



FOR IMMEDIATE RELEASE

FEBRUARY 19, 2008

Micromem Technologies Inc. Announces a High Density Array Magnetic Anomaly Sensor Development Plan

TORONTO, ONTARIO, February 19, 2008 –Micromem Technologies Inc. [OTC BB: MMTIF] is pleased to announce its Magneto-resistive random access memory (MRAM) is a highly probable candidate for the universal memory, characterized mainly by high speed (read/write), high density and non-volatility. Micromem has designed a new process architecture for MRAM.

We are pleased to announce that our foundry tests have demonstrated a number of valuable advantages for a magnetic-based sensor and memory device: including high sensitivity, thermal stability and simplicity and low cost manufacturing.

We demonstrated that hysteresis-free operation can be expected for systems incorporating our technology, dynamic range and linear field response is now characterized to depend upon material and geometry and the active element of our Hall cross sensor is the intersection of the Hall bars which can be miniaturized to the lithography limits. No change in sensitivity was detected with the line when reduced from 10 to 0.1 micron.

Micromem now has a new and highly sensitive Hall device fabricated via a simplified process. The company has demonstrated that a unique shape of the device design represents the optimum concentration of the sensitivity of the sensor, the measurement range and the overall size of the chip. Initial testing indicates a sensitivity of 2.2 V/T with a minimal bias voltage; the lowest detectable field is 0.2 micro-T, and the linearity of better than 1% in the measurement range. Micromem has patented the unique shape of our sensor with particular emphasis on magnetic yoke form factor and its orientation relative to the Hall sensor.

In addition Micromem announces today that it has released to a third party the design and manufacture of a high-density magnetoresistive sensor array. This design will focus on the innovative use of magnetism, electronics and nanotechnology. The company believes this sensor has market value in military, medical, forensic and human interface applications. The 256 x 256 sensor array is planned as a demonstration of the flexibility of non-invasive capabilities of magnetic anomaly detection, combined with the ability to measure absolute field strengths in Oersteds/Gauss.

For further information and companies interested in better understanding the Micromem technology and participating in future field trials are encouraged to contact Jason Baun, Chief Information Officer 1-877-388-8930

Listing: NASD OTC-Bulletin Board - Symbol: "MMTIF"

Shares issued: 74,050,067

SEC File No: 0-26005

About Micromem Technologies Inc.

Micromem Technologies, Inc. (www.micromeminc.com) is focused on the development of magnetic random access memory (MRAM) technology.

Statements in this news release that are not historical facts, including statements about plans and expectations regarding products and opportunities, demand and acceptance of new or existing products, capital resources and future financial results are forward-looking. Forward-looking statements involve risks and uncertainties, which may cause Micromem's actual results in future periods to differ materially from those expressed or suggested herein. These uncertainties and risks include, without limitation, the inherent uncertainty of research, product development and commercialization, the impact of competitive products and patents, our ability to fund our current and future business strategies and respond to the effect of economic and business conditions generally as well as other risks and uncertainties detailed from time to time in Micromem's filings with the Securities & Exchange Commission. There can be no guarantee that Micromem will be able to enter into any commercial arrangements on terms that are favorable to it, or at all. For more information, please refer to Micromem's Annual Report on Form 20-F and its Form 6-Ks as filed with the U.S. Securities and Exchange Commission. Micromem is under no obligation (and expressly disclaims any obligation) to update or revise any forward-looking statements whether as a result of new information, future events or otherwise.