## NC-HOPS© – MacroCAM

POWERFUL PARAMETRIC PROGRAMMING MADE EASY

NC-HOPS macroCAM is your gateway to modern CNC manufacturing. Our **user-friendly, parametric** parts programming makes your manufacturing tasks easy. Dialogues with **visual guidance, 3D previews** for each operation and **EasySnap programming** for quick change of reference face give you speed and comfort. A 3D work piece view and **3D simulation** of processing, including material removal, give you confidence while programming. Creation of custom libraries and specific processing makros is easy. NC-HOPS supports **5-axis and simultaneous** milling and **multi-head/ multi-channel** machines.
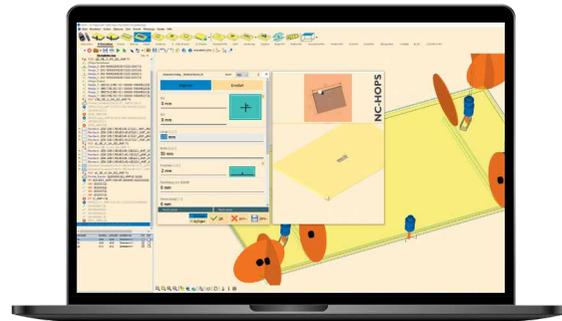
Over 13.000 installations world wide speak for itself: Best-in-class usability, stability and unrivaled interfaces to ERPs, CADs and cabinet solutions.
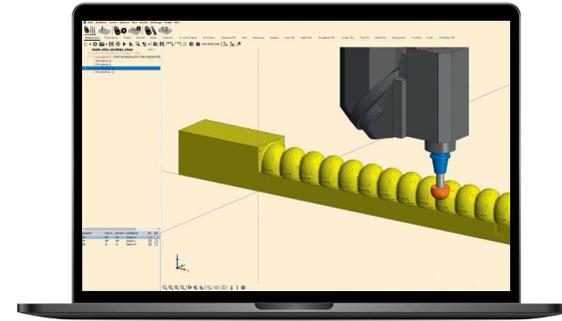
NC-HOPS© – 4solid

3D MOLDING

4solid completes the NC-HOPS package for the all-round user with **free form** and **surface processing** needs. The import of STL or IGES data from any CAD program allows for the **automated** translation of the solid in **roughing and finishing** milling operations using 3+2 axes. Without the need to learn another CAD or CAM application the user can **import 3D objects** in NC-HOPS 4solid. Extensive options with different milling strategies can be selected and the corresponding milling paths will be **calculated auto- matically** and quickly to give the user the **NC code** to start milling.

Young, passionate and driven!
Work for us directly or become a partner!

We **want you** for our **Crew.**

»One misison, our mission: Wood, Software & CNC machining. «

bewerbung@direkt.net

NC-HOPS© 5X-simultan

5-AXIS SIMULTANEOUS

Simultaneous milling in NC-HOPS allows the processing of **3-dimensional contours** in space using 5 axis simultaneous movements. Independent whether the contour is defined via variable programming in NC-HOPS or imported as a **3D DXF contour** file. 5-axis simultaneous milling enables the manufacturing of chair backrests, stair string wreaths or free- flowing edges with continuous changing tool angles with **ease and superb quality.**
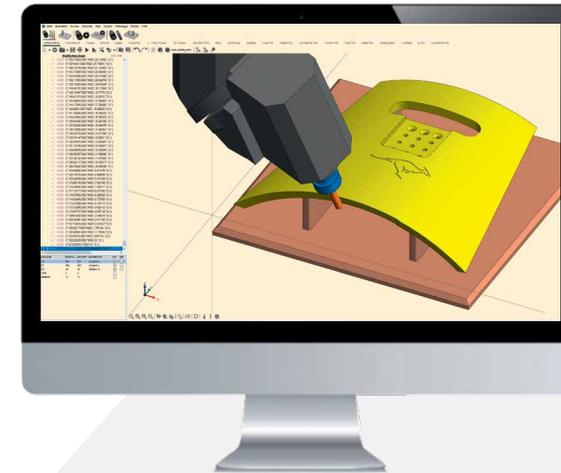
Our clients manufacture

- · interior doors
- · stairs
- · kids toys & playground accessories
- · doors & frames
- · trucks and trailers
- · counter tops
- · cabinets
- · fences
- · acoustic panels
- · facade (HPL, façade elements)
- · kitchens
- · pre manufactured houses
- · laboratory equipment
- · caravans/RVs
- · garden furniture
- · plane interiors
- · chairs refrigeratin trucks
- · bathroom furniture
- · yachts & boat interiors
- · concrete forms
- · windows
and more ...

DEEP PARTNERSHIPS.

FIXED PRICES FOR PROJECT SCOPE.

DEEP MACHINE AND CONTROLLER/ PLC KNOW-HOW.

RECOMMENDED BY LEADING MACHINE MANUFACTURERS.

USER-FRIENDLY INTERFACES.

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NC-HOPS® 8

easy » parametric » automation

CAD/CAM SYSTEMS
FOR ANY
CNC MACHINE

SOLUTIONS FOR WOOD, PLASTIC AND ALUMINUM. FROM CRAFTSMAN SHOP TO INDUSTRIAL PRODUCTION.

More than **30 years** of experience
Over **13.000** installations world wide
LEADING THE INDUSTRY!

MACHINE SET-UP – SAVE AND FAST

With WorkCener you can **graphically set up** the machine and place parts via **drag & drop** on any zero point. By **mouse or touch.** Or you can use **barcode reading** to automatically place the part. No matter how you place the part – you have always full control through the **graphic representation** of the machine table. The ability to use offset measures on any zero as well as the **possibility to rotate and mirror** parts give the operator a maximum of flexibility. The automatic suction cup placement module allows for quick clamping. Potential collisions with the suction cups are graphically displayed immediately. Controlling automatic positioning tables or projection laser systems is also possible – as is the graphic representation of jigs. Suction cups, traverses and jigs are all checked for collision by **our automated collision check** to give the operator maximum confidence. Using WorkCenter Multi, multiple, different parts can be positioned on the same machine table at the same time and the program automatically **optimizes** tool change and movement **across all parts.** Using Work-Center Scenario operations requiring to flip or move the part can be included in a single part ensuring **ease of programming** and avoiding possibilities for error.
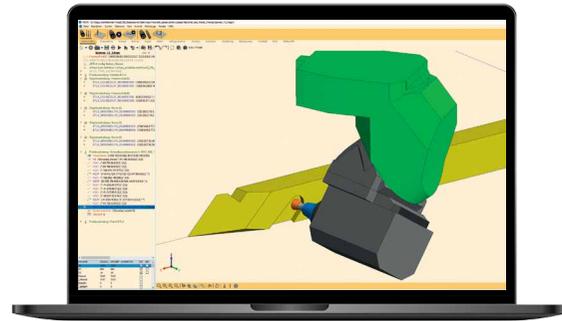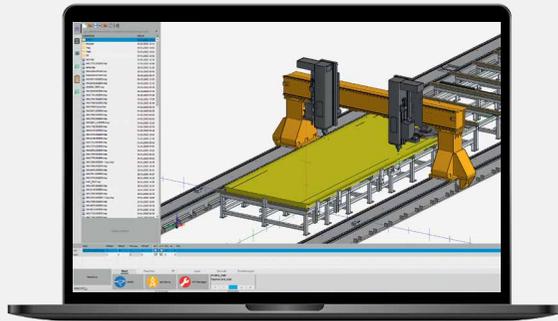
IMPORT AND EXPORT INTERFACES

Many **CAD and ERP software solutions write native NC-HOPS format** (.hop or .hopx) and so allow for easy hand over of parts to NC-HOPS and WorkCenter. Additionally, NC-HOPS offers a vast and ever-growing number of interfaces enabling **automated imports of from upstream CAD, ERP, cabinet or data base solutions.** CAD drawings in **DXF, DWG, BTLx, PLT and many other formats** can be imported and used to create machine-ready files automatically using pre-defined manufacturing strategies. Import of **CSV, DAT, SQL or other part list or ERP data** can be used to automatically create machine data via parametric macro programming in NC-HOPS. Custom imports can also be realized any time through the modular character of NC-HOPS. Using these possibilities, the user can run a **fully automated production** based on NC-HOPS and its modules. As part of an automated solution, it is also possible to **optimize parts and operations across several cnc-machines** (e. g., create automated split processing between nesting and drilling cnc-machine).
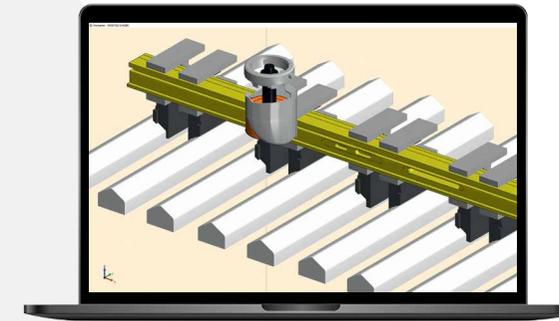
AUTOMATIC PART NESTING

betterNEST is nesting rectangular or free-form parts considering the special requirements of wood, plastic and compound milling which give it a big edge over non-material specific nesting solutions. The parts are not just nested but are **optimally positioned** considering factors like **part size,** different tool diameters, **specific milling strategies and optimizing vacuum.** Parts can be imported **from CAD** systems as fixed geometries or can be dynamically created as parametric parts **using NC-HOPS** macros. The nesting results are displayed and exported in editable reports and part labels – including barcodes – are generated. Automated storage and loader systems can be connected – including handing back cut-offs or finished parts to the handling system.
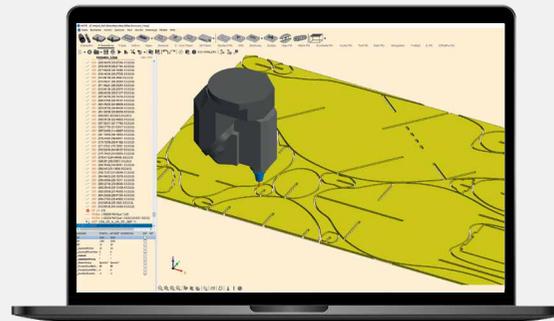
FENMATIK & FENTURA

Window and frame constructions place specific demands on CNC-machines and the corresponding handling. For those special requirements FENmatik (for windows) and FENtura (frame doors) were developed as fully automated, high-performance solutions. FENmatik **automatically creates all machining data** required based on information provided via XML-direkt-file. This is available for all **major window construction/ERP systems.** Parts including all profiling, milling, and drilling operations are automatically created in seconds. An Optimized tool order for minimizing cutting times as well as safe **clamping and re-clamping** positions even for most difficult parts (narrow profiles, short pieces) are calculated automatically. Automated manufacturing of **profile-to-profile connections, shortened glas beats and plug connections** are also available. Using FENtura you do not have any limits in designing doors and frame constructions. The program works without the limitations imposed by using pre-defined types. User-specific designs are saved as door or window type and can be used as parametric variants at any time. For the created doors, fillings and glas beads are calculated automatically.

FAST CAD DESIGN & EASY IMPORT OF CAD FILES

aCADemy is an **easy and quick to learn** 2D CAD/CAM supporting **free construction** as well as **import** from other CADs in **DXF/DWG** format. Trimming, scaling, separation of parts, sorting and many more functions allow for fast and easy editing of all drawings. Extensive geometry functions such as polyline, B-spline, elliptical arcs, tangential arcs and lines, hatching and measurements enable **fast and easy design** and construction. The **definition of processing strategies** happens in aCADemy so the file is directly ready for the CNC machine. The selected processing strategy is graphically displayed and **can be modified** – as can the order of operations – at any time using the explorer tree structure of operations which allows to grasp all processing at the blink of an eye.