**EMO 2019: Hall 9/Booth D15**

**A new clamping devices library completes the Tebis system of digital twins**

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**EMO 2019**

**A new clamping devices library completes the Tebis system of digital twins**

**Tebis, a specialist for CAD/CAM and MES process solutions in machine, die and mold manufacturing, will present its new clamping device library at its booth at EMO (Hall 9, Booth D15, September 16–21 in Hannover, Germany). Tebis now combines the digital twins for all manufacturing equipment in a single environment that already includes libraries for tools, as well as for machines and their units.**

Reiner Schmid, head of Tebis AG Product Management, explains: "A significant characteristic of advanced simulation technology is that the real manufacturing environment can be simulated in the virtual world down to the last detail with no ifs, ands or buts. This now includes clamping devices in the new clamping device manager. The NC programmer can only work optimally if the clamping possibilities are known and simulated in the CAD/CAM data—for example when defining clamping positions, suitable tools and tool tilt directions. The real clamping situation is also absolutely necessary for simulation and collision checking. Our goal is to provide a complete and reliable process that enables optimal utilization of high-quality machines."

The new Tebis clamping device library represents all common devices for fixing parts in the machining process. From the screwless vise to clamps and chucks, all common clamping devices can now be easily managed in a library and quickly used for realistic simulation and collision checking. In the CAD/CAM model, the precise clamping position can be exactly aligned, zero point and conventional clamping systems represented, and all assembly possibilities checked.

Tebis has long supported programming with digital twins, and since 2000 has enabled customers to integrate their own tools and machines as digital twins in the Tebis system environment. This capability has since developed into sophisticated machine and tool libraries where all commercially available machine types from various manufacturers are stored with their geometrical and kinematic properties, and all types of tools from HPC to circle-segment cutters can be managed. Since 2018, Tebis has had a unit library for additional devices such as jaw chucks, steady rests and machined tables.

**Simulation with Tebis—reliability and planning in manufacturing**

The digital twins of the machines, tools and clamping devices available within the company provide not only speed but also reliability. They enable reliable, collision-free and unattended manufacturing from end to end. Before NC processing, Tebis fully checks the complete machining scenario for collisions in the CNC simulator. This includes not only machines, units and clamping devices but also the validity of the working planes, starting points and connection conditions, all axis and traverse movements with all stepovers and intermediate movements, as well as machining plausibility. Consequently only NC programs that have been checked for collisions, based on the virtual manufacturing environment, are sent to the machine. Many customers also use the simulator as a planning tool to check feasibility and prevent collisions in advance.

**Images**

Image 1

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((Bild1\_TebisAG\_Spannmittelbibliothek.tif))

The new Tebis clamping device library represents all devices for fixing parts. This enables precise aligning of the clamping position in the CAD/CAM model.

Image 2



((Bild2\_TebisAG\_Spannmittelmontage.jpg))

Machine operators receive exact specifications to set up the parts efficiently and with no collision.

**About Tebis software**

Companies in manufacturing-intensive areas use Tebis to organize and optimize their CAD/CAM process chains. They use Tebis systems throughout, from design and engineering to equipment and part manufacturing. They benefit from the unique capabilities of Tebis to deliver high-quality products in the shortest time for the automotive, aerospace, machinery and equipment industries, as well as appliance and medical equipment manufacturers.

**About the Tebis group**

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

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

The company is headquartered in Martinsried near Munich, Germany, and has nine subsidiary 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 their path toward Industry 4.0.

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