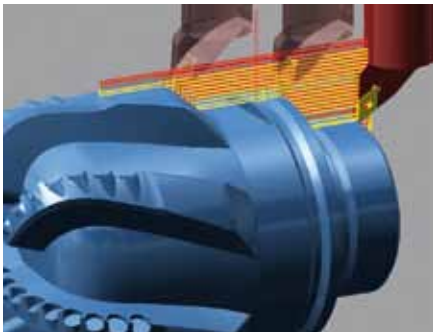
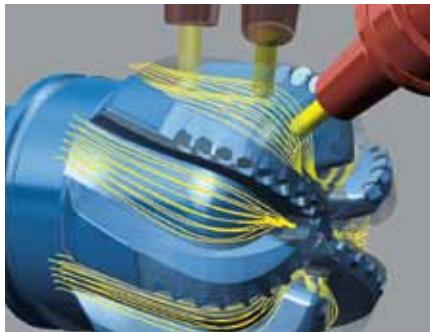


Rock bit: Milled on the Mori Seiki mill/turn centre NT3200 DCG

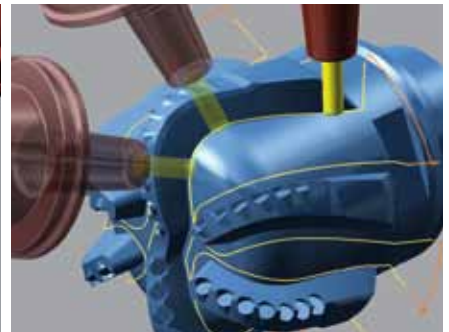
hyperMILL® offers turn, 2D, 3D, HSC and 5axis machining strategies – and all that under a single user interface. This allows CNC programs for all-in-one machining on turn-mill and mill-turn machines to be programmed very efficiently using just one CAM software solution. Operations for the main and counter spindle machining can be generated very easily. The shared job list for all turn and mill operations and the transition between turn and mill strategies at any time enable flexible workflows.



Turning. The cylindrical surfaces of the workpiece were fully turned. All further rotary-symmetrical surfaces are pre-turned including an offset for the milling process.



5axis roughing. Job linking combines 5axis contouring and 5axis top milling to form a continuous collision-checked roughing operation. This allows workpieces to be milled with high chip volumes, close to the contour and without retraction.



5axis swarf cutting. End mills as well as conical ball mills were used for preliminary and final finishing. Machining with the tool flank allows for milling with greater path distances and thereby reduces machining time.



Rock bit: All-in-one machining on a single machine



Turning process. Turning operations are programmed using the mill-turn module *millTURN*. The module is seamlessly integrated into *hyperMILL*®: The turning process on the counter and main spindle was generated based on this.

Machine: Mill/turn centre NT3200 DCG

Main drive (motor spindle)	Spindle speed	max. 12.000 min ⁻¹
Main and counter spindle	Spindle speed	max. 5.000 min ⁻¹
Workspace	Rapid traverse X/Y/Z	50 m/min
	Traverse path X/Y/Z	685/± 125/1.075 mm
	Rod diameter	max. 65 mm
	Turning length	max. 1.022 mm
	Turning diameter	max. 600 mm
	Clamping feed	254 mm feed (10-inch)
	Milling head (B axis)	± 120°
Tool changer	C axis	unlimited
	Tool magazine	20-239 tools
	Tool length/-Ø	300 mm/ 125 mm
Automation	Tool adapter	C5 (BT 40/HSK-A50)
	Controller	FANUC Serie 31i, Model A5
Workpiece	Dimensions	Ø 150 x 200 mm
	Material	16MnCr5



OPEN MIND Technologies AG
 Argelsrieder Feld 5 • 82234 Wessling • Germany
 Phone: +49-81 53-93 35 00 • Fax: +49-81 53-93 35 01
 E-mail: Info.Europe@openmind-tech.com
 Internet: www.openmind-tech.com



FRANKEN GmbH & Co. KG
 Frankenstraße 7/9a • 90607 Rückersdorf • Germany
 Phone +49-911-95 75-5 • Fax +49-911-95 75-327

EMUGE-Werk Richard Glimpel GmbH & Co. KG
 Nürnberger Straße 96-100 • 91207 Lauf • Germany
 Phone +49-91 23-186-0 • Fax +49-91 23-1 43 13
 E-mail: info@emuge-franken.de
 Internet: www.emuge-franken.de