# hyperMILL®

## Perfect. Precise. Programming.

Programming
Automating
Simulating
Producing

**OPEN MIND**
THE CAM FORCE

# Efficient and reliable machining

*hyper*MILL® is one of the world's most powerful CAM solutions for machine- and controller-independent programming. The system provides extremely innovative, flexible and powerful CAM strategies that allow manufacturers to achieve quality, time and cost targets much more quickly, even on challenging parts.

Surfaces and edges are visibly smoother, cleaner and more precise. This is high-precision machining in a nutshell. Even hard-to-reach areas can be machined safely thanks to the reliable collision avoidance function. *hyper*MILL® gives users the security of knowing that they can manufacture new components quickly and flexibly.

## Seven reasons to choose *hyper*MILL®:

1. **Future-proof investment**
2. **Top performance**
3. **Easy to use**
4. **Efficient and reliable processes**
5. **Optimised workflow**
6. **Superb quality**
7. **Everything can be automated**

| 2.5D | 3D | 5axis | Mill turning | Measuring | Wire EDM | Electrodes | Viewer |
|------|----|----|----|----|----|----|----|

# Powerful CAM strategies

## 2.5D machining

*hyper*MILL® 2.5D machining is typically used for plate processing in tool and mould manufacturing where there are numerous pockets, plane levels, contours and drill holes. Intelligent mechanisms – that detect pocket and drill features, for example – speed up programming even further.

## 3D machining

*hyper*MILL® offers powerful and precise functions for 3D milling. It allows users to manufacture high-quality surfaces quickly and reliably, even with complex workpieces. Numerous strategies for roughing and finishing ensure efficient 3D machining.

## 5AXIS machining

5axis machining from *hyper*MILL® is ideal for working with challenging geometries, free-form surfaces and deep cavities. It is significantly more efficient than 3axis technology. *hyper*MILL® offers a wide range of powerful 5axis strategies for simultaneous and indexed roughing and finishing, which allows users to produce top-quality surfaces.

## 5AXIS special applications

With packages for machining impellers, blisks, turbine blades, tubes and tire moulds, *hyper*MILL® offers solutions for the complete machining of complex part geometries. Intelligent automated functions, optimised milling strategies and a simple workflow allow even users without special expertise to reliably and effectively program cycles.

## Mill turning

A single CAM solution allows easy programming of milling and turning cycles in one setup on the mill/turn machine. Mill turning is completely integrated into *hyper*MILL®. This allows the tool database, stock tracking, collision checking and postprocessors to be used jointly for all milling and turning operations.

## Measuring

Internal process quality control on the CNC machine tool is becoming increasingly important. This is why *hyper*MILL® also features measurement cycles that provide the necessary in-process measurement data.

## Wire EDM

The OPTICAM wire-cutting module, software for efficient, flexible programming and simulation of wire electrical discharge machines, is fully integrated into *hyper*CAD®-S and SOLIDWORKS.

**TRAINING**
Comprehensive
training concept

# hyperMILL®
## Perfect. Precise. Programming.

# Safer processes

## Preparing

In *hyper*CAD®-S, OPEN MIND has developed its own CAD system that is ideally tailored to the needs of CAM programming. The advanced and extremely powerful system is the perfect solution for mastering all kinds of daily challenges that arise when working with meshes, faces and solids to create precise components, tools and electrodes.

## Programming

Numerous machining strategies are available in a single user interface for the user to quickly and reliably program CAM cycles. Users do not need to switch between two or more programs, which in turn simplifies operation, offers more ease of use and ensures the highest programming reliability possible.

## Automating

Users can automatically program drill holes, pockets, variants and part families right away using the sophisticated feature and macro technology. The automation technology from OPEN MIND is one of the most advanced in the world and fulfils all requirements. Our experts can create tailored solutions – to fully automate processes or connect a process to an API interface, for example.

## Simulating

The precise machine and material removal simulation allows users to quickly and dynamically check tool movements. The machine simulation feature in *hyper*MILL® allows users to verify that processes are safe before the final NC program is created. In addition, *hyper*MILL® VIRTUAL Machining Center allows users to create a simulation that is based on the NC code. The collision check takes place after each post-processor run – that is, directly in the generated NC program – ensuring maximum process safety.

## Manufacturing

When it comes to the production environment, *hyper*CAD®-S Viewer offers an easy way of viewing CAD files. *hyper*MILL® SHOP Viewer provides an excellent way of visualising important information as it allows users to view CAD/CAM data from *hyper*MILL®. Data that is relevant to production can be visualised and simulated directly next to the machine.

## Managing

It is necessary today for process and component data to be managed centrally. *hyper*MILL® fulfils this requirement by providing interfaces for leading product lifecycle management systems: ENOVIA, Teamcenter and Windchill.

**CONSULTING**
Individual consultation from experts

**SUPPORT**
Expert technicians worldwide

# Increased performance

**Speed is more crucial than ever these days. *hyper*MILL® MAXX Machining allows you to significantly reduce machining times.**
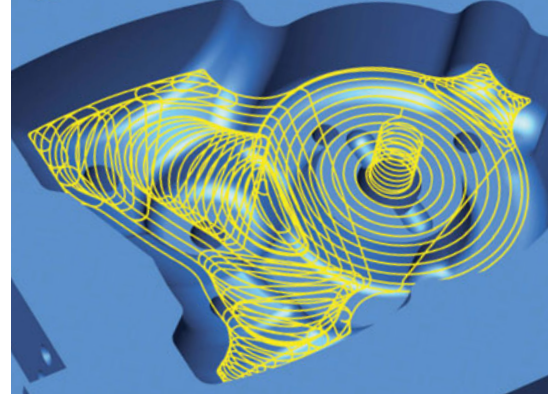
The *hyper*MILL® MAXX Machining performance package comprises three separate modules for highly efficient roughing, finishing and drilling. Trochoidal toolpaths ensure extremely fast material removal. Innovative strategies for barrel cutters, also known as circle segment end mills, allow extremely fast finishing with equivalent or significantly higher surface qualities. Milling tools tilted in the cutting direction can drill holes quickly and easily, even in materials that are difficult to machine and without the need for a predrilled hole.
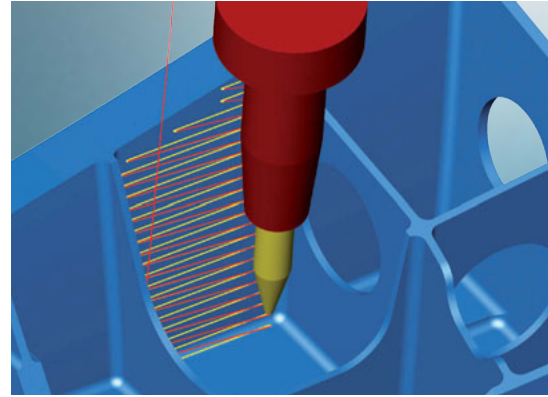
## More safety during machining

Better safe than sorry! This is what the fully automatic collision checking and avoidance are for. *hyper*MILL® detects collisions and provides powerful solutions for avoiding collisions during 2.5D, 3D and 5axis machining. A collision-free tool angle is calculated automatically for 5axis simultaneous machining. The user can decide which axis of rotation should be prioritised in collision avoidance depending on the machine kinematics.



**HPC roughing**



**Performance finishing**
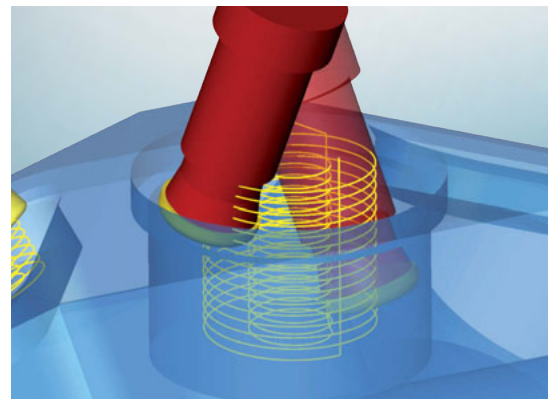


**Performance drilling**



**Machine simulation**

# "We look for and find unique strategies for efficient machining."
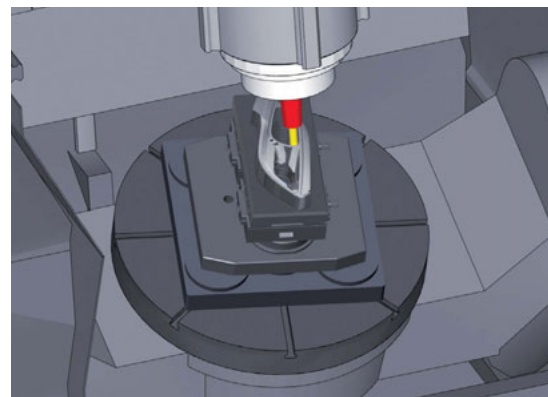
**Dr. Josef Koch, CTO of OPEN MIND Technologies AG**

# At home in all sectors

## *hyper*MILL® – the complete system for efficient and reliable CAM programming

Whether you work with simple or highly complex components, *hyper*MILL® allows you to significantly reduce your programming and machining times. The results fulfil our customers' most demanding requirements on precision, reliability, surface quality and machining time.

### Unique CAM strategies that are easy to operate

*hyper*MILL® is a modular and flexible CAM solution for 2.5D, 3D and 5axis milling as well as mill turning and machining operations such as high-speed cutting (HSC) and high-performance cutting (HPC). The special applications for milling impellers, blisks, turbine blades, tubes and tires round off the range of functions available in *hyper*MILL®.

### Optimised postprocessors

Powerful right up to program output. We consider postprocessor technology to be one of our core competencies. That's why we develop all postprocessors and perfectly tailor them to the machines.
WE PUSH MACHINING TO THE LIMIT.

### Seamless CAD integration

*hyper*MILL® is offered for two leading CAD systems –SOLIDWORKS and Autodesk® Inventor® – as well as for *hyper*CAD®-S, our proprietary 'CAD for CAM' solution. This means that companies can very easily integrate *hyper*MILL® into existing process chains.

CERTIFIED Gold Product
ƎS SOLIDWORKS

CERTIFIED
AUTODESK INVENTOR 2018
A AUTODESK

*hyper*CAD-S
CAD for CAM
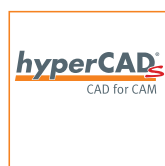
**→ Automotive**
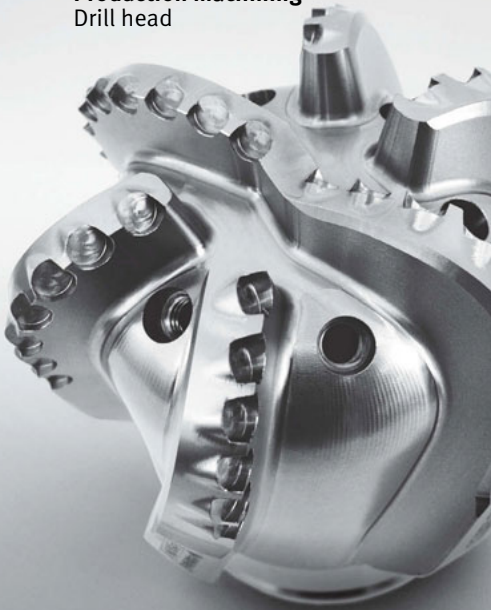Cylinder head

**→ Aerospace**
Turbine housing

**→ Energy**
Impeller

# We push machining to the limit

**→ Production machining**
Drill head
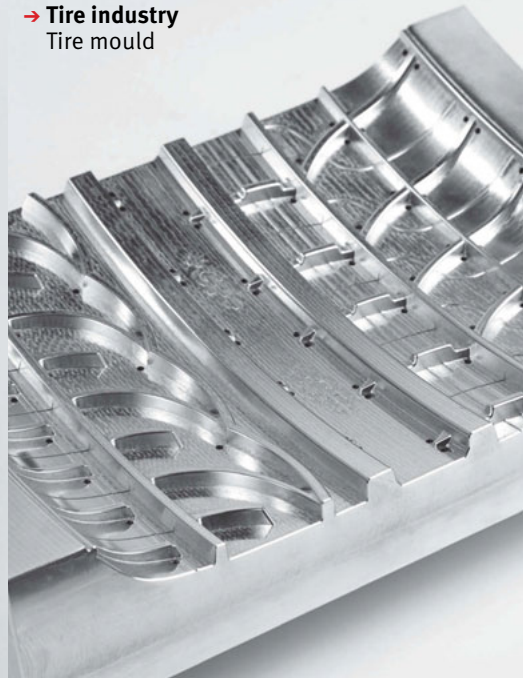
**→ Mould making**
Mould insert

**→ Jewellery**
Ring

**→ Medical engineering**
Hip joint

**→ Tire industry**
Tire mould

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**OPEN MIND Technologies AG is represented worldwide with own subsidiaries and through competent partners and is a member of the Mensch und Maschine technology group, www.mum.de**

# OPEN MIND
## THE CAM FORCE

We push machining to the limit

**www.openmind-tech.com**