
Microfabricated Fuel Cells – Low cost fuel cell modules

Summary	<p>Developing long life, reconfigurable fuel cell modules which are microfabricated on silicon. The target is to match current capacity levels over a 10 year device lifetime whilst using lower-cost anode and cathode materials.</p> <p>The project will integrate the prototypes into a working wireless sensor system, with lifetime analysis.</p>
Key attributes	<p>The key attributes of the Microfab Fuel Cells project are:</p> <ul style="list-style-type: none">• Substitution of ion exchange membranes and platinum catalysts with lower cost materials to provide reduced material costs compared to conventional fuel cells• The use of novel deposition techniques to increase catalyst activity and hence reduce materials cost• A new test rig is being developed to allow the average lifetime distribution of cells in wireless sensor networks to be investigated
Potential opportunities	<p>Prototype results from the Microfab Fuel Cells project will be available in the final year of the project (to November 2010). This should provide:</p> <ul style="list-style-type: none">• A wireless sensor system with a working prototype fuel cell• Lifetime analysis results from the test rig• A demonstrator system to review with possible industry partners• IPR assets to support licensing
Possible application areas	<p>The Microfab Fuel Cells approach could be useful in a range of wireless sensor market segments, for example:</p> <ul style="list-style-type: none">• Building and environmental monitoring• Industrial applications (manufacturing plant, distribution, etc.)

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