Release: Zimmermann, Inc.

PR Agency Contact:

Tim Daro, Bernard & Company

847-934-4500

**Size Matters…Zimmermann Supplies Large Portal Milling Machine to Major Compression Moldmaker in Michigan**

*Substantial increase of 30% in production resulting from large workspace, cutting capabilities and new generation Heidenhain CNC onboard*

**Wixom, Michigan-** Zimmermann, Inc. has installed and commissioned its FZU37 portal milling machine, with a 5m x 4m x 1.5m workpiece capacity, at Century Tool, a major tool and die manufacturer in Fenton, Michigan and part of the Tooling Tech Group. The machine has already proven its worth, according to the customer’s Director of Manufacturing, Tom Bradford, who notes, “The table size, speed and accuracy of this Zimmermann machine have already increased our capabilities by 30% or more.” Bradford and the operator on the machine, David Hawes, further note the benefits of the Heidenhain TNC7 control, the first machine tool installation in America for this advanced CNC, as a key factor in production planning, CAD/CAM integration, cycle performance and data logging. The CNC also features a visual simulator of the cutting path for cycle validation and in-process monitoring.

According to Cornelius Kiesel, President of Zimmermann, Inc., his company was approached for the discussion of a new machine, which would be replacing an existing, smaller machine that was no longer in operation, plus expand the capabilities of other machines on the floor at Century.  “We determined the spec of the new machine and its tasks for Finishing and Semi-Finishing. The primary goal was to cut down the immense number of hours for such processes on the very large workpieces at Century, while enabling them to run the roughing process on their existing equipment.”

Kiesel continues, “To keep things simple, we selected the FZU37 machine, so the foundation of the replacement machine could be filled up to make it flush without a major foundation rework. After several conversations and a few adjustments on the accessories, we were able to lock in the layout. These layout improvements allowed us to go even wider for a total of 5000mm x 4000mm x 1500mm (197” x 157” x 59”) of travel, which was 79% more travel in the same amount of floor space. The FZU37 was subsequently ordered with the state-of-the-art spec for an advanced machine shop such as Century, including our Tool Changer, Top Cover, mist extraction, high-pressure coolant, Tool Laser, Touch Probe and more. Century Tool also wanted to step up their control to the new generation Heidenhain TNC7.”

Lastly, Kiesel notes, “Zimmermann also integrated an extended Spindle housing for deeper cavities plus the side walls were raised to create enough clearance and the machine table reinforced for the challenging molds our customer expected to be produced on this machine. When all these machine parameters got worked out and finalized, we completed the machine rather quickly, commissioned it, did the training onsite and helped Tom and his team start up.” Tom Bradford cited Alfio Campagna, project manager for Zimmermann, for his critical help in getting the machine into production at Century, as this was the first Zimmermann portal mill purchased by the moldmaker.

Bradford also commended the Heidenhain team, who provided three days of training on the CNC at their Chicago location and two more onsite at Century. Operator Hawes commented that he had substantial experience on Heidenhain controls, so the training went quickly for him, though the new control has numerous new features, including its Smart Programming, a graphical programming feature that allows the user to draw contours directly onto the touchscreen, after which the CNC converts the result into a Klartext (German for clear text) program. Century uses Visi as its main CAD program and Tebis as its CAM software and Bradford noted the seamless matching of these programs with the onboard CNC software to configure programs and posts made startup and run a smoother process.

In addition, the new CNC offers the user its Component Monitoring feature, which can protect the spindle bearing from overloading, while also detecting increased component wear in the drive train, all while the machine is running. This feature provides valuable data for predictive maintenance and evaluation of the process capability of the machine. This is vital at Century, who uses the Zimmermann machine exclusively for large, one-off mold prep, often removing over 90% of the material from a workpiece, over multiple days of machining.

Also, the ergonomics of the CNC are extremely user-friendly. Screen layouts and touchpad controls can be adapted to suit user preferences.

Finally, the intuitive contour programming is enabled by symbolic gestures on the touchscreen. Since Klartext remains the main format for files and exporting from the Heidenhain control, existing NC programs can continue in use.

Currently, the Zimmermann machine at Century is running on two shifts, often remotely tended in a low-light or lights-out mode.

Tom Bradford comments on the Zimmermann machine performance. “We do a lot of large tools for compression molding of composites and other substrates. We work for a variety of industries, from automotive to heavy truck, off-highway to agriculture, power sports to infrastructure such as water tanks. Century specializes in Class-A exterior body panels, so the surface finish is critical. During the very long runs we do on the Zimmermann, maintaining tight tolerances is key and the machine plus its onboard control technology make that happen for us.”

Brian Czapla, Director of Sales at Century, adds, “The trend toward high-strength, lightweight composites and large dimensioned, unitized parts for auto and heavy truck make this machine a real asset in our operation.”

In use, the typical workpiece on the Zimmermann is P20 steel, the industry standard for molds, as well as various aluminum materials. HSK 63 and HSK 80 are the primary toolholder types, used for cutting and laser touch probing here. Standard carbide cutting tools and inserts are typical, as well.

Bradford further notes, “As a tooling source, we serve the Tier One and OEMs in the manufacturing space. We have a strong reputation in automotive and heavy truck and we’re looking to expand into aerospace and other consumer products as well. As Brian noted, our core strength in composite molds gives us a real advantage in entering these other markets. The Zimmermann machine helps us achieve superior RA finishes with consistent quality, even on much larger structures.”

Century Tool is part of the Tooling Tech Group. With roots that go back over 40 years, Tooling Tech Group (TTG) has grown to be a leading manufacturer of tooling in the United States. They provide solutions for thermoform molding, high compression composite molding, blow molding, rotational molding, die casting and stamping, as well as custom automation systems for assembly, joining and inspection applications in a variety of industrial sectors. TTG comprises Century Tool, Century Automation for post-molding materials handling and assembly strategies, Die Cad for tooling design & simulation, Majestic for production of stamping dies, Tooling Technology for turnkey cast & billet aluminum tooling solutions, Alpha Integration for assembly automation and G&H Tool & Mold for high-pressure die cast molds.

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**About Zimmermann**

Zimmermann is based in Germany and is a leading global high-tech supplier of portal milling machines. These are characterized by huge workspaces, substantial machining dynamics and cutting performance. The company has its North American headquarters in Wixom, Michigan, near Detroit, where it operates a full tech center, offering engineering assistance, commissioning, parts and retrofit services, as well as multiple machines for demonstration purposes. Zimmermann Inc. is headed by President Cornelius Kiesel.

Zimmermann, founded in 1933 by Friedrich Zimmermann, now has over 200 employees worldwide. With its product range, our innovative company has one goal above all: to offer the right solution for our customers and thus be able to guarantee high economic efficiency. “Quality made in Germany and supported locally” is our motto. The company’s special machines are used worldwide in the automotive, aerospace, moldmaking, transportation, off-highway and mechanical engineering sectors.

**About Century Tool**

Our skill in machining complex geometries and exacting tolerances has positioned Century Tool as a premier composites mold supplier capable of meeting the exceptional surface quality required by manufacturers in the automotive, marine, agriculture, and other industries.

Our Team has mastered the production of molds capable of delivering excellent surface finishes required by Class-A exterior body panels. We have provided the tools used for high-visibility, high-demand vehicles like the Corvette, Jeep, and the Ford Bronco.

**About Tooling Tech Group (parent company of Century Tool)**

Tooling Tech Group has combined a growing number of industry-leading automation and tooling brands, pooling their collective knowledge and experience to support our efforts to design and build the most innovative automation and tooling solutions for our customers’ greatest manufacturing and product challenges.

Tooling Tech Group is the largest provider of tooling in the United States with 600+ employees, 12 modern facilities and over 1-million square feet of manufacturing space across five states.

We build custom tooling for a variety of applications including thermoforming, compression molding, blow molding, die casting, and stamping, as well as secondary equipment and automated solutions for these applications. We have experience in many industries including automotive, appliance, lawn and garden, agricultural, aerospace, marine, and off-road vehicle industries, among others.

**For more information, please contact:**

ZIMMERMANN INC.

30587 Century Drive

Wixom, MI 48393

Phone: 248-956-8511

[www.zimmermann-inc.com](http://www.zimmermann-inc.com)

Ms. Lena Kiesel, Marketing Manager

[lena@zimmermann-inc.com](mailto:lena@zimmermann-inc.com)

Or

CENTURY TOOL

200 South Alloy Drive

Fenton, MI 48430

Phone: 810-629-0784

[www.toolingtechgroup.com](http://www.toolingtechgroup.com)

Ms. Amy Stegmuller, Chief Commercial Officer

[astegmuller@toolingtechgroup.com](mailto:astegmuller@toolingtechgroup.com)

(photos)

A group of men standing in front of a machine

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Cornelius Kiesel, President of Zimmermann, Inc., Brian Czapla, Director of Sales at Century, Yousif Sallan, Project Manager at Zimmermann, Inc. and Tom Bradford, Director of Manufacturing at Century, with the FZU37 portal milling machine.

A person working on a machine

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Century machine operator David Hawes sets the tooling on the spindle of the Zimmermann machine.

A group of men looking at a computer screen

Description automatically generated

Tom Bradford and David Hawes of Century review a cycle setup on the Heidenhain TNC7 CNC on the Zimmermann machine. This portal milling machine is the first in America with this advanced CNC onboard. The cycle can be simulated before running.

A machine in a factory

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A 5m x 4m x 1.5m work envelope is available on the Zimmermann machine, which substantially increased the run capabilities at Century.

A large metal piece on a table

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A large metal object with blue tubes

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Typical molds at Century, made from steel or aluminum, are used in compression molding various materials for structures used in automotive, off-highway, consumer durables and more.

A large white and green machine

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Overall view of the Zimmermann FZU37 portal milling machine

An aerial view of a large city

Description automatically generated

Overall view of the Century campus in Fenton, Michigan. Century is part of the Tool Tech Group here.