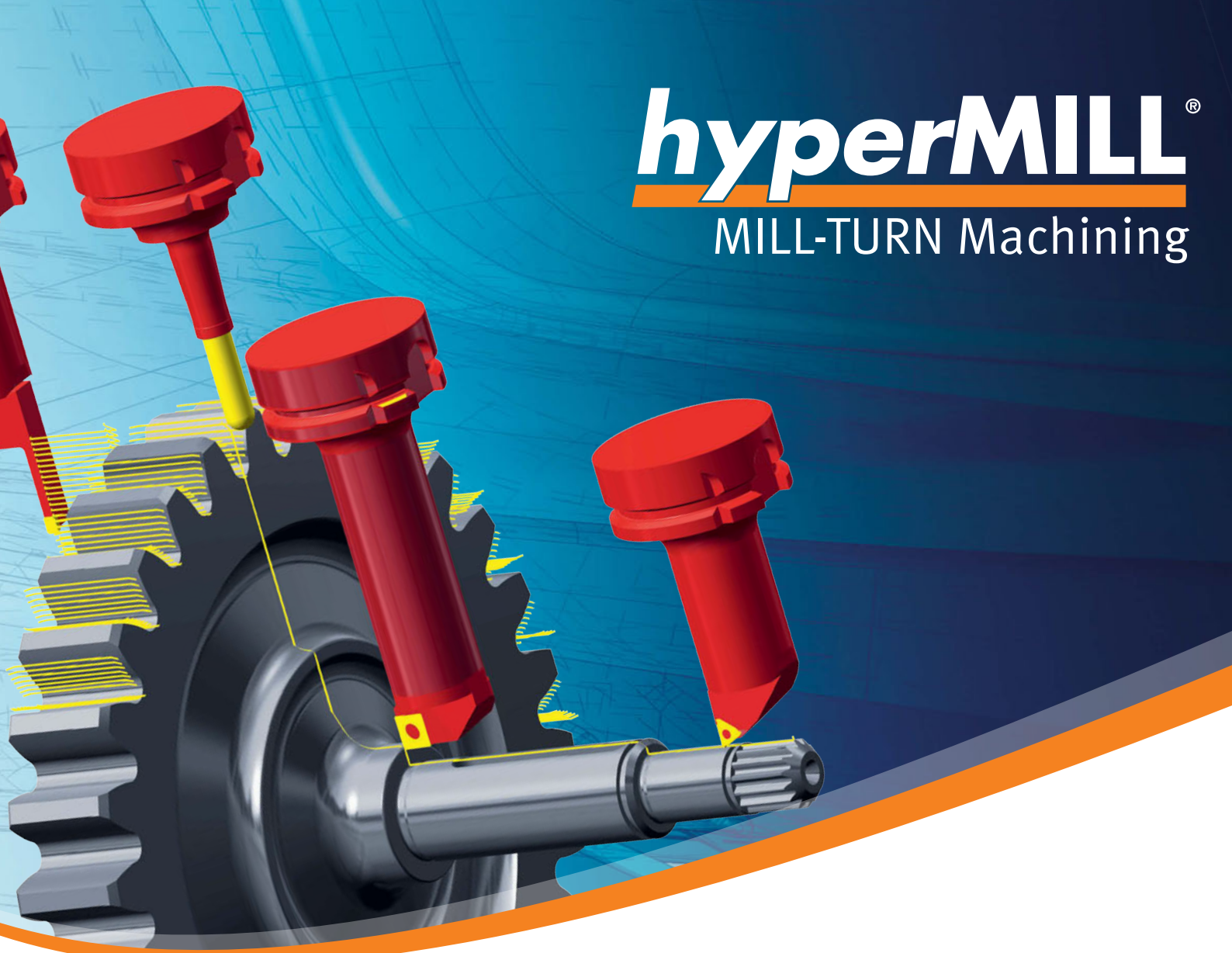
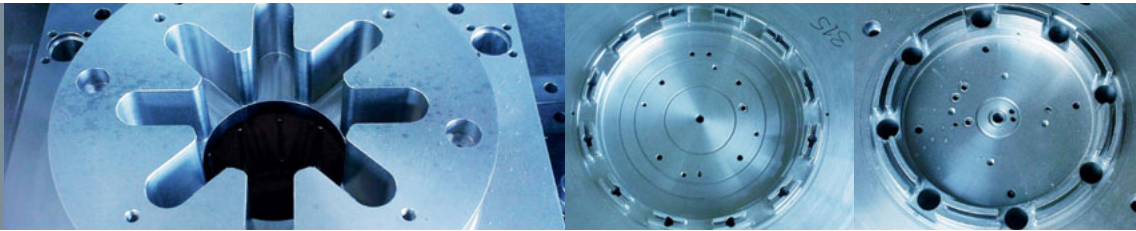




*hyper*MILL[®]

MILL-TURN Machining

Mill turning.
In one setup.
No set-up changes.



For efficient all-in-one machining: *hyperMILL® millTURN*

hyperMILL® millTURN is the mill turn module of the powerful *hyperMILL* CAM software®. It is completely integrated with only one user interface for all milling and turning strategies. The advantages of a modern mill turn machine for all-in one machining in one setup can be utilised very comfortably. Flexible planning is another advantage. Blanks can be turned from any material block.

Seamlessly integrated:

With the integration in *hyperMILL®*, mill turn strategies as well as all 2D, 3D and 5axis milling strategies are available on one user interface. All turning and milling strategies can be freely combined. The user has a large degree of flexibility in programming and selecting the best possible machining strategy.

A high level of accuracy is achieved with mill turning in one setup



Stock tracking for all operations:

Stock tracking is calculated for all turning and milling operations. Each operation draws on a stock already taken into account in the previous machining step. This ensures the highest possible level of machining precision.



Flexible programming is made possible by an extensive spectrum of machining strategies

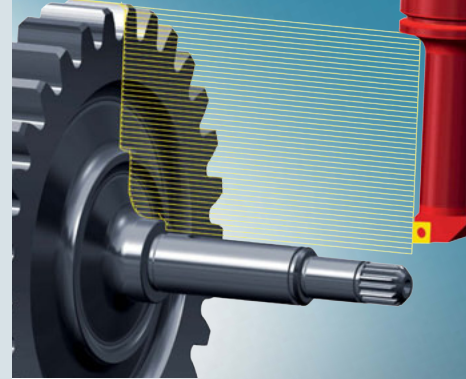
A tool database:

The shared tool database can be used for turning, milling and drilling tools and therefore enables standardised tool management. The complete description of the cutting and holder geometry as well as the position provides an optimal basis for fully automated collision control. Furthermore, the user is able to define free collision zones. For grooving tools, the ISCAR groove turn strategy has been integrated.

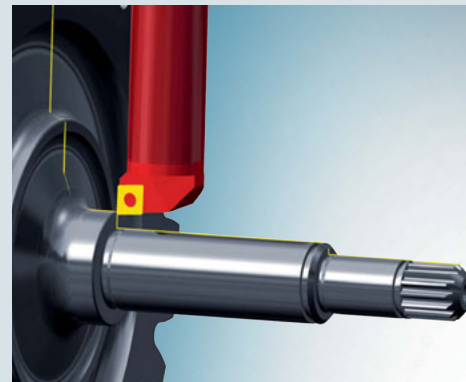
One postprocessor:

A postprocessor individually adapted to the machines, controllers and components used generates the NC codes for turning and milling operations in one NC program.

Turn roughing: Turn roughing can be carried out as long turning, facing or contour-parallel roughing. Roughing can be carried out with a tilted tool. Falling contours are also taken into account.



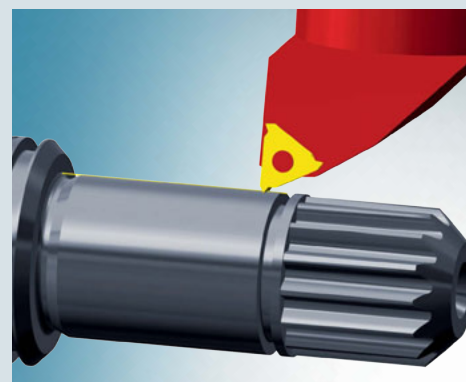
Turn finishing: With this strategy the roughed surfaces are finished by contour-parallel machining. Different approach and retract macros, such as tangential approach/retract or approach/retract in arc movements, make optimal machining possible. The various approach and retract macros can be combined with each other.



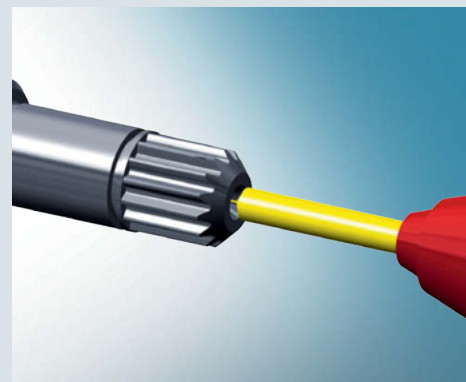
Grooving: With this strategy parts with shoulders and grooves can be machined. Grooving, parting off and groove turning are programmable. Different options are available, such as axial grooving, axial grooving with ramp for materials that are difficult to chip, radial roughing for thin and deep grooves or several finishing strategies.



Thread cutting: This strategy is used for turning external and internal threads with a constant pitch. This makes it possible to turn single- or multiple-start cylindrical or cone-shaped external and internal threads. Infeed occurs with either a constant chip section or a constant X value. Threads are very easy to define by determining the outer edge of the thread, core or outer diameter, as well as leading or trailing movement.



Drilling: On mill/turn machines, this strategy is an alternative to helical drilling. It is useful for turning holes on the workpiece's axis of rotation with a fixed tool. Stock tracking can also be used with this strategy.



Headquarters	OPEN MIND Technologies AG Argelsrieder Feld 5 • 82234 Wessling • Germany Phone: +49 8153 933-500 E-mail: Info.Europe@openmind-tech.com Support.Europe@openmind-tech.com
UK	OPEN MIND Technologies UK Ltd. Units 1 and 2 • Bicester Business Park Telford Road • Bicester • Oxfordshire OX26 4LN • UK Phone: +44 1869 290003 E-mail: Info.UK@openmind-tech.com
USA	OPEN MIND Technologies USA, Inc. 1492 Highland Avenue, Unit 3 • Needham MA 02492 • USA Phone: +1 888 516-1232 E-mail: Info.Americas@openmind-tech.com
Brazil	OPEN MIND Tecnologia Brasil LTDA Av. Andromeda, 885 SL2021 06473-000 • Alphaville Empresarial Barueri • Sao Paulo • Brasil Phone: +55 11 2424 8580 E-mail: Info.Brazil@openmind-tech.com
Asia Pacific	OPEN MIND Technologies Asia Pacific Pte. Ltd. 33 Ubi Avenue 3 #06-32 • Vertex (Tower B) Singapore 408868 • Singapore Phone: +65 6742 95-56 E-mail: Info.Asia@openmind-tech.com
China	OPEN MIND Technologies China Co. Ltd. Suite 1608 • Zhong Rong International Plaza No. 1088 South Pudong Road Shanghai 200120 • China Phone: +86 21 588765-72 E-mail: Info.China@openmind-tech.com
India	OPEN MIND CAD/CAM Technologies India Pvt. Ltd. 3C-201, 2 nd Floor • 2 nd Main Road • Kasturi Nagar Bangalore 560 043 • Karnataka • India Phone: +91 80 3232 4647 E-mail: Info.India@openmind-tech.com
Japan	OPEN MIND Technologies Japan K.K. Misumi Bldg. 3F • 1-17-18, Kichijojihigashicho Musashino-shi • Tokyo 180-0002 • Japan Phone: +81 422 23-5305 E-mail: info.jp@openmind-tech.co.jp
Taiwan	OPEN MIND Technologies Taiwan Inc. 3F., No.153, Huanbei Rd., Zhongli Dist. • Taoyuan City 32055 Taiwan (R.O.C.) Phone: +886 3 46131-25 E-mail: Info.Taiwan@openmind-tech.com

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