**Tebis EMO News: Tebis 4.1 Release 7 is ready for rollout this fall**

Tebis 4.1 Release 7 will make CAM programming even safer and simpler. New features include optimized collision checking and faster and simpler processing of complex geometries

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**Tebis 4.1 Release 7: CAM programming and manufacturing are now faster and safer**

EMO Hannover, September 18, 2023 – With the latest release 4.1 of its complete CAD/CAM system, Tebis delivers on its promise to enable companies in die, mold and model manufacturing and production machining to manufacture extremely quickly and safely using ultra-modern CAM programming. The new CAM programming features offered by Tebis include optimized collision checking that accounts for the machine head and even faster and simpler processing of the most complex geometries.

## Reiner Schmid, Head of Product Management at Tebis AG, explains: "As a result of many factors, the situation has been growing increasingly critical for years, with increasing requirements and decreasing margins. Our approach is to give companies a clear advantage with our technological improvements. Tebis makes your manufacturing fast, safe and partially automatic – and that keeps you competitive."

Optimized collision control

Starting from Release 7, potential collisions can be automatically detected and avoided as early as the CAM calculation. This proceeds smoothly across all milling processes, while fully accounting for the machine head. The strategies in 2.5D machining and in 5-axis simultaneous avoidance milling have been extended accordingly. In 2.5D machining, milling areas can be optionally reduced or excluded from the machining operation. Tebis determines the correct pivot positions in 5-axis simultaneous avoidance milling.

The key advantage: Because Tebis accounts for both the special kinematics of the real machine as well as the precise geometry of the machine head, collisions with all machining components are already prevented in the virtual CAD/CAM environment and before NC output – reliably, automatically and with corresponding time savings.

Outstanding milling results that are faster and simpler, for complex geometries

In 3-axis finishing, complex geometries can be machined equidistantly with precise and constant stepover across the entire part in a single operation. This is now even simpler and faster in Tebis 4.1 Release 7: Only up to two arbitrary guide curves need to be selected: The system takes care of the rest automatically. Extremely high-quality surfaces with no offset are manufactured on the machine – with no need for manual reworking. This function is suitable for all complex parts in which first-class milling programs for 3-axis finishing need to be generated with low effort: for example, for forging dies in forming die manufacturing or for outer surface parts in car body die manufacturing.

Reduced residual stock and a shorter machine run time

Two different modes can be selected in 5-axis simultaneous roughing of pockets and surfaces, depending on the manufacturing situation: In the "dynamic" option, the part is machined in 5 axes normal to the curvature of the surface. In the "constant" option, machining is in 3 axes parallel to the curvature of the surface. Machining in "constant" mode is especially recommended for thin-walled parts with vertical flanks and curved bottom surfaces, like those frequently manufactured in the aerospace industry. Residual stock is reduced to a minimum and can then be cleared in a single operation. This greatly reduces machine run time while maintaining high precision.

A complete overview of the new features of Tebis 4.1 Release 7 is available here: [*https://www.tebis.com/de*](https://www.tebis.com/de)

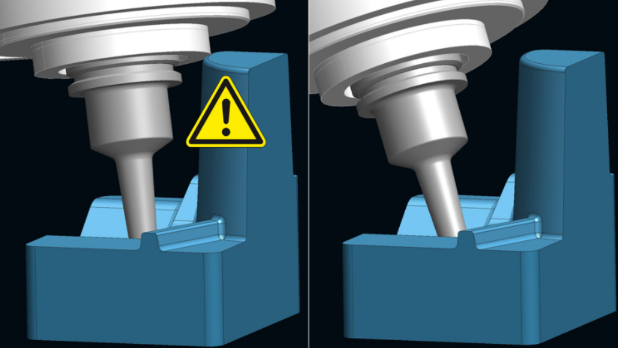
Tebis 4.1

The Tebis 4.1 complete system is an end-to-end parametric-associative CAD/CAM system that supports highly automated processing in a single system for selected tasks in design, manufacturing preparation and CAM programming. Tebis 4.1 is designed for enterprise customers of all sizes in the die, mold and model manufacturing and production machining industries. Tebis 4.1 is a platform for the full automation of all process flows in modern manufacturing companies.

Enterprise customers have full access to Tebis' expertise in installing and continuous working with version 4.1. A modular training concept and training courses for special manufacturing processes allow Tebis users to fully utilize the software and improve their business processes – to maintain future viability. A dedicated support team is available to answer user questions. The expertise of the Tebis service team is also available, as are numerous application games and interactive opportunities for sharing ideas in the online community.

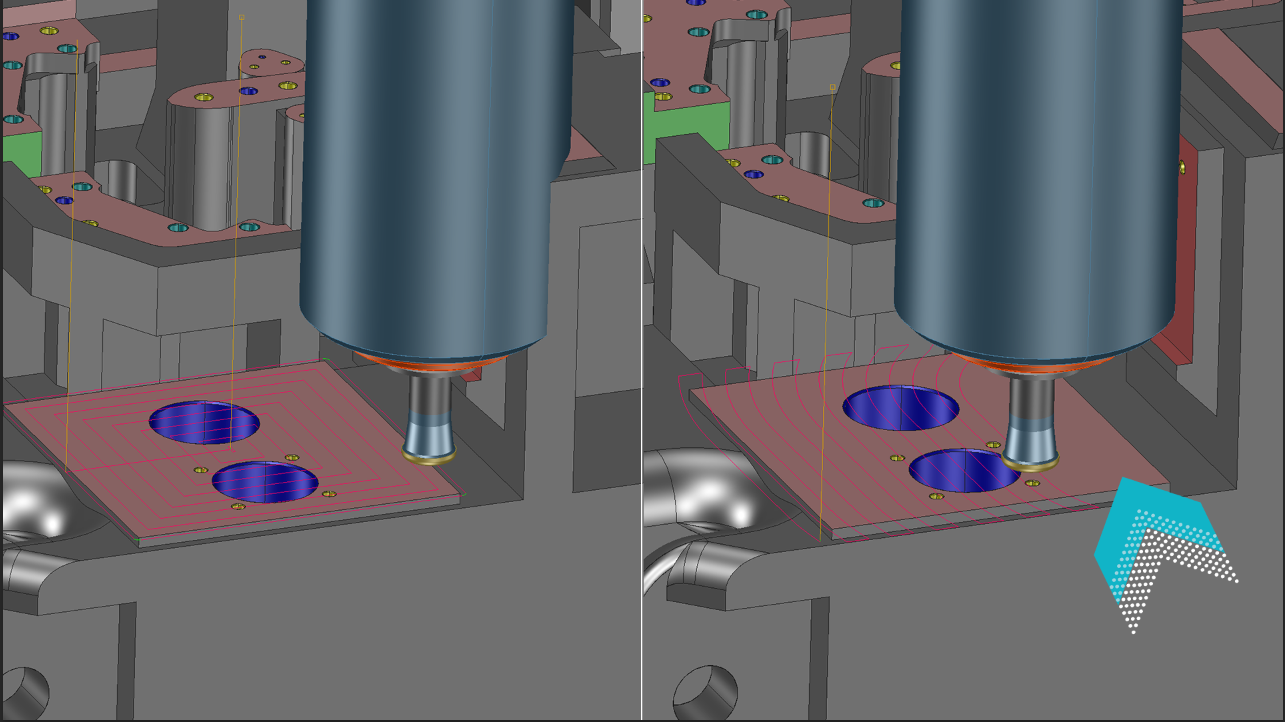
**Images**

**Image:1**

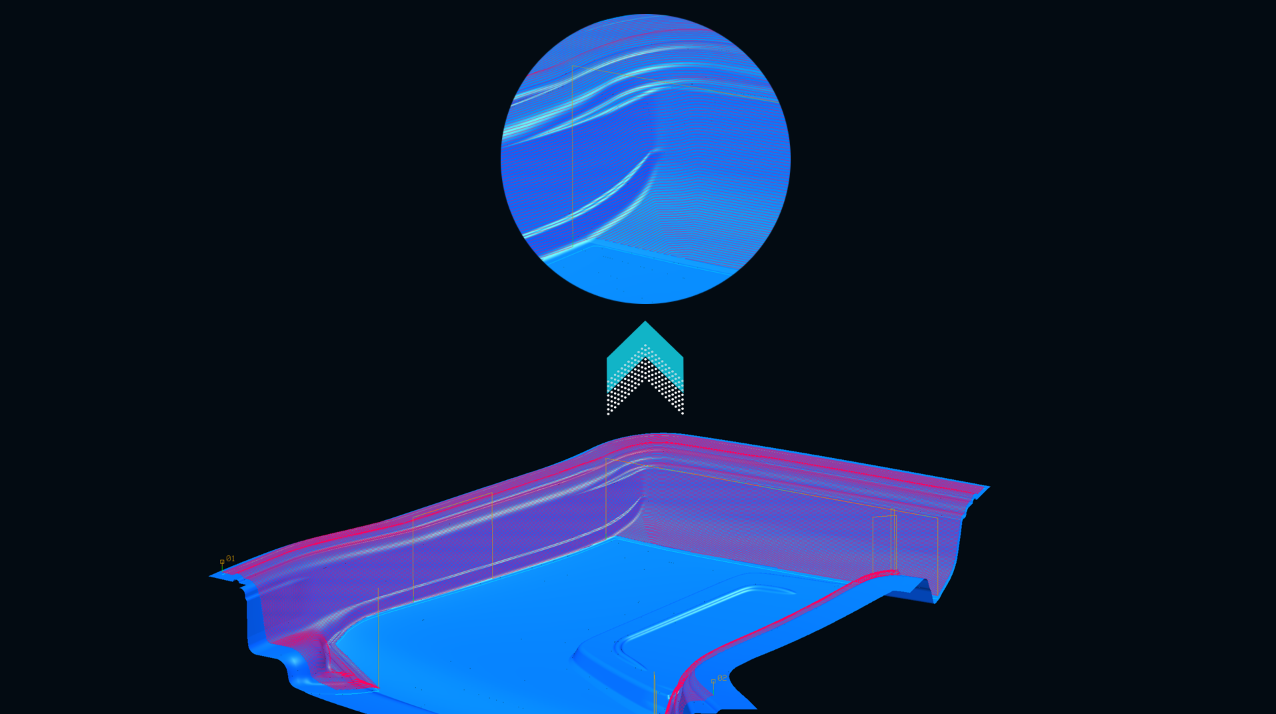


Potential collisions with the machine head are automatically avoided in 5-axis simultaneous avoidance milling (image: Tebis AG)

**Image 2:**

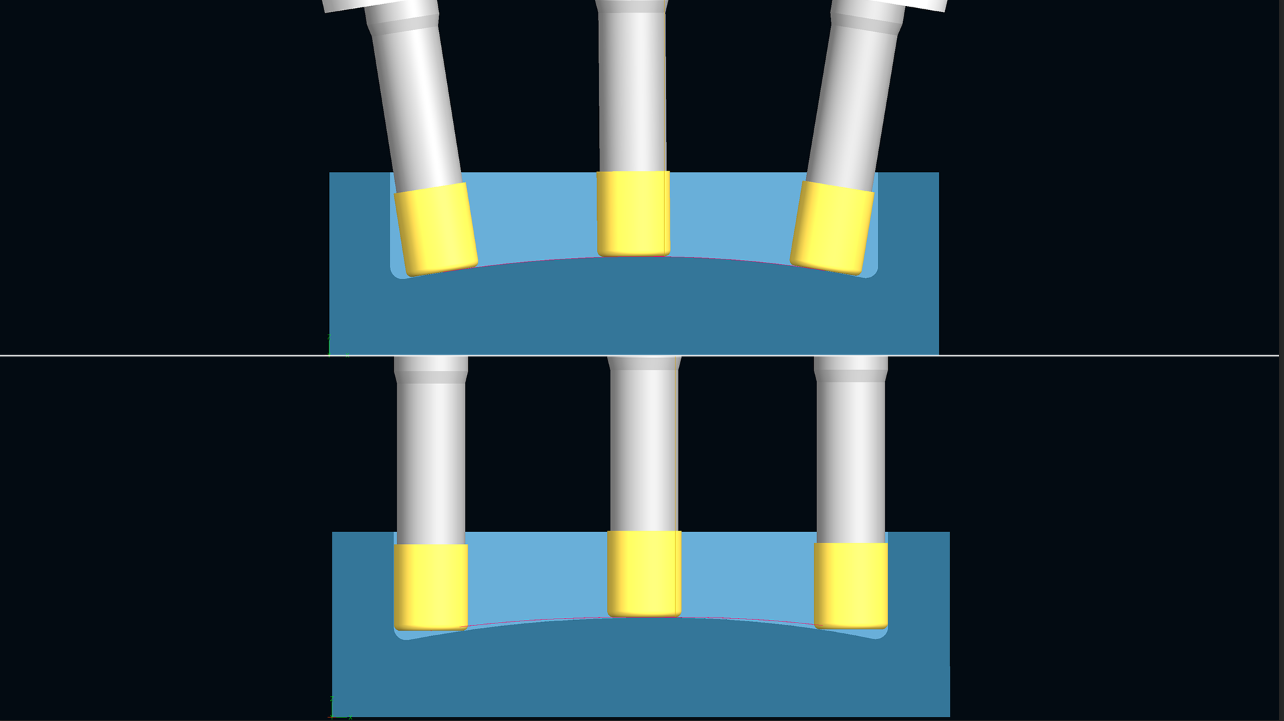


A collision with the machine head in 2.5D milling can be avoided by measures like automatic area reduction (image: Tebis AG)



Toolpaths for 3-axis equidistant finishing can now be programmed even more easily (image: Tebis AG)

**Image 4**



The new machining options enable optimal manufacturing of parts with curved bottom surfaces and vertical flanks. (Image: Tebis AG)

**About Tebis**

Tebis is a global market and technology leader in the CAD/CAM and MES sector. Customers use Tebis to safely and efficiently design, plan and manufacture models, molding dies and components to the highest quality. Teams of consulting and implementation specialists with practical experience develop strategies for efficient and safe CAD/CAM processes, implement these in the customer infrastructure and ensure a viable technological and competitive advantage.

Tebis software has an intuitive user interface that ensures high quality and safety in manufacturing, even for highly complex parts. Thanks to the Tebis service offerings, customers can easily introduce new technologies and fully leverage the power of the Tebis process solutions.

The company is headquartered in Martinsried near Munich, Germany, and has nine branch offices around the world as well as distributors in eight additional countries. 350 employees worldwide support Tebis' customers, most of whom are in the automotive, aerospace and machine manufacturing sectors.

Automation has been a key factor in the Tebis formula for success for over 30 years. Tebis views itself as an innovator for customers on the path to Industry 4.0.

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