Micropower Executive Summary

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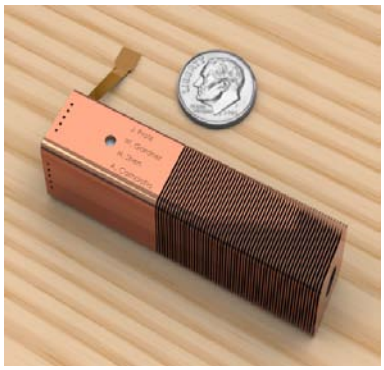
Opportunity

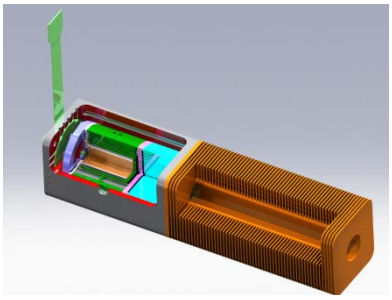
Imagine running your laptop for 24 hours without having to plug into a wall socket. Imagine an autonomous military robot that can stay in the field for over a day without recharging, as opposed to the current 4 hour limit. The portable electronics market is $50 billion. Using an ethanol fueled Microengine, the revolutionary Micropower design delivers the ultimate flexibility and freedom to the consumer by delivering a 5x-10x power density over lithium batteries.



Prototype

Product

The Microengine functions like a high performance combined cycle power plant. Ethanol is combusted to create high pressure, high temperature gas which is then passed through a turbine to generate 10-100 Watts of electrical power in a highly compact form factor. The Microengine uses a simpler thermodynamic cycle than previous engine concepts, allowing for a reduction in rotating pumping components and reduction in risk. Engine improvements will occur through a high incremental risk, high reward component development program built upon the core cycle.



Engine Cutaway

Intellectual Property

Micropower's technology is derived from research conducted at MIT and Duke by Dr. Jonathan Protz (one of the leading Microengine researchers in the U.S.). Will Gardner, a student of Prof. Protz, is currently advancing the technology through his PhD research at Duke. The team filed a provisional patent for their Microengine technology in Dec 2009 for research performed on DARPA HR011-08-C-0163.

Go-to-Market

Micropower's product has two natural markets: Military & Commercial. The company plans to enter the military market first.

Contingent on development of a successful prototype, Logos Technologies has agreed to partner with Micropower in exchange for equity (terms have not been negotiated). Logos has a long track record of securing DARPA grants and military contracts as they have necessary security clearances and vendor qualifications. Government grants (i.e. DARPA) to fund Micropower's R&D efforts will enable development of demo units for trial in military environments without the need for a larger round of equity financing.

Success in the military market will establish product credibility and a preferred vendor status for Micropower. It will establish manufacturing and supply infrastructure, and domain experience. The military contracts will provide Micropower with organic cash flows preparing it to build low cost, highly scalable commercial products. **10% penetration** into the 4M unit ultraportable laptop market at a unit price of $500 gives revenues of **$195M** per year.

Investment Demand and Competitive Landscape

Private investors and now the public market have shown a strong appetite for investments in the advanced battery and energy storage/energy creation space as evidenced by:

Lilliputian Systems - $78 million in financing from premiere venture capital firm Kliener Perkins. Lilliputian has built a similar product as Micropower, albeit different technology and process. They use larger fuel cell technology.

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A123 - Just completed a $378 million IPO with a 50% jump in stock price on first day of trading. The company had raised over $132 million in private venture capital funding. They use lithium-ion battery technology in the automotive space.

SEEO - $8.6 million Series A from Khosla Ventures for advanced lithium-ion batteries.

These are just three examples of several startup companies that have experienced successful fund raising. Micropower expects to benefit from this trend and given its unique technology and potential has ***already had preliminary interest from top tier Silicon Valley venture capitalists*** through our advisory board. An investor pipeline list is available upon further due diligence.

Use of Proceeds

Micropower will use the $25,000 proceeds from the Duke Start-Up Challenge to complete the prototype in order to secure the partnership with Logos Technologies, which would lead to additional funding via government grants. Here's a high level break up of our use of proceeds:

- $20k for 2 fabrication runs producing ***4 functional demo prototypes.*** The engines will be fabricated using a highly scalable chemical etching process performed by a large firm in Chicago.
- $5k for peripheral equipment including generators, circuitry, etc

Team Members

William Gardner
Will is a Mechanical Engineering PhD student at Duke. As an undergraduate at Duke, Will led the Duke University Formula SAE team to consecutive best finishes 3 years in a row. Will is leading the development effort and handling system design.

Shalav Gupta
Shalav is a second year MBA student at Fuqua, Duke University. He has over five years of experience in technology consulting and management roles with firms such as Capgemini, British Telecom and Johnson & Johnson. Shalav was a finalist in the Duke Start-Up Challenge last year. Shalav is leading marketing and business development.

Andrew Camacho
Andy is a Mechanical Engineering PhD student at Duke. After graduating Duke in '08, Andy worked overseas for the world's largest oil services contractor. Andy leads design on turbomachinery components, such as the turbine and turbogenerator.

Hardy Shen
Hardy Shen is a MEM student and Duke undergrad. As an undergrad at Duke, Hardy streamlined manufacturing process for drivetrain components on Duke's Formula SAE team. Hardy heads development on packaging and fabrication.

Advisors

Jonathan Protz, PhD
Professor Protz received went straight through MIT and received his PhD in 2000 for his work leading MIT's microengine project and was a finalist at MIT's 50k startup competition. He is now an assistant professor at Duke's Mechanical Engineering department.

Jason Massey
Jason has worked as a venture capitalist for 7 years in Silicon Valley and is now an active advisor and angel in several startups including Quantios, Tapulous and Mission Motors. He is often a guest lecturer on entrepreneurship at his alma mater of NCSU.