

# Project Information



**Subject**                    **Development of a multi-functional backpack power supply based on a PEM fuel cell with methanol reformer**

**Applicant**                    IDATECH Fuel Cells GmbH  
Konrad Adenauer Str. 9 -13  
45699 Herten

**Project Duration:**        1/1/2006 - 10/31/2006

**Project Partner:**        Telekom  
Rittal  
Hoppecke  
Innecken  
Brenntag

**Contact:**                    Harald Hundenborn  
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## Project description:

IdaTech presented the company's iGen™ fuel cell system for the first time in September 2005 at the INTELEC trade fair in Berlin and demonstrated the production systems at the Hanover Fair in 2006.



This very compact fuel cell system essentially consists of a reformer which converts HydroPlus, a methanol/water fuel mixture, into high-purity hydrogen and a PEM fuel cell stack that operates on the generated hydrogen. The fuel cell system produces electricity through the electro-chemical reaction, and the only emission is pure water vapor.



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The Telekom-operated Information Kiosk Systems provide event visitors phone or Internet access for a fee. Thus far, these kiosk systems have only been operated with 230 V by a power source-independent battery string, which can be exchanged or recharged locally. In this project, the iGen™ fuel cell system from IdaTech is used to recharge these batteries. Due to the space restriction in the kiosk systems, there is not sufficient space for the fuel cell, battery, inverter and all other necessary components. Therefore a backpack power system has been developed, which is constructed in direct proximity with the kiosk system to provide power.



The backpack system consists of a water-protected cabinet developed by Rittal, integrated with IdaTech's iGen™ fuel cell system, a Hoppecke battery, an Innecken inverter, tanks of the methanol/water fuel mixture from Brenntag and further electrical control and safety components of other suppliers.

These fuel cell-based backpack power supplies, together with the kiosk systems, were sited at different locations in and around the stadiums during the Soccer World Championships in 2006



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Many other applications for the fuel cell backpack power supply systems are possible



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