



Micromem Subsidiary and Norwegian EM Technology Accelerate Development of Exploration Sensor Technology

Company provides update on previously announced partnership and shifts to Phase Two

Toronto, New York, N.Y.—June 23, 2009 — [Micromem Technologies Inc.](http://www.micromemtechnologies.com), (OTC: BB MMTIF, CNSX: MRM) through its wholly owned subsidiary Micromem Applied Sensor Technologies, Inc. (MASTInc) (www.mastinc.com), announced today that as a result of excellent progress during Phase One, Norwegian EM Technology (NEMT) has requested MASTInc to accelerate the schedule for the availability of its Phase Two survey tool. This tool, based on NEMT's unique survey technology, will enhance the capabilities of its sister company, Excel Expro Norge AS (EEN), for exploration activities in the North Sea and other international oil and gas regions. EEN is a young hydrocarbon exploration company, which was offered a share in exploration rights to a Norwegian offshore license area of approximately 1,000 square km.

MASTInc's client, NEMT, is developing a unique electromagnetic hydrocarbon and mineral exploration survey system for both offshore and onshore oil and mineral exploration. Its patent-pending system is being developed initially for use in a light aircraft, with expectations that this system can perform more efficient, cost-effective, fish and environmentally friendly basin-wide surveys than traditional seismic methods.

Marius J. Mes, Dr. Ing, engineering manager for NEMT, states, "We contracted MASTInc for a multi-phase project to help us realize our survey tool. The capabilities and features of MASTInc's successful HCS magnetic sensor make it uniquely suited for our type of application. In addition, their can-do attitude for developing new technology convinced us to work with them. As a specified first step, MASTInc developed, built and delivered a proof-of-concept Phase One experimental survey system around MASTInc's HCS sensor on time and within budget."

The Phase One receiver, which incorporates Micromem's patented magnetic sensor, was field-tested by NEMT for its ability to perform as a survey receiver for very low power signals within a strong background noise environment. As a result of NEMT feedback and experience gained from the initial Phase One field testing, the test results were used to fine-tune requirements for Phase Two of the survey system development and help detail the design specifications of the Phase Two prototype survey receiver. The Phase Two development aims to provide enhanced performance, capabilities and improved noise suppression/compensation.

The low signal power level requires extremely high gain amplification with as little embodiment circuitry noise addition as possible. Significant electrical noise will also be generated in the environment of use (i.e., an aircraft in this case) that must be suppressed and compensated for as well as possible. MASTInc and NEMT have started working on a Phase Two product development plan that will deliver the required functionality. The Phase Two product will be available for ruggedized field-testing within five to six months.

Steven Van Fleet, president of MASTInc, adds, "MASTInc recently contracted for third party certified sensitivity testing of their magnetic sensor. At 25 KHz and higher sampling rates, the sensitivity was approaching the sensitivity of a cesium vapor magnetometer. The sensor is the smallest in the world with a packaged footprint of less than 200 microns square with an active area of less than 5 microns. NEMT was a client of opportunity for us because of its unusual instrument sensitivity needs and signal processing challenges."

The magnetic sensor, designed in a proprietary and patented gallium arsenide compound, is ideally suited for arraying into complex sensing structures. MASTInc has ongoing sensor optimization that includes patented concentrator designs on a wafer and external circuitry innovations. This is to further improve the signal-to-noise ratio, moving the Hall sensor technology into new sensitivity areas never before achieved by similar sensing technologies.

Dr. Mes concludes, "MASTInc's proven capability of applying its magnetic sensors in enormous arrays is unique and one-of-a-kind. This will provide the hydrocarbon and mineral exploration industry with new tools for their work in the near future, which is expected to represent a huge market potential for MASTInc."

About Micromem and MASTInc

MASTInc is a wholly owned U.S.-based subsidiary of Micromem Technologies Inc., a publicly traded (OTC: MMTIF, CNSX: MRM) fabless semiconductor company with headquarters in Toronto, Canada and an office in New York City. MASTInc responsibly analyzes the specific industry sectors to create intelligent game-changing applications that address unmet market needs. By leveraging its expertise and experience with sophisticated magnetic sensor applications, MASTInc successfully powers the development and implementation of innovative solutions for healthcare/biomedical, natural resource exploration, government, information technology, manufacturing, and other industries. Visit <http://www.micromeminc.com> or www.mastinc.com.

Safe Harbor Statement

This press release contains forward-looking statements. Such forward-looking statements are subject to a number of risks, assumptions and uncertainties that could cause the Company's actual results to differ materially from those projected in such forward-looking statements. In particular, factors that could cause actual results to differ materially from those in forward looking statements include: our inability to obtain

additional financing on acceptable terms; risk that our products and services will not gain widespread market acceptance; continued consumer adoption of digital technology; inability to compete with others who provide comparable products; the failure of our technology; inability to respond to consumer and technological demands; inability to replace significant customers; seasonal nature of our business; and other risks detailed in our filings with the Securities and Exchange Commission. Forward-looking statements speak only as of the date made and are not guarantees of future performance. We undertake no obligation to publicly update or revise any forward-looking statements. When used in this document, the words “believe,” “expect,” “anticipate,” “estimate,” “project,” “plan,” “should,” “intend,” “may,” “will,” “would,” “potential,” and similar expressions may be used to identify forward-looking statements.

The CNSX or any other securities regulatory authority has not reviewed and does not accept responsibility for the adequacy or accuracy of this press release that has been prepared by management.

Listing: NASD OTC-Bulletin Board - Symbol: MMTIF
CNSX - Symbol: MRM

Shares issued: 88,348,003
SEC File No: 0-26005

Contact:

Jason Baun
Chief Information Officer
Micromem Technologies Inc.
416-364-2023
jbaun@micromeminc.com

Media Contact:

CPR for MASTInc
Dana Taormina
201-641-1911 x53
dtaormina@cpronline.com

###