

# True breakthrough in advanced micro fuel cell technology for handheld devices

June 22 2004

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**MTI MICRO demonstrates the world's first handheld entertainment system and PDA/smartphone powered by an integrated fuel cell.**



MTI MicroFuel Cells Inc. (MTI Micro), the leading developer of miniaturized fuel cells suitable for handheld electronic devices and a subsidiary of Mechanical Technology Inc. (NASDAQ: MKTY), announced the introduction of Mobion™ technology. MTI Micro's Mobion™ is based on patented direct methanol fuel cell (DMFC) technology, and represents a number of scientific breakthroughs that the Company believes will ultimately enable it to power portable devices 2 to 10 times longer than an equivalent size battery pack, while allowing for instant, cord-free re-charging.

“Mobion™ is a true breakthrough in advanced micro fuel cell technology, and is the enabling technology powering our first product shipment planned for the industrial market later this year,” said Dr. William Acker, CEO and President of MTI Micro. “Our vision extends beyond the industrial market, and today’s concept model demonstration of Mobion™ technology powering and integrated into handheld electronic products helps underscore our commitment to penetrating the multi-billion dollar power pack market for portable consumer electronics”.

Today MTI debuted Mobion™ technology integrated into two concept models, a handheld entertainment system and a PDA/smart phone. The integrated Mobion™ power pack is less than 40cc in size, achieving a technology milestone for the company while demonstrating miniaturization progress necessary for integration into portable electronic devices.

The announcement of Mobion™ is preceded by the establishment of an impressive list of world class supply chain partners. With Dupont, a worldwide materials and sciences leader as its membrane/electrode assembly partner, Flextronics, the world’s largest electronics manufacturing services company as its manufacturing partner and Gillette/Duracell intended to provide consumer fuel refill distribution, MTI Micro is poised to translate its early technology leadership into a strong position in the power pack market for portable electronics.

"Recent advances in fuel cell materials science and technology have spurred hydrogen fuel cell development for automotive applications to address long term energy needs, whereas exciting breakthroughs have spurred portable fuel cell development using methanol fuel for much nearer term needs," said Sara Bradford, an analyst with Frost & Sullivan. "MTI Micro has combined its significant DMFC technology advances with the commercial heritage of its 42 year-old parent company MTI to

launch Mobion™ -- the first micro fuel cell technology designed for the performance, manufacturability and cost profile necessary to make a significant impact on the military and commercial portable electronics markets."

### Mobion™ Cord-Free Rechargeable Technology

Mobion™ is the culmination of work protected by a combination of more than 50 patents (either granted or applied for) representing a number of breakthrough discoveries. MTI Micro believes Mobion™ proprietary DMFC power pack technology has significant benefits over status quo battery packs and competing micro fuel cell designs.

At the core of Mobion™ technology is its unique approach to managing the water produced at the fuel cell cathode, and required for the chemical reaction at the fuel cell anode. Traditional DMFCs rely on complex water management "micro-plumbing" around the cell, whereby water that is produced at the cathode is collected, re-routed and mixed with incoming methanol at the anode. The Mobion™ technology architecture uses a proprietary approach which manages the water flow internal to the fuel cell with no pumping required.

By eliminating the need for cumbersome water management "micro-plumbing", Mobion™ technology can result in several key and distinct advantages for OEM system designers and end consumers, including:

Powerful – longer run times between charges

Manufacturable – less system complexity, small and light enough for handheld devices

Affordable – utilizes many existing, proven and highly available materials, making Mobion™ technology cost effective for OEMs and consumers alike

Markets Addressed  
MTI Micro will ultimately address three primary markets, industrial, military and consumer electronics, through a phased entry approach. The

Company plans its first shipment of Mobion™ power packs to the industrial market for use in retail, distribution and warehousing applications (such as RFID tag readers) where the shorter run-time and re-charge maintenance of traditional batteries reduce worker productivity.

MTI Micro has also begun pursuit of the military market. The Company has begun testing with government organizations and defense equipment suppliers and believes it will capitalize on those relationships by supplying rugged, high-capacity fuel cells for future military applications.

MTI Micro then plans to pursue the broader consumer market with partners such as Gillette/Duracell. Target applications will include hand-held communication devices, PDAs and other power-hungry portable electronic devices that can benefit from Mobion™ extended run-time, cord-free rechargeable power packs with continuous access to power anytime, anywhere.

For more information please visit [www.mtimicrofuelcells.com/](http://www.mtimicrofuelcells.com/)

Citation: True breakthrough in advanced micro fuel cell technology for handheld devices (2004, June 22) retrieved 16 August 2024 from <https://phys.org/news/2004-06-true-breakthrough-advanced-micro-fuel.html>

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