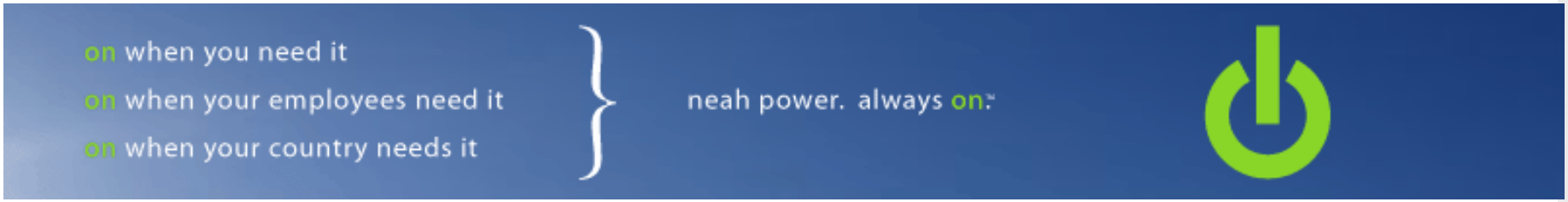


NEAH Power Systems, Inc

5th Annual Globalization of Cleantech Conference
Dec 8th 2009

Forward Looking Statements

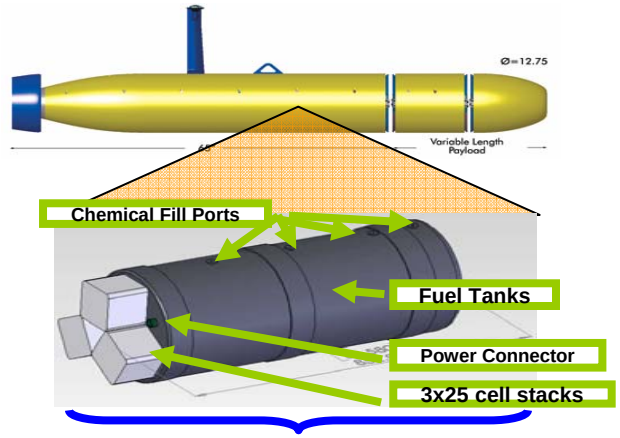
Certain of the statements contained herein may be, within the meaning of the federal securities laws, "forward-looking statements," which are subject to risks and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of the company to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. See NEAH Power System's Form 10-KSB for the fiscal year ended September 30, 2008 for a discussion of such risks, uncertainties and other factors. These forward-looking statements are based on management's expectations as of the date hereof, and the company does not undertake any responsibility to update any of these statements in the future.

Mission Statement

To provide the most competitive fuel cell, and fuel cell based, renewable energy solutions founded upon our differentiated technology and capital efficient manufacturing model

HOBIE CAT

EKO VEHICLES

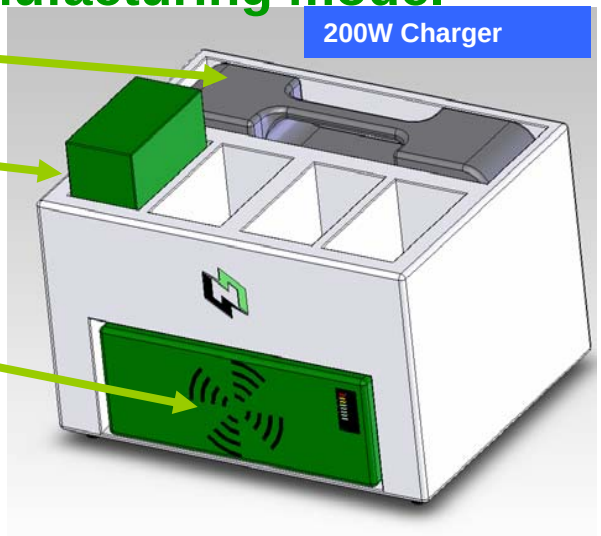


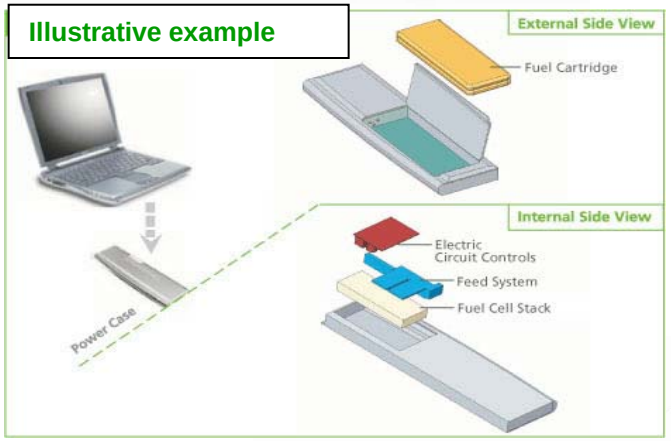
Fuel Cell System & Tank

Fuel Tank

Re-chargeable Battery

Fuel Cell System





Overview

- Fuel Cells
  - Benefits
  - Challenges
- NEAH's Fuel Cell Solution
- NEAH's Manufacturing solution
- Market size
- Management team
- NEAH's Opportunity

Fuel Cells

- Fuel cells
  - Directly converts fuel into electricity
  - Provide freedom from electrical grid
  - Simple, quick refill (“instant on”)
  - High energy density
- Batteries
  - Store electricity for a limited number of charges
  - Bound to electrical grid
  - Long charging times
  - Lower energy density

NEAH power systems

Battery Technology Challenges

- Market demands for longer runtime
- Lithium-ion batteries
  - Heavy
  - Safety concerns
  - Inefficient performance
- Power gap, demand vs. available energy
  - Power hungry features
  - Increased use in mobile environments
  - Limited battery technology

NEAH power systems

Fuel Cell Technology Benefits

- Benefits of methanol
- Converting fuel into electricity
- Mobile life via fuel replenishment
- Access to power “off-the-grid”
- Benefits over battery technology
- Clean, renewable & environmentally safe

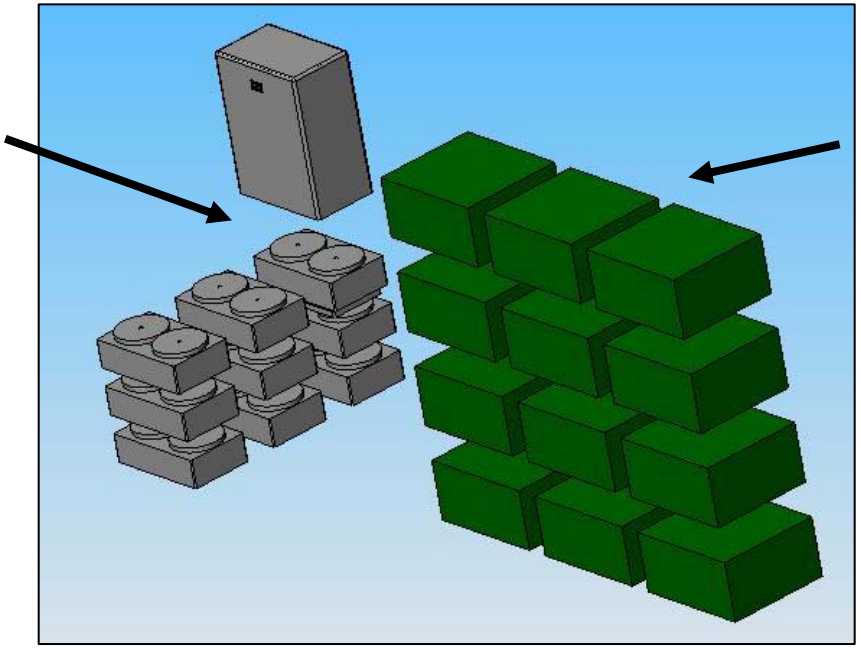
NEAH power systems

Shedding the Pounds

Fuel Cell for a 72-hour Mission

- 1 fuel cell
- 9 fuel cartridges

Total weight: 8 lbs



BA-5590 72-hour Mission

- 12 BA-5590 military standard batteries

Total weight: 27 lbs

Reduces Weight 70% on 72-Hour Mission

NEAH power systems

Direct Methanol Fuel Cell (DMFC) Challenges

- Proton Exchange Membrane (PEM) Technology
- Operating issues
- Water management
- Reliability
- Low power density and efficiency
- Manufacturability and commercialization

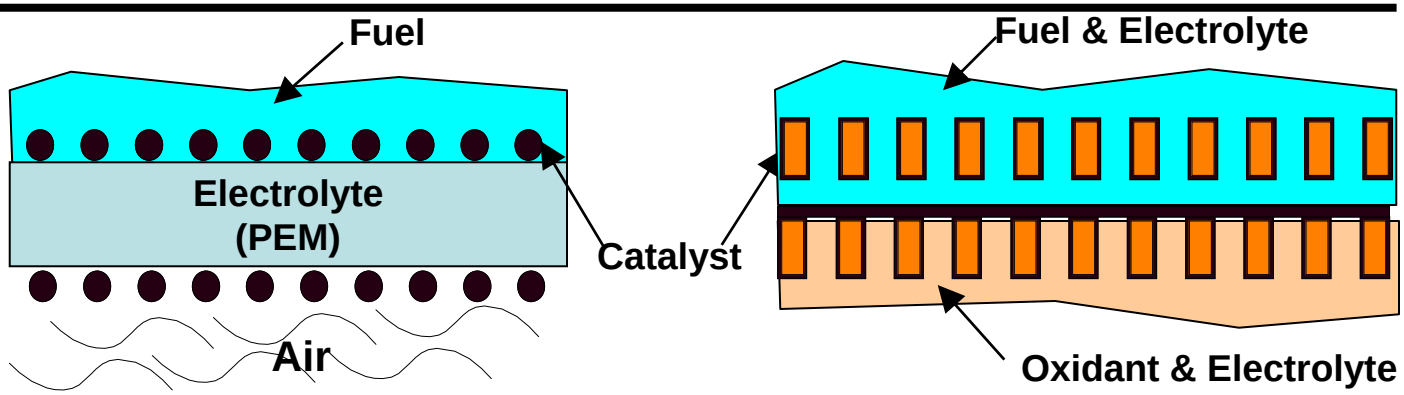
NEAH power systems

NEAH's Fuel Cell Technology Solution

- Silicon-based, DMFC
  - Porous silicon electrode structure
  - Circulating liquid streams of fuels
- Stable, long-lasting materials
- Increased power density
- Leverage silicon manufacturing infrastructure
- Easily customizable Lego® design
- Healthy GM – fuel cell, recurring revenue from cartridges

NEAH power systems

PEM DMFC vs. NEAH DMFC

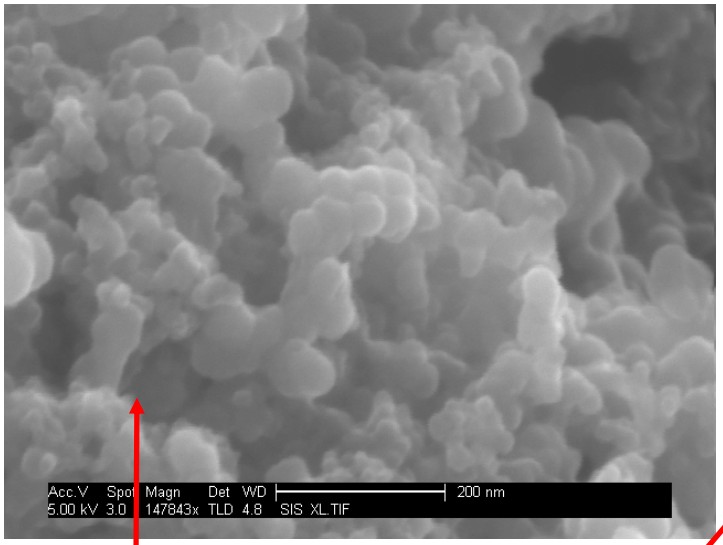


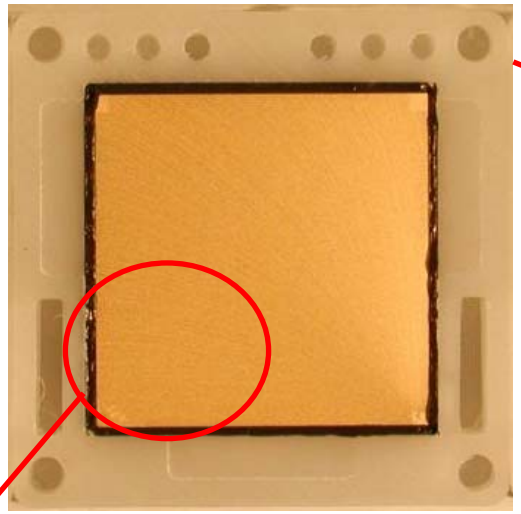
Technology	Proton Exchange Membrane FC	Porous Silicon FC
Power Density	60 – 80 mW/cm2	200 mW/cm2
Challenges	Air breathing, drying, flooding	Balance of Plant
Operating Environment	Air only	Air and No – air
Manufacturability	Custom infrastructure	Si and EMS outsourcing
IP & Patents	Diffuse, overlapping	Clear, unique*

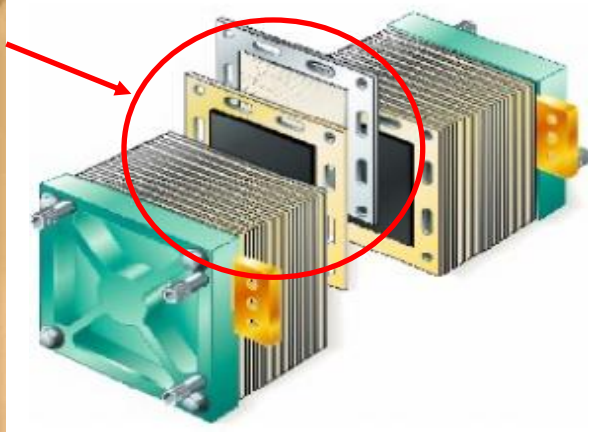
* - 11 US, 12 non-US, 6 pending US

NEAH power systems

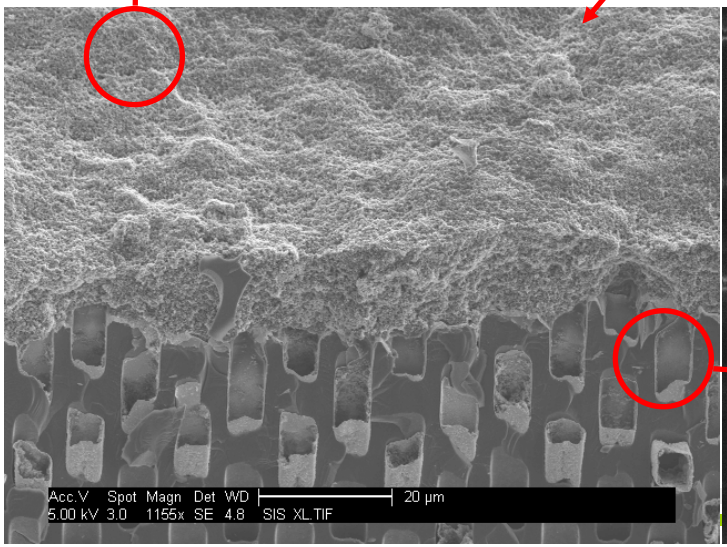
Industry Leading Power Density

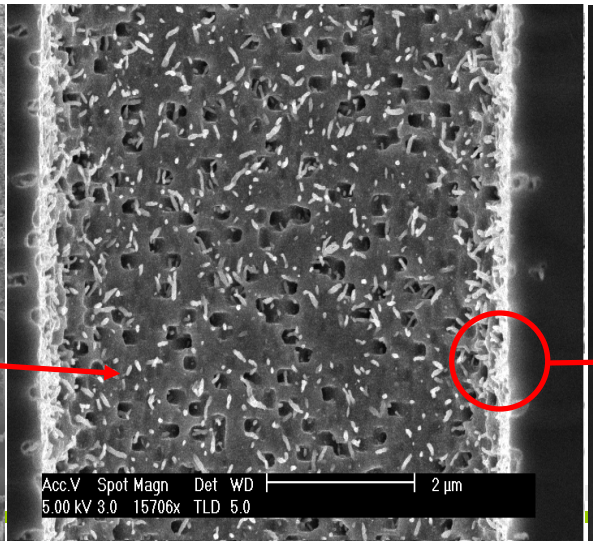


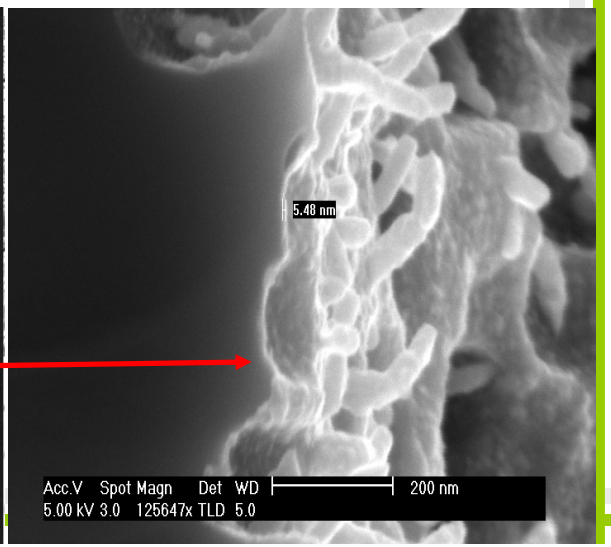




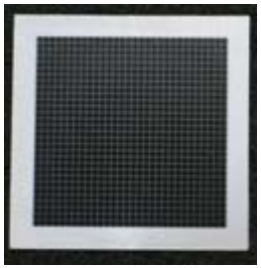
High Surface Area ~ High Power density

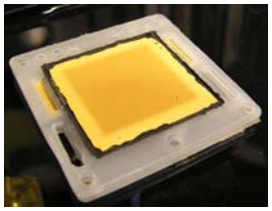


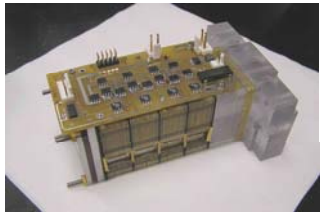




NEAH's DMFC Manufacturing Model
Leverage Foundry Model from Semiconductor Industry








Combine at foundry

Si Substrate Production (IceMOS / Partner T)	→	Si Electrode Production (Neah)	→	Cell / Stack Assembly (Aspen Technologies)	→	Assembly & Test (Sanmina-SCI / Partner T)	→	OEM

NEAH Power works with the whole supply chain to ensure quality, cost and timeliness

NEAH power systems

Manufacturing Differentiation

- NEAH Fuel Cells
  - Outsourced manufacturing (foundry model)
    - Leverages world class, capital efficient manufacturing
    - Low capital cost, rapid ramp up
    - Leverage existing quality systems and ERP
  - Economies of scale and scope
- PEM Fuel Cells
  - Custom manufacturing (low IP content)
  - Capital intensive, long ramp up times
  - Implement quality and ERP systems
  - No economies of scale and scope

NEAH power systems

Economies of Scale

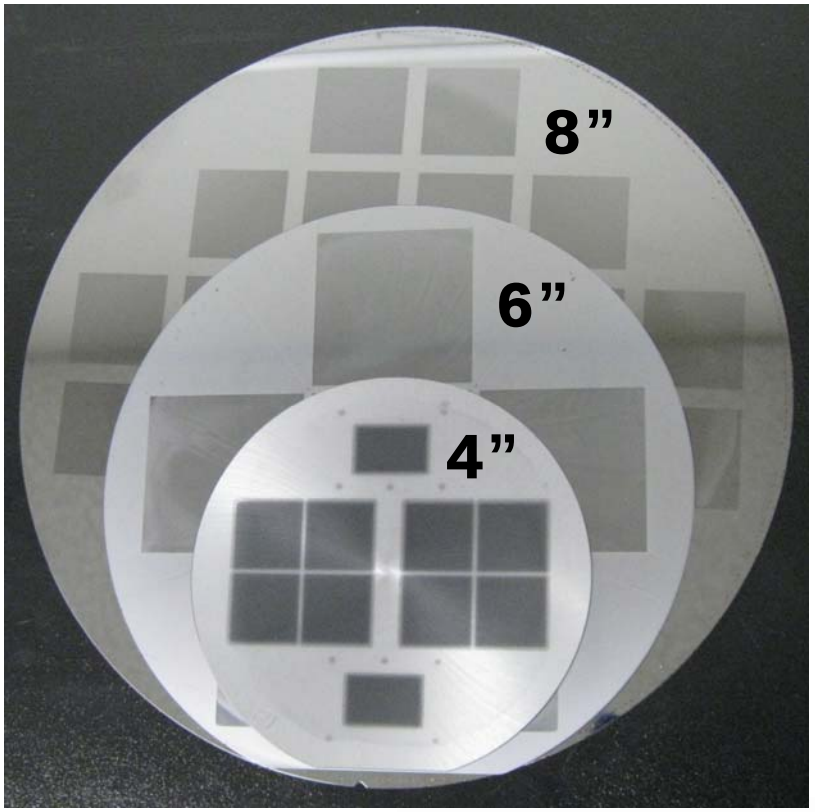
Manufacturing Efficiencies from Semiconductors Used by NEAH Power

- Foundry model
  - Large, high volume manufacturing
  - Aggregate demand across customers
  - Operate at near maximum capacity
  - Incremental business at variable cost
- Foundry manufacturing
  - Use foundries to produce Si / electrodes
  - Leverage existing installed capacity
  - Use world class quality and CIP
- Use different wafer size fabs
  - 4”, 6”, 8”, or potentially 12”
  - Older generation technology (less $$)
  - Lower-class cleanroom (less $$)

Icemos Technology

ASPEN TECHNOLOGIES

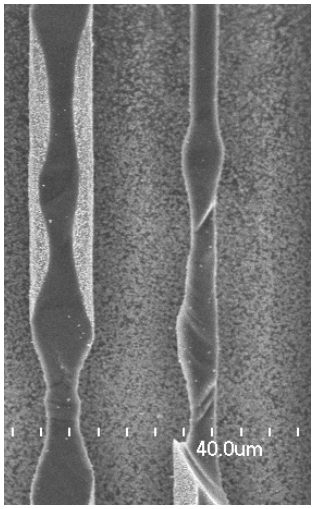
SANMINA-SCI

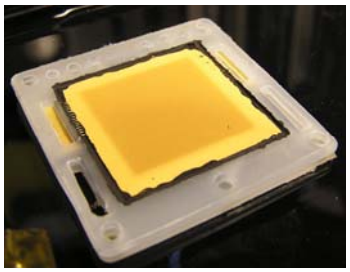


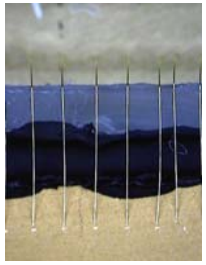
NEAH power systems

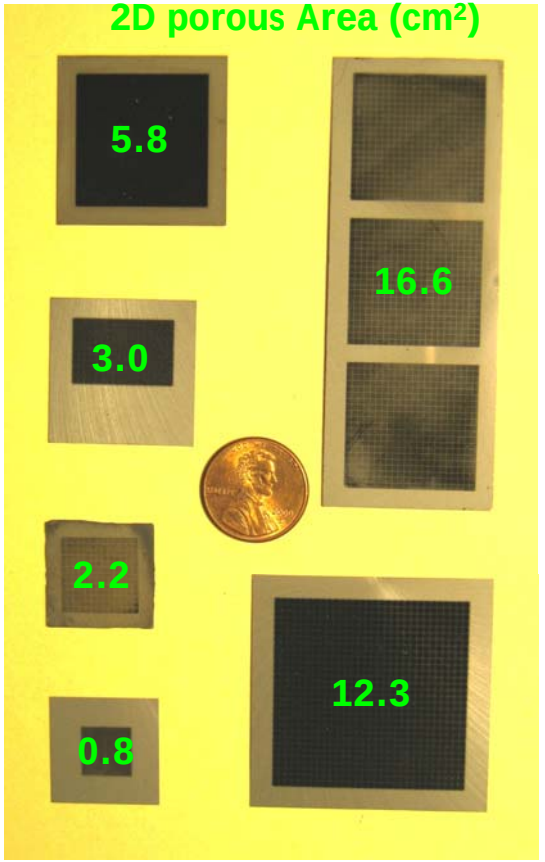
Economies of Scope
Semiconductor Processes as Used by NEAH Power

- Plasma etch
  - Different size electrodes and features
- Proven low cost deposition techniques
  - CVD, PVD, ALD, electroplating
- Low cost materials
  - Tungsten, ultra thin gold and platinum
- Injection molded packaging
  - Higher reliability and more compact cells
- Wire bond interconnects
  - Low resistance current collection
- MEMs components









NEAH power systems

Manufacturing Strategy Risks

- NEAH Manufacturing
  - Supplier risks
    - Dual sources to mitigate cost / supply risk
  - IP compromise
    - Multiple partners, none have recipe for secret sauce
  - Supply chain risk
    - Neah develops strong supply chain management
- PEM Manufacturing
  - Capital and people cost associated with ramp up
  - Less IP compromise risks
  - Some supply chain risk

NEAH power systems

Innovation Well Recognized

National Institute of Standards and Technology

ADVANCED TECHNOLOGY PROGRAM

NIST/ATP $2M Award
Sept. 2003

TOP 100 INNOVATORS WINNER
RED HERRING

Red Herring
Top 100 Innovators
Dec. 2004

2005
VENTURE ALL-STARS
Top 25 Company

Venture All-Stars
Top 25 Company
June 2005

Technology Alliance

"Startup of the Year"
Seattle Alliance of Angels
May 2004

MIT'S MAGAZINE OF INNOVATION
TECHNOLOGY REVIEW
BUSINESS • OPPORTUNITY • IMPACT

Leroy Ohlsen
Top 100 Young Innovators
Sept. 2004

ONR Award
July 2007 & Sept 2008

NEAH power systems

Energy Storage Market Segments

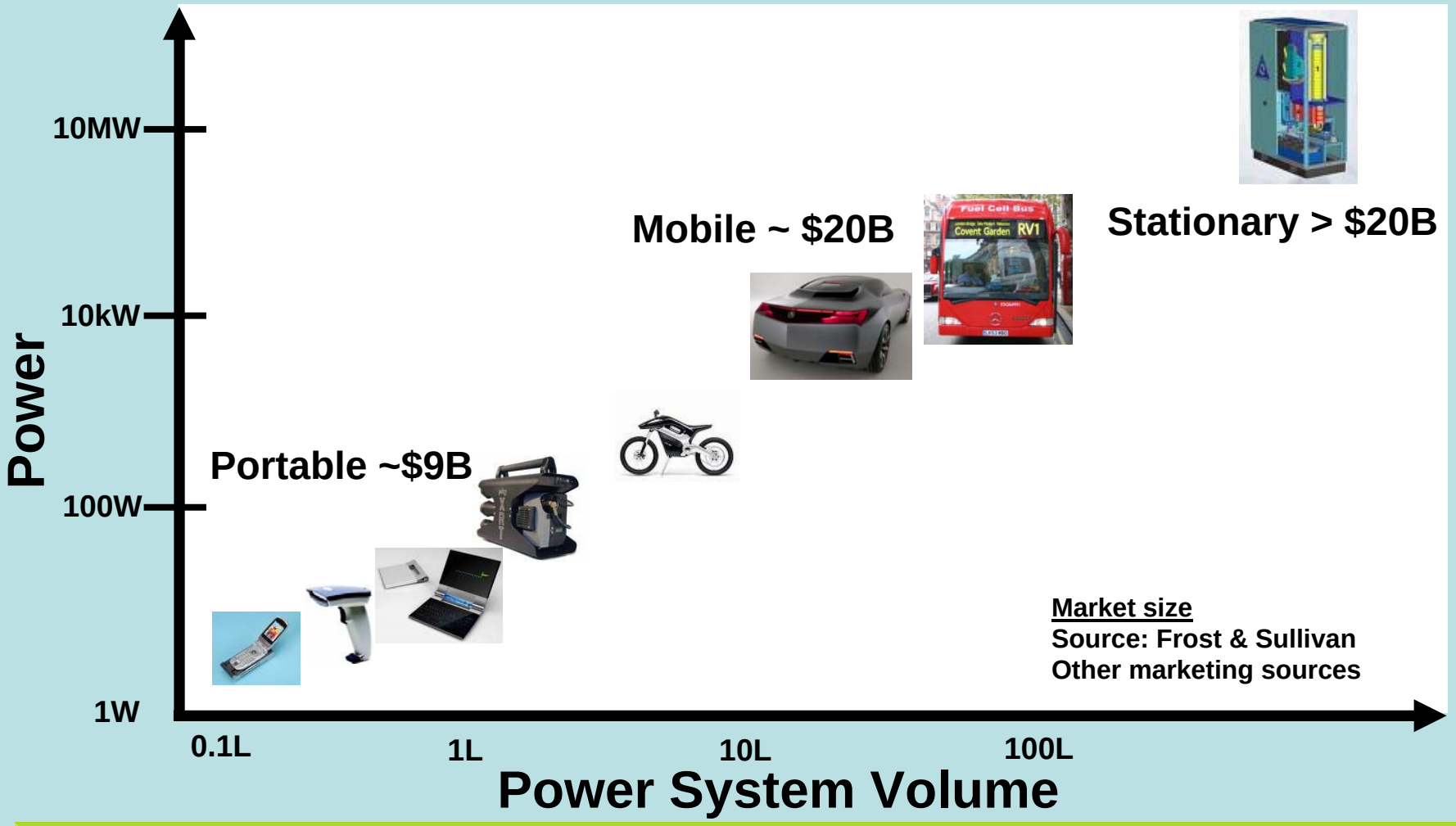
- Stationary (3kW - >1MW)
  - Grid reinforcement
  - Integration of renewable energy sources (Supply Shaping)
  - Uninterruptible power supplies (UPS)

- Mobile (1kW – 250kW)
  - On-board power for vehicles
  - Electric and hybrid drive trains
  - Standby power

- Portable (<1kW)
  - Consumer Electronics
  - Industrial
  - Military

NEAH power systems

Fuel Cell Markets



Large opportunities in all segments

Experienced Management & Directors

Management Team

- Chris D'Couto, Ph.D., MBA – President & CEO
- Steve Wilson, CPA, CMA - CFO
- Tsali Cross, Ph.D. – VP of Engineering
- Derek Reiman, Director of Manufacturing

Board Of Directors

- Chris D'Couto Ph.D., MBA – CEO NEAH Power Systems
- Jon Garfield – CEO Clearant, Inc.; VP, Acquisitions, Coach Inc.
- Ed Cabrera, MBA – Executive Managing Director Jesup & Lamont
- Paul Sidlo – Founder and CEO, REZN8; 9-time Emmy Award winner
- Michael Selsman – CEO Archer Media

NEAH power systems

Strategic Advisory Board

- Reza Abhari Ph.D.
  - Professor, Entrepreneur, Renewable energy expert
- Joseph R. Bronson
  - CEO - SVTC, Member BOD - Sanmina-SCI Corp
- Lt. Gen. Carol Mutter (Ret.) M.S., M.A., Ph.D. (Hon)
  - USMC; R&D, Systems Integration, Logistics and Procurement
- Col. James Mutter, MBA (Ret.)
  - USMC; Field T&E, Systems Integration and C3 Ops
- Drs. Wilbert Van den Hoek
  - Former Novellus CTO and EVP, Various BOD and Advisory boards

NEAH power systems

Some Recent Achievements & Milestones

- Published RAPS Solution White Paper for off-grid applications *(Nov. 18,2009)*
- Methanol-powered fuel cell passes 1000 hours of continuous operation *(Nov. 2, 2009)*
- Successfully completed Office of Naval Research award *(Oct. 13, 2009)*
- Named Dr. Reza Abhari to Strategic Advisory Board *(Sept. 17, 2009)*
- Presented at the annual Rodman & Renshaw Conference *(Sept. 8, 2009)*
- Named Dr. Van Den Hoek to Strategic Advisory Board *(Aug. 19, 2009)*
- Announced intention to acquire SolCool One, LLC *(July 28, 2009)*
- Poddar Family makes large investment in company *(July 22, 2009)*
- Presented fuel cell prototype at 11th Electrochemical Power Sources R&D Symposium *(July 13, 2009)*
- Created first hybrid electrolyte aerobic direct methanol fuel cell *(July 8, 2009)*
- Successfully tested anaerobic direct methanol fuel cell *(June 25, 2009)*

NEAH power systems

Investors, Affiliations & Manufacturing Relationships

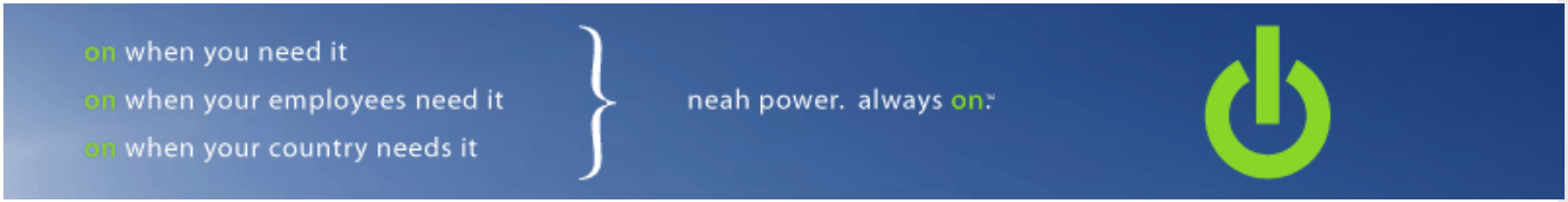
- Intel Capital
  - Laptop & consumer markets
- Novellus Systems Inc.
  - Semiconductor processing and equipment
- Four Tier One VCs
  - Castile Ventures, Frazier Technology Ventures, Alta Partners, West AG
- Tech America (AeA) / WTIA
  - Electronics and manufacturing
- General Dynamics EDGE Consortium
- American Council on Renewable Energy (ACORE)
- Sanmina-SCI, Inc.
  - Electronics design
  - Thermal components
  - System integration
  - Device packaging
- Aspen Technologies
  - Wire-bond
  - Cell and stack assembly
- IceMOS Technology
  - Si Foundry Partner
  - Si electrodes

NEAH power systems

NEAH's Opportunity

- Differentiated & competitive fuel cell technology
  - Office of Naval Research (ONR) funded major development
- Initial engagements for fuel cell deployment
- Partnership with best of breed providers for integrated renewable energy solutions
- Large addressable markets
  - Defense, industrial and consumer users
  - Distributed (off-the-grid) renewable energy power solutions
  - Potential grid scale storage solutions

NEAH power systems



NEAH Power Systems, Inc
OTCBB: NPWZ

www.neahpower.com