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Mazak Unveils Dramatic Evolution in Machine Tool Performance with New SMOOTH TECHNOLOGY at IMTS 2014

FLORENCE, Ky., Sept. 16, 2014 – Mazak's new SMOOTH TECHNOLOGY made its world debut on seven of the company's latest 5-axis and Multi-Tasking machines at IMTS 2014. SMOOTH TECHNOLOGY is a complete process-performance platform that spans the entire part-production landscape, from programming and setup to metal removal operations to automation to monitoring/data collection and transfer. Key elements of this technology are the company's latest MAZATROL SmoothX CNC as well as new machine hardware and servo systems.

According to Mazak, the company developed every function of the MAZATROL SmoothX CNC in direct response to real-world issues and customer input. Its functionality and ergonomics make it the industry's most progressive machine tool control as well as the world's fastest.

The MAZATROL SmoothX CNC's processing capability is four times faster than its fastest CNC predecessors. With such high performance and new Seamless Corner Control and Variable Acceleration Control functions, shops can shorten machining cycle times, especially in fine increment programs for simultaneous 5-axis machining and free-form die-mold machining.

With Seamless Corner Control, the MAZATROL SmoothX CNC reduces vibrations and helps shorten part-machining cycle times via cutter path adjustments made when machining into corners. Rather than moving the cutter directly into a 90-degree corner, the function inserts a preset radial tolerance. This tolerance eliminates any dwell resulting from a rapid deceleration in the axial movement often associated with conventional corner machining. Thus, corner surfaces are smoother, the risk of cutter gouging is reduced and cutters can feed much faster.

Through its Variable Acceleration Control, the MAZATROL Smooth CNCX maintains maximum acceleration/deceleration for a set of combined axes in real-time. As such, this optimized acceleration/deceleration control may reduce machining cycle times.

Other features and functions that add to the control's productivity and operability include the Quick programming screen, intuitive human/machine interface (HMI), 5-axis virtual machining and Intelligent Pocket Milling.

The MAZATROL SmoothX CNC's Quick MAZATROL programming screen uses a 3D assist feature to streamline part programming via a 3D CAD input and features designation for the company's proprietary MAZATROL programming language. The intuitive touch operation also requires less action to create programs. Users also benefit from a high-speed tool path check for EIA programming, as well as axis reversal point analysis.

The control's intuitive HMI includes a 19" panel with a Process Home screen that presents all critical data to operators within a single page view. In fact, screen functions are similar to those of a smart tablet.

In terms of the control's 5-axis virtual machining, new advanced voxel simulation technology allows for fast complex machining simulation. Such technology also generates three-dimensional graphics for gaming systems.

The control's Intelligent Pocket Milling function engages a high-efficiency tool path for MAZATROL programming language when milling out part cavities. As opposed to conventional offset milling, the function consistently maintains a constant angle of tool engagement and cutting loads to ensure optimum machining conditions. This results in the full use of a machine tool's power capabilities and up to 35 percent faster and more efficient machining of even the most difficult-to-cut materials.

Additionally, a MAZATROL SmoothX CNC featured on one machine can also monitor up to five additional machines that may be together in a cell or near each other. Thus, operators responsible for multiple machines can easily track their status from one machine display to eliminate the need to physically go to each machine in the group.

For digital manufacturing functionality, SMOOTH TECHNOLOGY supports the MTConnect open-source, royalty-free manufacturing protocol, which means machines can have an MTConnect adapter and that users can collect data from the CNC.

At IMTS 2014, attendees got to experience SMOOTH TECHNOLOGY on the company's VORTEX i-800V/8, INTEGREX i-100 BARTAC-ST, INTEGREX i-400ST, INTEGREX i-630V/6, INTEGREX e-420H-ST, INTEGREX e-1600V/10S and VARIAXIS i-700T.

<u>About Mazak Corporation</u>
Mazak Corporation is a leader in the design and manufacture of productivity-improving machine tool solutions. Committed to being a partner to customers with innovative technology, its world-class facility in Florence, Kentucky, produces over 100 models of turning centers, Multi-Tasking machines and vertical machining centers, including 5-axis models. Continuously investing in manufacturing technology allows the Kentucky

plant to be the most advanced and efficient machine tool builder, providing high-quality and reliable products through its “Production-On-Demand” manufacturing practice. Mazak maintains eight Technology Centers across North America to provide local hands-on applications, service and sales support to its customers. For more information on Mazak's products and solutions, visit www.mazakusa.com or follow us on Twitter at @MazakCorp and on Facebook at http://www.facebook.com/MazakCorp.

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