THIRD WAVE SYSTEMS

MODELING TECHNOLOGY · MACHINING SOLUTIONS

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FOR IMMEDIATE RELEASE

Third Wave Systems Purchases Micro-Milling Machine

Resource to Expand Company's Predictive Modeling Capabilities

MINNEAPOLIS, MN. (24 May 2011) – Machining modeling software and services provider Third Wave Systems (TWS) has purchased its second machining center: a Microlution 363-S 3-axis CNC horizontal micro-milling machine. The investment enables TWS to expand its capabilities for predicting, modeling, and validating material behavior during machining, positioning the company for entry into the medical market and other markets that require absolute precision during production.

"As we evaluated avenues for continued expansion of our predictive modeling technology, it became increasingly clear that precision machining was the way to go," explains Kerry Marusich, TWS President. "Third Wave has already invested our time and resources to several Small Business Innovation Research (SBIR) projects focused on micron-level capabilities. With the addition of the Microlution machine, our staff is now more extensively equipped to tackle the unique challenges presented by the precision machining marketplace. It's a pretty sweet machine, and we're excited to build our relationship with Microlution."

The Microlution 363-S machine (pictured at right) has a positioning accuracy of 2 microns, a repeatability of 0.2 microns, and a resolution of 0.05 microns. The machine features AC linear motors on X, Y, and Z stages; Heidenhain linear optical encoders on X, Y, and Z stages; precision granite support structures; and a high-performance, open-architecture CNC controller. Its 36-pocket automatic tool changing system is

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capable of supporting tools ranging in diameter from 0.002 inches to 0.125 inches.

Third Wave Systems' Productivity Center is a fully-operational research and development lab, allowing the company to validate its software and support its R&D initiatives. A team of TWS Applications Engineers are carefully trained to utilize the state-of-the-art equipment in this facility; in addition to the Microlution 363-S, the Productivity Center includes:

- **Machining:** Mori-Seiki NH6300 DCG 5-axis horizontal machining center, 30 kW, 8000 RPM high torque direct drive CAT-50 spindle, 1m x 1m x 1.3m work envelope, Fanuc series 16i controller, 70 bar high pressure coolant system.
- **Data Acquisition:** National Instruments DAQPad-6015 16 channel data acquisition board, 200 kHz sampling rate, Matlab software with data acquisition and signal processing toolboxes. Laptop-based.
- **Software:** CATIA V5 CAD/CAM, AutoCAD LT, Vericut 6.1, NX CAD/CAM Software, AdvantEdge FEM, Production Module.
- **Dimensional Measurement:** Renishaw MP700 optical transmission probe.
- **Vibration Measurement:** MetalMAX Modal Analysis System.
- **Cutting Force/Power:** Kistler 9255B table mounted dynamometer; Caron TMAC spindle power monitor.
- **Tool Wear Assessment:** Flexbar Optiflex digital microscope with image capture software.
- **Surface Finish:** Taylor-Hobson Surtronic 25 system.

About Third Wave Systems, Inc. Third Wave Systems provides material-based machining modeling software and services used by companies to optimize machining processes. Headquartered in Minneapolis, Minnesota, USA, Third Wave Systems also has offices in Los Angeles, California; Detroit, Michigan; and Rotherham, UK. International distributors are located in Europe and Asia. www.thirdwavesys.com

About Microlution. Microlution Inc. is a multifaceted cutting edge company committed to delivering an improved micro-machining solution across a wide array of industries. Through the utilization and integration of the company's micro/mesoscale machine tools (mMTs), many of the shortcomings and pains experienced in current micro-machining practices are directly addressed and mitigated. www.microlution-inc.com

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