SURFCAM offers two options for part design:
1. SURFCAM contains a true 3D database for complete part design, dimensioning and editing. Design your 2D and 3D parts by using SURFCAM’s robust surface and wireframe commands. Freeform design and surface manipulation have been native to SURFCAM’s kernel for over 20 years.
2. SURFCAM offers SolidWorks products to accelerate the design-to-manufacturing process.

SolidWorks PD&A
- The world’s most widely used CAD system, SolidWorks PD&A (Parts Design & Assemblies) allows design of 3D solid parts and assemblies that may contain tens of thousands of parts. This high-performance system offers excellent ease of use.
- Along with SolidWorks, SURFCAM users receive COSMOSXpress for FEA, mold flow analysis, and more.

SolidWorks Associativity:
- Powerful associativity enables users to open native SolidWorks files directly into SURFCAM, completely eliminating the translation process. SURFCAM automatically recognizes any design revisions in the solid model and regenerates only the affected operations. With this seamless interoperability, SURFCAM users can quickly adapt to myriad design changes.

Machine Simulation Highlights:
- Full Kinematic Machine Simulations
- Comprehensive Collision and Axis Limits Checking
- Stock Removal Verification

TRUEMill:
- When experienced machinists see and hear TRUEMill for the first time, the reaction is spontaneous. “Amazing”.

TRUEMill Benefits:
- Increased Material Removal Rates up to 5x
- Reduced Cycle Times up to 80%
- Increased Tool Life up to 10x

Patented controlled Tool Engagement means:
- Constant Tool Engagement
- Constant Tool Chip Thickness
- Constant Feed Rate
- Constant Tool Load
- Constant Material Removal Rate
- Ability to cut into sharp corners

For more information, please contact sales@surfware.com or find a local sales partner at: www.surfware.com

TRUEMill is a patented 2 & 3 Axis toolpath that controls the tool’s engagement with the material to deliver faster and deeper cutting to achieve the highest material removal rates - in all materials & geometries.

TRUEMill Highlights:
- Increased Material Removal Rates up to 5x
- Reduced Cycle Times up to 80%
- Increased Tool Life up to 10x

Wire EDM Highlights:
- 2-Axis XY: Contour cutting with multiple shim pass and tab configurations.
- 4-Axis: Cut complex geometries and pipes controlled by surfaces.
- 4-Axis UV: Control your complex cuts using profiles and constriction lines.

Machine Simulation:
- MachineWorks technology to provide unsurpassed validation, speed and accuracy.
- SURFCAM’S Wire EDM package contains three different strategies designed to meet all of your wire EDM needs.

Toolpath Verification Highlights:
- Compare verification results against the current part model.
- Section the part after verification for detailed analysis.
- Provides automatic collision detection with stock or fixtures.
- Dynamically inspect the part to determine finished dimensions.
- Displays real-time, scrolling tool coordinates during verification.
- Contains many powerful tools to help ensure program accuracy.

“I used to take two and a half hours with our previous, non-SURFCAM verification product, now takes under five minutes. The images are sharp and clean. The increased accuracy enables us to have an increased sense of confidence when cutting.”

Ian Ardie, Western Industrial Tooling
SURFCAM’s 2-Axis system is a robust, high-performance, cost effective CAM system made even more powerful by our patented TrueMill technology.

2-Axis Product Highlights:
- Rough and finish cavities with multiple island heights and tapered side walls.
- Advanced strategies for face, groove, contour, corner round and chamfer milling.
- Support for 4- and 5-Axis rotary indexing.
- Rest Machine will detect and machine areas left by the previous tool.
- Powerful multi-tool hole processing with intelligent pattern sorting.
- Tapered thread milling with helical entry/exit.

“Yesterday, I cut 28 corners using SURFCAM, something that would have taken us three weeks to do by hand. We are still able to get the look and feel of something that is hand-shaped using NC software and a router.”
Randi Controlt, Tiffany Yachts

SURFCAM’s 3-Axis system delivers efficient, reliable toolpath on the most complex surface geometry. 3-Axis high-speed machining strategies feature fast processing, minimal rapid motions, tapered tool support and excellent surface finish.

3-Axis Product Highlights:
- High-speed optimized finishing strategies feature smooth, fluid toolpath.
- Fast processing using powerful algorithms and multiple processors provides short calculation times.
- 3D Offset provides superior surface finish regardless of the part shape.
- Steep/Sharp intelligently adjusts the toolpath style based on the slope of the part.
- Pencil Cut is designed to clean up the fillets and produce an excellent surface finish by allowing multiple offset passes along the fillets.
- Rest Machine automatically calculates material left by the previous tool and generates path to remove only that excess material.
- Full gouge protection along with powerful toolpath containment, provides precise tool control.

SURFCAM’s 4/5-Axis system offers true simultaneous multi-axis machining, giving the programmer precise control over tool motion in the most challenging situations.

4/5-Axis Product Highlights:
- Multi-surface 4/5-Axis machining that supports all standard tools.
- Three types of rapid areas, cylinder, plane and sphere are now available.
- Advanced vector control with the ability to lock or limit tool planes.
- Independent control of how surface gaps and edges are handled, including seven new lead-in/lead-out strategies.
- Multi-axis gouge checking offers control of drive surfaces as well as the ability to select up to four separate check surface groups.
- Enhanced swarf cutting provides complete tool axis control and now fully supports the use of tapered tools.
- Full visualization and verification of tool motion.

“SURFCAM software has really provided a seamless transition into a whole new world of capabilities that we are eager to explore.”
Rick Ward, Owner, WARD Performance

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- Full gouge protection along with powerful toolpath containment, provides precise tool control.

SURFCAM’s 4/5-Axis system offers true simultaneous multi-axis machining, giving the programmer precise control over tool motion in the most challenging situations.

4/5-Axis Product Highlights:
- Multi-surface 4/5-Axis machining that supports all standard tools.
- Three types of rapid areas, cylinder, plane and sphere are now available.
- Advanced vector control with the ability to lock or limit tool planes.
- Independent control of how surface gaps and edges are handled, including seven new lead-in/lead-out strategies.
- Multi-axis gouge checking offers control of drive surfaces as well as the ability to select up to four separate check surface groups.
- Enhanced swarf cutting provides complete tool axis control and now fully supports the use of tapered tools.
- Full visualization and verification of tool motion.

“SURFCAM software has really provided a seamless transition into a whole new world of capabilities that we are eager to explore.”
Rick Ward, Owner, WARD Performance

SURFCAM Lathe features strong turning, facing, grooving, boring, threading and cut-off capability. The turning module also delivers front and back angle checking on the tool for gouge-free toolpath.

Lathe & Mill Turn Product Highlights:
- Sub-Spindle programming and automatic retract logic for complex inner diameter machining.
- Complete visualization and gouge protection provide error-free toolpath.
- One-step ID/DD roughing and finishing for an automated turning process.
- Support for canned cycles.
- Pole interpolation support and Y-Axis cutting increase the range of production capabilities.
- Seamless integration of live tooling and off-center operations for Mill/Turn programming.
- Complete access to all 2- thru 5-Axis milling strategies for use in a Mill/Turn environment.

“SURFCAM is powerful yet easy to learn and very user friendly.”
Michael Schuffert, RKS Designs, Inc.

SURFCAM software with world class precision and control...