ALTAIR NANOTECHNOLOGIES INC
Form 10-K
April 02, 2013

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE FISCAL YEAR ENDED DECEMBER 31, 2012

[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE TRANSITION PERIOD FROM TO

1-12497
(Commission File No.)

ALTAIR NANOTECHNOLOGIES INC.
(Exact name of registrant as specified in its charter)

Delaware	33-1084375
(State or other jurisdiction of incorporation)	(IRS Employer Identification No.)

204 Edison Way
Reno, Nevada 89502-2306
(Address of principal executive offices, including zip code)

Registrant's telephone number, including area code: (775) 856-2500

Securities registered pursuant to Section 12(b) of the Act:

Common Stock, par value $.001 per share	NASDAQ Capital Market
(Title of Class)	(Name of each exchange on which registered)

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark whether the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES [ ] NO [X]

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. YES [ ] NO [X]

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. YES [X] NO [ ]

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). YES [X] NO [ ]

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Report or any amendment to this Report. [ ]

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See definition of "accelerated filer", "large accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act (Check one):

[ ] Large Accelerated Filer [ ] Accelerated Filer

[ ] Non-accelerated Filer [X] Smaller reporting Company

(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act): YES [ ] NO [X]

The aggregate market value of the shares of common stock held by non-affiliates of the Registrant on June 30, 2012, based upon the closing stock price of the shares of common stock on the NASDAQ Capital Market of $3.12 per share on June 30, 2012, was approximately $14.2 million. Shares of common stock held by each officer and director and by each other person who may be deemed to be an affiliate of the Registrant have been excluded.

As of March 29, 2013, the Registrant had 11,590,067 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's Proxy Statement on Schedule 14A for the Registrant's 2012 Annual Meeting of Shareholders are incorporated by reference in Part III as specified.

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PART I

This Annual Report on Form 10-K for the year ended December 31, 2012 (this "Report") contains "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), that involve risks and uncertainties. Purchasers of any of the shares of common stock of Altair Nanotechnologies Inc. are cautioned that our actual results will differ (and may differ significantly) from the results discussed in the forward-looking statements. Factors that could cause or contribute to such differences include those factors discussed herein under "Item 1A. Risk Factors" and elsewhere in this Report generally. The reader is also encouraged to review other filings made by us with the Securities and Exchange Commission (the "SEC") describing other factors that may affect future results.

Unless the context requires otherwise, all references to "Altair," "we," "Altair Nanotechnologies Inc," or the "Company" in this Report refer to Altair Nanotechnologies Inc. and all of its consolidated subsidiaries. Altair currently has one wholly owned subsidiary, Altair US Holdings, Inc., a Nevada corporation. Altair US Holdings, Inc. directly or indirectly wholly owns Altairnano, Inc., a Nevada corporation. Altairnano, Inc. directly wholly owns Altair Nanotechnologies (China) Co., Ltd., a Wholly Foreign Owned Enterprise ("WOFE") in China ("Altair China") and Altair China directly wholly owns Northern Altair Nanotechnologies Co., Ltd., a domestic company in China ("Northern Altair").

We have registered the following trademarks: Altair Nanotechnologies Inc® and Altairnano®. Any other trademarks and service marks used in this Report are the property of their respective holders.

Item 1: Business.

We are a Delaware company that develops, manufactures and sells nano lithium titanate batteries and energy storage systems. Our nano lithium titanate battery systems offer higher power density, longer cycle life, rapid charge and discharge capabilities, a wider operating temperature range and higher levels of safety than conventional lithium-ion batteries. We target applications that effectively utilize the key attributes of our technology, and these applications can be found primarily in the electric grid, transportation (commercial vehicles), and industrial market segments.

In our largest target market, the electric grid, we design, manufacture and sell grid-scale battery systems, which can provide ancillary services including frequency regulation. We were one of the earliest entrants into this market; we commissioned the first grid-connected lithium battery that delivered commercial frequency regulation services for the grid in 2008. This system, which was built with AES, was validated by KEMA, a leading electric grid research firm, who noted the merits of our system and its fast response capabilities. Since that time, we have also worked with the Hawaii Natural Energy Institute, Vestas and TSK Solar to develop advanced energy storage systems, which are not only capable of providing frequency regulation services, but can also integrate renewable energy, such as wind and solar, onto the grid.

In our next target market, we have focused on the medium- to heavy-duty electric vehicle market. We are currently working with multiple vehicle manufacturers and suppliers regarding their hybrid and electric vehicle efforts. For example, pursuant to our April 2012 economic development with the City of Wu'an in Hebei Province in China, we shall supply the city with up to 200 electric buses over a multi-year period. In August 2012, we received a $1.9 million down payment on a $6.3 million order for the first 50 electric buses that Wu'an will buy under its multi-year, 200 unit order. In addition, we are working with Proterra, which is a leading electric bus company, who uses our nano lithium titanate batteries to create a system which can rapid charge in 10 minutes through an inductive (wireless) charging system. Pursuant to our May 2012 supply agreement with Proterra, we will be supplying our nano lithium

titanate battery modules to Proterra throughout 2013.

In our third target market, which is industrial, we have entered into various test programs with major industrial companies to develop and/or supply batteries and battery systems for use in different industrial applications. In 2012, we sold application kits, modules and our PowerRack system into this market. We are currently in discussions with a number of companies who are currently testing our products for a diverse range of industrial applications.

We utilize our proprietary process to manufacture nano lithium titanate materials. These materials are used to create a battery anode, which in turn, is utilized in our large format prismatic cell design. Unlike many of our competitors, we do not manufacture our own cells, and have chosen instead to leave this capital-intensive task to a few key suppliers, who are currently based in Asia.

In order to further reduce the cost of our battery products, we intend to aggregate aspects of our supply chain in Asia, where many of our current battery cell and battery component suppliers are based. Toward this end, we launched a plan in 2012 to transfer the production of our nano lithium titanate materials to China, so that we could aggregate the production of our nano lithium titanate materials and cells. We will no longer have to ship nano lithium titante materials from Reno, Nevada to our Asian cell suppliers, and then ship cells back to Anderson, Indiana. Under the new plan, we can simply produce our nano lithium titanate materials at our planned manufacturing facility in China, source battery components and materials, and then build cells through our suppliers in Asia. These cells can then be shipped to our planned energy storage system assembly plant in China or to our existing production facility in Anderson, Indiana. We believe that we will be able to reduce the cost of our batteries and shorten our lead times through this strategy.

In 2012, we focused on the launch of our newest energy storage system, the ALTI-ESS Advantage; the delivery of our customer systems; the sale of our products; and the launch of our new China operations.

First, we focused our product development on the launch of our newest electric grid product, the 2 megawatt ALTI-ESS Advantage, which increased our system specification from 1 megawatt to 2 megawatts, while reducing the containerized power module’s footprint from 53 feet to 40 feet.

Second, we focused on the manufacture of five grid-scale energy storage systems for four customers, who included the Hawaii Natural Energy Institute (HNEI), Vestas, TSK Solar and a U.S. utility company based on the East Coast. We completed the build of all five systems and delivered three of these systems to our customers during the year. Four of these systems will be used for the integration of renewables in addition to providing frequency regulation services.

Third, we focused on the sale of our products into our three core market segments. We sold our first ALTI-ESS Advantage to TSK Solar in October 2012. This system will be used at TSK Solar’s 26 megawatt San Fermin solar project in Puerto Rico. And, in January 2013, we sold an ALTI-ESS Advantage to the Hawaii Natural Energy Institute, which is the third system that they have purchased from us. We entered into a new supply agreement in May 2012 with Proterra, which is a leading electric transit bus company and initiated a test and validation program with Proterra in 2012 in preparation for our 2013 deliveries to them.

In 2012, we also focused on the launch of our operations in China. We expect that over time a meaningful portion of our sales, and eventually key portions of our manufacturing, will originate from China. We believe that we can reduce our costs and improve our lead times by moving our nano lithium titanate materials production closer to our contract cell manufacturers who are already located in Asia. For this purpose, we formed Altair China, a Wholly Foreign Owned Enterprise ("WFOE") in China, which in turn formed a wholly owned subsidiary, Northern Altair that would serve as our prospective manufacturing entity. We pursued an economic development deal in China, and in April 2012, we entered into an agreement with the cities of Wu'an and Handan, which are both located in Hebei Province in China. Under this economic development agreement, Altairnano would receive a package of incentives, which included the transfer of certain land use rights and orders for product, such as electric buses. To date, we have received the following orders and benefits in China:

- In October 2012, Northern Altair entered into a Contract on Assignment of State-owned Construction Land Use Right (the "Land-Use Agreement") , pursuant to which Northern Altair acquired the right to use the 66 acres of commercial land north of Dongzhuchang Village in Wu'an, China for a period of 50 years subject to certain terms and conditions. As consideration for the land use right, Northern Altair paid a land use fee of approximately $11.9 million and land transfer taxes and fees of approximately $1.7 million and agreed to make fixed asset investments on the land of approximately $167 million, subject to loan guarantees and other incentives from Wu'an, China, over an unspecified period of time up to the 50 year life of the land use right, with initial construction being required to begin by March 31, 2013. In January 2013, initial construction on a manufacturing facility began on the Company's land use right in China. The costs incurred to date by the Company are not material. The Company estimates the initial phase of this project will cost approximately $3 million and will be completed in 2013. The Company has not yet obtained loan guarantees for these costs. Additional construction phases will be contingent upon loan guarantees and other incentives from Wu'an, China as well as other market conditions. The definition of total fixed asset investments includes the cost of buildings, structures, auxiliary facilities, and equipment, as well as the land-use fee. Northern Altair may transfer and sublease portions of the granted land once it has invested 25% of the total fixed asset investments amount and completed 25% of the project. Closing occurred on November 9, 2012. We intend to establish our nano-lithium titanate and energy storage system manufacturing facilities on this land in 2013, and have completed the design of our planned production facilities. We anticipate that the majority of systems built in the Northern Altair energy storage system facility will be for the Asian market, while our Anderson facility will continue to build modules and systems for our U.S. customers.

- In November 2012, Northern Altair received cash grant incentives of $11.8 million from the Wu'an government, which shall be used to support the construction of our planned facilities in Wu'an and the purchase of manufacturing equipment. Northern Altair is investigating and applying for additional incentives and grants to help support our planned production activities.

In 2012, we successfully pursued many initiatives, executed on key customer deliverables, and positioned ourselves for expansion into new markets, such as China.

Primary Products and Markets

Primary Products

We have developed, and continue to develop, through our primary materials science research, a lithium-ion battery chemistry using nanotechnologies to create materials offering unique electrochemistry properties for rechargeable batteries. We refer to this material as nano lithium titanate, and it is applied to the battery anode. Our nano lithium titanate battery cells offer 4 to 10 times greater life than conventional lithium-ion technologies, an ability to rapidly discharge and charge, an ability to operate in extremely cold and hot temperatures, and a greater margin of safety than other lithium-ion technologies. Our nano lithium titanate batteries are designed to focus on high power applications,

and are ideally suited for fast response applications in the electric grid segment for grid stability, hybrid and all-electric vehicles, and industrial applications.

We manufacture a range of cells, modules, packs and turn-key energy storage systems for our target customers, including 24V, 36V, and 48V industrial and transportation systems, a configurable industrial PowerRack system, and large-scale systems for the electric grid.

Target Markets

Electric Grid

Globally, electric utilities and power generation companies seek to maintain high levels of grid stability while seeking cost effective ways to accurately match electricity generation with demand. Essentially, there is no inventory of electricity; demand and generation must match. While the industry is capable of doing this from hour to hour, variations in load and demand from minute to minute cannot be accurately forecasted. When imbalances occur, the frequency (60 Hz in the U.S) can vary and must be balanced within very tight tolerances. Maintaining these tolerances is typically achieved through the use of auxiliary generators. If the load is either higher or lower than the power being generated, an auxiliary generator is either started or stopped. However, it takes these generators from generally five to 15 minutes to ramp up to full efficient operation or to shut down. During that period, the load may change directions and the grid operator then must direct another auxiliary generator to shut down or ramp up. This is a very inefficient process with the grid operators constantly chasing a variable load. The process of managing these very short-term changes in energy demand is referred to as “frequency regulation.” The chart below depicts what a typical workday in the PJM Regional Transmission Organization that manages the electric grid in the Mid-Atlantic states region looks like and how our battery can help smooth out the fluctuations.

Electricity demand on a typical workday in the PJM electric grid covering the Mid-Atlantic states and District of Columbia

Utilities can address frequency regulation issues by maintaining on-line generating capacity at a level that is always higher than expected peak demand; however this can be an expensive solution, particularly where natural gas, diesel and other alternative fuels are not affordable alternatives. Most U.S. utilities are required to maintain between 1% - 1.5% of their peak load capacity to provide frequency regulation. As an example, for the PJM Regional Transmission Organization, this requirement translates into a 900 megawatt daily requirement. In many foreign countries where the electric grid is not as well developed as it is in the U.S., utilities need to reserve up to 5% or more of their capacity strictly to provide frequency regulation.

According to a 2013 report from Pike Research, annual worldwide installations of energy storage for ancillary services will increase more than ten-fold over the next ten years, growing from less than 330 megawatts in 2013 to more than 3,500 megawatts in 2023. While this estimate represents a “ballpark” figure and has a highly variable dollar range, especially as the cost of technology drops over time, the potential size of the market remains significant. To reduce the costs of providing frequency regulation, utilities and grid operators are seeking “fast response” energy storage systems, and battery-based systems can offer significant advantages over slower response sources of conventional generation. When supply exceeds demand for a short period, fast response storage systems deliver electric energy back to the grid for a short period to give operators time to reroute energy from another power generator or power-up a new power source. Our large-scale nano lithium titanate battery systems can react in milliseconds and meet this need.

The need for a fast response energy storage technology, like our large-scale nano lithium titanate battery, is increased by the accelerated use of renewable energy sources. Photo Voltaic (PV) solar and wind power generation by nature are intermittent and unpredictable sources of energy that can fluctuate widely in a very short period of time. For example, it is not uncommon for a PV array to fluctuate +/- 50% in less than 90 seconds. With a small rooftop array, it isn't an issue, because the size of the generator is too small to matter. However, with a 50+ megawatt array, problems arise as the electric grid isn't currently built to handle this kind of a fluctuation. According to the Federal Energy Regulatory Commission, as of December 2012, twenty nine states and the District of Columbia require the integration of renewable energy sources into the power grid through legislated renewable portfolio standards as shown in the following table.

Final Target	Number	States with Renewable Mandates (RPS)
10% - 14%	7	Iowa, Maine, Mich., N.C., Ohio, Texas, Wis.
15% - 19%	6	Ariz., Mo., Mont., Pa., R.I., Wash.
20%	3	Kansas, Md., N.M.
21% - 24%	3	N.H., N.J., Mass.
25% - 29%	7	Conn., Del., Ill., Minn., Nev., Ore., WV
30% - 39%	3	Calif., Colo., N.Y.
40% +	1	Hawaii

Many of these states have established targets requiring the integration of renewable generation sources equal to or exceeding 25% of total generation within the next decade. California is a good case in point. California has a mandate to generate 33% of its electricity from renewable energy sources by 2020. The mandated adoption of these renewable energy sources is likely to increase the need for effective, efficient, clean energy storage technologies to provide frequency regulation services and maintain the reliability and stability of the associated electric grid systems. For example, California Assembly Bill 2514 enacted in 2010, requires the California Public Utilities Commission (CPUC) to establish energy storage procurement targets for California load serving entities in 2015 and 2020, if cost effective and commercially viable by October 2013. Implementation of AB 2514 is underway, and in February, 2013, CPUC approved a long term procurement decision and ordered Southern California Edison (SCE) to procure between 1,400 and 1,800 megawatts of energy resource capacity in the Los Angeles basin to meet long term local capacity requirements by 2021. Of this amount, CPUC required SCE to procure at least 50 megawatts from energy storage resources, as well as up to an additional 600 megawatts of capacity from preferred resources, which include energy efficiency, demand response and distributed generation, along with additional energy storage resources.

In our view, the key to addressing this market is to continually improve the performance of our energy storage systems, while reducing their cost (or the perception of their higher cost) to the end user. One key advantage that Altairnano's battery systems have is their projected higher cycle life, which can be four to six times higher than that of competing lithium battery technologies, such as lithium iron phosphate. Accordingly, we seek to market our products not on an initial cost of acquisition basis or even on a watt-hours per kilogram basis, but rather on the total cost of ownership over time. In addition, we seek to market the fast response capabilities of our battery, the value of which cannot be captured on a simple watt-hours per kilogram basis. The importance of fast response resources is beginning to gain considerable traction, as evidenced by the Federal Energy Regulatory Commission's (FERC) Order 755, whose "pay for performance" rules not only value the capacity of frequency regulation services, but also its speed and accuracy. We believe that these pay for performance rules will help mitigate the impact that low natural gas prices have had on the U.S. energy storage market for the electric grid.

Transportation (Commercial Vehicles)

Large cities, counties and transit authorities are increasingly turning to electric and hybrid electric buses to reduce pollution and reliance on diesel fuel for their transportation systems, especially in markets like China where there are

significant levels of pollution. Commercial vehicle manufacturers, including medium-duty and heavy-duty trucks, are likewise evaluating hybrid systems to improve fuel economy and in some instances run battery-only systems at low speeds. At this stage of the market development, electric and hybrid electric vehicles generally cost more than their conventional counterparts, although the upfront cost may be offset by lower operating costs and a potentially longer operating life. Proterra had one of its all-electric buses using our batteries tested at the Altoona Test Track by Penn State University and demonstrated a 17.5 to 29.5 miles per gallon (mpg) fuel equivalent vs. a normal diesel bus that achieved under 4 mpg. This difference translates into a fuel savings of about $350,000 over the life of the bus assuming a fuel cost of $3.50 per gallon. This is in addition to the savings in maintenance costs over the life of the bus, as a result of fewer mechanical systems and moving parts to maintain. We believe that cities, counties and commercial vehicle operators are willing to accept the higher upfront costs in order to benefit from the expected savings in long-term operating costs and potentially longer operating life, as well as the environmental benefits.

Electric and hybrid-electric commercial vehicles require a significant amount of power, operate throughout the day, have a long expected life and run in extreme temperature ranges. The relative strengths of our nano lithium titanate batteries, including the high levels of power, rapid charge and discharge rates, long cycle life and ability to function at temperature extremes, are particularly well suited for electric and hybrid commercial vehicles, giving us what we believe is a compelling competitive advantage in this market.

In a 2012 research report, Pike Research projects that the global market for electric drive buses will grow at a compound annual growth rate of 26 percent from 2012 to 2018. Their report projects that by 2018, there will be more than 75,000 electric buses in service around the world. The Pike Research study projects that the largest sales volumes will come from the Asia Pacific region, which will represent 75 percent of the world total. The study projects that more than 15,000 electric buses will be sold in the Asia Pacific region in 2018, while 2,500 will be sold in North America in the same year. With the growing concern regarding the release of pollutants associated with burning fossil fuels, the attractiveness of all electric and hybrid electric buses is rapidly growing. We are attempting to establish our nano lithium titanate batteries as the power source of choice in this emerging market. Given the projected growth of electric buses in the Asia Pacific region, we view China as one of our largest market opportunities within the transportation segment. We have already received a 200 unit electric bus order from the city of Wu'an, which will initially be fulfilled with 50 electric buses built by third parties. We have also commenced discussions with other potential customers in China that operate in this segment in order to sell our battery modules and/or systems into this segment of the transportation market.

Industrial. The industrial market segment encompasses a broad range of applications, ranging from the use of battery systems on cargo cranes to the use of battery systems with heavy industrial equipment. We believe that our high power batteries can play an important role within this market segment, and have commenced a number of programs with prospective customers to test the use of our nano lithium titanate batteries within a diverse range of industrial applications.

Military Uses. As a condition to closing our funding transaction with Canon in 2011, we ceased all operations in the military market effective as of December 31, 2010. However, in 2012, Altairnano initiated work to reengage with the U.S. military, and we will continue our efforts in 2013 to potentially re-enter this market segment.

Key Features of Our Nano Lithium Titanate Batteries

One of the principal advantages of our nano lithium titanate battery is its rapid charge and discharge rate. The charge rate is the rate at which a battery's energy is replenished, and the discharge rate is the rate at which the energy stored in a battery is transferred (or, in the case of self-discharge, leaked) out. Through the optimization of materials used in our nano lithium titanate battery cells, our current cells are capable of recharge times of 10 minutes to 95% or more of initial battery capacity. This rapid charge capability is important in our target markets.

Our nano lithium titanate batteries have both a longer cycle life and calendar life than commercially available rechargeable battery technologies such as conventional lithium ion, nickel-metal hydride (NiMH) batteries and nickel cadmium (NiCd) batteries. The ability of any rechargeable battery to store energy will diminish as a result of repeated charge/discharge cycles. A battery's "cycle life" is the number of times it can be charged and discharged without a significant reduction in its energy storage capacity. Our nano lithium titanate is termed a zero strain material, meaning that the material essentially does not change shape upon the entry and exit of a lithium ion in the material. Graphite, the most common material in conventional lithium ion batteries, will expand and contract as much as 8% with each charge/discharge cycle. This constant change in volume rapidly breaks down the battery resulting in significantly shorter calendar and cycle life than with our nano lithium titanate anodes. Our current generation of cells can achieve 16,000 cycles, which represents a significant improvement over conventional lithium batteries, which typically retain that level of charge capacity only through 2,500 to 4,000 deep charge/discharge cycles. Depending on the actual duty cycles and temperature, those figures can drop even lower.

Our nano lithium titanate also represents a breakthrough in low and high-temperature performance. Nearly 90% of room temperature charge retention is realized at -30°C from our nano lithium titanate battery cells. In contrast, common lithium ion technology possesses virtually no charging capabilities at this low temperature, and the other rechargeable battery types such as lead acid, NiMH and NiCd take 10 to 20 times longer to charge at this low temperature.

We also believe that relative safety is one of the strengths of our nano lithium titanate batteries. Any battery cell or large battery unit with lithium ion cell technology must take into account safety considerations, the most important of which is thermal runaway. Thermal runaway is the temperature at which the battery chemistry will break down causing the battery to overheat and potentially explode or catch fire. This temperature is often referred to as the critical temperature. Critical temperature for lithium ion battery cells using conventional graphite anodes is around 130° C, a direct result of chemical reaction between the graphite and the electrolyte. With our current nano lithium titanate anode in place of graphite and an appropriate cathode material, that critical temperature will be close to 200° C, an increase in safety margin of approximately 70° C. Materials we are using in our lab operate at 250oC before the critical temperature is reached. The batteries we and our partners are developing for high power applications often consist of dozens or even thousands of battery cells working together as part of a single modular battery unit. When a large number of cells are aggregated into a single battery unit, the likelihood of, and risks associated with, thermal runaway increases. In this context, we believe that the additional temperature margin our individual battery cells experience before reaching the critical temperature makes our battery cells better suited than competing lithium ion batteries for the high-power applications we are targeting.

The current generation of batteries made with our nano lithium titanate exhibit lower energy density at room temperatures than conventional lithium ion systems. Moreover, we are developing newer generations of nano lithium titanate batteries, which will increase our energy density, while maintaining the unique power and cycle life capabilities of our batteries. Energy density is normally described as watt-hours per kilogram or watt-hours per liter and refers to the available energy per unit weight or per unit volume. A battery with high energy density will deliver more energy per unit weight or volume than a battery with lower energy density. Our batteries made with our nano lithium titanate have energy densities, watt-hours per kilogram, that are better than lead acid, NiCd and NiMH batteries and approximately 50-70% of conventional lithium ion batteries when operated at room temperature. However, this energy density disadvantage is significantly less compared to conventional lithium ion batteries as the operating temperature moves away from room temperature, particularly to colder environments, and less significant in environments such as large vehicles and utilities in which battery volume is not a significant issue. When the end use of the battery requires constant performance across a wide range of temperatures, such as the need for a hybrid bus to function comparably in both winter and summer, our nano lithium titanate cells may be the preferred solution. Also, conventional lithium ion batteries prefer to cycle between approximately 30% and 80% state of charge to achieve optimum cycle life. As a result, they only use about 50% of their nominal available energy. Our nano lithium titanate

batteries, on the other hand, are not so limited and as a result can use approximately 90% of their nominal available energy. Given this, we believe that comparisons of battery technologies on a watt-hours per kilogram basis can be misleading, as nano lithium titanate batteries offer a greater range of actual usable energy, along with four-to-six times the cycle life across a wider range of operating conditions.

Sources of Supply and Raw Materials

An important consideration, as we begin to grow our revenue stream, is to ensure that we have access to the various components and raw materials we need to manufacture and assemble our various products. As we anticipate larger orders, establishing multiple sources for key components is becoming much more important to us. Moreover, a key focus of our new business plan is to aggregate our supply chain not only to reduce cost, but also to accelerate our ability to deliver products on a timely basis to our customers.

The basic building block for our battery cell's anode is nano lithium titanate powder. We use compounds of lithium and of titanium to manufacture our nano lithium titanate. We currently source our lithium compound from two of the largest producers in the world and do not foresee any problems in scaling up our purchases as our volume of business increases, or as we move production of our nano lithium titanate to China. We are also working to qualify additional sources of lithium supply. We currently source our titanium compound from a single provider who is a global leader in the field, and we are in the process of identifying and qualifying additional sources for this key material. At this point we are not anticipating any problems or disruptions to our supply of these raw material compounds.

As of the date hereof, we have multiple sources for the contract manufacturing of our nano lithium titanate battery cells, which are the building blocks of our battery modules and energy storage systems. Rather than incur the high cost of building our cell manufacturing capabilities, we have chosen to outsource the production of our cells to manufacturers, who can meet our rigorous technical requirements. Most of these cell manufacturers tend to be based in Asia, where there exists considerable production capacity. Accordingly, we have historically focused our cell manufacturing efforts in Asia, and a key part of our current supply chain strategy is to move our nano lithium titanate materials production closer to our existing cell manufacturing supply chain in order to reduce our lead times and costs.

All of the other components and materials used in the manufacture of our nano lithium titanate battery products are readily available from multiple suppliers.

Key Business Developments in Power and Energy

Frequency Regulation. As part of a multi-year development program with AES Energy Storage, LLC ("AES"), a subsidiary of global power leader The AES Corporation, we delivered a 2 megawatt battery system, consisting of two 53-foot container-sized 1 megawatt power modules, to AES in late 2007. AES successfully completed testing of this 2 megawatt battery system in May 2008. The test consisted of AES connecting the battery to the electrical grid at a substation in Indiana and then performing a number of stringent tests to determine if it was capable of providing the services required. These tests were designed and overseen by KEMA, Inc., an independent outside engineering company, and demonstrated that the battery performed well in every respect, meeting or exceeding all expectations. Since then, one of the 1 megawatt units has been put into commercial operation in Pennsylvania and has consistently performed according to specification. The second 1 megawatt unit was moved to a location in Texas to provide the same kind of service in that location.

Since that time, we have been refining our energy storage solution for the electrical power industry and in 2012 launched the newest generation of our ALTI-ESS product. The new ALTI-ESS Advantage increased the technical specification of an individual power module from 1 megawatts to 2 megawatts, while reducing the footprint of the containerized power module from 53 feet to 40 feet. We sold the first of these new systems to TSK Solar in October, 2012, and delivered this system for use in their 26 megawatt solar farm in Puerto Rico in November 2012. We also sold an ALTI-ESS Advantage to the Hawaii in January 2013, which is the third energy storage system that they have purchased from us.

In 2012, we continued to work with Inversiones Energéticas, S.A. de C.V. (INE), one of El Salvador's largest electric utilities, to secure the notice to proceed on a turn-key 10 megawatt ALTI-ESS advanced battery system for frequency control at its Talnique Power Station. We entered into a contract with INE in February 2011, but this project has been delayed due to the regulatory approval process that has been required to enable energy storage on the El Salvador electric grid. We have extended our contract with INE on multiple occasions and continue to work with INE and the regulatory bodies in El Salvador to secure the required approvals.

On an operational front, 2012 represents a solid year for the Company. We built five ALTI-Advantage systems during the year for our customers, which is a Company first. The system builds included two systems for the Hawaii Natural Energy Institute, one system for Vestas, one system for an East Coast utility company, and the above-mentioned system for TSK Solar.

Because of the significant cost and customization involved in the purchase and sale of a multi-megawatt battery storage system, lead times are long in this industry. However, we continue to enter into negotiations with a number of potential purchasers, and have expanded the scope of our sales efforts to include the China market.

As of December 31, 2012, we have a pending installation of the second ALTI-ESS system that they purchased from us. In addition, we sold a third system, our new 2 megawatt ALTI-ESS Advantage, to the Hawaii Natural Energy Institutein January 2013. We are also finalizing the commissioning installation of a system for an East Coast utility customer and expect to commission that system in the first half of 2013.

Hybrid Electric and All Electric Commercial Vehicles and Buses. We have been supplying Proterra, a leading manufacturer of electric buses with battery modules since 2009. In June of 2010, we formalized this relationship with the signing of a long-term supply agreement to provide our advanced lithium-ion battery modules for incorporation into Proterra's all-electric and hybrid-electric buses. In May 2012, we entered into a new supply agreement with Proterra to supply our modules to Proterra throughout 2013.

Expansion Into China. A key part of Altairnano's 2012 business plan was to enter into the China market. First, we sought to develop a manufacturing presence in China to help us our aggregate our largely Asia-based supply chain. In the past, we produced nano lithium titanate materials in Reno, Nevada, shipped those materials to our cell manufacturers in Asia, and then shipped those cells back to Anderson Indiana to produce modules or battery packs. Given the competition in the market and the cost sensitivities of our prospective and existing customers, we did not view this approach as a sustainable way to grow the business and reduce our product costs. We believe that the aggregation of key portions of our supply chain in Asia will help us to reduce our costs and shorten our customer lead times. Second, we view China as a critical market, because there is significant government support for the introduction of renewable energy technologies and applications. Market trends there favor the deployment of alternate fuel vehicles and the integration of wind and solar power. In our view, these trends favor the use of electric and hybrid electric vehicles along with battery-based energy storage, and thus, we view China as a significant part of our business plan again in 2013.

The entry into any new market is challenging, but we focused on our objectives and made solid progress in 2012. We formed Altair China, a WFOE in China, and its wholly-own subsidiary Northern Altair, in China. In April 2012, we entered into an economic development agreement with Wu'an and Handan cities in Hebei Province in China. Under the agreement, we negotiated a package of incentives, which includes orders for EV buses and other battery systems over a multi-year period and the transfer of commercial land use rights in Wu'an in a new industrial and technology park.

In April 2012, we entered into a contract with Wu'an for a multi-year, 200 unit electric bus order. In August, 2012, we received a 30% initial down payment of $1.9 million for the sale of the first 50 electric buses to Wu'an under the April economic development agreement. During the remainder of the year, we focused on the negotiations related to the transfer of the land use rights. In October 2012, Northern Altair entered into the Land-Use Agreement, pursuant to which Northern Altair has acquired the right to use the 66 acres of commercial land north of Dongzhuchang Village in Wu'an, China for a period of 50 years subject to the terms and conditions of the Land-Use Agreement. As consideration for the land use right, Northern Altair paid a land use fee of approximately $11.9 million and land transfer taxes and fees of approximately $1.7 million and agreed to make fixed asset investments on the land of approximately $167 million, subject to loan guarantees and other incentives from Wu'an, China, over an unspecified period of time up to the 50 year life of the land use right, with initial construction being required to begin by March 31, 2013. In January 2013, initial construction on a manufacturing facility began on the Company's land use right in China. The costs incurred to date by the Company are not material. The Company estimates the initial phase of this project will cost approximately $3 million and will be completed in 2013. The Company has not yet obtained loan guarantees for these costs. Additional construction phases will be contingent upon loan guarantees and other incentives from Wu'an, China as well as other market conditions. The total fixed asset investments shall include the cost of buildings, structures, auxiliary facilities, and equipment, as well as the land-use fee. Northern Altair may transfer and sublease portions of the granted land once it has invested 25% of the total fixed asset investments amount and completed 25% of the project. Closing occurred on November 9, 2012. We intend to establish our nano-lithium titanate materials and energy storage system manufacturing facilities on this land in 2013.

After completing the Land-Use Agreement, Northern Altair entered into negotiations regarding a package of incentives to facilitate Northern Altair's establishment of operations and construction efforts. In November 2012, Northern Altair was granted $11.8 million in cash incentives, which shall be used for Northern Altair's construction and manufacturing operations. We also completed the design of our planned nano lithium titanate and energy storage system manufacturing facilities. The actual scope of Northern Altair's construction project and manufacturing operations has been based on the anticipated market demand for the Company's products and on the level of negotiated incentives.

We expect that a meaningful portion of our sales, and elements of our manufacturing, will be conducted by Northern Altair. We began to ramp up our operations immediately following the execution of our economic development deal in April 2012 with Wu'an and Handan, and grew our organization there to 20 employees as of December 31, 2012. It is important to note, however, that Altairnano will also maintain its engineering, R&D, module and energy storage system assembly capabilities in the U.S., not only to service our existing customers, some of whom require U.S. made content, but also to further our R&D and product innovation. We seek to complement and expand the reach of our U.S. operations through our plan in China, rather than to replace or supplant our U.S. operations. However, headcount in the U.S. dropped from approximately 100 employees in early 2012 to 70 employees as of December 31, 2012, as part of a cost reduction plan. Nevertheless, the Company has maintained its core R&D, engineering and operational capabilities.

Proprietary Rights

We have been awarded a total of 12 U.S. and 42 foreign patents. We have a total of 7 U.S. and 37 foreign patent applications pending. The granted patents covering our nano lithium titanate technology include: 1) Method for producing catalyst structures, 2) Method for producing mixed metal oxides and metal oxide compounds, 3) Process for making lithium titanate, 4) Process for making nano-sized and sub-micron-sized lithium-transition metal oxides, and 5) High performance Lithium Titanium spinel Li4Ti5o12 for electrode material. The U.S. patents begin to expire in 2020.

Pending patent applications are directed to a variety of inventions related to aspects of our electrochemical cells including: “Lithium-Ion Batteries and the Methods of Operating the Same”; “Method for Preparing a Lithium-Ion Cell”; and “Method for Preparing a Lithium-Ion Battery.”

Competition

Electric Grid A number of advanced energy storage and power electronic component producers have entered into the frequency regulation market. They include ABB, A123 Systems. (which was acquired by Wanxiang), BYD, GS Yuasa, LG Chem, Mitsubishi, Parker Hannifin, Saft and XtremePower. As we or others continue to demonstrate traction in this market we expect to see increasing levels of competition from other suppliers and systems integrators, especially as the market rules in the U.S. and other markets move towards the acceptance of battery-based energy storage for frequency regulation. Favorable signs emerged in 2012, such as California Independent System Operator’s (CAISO) decision to adopt market changes which would reward frequency regulation resources for fast performance. CAISO now joins PJM Interconnection as the first to propose new rules which seek to comply with FERC’s Order 755, which requires pay for performance, especially for fast response resources that provide frequency regulation services. We believe that these changes are favorable for battery-based energy storage systems in general and for Altairnano’s nano lithum titanate battery technologies specifically, due to our unique fast response capabilities.

Our products typically compete with existing methods for providing frequency regulation and renewables integration rather than competing battery manufacturers. Today, most utilities and regional transmission organizations use existing coal, gas and diesel generating sources to provide frequency regulation. While these sources are inefficient and can be highly polluting (coal and diesel), they are known quantities and accepted by the various regulators and utilities. In many instances, particularly in the U.S., we are attempting to displace this accepted way of doing things. Consequently, the typical sales cycle for selling an energy storage system for frequency regulation can be quite lengthy.

Another challenge is the cost of natural gas in the U.S. Much of the existing frequency regulation in the U.S. is provided by natural gas powered generators, and the price of natural gas pricing has been at historic lows. As a result, there is less of a financial incentive for utilities to implement our solution. This cost environment, however, is not expected to be sustainable. Natural gas prices are volatile and may rise over time, and batteries, like all technologies, will eventually see their prices drop as efficiencies are gained and as production volumes increase. As a result, we see greater opportunities for our frequency regulation products emerging over time in the U.S., especially with the introduction of new market mechanisms that place greater emphasis on fast response services. Moreover, we expect to see growing demand outside of the U.S., where fuel costs are significantly higher. Once this new energy storage capability starts to get market traction, we expect the rate of acceptance to accelerate. Until then, however, we are experiencing a long sales cycle and don't expect that to materially change in the near future. We believe that once we demonstrate revenue traction and demonstrate that the market does exist and is very large, other larger suppliers may also target this market.

Transportation (Commercial Vehicles) In the automotive passenger car markets, there are a large number of battery manufacturers and systems integrators currently serving the market. Many of them are larger companies with substantially stronger financial resources than we have. We believe the passenger car market will be driven by low margins and volume. As a result we believe that only larger, well-capitalized companies will ultimately be successful in this market. We believe that commercial vehicles, including buses, medium- and heavy-duty trucks, on the other hand, present a different set of dynamics. The characteristics of our batteries are an excellent fit to satisfy the requirements of this market, and the needs here are different than in the general passenger car automotive market. We believe that we can be a successful competitor in this segment of the overall transportation market.

With respect to the electric and hybrid electric commercial vehicle markets, we are not aware of any commercially available products that have similar performance attributes as our nano lithium titanate batteries. Nonetheless, competitors have announced advanced lithium ion batteries and battery products aimed at these markets. Some may have greater energy density than our nano lithium titanate batteries. However, we believe that these batteries do not match the cycle life, rapid charge and discharge rates and performance at temperature extremes of our nano lithium titanate batteries.

Currently, NiMH batteries dominate the hybrid electric vehicle market, including the mass-transit market. NiMH batteries improve upon the energy capacity and power capabilities of older alternatives, such as NiCd (for the same size cell) by 30% to 40%. Since they contain fewer toxins than NiCd batteries, NiMH batteries are more environmentally friendly than NiCd batteries, although they are not as environmentally friendly as our nano lithium titanate battery. Like NiCd batteries, NiMH batteries can be charged in about 3 hours. Charging rates must be reduced by a factor of 5 to 10 at temperatures below 0°C (32°F) and above 40°C (104°F). NiMH batteries suffer from poor deep cycle ability (i.e. the ability to be discharged to 10% or less of their capacity), possessing a recharge capability following deep discharge on the order of 200 to 300 cycles. While NiMH batteries are capable of high power discharge, dedicated usage in high power applications limits cycle life even further. NiMH batteries also possess high self-discharge rates, which is unintentional leaking of a battery's charge. NiMH batteries are intolerant to elevated temperature and, as a result, performance and capacity degrade sharply above room temperature. The most serious issue with NiMH, though, involves safety accompanying recharge. The temperature and internal pressure of a

NiMH battery cell rises sharply as the cell nears 100% state of charge, necessitating the inclusion of complex cell monitoring electronics and sophisticated charging algorithms in order to prevent thermal runaway, and ultimately fire. A potential limiting factor for the widespread use of NiMH batteries may be the supply of nickel, potentially rendering the technology economically infeasible for these applications as demand continues to rise.

Producers of electric and hybrid electric vehicles are seeking to replace NiMH batteries with lithium ion batteries for several reasons. The demand for these vehicles is placing pressures on the limited supply of nickel, potentially rendering the technology economically infeasible for these applications as the demand continues to rise. Compared to NiMH batteries, conventional lithium ion batteries are stable, charge more rapidly (in hours), exhibit low self-discharge, and require very little maintenance. Except as explained below, the safety, cycle life, calendar life, environmental impact and power of lithium ion batteries is comparable to those of NiMH and NiCd batteries.

Conventional lithium ion batteries are the batteries of choice in small electronics, such as cell phones and portable computers, where high energy density and light weight are important. These same attributes are desired for electric vehicle, hybrid electric vehicle, fast energy storage and other markets. However, these applications are principally high power demand applications and/or pose other demands on usage, such as extremes of temperature, need for extremely short recharge times, and even longer extended lifetimes. Because of safety concerns related principally to the presence of graphite in conventional lithium ion batteries, conventional graphite-based lithium ion batteries sufficiently large for such power uses may raise safety concerns. In addition, current lithium ion technology is only capable of about 2,500 to 4,000 cycles.. Conventional lithium ion batteries also do not function well at extremely hot or cold temperatures. Our batteries - which are safer, have a longer cycle life, rapid charge and discharge rates and function well at extreme temperatures - are designed to address the power market by providing the key benefits of lithium ion batteries without the shortcomings relative to the power market.

Research and Development Expenses

Total research and development expenses were $6.4 million and $7.0 million for the years ended December 31, 2012 and 2011, respectively, while research and development costs funded by customers were $23,000 and $367,000, for the years ended December 31, 2012 and 2011, respectively. Included in the expenses are engineering and development costs not billed to customer projects.

Dependence on Significant Customers

During the year ended December 31, 2012, we received $5.9 million in payments from customers, but recorded only $1.5 million in revenue. Three major customers accounted for 16%, 14% and 13% of our total recognized revenues; they were Alsher Titania LLC, Gen-X and Emrol, respectively. During the year ended December 31, 2011, we recorded revenues from two major customers who accounted for 40% and 34% of total revenues as follows: Proterra Corporation revenues of $2.1 million and YTE revenues of $1.8 million.

Government Regulation

Most of our current and proposed activities are subject to numerous federal, state, and local laws and regulations concerning machine and chemical safety and environmental protection. Such laws include, without limitation, the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, and the Comprehensive Environmental Response Compensation Liability Act. We are also subject to laws governing the packaging and shipment of some of our products, including our nano lithium titanate batteries. Such laws require that we take steps to, among other things, maintain air and water quality standards, protect threatened, endangered and other species of wildlife and vegetation, preserve certain cultural resources, reclaim processing sites and package potentially flammable materials in appropriate ways and pass stringent government mandated testing standards before shipping our battery products.

Compliance with federal, state, or local laws or regulations represents a small part of our present budget. If we fail to comply with any such laws or regulations, however, a government entity may levy a fine on us or require us to take costly measures to ensure compliance. Any such fine or expenditure may adversely affect our development.

Environmental Regulation and Liability

Any proposed processing and manufacturing operations will be subject to federal, state, and local environmental laws. Under such laws, we may be jointly and severally liable with prior property owners for the treatment, cleanup, remediation, and/or removal of substances discovered at any other property used by us; to the extent the substances are deemed by the federal and/or state government to be toxic or hazardous. Courts or government agencies may impose liability for, among other things, the improper release, discharge, storage, use, disposal, or transportation of hazardous substances. We use hazardous substances in our testing and operations and, although we employ reasonable practicable safeguards to prevent any liability under applicable laws relating to hazardous substances, companies engaged in materials production are inherently subject to substantial risk that environmental remediation will be required.

Financial Information about Segments and Foreign Sales

Information with respect to assets, net sales, loss from operations and depreciation and amortization for the Power and Energy Group, and the All Other Division is presented in Note 17, Business Segment Information, of Notes to Consolidated Financial Statements in Part IV.

Information with respect to foreign and domestic sales and related information is also presented in Note 17, Business Segment Information, of Notes to Consolidated Financial Statements in Part IV.

Subsidiaries

Altair US Holdings, Inc. was incorporated by Altair in December 2003 for the purpose of facilitating a corporate restructuring and consolidation of all U.S. subsidiaries under a U.S. holding company. Altair US Holdings owns the capital stock of Mineral Recovery Systems, Inc., which currently has no operations, and Altairnano, Inc.

Altairnano, Inc. (f/k/a Altair Nanomaterials Inc.) holds all of our interest in our nanomaterials and titanium dioxide pigment technology and related assets. Altairnano, Inc. also owns Altair China, a WFOE in China, and Altair China owns Northern Altair, a domestic company in China.

Corporate History

Altair Nanotechnologies Inc. was incorporated under the laws of the Province of Ontario, Canada in April 1973 for the purpose of acquiring and exploring mineral properties. At that time, its name was Diversified Mines Limited, which was subsequently changed to Tex-U.S. Oil & Gas Inc. in February 1981, then to Orex Resources Ltd. in November 1986, then to Carlin Gold Company Inc. in July 1988, then to Altair International Gold Inc. in March 1994, then to Altair International Inc. in November 1996 and then to Altair Nanotechnologies Inc. in July 2002. In July 2002, Altair Nanotechnologies Inc. domesticated from the Ontario Business Corporations Act to Canada's federal corporate statute, the Canada Business Corporations Act. On May 15, 2012, Altair Nanotechnologies Inc. domesticated from Canada to the State of Delaware under the Delaware General Corporation Law.

During the period from inception through 1994, we acquired and explored multiple mineral properties. In each case, sub-economic mineralization was encountered and the exploration was abandoned. Beginning in 1996, we entered into leases for mineral property near Camden, Tennessee and owned the rights to the Altair jig. However, we have

terminated our leases on all of the Tennessee mineral properties and during 2009 disposed of the remaining centrifugal jigs and abandoned the applicable patents since we were unable to identify an interested party to purchase them.

In November 1999, we acquired all the rights of BHP Minerals International, Inc., or BHP, in the nanomaterials and titanium dioxide pigment technologies and the nanomaterials and titanium dioxide pigment assets from BHP. We are employing the nanomaterials technology as a platform for the production and sale of metal oxide nanoparticles in our nano lithium titanate batteries.

In November 2010, we completed a 1-for-4 reverse stock split. All share and per share amounts included in this filing have been restated for the effects of this reverse stock split.

In July 2011, Energy Storage (China), an indirect subsidiary of Canon, acquired 37,036,807 shares of common stock, representing 53% of the outstanding shares of common stock of Altair Nanotechnologies Inc.

In December 2012, we completed a 1-for-6 reverse stock split. All share and per share amounts included in this filing have been restated for the effects of this reverse stock split.

Employees

Our business is currently managed by Mr. Alexander Lee, Chief Executive Officer, Mr. Liming (Albert) Zou, President, Mr. Stephen B. Huang, Chief Financial Officer and Dr. Bruce Sabacky, Chief Technology Officer. As of December 31, 2012, our U.S. operations has 70 employees and our China operations has 20 employees and we have employment agreements with Messrs. Lee, Zou, Huang and Sabacky. During 2013, we anticipate hiring additional employees primarily in operations, engineering and sales in China. Such additional hiring, if it occurs, will be dependent upon business volume growth.

Available Information

We file annual, quarterly and current reports and other information with the SEC. These materials can be inspected and copied at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Copies of these materials may also be obtained by mail at prescribed rates from the SEC's Public Reference Room at the above address. Information about the Public Reference Room can be obtained by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet site that contains reports, proxy information statements, and other information regarding issuers that file electronically with the SEC. The address of the SEC's Internet site is www.sec.gov.

We make available, free of charge on our Internet website located at www.altairnano.com behind the "Investors" tab under "SEC Filings," our most recent Annual Report on Form 10-K, our most recent Quarterly Report on Form 10-Q, any current reports on Form 8-K filed since our most recent Annual Report on Form 10-K and any amendments to such reports as soon as reasonably practicable following the electronic filing of such report with the SEC. In addition, we provide electronic or paper copies of our filings free of charge upon request.

Forward-Looking Statements

This Report contains various forward-looking statements. Such statements can be identified by the use of the forward-looking words "anticipate," "estimate," "project," "likely," "believe," "intend," "expect," or similar words. These stat discuss future expectations, contain projections regarding future developments, operations, or financial conditions, or state other forward-looking information. When considering such forward-looking statements, you should keep in mind the risk factors noted under "Risk Factors" below and other cautionary statements throughout this Report and our other filings with the SEC. You should also keep in mind that all forward-looking statements are based on management's existing beliefs about present and future events outside of management's control and on assumptions that may prove to be incorrect. If one or more risks identified in this Report or any other applicable filings materializes, or any other underlying assumptions prove incorrect, our actual results may vary materially from those anticipated,

estimated, projected, or intended.

Item 1A. Risk Factors.

An investment in our shares of common stock and related derivative securities involves significant risks. You should carefully consider the risks described in this Report before making an investment decision. Any of these risks could materially and adversely affect our business, financial condition or results of operations. In such case, you may lose all or part of your investment. Some factors in this section are forward-looking statements.

We may continue to experience significant losses from operations.

We have experienced a net loss in every fiscal year since our inception. Our loss from operations was $18.6 million for the twelve months ended December 31, 2012. We may never be profitable in the future. Even if we are profitable in one or more future years, subsequent developments in the economy, our industry, customer base, business or cost structure, or an event such as significant litigation or a significant transaction, may cause us to again experience losses.

We may not be able to raise sufficient capital to finance our operations due to our operating results, market conditions and similar factors.

As of December 31, 2012, we had approximately $12.4 million in cash and cash equivalents. In addition, we received a cash grant of $11.8 million, which we received from Wu'an as part of our economic development deal; however, this capital is earmarked for the development of our operations in Wu'an, China, and is thus treated as restricted cash. As a result, we expect that in the future we will again need to raise capital. With respect to any such capital raise, we may be unable to raise the amount of capital needed and may be forced to pay an extremely high price for capital. Factors affecting the availability and price of capital may include the following:

- market factors affecting the availability and cost of capital generally, including increases or decreases in major stock market indexes, the stability of the banking and investment banking systems and general economic stability or instability;
- the price, volatility and trading volume of our shares of common stock;
- our financial results, particularly the amount of revenue we are generating from product sales;
- the market's perception of our ability to execute our business plan and any specific projects identified as uses of proceeds;
- our ownership structure and recent or anticipated dilution;
- the amount of our capital needs;
- the market's perception of our company and companies in our line of business; and
- the economics of projects being pursued.

If we are unable to raise required capital, we may be forced to discontinue operations.

We have entered into contractual provisions that may significantly limit our ability to raise capital.

In conjunction with the closing of purchase by an affiliate of Canon Investment Holdings Ltd. of shares representing over 50% of our outstanding shares in 2011, we granted certain rights to Canon, including the right to proportional representation on our Board of Directors, certain registration rights, and an option to purchase a sufficient number of our equity securities at market price to maintain their percentage of ownership should we offer, sell or issue new securities. These rights may dissuade potential investors from purchasing our capital or may require us to accept less than favorable terms in future financings.

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Laws governing repatriation of investments in a China WFOE may contribute to a need to obtain capital to finance our non-China operations in the near future.

We have established a Wholly Foreign Owned Enterprise, or WFOE, in China through which we conduct our Chinese operations. When establishing a WFOE, we have been required to designate a minimum registered capital amount and contribute at least such amount to the WFOE. Chinese law severely limits the ability of a WFOE to repatriate money to its non-Chinese parent. In general, any distributions to the non-Chinese parent must derive from profits, as determined in accordance with Chinese accounting standards and regulations. Our WFOE will also be required to set aside at least 10% of its after-tax profit based on Chinese accounting standards each year to a statutory surplus reserve fund until the accumulative amount of such reserve reaches 50% of registered capital.

These reserves are not distributable as dividends. In addition, our WFOE may be required to allocate a portion of its after-tax profit to a staff welfare and bonus fund. Moreover, if our WFOE incurs debt on its own behalf in the future, the instruments governing the debt may restrict our WFOEs' ability to pay dividends or make other distributions to us. Any limitation on the ability of our WFOE to distribute dividends and other distributions to us could materially and adversely limit our ability to make investments or enter into joint ventures that could be beneficial to our business, pay dividends, or otherwise fund and conduct our business.

We may become subject to international economic and political risks over which we have little or no control and may be unable to alter our business practice in time to avoid the possibility of reduced revenues.

We conduct a portion of our business outside the United States and plan to significantly increase our presence in China. Doing business outside the United States, subjects us to various risks, including changing economic and political conditions, major work stoppages, exchange controls, currency fluctuations, armed conflicts and unexpected changes in United States and foreign laws relating to tariffs, trade restrictions, transportation regulations, foreign investments and taxation. We have no control over most of these risks and may be unable to anticipate or adapt to changes in international economic and political conditions. This may lead to sudden and unexpected revenue reductions or expense increases.

China's economic policies, laws and regulations could affect our business.

Our business plan currently anticipates that a substantial portion of our assets will be located in China and a portion of our revenue will be derived from Chinese operations. Accordingly, our results of operations and prospects will become subject, to a significant extent, to the economic, political and legal developments in China.

While China's economy has experienced significant growth in the past twenty years, such growth has been uneven, both geographically and among various sectors of the economy. The PRC government has implemented various measures to encourage economic growth and guide the allocation of resources. Some of these measures benefit the overall economy of China, but they may also have a negative effect on us. For example, operating results and financial condition may be adversely affected by the government control over capital investments or changes in tax regulations. The economy of China has been transitioning from a planned economy to a more market-oriented economy. In recent years, the PRC government has implemented measures emphasizing the utilization of market forces for economic reform and the reduction of state ownership of productive assets, and the establishment of corporate governance in business enterprises; however, a substantial portion of productive assets in China are still owned by the PRC government. In addition, the PRC government continues to play a significant role in regulating industry development by imposing industrial policies. It also exercises significant control over China's economic growth through the allocation of resources, the control of payment of foreign currency-denominated obligations, the setting of monetary policy and the provision of preferential treatment to particular industries or companies. Any adverse change in the economic conditions or government policies in China could directly harm our business or harm overall

economic growth in China, which in either case could increase our expenses and decrease expected revenues.

We may have difficulty establishing adequate management, legal and financial controls internationally.

As a result of difference in management, accounting, legal, language and cultural norms, we may experience difficulty in establishing management, legal and financial controls, collecting financial data and preparing financial statements, books of account and corporate records and instituting standard business practices for our international projects as well as in our China-based operations. In addition, our international efforts may divert management attention and consume a significant amount of capital without anticipated results.

If relations between the United States and China worsen, investors may be unwilling to hold or buy our stock and our stock price may decrease.

At various times during recent years, the United States and China have had significant disagreements over political and economic issues. Controversies may arise in the future between these two countries. Any political or trade controversies between the United States and China, whether or not directly related to our business, could reduce the price of our common stock.

China could change its policies toward private enterprise or even nationalize or expropriate private enterprises.

Our business is expected to be subject to significant political and economic uncertainties and may be affected by political, economic and social developments in China. Over the past several years, the PRC government has pursued economic reform policies including the encouragement of private economic activity and greater economic decentralization. The PRC government may not continue to pursue these policies or may significantly alter them to our detriment from time to time with little, if any, prior notice.

Changes in policies, laws and regulations or in their interpretation or the imposition of confiscatory taxation, restrictions on currency conversion, restrictions or prohibitions on dividend payments to shareholders, or devaluations of currency could cause a decline in the price of our common stock.

The nature and application of many laws of China create an uncertain environment for business operations and they could have a negative effect on us.

The legal system in China is a civil law system. Unlike the common law system, the civil law system is based on written statutes in which decided legal cases have little value as precedents. The promulgation of new laws, changes of existing laws and the abrogation of local regulations by national laws could cause a decline in the price of our common stock. In addition, as these laws, regulations and legal requirements are relatively recent, their interpretation and enforcement involve significant uncertainty. Furthermore, the political, governmental and judicial systems in China are sometimes impacted by corruption. There is no assurance that we will be able to obtain recourse in any legal disputes with suppliers, customers or other parties with whom we conduct business.

Following the acquisition of a majority interest in the company by an affiliate of Canon, we face risks associated with having a majority shareholder.

In July 2011, an affiliate of Canon acquired a majority of our outstanding shares of common stock, which presents certain risks to us, including the following:

- The majority shareholder controls the appointments on the Board of Directors and may appoint persons less qualified, or more loyal to the majority shareholder, than would be appointed absent a controlling shareholder;
- The majority shareholder may be able to influence our Board of Directors to enter into transactions with related or third parties that are more favorable to such parties than would be negotiated by an independent Board of Directors;
- The majority shareholder controls all matters requiring approval by the shareholders, including any determination with respect to the acquisition or disposition of assets, future issuances of a material number of securities and other major transactions; and
- This concentration of ownership may also delay, defer or prevent a change in control and otherwise prevent shareholders other than our affiliates from influencing our direction and future.

If one or more of these risks, or other risks, materializes, our business will be harmed, and it may be harmed materially.

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Cultural, language and other differences between the U.S. and China may create inefficiencies in our management and operations.

Our majority shareholder, and a majority of our directors, are Chinese, reside in China and two of our directors exclusively speak Chinese. As we ramp up our China-based operations,, we may experience conflicts or misunderstandings within our management structure that are primarily or partially rooted in language and cultural differences, particularly differences in management and communication styles. Language and cultural differences may also affect strategy formation and create inefficient and limited communication among technical and management employees located in different countries. The occurrence of any of these events may harm our growth potential, increase costs and decrease operational efficiency.

We may not realize anticipated benefits from our agreement with Inversiones Energeticas.

In February 2011, we entered into a purchase contract with Inversiones Energeticas, S.A. de C.V., or INE, related to the purchase of a turn-key 10 megawatt ALTI-ESS advanced battery system for $18 million. Projected revenue under this agreement represented a substantial portion of our expected revenue in 2011 and represents a substantial portion of our projected revenue for 2012. On April 15, 2011, as a result of unexpected regulatory issues, INE notified us that they needed to cancel the contract in accordance with its terms. INE subsequently stated that such letter was not intended to effect a termination of the contract, but merely to provide notice of its initial failure to obtain regulatory approval, which would automatically effect a termination of the contract if the issue was not resolved within 120 days, subject to extension by the parties. We have entered into several extensions in order to allow the various parties additional time to resolve these regulatory issues. We may be unable to resolve the regulatory issues with the existing agreement or may otherwise be unable to enter into a new agreement with INE. If not, we will lose anticipated revenue and lose the expected marketing benefits we expected following the completion of the installation of the ALTI-ESS system. This will harm our short-term revenue projections and possibly our long-term revenue potential.

Our nano lithium titanate battery materials and battery business is currently dependent upon a few customers and potential customers, which presents various risks.

Our nano lithium titanate battery materials and battery business is dependent upon a few current or potential customers, including a small number of power producers, an affiliate of Canon and smaller companies developing electric or hybrid electric buses. In addition, many of these customers are, or are expected to be, development partners who are subsidizing the research and development of products for which they may be the sole, or one of a few, potential purchasers. As a result of the small number of potential customers and partners, our existing or potential customers and partners may have significant leverage on pricing terms, exclusivity terms and other economic and noneconomic terms. This may harm our attempts to sell products at prices that reflect desired gross margins. In addition, the decision by a single or potential customer to chose not to purchase or abandon the use or development of a product may significantly harm both our financial results and the development track of one or more products.

We depend upon several sole-source and limited-source third-party suppliers.

We rely on certain suppliers as the sole-source, or as a primary source, of certain services, raw materials and other components of our products. We do not yet have long-term supply or service agreements engaged with any such suppliers. As a result, the providers of such services and components could terminate or alter the terms of service or supply with little or no advance notice. If our arrangements with any sole-source supplier were terminated, or if such a supplier failed to provide essential services or deliver essential components on a timely basis, failed to meet our product specifications and/or quality standards, or introduced unacceptable price increases, our production schedule would be delayed, possibly by as long as one year. Any such delay in our production schedule would result in delayed product delivery and may also result in additional production costs, customer losses and litigation.

An area in which our dependence upon a limited number of sources creates significant vulnerability is the manufacturing of our nano lithium titanate cells. As of the date hereof, we have two contract manufacturing sources for our nano lithium titanate cells. We have had quality issues with both contract manufacturers. Our nano lithium titanate battery cells are the building blocks of all of our products (other than our nano lithium titanate powder). If we continue to experience quality issues with our suppliers, we may be unable to meet our deadlines, or quality specifications, with respect to existing or future orders. This would harm our reputation and our ability to grow our business.

Our operating results have fluctuated significantly in the past and will continue to fluctuate in the future, which could cause our stock price to decline.

Our operating results have fluctuated significantly in the past, and we believe that they will continue to fluctuate in the future, due to a number of factors, many of which are beyond our control. If in future periods our operating results do not meet the expectations of investors or analysts who choose to follow our company, the price of our shares of common stock may fall. Factors that may affect our operating results include the following:

- fluctuations in the size, quantity and timing of customer orders;
- timing of delivery of our services and products;
- additions of new customers or losses of existing customers;
- positive or negative business or financial developments announced by us or our key customers;
- our ability to commercialize and obtain orders for products we are developing;
- costs associated with developing our manufacturing capabilities;
- the retention of our key employees;
- new product announcements or introductions by our competitors or potential competitors;
- the effect of variations in the market price of our shares of common stock on our equity-based compensation expenses;
- disruptions in the supply of raw materials or components used in the manufacture of our products;
- the pace of adoption of regulation facilitating our ability to sell our products in our target markets;
- technology and intellectual property issues associated with our products;
- general political, social, geopolitical and economic trends and events; and
- availability of components sourced from Korea if tensions between North Korea and South Korea erupt into a greater military conflict.

Our patents and other protective measures may not adequately protect our proprietary intellectual property.

We regard our intellectual property, particularly our proprietary rights in our nano lithium titanate technology, as critical to our success. We have received various patents, and filed other patent applications, for various applications and aspects of our nano lithium titanate technology and other intellectual property. Such patents and agreements and various other measures we take to protect our intellectual property from use by others may not be effective for various reasons, including the following:

- Our pending patent applications may not be granted for various reasons, including the existence of conflicting patents or defects in our applications, if there was in existence relevant prior art or the invention was deemed by the examiner to be obvious to a person skilled in the art whether or not there were other existing patents. Risks associated with patent applications are enhanced because patent applications of others remain confidential for a period of approximately 18 months after filing; as a result, our belief that we are the first creator of an invention or the first to patent it may prove incorrect, as information related to conflicting patents is first published or first brought to our attention;
- The patents we have been granted may be challenged, invalidated, narrowed or circumvented because of the pre-existence of similar patented or unpatented intellectual property rights or for other reasons;
- The costs associated with enforcing patents, confidentiality and invention agreements or other intellectual property rights may make aggressive enforcement cost prohibitive;
- We have not filed for patent protection in many countries in which we are currently selling product or seek to sell product; as a result, we may be unable to prevent competitors in such markets from selling infringing products;

- Even if we enforce our rights aggressively, injunctions, fines and other penalties may be insufficient to deter violations of our intellectual property rights; and
- Other persons may independently develop proprietary information and techniques that, although functionally equivalent or superior to our intellectual proprietary information and techniques, do not breach proprietary rights.

Our inability to protect our proprietary intellectual property rights or gain a competitive advantage from such rights could harm our ability to generate revenues and, as a result, our business and operations.

We may be involved in lawsuits to protect or enforce our patents, which could be expensive, time consuming and involve adverse publicity and adverse results.

Competitors or others may infringe our patents. To counter infringement or unauthorized use, we may be required to file patent infringement claims, which can be expensive and time-consuming. Interference proceedings brought by the United States Patent and Trademark Office may be necessary to determine the priority of inventions with respect to our patent applications. Litigation or interference proceedings may result in substantial costs and be a distraction to our management.

Because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure. In addition, during the course of this litigation (even if ultimately successful), there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our shares of common stock.

In addition, in an infringement proceeding, a court may decide that a patent of ours is not valid or is unenforceable, or may refuse to stop the other party from using the technology at issue on the grounds that our patents do not cover that technology. An adverse determination of any litigation or defense proceedings could put one or more of our patents at risk of being invalidated or interpreted narrowly and could put our patent applications at risk of not issuing.

We may not prevail in any litigation or interference proceeding in which we are involved. Even if we do prevail, these proceedings can be expensive, result in adverse publicity and distract our management.

Other parties may bring intellectual property infringement claims against us, which would be time-consuming and expensive to defend, and if any of our products or processes is found to be infringing, we may not be able to procure licenses to use patents necessary to our business at reasonable terms, if at all.

Our success depends in part on avoiding the infringement of other parties' patents and proprietary rights. We may inadvertently infringe existing third-party patents or third-party patents issued on existing patent applications. Third party holders of such patents or patent applications could bring claims against us that, even if resolved in our favor, could cause us to incur substantial expenses and, if resolved against us, could cause us to pay substantial damages. Under some circumstances in the United States, these damages could be triple the actual damages the patent holder incurs.

If we have supplied infringing products to third parties for marketing or licensed third parties to manufacture, use or market infringing products, we may be obligated to indemnify these third parties for any damages they may be required to pay to the patent holder and for any losses the third parties may sustain themselves as the result of lost sales or damages paid to the patent holder. In addition, we have, and may be required to, make representations as to our right to supply and/or license intellectual property and to our compliance with laws. Such representations are usually supported by indemnification provisions requiring us to defend our customers and otherwise make them whole if we license or supply products that infringe on third party technologies or violate government regulations. Further, if

a patent infringement suit were brought against us, we and our customers, development partners and licensees could be forced to stop or delay research, development, manufacturing or sales of products based on our technologies in the country or countries covered by the patent we infringe, unless we can obtain a license from the patent holder. Such a license may not be available on acceptable terms, or at all, particularly if the third party is developing or marketing a product competitive with products based on our technologies. Even if we were able to obtain a license, the rights may be nonexclusive, which would give our competitors access to the same intellectual property.

Any successful infringement action brought against us may also adversely affect marketing of products based on our technologies in other markets not covered by the infringement action. Furthermore, we may suffer adverse consequences from a successful infringement action against us even if the action is subsequently reversed on appeal, nullified through another action or resolved by settlement with the patent holder. As a result, any infringement action against us would likely harm our competitive position, be costly and require significant time and attention of our key management and technical personnel.

We may be unable to adequately prevent disclosure of trade secrets and other proprietary information.

We rely on trade secrets to protect our proprietary technologies, especially where we do not believe patent protection is appropriate or obtainable. Trade secrets are difficult to protect. We rely in part on confidentiality agreements with our employees, contractors, consultants, outside scientific collaborators and other advisors to protect our trade secrets and other proprietary information. Parties to the confidentiality agreements may have such agreements declared unenforceable or, even if the agreements are enforceable, may breach such agreements. Remedies available in connection with the breach of such agreements may not be adequate, or enforcing such agreement may be cost prohibitive. Courts outside the United States may be less willing to protect trade secrets. In addition, others may independently discover our trade secrets or independently develop processes or products that are similar or identical to our trade secrets. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection would harm our competitive business position.

If we are sued on a product liability claim, our insurance policies may not be sufficient.

Although we maintain general liability insurance and product liability insurance, our insurance may not cover all potential types of product liability claims to which manufacturers are exposed or may not be adequate to indemnify us for all liability that may be imposed. Any imposition of liability that is not covered by insurance or is in excess of our insurance coverage could harm our business, including our relationships with current customers and our ability to attract and retain new customers. In addition, if the liability were substantial relative to the size of our business, any uncovered liability could harm our liquidity and ability to continue as a going concern.

Laws regulating the manufacture or transportation of batteries may be enacted which could result in a delay in the production of our batteries or the imposition of additional costs that could harm our ability to be profitable.

At the present time, international, federal, state and local laws do not directly regulate the storage, use and disposal of the component parts of our batteries. However, laws and regulations may be enacted in the future which could impose environmental, health and safety controls on the storage, use and disposal of certain chemicals and metals used in the manufacture of lithium and lithium-ion batteries. Satisfying any future laws or regulations could require significant time and resources from our technical staff, including those related to possible redesign which may result in substantial expenditures and delays in the production of our product, all of which could harm our business and reduce our future profitability.

The transportation of lithium and lithium-ion batteries is regulated both domestically and internationally. Under recently revised United Nations recommendations and as adopted by the International Air Transport Association, our batteries and battery systems currently fall within the level such that they are not exempt and require a Class 9 designation for transportation. The revised United Nations recommendations and other recommendations are not U.S. law until such time as they are incorporated into the Hazardous Material Regulations of the U.S. Department of Transportation, or DOT. However, DOT has proposed new regulations harmonizing with the U.N. guidelines and is reviewing other proposed changes under consideration for inclusion. At present it is not known if or when the proposed regulations would be adopted by the United States. Although we fall under the equivalency levels for the United States and comply with all safety packaging requirements worldwide, future DOT or IATA approval process could require significant time and resources from out technical staff and, if redesign were necessary, could delay the introduction of new products.

If our warranty expense estimates differ materially from our actual claims, or if we are unable to estimate future warranty expense for new products, our business and financial results could be harmed.

Our warranty for our products ranges from one to three years from the date of sale, depending on the type of product and its application. We expect that in the future some of our warranties may extend for longer periods. Because our supply arrangements are negotiated, the scope of our product warranties differ substantially depending upon the product, the purchaser and the intended use; however, we have granted and may grant broad warranties, addressing such issues as leakage, cycle life and decline in power. We have a limited product history on which to base our warranty estimates. Because of the limited operating history of our batteries and battery systems, our management is required to make assumptions and to apply judgment regarding a number of factors, including anticipated rate of warranty claims, the durability and reliability of our products, and service delivery costs. Our assumptions could prove to be materially different from the actual performance of our batteries and battery systems, which could cause us to incur substantial expense to repair or replace defective products in the future and may exceed expected levels against which we have reserved. If our estimates prove incorrect, we could be required to accrue additional expenses from the time we realize our estimates are incorrect and also face a significant unplanned cash burden at the time our customers make a warranty claim, which could harm our operating results.

In addition, with our new products and products that remain under development, we will be required to base our warranty estimates on historical experience of similar products, testing of our batteries under laboratory conditions and limited performance information learned during our development activities with the customer. As a result, actual warranty claims may be significantly different from our estimates and our financial results could vary significantly from period-to-period.

Product liability or other claims could cause us to incur losses or damage our reputation.

The risk of product liability claims and associated adverse publicity is inherent in the development, manufacturing and sale of batteries and battery system. Certain materials we use in our batteries, as well as our battery systems, could, if used improperly, cause injuries to others. Improperly charging or discharging our batteries could cause fires. Any accident involving our batteries or other products could decrease or even eliminate demand for our products. Because some of our batteries are designed to be used in electric and hybrid electric buses, and because vehicle accidents can cause injury to persons and damage to property, we are subject to a risk of claims for such injuries and damages. In addition, we could be harmed by adverse publicity resulting from problems or accidents caused by third party products that incorporate our batteries. We could even be harmed by problems or accidents involving competing battery systems, if the market viewed our batteries as being vulnerable to similar problems. Any such claims, loss of customers or reputation harm would harm our financial results and ability to continue as a going concern.

Continuing adverse economic conditions could reduce, or delay demand for our products.

Although improving compared to recent years, the financial markets and general economic conditions are still relatively weak in certain geographic markets worldwide. Our products are targeted primarily at large power producers worldwide bus manufacturers and other industrial parties. Due to economic factors, companies and government agencies in some of our target markets have reduced, delayed or eliminated many research and development initiatives, including those related to energy storage. This reduction or delay in development spending by targeted key customers is hindering our development and production efforts and will continue to do so until development spending increases from current depressed levels.

The commercialization of many of our products is dependent upon the efforts of commercial partners and other third parties over which we have no or little control.

The commercialization of our principal products requires the cooperation and efforts of commercial partners and customers. For example, because completion and testing of our large-scale stationary batteries for power suppliers requires input from utilities and connection to a power network, commercialization of such batteries can only be done in conjunction with a power or utility company. The commercialization of transportation and other applications of our technology are also dependent, in part, upon the expertise, resources and efforts of our commercial partners. This presents certain risks, including the following:

- we may not be able to enter into development, licensing, supply and other agreements with commercial partners with appropriate resources, technology and expertise on reasonable terms or at all;
- our commercial partners may not place the same priority on a project as we do, may fail to honor contractual commitments, may not have the level of resources, expertise, market strength or other characteristics necessary for the success of the project, may dedicate only limited resources to, and/or may abandon, a development project for reasons, including reasons such as a shift in corporate focus, unrelated to its merits;
- our commercial partners may be in the early stages of development and may not have sufficient liquidity to invest in joint development projects, expand their businesses and purchase our products as expected or honor contractual commitments;
- our commercial partners may terminate joint testing, development or marketing projects on the merits of the projects for various reasons, including determinations that a project is not feasible, cost-effective or likely to lead to a marketable end product;
- our commercial partners may not protect our intellectual property adequately or they may infringe our intellectual property rights;
- at various stages in the testing, development, marketing or production process, we may have disputes with our commercial partners, which may inhibit development, lead to an abandonment of the project or have other negative consequences; and
- even if the commercialization and marketing of jointly developed products is successful, our revenue share may be limited and may not exceed our associated development and operating costs.

As a result of the actions or omissions of our commercial partners, or our inability to identify and enter into suitable arrangements with qualified commercial partners, we may be unable to commercialize apparently viable products on a timely and cost-effective basis, or at all.

Interest in our nano lithium titanate batteries is affected by energy supply and pricing, political events, popular consciousness and other factors over which we have no control.

Currently, our marketing and development efforts for our batteries and battery materials are focused primarily on stationary power and transportation applications. In the transportation market, batteries containing our nano lithium titanate materials are designed to replace or supplement gasoline and diesel engines. In the stationary power applications, our batteries are designed to conserve and regulate the stable supply of electricity, including from renewable source, and to displace coal, gas and diesel generators used in frequency regulation. The interest of our potential customers and business partners in our products and services is affected by a number of factors beyond our control, including:

- economic conditions and capital financing and liquidity constraints;
- short-term and long-term trends in the supply and price of natural gas, gasoline, diesel, coal and other fuels;

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- the anticipated or actual granting or elimination by governments of tax and other financial incentives favoring electric or hybrid electric vehicles and renewable energy production;
- the ability of the various regulatory bodies to define the rules and procedures under which this new technology can be deployed into the electric grid;
- the anticipated or actual funding, or elimination of funding, for programs that support renewable energy programs and electric grid improvements;
- changes in public and investor interest for financial and/or environmental reasons, in supporting or adopting alternatives to gasoline and diesel for transportation and other purposes;
- the overall economic environment and the availability of credit to assist customers in purchasing our large battery systems;
- the expansion or contraction of private and public research and development budgets as a result of global and U.S. economic trends; and
- the speed of incorporation of renewable energy generating sources into the electric grid.

Adverse trends in one or more of these factors may inhibit our ability to commercialize our products and expand revenues from our battery materials and batteries.

If we combine with other companies, we may be unable to successfully integrate our business, technology, management or other aspects of our business with the other party to the transaction.

As evidenced by our signing the Share Subscription Agreement with Canon and related agreements with YTE, we routinely consider entering into acquisition, strategic or combination transactions with other companies for strategic and/or financial reasons. We do not have extensive experience in conducting diligence on, evaluating, purchasing, merging with, selling to or integrating new businesses or technologies with other entities. If we do succeed in closing a combination with another company, we will be exposed to a number of risks, including:

- we may have difficulty integrating our assets, technologies, operations and personnel in connection with a business combination;
- our ongoing business and management's attention may be disrupted or diverted by transition or integration issues and the complexity of managing, or being a part of, a geographically or culturally diverse enterprises;
- we may find that the transaction does not further our business strategy or that the economic and strategic assumptions underlying the transaction have proved inaccurate;
- we may encounter difficulty entering and competing in new product or geographic markets;
- we may face business, product, structural or other limitations or prohibitions as our business becomes subject to the laws or customs of other jurisdictions; and
- we may experience significant problems or liabilities associated with product quality, technology and legal contingencies relating to the integrated business or technology, such as intellectual property or employment matters.

In addition, from time to time we may enter into negotiations for acquisitions, dispositions, mergers or other transactions that are not ultimately consummated. These negotiations could result in significant diversion of management time, substantial out-of-pocket costs and, while such transactions are pending, limitations on the operation of our business (including negotiation of alternative business combinations and capital raising transactions). To the extent we issue shares of capital stock or other rights to purchase capital stock in any such transactions, including options and warrants, existing stockholders would be diluted. Any of these issues will harm our business and financial condition.

Our competitors have more resources than we do, and may be supported by more prominent partners, which may give them a competitive advantage.

We have limited financial, personnel and other resources and, because of our early stage of development, have limited access to capital. We compete or may compete against entities that are much larger than we are, have more extensive resources than we do and have an established reputation and operating history. In addition, certain of our competitors may be partnered with, associated with or supported by larger business or financial partners. This may increase their ability to raise capital, attract media attention, develop products and attract customers. Because of their size, resources, reputation and history (or that of their business and financial partners), certain of our competitors may be able to exploit acquisition, development and joint venture opportunities more rapidly, easily or thoroughly than we can. In addition, potential customers may choose to do business with our more established competitors, without regard to the comparative quality of our products, because of their perception that our competitors are more stable, are more likely to complete various projects, are more likely to continue as a going concern and lend greater credibility to any joint venture.

As manufacturing becomes a larger part of our operations, we will become exposed to accompanying risks and liabilities.

In-house and outsourced manufacturing is becoming an increasingly significant part of our business. As a result, we expect to become increasingly subject to various risks associated with the manufacturing and supply of products, including the following:

- If we fail to supply products in accordance with contractual terms, including terms related to time of delivery and performance specifications, we may be required to repair or replace defective products and may become liable for direct, special, consequential and other damages, even if manufacturing or delivery was outsourced;
- Raw materials used in the manufacturing process, labor and other key inputs may become scarce and expensive, causing our costs to exceed cost projections and associated revenues;
- Manufacturing processes typically involve large machinery, fuels and chemicals, any or all of which may lead to accidents involving bodily harm, destruction of facilities and environmental contamination and associated liabilities;
- As our manufacturing operations expand, we expect that a significant portion of our manufacturing will be done overseas, either by third-party contractors or in a plant owned by the company. Any manufacturing done overseas presents risks associated with quality control, currency exchange rates, foreign laws and customs, timing and loss risks associated with overseas transportation and potential adverse changes in the political, legal and social environment in the host county; and
- We have made, and may be required to make, representations as to our right to supply and/or license intellectual property and to our compliance with laws. Such representations are usually supported by indemnification provisions requiring us to defend our customers and otherwise make them whole if we license or supply products that infringe on third-party technologies or violate government regulations.

Any failure to adequately manage risks associated with the manufacture and supply of materials and products could lead to losses (or smaller than anticipated gross profits) from that segment of our business and/or significant liabilities, which would harm our business, operations and financial condition.

Our past and future operations may lead to substantial environmental liability.

Virtually any prior or future production of our nanomaterials and titanium dioxide pigment technology is subject to federal, state and local environmental laws. Under such laws, we may be jointly and severally liable with prior property owners for the treatment, cleanup, remediation and/or removal of any hazardous substances discovered at any property we use. In addition, courts or government agencies may impose liability for, among other things, the

improper release, discharge, storage, use, disposal or transportation of hazardous substances. If we incur any significant environmental liabilities, our ability to execute our business plan and our financial condition would be harmed.

Certain of our experts and directors reside in Canada or China and may be able to avoid civil liability.

A majority of our directors reside outside the United States in Canada or China. As a result, investors may be unable to effect service of process upon such persons within the United States and may be unable to enforce court judgments against such persons predicated upon civil liability provisions of the U.S. securities laws. It is uncertain whether Canadian or Chinese courts would enforce judgments of U.S. courts obtained against us or such directors, officers or experts predicated upon the civil liability provisions of U.S. securities laws or impose liability in original actions against us or our directors, officers or experts predicated upon U.S. securities laws.

We are dependent on key personnel.

Our continued success will depend, to a significant extent, on the services of our executive management team and certain key scientists and engineers. We do not have key man insurance on any of these individuals. Nor do we have agreements requiring any of our key personnel to remain with our company. We have experienced, and may continue to experience, turnover in key positions, which could result in the loss of company-specific knowledge, experience and expertise. The loss or unavailability of any or all of these individuals could harm our ability to execute our business plan, maintain important business relationships and complete certain product development initiatives, which would harm our business.

We may issue substantial amounts of additional shares without stockholder approval.

Our articles of incorporation authorize the issuance of 200 million shares of common stock that may be issued without any action or approval by our stockholders. In addition, we have various stock option plans that have potential for diluting the ownership interests of our stockholders. The issuance of any additional shares of common stock would further dilute the percentage ownership of our company held by existing stockholders.

The market price of our shares of common stock is highly volatile and may increase or decrease dramatically at any time.

The market price of our shares of common stock is highly volatile. Our stock price may change dramatically as the result of announcements of product developments, new products or innovations by us or our competitors, uncertainty regarding the viability of our technology or our product initiatives, significant customer contracts, significant litigation, our liquidity situation, revenues or losses, or other factors or events that would be expected to affect our business, financial condition, results of operations and future prospects.

The market price for our shares of common stock may be affected by various factors not directly related to our business or future prospects, including the following:

- intentional manipulation of our stock price by existing or future shareholders or a reaction by investors to trends in our stock rather than the fundamentals of our business;
- a single acquisition or disposition, or several related acquisitions or dispositions, of a large number of our shares, including by short sellers covering their position;
- the interest of the market in our business sector, without regard to our financial condition, results of operations or business prospects;
- positive or negative statements or projections about our company or our industry, by analysts, stock gurus and other persons;
- the adoption of governmental regulations or government grant programs and similar developments in the United States or abroad that may enhance or detract from our ability to offer our products and services or affect our cost structure; and

- economic and other external market factors, such as a general decline in market prices due to poor economic conditions, investor distrust or a financial crisis.

If securities or industry analysts do not publish or cease publishing research or reports about us, our business or our market, or if they change their recommendations regarding our shares of common stock, our stock price and trading volume could decline.

The trading market for our shares of common stock is influenced by the research and reports that industry or securities analysts may publish about us, our business, our market or our competitors. If any of the analysts who may cover us change their recommendation regarding our shares of common stock adversely, or provide more favorable relative recommendations about our competitors, the price of our shares of common stock would likely decline. If any analyst who may cover us were to cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial market, which in turn could cause the price or trading volume of our shares of common stock to decline.

We have never declared a cash dividend and do not intend to declare a cash dividend in the foreseeable future.

We have never declared or paid cash dividends on our shares of common stock. We currently intend to retain any future earnings, if any, for use in our business and, therefore, do not anticipate paying dividends on our shares of common stock in the foreseeable future.

We are subject to various regulatory regimes, and may be adversely affected by inquiries, investigations and allegations that we have not complied with governing rules and laws.

In light of our status as a public company and our lines of business, we are subject to a variety of laws and regulatory regimes in addition to those applicable to all businesses generally. For example, we are subject to the reporting requirements applicable to Canadian and United States reporting issuers, such as the Sarbanes-Oxley Act of 2002, the rules of the NASDAQ Capital Market and certain state and provincial securities laws. We are also subject to state and federal environmental, health and safety laws, and rules governing department of defense contracts. Such laws and rules change frequently and are often complex. In connection with such laws, we are subject to periodic audits, inquiries and investigations. Any such audits, inquiries and investigations may divert considerable financial and human resources and adversely affect the execution of our business plan.

Through such audits, inquiries and investigations, we or a regulator may determine that we are out of compliance with one or more governing rules or laws. Remedying such non-compliance diverts additional financial and human resources. In addition, in the future, we may be subject to a formal charge or determination that we have materially violated a governing law, rule or regulation. We may also be subject to lawsuits as a result of alleged violation of the securities laws or governing corporate laws. Any charge or allegation, and particularly any determination, that we had materially violated a governing law would harm our ability to enter into business relationships, recruit qualified officers and employees and raise capital.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Our corporate headquarters is located at 204 Edison Way, Reno, Nevada 89502 in a building we purchased in August 2002. Our nanomaterials assets are located in this building, which contains approximately 85,000 square feet of production, laboratory, testing and office space. In November 2012, we entered into a Commercial/Investment Property Purchase Agreement with Wayne Rankin, Lee Rankin and Randy Rankin related to the sale of the Company's Reno, Nevada Facility for a purchase price of $2,200,000. Under the Agreement, we agreed to lease the facility for 10

months following closing at a rate of $21,000 per month. Closing was conditioned upon the buyers' approval of a Phase 2 Environmental Survey and soil report and, assuming satisfaction of such conditions. The contract expired due to a condition needing remediation which requires further analysis.

We are party to a lease agreement effective as of July 1, 2012, for 70,000 square feet of space in the Flagship Business Accelerator Building located at 3019 Enterprise Drive, Anderson, Indiana. The space is used for the production of prototype batteries and battery systems. The lease is for an initial term of one year with a single one-year renewal term with the same lease and payment terms. Optional subsequent lease renewals, of one-year each, will be based on such terms as are mutually agreed upon by both parties. Total rent to be paid over the one year term is $245,000. In addition to the Flagship lease, we rent another 2,210 square feet of space at 1305 W. 29th Street, Anderson, Indiana, on a month to month basis.

Item 3. Legal Proceedings.

From time to time, we may be involved in litigation relating to claims arising out of our operations in the normal course of business. We are not currently a party to any legal proceedings, the adverse outcome of which, in management's opinion, individually or in the aggregate, would have a material adverse effect on the results of our operations or financial position.

Item 4. Mining Safety Disclosures.

None.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.

Market Price

Our shares of common stock are traded on the NASDAQ Capital Market under the symbol "ALTI." The following table sets forth, during the periods indicated, the high and low sales prices for our shares of common stock, as reported on our principal trading market. All market prices have been adjusted to reflect the 1-for-6 reverse stock split completed in December 2012.

Fiscal Year Ended December 31, 2012	Low	High
1st Quarter	$ 3.61	$ 3.81
2nd Quarter	$ 3.00	$ 3.24
3rd Quarter	$ 4.20	$ 4.74
4th Quarter	$ 2.03	$ 2.15

Fiscal Year Ended December 31, 2011	Low	High
1st Quarter	$ 9.30	$ 9.66
2nd Quarter	$ 5.17	$ 5.46
3rd Quarter	$ 7.38	$ 8.58
4th Quarter	$ 3.91	$ 4.11

The last sale price of our shares of common stock, as reported on the NASDAQ Capital Market on March 28, 2013, was $2.80 per share.

Outstanding Shares and Number of Shareholders

As of March 29, 2013, the number of shares of common stock outstanding was 11,590,067 held by approximately 409 holders of record. In addition, as of the same date, we have reserved 833,333 shares of common stock for issuance upon exercise of options that have been, or may be, granted under our employee stock option plans and 177,555 shares of common stock for issuance upon exercise of outstanding warrants.

Dividends

We have never declared or paid cash dividends on our shares of common stock. Moreover, we currently intend to retain any future earnings for use in our business and, therefore, do not anticipate paying any dividends on our shares of common stock in the foreseeable future.

Securities Authorized for Issuance under Equity Compensation Plans

We have stock option plans administered by the Compensation Committee of our Board of Directors that provide for the granting of options to employees, officers, directors and other service providers of the Company. Security holders have approved all option plans. The following table sets forth certain information with respect to compensation plans under which equity securities are authorized for issuance at December 31, 2012:

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	254,966	20.69	833,333
Equity compensation plans not approved by security holders	None	N/A	None
Total	254,966	20.69	833,333

Of the total 833,333 securities remaining available for future issuance, only 55,137 are subject to an effective Registration Statement on Form S-8. The Board of Directors has not authorized the filing of a Form S-8 with respect to the 5,000,000 added to the plan in 2011 and, as a result, our ability to grant options or other awards with respect to such shares is severely restricted.

Recent Sales of Unregistered Securities

We did not sell any securities in transactions that were not registered under the Securities Act in the quarter ended December 31, 2012.

Transfer Agent and Registrar

The Transfer Agent and Registrar for our shares of common stock is Registrar and Transfer Company, 10 Commerce Drive, Cranford, New Jersey 07016-3572.

Item 6. Selected Financial Data.

Smaller reporting companies are not required to provide the information required by this item.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion should be read in conjunction with the consolidated financial statements and notes thereto.

Overview

We are a Delaware company that develops, manufactures and sells nano lithium titanate batteries and energy storage systems. Our nano lithium titanate battery systems offer higher power density, longer cycle life, rapid charge and discharge capabilities, a wider operating temperature range and higher levels of safety than conventional lithium-ion batteries. We target applications that effectively utilize the key attributes of our technology, and these applications can be found primarily in the electric grid, transportation (commercial vehicles), and industrial market segments.

Starting in 2010 we began looking at additional opportunities to expand the application of our battery technology into various industrial markets that have a need for the attributes of our battery technology. We believe that in the aggregate, our target markets are multi-billion dollar emerging markets with room for a number of successful suppliers. At the present time, we perceive no dominant provider and we believe that as a result of our significant differentiated product attributes, the overall strength of our management team, and the recognition we are receiving in the marketplace, that we have a reasonable chance of becoming one of the successful suppliers. Our proprietary technology platform gives our products a number of unique, highly sought after attributes that clearly differentiate our products from their alternatives. Included in these attributes are substantially longer cycle and calendar lives, a rapid recharge time, the ability to provide instantaneous high power, a wide operating temperature range and increased operational safety.

Our historical revenues have been generated by license fees, product sales, commercial collaborations, and government contracts and grants. We expect future revenues to consist primarily of product sales. We currently have agreements in place to (1) develop a suite of energy storage solutions for the stationary power market, (2) provide battery modules to a U.S. based bus manufacturer and are negotiating agreements to develop battery modules for various other industrial applications, and (3) supply a one-megawatt ALTI-ESS energy storage system for a test of wind energy integration.

In 2012, we formed Altair Nanotechnologies (China) Co., Ltd. (“Altair China”) and Northern Altair Nanotechnologies Co., Ltd. (“Northern Altair”). We anticipate this expansion will allow us to participate in the fast-growing China market.

General Outlook

Our current focus is on the development of battery systems that we anticipate will eventually bring a substantial amount of revenue volume and gross profit from product sales into the electric grid, transportation, and industrial markets. As we attempt to significantly expand our revenues from licensing, manufacturing and other sources, some of the key near-term events that will affect our long-term success prospects include the following:

- In April 2012, we entered into an economic development deal with the cities of Wu’an and Handan in Hebei Province in China. Under our multi-year contract with the City of Wu’an, Altairnano shall sell and deliver 200 electric buses to Wu’an over a multi-year period. In August 2012, we received a $1.9 million down payment on the first $6.3 million electric bus order from Wu’an. We anticipate that the deliveries for this order shall be made in mid-2013.

- We built five 1 to 2 megawatt energy storage systems during 2012. We validated four of those systems and shipped three of them to our customers in 2012, including the Hawaii Natural Energy Institute, Vestas and TSK Solar. The fourth system was shipped in early 2013 to an East Coast utility customer, and the fifth system is ready for installation in Hawaii. We anticipate that these energy storage systems will help to establish the commercial value of our products and facilitate the future sale of similarly sized, or larger, systems. In fact, the Hawaii Natural Energy Institute purchased their third energy storage system from us in January 2013. They have ordered our new 2 megawatt ALTI-ESS Advantage.

- We are a supplier of nano lithium titanate battery modules to Proterra, which is a leading designer and manufacturer of all-electric transit buses. In 2011, we sold $2.1 million of battery modules to Proterra. In May 2012, we signed a contract to supply battery modules to Proterra and entered into a test and validation program. In June 2012, Proterra released its first purchase order under the agreement for deliveries in 2013.

- We have entered into discussions with a number of other transportation and industrial customers regarding joint development products or purchases of our battery products. These customers are now testing and prototyping our modules, application kits and battery systems in a variety of applications.

- In 2012, we submitted our nano lithium titanate battery cells for testing at the 201 Institute in China. We received approval for the sale of our nano lithium titanate batteries in China in December 2012.

- On October 25, 2012, Northern Altair successfully completed a bidding process for a 66 acre parcel of land in Wu'an China, which will be used for the Company's nLTO and energy storage system manufacturing operations in China. On October 31, 2012, Northern Altair entered into a Contract on Assignment of State-owned Construction Land Use Right (the "Land-Use Agreement"), pursuant to which Northern Altair will acquire the right to use the 66 acres of commercial land north of Dongzhuchang Village in Wu'an City, China for a period of 50 years subject to the terms and conditions of the Land-Use Agreement. As consideration for the land use right, Northern Altair paid a land use fee of approximately $11.9 million and land transfer taxes and fees of approximately $1.7 million and agreed to make fixed asset investments on the land of approximately $167 million, subject to loan guarantees and other incentives from Wu'an, China, over an unspecified period of time up to the 50 year life of the land use right, with initial construction being required to begin by March 31, 2013. In January 2013, initial construction on a manufacturing facility began on the Company's land use right in China. The costs incurred to date by the Company are not material. The Company estimates the initial phase of this project will cost approximately $3 million and will be completed in 2013. The Company has not yet obtained loan guarantees for these costs. Additional construction phases will be contingent upon loan guarantees and other incentives from Wu'an, China as well as other market conditions. The total fixed asset investments shall include the cost of buildings, structures, auxiliary facilities, and equipment, as well as the land-use fee. Northern Altair may transfer and sublease portions of the granted land once it has invested 25% of the total fixed asset investments amount and completed 25% of the project. Closing occurred on November 9, 2012. Separate from the Land-Use Agreement, Northern Altair received $11.8 million package of cash incentives in November 2012 to facilitate Northern Altair's establishment of operations and construction efforts. The actual scope of Northern Altair's construction project and manufacturing operations will be based on the anticipated market demand for the Company's products and on the level of negotiated incentives.

- In August 2012, we entered into a memorandum of understanding with Shenhua Science & Technology and the National Institute of Low Carbon Energy (NICE) in China. We entered into discussions about a possible pilot project that would test and demonstrate the commercial use of our systems.

- We are in discussions with a number of industrial manufacturers of forklifts, elevators, mining, rail and other electric equipment whose use requires the long-life, rapid recharge, extreme operating temperature range or other differentiating attributes of our battery technology. We have supplied application kits to several of these companies for testing and evaluation.

- In February 2011, we signed an $18 million contract with Inversiones Energéticas, S.A. de C.V. ("INE") for the supply and installation of a 10 megawatt ALTI-ESS advanced battery system in El Salvador. Total revenue under the Contract is expected to be recognized over an expected 14-month period following Altair's receipt of the notice to proceed. We continue to work with INE to acquire the necessary approvals to enable battery-based energy storage on the El Salvador electric grid and received several contract extensions in 2012.

We remain optimistic with respect to our current key projects, as well as others we are pursuing, but recognize that, with respect to each, there are development, marketing, partnering and other risks to be overcome. However, we now have a number of key reference customers including Vestas and the Hawaii Natural Energy Institute, which shall help validate the technical and commercial operation of our systems.

Liquidity and Capital Resources

Current and Expected Liquidity

Altair's cash and cash equivalents decreased by $34.1 million, from $46.5 million at December 31, 2011 to $12.4 million at December 31, 2012. The decrease in cash was primarily due to the $20.6 million of cash used in operating activities during 2012. The bulk of the cash used in operations went to cover our net loss of $18.0 million offset by $6.7 million in proceeds from three short-term notes payable used towards the $5.5 million build-up of work in process inventory related to the fulfillment of customer sales backlog, of which $2.4 million is included in deferred contract costs. Northern Altair also received cash grant incentives of $11.8 million from the Wu'an government and recorded it as restricted cash, which can be used subject to meeting certain guidelines agreed upon by the Wu'an government and the Company.

During 2011 we issued shares of common stock and warrants to purchase shares of common stock for net proceeds of $61.8 million. We recorded a $1.9 million warrant liability related to this capital raise. We also paid off $206,000 of debt and $530,000 in warrant redemptions. On July 22, 2011 we issued 6,172,801 shares at $9.32 each to Canon for gross proceeds of $57.5 million. We had paid $1.4 and $2.4 million in related expenses in 2011 and 2012, respectively.

As of December 31, 2012, we had cash and cash equivalents of $12.4 million. In April 2012, $32.0 million was transferred to Altair China to be used towards our China operations. The Board of Directors has developed a funding process for both our U. S. operations and our China operations moving forward. For China, Northern Altair received a 50 year Land Use Right Certificate for 66 acres of commercial land in China on November 9, 2012. As a result, intangible assets increased by $13.6 million and deferred income increased by $11.8 million for the cash grant incentives from the Wu'an government. Now that the land transfer has been received and assuming our development of suitable manufacturing plans and finalization of orders, we believe that cash on hand and restricted cash available for operations will be sufficient to fund operations and the $3 million manufacturing facility in China. In the U.S., our operations may be supported in the near term by selling inventory, equipment and services to Altair China, and receiving fees associated with intellectual property licensing. We received $5.7 million in the fourth quarter of 2012 from short-term debt that will become due in the fourth quarter of 2013. In the fourth quarter of 2013, we plan to work with our banks to either refinance or repay this short-term debt and obtain new loans. The $11.8 million of restricted cash located in a bank in China is designated for use in operations. The Company plans to set aside this cash with banks in China and in return obtain loans if needed for use as operating capital in U.S. operations.

A summary of our cash position at December 31, 2012 included cash and cash equivalents of $12.4 million. In addition, we have $18.0 million in restricted cash of which $6.2 million is classified as short-term. A $293,000 stand-by-letter of credit is included in the $6.2 million short-term restricted cash. This $293,000 stand-by-letter of credit will be released in the first quarter of 2013. The remaining $11.8 million in restricted cash, relates to the grant incentives which is classified as long-term.

We received $5.9 million in customer receipts during 2012. We are expecting an estimated $2.0 million in cash receipts during 2013 which relates to three large projects sitting in our deferred revenue at December 31, 2012. Of this amount, $1.0 million has already been invoiced and is in our accounts receivable balance at December 31, 2012 and the other $1.0 million is expected to be invoiced for these large projects in the first half of 2013.

We evaluate our capital needs and the availability of capital on an ongoing basis and, consistent with past practice, expect to seek capital when and on such terms as we deem appropriate based upon our assessment of our current liquidity, capital needs and the availability of capital.

Over the long-term, we anticipate substantially increasing revenues by entering into new contracts and increasing product sales in the stationary power, electric bus and selected other industrial markets.

Capital Commitments and Expenditures

The following table discloses aggregate information about our contractual obligations and the periods in which payments are due as of December 31, 2012:

In thousands of dollars Contractual Obligations	Total	< 1 yr	1-3 yrs	3-5 yrs	> 5 yrs
Note payable	$ 6,680	$ 6,680	$ -	$ -	$ -
Contractual service agreements	643	643	-	-	-
Capital leases	9	9	-	-	-
Purchase obligations	697	697	-	-	-
Total	$ 8,029	$ 8,029	$ -	$ -	$ -

Off-Balance Sheet Arrangements

The company did not have any off-balance sheet transactions during 2012.

Results of Operations

The following table sets forth certain selected, unaudited, condensed consolidated financial data for the periods indicated.

ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(Expressed in thousands of United States Dollars)

	Power and Energy Group Twelve Months Ended 12/31/2012		All Other Twelve Months Ended 12/31/2012		Consolidated Twelve Months Ended 12/31/2012	
	2012	2011	2012	2011	2012	2011
Revenues						
Product sales	$ 1,284	$ 4,542	$ -	$ 77	$ 1,284	$ 4,619
License fees			240	240	240	240
Commercial collaborations	18	77	5	3	23	80
Contracts and grants		(116)		403		287
Total revenues	1,302	4,503	245	723	1,547	5,226
Cost of goods sold						
Product	2,667	5,129		20	2,667	5,149
Commercial collaborations		73				73
Contracts and grants		-		296		296
Warranty and inventory reserves	205	279		-	205	279
Total cost of goods sold	2,872	5,481	-	316	2,872	5,797
Gross (loss) profit	(1,570)	(978)	245	407	(1,325)	(571)
Operating expenses						
Research and development	6,419	6,700	4	260	6,423	6,960
Sales and marketing	2,864	3,603			2,864	3,603
General and administrative	6,908	7,669			6,908	7,669
Depreciation and amortization	995	1,248	76	76	1,071	1,324
Loss on diposal of assets		924	-			924
Total operating expenses	17,186	20,144	80	336	17,266	20,480
(Loss) income from operations	(18,756)	(21,122)	165	71	(18,591)	(21,051)

Other income (expense)						
Interest income (expense), net	48	(156)			48	(156)
Change in market value of warrants	564	1,274			564	1,274
Loss on foreign exchange	(7)				(7)	-
Total other income, net	605	1,118	-	-	605	1,118
Net (loss) income	$ (18,151)	$ (20,004)	$ 165	$ 71	$ (17,986)	$ (19,933)

Fiscal Year 2012 vs. 2011

Revenues

Power and Energy Group revenue for the year ending December 31, 2012 was $1.3 million. This amount included revenue from 346 battery modules sold to fifteen customers and 151 battery cells sold to 4 customers. Revenues decreased by $3.2 million, from approximately $4.5 million in 2011 to approximately $1.3 million during 2012, as a result of the sale of $1.8 million of products sold to YTE during 2011, which facilitated our entry into the China market. This included 25,000 11 amp hour cells, one ALTI-ESS system and nano-lithium titanate oxide. The decrease is also a result of the sale of batteries to Proterra for $1.0 million in 2011 vs. $0.1 million in 2012 and due to decreased revenue recognition for product sales; however, deferred revenues increased $5.6 million to $7.2 million as of December 31, 2012.

All Other contracts and grants revenue for 2011 was from our ARO nanosensor grant with the U.S. Army. Our portion of this contract was completed as of December 31, 2010, with pass-through revenues from a subcontractor continuing through July 2, 2011.

Cost of Goods Sold

In the Power and Energy Group the cost of goods sold for product sales was $2.9 million for 2012. Cost of goods sold (COGS) exceeded product sales by $1.6 million due primarily to fixed manufacturing costs expensed during the period due to low inventory production levels, an increase in our inventory reserve and also accrued contract losses from cost increases associated with the launch of new electric grid products. This compared to $5.5 million of total COGS for the same period in 2011, due primarily to the YTE and Proterra revenue generated during 2011. The COGS associated with the YTE product sales during 2011 was higher than the revenue generated by those product sales, leading to a gross loss of $1.0 million in the 2011 for the Power and Energy Group. We sold this product to YTE at less than our cost in order to expose our products to the potentially large China economic market.

Our gross margins in any year are not indicative of future gross margins. At this early stage of development, our product mix, volume, per-unit pricing and cost structure may change significantly from year to year, and our margins may expand or contract depending upon the mix and timing of orders in future quarters. In general, we expect our margins to increase as our volume of business increases and we completely transition from product prototypes to commercial, scalable manufacturing processes.

Operating Expenses

Operating expenses overall were down $3.2 million during 2012, from $20.5 million during 2011 to $17.3 million during 2012. This reduction is the result of constrained spending in almost all areas of the company during 2012 and due to recording impaired assets of $0.9 million and severance expenses of $0.9 million during 2011. Average employee headcount in the U.S. decreased by 21%, from 95 employees during 2011 to 75 employees for the corresponding 2012 period. Average employee headcount in China increased from zero employees during 2011 to 20 employees for the corresponding 2012 period. Research and development expenses decreased $0.5 million from $7.0 million during 2011 to $6.4 million during 2012. Sales and marketing expenses decreased by $0.7 million, or 21%, from $3.6 million during 2011 to $2.9 million during 2012. General and administrative expenses decreased by $0.8 million, or 10%, from $7.7 million during 2011 to $6.9 million during 2012. We continue to focus on reducing our cost structure in areas that will not adversely affect growing our product revenues.

Net Loss

Overall net loss decreased $1.9 million from $19.9 million ($2.55 per share) in 2011 to $18.0 million ($1.55 per share) in 2012, primarily due to a decrease in overall operating expenses.

Critical Accounting Policies and Estimates

Use of Estimates — The preparation of the consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires that we make estimates and assumptions that affect the reported amounts of assets and liabilities, and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents — Cash and cash equivalents consist principally of bank deposits and institutional money market funds. Short-term investments that are highly liquid have insignificant interest rate risk and original maturities of 90 days or less are classified as cash and cash equivalents. Our U.S operating cash balances are maintained in bank accounts that are insured up to $250,000 for each "owner" by the Federal Deposit Insurance Corporation ("FDIC"). As of December 31, 2012 and 2011, almost all of the Company's cash included cash on hand and deposits in accounts maintained within the PRC where there is currently no rule or regulation in place for obligatory insurance to cover bank deposits in the event of bank failure. However, the Company has not experienced any losses in such accounts. At December 31, 2012 and 2011 we had cash of $12.4 million and $46.3 million, respectively. We have one standby letter of credit in the U.S for $293,000, which is in an uninsured money market account and it is scheduled to be released in the first quarter of 2013.

Accounts Receivable — Accounts receivable consists of amounts due from customers for services and product sales, net of an allowance for doubtful accounts. We determine the allowance for doubtful accounts by reviewing each customer account and specifically identifying any potential for loss.

Inventory – We value our inventories generally at the lower of cost (first-in, first-out method) or market. We employ a full absorption procedure using standard cost techniques. The standards are customarily reviewed and adjusted every three months. Overhead rates are recorded to inventory based on normal capacity. Any idle facility costs or excessive spoilage are recorded as current period charges.

Research and Development Expenditures — The costs of materials, equipment, or facilities that are acquired or constructed for a particular research and development project and that have no alternative future uses (in other research and development projects or otherwise) are expensed as research and development costs at the time the costs are incurred. Research and development expenditures related to materials and equipment or facilities that are acquired or constructed for research and development activities and that have alternative future uses (in research and development projects or otherwise) are capitalized when acquired or constructed. Research and development expenditures, which include the cost of materials consumed in research and development activities, salaries, wages and other costs of personnel engaged in research and development, costs of services performed by others for research and development on our behalf and indirect costs are expensed as research and development costs when incurred.

Stock-Based Compensation — We measure the cost of services received in exchange for an award of equity instruments based on the grant-date fair value of the award. That cost is recognized over the period during which services are provided in exchange for the award, known as the requisite service period.

Long-Lived Assets — We evaluate the carrying value of long-lived assets whenever events or changes in business circumstances indicate that the carrying value of the assets may not be recoverable. The carrying value of a long-lived asset is considered impaired when the total projected undiscounted cash flows expected to be generated by the asset are less than the carrying value. Our estimate of the cash flows is based on the information available at the time including the following: internal budgets; sales forecasts; customer trends; anticipated production volumes; and market conditions over an estimate of the remaining useful life of the asset which may range from 3 to 10 years for most equipment and up to 30 years for our building and related building improvements. If impairment is indicated, the asset value is written down to its fair value. Events or circumstances that could indicate the existence of a possible impairment include obsolescence of the technology, an absence of market demand for the product or the assets used to produce it, a history of operating or cash flow losses and/or the partial or complete lapse of technology rights protection.

As of December 31, 2012, we estimate that our future cash flows, on an undiscounted basis, are greater than the carrying value of our long-lived assets. Our estimated future cash flows include anticipated product margins and commercial collaborations, since our long-lived asset base, which is primarily composed of production, laboratory and

testing equipment is utilized to fulfill customer contracts in all revenue categories.

Property, plant and equipment held and used and held and not used are stated at cost less accumulated depreciation. Depreciation is recorded using the straight-line method over the following useful lives:

Building and improvements (years)	30
Nanoparticle production equipment (years)	5 - 10
Vehicles (years)	5
Furniture and office equipment (years)	3 - 7

Patents are related to the nanoparticle production technology and stated at cost less accumulated amortization. Amortization is recorded using the straight-line method over their useful lives. The weighted average useful lives are 16.7 years. Land use rights are stated at cost less accumulated amortization. Amortization is recorded using the straight-line method over their 50 year useful lives.

Revenue Recognition — We recognize revenue when persuasive evidence of an arrangement exists, delivery has occurred or service has been performed, the fee is fixed and determinable, and collectability is reasonably assured. Revenue from product sales is recognized upon delivery of the product, unless specific contractual terms dictate otherwise. Based on the specific terms and conditions of each contract/grant, revenues are recognized on a time and materials basis, a percentage of completion basis and/or a completed contract basis. Revenue under contracts based on time and materials is recognized at contractually billable rates as labor hours and expenses are incurred. Revenue under contracts based on a fixed fee arrangement is recognized based on various performance measures, such as stipulated milestones. As these milestones are achieved, revenue is recognized. From time to time, facts develop that may require us to revise our estimated total costs or revenues expected. The cumulative effect of revised estimates and the full amount of anticipated losses on any type of contract is recognized in the period in which they become known. Payments received in advance relating to the future performance of services or deliveries of products are deferred until the performance of the service is complete or the product is shipped. Upfront payments received in connection with certain rights granted in contractual arrangements are deferred and revenue is recognized over the related time period which the benefits are received.

Accrued Warranty — We provide a limited warranty for battery packs and energy storage systems. A liability is recorded for estimated warranty obligations at the date products are sold. Since these are new products, the estimated cost of warranty coverage is based on cell and module life cycle testing and compared for reasonableness to warranty rates on competing battery products. As sufficient actual historical data is collected on the new product, the estimated cost of warranty coverage will be adjusted accordingly. The liability for estimated warranty obligations may also be adjusted based on specific warranty issues identified.

Overhead Allocation — Facilities overhead and production employees fringe benefit costs are initially recorded in general and administrative expenses and then allocated to research and development and product inventories based on relative labor costs. Production equipment depreciation expense is recorded to cost of goods sold as the equipment is used to produce product sold to customers and production equipment depreciation is attached to, and transferred to product in ending inventory until such product is used to satisfy customer orders.

Net Loss per Common Share — Basic loss per share is computed using the weighted average number of common shares outstanding during the period. Diluted loss per share is computed using the weighted average number of common and potentially dilutive shares outstanding during the period. Potentially dilutive shares consist of the incremental common shares issuable upon the exercise of stock options and warrants. Potentially dilutive shares are excluded from the computation if their effect is anti-dilutive. We had a net loss for all periods presented herein; therefore, none of the stock options and warrants outstanding during each of the periods presented were included in the computation of diluted loss per share as they were anti-dilutive. Stock options and warrants to purchase a total of 667,745 as of December 31, 2012 and 683,151 shares as of December 31, 2011 were excluded from the calculations of diluted loss

per share for the years ended December 31, 2012 and 2011, respectively.

Income Taxes — The provision for income taxes is determined using the asset and liability approach of accounting for income taxes. Under this approach, the provision for income taxes represents income taxes paid or payable (or received or receivable) for the current year plus the change in deferred taxes during the year. Deferred taxes represent the future tax consequences expected to occur when the reported amounts of assets and liabilities are recovered or paid, and result from differences between the financial and tax bases of the Company's assets and liabilities and are adjusted for changes in tax rates and tax laws when enacted.

Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized. In evaluating the need for a valuation allowance, management considers all potential sources of taxable income, including income available in carryback periods, future reversals of taxable temporary differences, projections of taxable income, and income from tax planning strategies, as well as all available positive and negative evidence. Positive evidence includes factors such as a history of profitable operations, projections of future profitability within the carryforward period, including from tax planning strategies, and the Company's experience with similar operations. Existing favorable contracts and the ability to sell products into established markets are additional positive evidence. Negative evidence includes items such as cumulative losses, projections of future losses, or carryforward periods that are not long enough to allow for the utilization of a deferred tax asset based on existing projections of income. Deferred tax assets for which no valuation allowance is recorded may not be realized upon changes in facts and circumstances, resulting in a future charge to establish a valuation allowance.

Tax benefits related to uncertain tax positions taken or expected to be taken on a tax return are recorded when such benefits meet a more likely than not threshold. Otherwise, these tax benefits are recorded when a tax position has been effectively settled, which means that the statute of limitation has expired or the appropriate taxing authority has completed their examination even though the statute of limitations remains open. Interest and penalties related to uncertain tax positions are recognized as part of the provision for income taxes and are accrued beginning in the period that such interest and penalties would be applicable under relevant tax law until such time that the related tax benefits are recognized. The company is no longer subject to income tax examinations by tax authorities for years prior to 2008.

Related Party Transactions – We buy products from and sell products to various related companies, consisting of entities in which the Company retains a 50% or less equity interest, at negotiated arms-length prices between the two parties.

Litigation Matters – For asserted claims and assessments, liabilities are recorded when an unfavorable outcome of a matter is deemed to be probable and the loss is reasonably estimable. Management determines the likelihood of an unfavorable outcome based on many factors such as the nature of the matter, available defenses and case strategy, progress of the matter, views and opinions of legal counsel and other advisors, applicability and success of appeals processes, and the outcome of similar historical matters, among others. Once an unfavorable outcome is deemed probable, management weighs the probability of estimated losses, and the most reasonable loss estimate is recorded. If an unfavorable outcome of a matter is deemed to be reasonably possible, but not probable, then the matter is disclosed and no liability is recorded. With respect to unasserted claims or assessments, management must first determine that the probability that an assertion will be made is likely, then, a determination as to the likelihood of an unfavorable outcome and the ability to reasonably estimate the potential loss is made. Legal matters are reviewed on a continuous basis to determine if there has been a change in management's judgment regarding the likelihood of an unfavorable outcome or the estimate of a potential loss.

Foreign Currency – The consolidated financial statements are presented in our reporting currency, U.S. Dollars. The functional currency for the subsidiaries in China is the Chinese Yuan or RMB. Accordingly, the balance sheet of the Chinese subsidiaries is translated into U.S. Dollars using the exchange rate in effect at the balance sheet date. Revenues and expenses are translated using the average exchange rates in effect during the period. Translation differences are recorded in accumulated other comprehensive income (loss) as foreign currency translation. Gains or losses on transactions denominated in a currency other than the subsidiaries' functional currency which arise as a result of changes in foreign exchange rates are recorded as foreign exchange gain or loss in the statements of operations.

Recently Adopted

In May, 2011, the Financial Accounting Standards Board ("FASB") issued an amendment to achieve common fair value measurement and disclosure requirements between U.S. and International accounting principles. Overall, the guidance is consistent with existing U.S. accounting principles; however, there are some amendments that change a particular principle or requirement for measuring fair value or for disclosing information about fair value measurements. Other than the additional disclosure requirements (see Note 3.) the adoption of this guidance had no impact on the Consolidated Financial Statements.

In June 2011, the FASB amended existing guidance and eliminated the option to present the components of other comprehensive income as part of the statement of changes in shareholder's equity. The amendment requires that comprehensive income be presented in either a single continuous statement or in two separate consecutive statements. Management elected to present the two-statement option. Other than the change in presentation, the adoption of these changes had no impact on the Consolidated Financial Statements.

Issued

In December 2011, the FASB issued changes to the disclosure of offsetting assets and liabilities. These changes require an entity to disclose both gross information and net information about both instruments and transactions eligible for offset in the statement of financial position and instruments and transactions subject to an agreement similar to a master netting arrangement. The enhanced disclosures will enable users of an entity's financial statements to understand and evaluate the effect or potential effect of master netting arrangements on an entity's financial position, including the effect or potential effect of rights of setoff associated with certain financial instruments and derivative instruments. These changes become effective for the Company on January 1, 2013. Other than the additional disclosure requirements, management has determined that the adoption of these changes will not have an impact on the Consolidated Financial Statements.

In February 2013, the FASB issued changes to the information provided about the amounts reclassified out of accumulated other comprehensive income by component. These changes require an entity to provide information about the amounts reclassified out of accumulated other comprehensive income by component. In addition, an entity is required to present, either on the face of the statement where net income is presented or in the notes, significant amounts reclassified out of accumulated other comprehensive income by the respective line items of net income but only if the amount reclassified is required under U.S. GAAP to be reclassified to net income in its entirety in the same reporting period. For other amounts that are not required under U.S. GAAP to be reclassified in their entirety to net income, an entity is required to cross-reference to other disclosures required under U.S. GAAP that provide additional detail about those amounts. These changes become effective for the Company on January 1, 2013. Management has determined that the adoption of these changes will not have an impact on the Consolidated Financial Statements.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk.

Our principal market risk relates to changes in the value of the Chinese Yuan relative to the value of the U.S. Dollar. Our consolidated financial statements are denominated in, and our principal currency is, the U.S. Dollar. All other international sales were denominated in U.S. Dollars. Certain of our expenses for the year ended December 31, 2012 were also denominated in foreign currencies, which partially offset risks associated with fluctuations of exchange rates between foreign currencies on the one hand, and the U.S. Dollar on the other hand. During the year ended December 31, 2012, the exchange rate between the Chinese Yuan and the U.S. Dollar resulted in a decrease in our gross revenues of approximately $112,000, and a decrease in our assets of approximately $112,000.

Item 8. Financial Statements and Supplementary Data.

Supplementary Data

Smaller reporting companies are not required to provide Supplementary Data.

Financial Statements

The financial statements required by this Item appear following the signature pages at the end of this Report.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

The information required by this Item was previously reported.

Item 9A. Controls and Procedures.

Disclosure Controls and Procedures. Based on an evaluation required by paragraph (b) of Rule 13a-15 or Rule 15d-15 of the Securities Exchange Act of 1934, as amended, as of December 31, 2012, which is the end of the period covered by this annual report on Form 10-K, our principal executive officer and principal financial officer have concluded that our disclosure controls and procedures (as defined in Rule 13a-15(e) of the Securities Exchange Act of 1934, as amended) are effective.

Internal Control Over Financial Reporting. Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) under the Securities Exchange Act of 1934, as amended. Our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America. Internal control over financial reporting includes those written policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States of America;
- provide reasonable assurance that our receipts and expenditures are being made only in accordance with authorization of our management; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of assets that could have a material effect on our consolidated financial statements.

Internal control over financial reporting includes the controls themselves, monitoring and internal auditing practices and actions taken to correct deficiencies as identified.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2012. Our management's assessment was based on criteria for effective internal control over financial reporting described in "Internal Control – Integrated Framework" issued by the Committee of Sponsoring Organizations of the Treadway Commission. Our management's assessment included an evaluation of the design of our internal control over financial reporting and testing of the operational effectiveness of our internal control over financial reporting. Our management reviewed the results of its assessment with the Audit Committee of our Board of Directors. Based on this assessment, our management determined that, as of December 31, 2012, we maintained effective internal control over financial reporting. This annual report does not include an attestation report of the

Company's registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by the Company's registered public accounting firm pursuant to rules of the Securities and Exchange Commission that permit smaller reporting companies to provide only management's report in this Report.

Changes in Internal Control Over Financial Reporting. There were no significant changes (including corrective actions with regard to significant deficiencies or material weaknesses) in our internal controls over financial reporting that occurred during the fourth quarter of fiscal 2012 that materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information.

In November 2012, we entered into a Commercial/Investment Property Purchase Agreement with Wayne Rankin, Lee Rankin and Randy Rankin related to the sale of the our Reno, Nevada Facility for a purchase price of $2,200,000. Closing under the agreement was conditioned upon the occurrence of several events, including the buyers' approval of a Phase 2 Environmental Survey and soil report. An environmental survey and report was completed and suggested a possible need for remediation. We are currently conducting further testing with the intent of remediating any issues identified in that additional testing. Although we have not received a formal termination notice from the buyers' related to this agreement, we believe that the agreement has been terminated as a result the failure for the environmental survey closing condition to be satisfied.

PART III

Item 10. Directors and Executive Officers and Corporate Governance.

The information required by this Item is incorporated by reference to the Company’s definitive proxy statement to be filed with the SEC.

The Company has adopted a Code of Ethics that applies to the Company’s Senior Executive Officers and Financial Officers. A copy of the Company’s Code of Ethics is available on the Company’s website at www.altairnano.com.

Item 11. Executive Compensation.

The information required by this Item is incorporated by reference to the Company’s definitive proxy statement to be filed with the SEC.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information required by this Item is incorporated by reference to the Company’s definitive proxy statement to be filed with the SEC.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information required by this Item is incorporated by reference to the Company’s definitive proxy statement to be filed with the SEC.

Item 14. Principal Accounting Fees and Services.

The information required by this Item is incorporated by reference to the Company’s definitive proxy statement to be filed with the SEC.

PART IV

Item 15. Exhibits and Financial Statement Schedules.

(a) Documents Filed

1. Financial Statements. The following Consolidated Financial Statements of the Company and Auditors' Reports are filed as part of this Annual Report on Form 10-K:

- Reports of Independent Registered Public Accounting Firm 2012 – Crowe Horwath LLP
- Consolidated Balance Sheets, December 31, 2012 and 2011
- Consolidated Statements of Operations for Each of the Two Years in the Period Ended December 31, 2012
- Consolidated Statements of Comprehensive Loss for Each of the Two Years in the Period Ended December 31, 2012
- Consolidated Statements of Shareholders' Equity for Each of the Two Years in the Period Ended December 31, 2012
- Consolidated Statements of Cash Flows for Each of the Two Years in the Period Ended December 31, 2012
- Notes to Consolidated Financial Statements

2. Financial Statement Schedule. Not applicable.

3. Exhibits. The information required by this item is set forth on the exhibit index that follows the signature page of this report.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ALTAIR NANOTECHNOLOGIES INC.

By: /s/ Alexander Lee
Alexander Lee,
Chief Executive Officer

Date: April 1, 2013

POWER OF ATTORNEY AND ADDITIONAL SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the following persons in the capacities and on the dates indicated have signed this Report. Each person whose signature to this Report appears below hereby constitutes and appoints Alexander Lee and Stephen B. Huang, and each of them, as his true and lawful attorney-in-fact and agent, with full power of substitution, to sign on his behalf individually and in the capacity stated below and to perform any acts necessary to be done in order to file all amendments to this Report, and any and all instruments or documents filed as part of or in connection with this Report or the amendments thereto and each of the undersigned does hereby ratify and confirm all that said attorney-in-fact and agent, or his substitutes, shall do or cause to be done by virtue hereof.

Signature	Title	Date
/s/ Alexander Lee Alexander Lee	Chief Executive Officer (Principal Executive Officer) and Director	April 1, 2013
/s/ Liming Zou Liming Zou	President and Director	April 1, 2013
/s/ Stephen B. Huang Stephen B. Huang	Chief Financial Officer and Corporate Secretary (Principal Financial and Accounting Officer)	April 1, 2013
/s/ Yincang Wei Yincang Wei	Chairman Of the Board	April 1, 2013
/s/ Frank Zhao Frank Zhao	Director	April 1, 2013
/s/ Hong Guo Hong Guo	Director	April 1, 2013
/s/ Guohua Sun Guohua Sun	Director	April 1, 2013
/s/ Jun Liu Jun Liu	Director	April 1, 2013
/s/ Dr Ching Chuen Chan Dr. Ching Chuen Chan	Director	April 1, 2013

/s/ Victor Sze Victor Sze	Director	April 1, 2013

Exhibit Index

Exhibit No.	Description	Incorporated by Reference/ Filed Herewith (and Sequential Page #)
3.1	Certificate of Incorporation	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on December 20, 2012.**
3.2	Certificate of Amendment to the Certificate of Incorporation	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on December 20, 2012. **
3.3	Amended and Restated Bylaws	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on May 15, 2012. **
4.1	Form of Common Stock Certificate	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on May 15, 2012. **
4.2	Revised Amended and Restated Shareholder Rights Agreement dated May 31, 2012 with Registrar and Transfer Company	Incorporated by reference to the Company's Annual Report on Form 8-K filed with the SEC on July 10, 2012.**
4.3	Form of Common Share Purchase Warrant re May 2009 Offering	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on May 22, 2009. **
4.4	Form of Series A Common Share Purchase Warrant re March 2011 Offering	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on March 30, 2011
10.1	Altair International Inc. Stock Option Plan (1996)***	Incorporated by reference to the Company's Registration Statement on Form S-8, File No. 333-33481 filed with the SEC on July 11, 1997.
10.2	1998 Altair International Inc. Stock Option Plan***	Incorporated by reference to the Company's Definitive Proxy Statement

		on Form 14A filed with the SEC on May 12, 1998. **
10.3	Altair Nanotechnologies Inc. 2005 Stock Incentive Plan (Amended and Restated)***	Incorporated by reference to the Company's Annual Report on Form 10-K filed with the SEC on March 13, 2007. **
10.4	Standard Form of Stock Option Agreement under 2005 Stock Incentive Plan***	Incorporated by reference to the Company's Annual Report on Form 10-K filed with the SEC on March 13, 2007.**
10.5	Standard Form of Stock Option Agreement for Executives under 2005 Stock incentive Plan ***	Incorporated by reference to the Quarterly Report on Form 10-Q filed with the SEC on May 8, 2008. **
10.6	Standard Form of Restricted Stock Agreement under 2005 Stock Incentive Plan***	Incorporated by reference to the Company's Annual Report on Form 10-K filed with the SEC on March 13, 2007. **

Exhibit No.	Description	Incorporated by Reference/ Filed Herewith (and Sequential Page #)
10.7	Standard Form of Director's Indemnification Agreement***	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on June 20, 2008. **
10.8	Flagship Business Accelerator Tenant Lease dated July 1, 2007 with the Flagship Enterprise Center, Inc.	Incorporated by reference to the Company's Quarterly Report on Form 10-Q filed with the SEC August 9, 2007. **
10.8.1	Amendment to the Flagship Business Accelerator Tenant Lease dated March 1, 2008 with the Flagship Enterprise Center, Inc.	Incorporated by reference to the Company's Quarterly Report on Form 10-Q filed with the SEC on May 8, 2008. **
10.8.2	Client Lease (Renewal) dated June 15, 2012 with Flagship Enterprise Center, Inc.	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on June 21, 2012. **
10.9	Registration Rights Agreement dated November 29, 2007 with Al Yousuf LLC	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on November 30, 2007. **
10.9.1	Amendment No. 1 to Registration Rights Agreement with Al Yousuf, LLC dated as of September 30, 2008	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on October 6, 2008. **
10.9.2	Amendment No. 2 to Registration Rights Agreement with Al Yousuf, LLC dated August 14, 2009	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on September 4, 2009. **
10.10	Stock Purchase and Settlement Agreement with Al Yousuf, LLC dated as of September 30, 2008	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on October 6, 2008. **
10.11	Employment Agreement dated September 4, 2009 with Bruce Sabacky***	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on September 10, 2009. **

10.12	License Agreement dated April 30, 2010 with AlSher Titania LLC	Incorporated by reference to the Current Report on Form 8-K filed with the SEC on May 5, 2010, File No. 001-12497

Exhibit No.	Description	Incorporated by Reference/ Filed Herewith (and Sequential Page #)
10.13	Share Subscription Agreement dated September 20, 2010 with Canon Investment Holdings Limited	Incorporated by reference to the Quarterly Report on Form 10-Q filed with the SEC on November 4, 2010. **
10.13.1	First Amendment to Share Subscription Agreement dated February 16, 2011 with Canon Investment Holdings Limited	Incorporated by reference to the Current Report on Form 8-K filed with the SEC on February 16, 2011. **
10.13.2	Second Amendment to Share Subscription Agreement dated May 17, 2011 with Canon Investment Holdings Limited	Incorporated by reference to the Current Report on Form 8-K filed with the SEC on May 17, 2011.**
10.13.3	Third Amendment to Share Subscription Agreement dated June 3, 2011 with Canon Investment Holdings Limited	Incorporated by reference to the Current Report on Form 8-K filed with the SEC on June 3, 2011.**
10.13.4	Fourth Amendment to Share Subscription Agreement dated June 20, 2011 with Canon Investment Holdings Limited	Incorporated by reference to the Current Report on Form 8-K filed with the SEC on June 21, 2011.**
10.13.5	Fifth Amendment to Share Subscription Agreement dated July 21, 2011 with Canon Investment Holdings Limited	Incorporated by reference to the Current Report on Form 8-K filed with the SEC on July 25, 2011.**
10.14	Conditional Supply and Technology Licensing Agreement dated September 20, 2010 with Zhuhai Yintong Energy Co. Ltd., a wholly-owned subsidiary of Canon.	Incorporated by reference to the Quarterly Report on Form 10-Q filed with the SEC on November 4, 2010. **
10.15	Investor Rights Agreement dated September 20, 2010 with Canon Investment Holdings Limited	Incorporated by reference to the Quarterly Report on Form 10-Q filed with the SEC on November 4, 2010. **
10.16	Waiver and Rights Agreement dated September 20, 2010 with Al Yousuf LLC and Canon Investment Holdings Limited	Incorporated by reference to the Quarterly Report on Form 10-Q filed with the SEC on November 4, 2010. **

10.17	Placement Agent Agreement dated March 28, 2011 with JMP Securities LLC	Incorporated by reference to the Current Report on Form 8-K filed with the SEC on March 30, 2011.**
10.18	Form of Securities Purchase Agreement dated March 28, 2011 re March 2011 Offering	Incorporated by reference to the Current Report on Form 8-K filed with the SEC on March 30, 2011.**
10.19	Note Secured by a Deed of Trust dated April 25, 2011 in favor of Suncrest Homes 30, LLC	Incorporated by reference to the Current Report on Form 8-K filed with the SEC on May 2, 2011.**
10.20	Deed of Trust dated April 25, 2011	Incorporated by reference to the Current Report on Form 8-K filed with the SEC on May 2, 2011.**

Exhibit No.	Description	Incorporated by Reference/ Filed Herewith (and Sequential Page #)
10.21	Guaranty dated April 25, 2011 by Altair Nanotechnologies, Inc. and Altair Nano, Inc. for the benefit of Suncrest Homes 30, LLC	Incorporated by reference to the Current Report on Form 8-K filed with the SEC on May 2, 2011.**
10.22	Hazardous Materials Indemnity Agreement dated as of April 27, 2011 by Altair Nanotechnologies Inc. to Suncrest Homes 30, LLC	Incorporated by reference to the Current Report on Form 8-K filed with the SEC on May 2, 2011.**
10.23	Revised Sales Agreement dated February 9, 2011 with Inversiones Enegeticas, S.A. de C.V.	Incorporated by reference to the Company's Quarterly Report on Form 10-Q filed with the SEC on August 3, 2011.**
10.23.1	INE Extension effective September 9, 2011	Incorporated by reference to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 4, 2011.**
10.23.2	INE Extension effective February 9, 2012	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on May 14, 2012.**
10.23.3	INE Extension executed September 7, 2012	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on September 13, 2012.**
10.23.4	INE Extension executed March 5, 2013	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on March 8, 2013.**
10.24	Employment Agreement effective September 18, 2011 with Dr. H. Frank Gibbard***	Incorporated by reference to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 4, 2011.**
10.25	Employment Agreement effective September 18, 2011 with Stephen B. Huang***	Incorporated by reference to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 4, 2011.**

10.26	Agreement with Wu'an Municipality and Handan Municipality dated April 19, 2012	Incorporated by reference to the Company's Quarterly Report on Form 10-Q filed with the SEC on May 11, 2012.**
10.27	Note Secured By a Deed of Trust dated as of July 25, 2012 with Suncrest Homes 30, LLC	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on August 13, 2012.**
10.28	Deed of Trust dated as of July 25, 2012 in favor of Suncrest Homes 30, LLC	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on August 13, 2012.**
10.29	Guaranty dated July 25, 2012 in favor of Suncrest Homes 30, LLC	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on August 13, 2012.**

Exhibit No.	Description	Incorporated by Reference/ Filed Herewith (and Sequential Page #)
10.30	Hazardous Material Indemnity Agreement dated July 25, 2012 in favor of Suncrest Homes 30, LLC	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on August 13, 2012.**
10.31	Employment Agreement dated August 15, 2012 with Alexander Lee***	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on August 22, 2012.**
10.32	Employment Agreement dated August 15, 2012 with Liming Zou (Albert Zou)***	Incorporated by reference to the Company's Current Report on Form 8-K filed with the SEC on August 22, 2012.**
10.33	Land Contract dated October 19, 2012 with Bank of China Limited, Seoul Branch	Incorporated by reference to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2012.**
10.34	Commercial/Investment Property Purchase Agreement and Joint Escrow Instructions dated October 30, 2012 with Wayne C. Rankin, Lee L Rankin and Randy B Rankin	Incorporated by reference to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2012.**
10.35	Contract on Assignment of State-owned Construction Land Use Right dated as of October 31, 2012 with Wu'an City	Incorporated by reference to the Company's Quarterly Report on Form 10-Q filed with the SEC on November 14, 2012.**
10.36	Working Capital Loan Contract dated November 16, 2012 with the Industrial and Commercial Bank of China Limited	Incorporated by reference to the Company's Current Report on Form 8-Kk filed with the SEC on November 21, 2012.**
21	List of Subsidiaries*	Incorporated by reference from Item 1 of this report.
23.1	Consent of Crowe Horwath LLP	Filed herewith.
24	Powers of Attorney	Included in the Signature Page hereof.
31.1	Rule 13-14(a)/15d-14a Certification of Chief Executive Officer	Filed herewith.

31.2	Rule 13-14(a)/15d-15a Certification of Chief Financial Officer	Filed herewith.
32.1	Section 1350 Certification of Chief Executive Officer	Filed herewith.
32.2	Section 1350 Certification of Chief Financial Officer	Filed herewith.
101	Attached as Exhibit 101 are the following documents in XBRL (eXtensible Business Reporting Language): (i) Consolidated Balance Sheets as of December 31, 2012 and 2011, (ii) Consolidated Statements of Operations for the years ended December 31, 2012 and December 31, 2011, (iii) Consolidated Statements of Cash Flows for the years ended December 31, 2012 and December 31, 2011 and (iv) Consolidated Statements of Stockholders' Equity for the period from January 1, 2011 to December 31, 2012, and (v) Notes to Consolidated Financial Statements, tagged as blocks of text. As provided in Rule 406T of Regulation S-T, this information is furnished and not filed for purpose of Sections 11 and 12 of the Securities Act and Section 18 of the Exchange Act.	Filed herewith.

*Portions of this Exhibit have been omitted pursuant to Rule 24b-2, are filed separately with the SEC and are subject to a confidential treatment request.

** SEC File No. 1-12497.

*** Indicates management contract or compensatory plan or arrangement.

Altair Nanotechnologies Inc.
and Subsidiaries

Consolidated Financial Statements as of December 31, 2012 and 2011 and for Each of the Two Years in the Period Ended December 31, 2012 and Report of the Independent Registered Public Accounting Firm

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ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders
Altair Nanotechnologies Inc.

We have audited the accompanying consolidated balance sheets of Altair Nanotechnologies Inc. and subsidiaries as of December 31, 2012 and 2011, and the related consolidated statements of operations, comprehensive loss, stockholders' equity, and cash flows for the years then ended. These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Altair Nanotechnologies Inc. as of December 31, 2012 and 2011, and the results of their operations and their cash flows for the years then ended, in conformity with U.S. generally accepted accounting principles.

/s/ Crowe Horwath LLP

Sacramento, California
April 1, 2013

ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(Expressed in thousands of United States Dollars, except shares)

	December 31, 2012	December 31, 2011
ASSETS		
Current assets		
Cash and cash equivalents	$12,372	$46,519
Restricted cash	6,245	
Accounts receivable, net	1,498	333
Product inventories, net	7,416	7,220
Prepaid expenses and other assets	937	1,562
Deferred contract costs	4,532	678
Other assets, related party	1,754	
Total current assets	34,754	56,312
Restricted cash	11,803	
Property, plant and equipment, net	4,076	6,870
Property, plant and equipment, net held and not used	1,857	
Patents, net	274	350
Land use right, net	13,625	
Total Assets	$66,389	$63,532
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities		
Trade accounts payable	$2,599	$5,870
Accrued salaries and benefits	632	1,132
Accrued warranty	418	354
Accrued liabilities	384	421
Deferred revenues	7,218	1,616
Warrant liabilities	90	654
Note payable, current	6,680	
Capital lease obligation	5	12
Total current liabilities	18,026	10,059
Deferred income	11,803	
Capital lease obligation, less current portion	4	
Total Liabilities	29,833	10,059
Stockholders' equity		
Common stock, no par value, unlimited shares authorized;11,590,067 shares issued and outstanding at December 31, 2012 and December 31, 2011	246,667	245,617
Additional paid in capital	12,410	12,279

Accumulated deficit	(222,409)	(204,423)
Accumulated other comprehensive loss	(112)	
Total stockholders' equity	36,556	53,473
Total Liabilities and Stockholders' Equity	$66,389	$63,532

See notes to the consolidated financial statements.

ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(Expressed in thousands of United States Dollars, except shares and per share amounts)

	Year Ended December 31,	
	2012	2011
Revenues		
Product sales	$1,284	$4,619
License fees	240	240
Commercial collaborations	23	80
Contracts and grants		287
Total revenues	1,547	5,226
Cost of goods sold		
Product	2,667	5,149
Commercial collaborations		73
Contracts and grants		296
Warranty and inventory reserves	205	279
Total cost of goods sold	2,872	5,797
Gross loss	(1,325)	(571)
Operating expenses		
Research and development	6,423	6,960
Sales and marketing	2,864	3,603
General and administrative	6,908	7,669
Depreciation and amortization	1,071	1,324
Loss on disposal of assets		924
Total operating expenses	17,266	20,480
Loss from operations	(18,591)	(21,051)
Other (expense) income		
Interest income (expense), net	48	(156)
Change in market value of warrants	564	1,274
Loss on foreign exchange	(7)	
Total other income, net	605	1,118
Net loss	$(17,986)	$(19,933)
Loss per common share - basic and diluted	$(1.55)	$(2.55)
Weighted average shares - basic and diluted	11,590,067	7,814,957

See notes to the consolidated financial statements.

ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(Expressed in thousands of United States Dollars)

	Year Ended December 31,	
	2012	2011
Net loss	$(17,986)	$(19,933)
Other comprehensive loss, net of tax:		
Foreign currency translation adjustment	(112)	-
Comprehensive loss	$(18,098)	$(19,933)

See notes to the consolidated financial statements.

ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Expressed in thousands of United States Dollars, except shares)

	Common Stock		Additional Paid In	Accumulated	Accumulated Other Comprehensive	
	Shares	Amount	Capital	Deficit	Loss	Total
Balance, January 1, 2011	4,517,266	$ 189,491	$ 12,297	$ (184,490)	-	$ 17,298
Net loss				(19,933)		(19,933)
Share-based compensation		228	512			740
Common stock issued, net of issurance costs of $698 and warrant liabilities	600,000	3,796				3,796
Common stock issued	300,000					
Common stock issued, net of issurance costs of $5.4M	6,172,801	52,102				52,102
Warrant redemption			(530)			(530)
Balance, December 31, 2011	11,590,067	$ 245,617	$ 12,279	$ (204,423)	-	$ 53,473

	Common Stock		Additional Paid In	Accumulated	Accumulated Other Comprehensive	
	Shares	Amount	Capital	Deficit	Loss	Total
Balance, January 1, 2012	11,590,067	$245,617	$12,279	$ (204,423)		$53,473
Net loss				(17,986)		(17,986)
Foreign currency translation adjustment					(112)	(112)
Reduction in issuance costs from legal claims settlement		1,050				1,050
Share-based compensation			131			131
Balance, December 31, 2012	11,590,067	$246,667	$12,410	$ (222,409)	$ (112)	$36,556

See notes to the consolidated financial statements.

ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Expressed in thousands of United States Dollars)

	Year Ended December 31,	
	2012	2011
Cash flows from operating activities:		
Net loss	$(17,986)	$(19,933)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	1,071	1,324
Share-based compensation	131	740
Loss on disposal of assets		924
Change in fair value of warrants	(564)	(1,274)
Changes in operating assets and liabilities:		
Accounts receivable, net	(1,165)	985
Product inventories	(2)	(67)
Prepaid expenses and other current assets	(1,129)	29
Deferred contract costs	(3,854)	
Trade accounts payable	(2,221)	2,959
Accrued salaries and benefits	(500)	389
Accrued warranty	64	143
Deferred revenues	5,602	(900)
Accrued liabilities	(37)	34
Net cash used in operating activities	(20,590)	(14,647)
Cash flows from investing activities:		
Increase in restricted cash	(18,048)	
Purchase of property, plant and equipment	(253)	(604)
Purchase of land use right	(13,625)	
Net cash used in investing activities	(31,926)	(604)
Cash flows from financing activities:		
Issuance of common shares for cash, net of issuance costs		57,826
Payment on warrant redemption		(530)
Proceeds from notes payable	6,680	1,500
Payment of note payable		(1,705)
Deferred income	11,803	
Repayment of capital lease obligation	(2)	(16)
Net cash provided by financing activities	18,481	57,075
Effect of exchange rate changes on cash and cash equivalents	(112)	
Net (decrease) increase in cash and cash equivalents	(34,147)	41,824
Cash and cash equivalents, beginning of period	46,519	4,695
Cash and cash equivalents, end of period	$12,372	$46,519
Supplemental disclosures:		

Cash paid for interest	$73	$151
Cash paid for income taxes	None	None
Non-cash transactions:		
Acquisition of assets included in accounts payable	$-	$38

See notes to the consolidated financial statements.

ALTAIR NANOTECHNOLOGIES INC. AND SUBSIDIARIES
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
FOR THE YEARS ENDED DECEMBER 31, 2012 AND 2011
(Expressed in United States Dollars)

1. DESCRIPTION OF BUSINESS AND BASIS OF PRESENTATION

Description of Business — We are a Delaware corporation, with principal assets and operations in the United States, whose primary business is developing, manufacturing and selling our nano lithium titanate battery products. Our primary focus is marketing our large-scale energy storage solutions to power companies and electric grid operators throughout the world. In addition, we market our battery products to electric and hybrid-electric mass-transit vehicle manufacturers. During 2010 we also started to expand our market focus to include use of our battery technology in additional industrial markets with applications requiring batteries that can provide high power quickly, a fast recharge, have a long cycle life, operate at a wide temperature range and are extremely safe.

We also provide contract research services on select projects where we can utilize our resources to develop intellectual property and/or new products and technology. Although contract services revenue comprised a significant portion of our total revenues through 2010 accounting for 5%, 50%, and 33%, in 2011, 2010 and 2009, respectively, there has been a major decline in this percentage because of our decision to terminate participation in military contracts.

In July 2011, Canon Investment Holdings, Ltd, (“Canon”) acquired a majority of shares of common stock of the Company. As a result of this investment, the Company initiated activities to enter the China market including the sales of batteries and systems, and to develop a manufacturing and supply chain strategy to reduce costs.

Principles of Consolidation — The consolidated financial statements include the accounts of Altair Nanotechnologies Inc. and our subsidiaries which include (1) Altair U.S. Holdings, (2) Altairnano, Inc., (3) Altair Nanotechnologies (China) Co., Ltd., established in 2012, and (4) Northern Altair Nanotechnologies Co., Ltd., established in 2012. All of the subsidiaries are either incorporated in the United States of America or China. Inter-company transactions and balances have been eliminated in consolidation.

Basis of Presentation —As shown in the consolidated financial statements for the years ended December 31, 2012, and 2011, we incurred net losses of $18.0 million and $19.9 million, respectively. At December 31, 2012 and 2011, we had stockholders’ equity of $36.6 million and $53.5 million, respectively.

The $11.8 million of restricted cash located in a bank in China is designated for use in operations. The Company plans to set aside this cash with banks in China and in return obtain loans as needed for use as operating capital in U.S. operations. We believe that current working capital, restricted cash and cash receipts from anticipated sales in 2013 will be sufficient to fund the $3 million manufacturing facility in China as well as fund operations in the U.S. and China through 2013.

On December 6, 2012, the Board of Directors of the Company authorized a reverse split of the Company's common stock at a ratio of one-for-six, effective close of business on December 17, 2012. The Company's stockholders previously approved the reverse split in November 2012. As a result of the reverse split, every six shares of common stock outstanding were combined into one share of common stock. The reverse split did not affect the amount of equity the Company has nor did it affect the Company's market capitalization. All previously reported share and per share amounts have been restated in the accompanying consolidated financial statements and related notes to reflect the reverse stock split.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Use of Estimates — The preparation of the consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires that we make estimates and assumptions that affect the reported amounts of assets and liabilities, and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents — Cash and cash equivalents consist principally of bank deposits and institutional money market funds. Short-term investments that are highly liquid have insignificant interest rate risk and original maturities of 90 days or less are classified as cash and cash equivalents. Our U.S operating cash balances are maintained in bank accounts that are insured up to $250,000 for each "owner" by the Federal Deposit Insurance Corporation ("FDIC"). As of December 31, 2012 and 2011, almost all of the Company's cash included cash on hand and deposits in accounts maintained within the PRC where there is currently no rule or regulation in place for obligatory insurance to cover bank deposits in the event of bank failure. However, the Company has not experienced any losses in such accounts. At December 31, 2012 and 2011 we had cash of $12.4 million and $46.3 million, respectively. We have one standby letter of credit in the U.S for $293,000, which is in an uninsured money market account and it is scheduled to be released in the first quarter of 2013.

Accounts Receivable — Accounts receivable consists of amounts due from customers for services and product sales, net of an allowance for doubtful accounts. We determine the allowance for doubtful accounts by reviewing each customer account and specifically identifying any potential for loss.

Inventory – We value our inventories generally at the lower of cost (first-in, first-out method) or market. We employ a full absorption procedure using standard cost techniques. The standards are customarily reviewed and adjusted every three months. Overhead rates are recorded to inventory based on normal capacity. Any idle facility costs or excessive spoilage are recorded as current period charges.

Research and Development Expenditures — The costs of materials, equipment, or facilities that are acquired or constructed for a particular research and development project and that have no alternative future uses (in other research and development projects or otherwise) are expensed as research and development costs at the time the costs are incurred. Research and development expenditures related to materials and equipment or facilities that are acquired or constructed for research and development activities and that have alternative future uses (in research and development projects or otherwise) are capitalized when acquired or constructed. Research and development expenditures, which include the cost of materials consumed in research and development activities, salaries, wages and other costs of personnel engaged in research and development, costs of services performed by others for research and development on our behalf and indirect costs are expensed as research and development costs when incurred.

Stock-Based Compensation — We measure the cost of services received in exchange for an award of equity instruments based on the grant-date fair value of the award. That cost is recognized over the period during which services are provided in exchange for the award, known as the requisite service period.

Long-Lived Assets — We evaluate the carrying value of long-lived assets whenever events or changes in business circumstances indicate that the carrying value of the assets may not be recoverable. The carrying value of a long-lived asset is considered impaired when the total projected undiscounted cash flows expected to be generated by the asset are less than the carrying value. Our estimate of the cash flows is based on the information available at the time including the following: internal budgets; sales forecasts; customer trends; anticipated production volumes; and market conditions over an estimate of the remaining useful life of the asset which may range from 3 to 10 years for most equipment and up to 22 years for our building and related building improvements. If impairment is indicated, the asset value is written down to its fair value. Events or circumstances that could indicate the existence of a possible impairment include obsolescence of the technology, an absence of market demand for the product or the assets used to produce it, a history of operating or cash flow losses and/or the partial or complete lapse of technology rights protection.

As of December 31, 2012, we estimate that our future cash flows, on an undiscounted basis, are greater than the carrying value of our long-lived assets. Our estimated future cash flows include anticipated product margins and commercial collaborations, since our long-lived asset base, which is primarily composed of production, laboratory and testing equipment is utilized to fulfill customer contracts in all revenue categories.

Property, plant and equipment held and used and held and not used are stated at cost less accumulated depreciation. Depreciation is recorded using the straight-line method over the following useful lives:

Building and improvements (years)		30	
Nanoparticle production equipment (years)	5	-	10
Vehicles (years)		5	
Furniture and office equipment (years)	3	-	7

Patents are related to the nanoparticle production technology and stated at cost less accumulated amortization. Amortization is recorded using the straight-line method over their useful lives. The weighted average useful lives are 16.7 years. Land use rights are stated at cost less accumulated amortization. Amortization is recorded using the straight-line method over their 50 year useful lives.

Revenue Recognition — We recognize revenue when persuasive evidence of an arrangement exists, delivery has occurred or service has been performed, the fee is fixed and determinable, and collectability is reasonably assured. Revenue from product sales is recognized upon delivery of the product, unless specific contractual terms dictate otherwise. Based on the specific terms and conditions of each contract/grant, revenues are recognized on a time and materials basis, a percentage of completion basis and/or a completed contract basis. Revenue under contracts based on time and materials is recognized at contractually billable rates as labor hours and expenses are incurred. Revenue under contracts based on a fixed fee arrangement is recognized based on various performance measures, such as stipulated milestones. As these milestones are achieved, revenue is recognized. From time to time, facts develop that may require us to revise our estimated total costs or revenues expected. The cumulative effect of revised estimates and the full amount of anticipated losses on any type of contract is recognized in the period in which they become known. Payments received in advance relating to the future performance of services or deliveries of products are deferred until the performance of the service is complete or the product is shipped. Upfront payments received in connection with certain rights granted in contractual arrangements are deferred and revenue is recognized over the related time period which the benefits are received.

Accrued Warranty — We provide a limited warranty for battery packs and energy storage systems. A liability is recorded for estimated warranty obligations at the date products are sold. Since these are new products, the estimated cost of warranty coverage is based on cell and module life cycle testing and compared for reasonableness to warranty rates on competing battery products. As sufficient actual historical data is collected on the new product, the estimated cost of warranty coverage will be adjusted accordingly. The liability for estimated warranty obligations may also be adjusted based on specific warranty issues identified.

Overhead Allocation — Facilities overhead and production employees fringe benefit costs are initially recorded in general and administrative expenses and then allocated to research and development and product inventories based on relative labor costs. Production equipment depreciation expense is recorded to cost of goods sold as the equipment is used to produce product sold to customers and production equipment depreciation is attached to, and transferred to product in ending inventory until such product is used to satisfy customer orders.

Net Loss per Common Share — Basic loss per share is computed using the weighted average number of shares of common stock outstanding during the period. Diluted loss per share is computed using the weighted average number of common and potentially dilutive shares outstanding during the period. Potentially dilutive shares consist of the incremental shares of common stock issuable upon the exercise of stock options and warrants. Potentially dilutive shares are excluded from the computation if their effect is anti-dilutive. We had a net loss for all periods presented herein; therefore, none of the stock options and warrants outstanding during each of the periods presented were included in the computation of diluted loss per share as they were anti-dilutive. Stock options and warrants to purchase a total of 667,745 as of December 31, 2012 and 683,151 shares as of December 31, 2011 were excluded from the calculations of diluted loss per share for the years ended December 31, 2012 and 2011, respectively.

Income Taxes — The provision for income taxes is determined using the asset and liability approach of accounting for income taxes. Under this approach, the provision for income taxes represents income taxes paid or payable (or received or receivable) for the current year plus the change in deferred taxes during the year. Deferred taxes represent the future tax consequences expected to occur when the reported amounts of assets and liabilities are recovered or paid, and result from differences between the financial and tax bases of the Company’s assets and liabilities and are adjusted for changes in tax rates and tax laws when enacted.

Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized. In evaluating the need for a valuation allowance, management considers all potential sources of taxable income, including income available in carryback periods, future reversals of taxable temporary differences, projections of taxable income, and income from tax planning strategies, as well as all available positive and negative evidence. Positive evidence includes factors such as a history of profitable operations, projections of future profitability within the carryforward period, including from tax planning strategies, and the Company’s experience with similar operations. Existing favorable contracts and the ability to sell products into established markets are additional positive evidence. Negative evidence includes items such as cumulative losses, projections of future losses, or carryforward periods that are not long enough to allow for the utilization of a deferred tax asset based on existing projections of income. Deferred tax assets for which no valuation allowance is recorded may not be realized upon changes in facts and circumstances, resulting in a future charge to establish a valuation allowance.

Tax benefits related to uncertain tax positions taken or expected to be taken on a tax return are recorded when such benefits meet a more likely than not threshold. Otherwise, these tax benefits are recorded when a tax position has been effectively settled, which means that the statute of limitation has expired or the appropriate taxing authority has completed their examination even though the statute of limitations remains open. Interest and penalties related to uncertain tax positions are recognized as part of the provision for income taxes and are accrued beginning in the period that such interest and penalties would be applicable under relevant tax law until such time that the related tax benefits are recognized. The company is no longer subject to income tax examinations by tax authorities for years

prior to 2005.

Related Party Transactions – We buy products from and sell products to various related companies, consisting of entities in which the Company retains a 50% or less equity interest, at negotiated arms-length prices between the two parties.

Litigation Matters – For asserted claims and assessments, liabilities are recorded when an unfavorable outcome of a matter is deemed to be probable and the loss is reasonably estimable. Management determines the likelihood of an unfavorable outcome based on many factors such as the nature of the matter, available defenses and case strategy, progress of the matter, views and opinions of legal counsel and other advisors, applicability and success of appeals processes, and the outcome of similar historical matters, among others. Once an unfavorable outcome is deemed probable, management weighs the probability of estimated losses, and the most reasonable loss estimate is recorded. If an unfavorable outcome of a matter is deemed to be reasonably possible, but not probable, then the matter is disclosed and no liability is recorded. With respect to unasserted claims or assessments, management must first determine that the probability that an assertion will be made is likely, then, a determination as to the likelihood of an unfavorable outcome and the ability to reasonably estimate the potential loss is made. Legal matters are reviewed on a continuous basis to determine if there has been a change in management's judgment regarding the likelihood of an unfavorable outcome or the estimate of a potential loss.

Foreign Currency – The consolidated financial statements are presented in our reporting currency, U.S. Dollars. The functional currency for the subsidiaries in China is the Chinese Yuan or RMB. Accordingly, the balance sheet of the Chinese subsidiaries is translated into U.S. Dollars using the exchange rate in effect at the balance sheet date. Revenues and expenses are translated using the average exchange rates in effect during the period. Translation differences are recorded in accumulated other comprehensive income (loss) as foreign currency translation. Gains or losses on transactions denominated in a currency other than the subsidiaries' functional currency which arise as a result of changes in foreign exchange rates are recorded as foreign exchange gain or loss in the statements of operations.

Reclassifications — Certain reclassifications have been made to prior period amounts to conform to classifications adopted in the current year.

Recently Adopted and Recently Issued Accounting Guidance

Adopted

In May, 2011, the Financial Accounting Standards Board ("FASB") issued an amendment to achieve common fair value measurement and disclosure requirements between U.S. and International accounting principles. Overall, the guidance is consistent with existing U.S. accounting principles; however, there are some amendments that change a particular principle or requirement for measuring fair value or for disclosing information about fair value measurements. Other than the additional disclosure requirements (see Note 3.) the adoption of this guidance had no impact on the Consolidated Financial Statements.

In June 2011, the FASB amended existing guidance and eliminated the option to present the components of other comprehensive income as part of the statement of changes in shareholder's equity. The amendment requires that comprehensive income be presented in either a single continuous statement or in two separate consecutive statements. Management elected to present the two-statement option. Other than the change in presentation, the adoption of these changes had no impact on the Consolidated Financial Statements.

Issued

In December 2011, the FASB issued changes to the disclosure of offsetting assets and liabilities. These changes require an entity to disclose both gross information and net information about both instruments and transactions eligible for offset in the statement of financial position and instruments and transactions subject to an agreement similar to a master netting arrangement. The enhanced disclosures will enable users of an entity's financial statements to understand and evaluate the effect or potential effect of master netting arrangements on an entity's financial position, including the effect or potential effect of rights of setoff associated with certain financial instruments and derivative instruments. These changes become effective for the Company on January 1, 2013. Other than the additional disclosure requirements, management has determined that the adoption of these changes will not have an impact on the Consolidated Financial Statements.

In February 2013, the FASB issued changes to the information provided about the amounts reclassified out of accumulated other comprehensive income by component. These changes require an entity to provide information about the amounts reclassified out of accumulated other comprehensive income by component. In addition, an entity is required to present, either on the face of the statement where net income is presented or in the notes, significant amounts reclassified out of accumulated other comprehensive income by the respective line items of net income but only if the amount reclassified is required under U.S. GAAP to be reclassified to net income in its entirety in the same reporting period. For other amounts that are not required under U.S. GAAP to be reclassified in their entirety to net income, an entity is required to cross-reference to other disclosures required under U.S. GAAP that provide additional detail about those amounts. These changes become effective for the Company on January 1, 2013. Management has determined that the adoption of these changes will not have an impact on the Consolidated Financial Statements.

3. FAIR VALUE MEASUREMENTS AND OTHER FINANCIAL MEASUREMENTS

Our financial instruments are accounted for at fair value on a recurring basis. We have no financial instruments accounted for on a non-recurring basis as of December 31, 2012 or December 31, 2011. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value hierarchy distinguishes between (1) market participant assumptions developed based on market data obtained from independent sources (observable inputs) and (2) an entity's own assumptions about market participant assumptions developed based on the best information available in the circumstances (unobservable inputs). The fair value hierarchy consists of three broad levels, which gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). The three levels of the fair value hierarchy are described below:

Level 1 – Quoted prices (unadjusted) for identical assets or liabilities in active markets that the entity can access as of the measurement date.

Level 2 – Significant other observable inputs other than Level 1 prices such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data.

Level 3 – Significant unobservable inputs that reflect a company's own assumptions about the assumptions that market participants would use in pricing an asset or liability.

In arriving at fair-value estimates, we utilize the most observable inputs available for the valuation technique employed. If a fair-value measurement reflects inputs at multiple levels within the hierarchy, the fair-value measurement characterized based upon the lowest level of input that is significant is applied to the fair-value measurement. For us, recurring fair-value measurements are performed for warrant liabilities.

All warrant liability financial instruments are recognized in the balance sheet at their fair value. Changes in the fair values of warrant liability financial instruments are reported in earnings. We do not hold any derivative liability financial instruments that reduce risk associated with hedging exposure and we have not designated any of our warrant liability financial instruments as hedge instruments.

The Company has no items valued using Level 1 and Level 2 inputs. The fair values and corresponding classifications under the appropriate level of the fair value hierarchy of outstanding warrants recorded as recurring liabilities in the consolidated balance sheet were as follows:

In thousands of dollars

		Year Ended December 31,	
	Level	2012	2011
Warrant liabilities:	3	$ 90	$ 654

The following table presents quantitative information for Level 3 measurements:

In thousands of dollars

	Fair value at December 31, 2012	Valuation technique	Unobservable input
Liabilities:			
Warrant liabilities	$ 90	Monte Carlo option simulation model	Prevailing interest rates, Company's stock price volatility, expected warrant term

There have been no transfers between Level 1, Level 2, or Level 3 categories.

The following table summarizes current warrant liabilities recorded at fair value at December 31, 2012:

In thousands of dollars

	Fair Value	Carrying Value
Warrant liabilities:	$ 90	$ 90
Total	$ 90	$ 90

Financial instruments classified as Level 3 in the fair value hierarchy represent warrant liabilities in which management has used at least one significant unobservable input in the valuation model. The following table represents a reconciliation of activity for such warrant liabilities:

In thousands of dollars

	Warrant liabilities
Opening balance – December 31, 2011	$ 654
Purchases, sales, issuances, and settlements	
Transfers into and (or) out of Level 3	
Change in fair value	(564)
Unrealized gains / (losses)	
Other adjustments	
Closing balance – December 31, 2012	$ 90

There were no purchases, sales, transfers, issuances or settlements of Level 3 financial instruments. There were no assets or liabilities measured on a non-recurring basis as of December 31, 2012 and December 31, 2011.

Other Financial Instruments
The carrying amounts and fair values of financial instruments are as follows:

In thousands of dollars

		2012		2011	
		Carrying value	Fair value	Carrying value	Fair value
Accounts receivable, net	2	$1,498	$1,498	$333	$333
Trade accounts payable	2	$2,599	$2,599	$5,870	$5,870
Capital lease obligation	2	$9	$9	$12	$12
Note payable	2	$6,680	$6,680		

The following methods were used to estimate the fair values of other financial instruments:

Accounts receivable, Trade accounts payable, Capital lease obligation and Note payable. The carrying amounts approximate fair value due to their short term nature.

4. PRODUCT INVENTORIES

Product inventories consist of the following:

In thousands of dollars

	2012	2011
Raw materials	$ 2,337	$ 4,193
Work in process	3,666	2,982
Finished goods	1,413	45
Total product inventories	$ 7,416	$ 7,220

As of December 31, 2012 and 2011, inventory relates to the production of battery systems targeted at the electric grid, transportation, and industrial markets.

Inventory valuation allowances, totaled $331,000 and $264,000 at December 31, 2012 and 2011, respectively.

5. PREPAID EXPENSES AND OTHER CURRENT ASSETS

Prepaid expenses and other current assets consist of the following:

In thousands of dollars

	2012	2011
Deferred contract costs	$ 4,532	$ 678
Other assets, related party	$ 1,754	-
Prepaid inventory purchases	$ 159	$ 801
Prepaid insurance	258	259
Deposits	342	341
Other prepaid expenses and current assets	178	161
Total prepaid expenses and other current assets	$ 937	$ 1,562

Other prepaid expenses and current assets consist primarily of prepaid property taxes, service contracts, marketing expenses and rent. Other assets, related party, relates to a payment made to Yinting Energy (YTE) (an affiliate of Canon) as the Company will be working with YTE to supply the initial order of fifty electric buses to Wu'an, China. The deferred contract costs were incurred, under the completed contract method, for multiple large scale projects for which revenue has not been recognized.

6. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment held and used in operations consists of the following:

In thousands of dollars

	2012	2011
Machinery and equipment, held and used	$ 6,643	$ 11,117
Building and improvements	4,324	4,447
Furniture, office equipment & other	1,930	1,826
	12,897	17,390
Less accumulated depreciation	(8,821)	(10,520)
Total property, plant and equipment held & used	$ 4,076	$ 6,870

Property, plant and equipment held and not used in operations consists of the following:

In thousands of dollars

	2012
Machinery and equipment, held and not used	4,249
Less accumulated depreciation	(2,392)
Total property, plant and equipment held and not used	1,857

Property, plant and equipment held and not used relates to machinery and equipment that has been decommissioned at our Reno, Nevada facility. We plan to transfer this machinery and equipment to our China subsidiary for use in operations.

Depreciation expense for the years ended December 31, 2012 and 2011 totaled $950,000 and $1,248,000, respectively.

7. LAND USE RIGHT AND PATENTS

Northern Altair, an indirect wholly owned subsidiary of Altair Nanotechnologies Inc., signed an agreement on April 18, 2012 to receive a 66 acre Land Use Right with respect to land in Wu'an, China from Heibei Wu'an Municipal People's Government ("Wu'an"). Northern Altair was required to bid for the Land Use Right. On October 31, 2012, Northern Altair completed the bidding process and paid approximately $12,000,000 and land transfer taxes and fees of approximately $1,670,000 in exchange for the 66 acre Land Use Right for a period of 50 years. Closing occurred on November 9, 2012 and Northern Altair received the Land Use Right (Wu State-Used, State-Owned Land Use Certificate No. 139) on this date. This Land will be used for the company's nLTO and energy storage system manufacturing operations in China. The amortized land use right's balances as of December 31, 2012 were:

In thousands of dollars

	2012	2011
Land use right	$ 13,670	-
Less accumulated amortization	(45)	-
Total land use right, net	$ 13,625	-

The land use right was recorded at cost and will be amortized on a straight-line basis over its 50 year useful life at approximately $273,000 per year. The amortization expense of $45,000 was for the last two months of 2012.

Our patents are associated with the nanomaterials and titanium dioxide pigment technology. We are amortizing these assets on a straight-line basis over their useful lives. The amortized patents' balances as of December 31, 2012 and 2011 were:

In thousands of dollars

	2012	2011
Patents and patent applications	$ 1,366	$ 1,366
Less accumulated amortization	(1,092)	(1,016)
Total patents and patent applications	$ 274	$ 350

The weighted average amortization period for patents is approximately 16.7 years. Amortization expense, which represents the amortization relating to the identified amortizable patents, for the twelve months ended December 31, 2012 and 2011, was $76,000. For each of the next three years, amortization expense relating to patents is expected to be approximately $76,000 per year. Amortization expense is expected to be approximately $46,000 in the fourth year.

8. ACCRUED WARRANTY

Accrued warranty consisted of the following at December 31, 2012 and 2011:

In thousands of dollars

	2012	2011
Beginning Balance – January 1,	$ 354	$ 211
Charges for accruals in the current period	64	156
Reductions for warranty services provided		(13)
Ending Balance – December 31,	$ 418	$ 354

The warranty provision increased $64,000 and $156,000 in 2012 and 2011, respectively. The 2011 charges of $13,000 against the provision primarily relates to activity in connection with the AES prototype battery pack purchased in 2007.

9. ACCRUED LIABILITIES

Accrued liabilities consisted of the following at December 31, 2012 and 2011:

In thousands of dollars

	2012	2011
Accrued use tax	$ 21	$ 7
Accrued property tax	54	
Accrued reclamation costs	6	6
Accrued straight line rent		22
Accrued fees to vendors	303	386
Total accrued liabilities	$ 384	$ 421

Deferred revenues relate to multiple large scale projects that are accounted for under the completed contract method and were in process at December 31, 2012 and 2011.

10. NOTES PAYABLE

Notes payable consisted of the following at December 31, 2012:

In thousands of dollars

	2012
Note payable Mortgage	$ 1,000
Note payable Bank of China	1,980
Note payable ICBC	3,700
Total	$ 6,680

On August 8, 2012, we entered into a Note payable secured by, a Deed of Trust, corporate guaranty and hazardous materials indemnity agreement for the provision of a $1,000,000 loan secured by the Company's Reno, Nevada Facility. Under the terms of the loan documents, interest accrues on the outstanding principal balance at the rate of 11% per annum. We were obligated to pay five months of prepaid interest to the lender upon closing and make interest-only payments on a monthly basis during the remaining term of the loan and to repay all principal and any outstanding interest on or before August 1, 2013. Although we may prepay the loan, we are obligated to pay a minimum of five months' interest. Proceeds of the Loan were used for general working capital requirements.

In October 2012, the Company and Northern Altair entered into a series of transactions, wherein, Northern Altair set aside, as restricted cash, $2,057,900 with the Bank of China; interest rate is .0053% daily and the maturity date is October 18, 2013. In return, the Bank of China loaned the Company $1,980,000 for use as operating capital.

In November 2012, the Company and Northern Altair entered into a series of transactions, wherein, Northern Altair set aside, as restricted cash, $3,894,180 with the Industrial and Commercial Bank of China ("ICBC"); interest rate is .0056% daily and the maturity date is November 15, 2013. In return, the ICBC loaned the Company $3,700,000 for use as operating capital.

11. STOCK BASED COMPENSATION

As of December 31, 2012, we have the Altair Nanotechnologies Inc. 2005 Stock Incentive Plan (the "Plan"), administered by the Board of Directors, which provides for the granting of options and restricted shares to employees, officers, directors and other service providers of ours. This Plan is described in more detail below.

The total number of shares authorized to be granted under the Plan was increased from 125,000 to an aggregate of 375,000 based on the proposal approved at the annual and special meeting of shareholders on May 30, 2007. On June 23, 2011, we held an annual and special meeting of shareholders. The proposal to increase the number of authorized shares under the Plan from 375,000 to 1,208,333 shares was approved at this meeting. The additional 833,333 shares approved by the stockholders are not available for stock option issuance at this time, as the Board of Directors has not authorized the filing of the related Registration Statement on Form S-8.

Prior stock option plans, under which we may not make future grants, authorized a total of 275,000 shares, of which options for 170,038 shares of common stock were granted (net of expirations) and options for 1,146 shares of common stock are outstanding and unexercised at December 31, 2012. Options granted under the plans are granted with an exercise price equal to the fair value of a common share at the date of grant, have five-year or ten-year terms and typically vest over periods ranging from immediately to four years from the date of grant. The estimated fair value of equity-based awards, less expected forfeitures, is amortized over the awards' vesting period utilizing the graded vesting method. Under this method, unvested amounts begin amortizing at the beginning of the month in which the options are granted.

In calculating compensation recorded related to stock option grants for the years ended December 31, 2012 and 2011, the fair value of each stock option is estimated on the date of grant using the Black-Scholes-Merton option-pricing model and the following weighted average assumptions:

	2012		2011	
Weighted average fair value per option	$ 2.89		$ 6.40	
Dividend yield	None		None	
Expected volatility	90	%	94	%
Risk-free interest rate	0.83	%	1.02	%
Expected life (years)	7.10		7.10	

The computation of expected volatility used in the Black-Scholes Merton option-pricing model is based on the historical volatility of our share price. The expected term is estimated based on a review of historical and future expectations of employee exercise behavior. The risk-free interest rates are based on a yield curve of interest rates at the time of the grant based on the contractual life of the option.

A summary of option activity under our equity-based compensation plans as of December 31, 2012 and 2011, and changes during the year then ended is presented below:

	2012				2011			
	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding at January 1,	260,730	$33.49	7.7	$ -	252,244	$47.56	7.5	$ -
Granted	133,332	2.88			99,999	$8.04		
Exercised								
Forfeited/expired	(139,096)	$27.61			(91,513)	$44.47		
Outstanding at December 31,	254,966	$20.69	7.8	$ -	260,730	$33.49	7.7	$ -
Exercisable at December 31,	89,254	$50.81	5.6	$ -	134,536	$53.44	6.2	$ -

As of December 31, 2012 and 2011 there was $267,000 and $479,000, respectively, of total unrecognized compensation cost related to non-vested options granted under the plans. That cost is expected to be recognized over a weighted average period of three years for 2012 and four years for 2011. The total fair value of options vested during the years ended December 31, 2012 and 2011 was $1,900,000 and $2,200,000 respectively.

No cash was received from stock option exercises for the years ended December 31, 2012 and 2011. The company issues shares from the registered stock incentive plan to satisfy the exercise of stock options and the conversion of stock awards.

Options Fully Vested and/or Expected to Vest

Range of exercise price			Number	Weighted average remaining contractual life	Weighted average exercise price	Intrinsic Value
$2.50	-	$52.00	209,306	8.66	$ 22.58	$ -
$52.01	-	$101.5	45,452	4.13	77.61	-
$101.51	-	$151.00	208	2.22	105.60	-
	Total		254,966	7.84	$ 50.81	$ -

A summary of the status of non-vested shares at December 31, 2012 and 2011 and changes during the year then ended, is presented below:

	2012		2011	
	Shares	Weighted Average Grant Date Fair Value	Shares	Weighted Average Grant Date Fair Value

Non-vested shares at January 1,	126,194	$ 12.24	140,638	$ 31.02
Granted	133,332	2.88	99,999	8.04
Vested	(18,235)	24.94	(102,895)	34.25
Forfeited/Expired	(75,579)	9.67	(11,548)	34.29
Non-vested shares at December 31,	165,712	$ 4.48	126,194	$ 12.24

Non-vested shares relating to non-employees reflected in the table above include 519 shares outstanding at January 1, 2012, no shares granted, no shares exercised, 261 shares were vested and no shares were forfeited or expired during the year ended December 31, 2012, resulting in 258 non-vested shares outstanding at December 31, 2012. Non-vested shares relating to non-employees reflected in the table above include 2,862 shares outstanding at January 1, 2011, no shares granted, no shares exercised, 1,303 shares were vested, 1,040 shares were forfeited and no shares were expired during the year ended December 31, 2011, resulting in 519 non-vested shares outstanding at December 31, 2011.

12. WARRANTS

Warrants Issued to Investors

The fair value of the warrants was determined using the Monte Carlo simulation model and the following weighted average assumptions were used:

	2012	2011
Stock Price	$ 2.15	$ 2.15
Exercise Price	$ 15.36	$ 8.56
Expected Volatility	135 %	105 %
Expected Dividend Yield	None	None
Expected Term (in years)	3.8	4.8
Risk-free Interest Rate	0.36 %	0.77 %

As of December 31, 2012, the value of the warrant liabilities were $90,000 and the change in fair value during the twelve months ended December 31, 2012 was a gain of $564,000. The gain was recorded as other income in the statement of operations. As of December 31, 2011, the value of the warrant liabilities were $654,000 and the change in fair value during the twelve months ended December 31, 2011 was a gain of $1,274,000. The gain was recorded as other income in the statement of operations.

Warrant activity for the twelve months ended December 31, 2012 and 2011 is summarized as follows:

	2012		2011	
	Warrants	Weighted Average Exercise Price	Warrants	Weighted Average Exercise Price
Outstanding at January 1,	412,779	$ 14.11	292,856	$ 27.60
Issued			300,000	14.94
Expired			(17,979)	83.94
Warrant redemption			(162,098)	19.68
Exercised				
Outstanding at December 31,	412,779	$ 14.11	412,779	$ 14.11
Currently exercisable	412,779	$ 14.11	412,779	$ 14.11

The following table summarizes information about warrants outstanding at December 31, 2012:

Warrants Outstanding and Exercisable

Range of Exercise Prices			Warrants	Weighted Average Remaining Contractual Life (Years)	Weighted Average Exercise Price
	$13.80		112,779	3.4	$ 13.80
$13.86	to	$24.00	300,000	3.8	15.36
			412,779	3.6	$ 14.11

The warrants expire on various dates ranging to September 2016.

13. OTHER TRANSACTIONS

On October 25, 2012, Northern Altair successfully completed a bidding process for a 66 acre parcel of land in Wu'an China, which will be used for the Company's nLTO and energy storage system ("ESS") manufacturing operations in China. On October 31, 2012, Northern Altair entered into a Contract on Assignment of State-owned Construction Land Use Right (the "Land-Use Agreement"), pursuant to which Northern Altair acquired the right to use the 66 acres of commercial land north of Dongzhuchang Village in Wu'an City, China for a period of 50 years subject to the terms and conditions of the Land-Use Agreement. As consideration for the land use right, Northern Altair paid a land use fee of approximately $12,000,000 and land transfer taxes and fees of approximately $1,670,000 and agreed to make fixed asset investments on the land of approximately $167 million, subject to loan guarantees and other incentives from Wu'an, China, over an unspecified period of time up to the 50 year life of the land use right, with initial construction being required to begin by March 31, 2013. In January 2013, initial construction on a manufacturing facility began on the Company's land use right in China. The costs incurred to date by the Company are not material. The Company estimates the initial phase of this project will cost approximately $3 million and will be completed in 2013. The Company has not yet obtained loan guarantees for these costs. Additional construction phases will be contingent upon loan guarantees and other incentives from Wu'an, China as well as other market conditions. The total fixed asset investments shall include the cost of buildings, structures, auxiliary facilities, and equipment, as well as the land-use fee. Northern Altair may transfer and sublease portions of the granted land once it has invested 25% of the total fixed asset investments amount and completed 25% of the project. Closing occurred on November 9, 2012. Northern Altair also received grant incentives on November 30, 2012 of approximately $11,800,000 from the Wu'an government and recorded it as restricted cash.

On August 1, 2012, Wu'an paid Northern Altair Nanotechnologies Co., Ltd., $1.9 million (12 million RMB), as a down payment for its first electric bus order under the Agreement (the "Wu'an Agreement") among Altair China and the Wu'an Municipal People's Government ("Wu'an") and Handan Municipal People's Government ("Handan"). This payment was applied by Northern Altair to purchase and deliver 50 electric buses from a third party manufacturer to Wu'an.

On July 22, 2011, the Company and Canon completed the sale by the Company, and the purchase by an affiliate of Canon, of 6,172,801 shares of common stock of the Company, no par value, at a purchase price of $9.32 per share, or approximately $57,500,000 in the aggregate, pursuant to the Share Subscription Agreement. Pursuant to the Share Subscription Agreement, Canon has designated its affiliate, Energy Storage Technology (China) Group Limited, a company organized under the laws of Hong Kong ("Energy Storage"), as the purchaser of the Shares. Immediately following the closing, Energy Storage held 53.3% of the 11,590,067 shares of common stock outstanding (49.8% on a

fully diluted basis).

The Company engaged JMP Securities and completed a capital raise on March 30, 2011. The Purchase Agreement with investors provided for the issuance of additional shares of common stock ("Adjustment Shares") following such adjustment, if the Share Subscription Agreement with Canon was terminated or adversely amended, or if the transaction contemplated thereby was not closed by July 17, 2011. On July 17, 2011, the Share Subscription with Canon was not closed; therefore, we issued 300,000 Adjustment Shares to the investors on July 18, 2011.

14. INCOME TAXES

Losses/profit before income taxes includes a loss on non-U.S. operations of $764,000 for the year ended December 31, 2012. There is a profit relating to non-U.S. operations of $413,000 for the period ending July 21, 2011, as of the change of control.

Because of the net operating losses and a valuation allowance on deferred tax assets, there was no provision for income taxes recorded in the accompanying consolidated financial statements for each of the three years ended December 31, 2012 and 2011.

A reconciliation of the federal statutory income tax rate of 35% and our effective income tax rates is as follows:

In thousands of dollars:

	Year Ended December 31,	
	2012	2011
Federal statutory income tax benefit	$ (6,392)	$ (6,977)
Expiration of net operating loss carry forwards	3,156	-
Other, net		