

Oral Testimony
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to the
**U.S. Senate Commerce Committee on Commerce, Science and
Transportation**
June 14, 2006

'innovation at work'



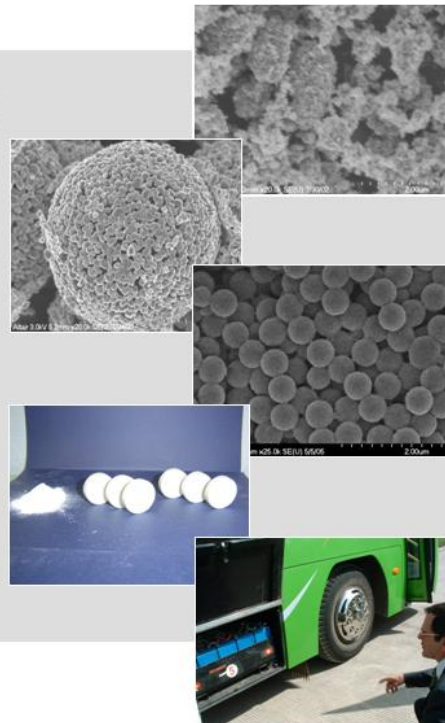
Altairnano presentation to

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With the exception of historical information, matters discussed in this presentation regarding product development, target markets, revenue and income projections, are forward looking statements that involve a number of risks and uncertainties as defined under the Private Securities Reform Act of 1995.



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I would like to thank Chairman Stevens and Co-Chairman Inouye for their leadership and for holding this hearing on Nanotechnology and Alternative Energy Production in the United States. And further, I would like to thank Senator Ensign for his support to ensure that Nevada is a leader and strong supporter of nanotechnology.

I'm Alan Gotcher, President and Chief Executive Officer of Altair Nanotechnologies. I have been with Altairnano for nearly two years. Prior to joining the company, I held senior management positions at several major corporations that manufacture both industrial and consumer products.

Altairnano Profile



A small, publicly traded company today...

NASDAQ:	ALTI
Shares Outstanding:	59 million
Year End:	December 31
Locations:	Reno, NV Anderson, IN
Employees:	70
Market Capitalization:	~ \$200 M

Enabling unexpected product performance...

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Altairnano is a small, rapidly growing company which is creating advanced nano-materials that exhibit unimaginable performance. We are Nevada based, publicly traded on the NASDAQ, and have about 70 employees—research scientists and engineers, and increasingly manufacturing, marketing and sales people located in Reno, Nevada and Anderson, Indiana. We perform research on the basic characteristics of nano-structured, metal oxide nanomaterials and develop products for applications in a wide range of fields from pharmaceuticals, to sensors and energy production, including high power lithium ion batteries and advanced hydrogen production.

Imagine the Possibilities...

Nano-structured materials enable...

- High performance power, lithium ion batteries
 - Enables POWER to vehicles for rapid acceleration
 - Enables rapid battery recharge in a few minutes
 - Performance over wide temperature range -40°C to $+65^{\circ}\text{C}$
 - Allows 4 times longer battery life, est. to be 15+ years
 - Provides an inherently safe battery
 - And, the batteries contain no hazardous materials

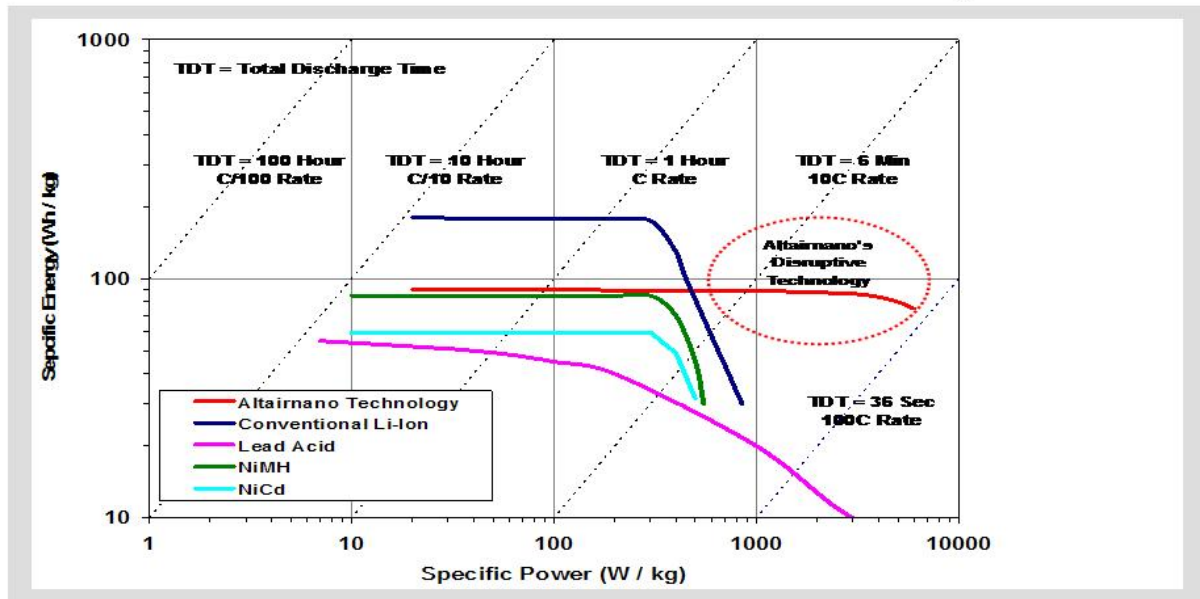
Enabling unexpected product performance

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Today I want to describe how nanomaterials have made possible the first major breakthrough in battery performance in over two decades. And I'll indicate how the characteristics of nano-structured electrode materials such as those Altairnano has developed when used in lithium ion batteries, will make possible significant advances in various forms of alternative energy production, storage, and consumption.

Battery Performance

Nano-Structured Electrodes Provide Advantages



Safe lithium ion batteries with POWER and life!

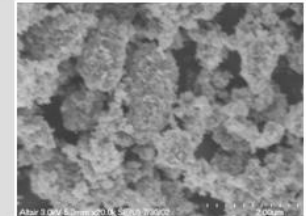
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Altairnano's electrode materials and battery designs, based on our patented materials and manufacturing processes for nano materials, offer a combination of high power, long life, reliable performance at temperature extremes, affordable cost, safety, and environmental sustainability that exceeds all other batteries.

nano-Lithium Titanate Spinel

High performance lithium ion electrode materials

- Li ion battery electrode materials
 - Motive power industries
 - HEV, plug-in and all electric
 - Stationary power industries
 - Telecom, uninterruptible power supply (UPS)
- Li ion batteries and battery packs
 - Product design & engineering
 - Rapid prototyping & testing
- Hybrid ultra capacitors
 - High instant power, rapid charge / discharge
 - Greater energy density



Power from nano-structured electrodes

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It is made possible by the unique characteristics of the nano-scale particles of lithium titanate spinel that form the electrode in the anode of Altairnano's lithium ion battery. Altairnano's nano particles are 10-40 times smaller than any other lithium titanate spinel and are thus better able to take advantage of the vastly improved electrical conductivity, low impedance, fast charge/discharge, longer life cycle, and temperature tolerances offered by the smaller, more uniform particles. We have the ability to engineer these particles to the optimum size for a given application, and we can get extremely high uniformity of particle size.

Battery Comparison Chart



Unmatched, Unique Advantages

Feature	Lead Acid	NiCD	NiMH	Altairnano Li-Ion
Energy Density (Wh/Kg)	30 - 40	20+	~60	60 - 90
Cycle Life (Full Depth of Discharge)	50 - 180	300 - 600	300 - 500	9,000+
Safety (Fire Hazard)	Fire Hazard	Moderate	Fire Hazard	Safest
Charge Time (0 - 100%)	~ 10 Hours	3 Hours	3 Hours	3 Minutes
Operating Temp Range	-10° to 60°C	0° to 50°C	0° to 40°C	-50° to 75°C
Environmental Impact	Toxic	Toxic	Low	Minimal
Pulse Power Utilization Range	Narrowest	Narrow	Moderate	Broadest
Leakage (Dissipation)	Lowest	High	Highest	Low
Memory Effect	Very Low	High	Moderate	None
Power Delivery	Good	Moderate	Moderate	High
Manufacturability	Easy	Adequate	Adequate	Easy
Weight	Heavy	Moderate	Moderate	Moderate
Maintenance	Moderate	Moderate	Moderate	Minimal
Market Position	High Volume	Sliding	Modest	Rising
Cost	Cheap	Tied to Ni	Tied to Ni	Moderate

Lithium Batteries with POWER

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Altairnano's batteries can deliver: instantaneous power for vehicle, uninterruptible power supply, or emergency backup power; very rapid recharge times; the widest range of temperature tolerance among all batteries; much longer lifetime than other batteries; inherently safe operation; and no environmental hazards. Moreover, Altairnano's nanomaterial will be competitive with other commercial battery material costs.

Almost half of the US consumption of imported oil comes from a dependence on the internal combustion engine used today in conventional cars and trucks. Nanotechnology may provide significant new products that can break that dependence, and win the quest for a practical alternative-energy vehicle. Imagine fully electric six-passenger cars or full-size pickup trucks offering conventional acceleration and cruising speeds, geographic range, quick fill-ups, and a 100,000+ mile powertrain. **Altairnano's nano lithium ion battery provides these attributes.**

Imagine the Possibilities...

Nano-structured lithium titanate spinel materials enable

- **High performance lithium ion batteries**
 - **Rapid battery recharge in a few minutes**
 - Charge and discharge rates of 80C
 - **Performance over wide temperature range**
 - -40°C to +65°C
 - **Allows 4 times longer battery life**
 - Estimated to be 15+ years
 - **Provides an inherently safe, green battery design**

Enabling Unexpected Performance

For electric or hybrid electric vehicles, Altairnano's nano lithium ion battery will provide:

- abundant power for a 300 mile vehicle range;
- an under-eight minute recharge time (from full discharge);
- Performance over a wide range of temperatures -40 to +65°C
- a 15-year life, with no decline in performance capabilities;
- low weight and ease of design configuration;
- Inherent safety, no fire, explosion or environmental hazard;
- and no emissions or use of hazardous materials

The technology is advanced enough that this battery technology could be used in vehicles within a very few years. The widespread adoption of the technology in the automotive sector would mean greatly reduced oil imports, greatly reduced CO₂ emissions, no need for complex, expensive vehicular hydrogen or natural gas infrastructure; and vastly increased national security and a more flexible foreign policy.

Altairnano's lithium ion batteries are also ideal storage mechanisms for uninterruptible power supply (UPS) and emergency back-up power (EBP) applications. Their performance characteristics far exceed the batteries now available for these applications, and they make it feasible for UPS and EBP sites to become reliable nodes in a national distributed system of mini-grids, enhancing energy security and electric reliability. These batteries also make it feasible for large buildings to become off-peak power storage facilities. For wind and solar power to ever become reliable mainstream power generation sources, batteries such as Altairnano's will be required.

Military applications, from individual soldier tactical needs to global power projection strategy, will be revolutionized by advanced battery capabilities. Early applications in the US Navy include providing absolutely reliable, instantaneous power for single-generator ship operations, which could reduce ship fuel consumption by 15-20%. For the Army, Altairnano's battery will power the infantryman's increased need for lightweight, portable, safe and reliable power for the numerous power-hungry combat components he will wear and carry. The same battery design will provide planes, missiles, and satellites with longer endurance, weight savings for greater payloads and speed, extremely harsh environment performance, and higher safety margins.

The federal government has provided the policies, funding and leadership to help the private sector invest confidently in the field of nanomaterials R&D. Altairnano's own NSF SBIR grant was crucial in assisting the company to develop its nano battery material. With rising concerns over environmental, health and safety issues involving nanomaterials manufacture and use, government now has an equally important role to play in helping industry to develop a "roadmap" that can:

- 1) **identify and appropriately deal** with potentially harmful effects of nanoparticles, while
- 2) **stimulating US industry** to proceed with developing products and applications that will sustain US industry's leadership in nanomaterials and nanotechnology. This is equally true for the field of alternative energy as for any other of the numerous fields in which nanomaterials will inevitably have major impact and make significant contributions.

What is needed now from the federal government to assist the nano-industry in applying its potential to alternative energy are two thrusts: continued funding to U.S. companies for basic and applied R&D, including:

- 1) **Priority spending on nano-materials and system solutions** to replace or decrease the use of internal combustion engines and thus decrease U.S. dependence on oil, and
- 2) **Increased funding for environmental, health and safety R&D**, including a broad, government-funded initiative aimed at establishing empirical data and models to predict and prioritize the EHS risks of

commercially-interesting nano-materials, including inducements for private-sector companies to engage in this research initiative.

Thank you for the opportunity to speak here today. And, I invite you to visit our facilities in Indiana or in Reno, Nevada. I will be pleased to try to answer any questions you might have.

Altair Nanotechnologies



innovation at work

Remember...

Small Is Huge

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