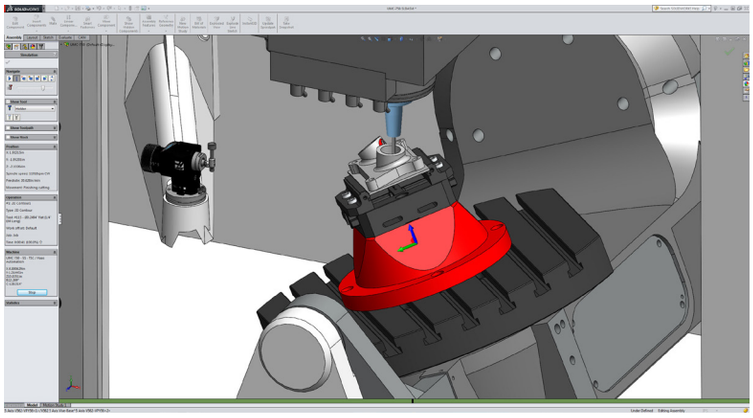
HSMWORKS
The CAM solution for SOLIDWORKS

Achieve higher productivity, reduced costs, and shorter time to market using HSMWorks

HSMWorks provides a fully integrated CAM solution for SOLIDWORKS®, allowing you to get up to speed and become productive within minutes using familiar tools and workflows. In addition to all the standard toolpath strategies for milling and turning operations, HSMWorks includes advanced features such as adaptive clearing, integrated simulation and verification tools, plus a powerful post processor system that drastically reduce programming time.



Seamless workflow from design to manufacturing

HSMWorks allows you to maintain full associativity between the SOLIDWORKS model and machining operations. Machining geometry and parameters can be defined by selecting entities directly from the SOLIDWORKS model. Design changes in the CAD model get automatically updated in downstream data such as drawings and toolpaths, saving you valuable time and resources. Engineering change orders no longer mean missing delivery deadlines or introducing last minute programming errors.

Adaptive clearing

Adaptive clearing is an advanced roughing strategy that sets the bar for efficient, high volume material removal. Using constant tool engagement and optimized cutter paths, HSMWorks drastically reduces roughing time compared to conventional roughing and increases tool life. Enhanced multicore support and improved linking make adaptive clearing the most advanced adaptive roughing technology to date.

Modern architecture

HSMWorks is designed to take advantage of the latest workstation technologies to help you achieve superior performance, especially when working on large or complex designs.

Multiprocessor/multi-core support dramatically speeds up toolpath generation on supported hardware. The distributed CAM utility helps maximize use of your computing power by utilizing idle PCs on the local network to reduce toolpath calculation time.

"We started to use HSMWorks and couldn't believe how easy it was to create the professional results we were looking for. The clean UI and seamless integration with SOLIDWORKS allowed us to significantly increase our ability to revise our design and produce the best possible trucks for skaters."

- Chris Chaput, Owner & Designer, Liquid Trucks

AUTODESK.

Stock simulation

Integrated stock simulation in HSMWorks enables users to see stock being removed and to automatically check for shaft and clamp/fixture collisions. Users can color the surface by tool number to inspect the resulting stock model, and they can slice the model to inspect different sections.

The target part comparison feature can be used to highlight rest and gouge areas with different colors. 3+2 machining is supported and multiple toolpaths can be verified in a single operation.

Toolpath simulation

After generating a toolpath, users can easily inspect results with the integrated backplot and inspection tool. Controls include simulation speed and direction, visibility and translucency of tool, shaft, tool holder, and coloring of rapid moves, lead moves, and cutting moves. Use the advanced analysis tool to measure distances, or dynamically view all vital information about tools, and details such as feed/speed and estimated machining time. 3+2 machining is supported, and you can inspect multiple toolpaths in a single operation.

HSMWorks Edit

HSMWorks includes HSMWorks Edit for inspecting and manually editing NC program files. HSMWorks Edit provides a number of CNC code-specific functions, including line numbering/renumbering, XYZ range finder, and file compare. HSMWorks Edit features a DNC link for reliable RS-232 communications with a variety of CNC controls.

Milling machine simulation

Machine simulation detects collisions and near-misses between all machine tool components such as axis slides, rotary tables, turrets, spindles, tool changers and fixtures. HSMWorks uses a SOLIDWORKS model of your machine tool to detect potential collisions, making it easy to modify or build new machine configurations directly inside SOLIDWORKS.

Tool lists and setup sheets

Tool information can be specified directly using the HSMWorks tool library, or imported from third-party tool databases. Tool lists, setup sheets and other production documents are automatically generated and can be exported in a variety of formats including HTML, XML, Microsoft® Excel, and Microsoft® Word.

Free posts, fast post processor

HSMWorks includes free posts for several industry standard machines. HSMWorks uses an exceptionally fast post processor that is flexible, open, and JavaScript based, enabling on-site customization, resulting in a significant reduction in post development time. HSMWorks comes with numerous generic post processor configurations. Each post processor is customizable to the user's specific requirements. Our aim is to produce 100 percent ready-to-run code for your machine.

Posts included for:

- Haas
- Heidenhain
- Datron
- Fanuc
- Hurco
- MillPlus
- Okuma
- Siemens
- Yasnac

and many more....

2D / 2.5D milling

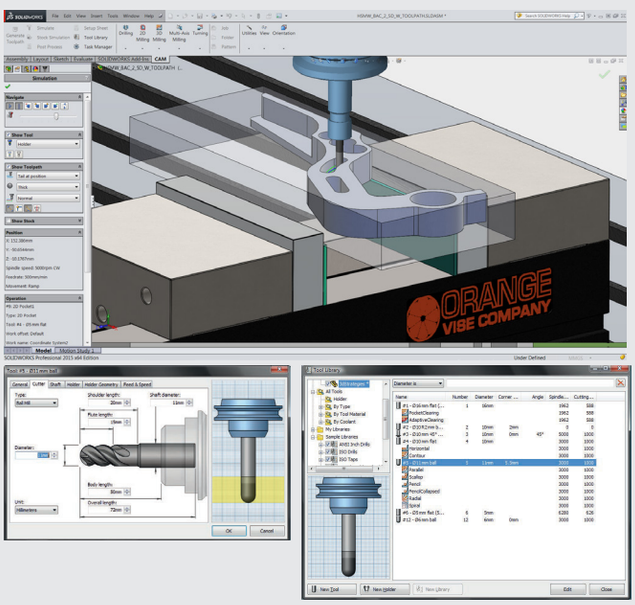
2D machining can range from very basic to highly complex operations. HSMWorks solutions include the tools you need for precise control over all aspects of 2D machining, including lead in/out and transitions between passes.

Contouring

Easily machine 2D and 3D contours. Control lead-in and lead-out with or without tool compensation. Choose multiple roughing and finishing passes and multiple depth cuts for any contour. Machine open and closed contours without creating additional geometry, and eliminate sharp motion with corner smoothing.

Adaptive clearing

Pocket toolpaths enable machining of closed areas with and without islands. Entry can be selected anywhere on the model and set for plunge, ramp, or at a predrilled position. The special high-speed option creates smooth toolpaths that support maximum tool engagement, significantly higher feedrates, and reduced machining time and tool life.

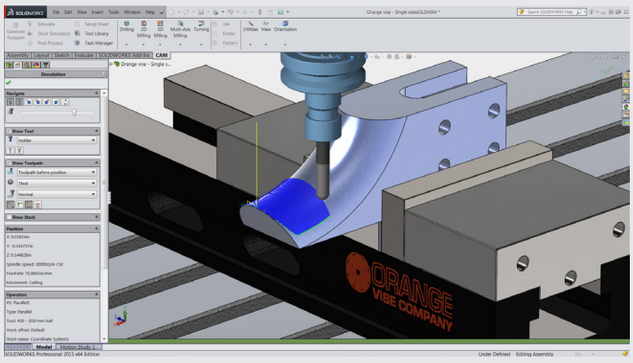


Drilling and hole making

HSMWorks includes powerful tools for generating drilling, counterboring, and tapping operations. All operations are optimized to minimize tool travel and overall cycle time. Both standard and customized cycles are supported for all point-to-point operations, including spot-drilling, deep drilling with chip break, and boring cycles.

AUTODESK.

3D milling



Best-in-class 3D strategies

HSMWorks strives to generate the shortest and smoothest toolpaths possible, resulting in reduced machining time, improved surface quality, less tool wear, and extended machine tool life.

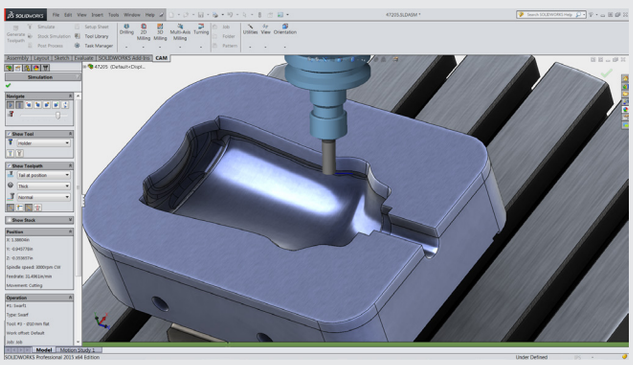
In addition to the traditional pocket clearing strategy, HSMWorks features an innovative adaptive clearing strategy that reduces roughing time by a factor of 4 or more compared to conventional roughing, and increases tool life by as much as a factor of 10, depending on material hardness.

Finish paths follow part faces to create the final part shape. HSMWorks generates surface finish using machining technologies that incorporate smooth/tangent lead in/out moves to keep the tool moving in a smooth motion, helping to reduce machine wear and tool marks.

3+2 machining

All 2D and 3D strategies support 3+2 machining (5-axis positioning) by rotating the part or the head of the machine tool through a combination of A, B, and C axis motions. Create 3+2 operations by simply selecting a work plane for the operation. HSMWorks takes care of the rest by finding the most efficient rotations to orient the part. Once parts are positioned, all machining strategies are available. Tools and holders are gouge protected for all strategies that normally support this feature.

Multi-axis milling



HSMWorks integrates multi-axis simultaneous machining into its milling and mill/turn environment using the same intuitive approach to toolpath programming found in our 2D/3D machining strategies.

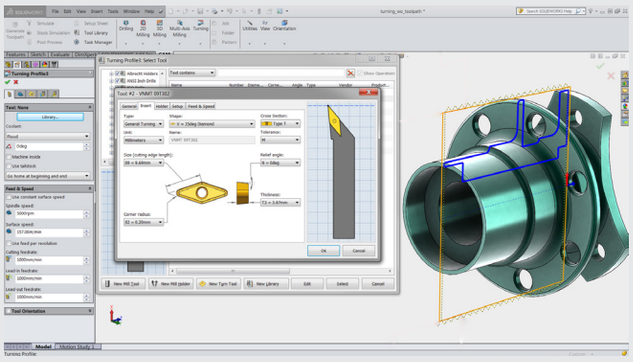
3D toolpath tilting

Many parts contain deep cavity areas and small radii that need to be machined with small-diameter tools. With HSMWorks, these areas can be machined effectively by automatically tilting the tool and holder away from the workpiece, enabling the use of shorter tools to reduce vibration and deflection.

Multi-axis simultaneous machining

HSMWorks offers a number of multi-axis strategies that provide the programmer with productive solutions for easily creating highly efficient multi-axis toolpaths with advanced collision control for the most complex 3D models.

Turning



Whether you are looking for a CAM system to help you improve your productivity with traditional turning operations like roughing, grooving, or finishing – or you want to start taking full advantage of your multi-axis machine tools, HSMWorks offers an intuitive approach to creating high-quality turning toolpaths.

Twin-turret, sub-spindle and mill/turn

HSMWorks supports programming twin-turret and twin-spindle lathes using all traditional turning operations. Mill/turn operations are supported when combined with the HSMWorks 2D or 3D milling option.

- Facing
- Roughing
- Profiling
- Grooving
- Drilling
- Parting

Traditional turning

HSMWorks features all the traditional turning toolpaths, including facing, roughing, grooving, threading, drilling, and profiling. For drilling and hole making, choose between pre-programmed machining cycles and canned cycles, or use a combination of both.

AUTODESK.

Professional machining made easy and accessible

Choose the right CAM solution for your machining needs and take advantage of flexible pricing options. Download the free 2.5D solution, or a 30-day trial of our advanced 3D and 5-axis solutions today.

Download your HSMWorks CAM solution today or contact a reseller near you.
Visit: cam.autodesk.com/hsmworks

HSMXPRESS The free CAM solution for SOLIDWORKS	**Free* Professional 2.5 axis milling and drilling applications** *Requires SOLIDWORKS®*
PROFESSIONAL HSMWORKS The CAM solution for SOLIDWORKS	**2.5D, advanced 3D and 3+2 milling and turning applications** *Requires SOLIDWORKS®*
PREMIUM HSMWORKS The CAM solution for SOLIDWORKS	**2.5D, advanced 3D and 5-Axis milling, and turning applications** *Requires SOLIDWORKS®*

- ☑ Seamless integration with SOLIDWORKS®
- ☑ Increased speeds and feeds with adaptive clearing
- ☑ Advanced simulation and verification tools
- ☑ Includes posts for industry standard machines
- ☑ Expert technical support

CNC Programmers

HSMWorks CAM software delivers unbeatable performance and quality that puts you in control of your CNC programming operations.

Designers & Engineers

Whether you are prototyping or producing finished parts, HSMWorks provides a seamless integrated CAD/CAM experience that puts you in control of the design to manufacturing workflow (requires SOLIDWORKS).

Stay competitive with Desktop Subscription

When you decide to purchase an Autodesk Desktop Subscription, you're maximizing the power of your design tools while gaining control over your costs and the length of your commitment.

Pay-as-you-go access

Whether your projects are temporary or ongoing, you can keep software costs manageable and predictable. Pay only for the access you need, without large up-front investments or long-term commitment.

Scalable licensing

Companies grow. Projects expand. Employees move. Be prepared for whatever changes come your way with licensing that scales to meet your organization's needs.

†The Suggested Retail Price (SRP) shown is Autodesk's suggested retail price for the specified product and services in the United States. The SRP does not include any allowance or provision for installation or taxes. The SRP is displayed for reference purposes only, as the actual retail price is determined by your reseller. Other terms and conditions may apply. Autodesk reserves the right to alter the SRP, product offerings, and specification of its products and services at any time without notice, and is not responsible for typographical, graphical, or other errors that may appear on this site.

**Free Autodesk software licenses and/or cloud-based services are subject to acceptance of and compliance with the terms and conditions of the license agreement or terms of service, as applicable, that accompany such software or cloud-based services.*

***Actual retail price is determined by your reseller. Annual Desktop Subscription plans may not be available through all resellers or in all countries.*

AUTODESK.