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## **INI Power Systems Inc. Achieves Significant Fuel Cell Technical Milestone**

INI Power Systems Inc. ("INI") of Cary, North Carolina has achieved an important technical milestone in the development of its Direct Methanol **Laminar Flow Fuel Cell (LFFC®)** for consumer and military portable power applications. In achieving the technical milestone, INI Power has demonstrated that the LFFC® stack exceeds current state-of-the-art direct methanol fuel cell stack performance under commercially-viable operating conditions. The milestone event triggers the release of the remaining funds raised from Series A investors as part of a \$3 million financing completed July 2004.

INI's LFFC® stack prototype has demonstrated superior electrochemical performance at low to moderate temperatures utilizing methanol and ambient air. This was accomplished through a new stack design that limits methanol crossover and remains water neutral, both key issues in improving stack performance and eliminating complex water recovery equipment at a systems level. Using flexible circuit materials and processes, the latest LFFC® stack design confirms INI's approach to simplifying manufacturability and lowering cost. According to Larry Markoski, INI's President and Chief Technology Officer, "the LFFC® demonstrates remarkable flexibility in manufacturability and operation with the power output scaling linearly and reproducibly with internal stack volume and active area."

David Wiley, Managing Director at MHI Energy Partners, the lead investor in the Series A praised the INI achievement: "With these results, the LFFC stack is now poised to enable real products for the consumer and military portable power markets. We are extremely pleased with the accomplishments of the INI team and expect a number of further performance improvements in the coming months"

INI Power Systems, Inc. has worldwide exclusivity to the Laminar Flow Fuel Cell (LFFC®) concept and has patented key improvements demonstrated to overcome the technical performance issues that have delayed the commercialization of conventional Direct Methanol Fuel Cells (DMFCs) in the power range of 10 – 250 watts: (1) cathode flooding, (2) water management, (3) fuel crossover, and (4) fuel efficiency. The LFFC® overcomes these obstacles by taking advantage of the laminar flow properties of liquids within microfluidic channels. This simply means two or more discrete fluids can flow together in physical contact, with little to no intermixing, while maintaining ionic conductivity. Accordingly, the LFFC® does not require a conventional membrane electrode assembly, thus simplifying manufacture and reducing cost. The system is air-breathing, incorporating an ambient gas stream and gas diffusion electrode for internal gas exchange. This design provides an overall dynamic system that is much like living organisms, that utilize flowing liquids and air to create a 'fuel cell-like mobile power source' adaptable to a wide range of environmental conditions, flexible in operation and linearly scalable to larger or smaller sizes. Details of INI's unique LFFC® technology can be found at its website at: [www.inipower.com](http://www.inipower.com)

INI Power Systems Inc. is a featured presenter at the following venues: Energy Venture Fair (Boston, MA November 2-3<sup>rd</sup>), Global Venture Forum (Osaka, Japan November 14-15<sup>th</sup>) and the World Methanol Conference (Miami Beach, FL December 12-14).