FOR IMMEDIATE RELEASE **December 20, 2012**

Micromem Technologies Inc. Provides Update

Toronto, New York, December 20, 2012: Micromem Technologies Inc. (the "Company") (CNSX: MRM, OTCBB: MMTIF) through its wholly owned subsidiary, Micromem Applied Sensor Technologies Inc. (MAST), is pleased to provide an update on current and new initiatives.

GSI Westwind

First production volume run was completed in November and shipped to client. MAST is awaiting payment for first production run and instructions on next volume release. We will issue a press release with details as soon as available.

International Oil Company

MAST has formally advised our client that our sensor platform is ready for their testing in the field. The client's nanoparticle supplier is late in providing the project particles and this could impact our ability to deliver the initial beta units as originally scheduled. MAST and client are working together on alternative sources of nanoparticles and believe we will be back on the timetable for mid-January.

American Automobile Manufacturer

All work is now completed on the Proof of Concept oil pan plug sensor. It has been shipped to the client to allow them to test our device on a vehicle in a dynamometer environment. Third party Non Destructive testing of our POC was completed in December and the product showed no resonances at 10g at 2000Hz. The client testing is expected to be completed in January 2013 at which time MAST will have provided the client with all necessary data and product demonstration to allow them to proceed with the contract. We will issue a press release with the final results once available.

To view MAST oil pan plug sensor suite installed in a commercial engine test set up, visit http://files.newswire.ca/651/Micromem_Oil_Sensor.pdf. Full dynamometer tests are scheduled for January 2013. Our sensor suite includes oil pan level and analytical oil analysis. The sensor results are communicated wirelessly to the automobile's computer. The power for our sensor suite is scavenged from the vibrational energy of the auto in operation.

U.S. Department Of Defense (DoD) and the Terrorist Support Working Group (TSWG)

We have been advised by the U.S. Department of Defence that the status of our bids are as follows:

Forward-Looking Surface Penetrating Sensor Fusion of Combined Sonar/Radar for Disturbed Ground; *Designed for IED detection, this forward-looking sensor-fused phased-array radar/sonar provides multi-modal detection of disturbed ground.* This project is still awaiting DOD budget approval.

Monitoring of Large Scale Power Line Deflection
Discussions with the client under Non-Disclosure Agreement ("NDA") are proceeding. This project is slated for early 2013 funding. MAST has completed our provisional patent submissions on this project. MAST has submitted, as requested by the client; roll out pricing for deployment of our product throughout their power distribution system.

Sensor Technology and Methods for Measuring Cement Integrity
NDA and budget discussions continued through early December. The project has been internally approved within the client's organization. Release of the contract is expected in early Q113

Ultra Small Electronic-Scanning Ultrasonic Transducer for High Resolution Imaging
A major medical equipment manufacturer is looking for technology to create high-density arrays of ultra small electronic scanning ultrasonic transducers. These transducers will be incorporated onto cylindrical medical devices to enable high-resolution imaging. MAST proposes to place its technology on the end of the client's catheter. This technology will allow greater visibility to the surgeon. This project is pending approval by client.

Volume Production of MAST Hall Sensors
MAST's Hall Sensor is currently undergoing testing and evaluation by a client. The client has validated that our technology can maintain linearity in a magnetic field up to 2.5 Tesla. Our technology has undergone head to head tests by this client with other technologies and the client has reported back that our Hall sensor was the successful sensor in all categories. Micromem has been advised that the client will begin discussions in early July of a large volume purchase order. This project does not require MAST to do any development and will be handled as routine production of our standard Hall sensor.

Miniature Current Sensing Device
MAST submitted a proposal to an international client to design and build a miniature electric current sensor device. The objective is to detect a current in very small wires in a dense wiring environment. This device will be MEMS based and incorporates a wireless chip capable of communicating to external data collection services. Our proposal was selected for final negotiations, a NDA has been signed with the client and discussions have begun. This project is expected to proceed in Q113.

Wireless Power Transfer Device
MAST submitted a proposal to a client interested in providing wireless power solutions for residential use. Our proposal is now on the short list and discussions have begun under NDA. This project is expected to proceed in Q113.

Ability to Weigh Extremely Small Quantities in a Production Environment
Discussions with the client under NDA are proceeding. Samples of the product to be weighed have been received by MAST and we have formally advised the client that we are able to meet their cycle time and accuracy/repeatability requirements. MAST has demonstrated our approach which allows for accuracy in weighing of the product to 6 digits right of the decimal point and a total cycle time approaching 1 second. Current weighing systems in place take close to 90 seconds to weigh the product causing production limitations. The next phase is a client paid product demonstration anticipated to begin in January 2013.

Remote Monitoring of Elderly Home Care Patients
MAST has submitted a proposal for technology that will provide the ability to garner health information from elderly home care patients through routine monitoring at home. MAST is currently designing an in-home device that the home care patient would simply touch. Through that touch the device will be able to provide information on the patient's health. Through contact with the patient's skin the device, a nanostructure initiator mass spectrometer chip, can provide information such as microbial and chemical

exposure to toxic substances, track stress, addiction, disease recovery and dietary changes. It would also be designed to monitor the efficiency of antibiotics or antibacterial agents. This project has now been short listed and technical discussions on specific performance requirements are ongoing.

Stable Hydrocarbon Sensor for use in Automotive Exhaust

MAST has submitted a proposal to a third global automotive company to develop a stable hydrocarbon sensor for use in automotive exhaust. Our technology would be used to measure vibration and rotation modes of hydrocarbon bonds, enabling accurate detection of low concentrations of hydrocarbons in exhaust. A provisional patent has been prepared as this innovative design is based upon quantum entanglement. MAST is currently awaiting NDA execution to proceed.

Early Breast Cancer Awareness Device

Micromem demonstrated the device at a medical conference in Eastern Europe and as a result, contract discussions for European rights are scheduled to begin mid-January.

Aerial Magnetic Exploration Platform

MAST is negotiating with a firm that will productize our magnetic aerial exploration platform. Our measurement platform is scheduled to incorporate the world's most sensitive sensor front end in the form of a SERF Magnetometer. A differential measurement will allow measurement sensitivity of better than 1 pT/root Hz. Commercialization is expected to be complete in Q113. Negotiations continue with a third party who is planning to license and distribute this device.

About Micromem and MASTInc

MASTInc is a wholly owned U.S.-based subsidiary of Micromem Technologies Inc., a publicly traded (OTC BB: MMTIF, CNSX: MRM) company. 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 www.micromeminc.com 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; the infringement of our technology with proprietary rights of third parties; 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.

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