

## Press Release

FOR IMMEDIATE RELEASE

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**HEADLINE: EMTEC Team Wins 2006 R&D 100 Award for Ultrafast Hydrogen Detector****BODY:**

An R&D 100 Award for 2006 has been presented to a team consisting of Makel Engineering Incorporated of Cleveland, OH, The Edison Materials Technology Center (EMTEC) of Dayton, OH, and Argonne National Laboratory of Chicago, IL. This prestigious award was presented to the team for the development of an ultrafast nanostructured hydrogen sensor. This innovative new product integrates nanomaterials with unique sensing technologies and an electronics packaging design to provide sensors that will enable the safe use of hydrogen many consumer applications. These new sensing products can be integrated into fuel cell systems resulting in a product that is less expensive, more sensitive to detect hydrogen, and provides dramatically faster response than current competitive technology. This new sensor product provides a striking improvement in sensitivity and speed of detection when compared to current technologies and is the only product invented to date that can sense this odorless, colorless gas quickly enough to allow other designed products, through subsequent signals from the sensor, to take an action to mitigate unsafe effects. This is an important tool to further enable the use of fuel cells in automobiles and other transportation and alternative energy applications.

Dr. Mike Martin, V.P. of EMTEC's Alternative Energy Group stated that "Makel Engineering has utilized Argonne National Lab sensing technology packaged with Makel's advanced electro-mechanical designs to create a product that enables the safe use of hydrogen in many consumer applications including automobiles. This sensor design and robust signal processing product allows the detection of hydrogen earlier and at lower concentration than any other product on the market."

The R&D 100 Awards are given on the basis of being technologically significant as judged by R&D Magazine's editors and outside advisors. These awards are given annually to the top 100 products internationally that demonstrate technological significance when compared with competing products and technologies. Award winners in prior years include the flashcube (1965), fax machine (1975), Nicoderm antismoking patch (1992), and HDTV (1998). The R&D 100 Awards have a strong track record of identifying products that can save lives and preserve the environment. Included in this are products that provide improved industrial technologies such as that in the ultrafast nanostructured hydrogen sensor technology.

The Edison Materials Technology Center (EMTEC) in Dayton, OH, is a non-profit, member-based organization serving Ohio. As an organization that develops business and technology strategies, sponsors, coordinates, and manages collaborative projects and programs leading to commercialization or new business formation, EMTEC is committed to the mission of accelerating materials technology to the market. EMTEC provides technical coordination and commercialization assistance to Ohio's industry, universities, and government labs to strengthen Ohio's industrial competitiveness in automotive, metal casting, nanomaterials, polymers, composites, biomaterials, and alternative energy markets. Makel Engineering provides products for aviation, space, military, and commercial applications with facilities in Chico, CA and Cleveland, OH. It is primarily involved in micro-electro-mechanical systems (MEMS) for chemical sensing. Among its research and development areas are advanced chemical sensors, smart fire detections systems, and clean power generation. Argonne National Labs is one of the U.S. government's oldest and largest science and engineering research labs with the University of Chicago overseeing its operations on behalf of the U.S. Department of Energy. Argonne Labs works in five primary areas: basic science, science facilities, energy resources, environmental management, and national security.

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