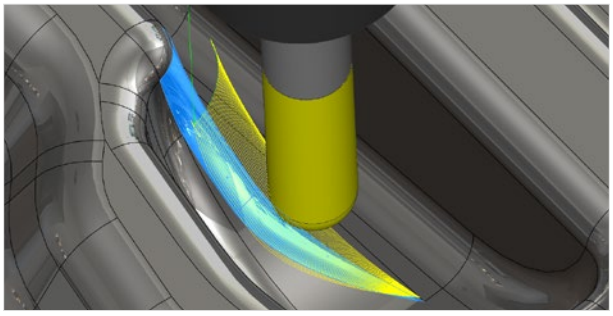
Advanced Gouge Control for Holder, Arbor and Tool

Complete Gouge 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.



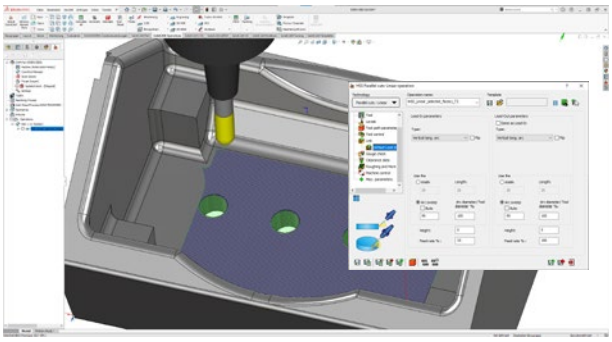
Advanced Linking

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

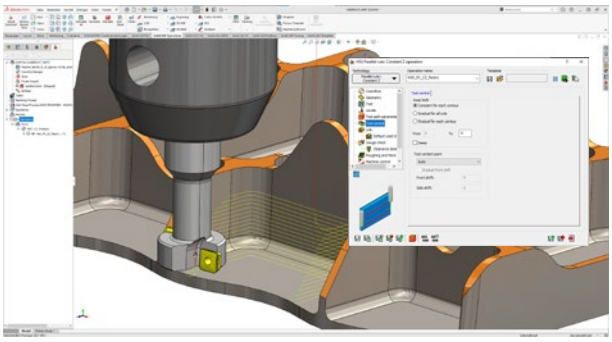
The advantages of the SolidCAM HSS module translate to significantly increased surface quality. The HSS module is an important and valuable add-on for every machine shop for the machining of all types of parts.



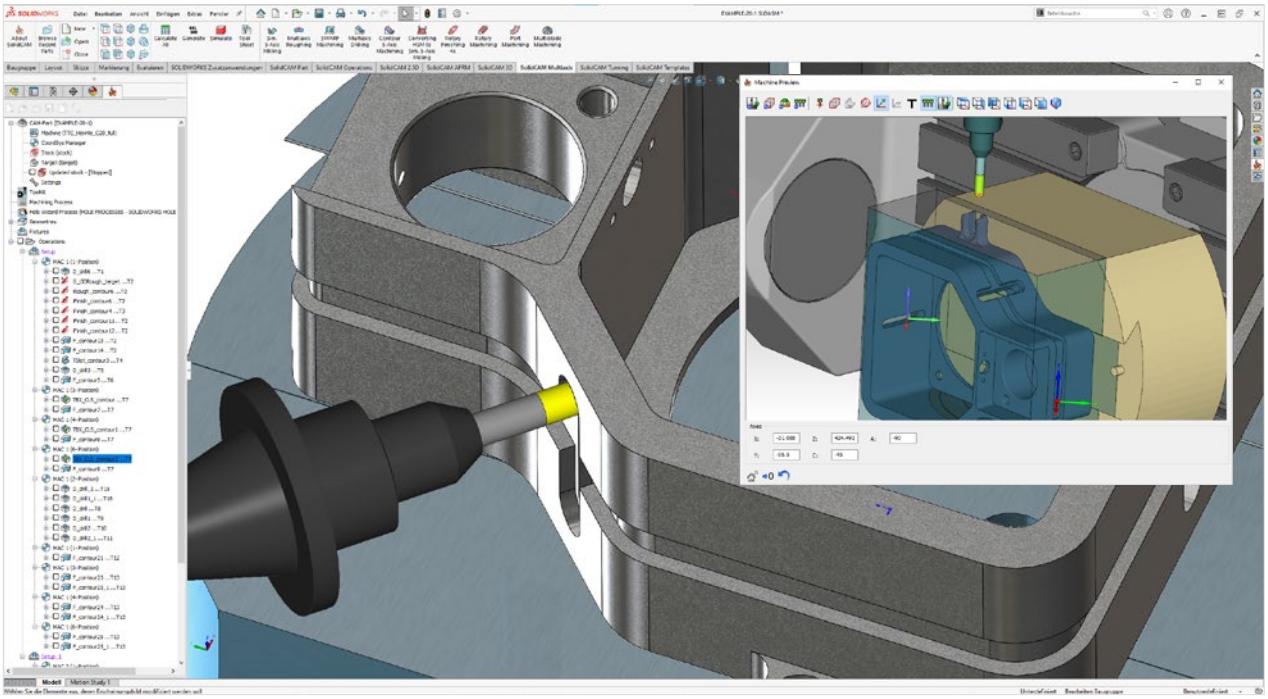
Linear High Speed Finishing toolpath on selected surface

Handling Undercut in HSS

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



INDEXIAL 4/5-AXIS MILLING



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

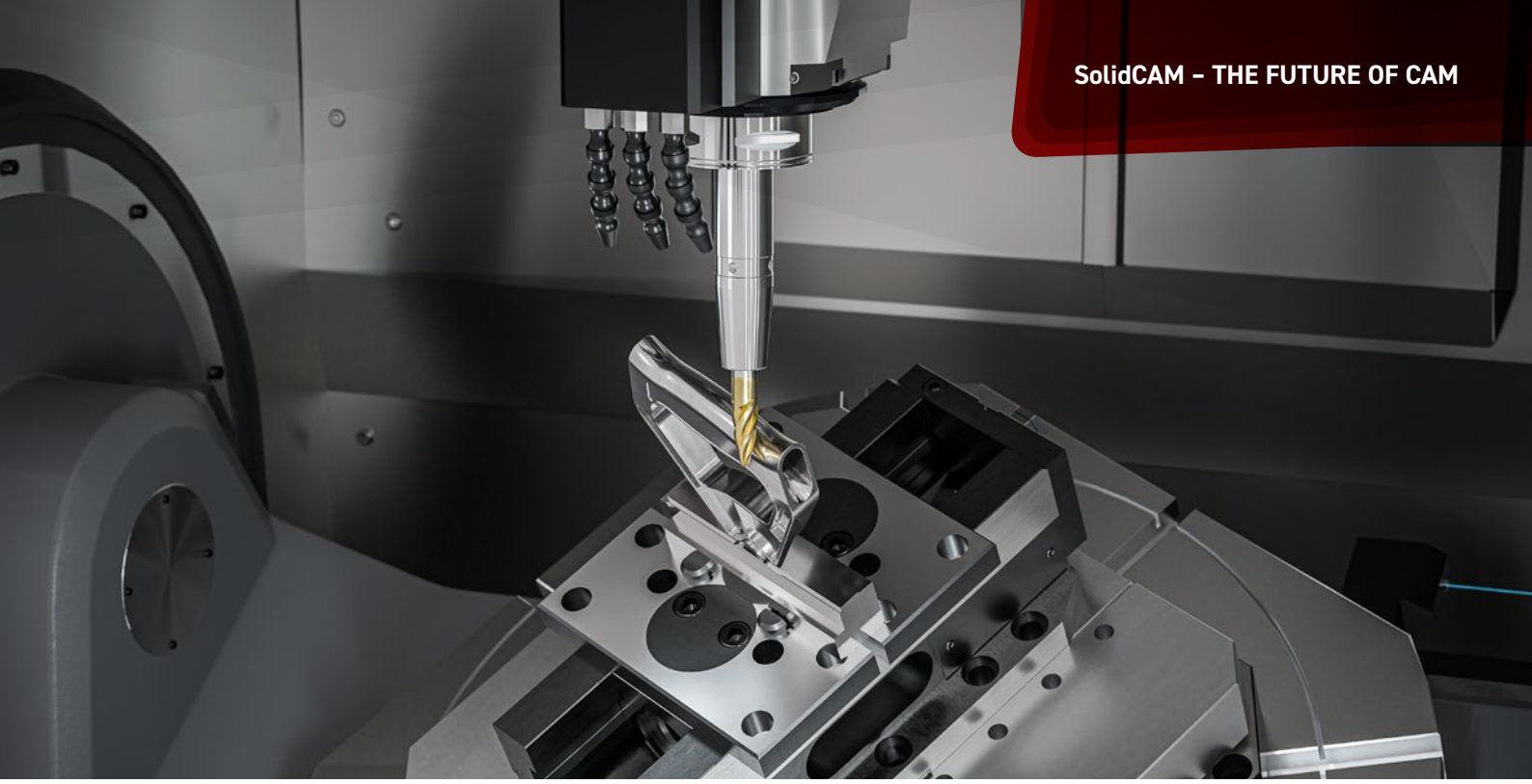
SolidCAM provides an effective and easy way to program on multiple sides of a part. SolidCAM is exceptionally strong in indexial 4/5-axis machining.

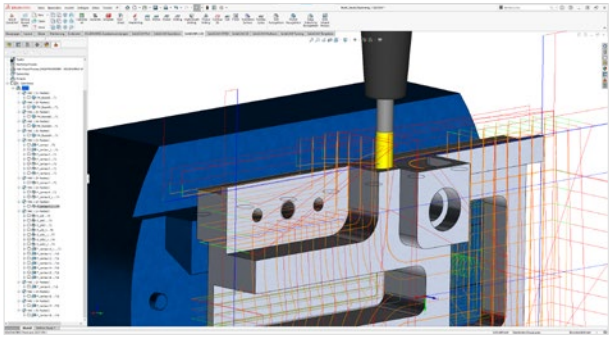
Easiest Definition of Coordinate Systems for Indexial 5-Axes!

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 multi-sided machining by eliminating multiple coordinate system constructions. Define a Coordinate System on the fly, by just picking a face, and continue programming your part.

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



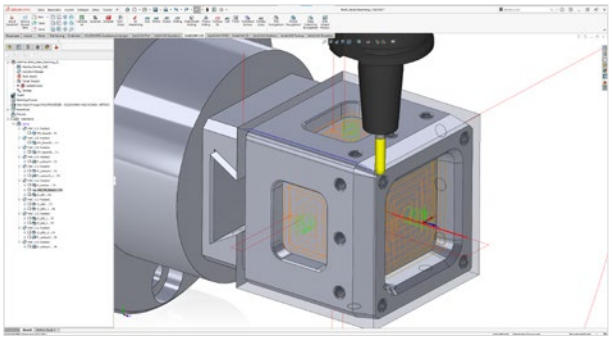


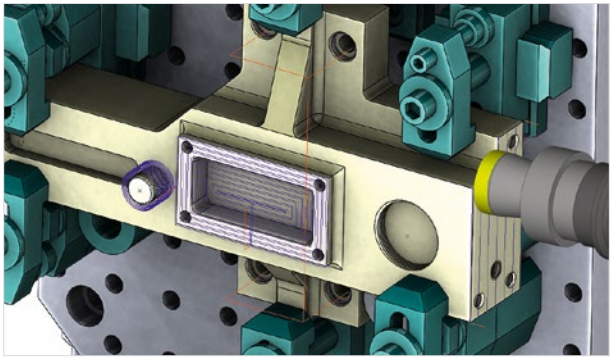
Efficient, Edit-Free G-Code for Multi-Axis Machines

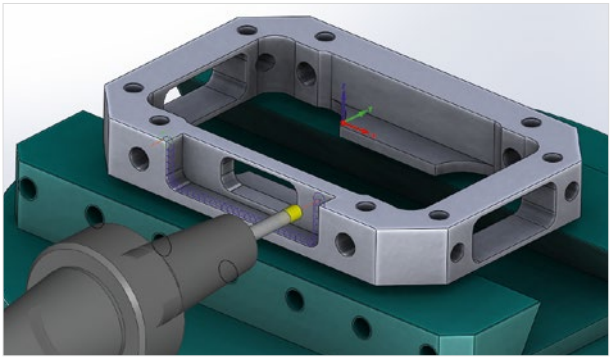
SolidCAM offers multiple options to get efficient G-code for multi-axis machines.

SolidCAM's post processor can be set up to handle all rotations and work offset shifting, to eliminate 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 this covered. For controllers with advanced plane rotation or coordinate rotation functions, SolidCAM's post processors are built to use these internal CNC functions. If you have a machine without such functions, users can input the part location inside SolidCAM and the G-code will handle all of the transformations for each rotation.

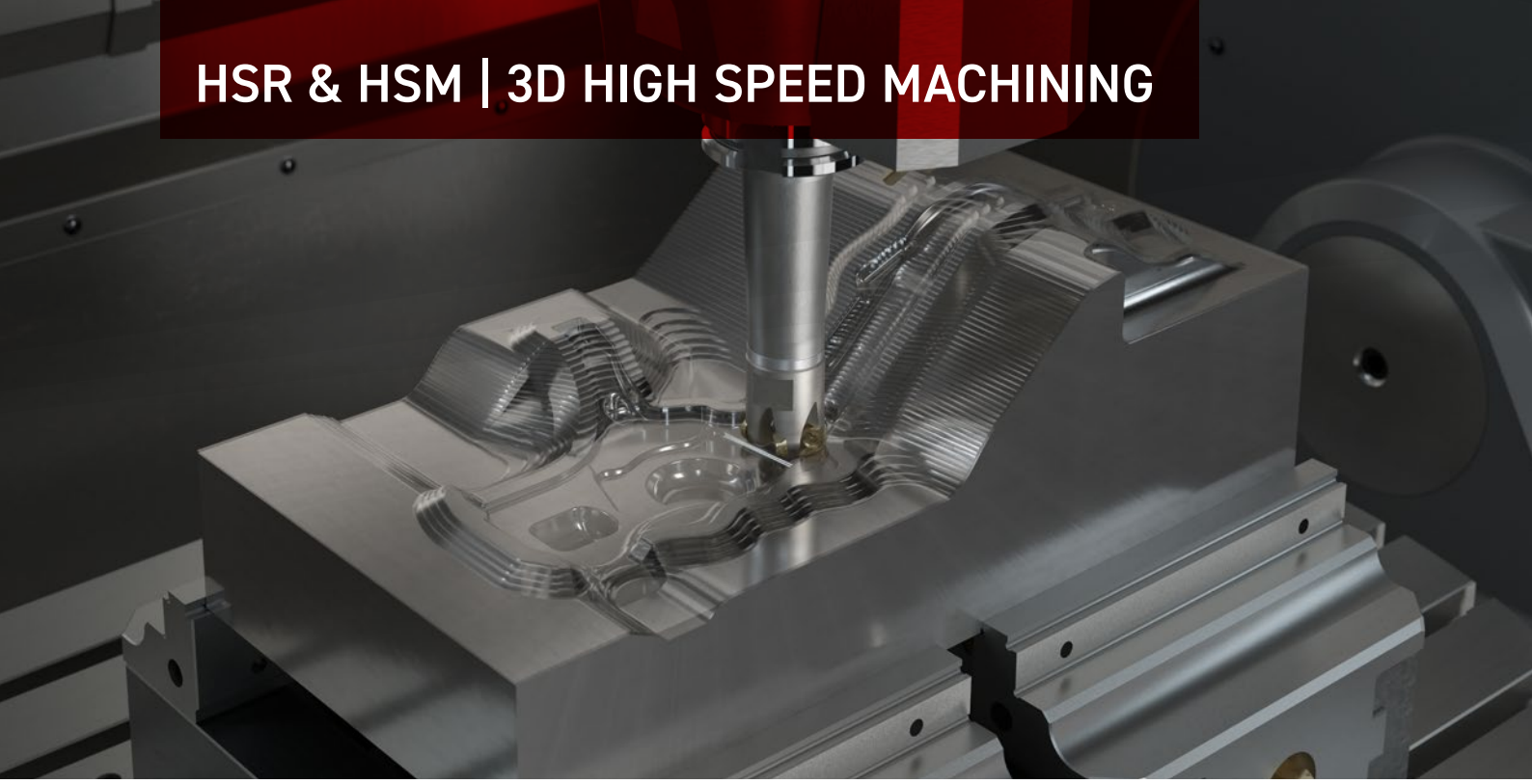
Our approach to indexial milling is simple: from software to G-code – make the process for indexial milling the same as for single-sided milling. No need for any special functions or tricks inside the software to machine multi-sided parts – it should just work!

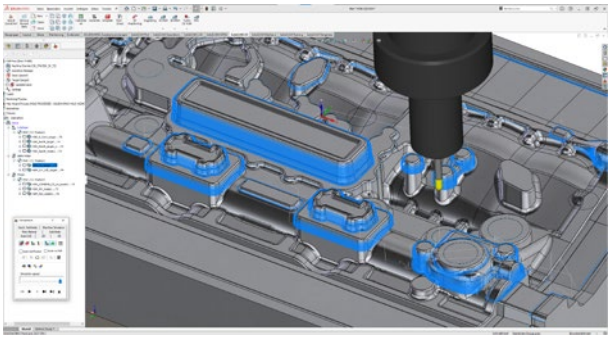






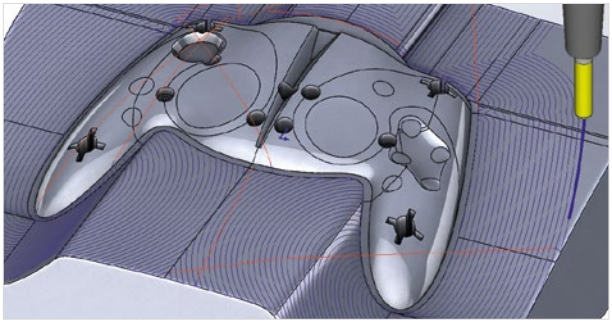
HSR & HSM | 3D HIGH SPEED MACHINING





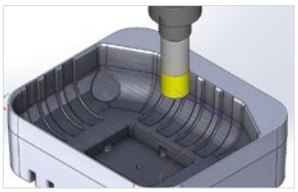
SolidCAM High-Speed Machining (HSM) offers unique machining and linking strategies for 3D high-speed toolpaths. It smooths the paths of both cutting moves and retracts, wherever possible, to maintain a continuous machine tool motion – an essential requirement for maintaining higher feed rates and eliminating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

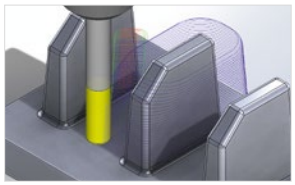
- 3D machining taken to an entirely new level of smoothness, efficiency and smart machining.
- The finest toolpaths available anywhere for complex 3D parts, aerospace parts, molds, tools and dies.

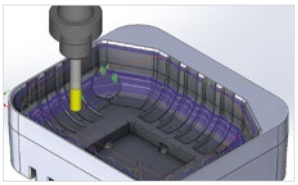


HSR – High Speed Roughing

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



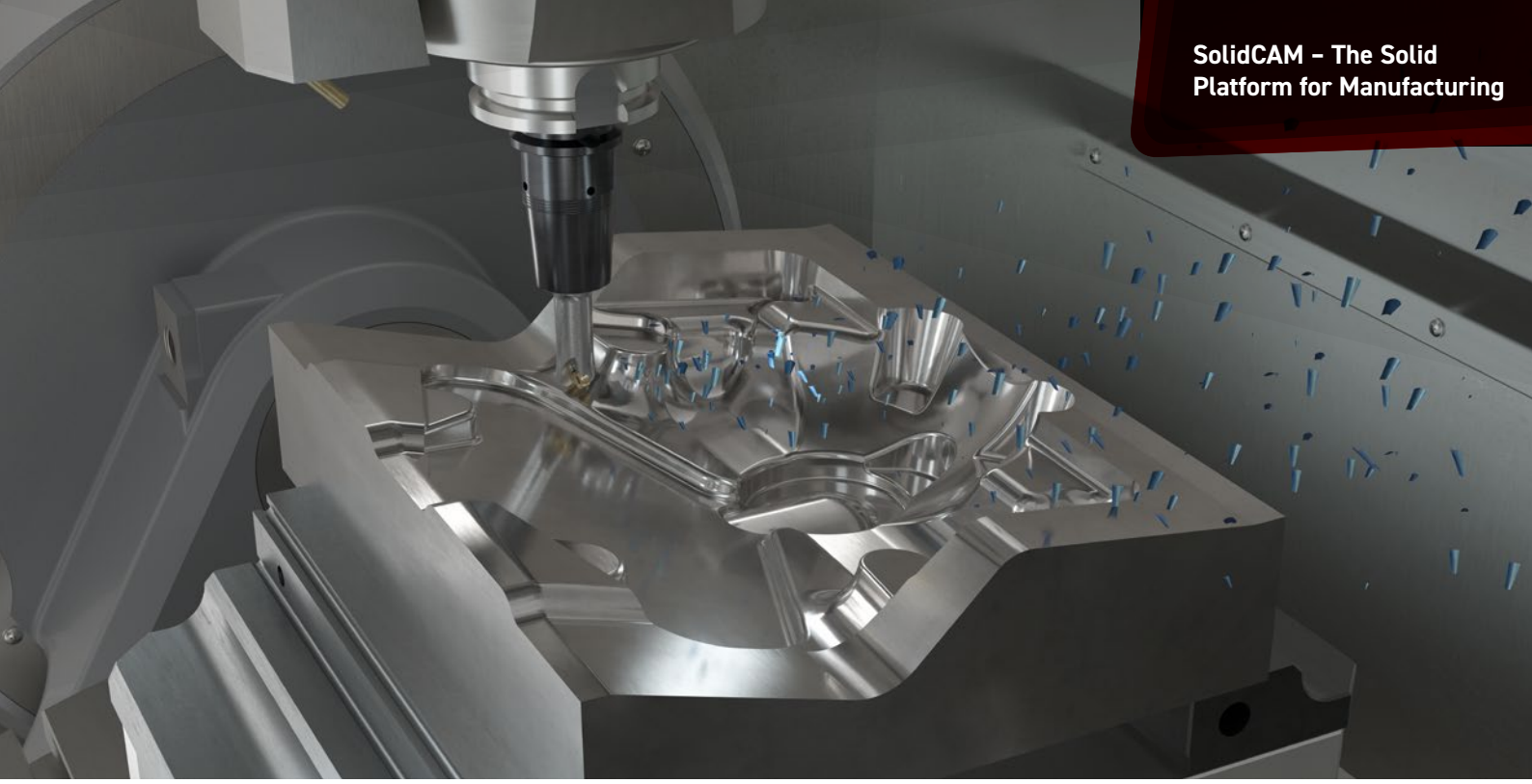


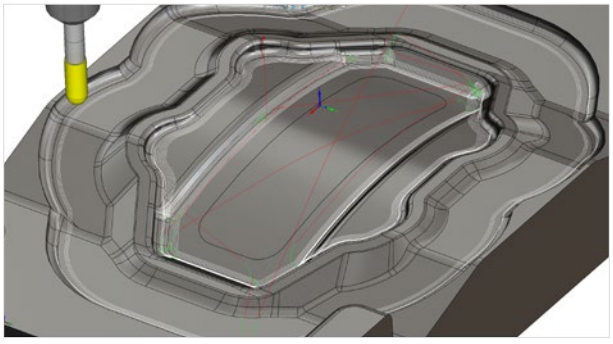


High Speed Finishing

With SolidCAM's HSM module, retracts to high Z levels are kept to a minimum. Angled where possible and smoothed by arcs, retracts don't go higher than necessary, minimizing air cutting and machining time.

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





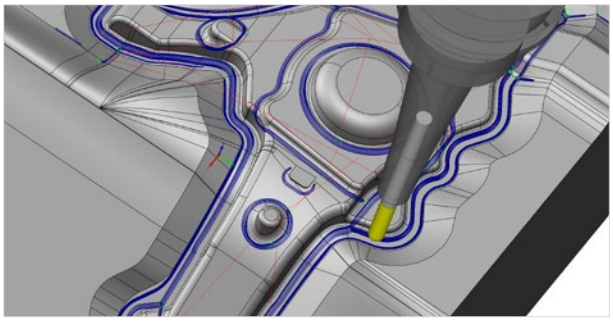
3D Machining to the Highest Level

SolidCAM 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 CNC's with reduced air cutting and smoothing arcs that maintain continuous tool motion.

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

The SolidCAM HSM module features several enhancements to CAM technology that make high speed operations possible, e.g. avoiding sharp angles in the tool path and generating smooth and tangential lead in/out.

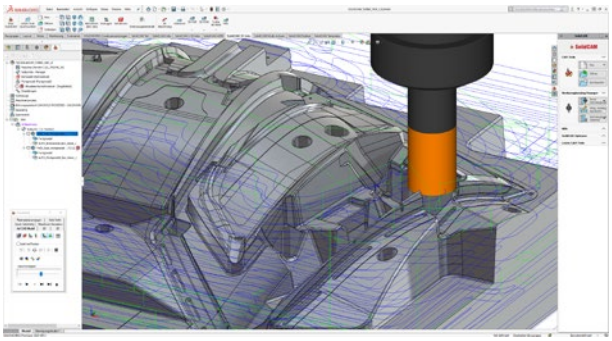
- Tool stays in contact with the material as much as possible and non-machining moves are reduced.
- Working area can be precisely controlled with an extensive set options that are available, including silhouette boundaries, cutter contact area boundaries, shallow area boundaries, rest area boundaries.
- 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.



TURBO HSR & TURBO HSM

SolidCAM THSR and THSM

SolidCAM's Turbo 3D HSR (THSR) and Turbo 3D HSM (THSM) are powerful High Speed Roughing (HSR) and High Speed Machining (HSM) modules for much faster calculations than the regular HSR / HSM modules.



THSR and THSM offer unique machining and linking strategies for generating high-speed tool paths. The 3-Axis calculation engine recalculates the tool path at lightning speeds. Its 64-bit architecture completely utilizes all the cores for tool path calculations.

The current THSR strategies (Hatch, Contour, and Rest) remove large volume of excess material rapidly and leave a small amount of stock for semi-finishing and finishing strategies. The biggest advantage of these strategies is that the tool path contours are always collision free while machining.

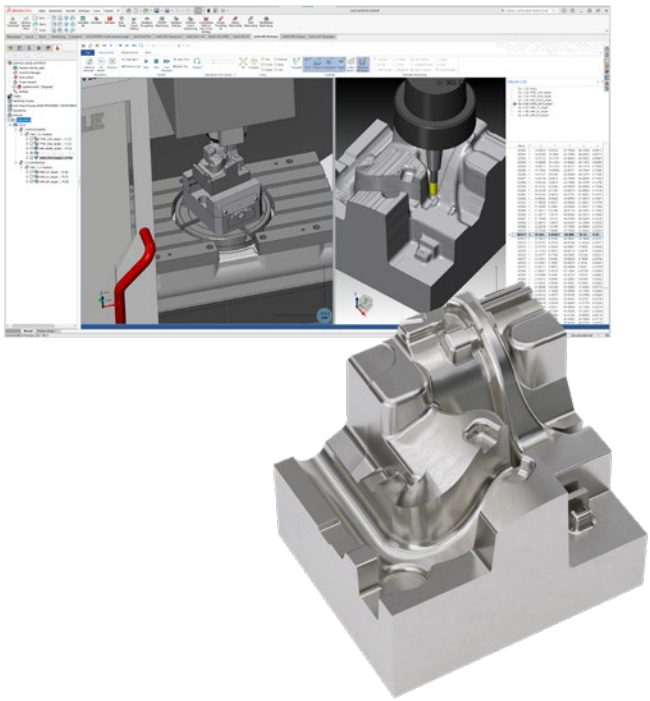
- Extremely fast calculation and generation of toolpaths
- Fewer options – faster definition of High-Speed Machining jobs
- Advanced gouge checking strategies
- Most efficient, collision free toolpath

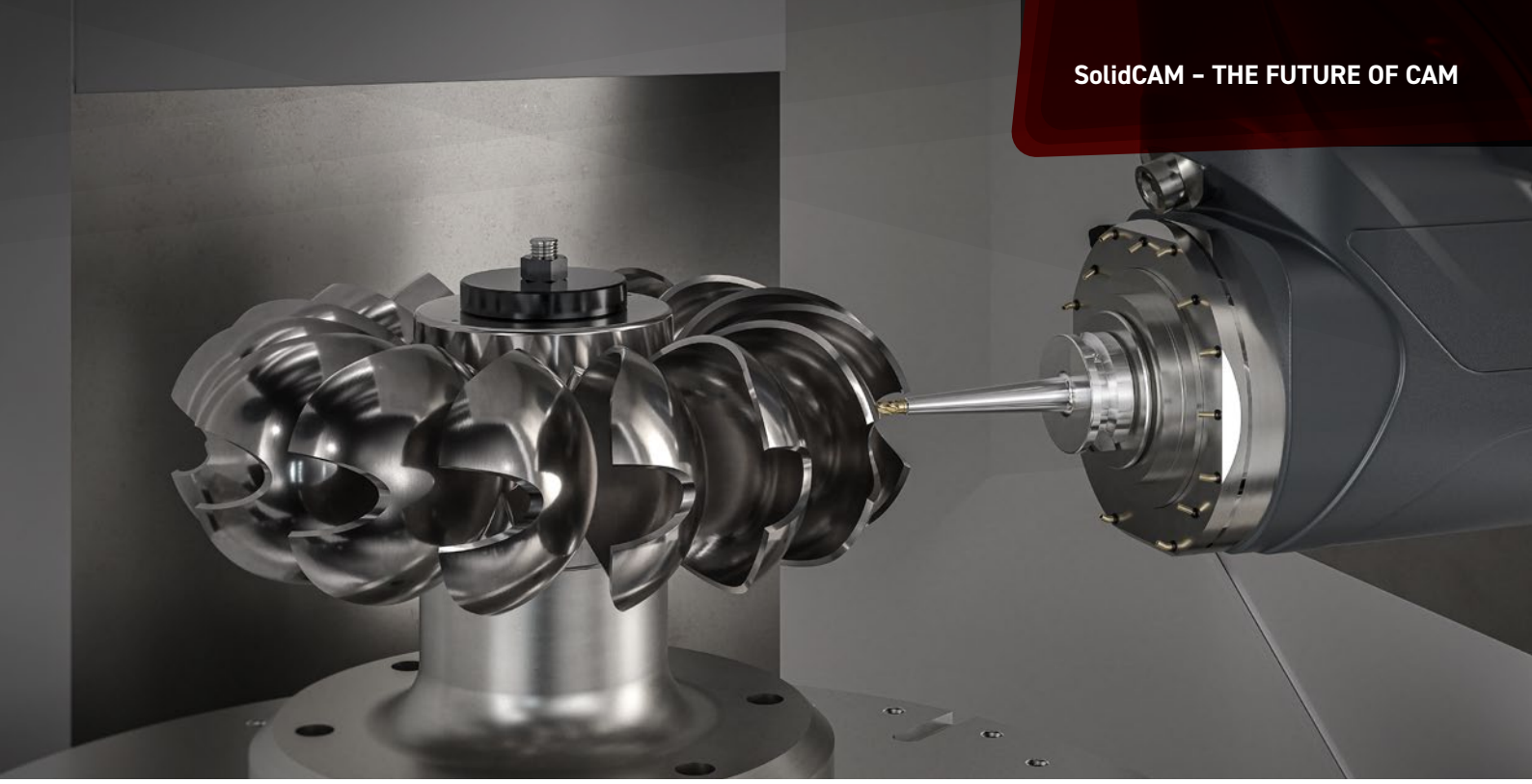
Auto 3+2 High Speed Roughing

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 gain more access from a single direction. It minimizes the number of operations with different machining directions.

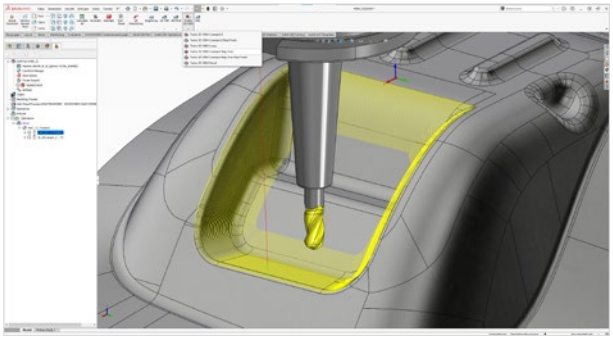


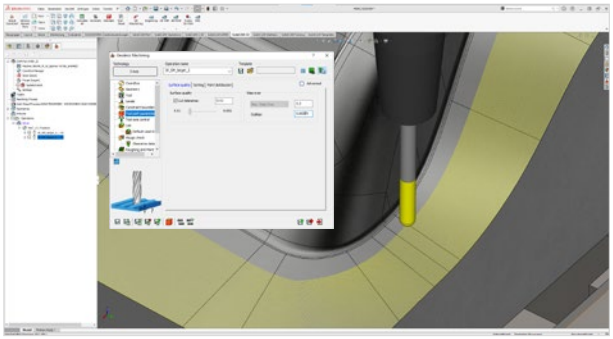


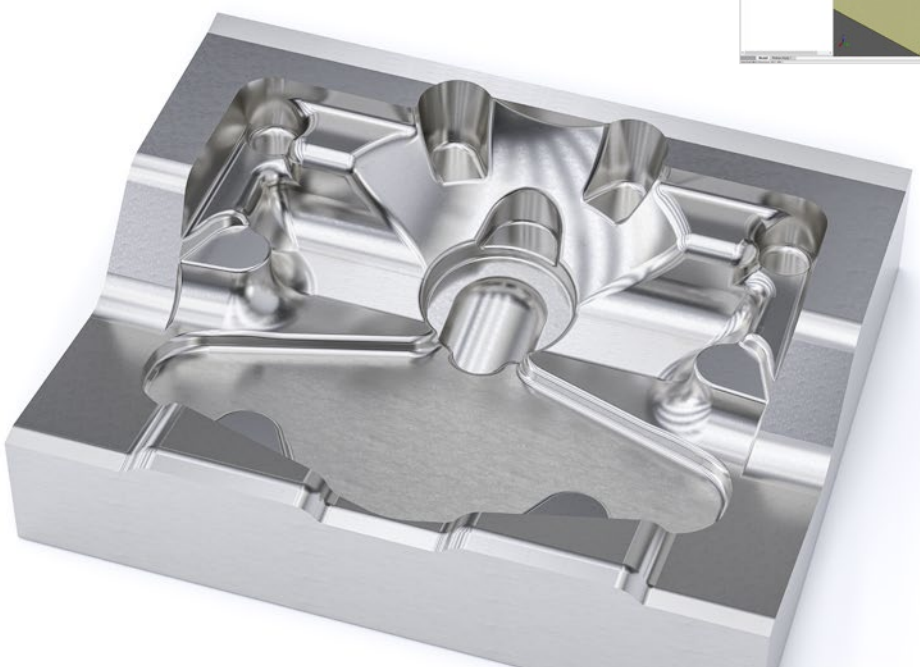
Geodesic Machining

SolidCAM's Geodesic Machining enables machining of complex 3D Shapes (Solid Model & Surface Groups) with a tool path that has constant stepover and undercut areas. The module generates a pattern of tool path 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. Generally, a stepover is calculated with reference to a vector direction, but in Geodesic Machining global distance and a stepover, without a fixed direction, are used.

- Various toolpath patterns available
- Constant 3D distance between consequent cuts
- Works effectively even in undercut situations
- One entry and exit move only



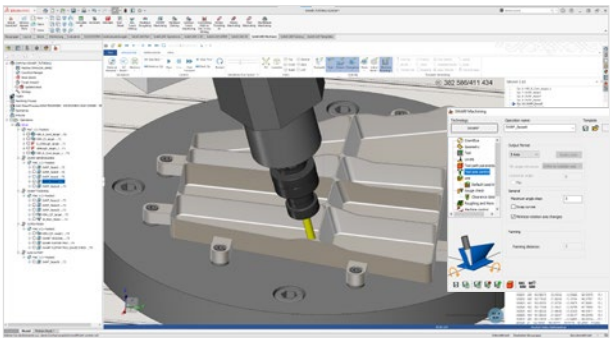


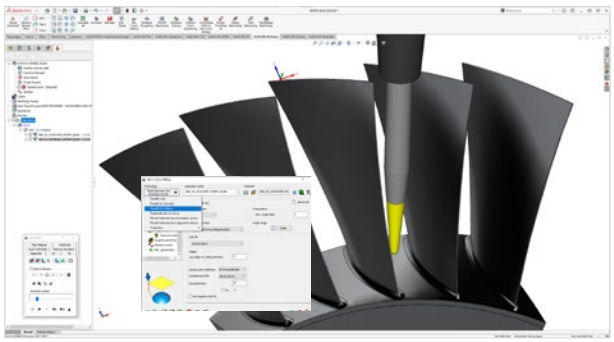


Excellent surface finish of 0.4 µm with SolidCAM HSM strategies

SIMULTANEOUS 5-AXIS MILLING

Impeller Manufacturing





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

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

- Wide variety of Simultaneous 5X cutting strategies
- Flow line cutting produces a toolpath that follows the natural shape of the component
- Multi-surface finish machining keeps the tool normal to the surface (or with specified lead and lag) to provide a smooth surface finish
- Advanced tool tilting control and direct control on side tilting and lead/lag angles
- Automatic collision avoidance strategies that check 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 with comprehensive collision and axis limits checking

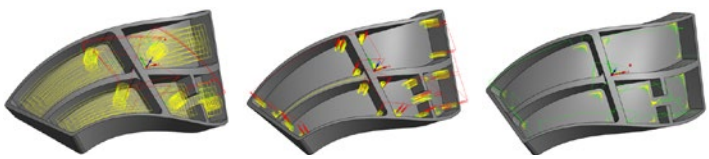
Flexibility and Control

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

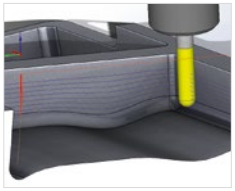
Link and approach moves are fully gouge protected and different strategies may be used depending on the distance of the link move. SolidCAM also provides options for control over lead/lag and side tilt angles to give complete control over the final toolpath.

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.

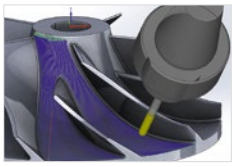


SWARF Machining



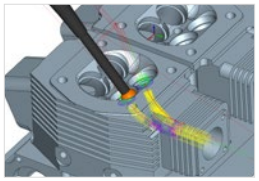
With SWARF machining, the tool is being tilted over to cut with its lateral surface. SWARF cutting utilizes the complete cutting length of the tool, resulting in better surface quality and shorter machining time.

Multi-Blade Machining



The Multi-blade 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

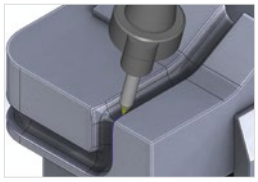


With this 5X operation you can machine intake and exhaust ducts as well as inlets or outlets of pumps, in castings or steel blocks with tapered lollipop tools. Roughing and finishing operations can be quickly and easily defined and reliably simulated with complete collision control of the entire tool and holder.

Screw Machining

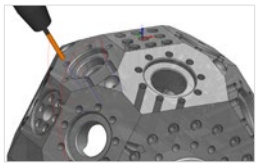
This operation generates 4-Axis rotary roughing and finishing tool path for screws using bull nose, ball nose or flat end mills.

Contour 5-Axis Machining



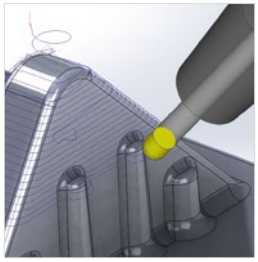
The Contour 5-Axis machining strategy tilts the tool along a chained 3D profile drive curve, while aligning the tool axis according to defined tilt lines, making it ideal for generating 5-axis toolpath for deburring and trimming.

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

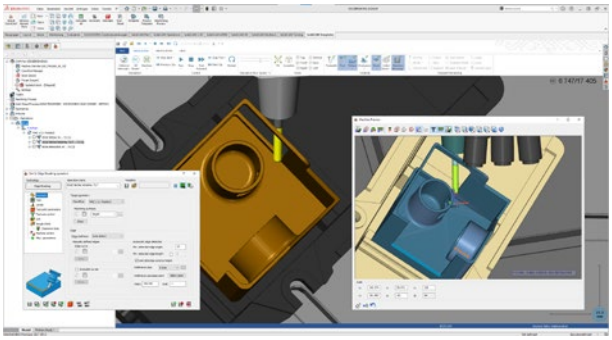


The Convert HSM to Sim. 5-Axis milling operation converts HSM 3D toolpaths to full 5-Axis collision-protected toolpaths. This will maintain optimum contact point between the tool and the part and enables the use of shorter tools for more stability and rigidity.

SIMULTANEOUS 5-AXIS MILLING

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 and it can ruin the functionality of the part, or endanger the user because it is razor sharp – removing it is the best option.

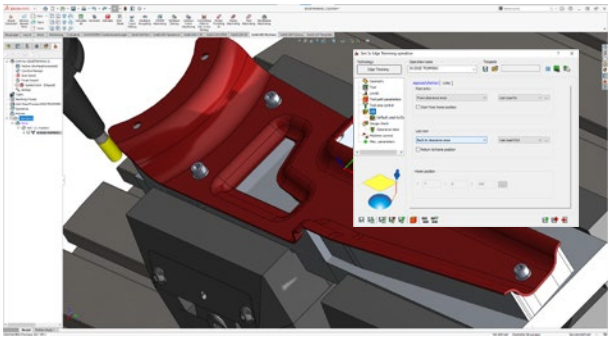


SolidCAM's Edge Breaking operation creates a deburring tool path on the outer edges of a part geometry. The position of the tool relative to the edge is always the bi-vector between the two surfaces of that edge.

- Enables creation of a fully automatic tool path 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.

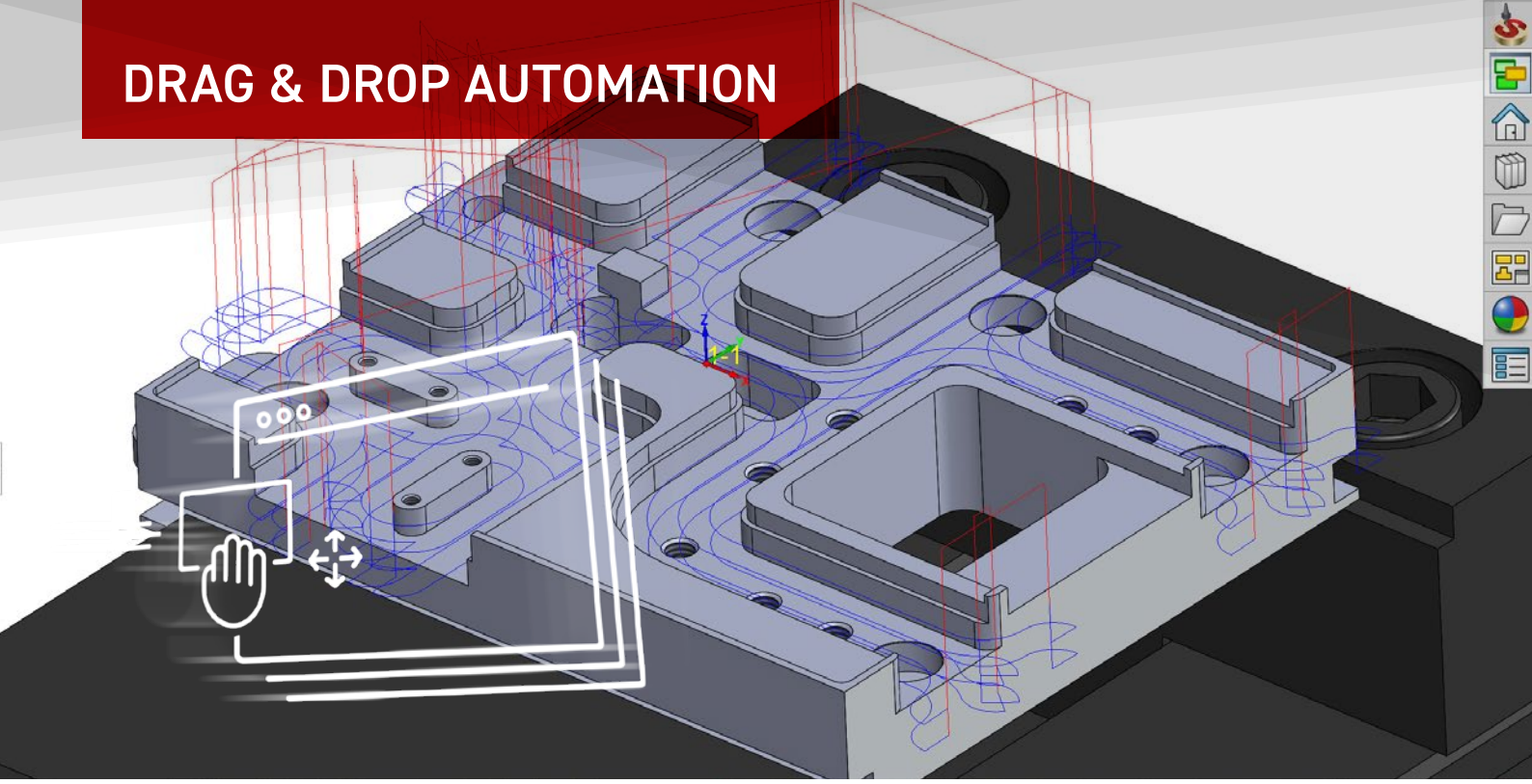
Simultaneous 5X Edge Trimming

SolidCAM's Edge Trimming operation efficiently machines parts that require edge trimming to get their final shape. The operation uses a highly automated algorithm to create a tool path 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 smooth tool path

DRAG & DROP AUTOMATION

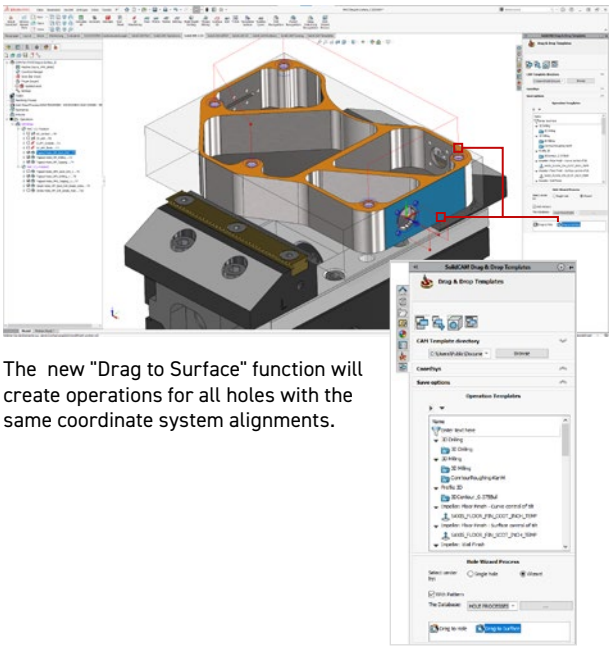


Drag & Drop Templates

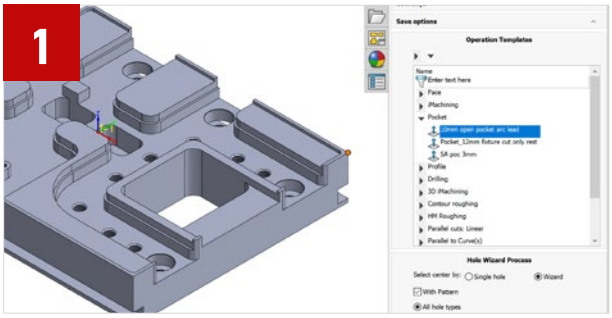
One of the most intuitive and fastest ways of programming a part is to use SolidCAM´s Drag & Drop templates. These are ready-made templates that you can drag directly onto surfaces and holes.

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.

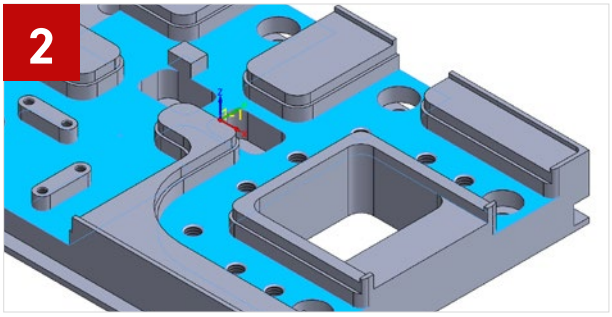
Drag & Drop is available in a wide span of SolidCAM´s operations including 2,5D, iMachining, HSS, HSM etc.



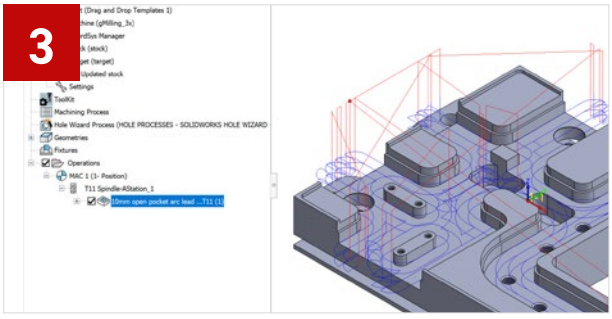
The new "Drag to Surface" function will create operations for all holes with the same coordinate system alignments.



Grab operation template from template directory

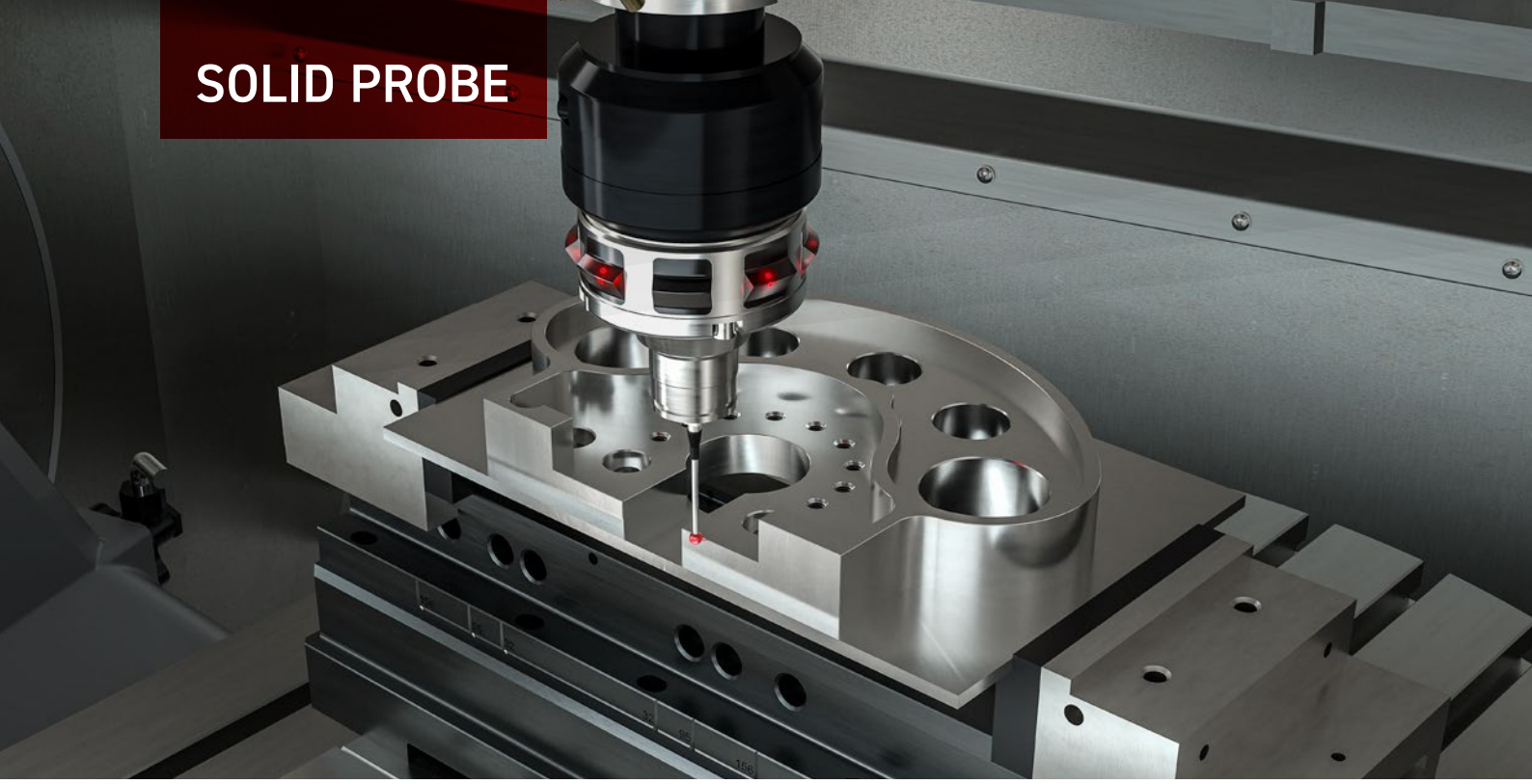


Drag the template to the face to be machined



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

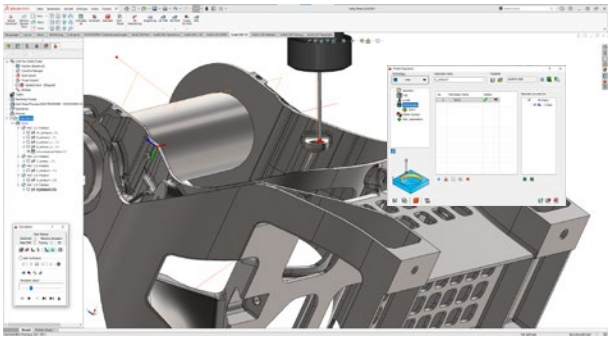
SOLID PROBE

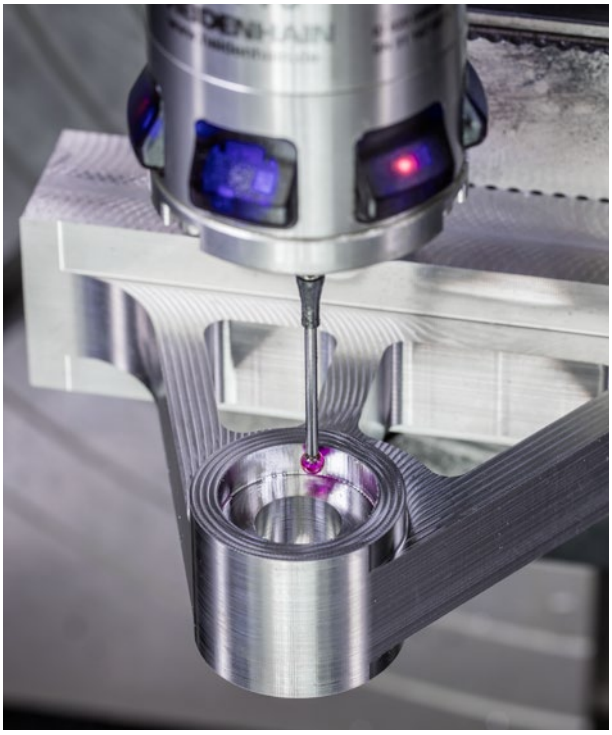


Probing & Measuring Made Easy

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.



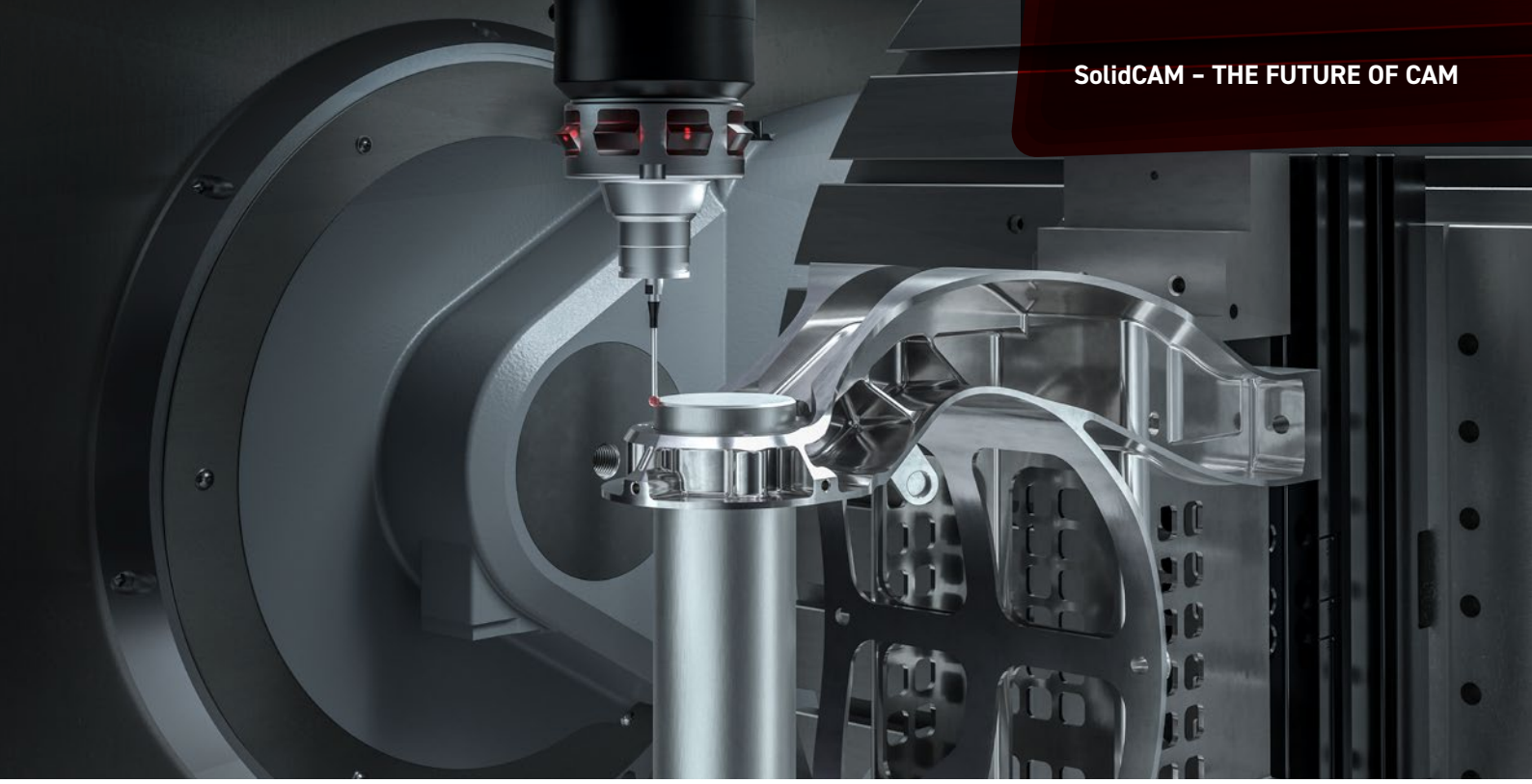


Solid Probe is a Must for Every Machinist using Probes:

- 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

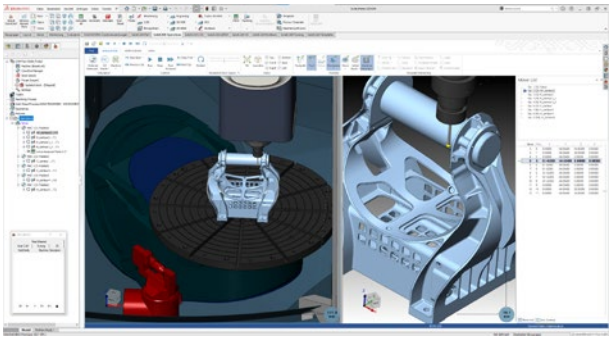
Combined Probe and Machining Operations

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.



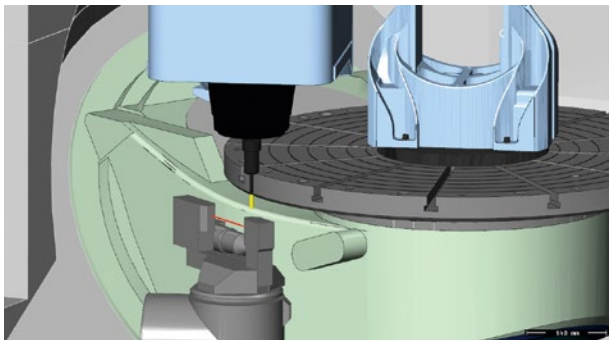
Home Definition

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



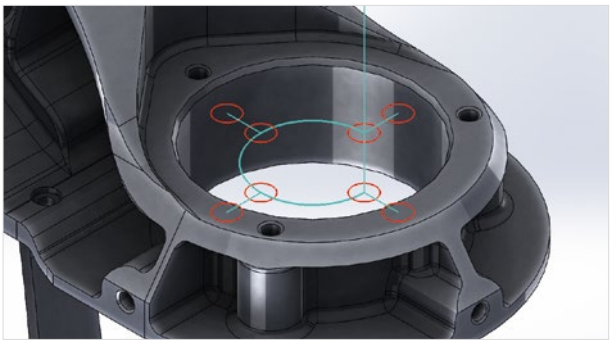
On-Machine Verification

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.



Tool Presetter Support

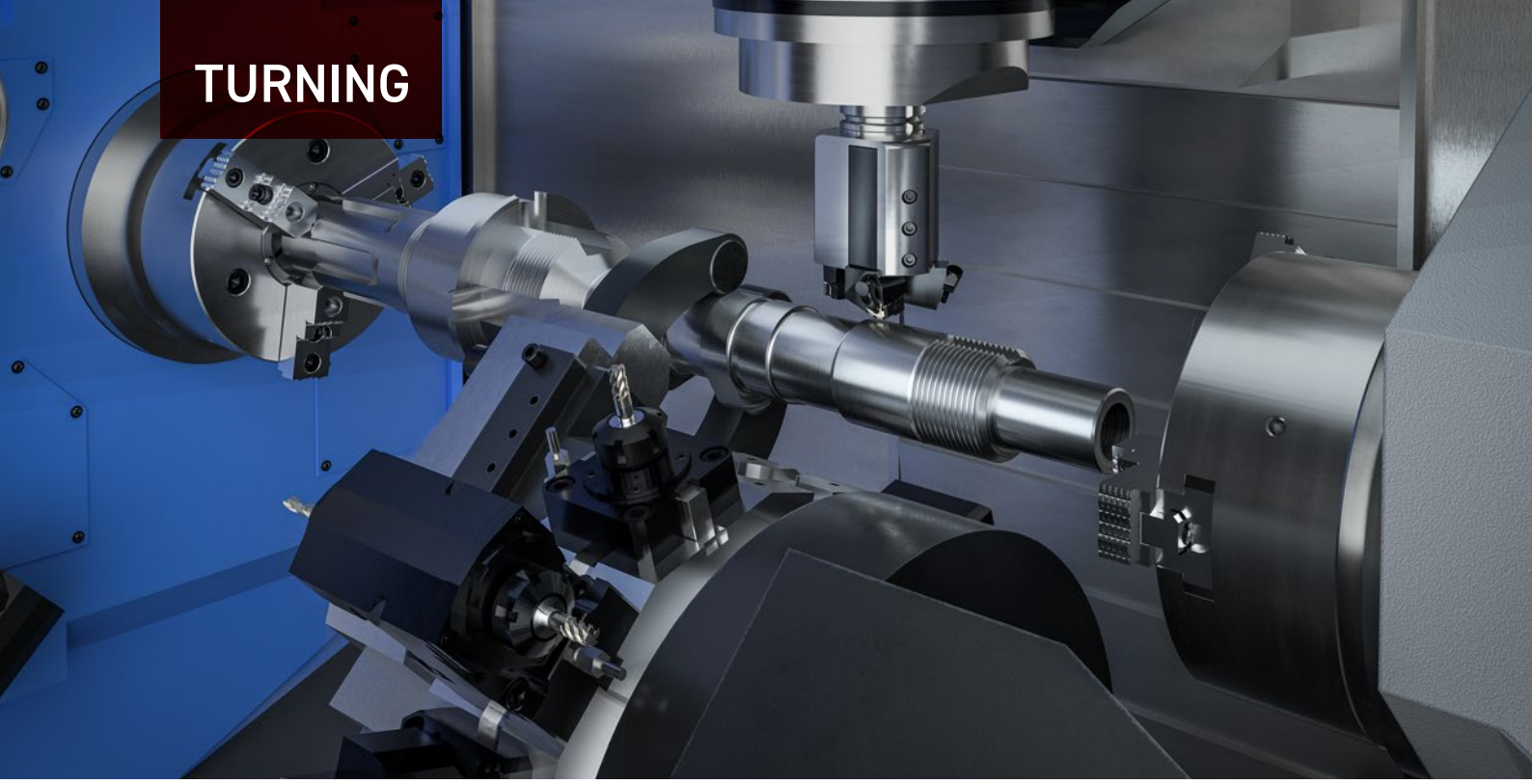
Solid Probe includes Tool Presetter support to check your milling and turning tools, between Machining operations and tool change events. It also provides tool breakage detection for continuous and safe machining.



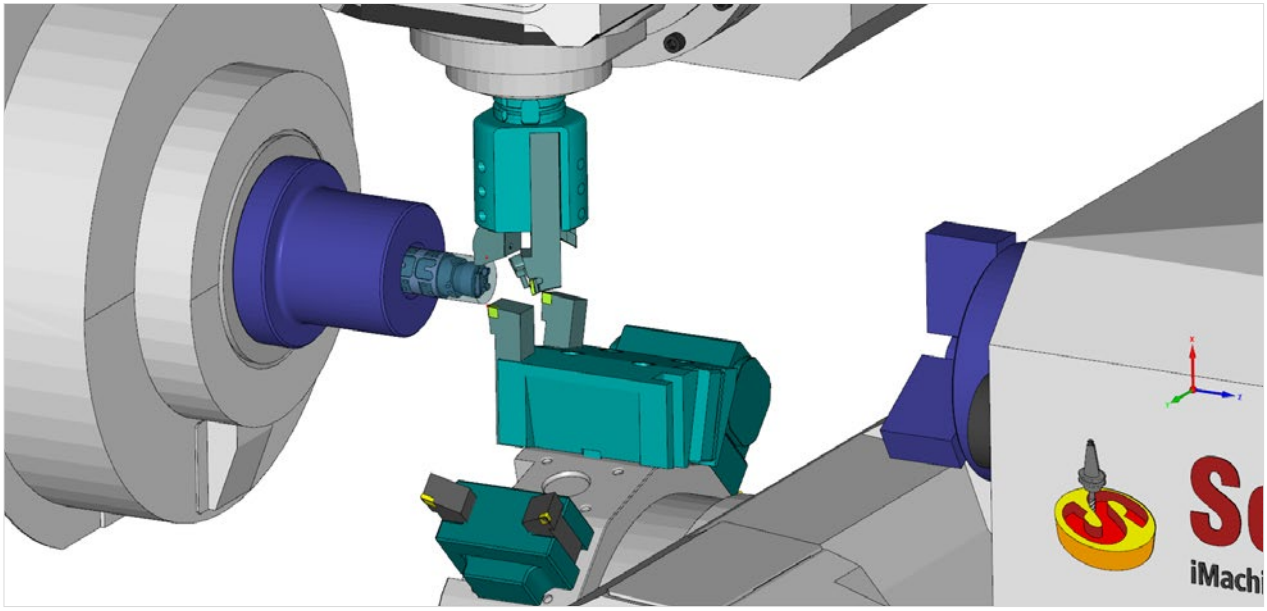
Preview of Cycle Movements

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.

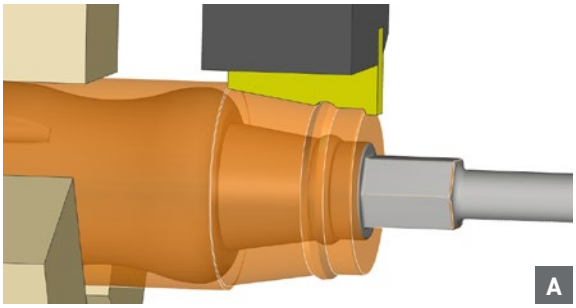
TURNING



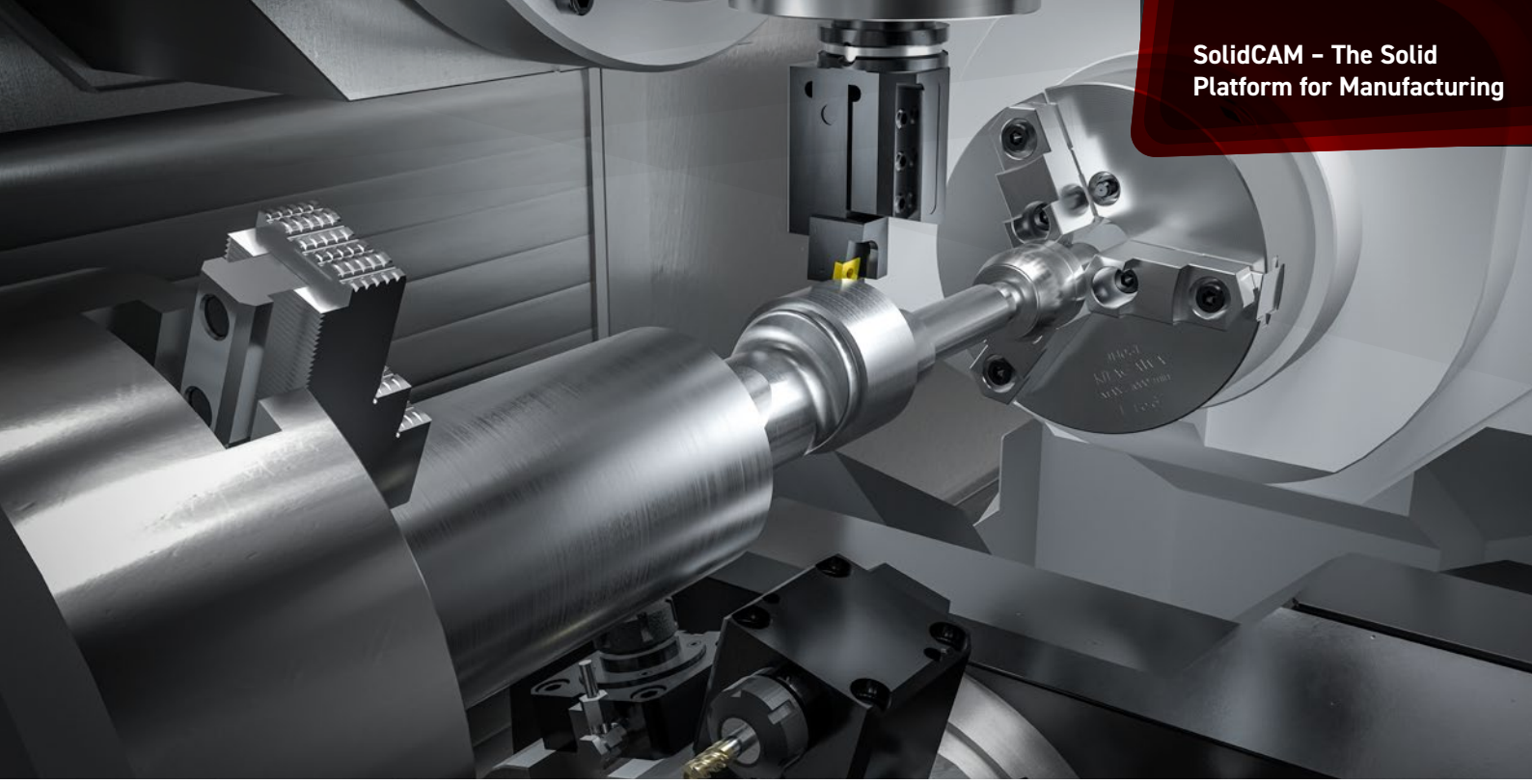
SolidCAM Module for Fast and Efficient Turning



- 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]

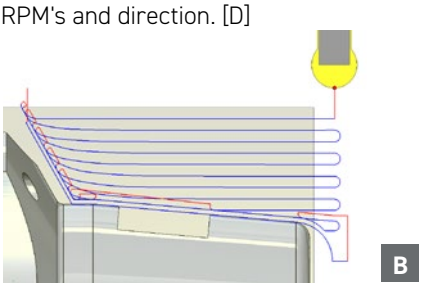


A

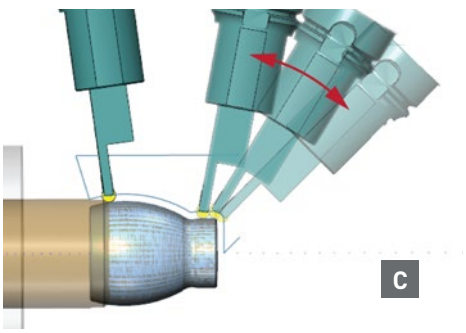


Advanced Turning Capabilities

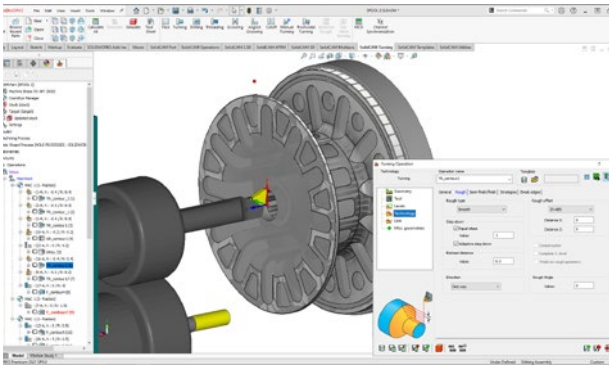
- Balanced Roughing: two turning tools working simultaneously, or in trailing mode, to perform roughing turning of long and large parts.
- Angled Grooving: performs internal or external inclined grooves, at any defined angle.
- Manual Turning: performs turning according to user-defined geometry, regardless 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]



B



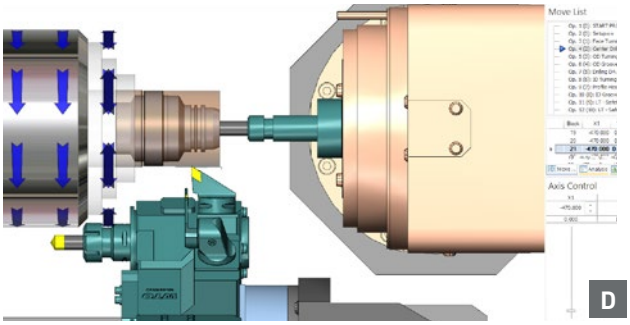
C



Updated Stock

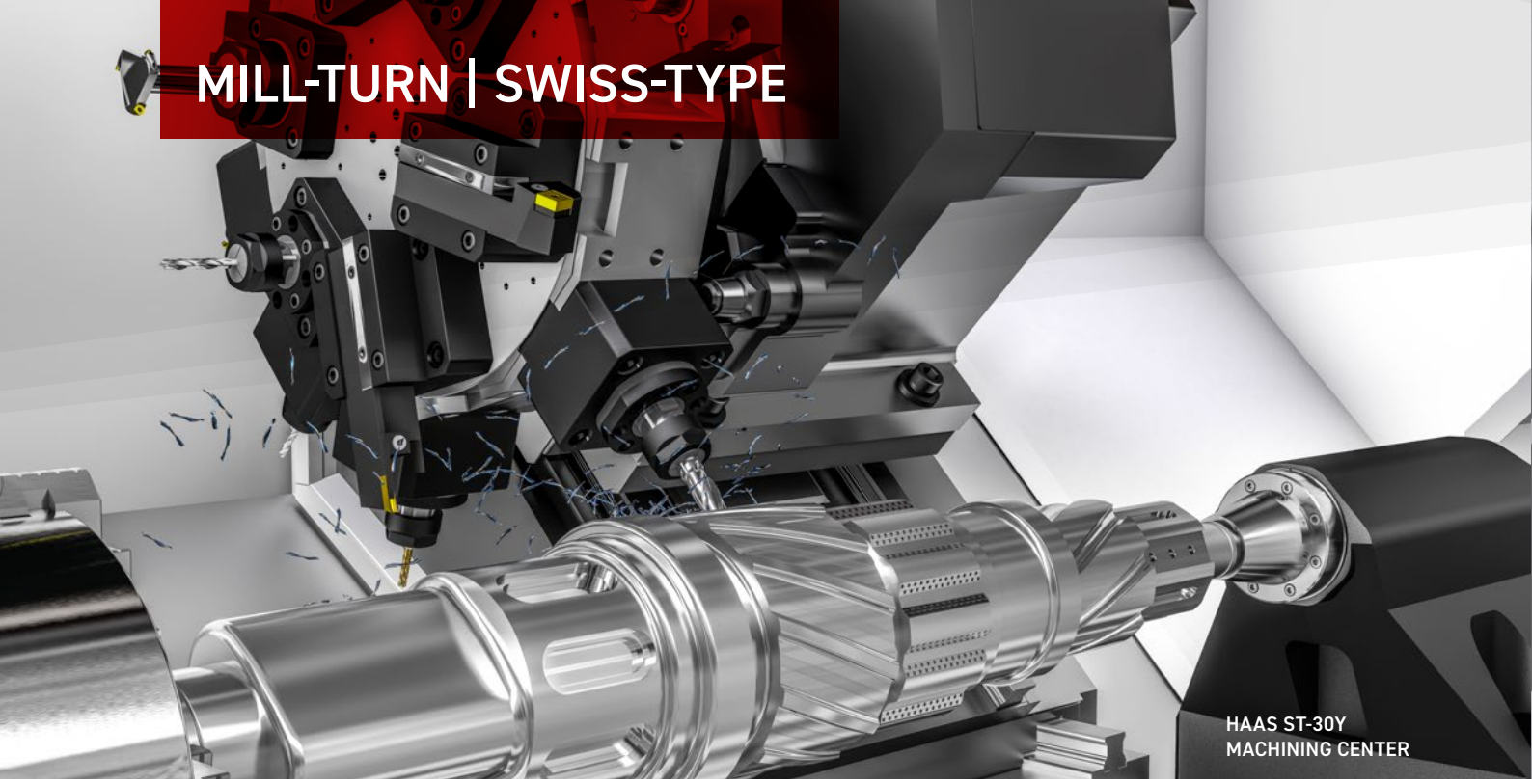
SolidCAM has the ability to keep the stock updated live within the operations tree. Updated stock is supported from the most basic 2-Axis Turning Center, right through to a CYB Multi-turret, Sub-spindle Mill-Turn CNC-Machine.

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.



D

MILL-TURN | SWISS-TYPE



Complete Solution for Advanced Multi-Turret/Spindle Mill-Turn and Swiss-Type Machines

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

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

TURNING OPERATIONS


Manual


Face


Turning


Grooving


Drilling


Balanced Roughing


Threading


Angled Grooving


Trochoidal Turning

MILLING OPERATIONS


2D iMachining


Face


Profile


Pocket


Drill


Multi-Depth Drilling


Threading


Contour 3D


Slot / T-Slot


Translated Surface

3D iMachining

Engraving

HSR / HSM / HSS


Sim. 5X

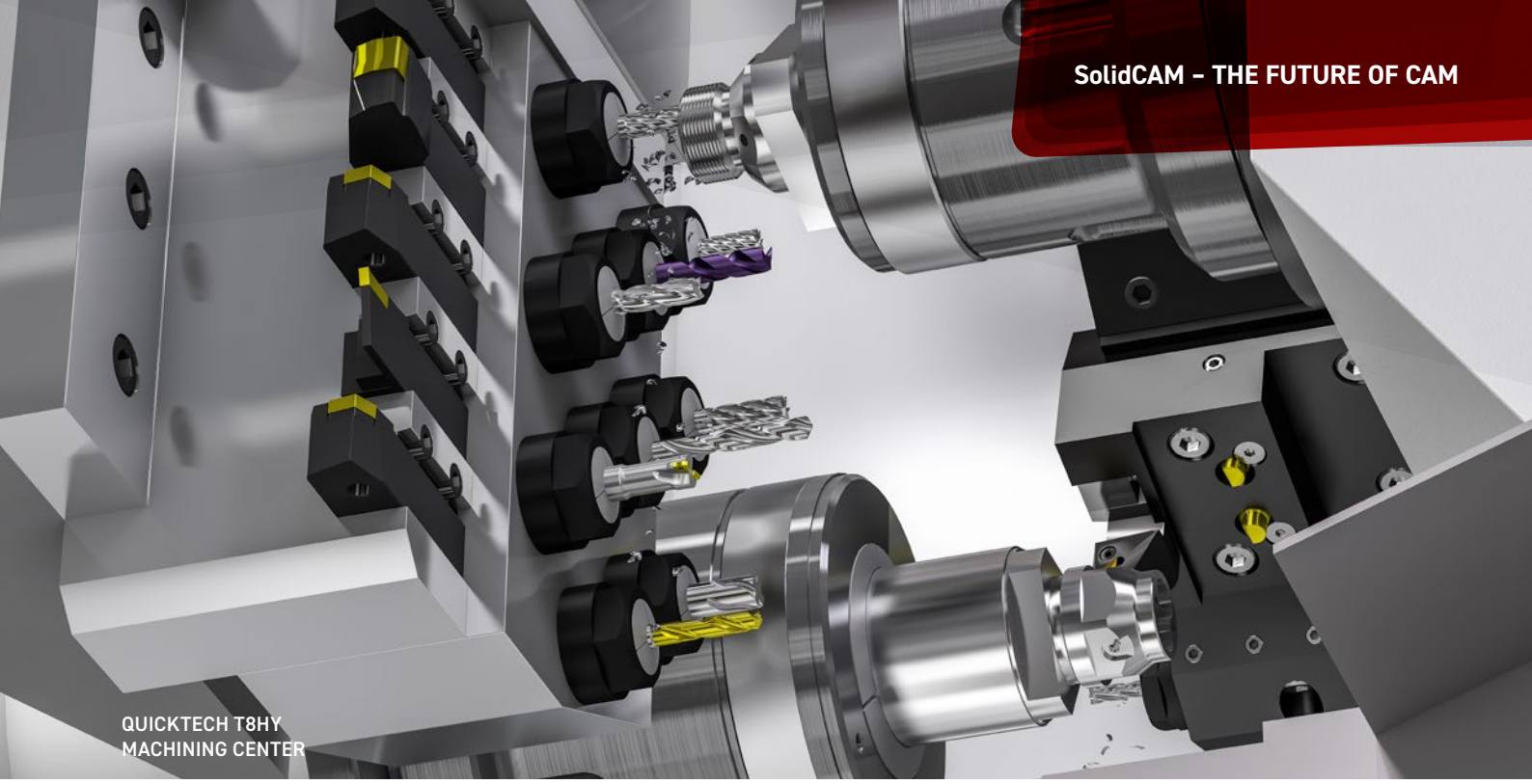

Blade Machining


Screw Machining


Rotary Machining

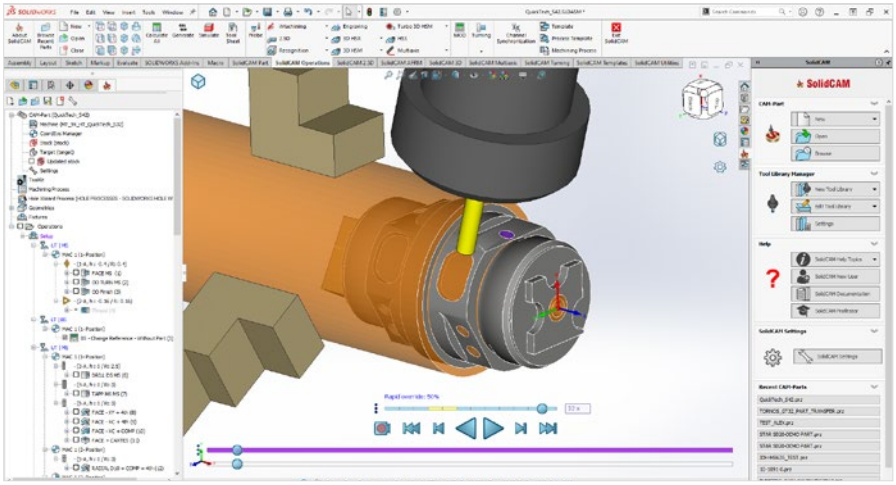

Multiaxis Drilling

... and many more!



QUICKTECH T8HY
MACHINING CENTER

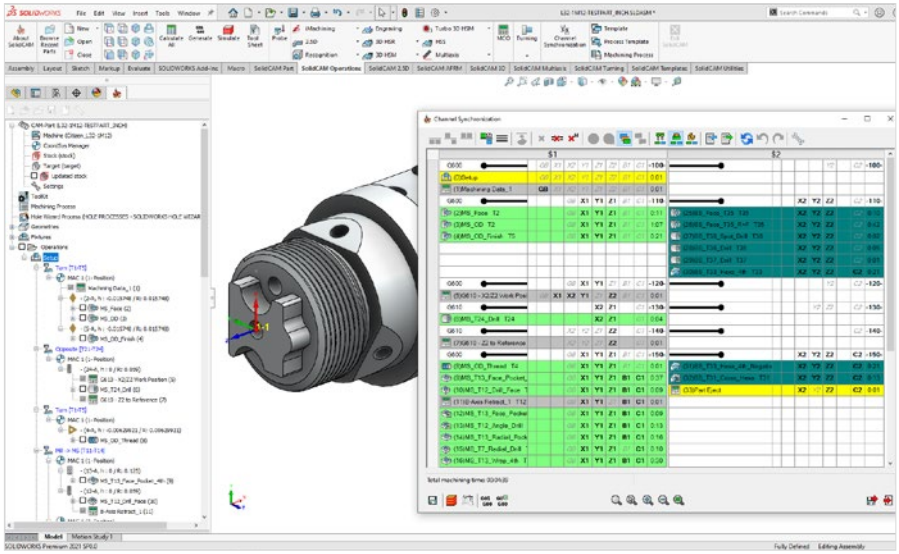
Integrated. Easy-to-Use. Complete.



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.

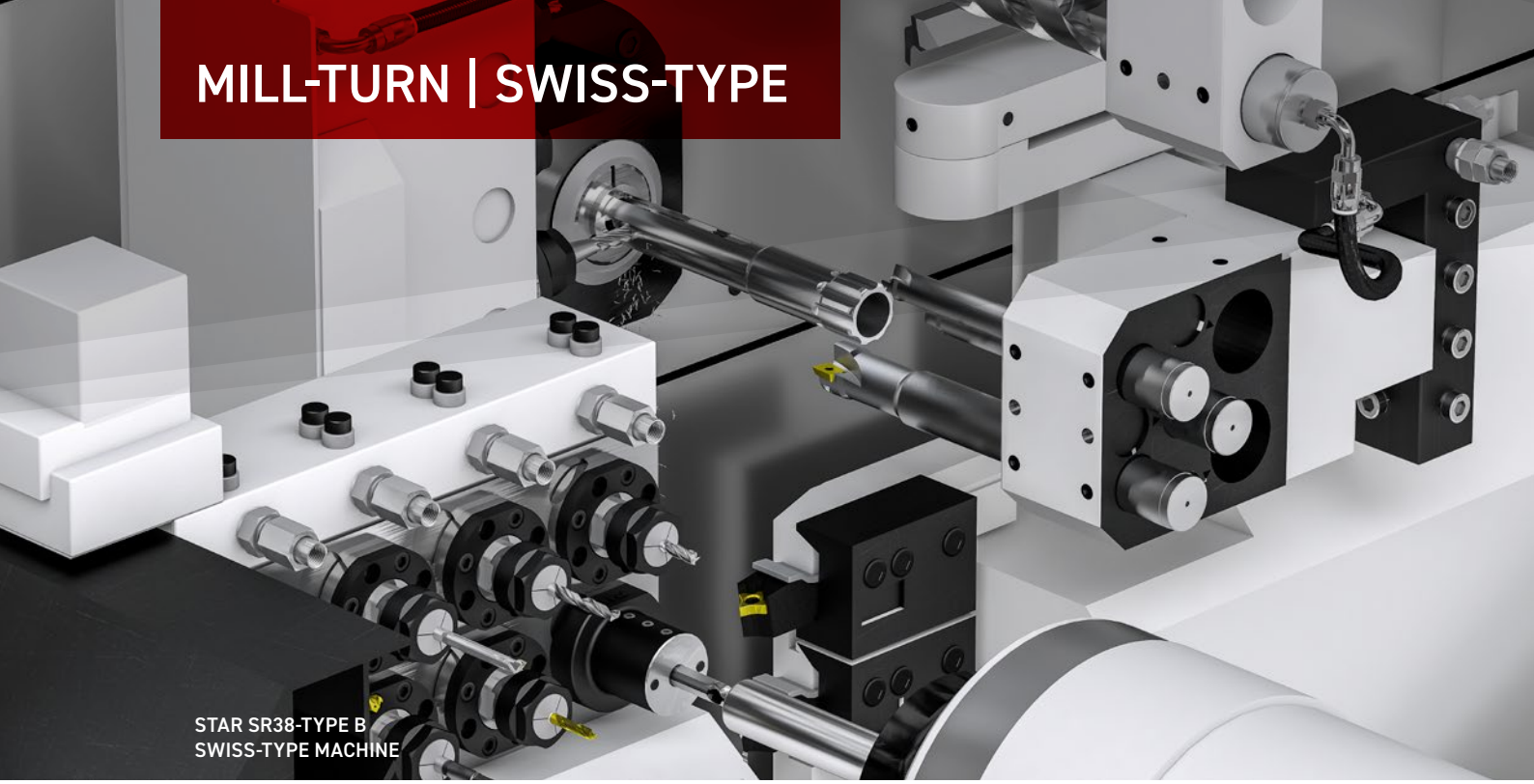


Easy-to-use Channel Synchronization Manager guides you through the order of operations, shows clashes and assist you to avoid them.

It is perfect for synchronizing and optimizing all your machining operations for maximum production output.

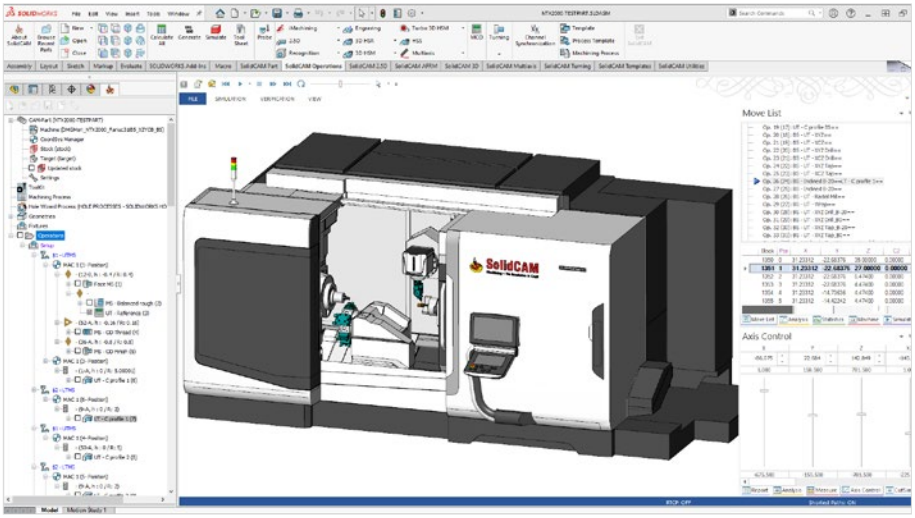
SolidCAM can control unlimited number of channels and supports any amount of machine functions and cutting modes.

MILL-TURN | SWISS-TYPE



STAR SR38-TYPE B
SWISS-TYPE MACHINE

Speed Up Your Complex CNC-Machines



DMG Mori Seiki NTX2000 in Machine Simulation

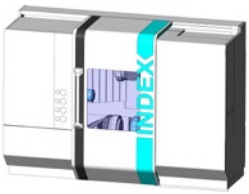
SolidCAM supports the most complex CNCs with unlimited number of axes and channels. We are constantly adding Mill-Turn and Swiss-Type machines with various configurations to our machine tool database.

SolidCAM's Advanced Machine Simulation shows the complete kinematics and all machine elements, providing full tool-path simulation and verification for all your machining operations.

Chiron FZ08MT

Mazak Integrex i-400S

Doosan SMX2600SX



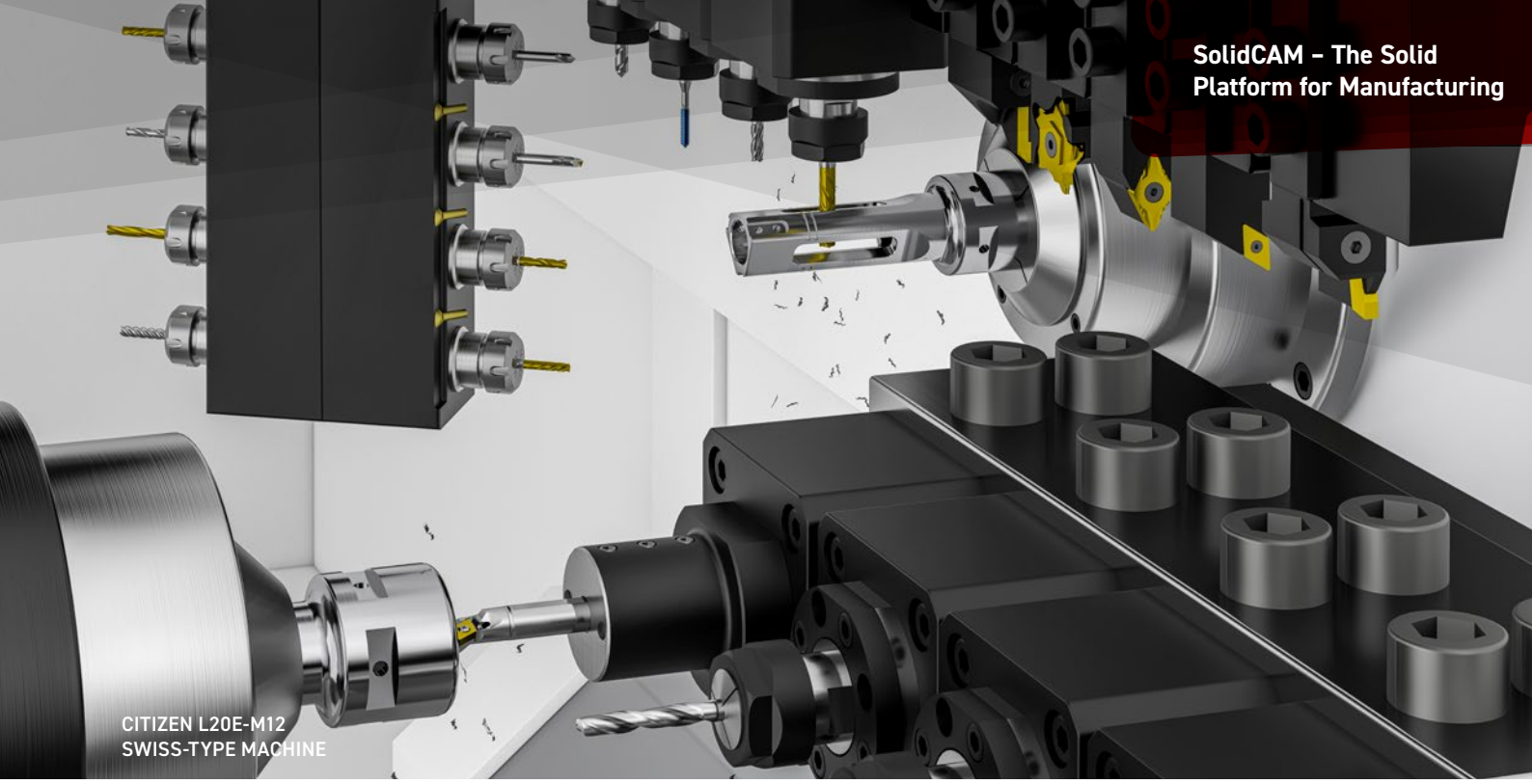
INDEX G200

Citizen D25

Swiss ST 28

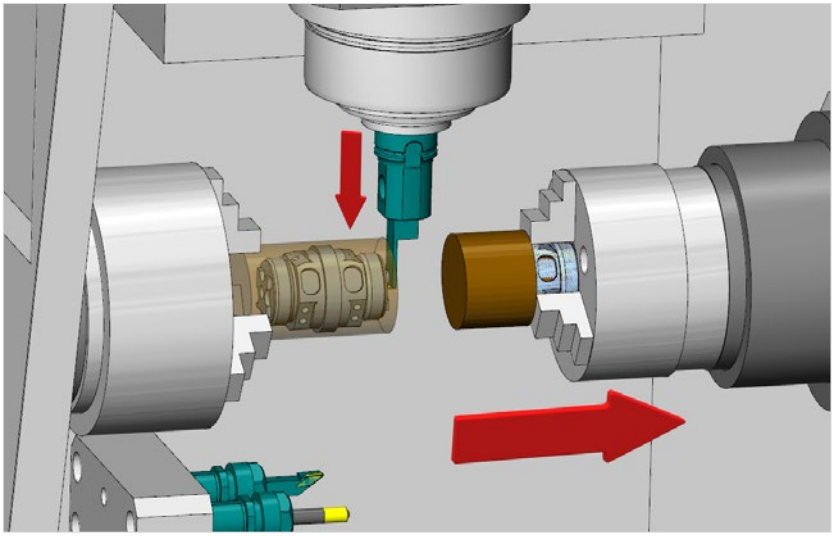
STAR SB20-R type G

Tsugami B0326E-II



CITIZEN L20E-M12
SWISS-TYPE MACHINE

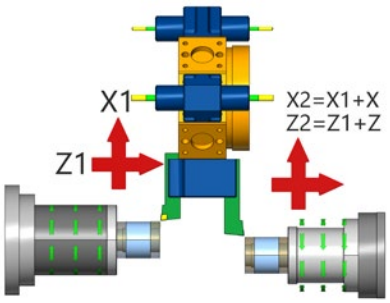
Advanced Rest Material Handling



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.

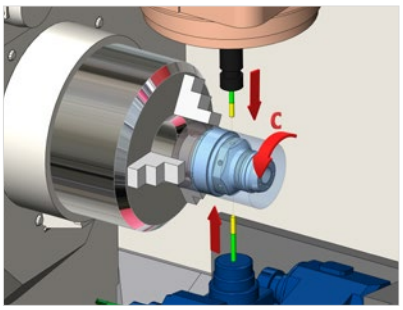
When the workpiece is transferred from the main to the sub-spindle, the updated stock model is also transferred to the new position.

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.



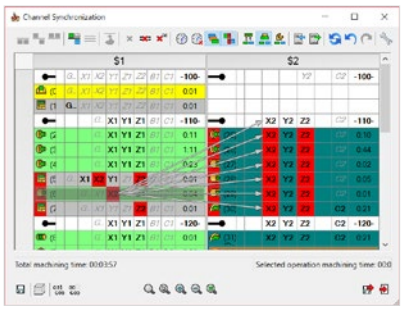
SolidCAM supports three different superimposition modes. A pair of axes can be superimposed one to another, where the slave one follows the master one.

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



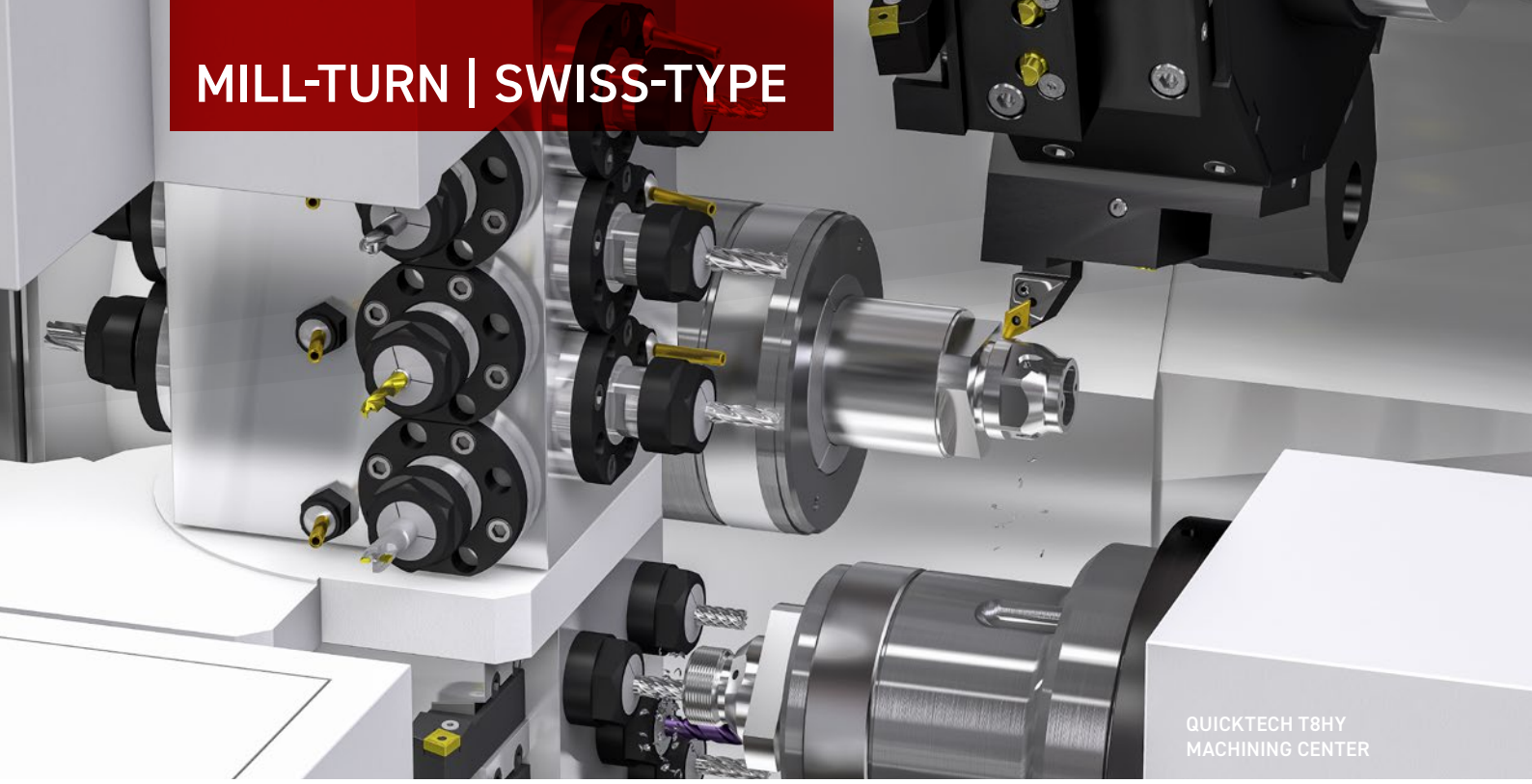
Reduce machining time by sharing axes and drive units.

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



The Channel Synchronization's clash engine displays any issue with logical comments.

The intelligent system holds the logic and checks the possibilities of the synchronization taking into account the complete machine kinematics.

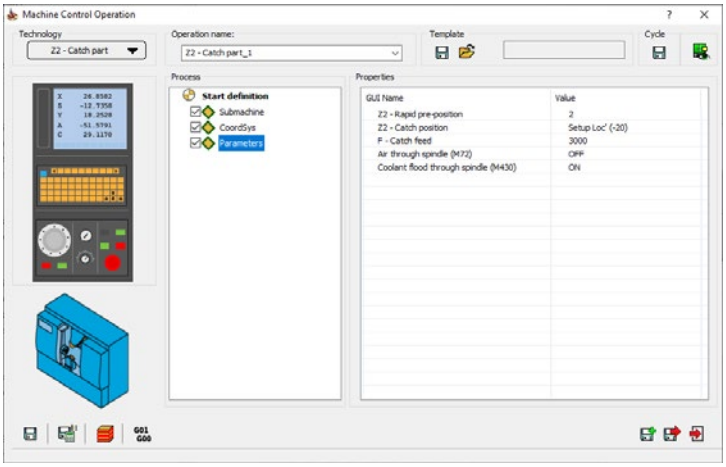


Machine Control Operations: MCO

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

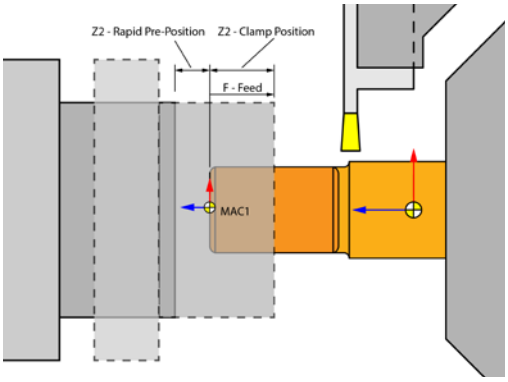
Such actions include:

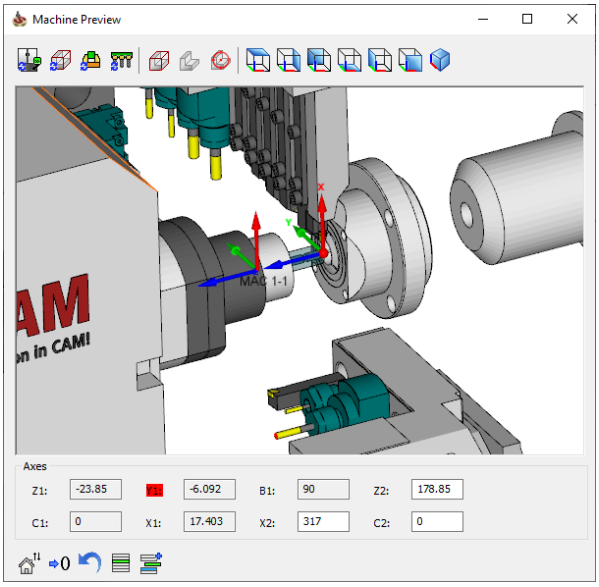
- Change tool
- Move machine components
- Transfer stock
- Clamp/unclamp fixture
- Program bar feeder
- Control coolants
- Machine mode
- Axes and phase synchronization
- Output any G/M command

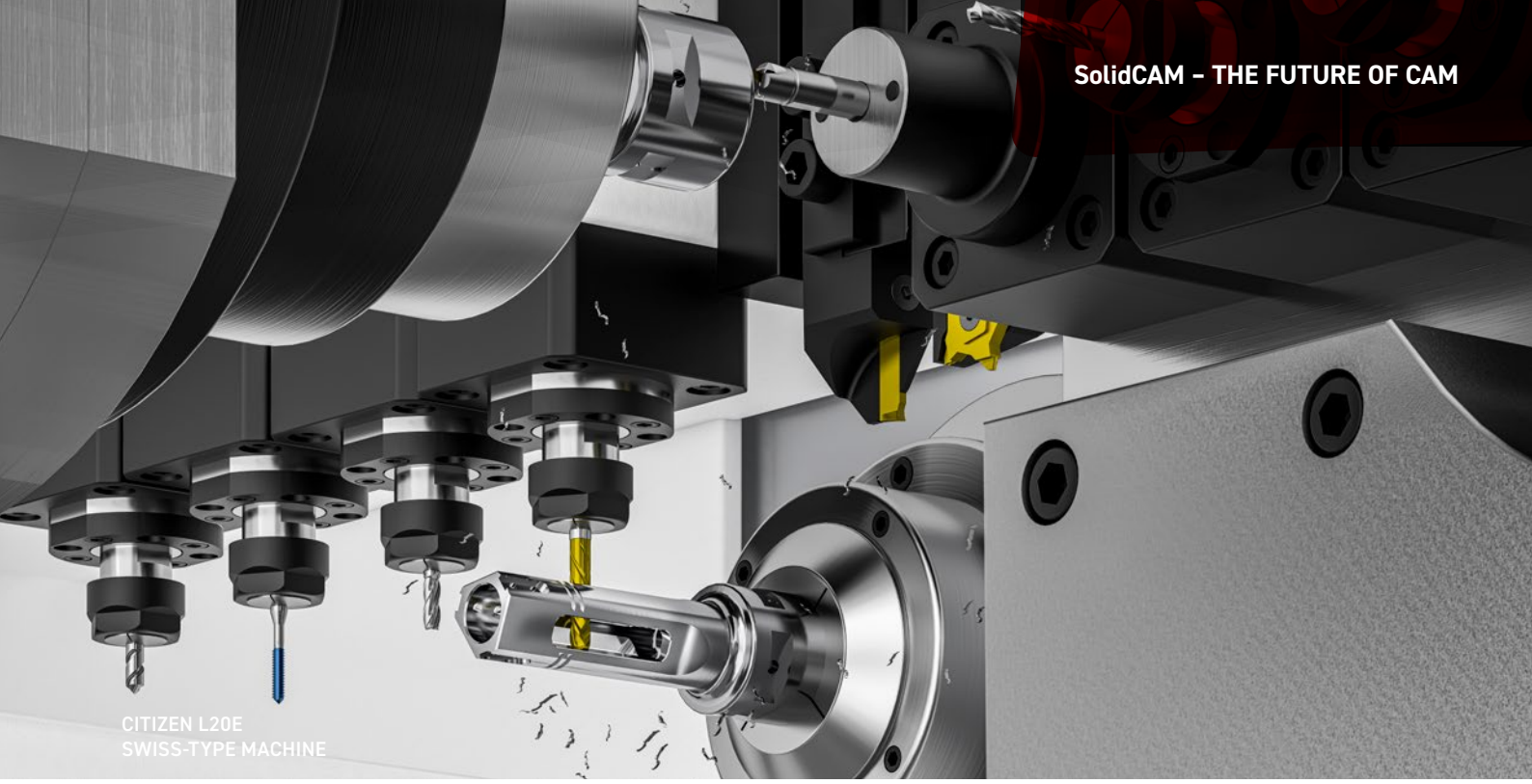


Part transfer between spindles

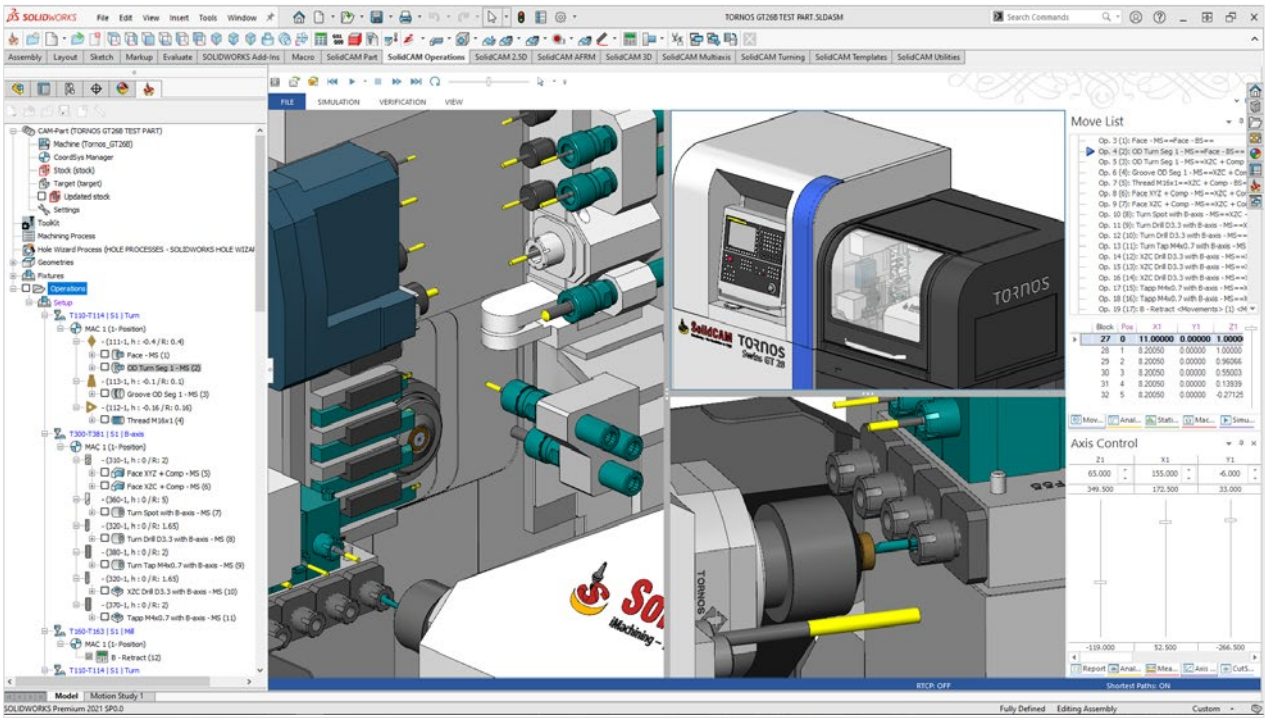
Control the transfer of parts between the main and sub-spindle, using Machine Control Operations. Ready made MCOs provide the best solution for this process.



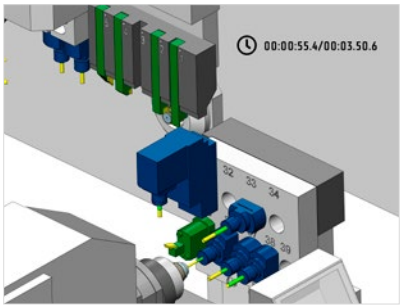




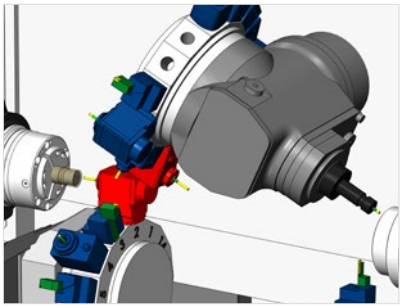
Advanced Machine Simulation



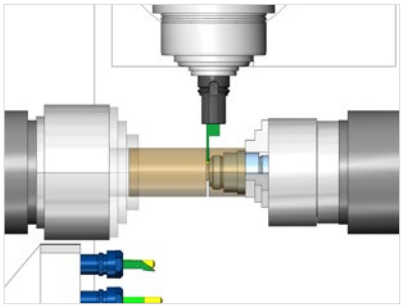
Making visual prove-out and verifying programmed tool-path in Machine Simulation on Tornos GT26B.



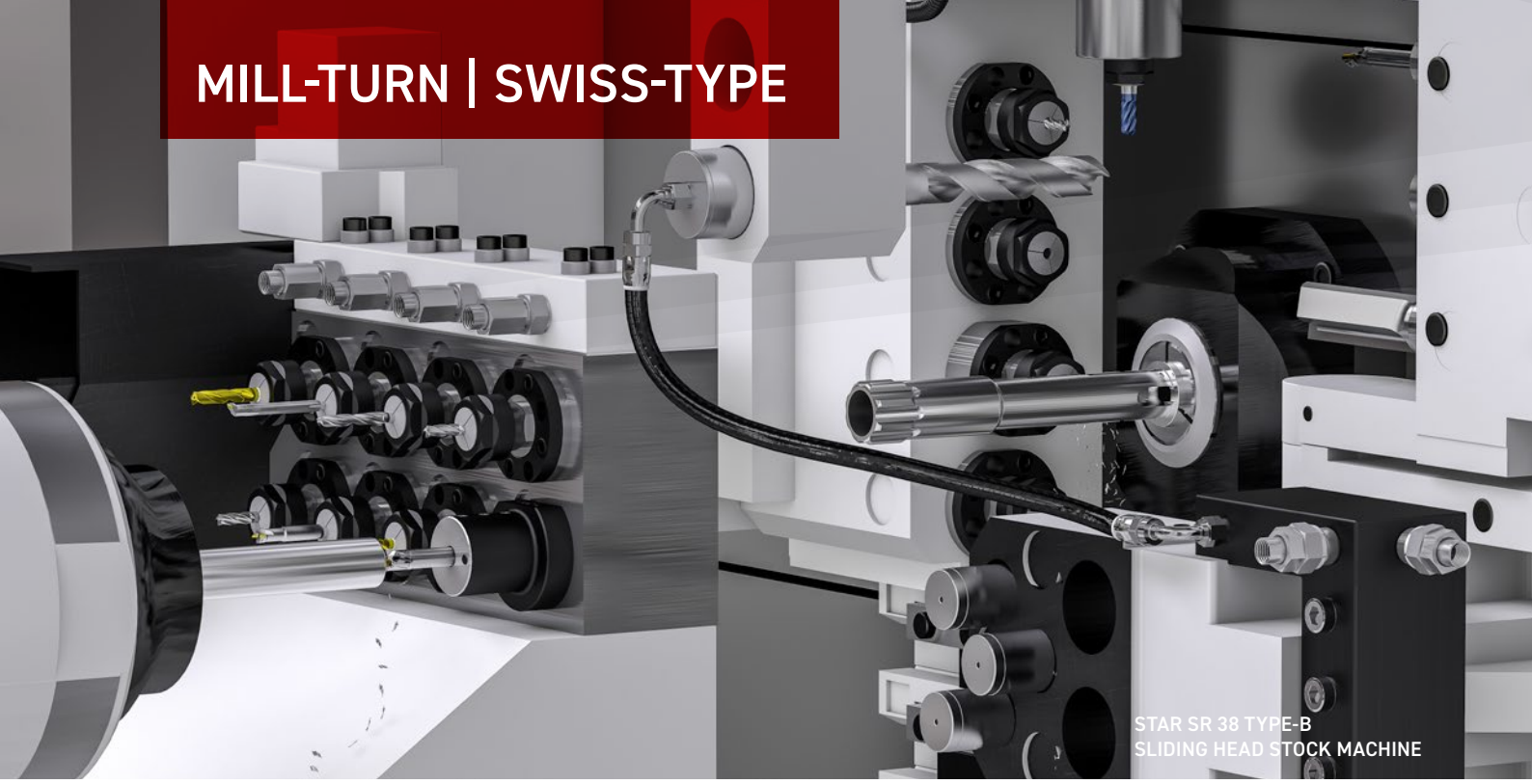
The calculated cycle time is displayed in the simulation module.



Collision detection



Part transfer: simulating the cut-off process



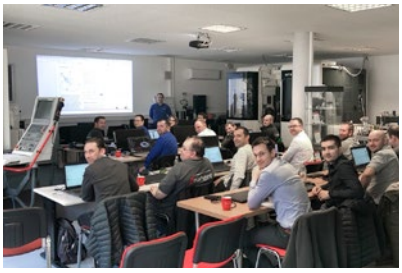
STAR SR 38 TYPE-B
SLIDING HEAD STOCK MACHINE

Post-Processors: Well structured. Verified. Trustful.

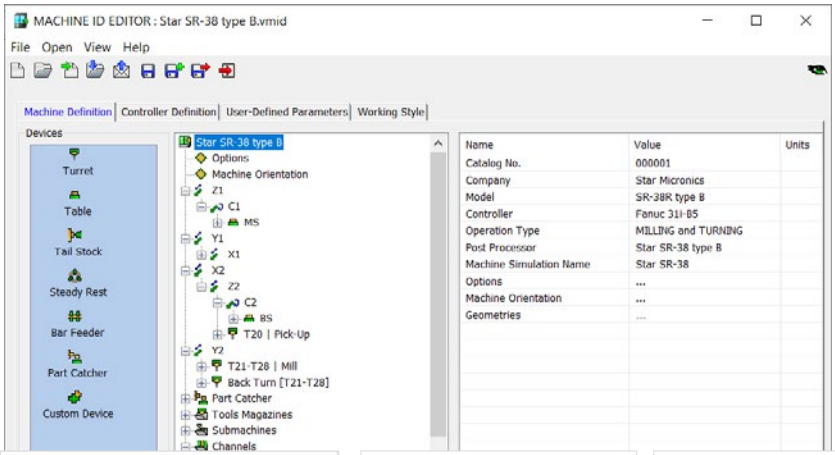
SolidCAM open-source post-processors are written in SolidCAM's GPPL (an internal language of SolidCAM for writing post-processors) and support defining output for any G-code format or structure for specific NC control unit. With no manual editing needed, generated G-code can be sent straight to the CNC machine.

Dedicated Post-Processor Team

Post-processors are defined by a dedicated development team of post writers, all with a strong background in programming and practical machining. The Post-Processor Team takes care of customizing the G-Code output to the needs and requirements of your specific controller and CNC machine.



Worldwide Post-Processor Team




```
%_N_TR_PROFIL3_Kanal1_MPF
;$PATH=/_N_WKS_DIR/_N_SOLIDCAM2018_
RADNABE_NTX1_WPD
N1 CHANDATA(1)
; ---------- KANAL: 1 ----------
;SOLIDCAM  : 99748 PP:Rev.3.6
;ERSTELLT  : 9-MAY-2019 - 19:56:41
;MASCHINE  : NTX 1000
;WERKSTUECK: SOLIDCAM2018_RADNABE_NTX1000
; ---------------------------------
N2 WAITM(1,1,2)
R10=0 R11=0 R12=298.565 ;G54 X Y Z
R20=0 R21=0 R22=603.919 ;G55 X Y Z
R29=0                   ;G55

$P_UIFR[1]=CTRANS(X,R10,Y,R11,Z,R12,C4,0,C3,0)
;G54
$P_UIFR[2]=CTRANS(X,R20,Y,R21,Z,R22-
R29,C4,0,C3,0) ;G55

N3 WORKPIECE(,,,"CYLINDER",192,2.5,-150,-230,110)
;GOTOF ABDA

GROUP_BEGIN(0,"1: Programmkopf",0,0)
N4 WAITM(2,1,2)
N5 TRANS
N6 ROT
N7 DIAMOF
N8 GETD(Z3)
N9 GETD(B3)
N10 G00 SUPA X330. D0
N11 G00 SUPA Z400. Y0. B1=90.
N12 WAITM(3,1,2)
N13 NP_B3_VAR(0,870)
GROUP_END(0,0)
N14 WAITM(4,1,2)
N1 WAITM(5,1,2)
N1 WAITM(6,1,2)
```

DMG Output

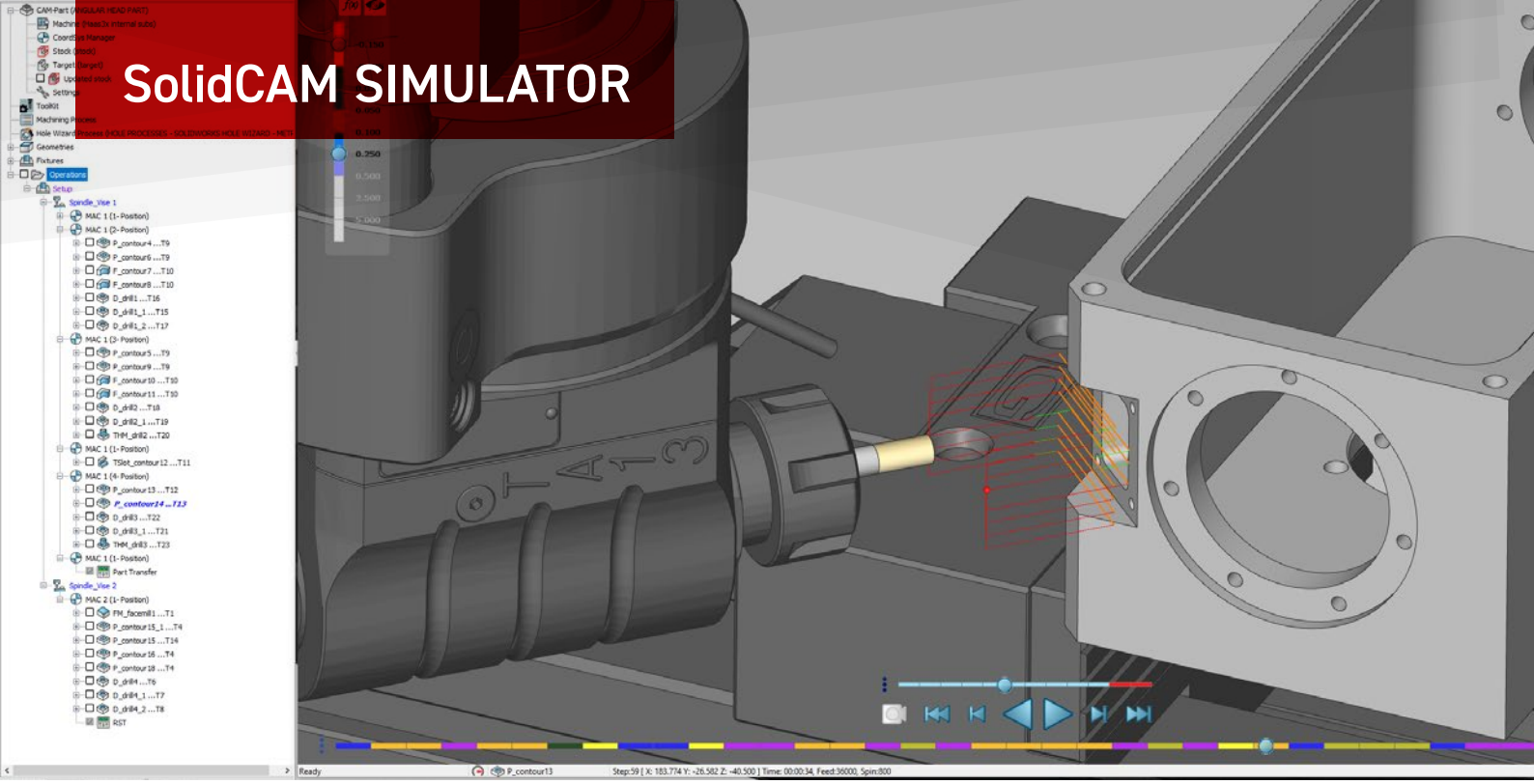
```
O0001 ( MAZAK_I400S )
(INTEGREX-i - 400 S)
(part   : MAZAK_I400S)
(created :  9-MAY-2019 )

#800=-458.7 (Work-Offset G54 - Z1)
#801=0. (Work-Offset G54 - C1)
(--------------------------)

G21
M901
G92 S2000 R1
G92 S2000 R2
G90 G0 G53 G0 X0. Y0.
G90 G0 G53 G0 Z0.
M108
G90 G53 G0 B0.
M107

G10 L2 P1 X-490. Z#800 C#801
G10 L2 P2 X-490. Z#802 U#803

M902
M312
M302

M1
N1
T001.01 M6
M901
M200
M108
G90 G53 G0 B90.
M107
```

Mazak ISO Output

```
O0010(L32-1M12)
$1
(PROGRAMM-NR.: DCL32-L32-1M12)
(DATE: 9-MAY-2019)

G50 Z[#141-#142]
M52
M6
M9
M346
G0 X[#814+#815] Z-0.05
M51

G600

!2L110

(JOB-NR.2)
(MS-FACE)
T0202 Z-0.0867 (OD TURNING)
G18
G50 S1500
G96 M3 S300
M97
G0 G99 X1.436 Z-0.0867
Z0
G1 X-0.0315 F0.003
Z-0.08
G0 X1.4359
G97 M96

(JOB-NR.3)
(MS-OD)
G50 S4000
```

Mitsubishi / Fanuc G-Code Output

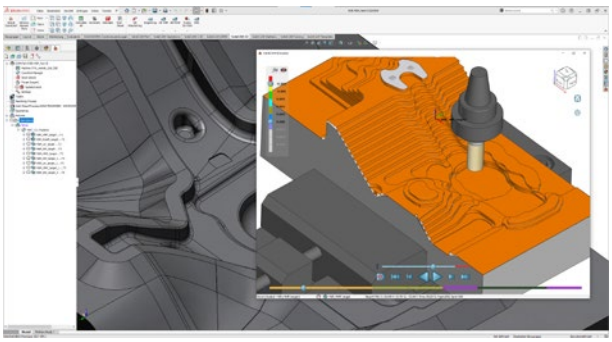
SolidCAM SIMULATOR

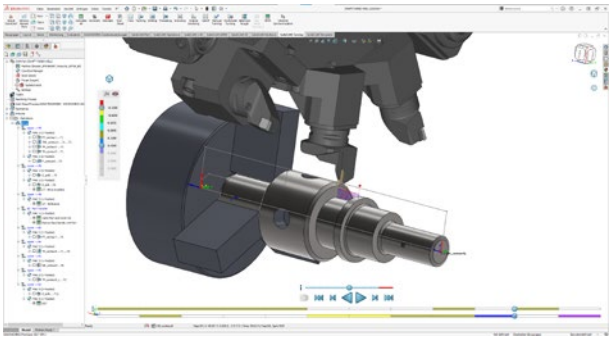


SolidCAM Simulator

The SolidCAM Simulator merges all previous internal Simulation Modes into a single environment, and takes advantage of today's 64-bit Multi-core CPU architecture and Multi-Monitor environment.

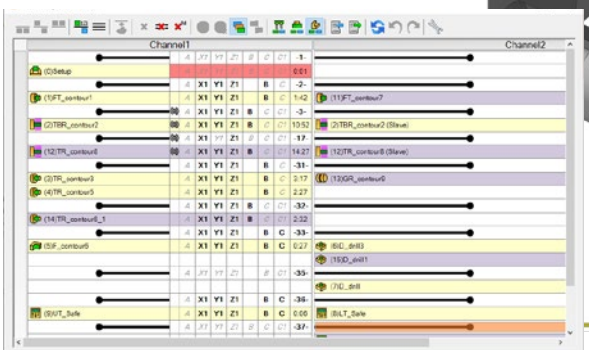
From parallel loading of Simulation data, to parallel solid verification calculation, the SolidCAM Simulator will utilize today's CPUs to maximum extent and is also "fully self-contained", allowing you to keep it open and working during your entire CAM session.

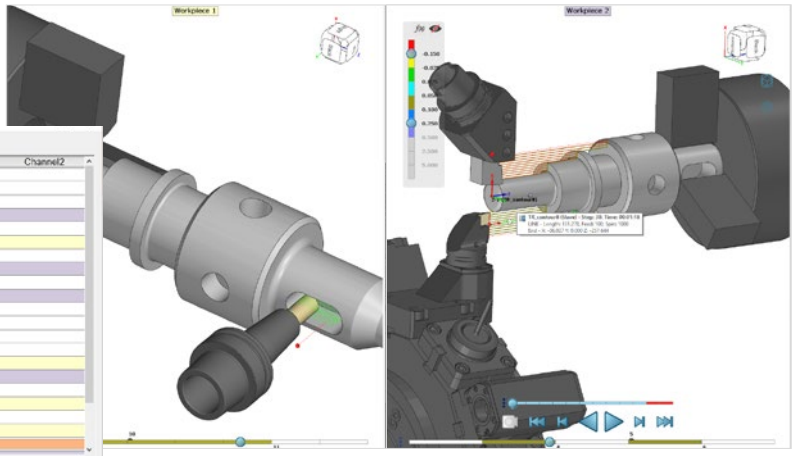




Channel Synchronization Mode

- Simulates order of operations from Channel Sync
- Wait marks are simulated with paused channels
- Fast loading aids testing of different Channel Sync order
- Keeps previous Channel Sync order, while editing new order



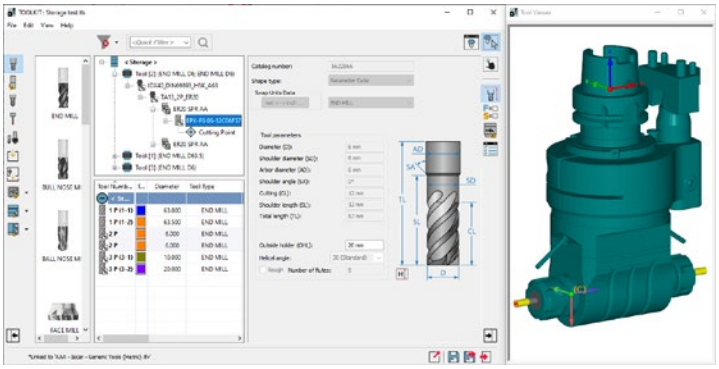


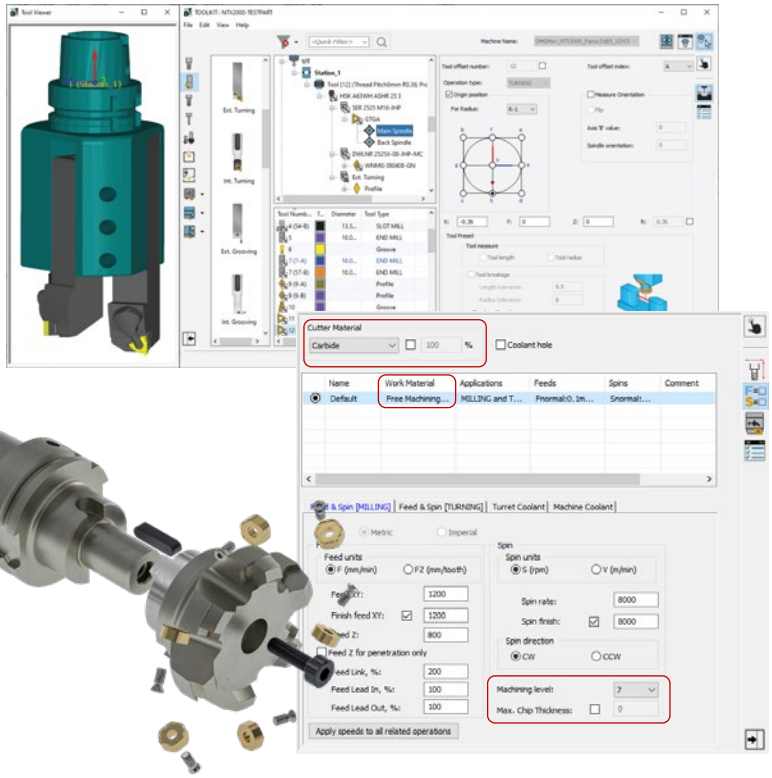
SolidCAM TOOLKIT

SolidCAM ToolKit: New. Advanced. Complete.

SolidCAM's New Tool Table feature, named ToolKit, is a powerful new 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:

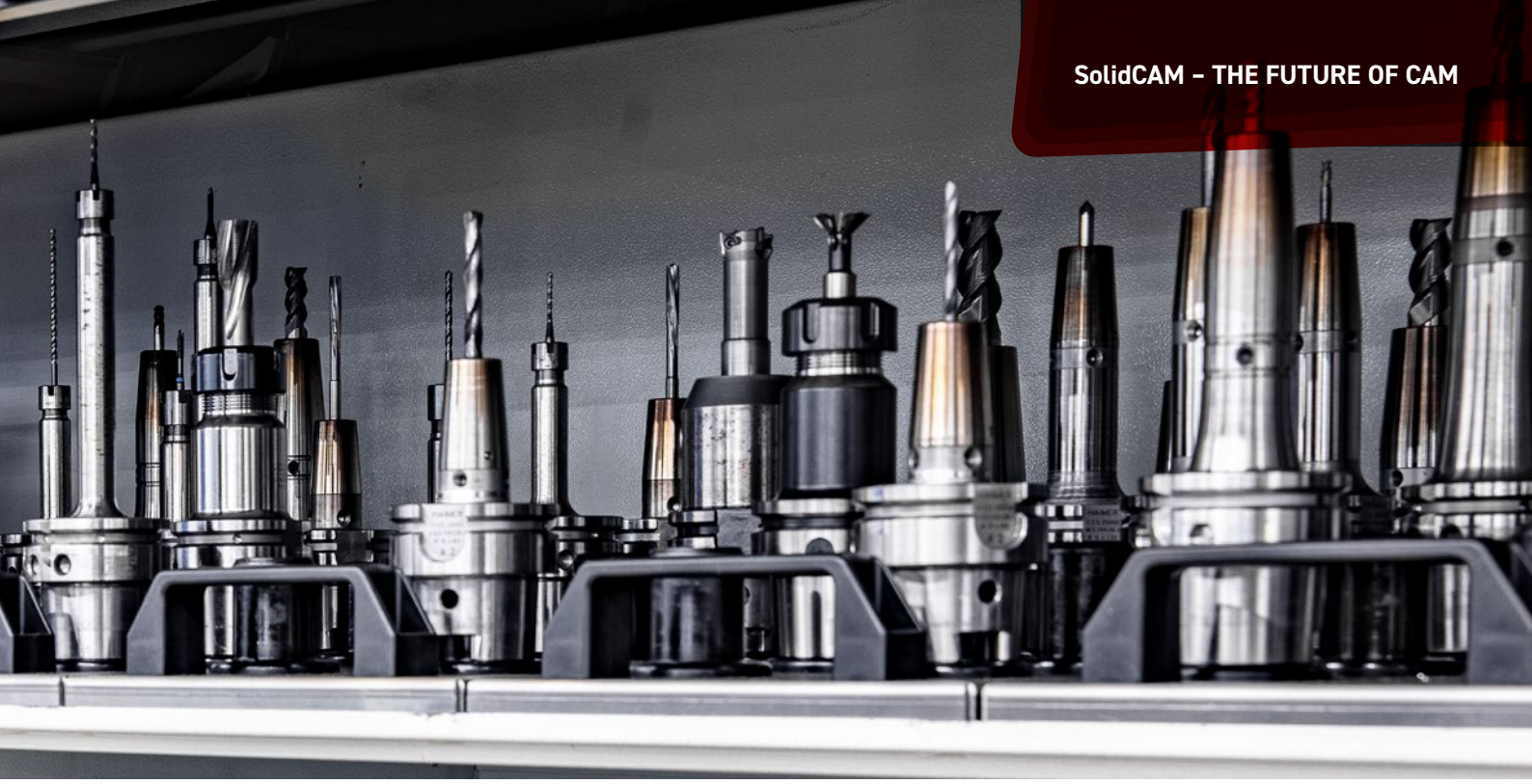
- Tool Components Library
- Tool Assemblies Library
- Machine Tool Setup Library



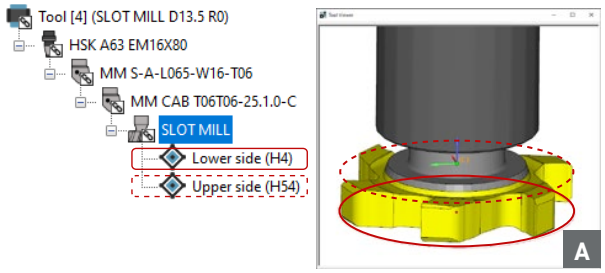


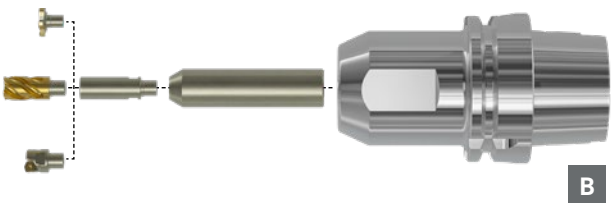
ToolKit Highlights

- Angular holders support
- Imports any 3D STL milling/turning tool component
- Supports shaped turning tools
- Assemble Tool items from library components
- Define cutting conditions according to work material: the cutter material, work material, and machining level selection affects the maximum cutting speed adjustments, generated by the iMachining Technology Wizard, along with the associated maximum feed rates and spin parameters.



- 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. [A]
- All Tool components are linked: changing any tool component may reflect to all projects where the component was used. [B]

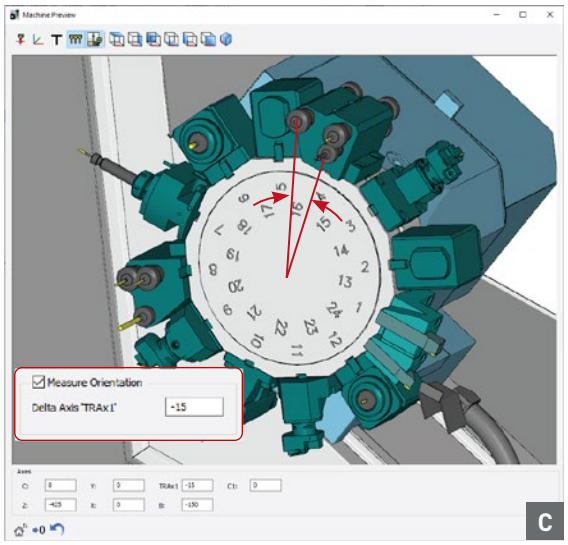




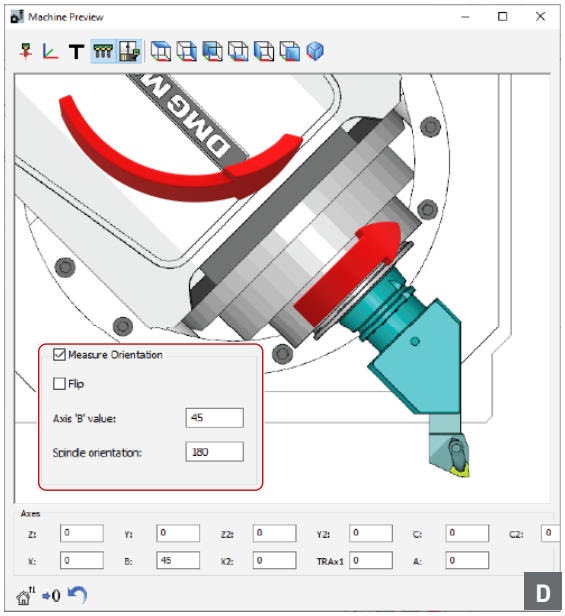
Measure Tool Orientation and Machine Preview

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. [C]

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



Measured tool orientation on indexed capable revolver



Measured tool orientation on spindle with tilt axis

3rd PARTY INTERFACES

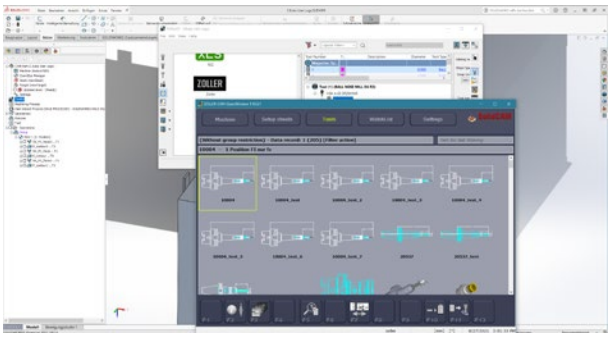
Stay Connected with the Machining Digital World

Tool data management has been a challenge for mid-size 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 and launches the new XML-Interface.

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:

tdmsystems

TDM from tdm systems
www.tdmsystems.com

WINTOOL

Wintool from Wintool AG
www.wintool.com

ZOLLER

TMS Tool Management Solutions from
E. ZOLLER GmbH & Co. KG
www.zoller.info

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

InovaTools® GERMAN TOOLS GROUP

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

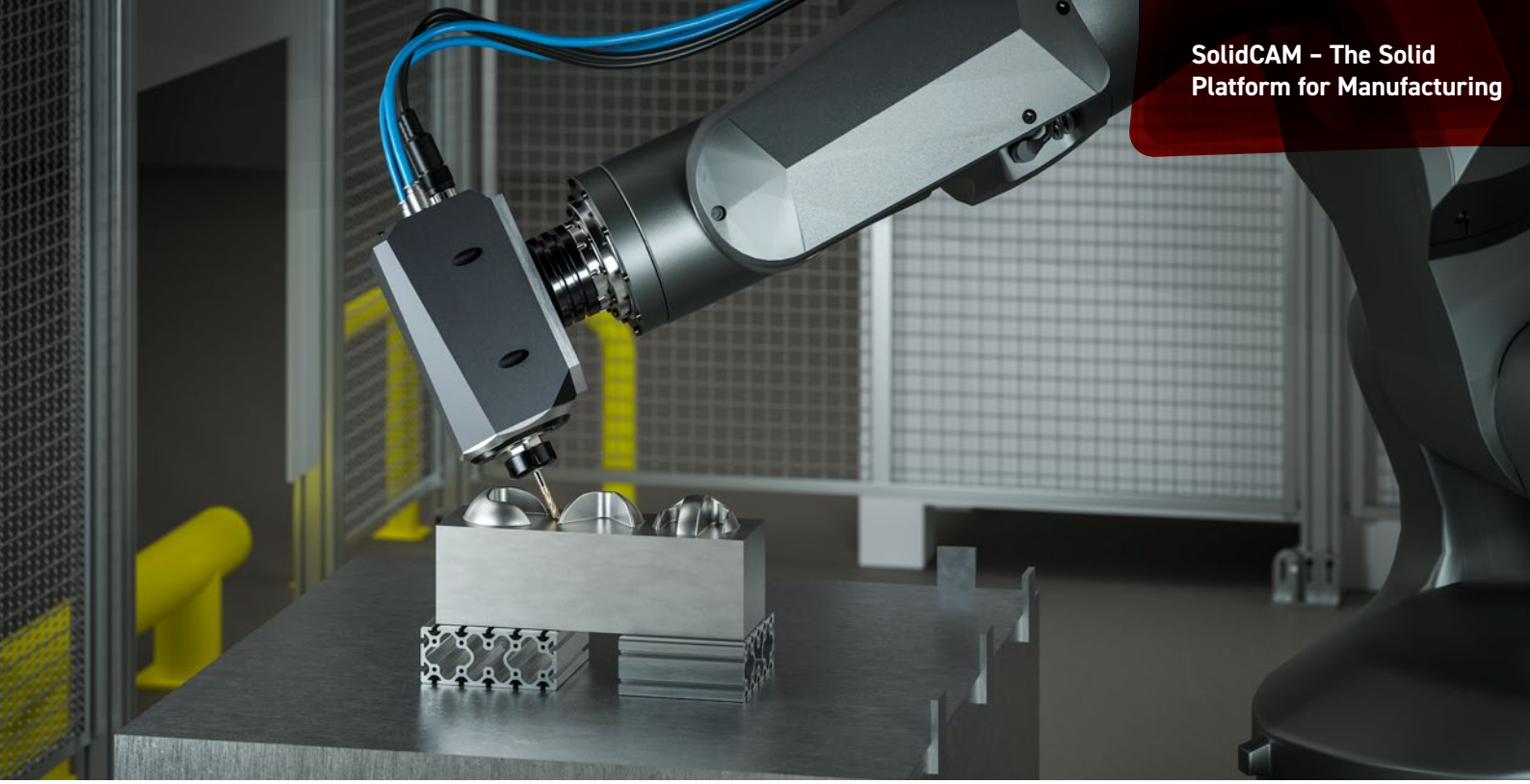
ToolsUnited

Cimcource GmbH
www.cimsource.com
www.toolsunited.com

COSCOM®

COSCOM Computer GmbH
www.coscom.de/tooldirector

It depends on the functionality of the 3rd Party Interface how tools can be managed and selected to be imported directly to the SolidCAM Tool Table.



Interfaces to 3rd Party NC-Code Simulation and Robotics

NC-Code Simulation

A 3rd party machine simulation module validates actual NC-code output. It can detect collisions and takes into account tolerances between all machine components such as axis slides, heads, rotary tables, spindles, tool changers, devices, workpieces, tools as well as other defined objects to validate the NC-code generated by any CAM System.

It can reduce the probability of errors and exprensive downtime when testing the NC-programs on the machine, SolidCAM has developed interfaces to various 3rd party NC-program simulations.

Robotics

With its interface to 3rd party robotic solutions, the calculated toolpath by SolidCAM is transferred together with the CAD data into the robotic applications which converts it to kinematic robot moves and simulates the robotic operation.

The CAD 3D data includes the design, stock, and fixtures models. All data is exported in the format of the specific robotic solution. The toolpath generated in SolidCAM is provided in a neutral format – the robotic software uses this information to generate robot specific G-code to control the industrial robot.

CGTech VERICUT

Vericut from CGtech
www.vericut.de/produkte

Eureka VIRTUAL MACHINING

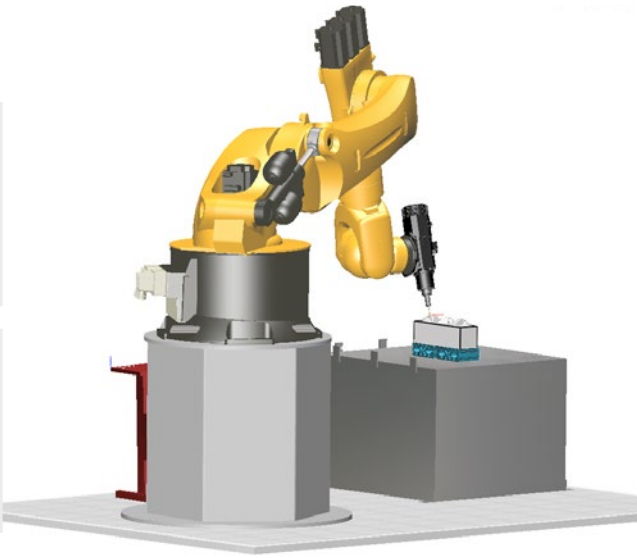
Eureka from Roboris
www.roboris.it/en/eureka-robot

CIMCO

CIMCO Edit Professional
www.cimco.com

OCTOPUZ

Octopuz from OCTOPUZ HQ
www.octopuz.com



TECHNOLOGY CENTERS

SolidCAM GmbH Technology Center

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 the south and east of Germany. All our Milling, Turning and Mill-Turn technologies are thoroughly checked and can be demonstrated live on our latest CNC machines:

- Hermle C30 5-Axis CNC with Heidenhain controller
- DMG NTX 1000 Mill-Turn Machine with Upper B-Axis, Lower Turret and Sub-Spindle, Siemens controller
- Citizen L20 ATC sliding headstock Swiss CNC
- Alzmetall GS 800/5-FDT, Siemens 840 controller, 5-X Milling and Mill-Turn Center
- Quaser MF400 Milling 5X-Milling center, Heidenhain 530 Controller

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

TC Rosenheim


TC Suhl

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

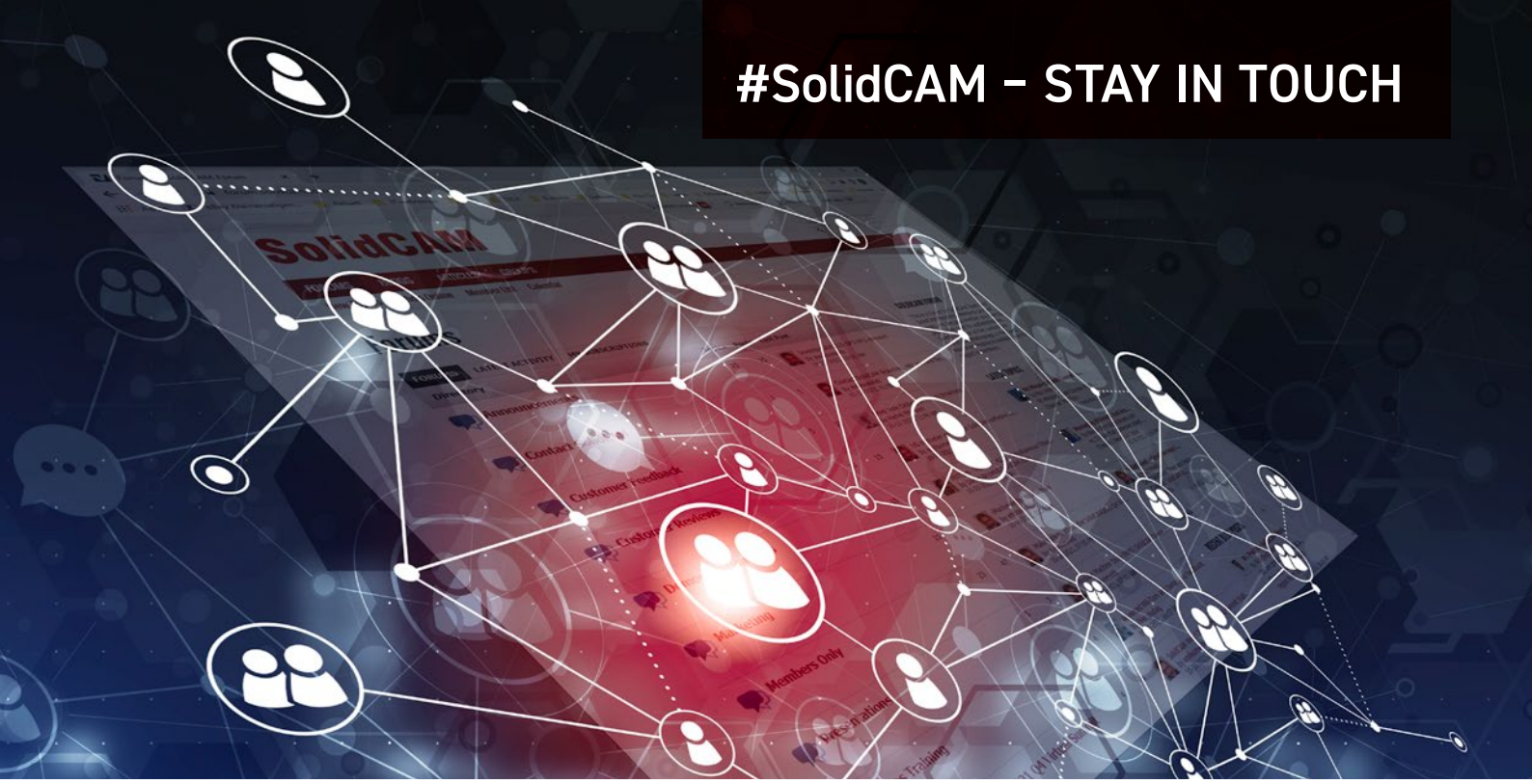
The USA Technology Center is located at our SolidCAM Inc. offices in Newtown, Pennsylvania.

A Haas ST-20 CNC machine is used to develop and test new Turning toolpaths, to further advance SolidCAM's amazing Mill-Turn capabilities.

A classroom setting for our customers is located right next to the machine for practical training.

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.

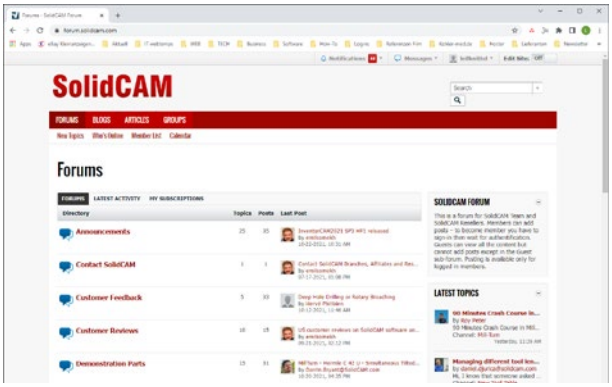


#SolidCAM – STAY IN TOUCH

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 or get the **SolidCAM Forum App** available for IOS and Android from the App-Store & Google Playstore.



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www.facebook.com/SolidCAM

SolidCAM on YouTube

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

www.youtube.com/SolidCAMiMachining
www.youtube.com/SolidCAMProfessor

SolidCAM on Twitter
https://twitter.com/solidcam

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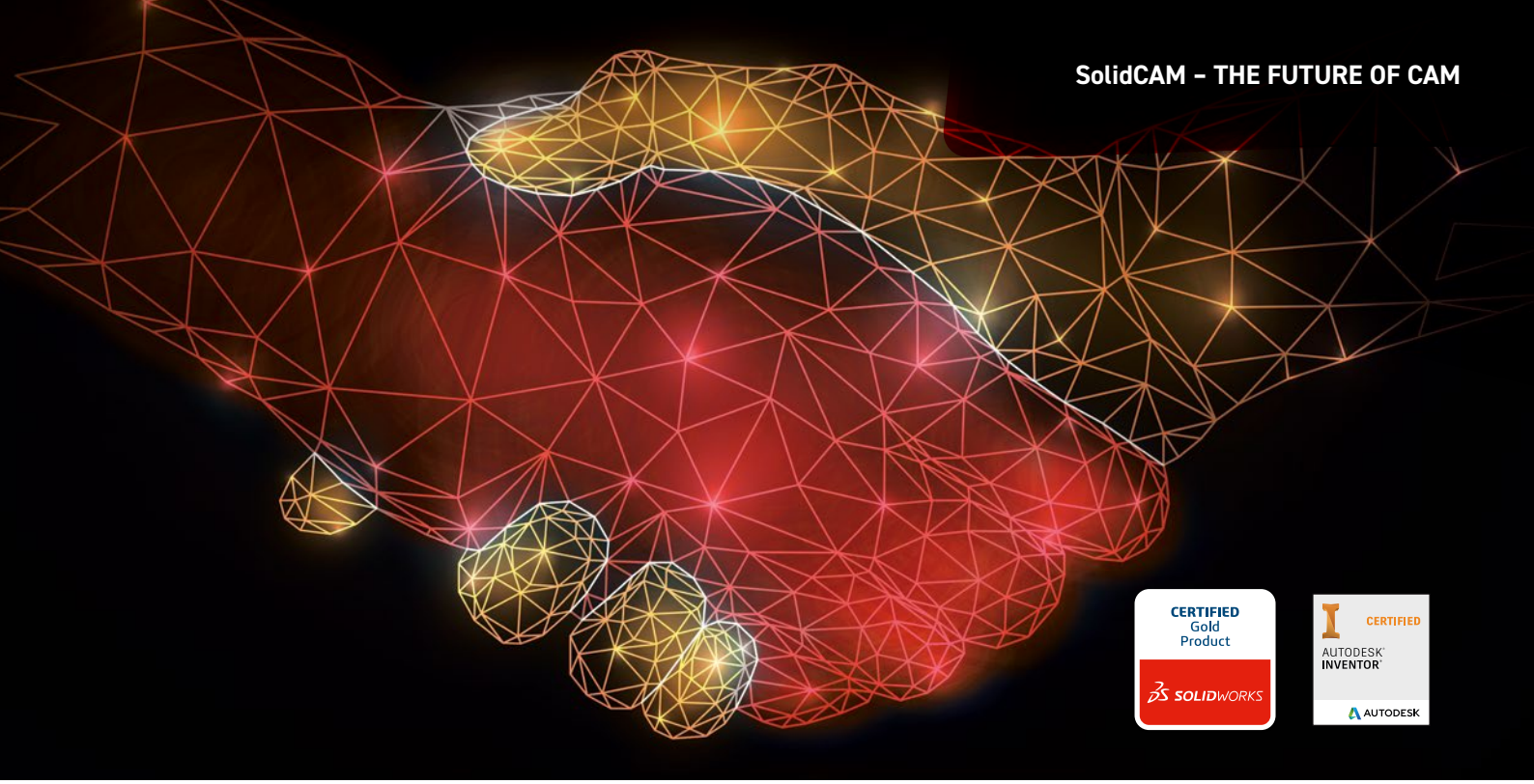

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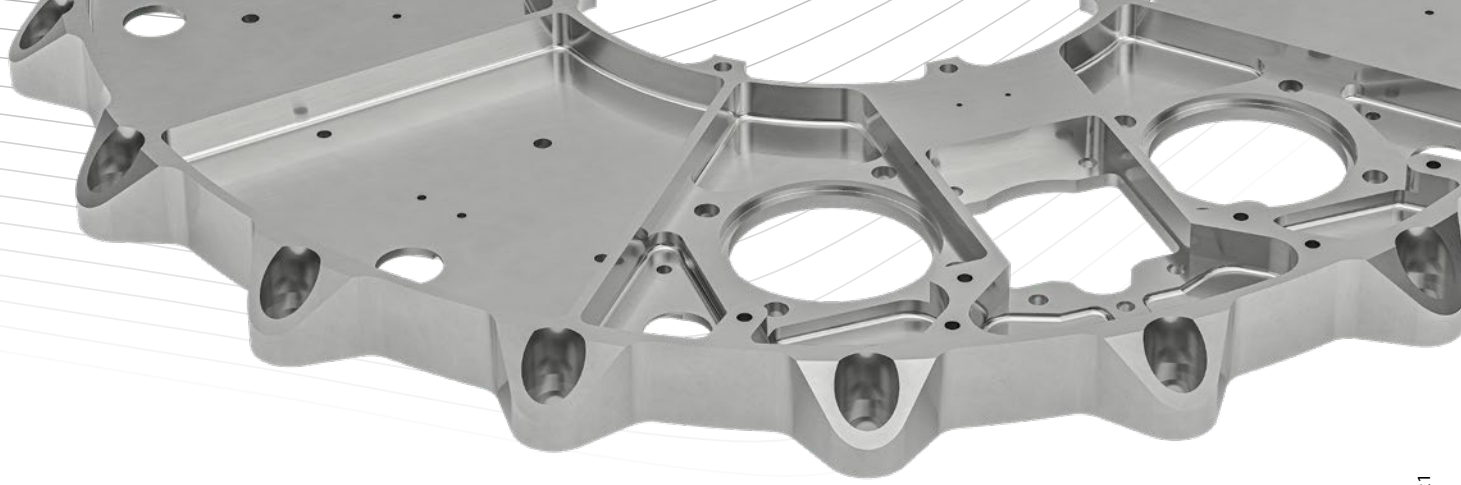

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The Leaders in Integrated CAM

The unique, revolutionary Milling Technology
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MILLTURN
SolidCAM Power for Turn-Mill | Mill-Turn | Swiss-Type

"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!"

Steffen Rudischhauser | Managing Director
Rudischhauser Surgical Instruments & Implants Manufacturing GmbH | rudischhauser .com

"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

"After only two weeks with SolidCAM we had more success than with the previous CAM system after three years . We can now program the most complex workpieces much faster. Creating the tools is much easier and I can already program a part even if the final tool data is not yet completely available. This was not possible in the past ."

Franz Fuchs | CNC & CAM Programming
Hefter Maschinenbau GmbH & Co KG | hefter.de

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