CAD, CAM and IT Software

2.5D Milling

WireEDM

3D Milling

2D CAD

Animation

3D Modelling

Rendering

More Than Just CAD and CAM

Graphic Design

Turning

Moldtool Design

Engraving

5 Axis Milling

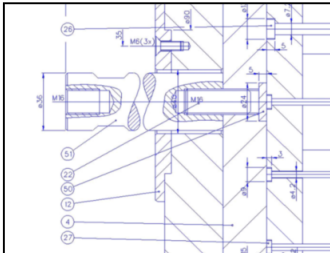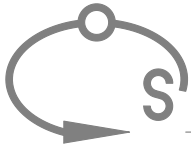A powerful and cost effective integrated CAD, CAM and IT solution for design, manufacture and IT application development.
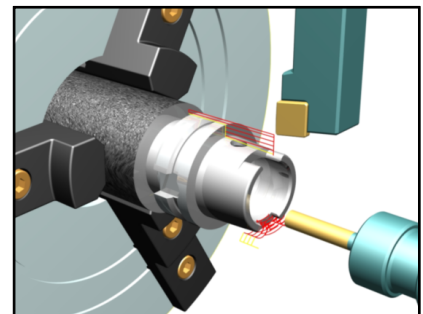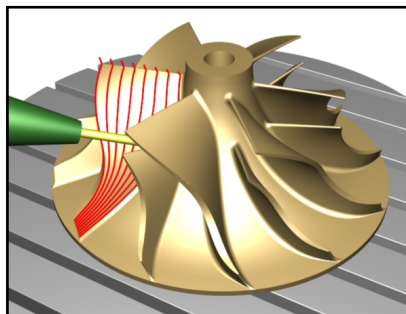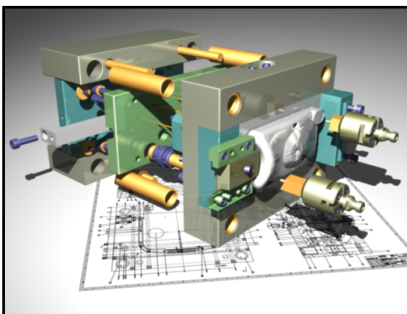
2D Mechanical and General CAD

Dedicated professional 2D CAD for general drafting, in addition to mechanical, architectural and electrical design. Streamline drawing production with automated features such as DIN/ISO screw connections, detail views, gears and bearings, and specialist industry 2D CAD libraries.
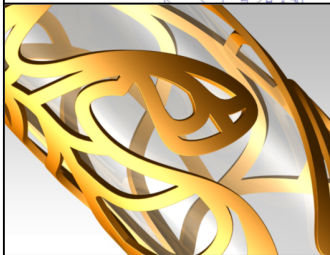
Graphic Design and Artistic CAD

Bring your 2D concepts to life with artistic CAD. Vectorise and smooth your sketched ideas, as well as import and edit downloaded cliparts. Use our suite of Bezier based tools to create stunning graphic designs, in addition to realising ideas in 3D with our artistic sculpting tools.
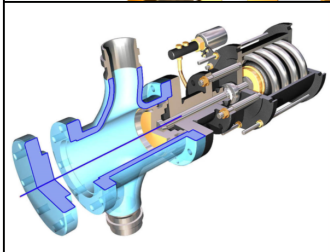
3D Solid Modelling

Take a design from conception through to 3D digital prototyping with state of the art solid modelling. Use deforming and shaping techniques for complex product design, and quickly construct typical 3D architectural and mechanical models helped by our large assembly performance.
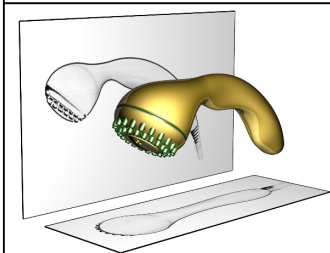
3D Surface Modelling

Construct highly intricate forms using our professional surfacing suite. Model new concepts, and repair poorly imported 3D data with our Bezier, Nurbs and ACIS based tools. Combine solid and surface design using hybrid modelling techniques, and reverse engineer existing 3D mesh data.
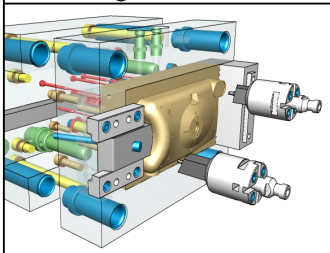
Moldtool Design

Analyse parts for their moldability, checking for undercuts and draft angle. Create separate core and cavity blocks, including automatic parting line and surface generation. Design electrodes, and construct, assemble and animate complete mold tools and associated components.
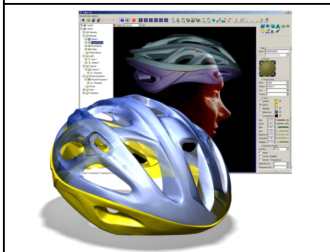
Technical Documentation, Rendering and Animation

Generate stunning photo realistic computer visuals and animated marketing presentations direct from your 3D designs. Produce product technical documentation by combining visuals, photos, CAD drawings, graphics, text and tables all within a single layout ready for publication.
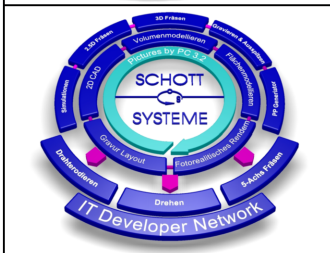
Business Management Graphics

Create automatic 2D/3D business graphics to transform simple text into stunning visuals for professional company presentations. Turn rough project ideas into intelligent structural graphics and organisational overviews. Make your projects portable with our linked PDF presentations.

Schott Systeme GmbH
Landsberger Str. 8, 82205 Gilching   Tel: +49 89 348069   Fax: +49 89 390168   email: info@schott-systeme.com
www.schott-systeme.com
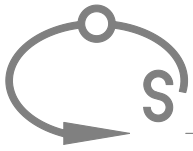
2.5D Milling and Drilling

Apply 2.5D milling/drilling and 3+2 multisided machining to both 2D drawings and 3D solid models. Re-use machining methods to instantly pocket, rest machine and finish parts. Automate drilling with 2D/3D hole recognition, then simulate machining and generate NC programmes.
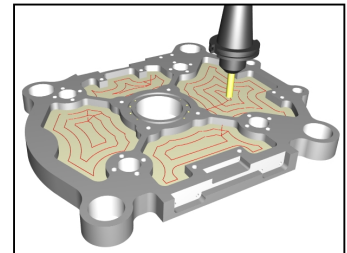
3D Surface and Solid Milling

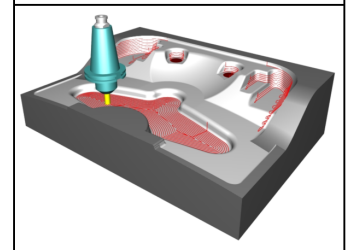Apply 3D milling strategies to freeform solid, surface and mesh models. Reduce traditional machining time using our advanced roughing and rest milling techniques. Choose from a range of versatile finishing operations, and reduce operator hours using our unique freeform feature recognition.

Professional Engraving and Carving

Professional engraving for sign writing, jewelry design and mold work. Apply 2D engraving to CAD designs, imported graphics (*.ai,*.eps,*.wmf) or vectorised scanned images. Automatic projection onto 3D solids and surfaces. Includes 4 axis rotary and 5 axis simultaneous engraving.

WireEDM

Wire cut intricate parts with our wireEDM module. Generate machining from 2D drawings and 3D solid models. Instantly apply typical cutting methods including profiling, pocketing and synchronised 4 axis machining. Maintain full control over lead-in/out, tapers, tagging and registry settings.
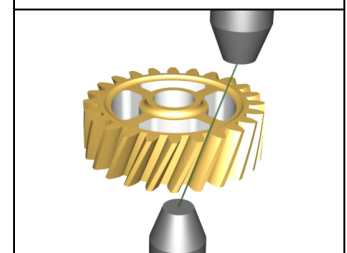
Turning and Turn/Mill

2 axis turning and prepositional turn/milling. Apply roughing, finishing, threading and cutoff operations. Single point machining includes drilling, boring, reaming and tapping cycles. Use feature wizards to automatically define common profiles such as standard and thread grooves.
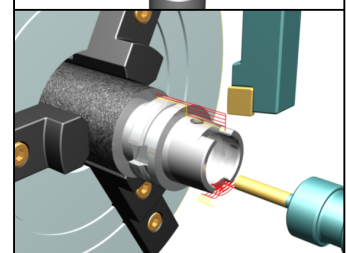
5 Axis Simultaneous Milling and Cutting

Reduce milling time with single machining setups, and increase surface quality by using shorter milling tools. Apply dedicated 5 axis simultaneous techniques to solid, surface and mesh models with chamfer cutting, swarf cutting, finishing, profile cutting and engraving operations.
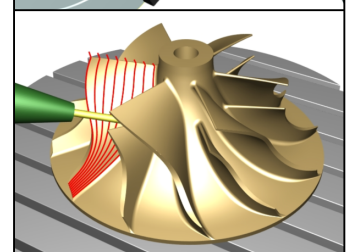
Customer Care and Support

Schott Systeme's customer care includes free lifetime software support via telephone and email, in addition to free project based elearning for quick and intensive training. Keeping customer costs to a minimum, Pictures by PC also includes free standard CAM post processors.
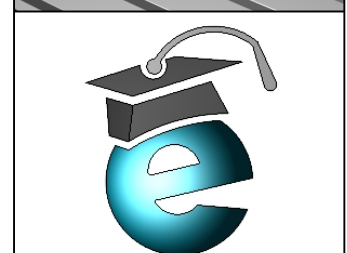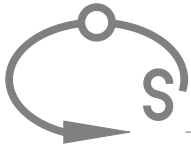
Pictures by PC Price List

<div align="right">All prices are in Euros and are subject to VAT</div>

Integrated 2D/3D Design and Machining

3D Modelling, CAM and Exchange. Includes 2D CAD, graphic design, professional font work, tribrid 3D solid, surface and mesh modelling, 3D model repair and healing, data import, photo realistic rendering and animation, 2.5D milling and drilling, 3D surface machining, hole and freeform feature recognition, engraving / carving and 3+2 axis multisided milling. **€ 9.800,-**

Subsequent Full License
€ 8.000,-

Machine Post Processors

All post processors for machines up to and including 3+2 axis multi sided milling are included free of charge. A post processor generator is also provided for customer modifications, and DNC communication software via RS232 and V24 comes as standard. **Inclusive**

Customer Care Package

Our customer care package includes free lifetime software support via telephone and email, in addition to free project based elearning for quick and intensive training. **Inclusive**

Individual Component Pricing

Pictures by PC Modelling

2D/3D design, modelling, graphics and technical documentation. **€ 2.800,-**
Second and subsequent licenses. **€ 2.000,-**

CAM

Purchased as an addition to the Pictures Modeller - Includes 2.5D and 3D milling / drilling, engraving and up to 3+2 axis prepositional machining. **€ 6.000,-**
Second and subsequent licenses. **€ 4.500,-**

Additional CAM Modules

WireEDM. **€ 2.000,-**
Turning. **€ 2.000,-**
5 Axis Simultaneous Milling. **€ 2.500,-**

Exchange Package

Import of STEP, IGES surfaces / solids and VDA-FS 3D data formats. Included as standard within the Pictures Modeller are STL, SAT, DXF, AI, EPS, 3DS, WMF, EMF, OBJ and HPGL. **€ 2.000,-**

Business Management Graphics

A unique solution for graphical business planning and company presentations based around our 3D Modeller. Generate stunning business presentations from simple text lists.Visually plan and organise projects with graphical structure layouts. Create portable projects using linked PDF. **€ 2.800,-**

IT Developer Network

Streamline business processes, and enhance the communication between your company's differing systems with our IT developer network. Join the annual subscription based club, and receive numerous IT dragees to automate all aspects of your business, including the award winning information search system for knowledge based searches. **€ 1.000,- per year**
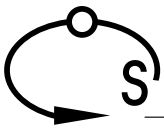
Drilling, Milling, Multi-Axis Machining
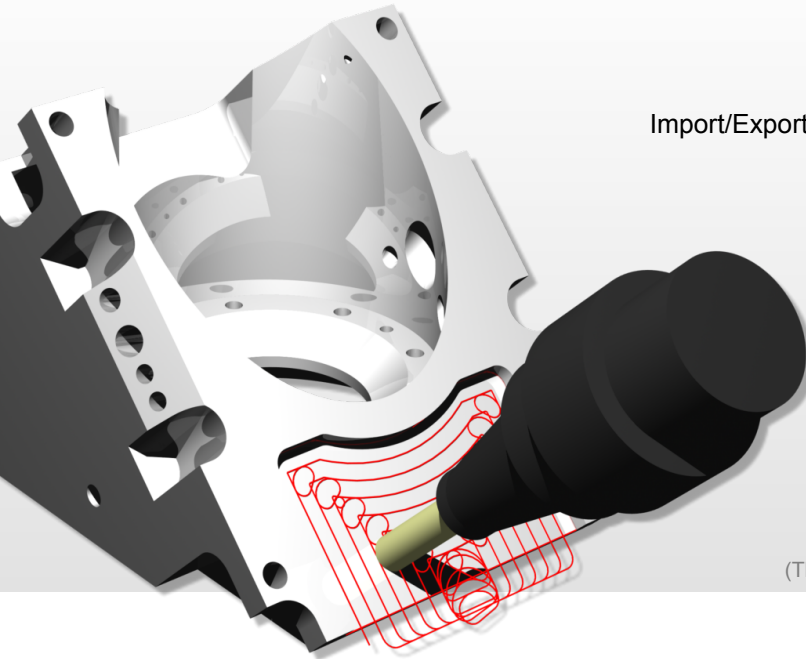
Standalone 2D/3D CAD (Solids, Surfaces, Meshes)

Import/Export of Neutral CAD-Formats: SAT, STEP, IGES, (STL), DXF

2D/3D Milling, Drilling, Engraving

Automatic Pocket and Hole Recognition

Trochoidal High Performance Cutting (HPC)

Single Click Application of Proven Machining Strategies

Free Post Processors for Standard Controllers

Free Lifetime Software Support

(The listed functions are included within the standard CAD/CAM package)

2D/3D Milling, Drilling, Engraving

Pictures by PC enables the CNC milling, drilling and engraving of 2D and 3D CAD geometry within a few simple steps. Feature recognition extracts pocket and hole information directly from the CAD geometry. Proven machining strategies are applied with a single mouse click, and altered to suit. Toolpaths can be simulated (incl. stock material, tooling and clamping components), and translated into NC code using a machine post processor. NC worksheets are created to display required tooling and cutting times.
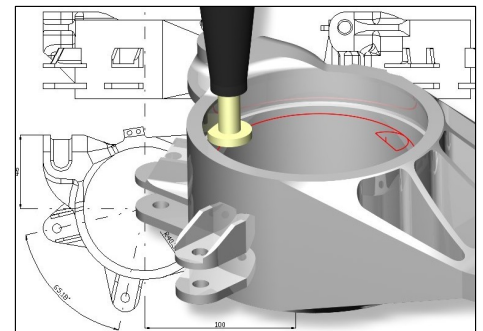
2D/3D Milling, Drilling, Engraving

Trochoidal High Performance Cutting (HPC)

Trochoidal high performance cutting (HPC) generates spiral (helical) toolpaths that morph between differing pocket features (without tool retraction). This technique ensures constant cutter loads, enabling increased cutting depths and feeds to be used. Advantages also include less tool wear and improved surface finish. Feed rate compensation adjusts the feed rate according to the volume of material being milled. Optimal feed and speeds can be saved for differing machines and materials.
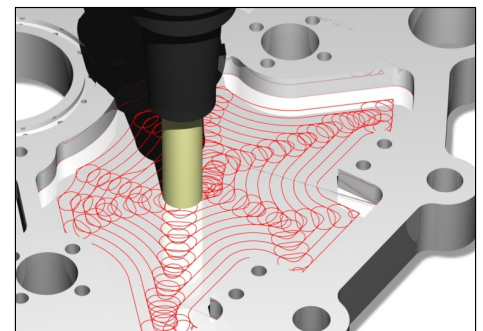

Trochoidal High Performance Cutting (HPC)

Multi Axis Machining (3+2)

Pictures by PC includes 4 axis rotary (3+1) and 5 axis (3+2) multi axis machining as standard. Feature recognition identifies pockets and holes from differing orientations. Both single or multiple (tombstone) components can be machined using a single setup. 5 axis post processors for standard controllers are included at no extra cost. 5 axis simultaneous machining is available as an additional module.
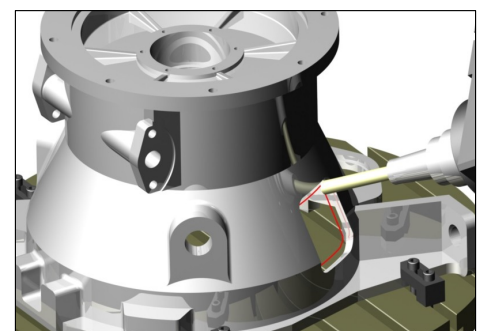
Multi Axis Machining (3+2)
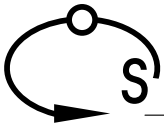
3D Freeform Machining
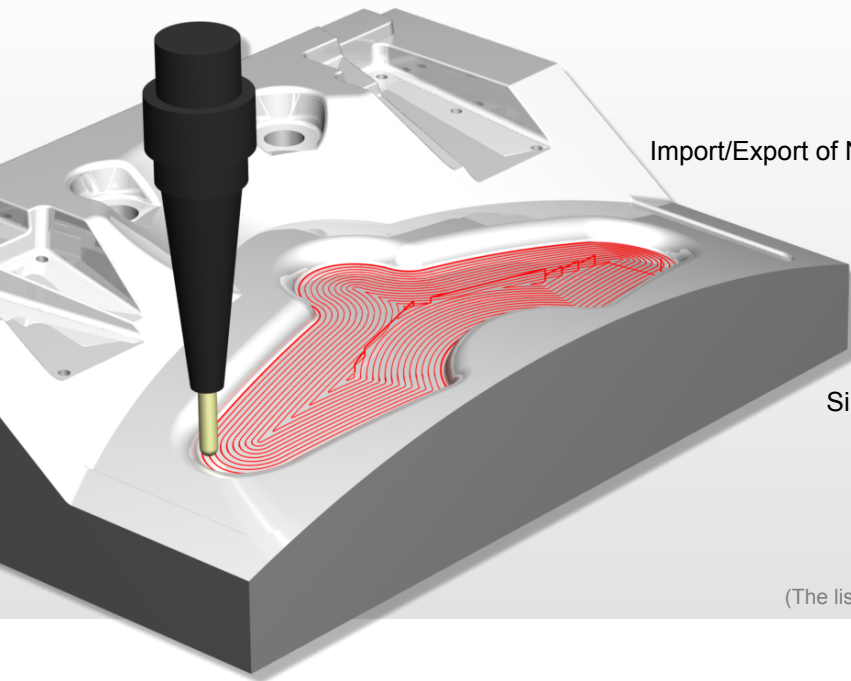
Standalone 2D/3D CAD (Solids, Surfaces, Meshes)

Import/Export of Neutral CAD-Formats: SAT, STEP, IGES, (STL), DXF

3D Freeform Machining (Roughing, Finishing)

Topology and Rest Material Recognition

High Speed Cutting (HSC)

Single Click Application of Proven Machining Strategies

Free Post Processors for Standard Controllers

Free Lifetime Software Support

(The listed functions are included within the standard CAD/CAM package)

## 3D Freeform Machining (Roughing, Finishing)

Pictures by PC enables the 3D rough and finish machining of freeform models (solids, surfaces and meshes). Proven machining strategies are applied with a single mouse click, and altered to suit. Toolpaths can be simulated (incl. stock material, tooling and clamping components), and translated into NC code using a machine post processor. NC worksheets are created to display required tooling and cutting times.
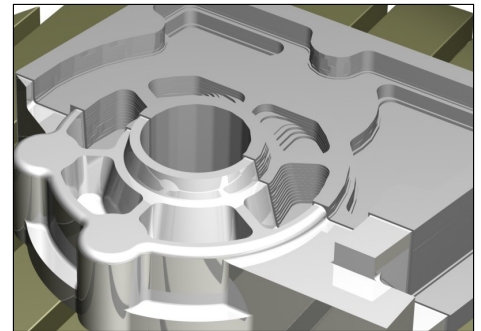

Rest Material Comparison

High Speed Cutting (HSC)

High speed cutting (HSC) increases the removal rate of material by utilising higher feeds, speeds and tangential toolpath connections. Typical finishing strategies include contour orientated, spiral or hybrid machining. The later is ideal for reducing programming times, by generating toolpaths to match both steep and flat areas on the geometry within a single operation.
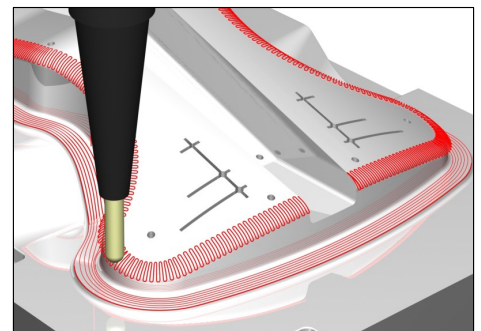

High Speed Cutting (HSC)

Topology and Rest Material Recognition

Feature recognition identifies areas of freeform 3D CAD geometry to machine (plane and tapered faces, chained radii, freeform pockets). Rest material recognition highlights areas that require re-machining after finishing operations. Automatic bounding contours contain the rest material machining. Support for multi-threading toolpath calculation ensures short calculation times of complex components on rudimentary hardware.
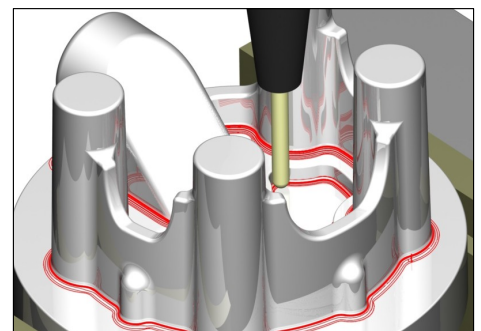
Topology and Rest Material Recognition
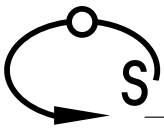
Engraving and Carving up to 5 Axis
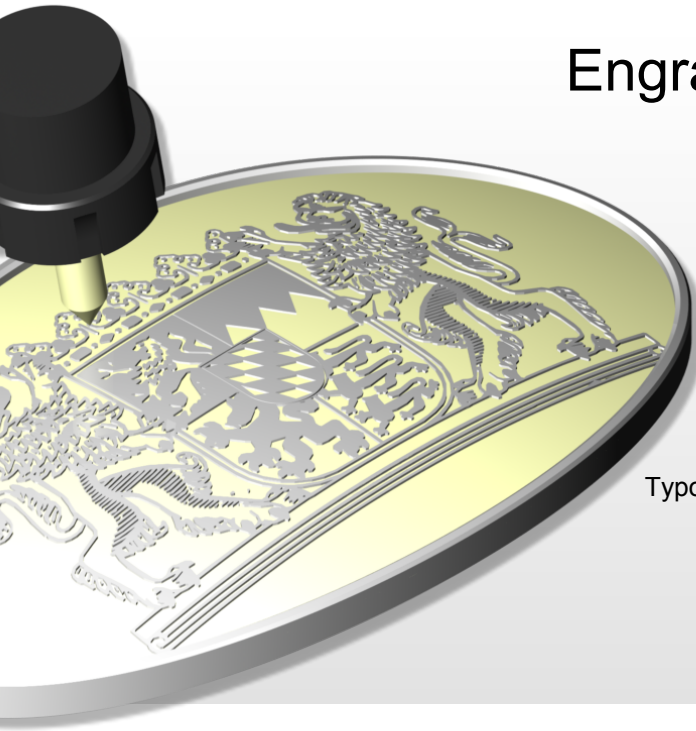
Industrial Engraving of Plates, Signs, Moulds and Jewellery

Standalone Vector Graphic CAD (Bezier, Nurbs)

Import/Export of Vector Graphics (AI, EPS, WMF, EMF, DXF)

Bitmap Vectorisation (B/W Photos, Scans), Curve Smoothing

3D Reliefs from Greyscale Photos

Typography - Text Generation (Postscript, Truetype, Kerning, Unicode)

3D Projection and 3D Wrapping

Engraving and Carving up to 5 Axis

(The listed functions are included within the standard CAD/CAM package)
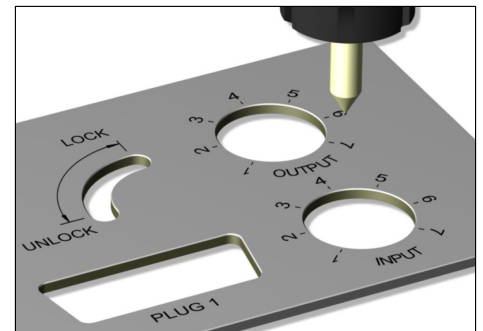
Vector Graphic and Typography

New artwork can be sketched using the vector graphic design tools (Bezier, Nurbs). Typesetting tools (Truetype Postscript) offer the highest level of typography (Kerning, Editing, Unicode). Vector based artwork can be imported using Adobe Illustrator (AI), Encapsulated Postscript (EPS), Window Meta Format (WMF) and Enhanced Meta Format (EMF). Black and white bitmaps (scans) can be vectorised to generate engraving contours. Grey scaled photos can be converted into 3D mesh relief models.

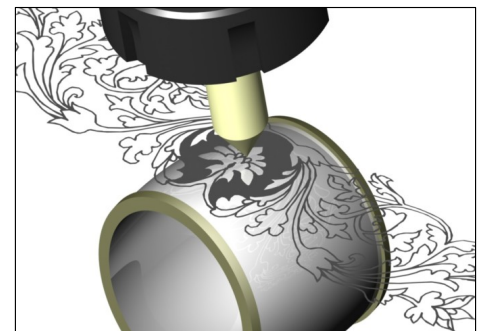3 Axis Engraving

Engraving and Carving

Engraving involves running a tool with a constant depth of cut along the center of a contour. The tool diameter determines the width of cut. Carving requires a conical tool, and facilitates the cutting of sharp embossing stamps and imprints. To achieve this in a sharp corner of a contour, and corresponding to the conical angle of the engraving tool, a 3D toolpath is created to ensure the smallest conical radius is maintained at the top contour, leaving a "sharp" corner. Carving facilitates the production of both raised and indented stamps.

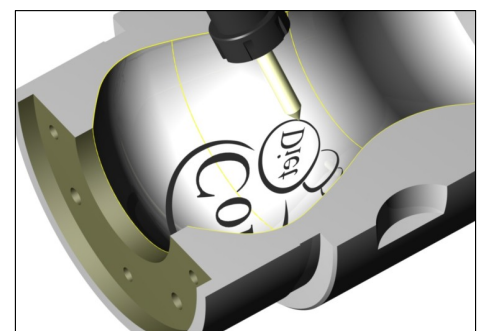4 Axis Cylindrical Engraving

3D Projection and 3D Wrapping

2D engraving and carving strategies can be projected onto 3D solid, surface or mesh models. Toolpaths can also be wrapped around cylindrical, spherical or conical forms (simple curved surfaces). For more complex shapes (jewellery and woodworking) the simple curved toolpaths can be wrapped a second time around additional cylindrical, spherical or conical forms (double curvature surfaces). The resulting tool paths can be machined up to 5 axis simultaneously.
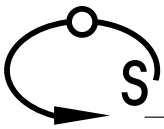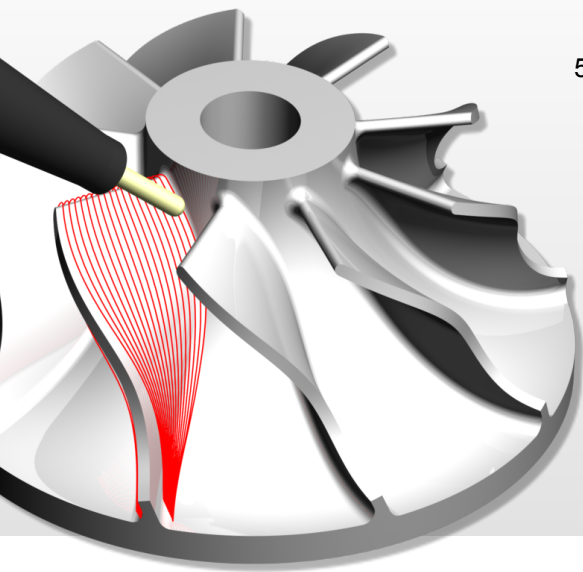

5 Axis Simultaneous Engraving

Simultaneous Milling, Trimming, Drilling and Engraving

5 Axis Simultaneous Contouring (Trimming, Chamfering, Swarf, Engraving)

5 Axis Simultaneous Finishing (Z-Constant, Lace, Spiral, Contour Orientated)

5 Axis Simultaneous Slot Machining (Roughing, Finishing)

Tool Tilting Control (Forward and Lateral Inclination Angles)

Collision Checking (Tool, Holder, Machine Head, Clamping Parts)

5 Axis Rest Material (Recognition and Simultaneous Machining)

Single Click Application of Proven 5 Axis Machining Strategies

Manual Control of the Tool Inclination at Critical Tight Areas

(5 axis simultaneous machining: additional CAM module)

5 Axis Simultaneous Contouring

Formed work pieces (e.g. thermoforming moulds) can be trimmed using a contour and tool inclination vectors. Chamfers on freeform components are produced by passing a tool along a 3D contour while remaining perpendicular to the chamfer surface. Tapered surfaces are generally swarf cut, whereby the side face of the tool machines along the tapered faces, guided by a contour (with an optional depth increment). Engraving and carving toolpaths either projected or wrapped around cylindrical, spherical or conical faces (also with double curvature) can also be 5 axis simultaneously machined.

5 Axis Simultaneous Finishing

Steep side faces (including undercuts) can be machined with a lateral tool orientation and a shorter tool cutting length using Z constant finishing. Flatter swept freeform areas are generally machined using contour orientated finishing defined by numerous guide curves. By setting a maximum lateral tool inclination, small radii at the bottom of pockets can be rest material finished. Additional strategies include 4 axis cylindrical finishing, lace (parallel) cutting and slot machining (roughing and finishing).

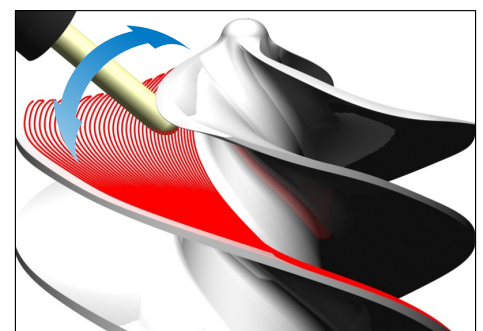## Interactive Tool Orientation Control

With the help of vector direction symbols, the tool inclination can be manually adjusted from being that of the surface normal direction, which is especially useful in critically tight work spaces (e.g. between impeller blades). The tool orientation is continuously interpolated through any number of vector direction symbols along a contour. This method is also very helpful for faceted freeform bodies (e.g. STL meshes), in order to suppress excessive tool movements.
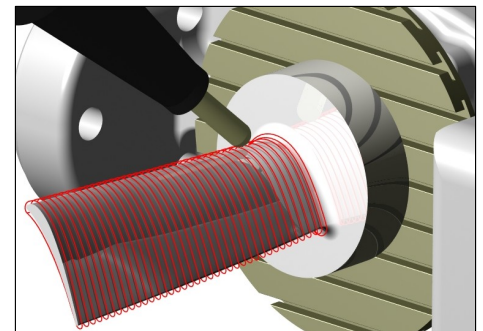
4 and 5 Axis Finishing
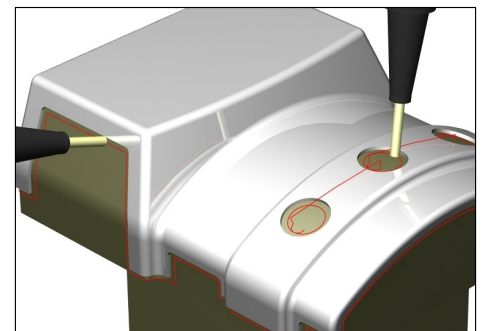
5 Axis Trimming

Manual Control of the Tool Inclination