

LITHIUM TECHNOLOGY CORP
Form 10KSB
May 13, 2005
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-KSB

(Mark One)

ANNUAL REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.

For the fiscal year ended December 31, 2004

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934.

For the transition period from _____ to _____

Commission File Number 1-10446

LITHIUM TECHNOLOGY CORPORATION

(Name of Small Business Issuer in Its Charter)

DELAWARE
(State or Other Jurisdiction of
Incorporation or Organization)

13-3411148
(I.R.S. Employer
Identification No.)

5115 CAMPUS DRIVE, PLYMOUTH MEETING, PENNSYLVANIA 19462

(Address of Principal Executive Offices) (Zip Code)

(610) 940-6090

(Issuer's Telephone Number, Including Area Code)

Securities registered under Section 12(b) of the Exchange Act: NONE.

Securities registered under Section 12(g) of the Exchange Act: COMMON STOCK, PAR VALUE, \$0.01

Check whether the issuer: (1) filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the past 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 No

Check if there is no disclosure of delinquent filers in response to Item 405 of Regulation S-B contained in this form, and no disclosure will be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-KSB or any amendment to this Form 10-KSB.

State issuer's revenues for its most recent fiscal year. \$766,000.

State the aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was sold, or the average bid and asked prices of such common equity, as of a specified date within the past 60 days. Approximately \$5,361,217 as of May 11, 2005. The aggregate market value was based upon the mean between the closing bid and asked price for the common stock as quoted by the NASD OTC Electronic Bulletin Board \$0.09.

(ISSUERS INVOLVED IN BANKRUPTCY PROCEEDINGS DURING THE PAST FIVE YEARS)

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Check whether the issuer has filed all documents and reports required to be filed by Section 12, 13 or 15(d) of the Exchange Act after the distribution of securities under a plan confirmed by a court. Yes No

(APPLICABLE ONLY TO CORPORATE REGISTRANTS)

State the number of shares outstanding of each of the issuer's classes of common equity, as of the latest practicable date: As of May 11, 2005, 95,378,364 shares of common stock.

DOCUMENTS INCORPORATED BY REFERENCE

If the following documents are incorporated by reference, briefly describe them and identify the part of the Form 10-KSB (e.g., Part I, Part II, etc.) into which the document is incorporated: (1) any annual report to security-holders; (2) any proxy or information statement; and (3) any prospectus filed pursuant to Rule 424(b) or (c) of the Securities Act of 1933 (Securities Act). The listed documents should be clearly described for identification purposes (e.g., annual report to security holders for fiscal year ended December 24, 1990). None.

Transitional Small Business Disclosure Format (check one): Yes No

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CURRENCY AND EXCHANGE RATES

All monetary amounts contained in this Report are, unless otherwise indicated, expressed in U.S. Dollars. On May 11, 2005, the noon buying rate for Euros as reported by the Federal Reserve Bank of New York was 1.2803 to \$1.00 U.S.

FORWARD-LOOKING STATEMENTS

The Private Securities Litigation Reform Act of 1995 provides a "safe harbor" for forward-looking statements. This report contains certain forward-looking statements and information that are based on the beliefs of management as well as assumptions made by and information currently available to management. The statements contained in this Report relating to matters that are not historical facts are forward-looking

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statements that involve risks and uncertainties, including, but not limited to, the successful commercialization of our batteries, future demand for our products, general economic conditions, government and environmental regulation, competition and customer strategies, technological innovations in the battery industries, changes in our business strategy or development plans, capital deployment, business disruptions, our ability to consummate future financings and other risks and uncertainties, certain of which are beyond our control. Additional factors that could affect the Company's forward-looking statements include, among other things: the restatement of the quarterly financial statements for the first three quarters in the fiscal year ended December 31, 2004; negative reactions from the Company's stockholders, creditors, customer or employees to the results of the review and restatement or delay in providing financial information caused by restatement; the impact and result of any litigation (included private litigation), or of any investigation by the Securities and Exchange Commission or any investigation by any other governmental agency related to the Company; the Company's ability to manage its operations during and after the financial statement restatement process; and the Company's ability to successfully implement internal controls and procedures that remediate any material weakness in controls and ensure timely, effective and accurate financial reporting. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, actual results may differ materially from those described herein as anticipated, believed, estimated or expected.

Forward-looking statements are based on management's current views and assumptions and involve known and unknown risks that could cause actual results, performance or events to differ materially from those expressed or implied in those statements.

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PART I

ITEM 1. DESCRIPTION OF BUSINESS

BUSINESS OVERVIEW

We are engaged in ongoing development and pilot-line production, in both the United States and Germany, of large format lithium-ion rechargeable batteries to be used as new power sources in emerging advanced applications in the national security, transportation and stationary power markets. With higher energy density, lighter weight, smaller volume, longer operational life and greater cost effectiveness, we believe that lithium batteries are especially compatible with rapidly emerging developments in these markets.

We further believe that our unique large format flat and cylindrical battery designs provide a special advantage for national security, transportation and stationary power applications. Our mission is to become a leading player in the development and commercialization of advanced and unique rechargeable lithium battery technology and products for advanced national security, transportation and stationary power applications. We believe there are fundamental changes underway with respect to the advanced global market in each of these application areas. Our business model also includes the licensing of our technology and other collaborative efforts with third parties.

As a result of our involvement with the military market over the past year, we have identified customers and segments that are actively pursuing new battery technologies. Particularly interesting areas include unmanned aerial vehicles (known as UAVs), and unmanned underwater vehicles (known as UUVs). Several customers that we had previously sampled have now reached beta test levels of our battery technologies, generally the last stage of testing. In addition, previously identified opportunities in rockets are also proceeding to beta testing and certification. In most instances, our potential customers are providers to the U.S. Military of new high tech systems and not the U.S. Government directly. We recently delivered a very large battery for a commercial high altitude communications airship. We recognized and collected approximately \$23,000 in revenues associated with this order in 2004 and we have recognized another \$23,000 in 2005 for this system.

Our efforts during 2004 in the high tech military area have resulted in the US operations receiving over \$1,000,000 in Small Business Innovative Research (known as SBIR) contracts or sub-contacts going forward in 2005 and beyond. In the process, have created collaborative relationships for the development of the next generation cathode materials. We are partnering with them on a US Army Tank-Automotive Research, Development and Engineering Center (known as TARDEC) work directive for Future Combat Systems Manned Ground Vehicle HEV and a NASA contract for Advanced Batteries for Space. We have partnered with a builder of unmanned underwater vehicles on a contract for Advanced Pressure Tolerant Batteries. We have also received SBIR contracts for Lithium Batteries for Strategic Missile Flight Testing and Advanced Lithium Ion Battery Manufacturing. We also have several other small SBIR subcontract and commercial contracts.

Outside the U.S., we have a number of specific military opportunities in Europe, including submarine batteries in two countries and a classified application for the British Ministry of Defense. We have also moved forward with a commercial security application to beta test.

In the transportation market, the rapidly increasing cost of petroleum-based fuels is accelerating the move to hybrid vehicles. Toyota Motor Corporation and Honda Motor Company continue to show significant growth in the sale of their Hybrid Electric Vehicles (known as HEVs). In 2004, Ford Motor Company negotiated a license agreement with Toyota to utilize its hybrid-electric technology. In 2004, we delivered 42-volt prototypes to the US Advanced Battery Consortium (The U.S. Big 3 Automakers + Department of Energy) and a lithium-ion prototype HEV

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module to the European consortium. Penn State University took second place in the Ford Future Truck Competition with a hybrid Ford Explorer using 150 of our 27 Amp-hour (known as Ah) flat cells. We have additional orders from Penn State and University of Texas for this year's competition. The stationary power market showed slow advancement in 2004 due to pricing and capital issues. Rack-mounted lithium ion batteries for mission critical applications throughout various industries (including telecommunications and computers) were introduced and we are working with a major battery manufacturer on such a product.

We have spent over \$60 million advancing our technologies, and we believe we are in a position to develop, manufacture and sell, as well as license our technology for, highly reliable, cost-effective advanced lithium-ion rechargeable batteries to each of the market segments described above.

Our corporate headquarters are located at Plymouth Meeting, Pennsylvania. We have two operating locations-Plymouth Meeting, Pennsylvania and Nordhausen, Germany. Our strategic business plan incorporates a unified approach by our two locations to overall business strategy; technology research and development; product development; procurement; production; market and competitive analysis; customer contact plans; marketing; public relations/investor relations; sales; distribution; securing future joint venture relationships for manufacturing and distribution; future resource needs; and financial matters.

We manufacture and sell the GAIA[®] product line of hermetically sealed lithium-ion rechargeable cells and batteries. Our product portfolio includes large format, high power cells ranging from 4 to 45 Amp-hours, with discharge capabilities to 30C designed

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for HEV and military applications, and high energy cells from 5 to 60 Amp-hours for various applications. Cells are manufactured in both cylindrical and flat form factors and employ proprietary extrusion, design and assembly technology. We assemble custom large batteries complete with electronics (battery management systems) and on-board communication for the national security, transportation and stationary power markets.

Over the past year, we have moved from the product and process development and refinement stage to the early production stage. Efforts have been refocused on producing larger, more consistent runs of standardized cells. We have established several standardized modular battery assembly designs which facilitate the construction of custom batteries. We are beginning to receive feedback from actual field testing.

The lithium ion battery market is rapidly expanding and maturing. Lithium ion batteries are becoming more widely known and accepted resulting in accelerating market growth. We are benefiting from this expansion of new product applications by being able to be involved in the initial design of these applications rather than competing directly with low cost mass-market 18650 cells from Asia. This market expansion is also driving material suppliers to develop higher energy, lower cost and safer products. Increasing volumes of production are being shifted to China and this continues to put downward pressure on pricing. Some of our Asian competitors have introduced high power cells and large formats which emphasizes our need to ramp up quickly and provide custom solutions to capture market share. Our sales and marketing efforts are focused on markets where we can obtain a premium by being a domestic supplier, providing a better product and better service and co-developing custom solutions for new emerging high tech products. Our business plan does not incorporate mass commercial markets in the immediate future from our existing facilities. Entry into these large volume markets is projected though the licensing of our technology and collaborative efforts with third parties.

FINANCING OVERVIEW

Since inception, we have incurred substantial operating losses and we expect to incur additional operating losses over the next several years. As of December 31, 2004, we had an accumulated deficit of approximately \$56.1 million. Our accompanying consolidated financial statements have been prepared on a going concern basis, which contemplates the continuation of operations, realization of assets and liquidation of liabilities in the ordinary course of business.

We have financed our operations since inception primarily through equity financings, loans from shareholders, including loans from Arch Hill Capital N.V., Arch Hill Ventures N.V. and other related parties, loans from silent partners and bank borrowings secured by assets.

In January 2004, we sold \$2,000,000 of our 10% Convertible Debentures Due 2006 with attached warrants to purchase up to 1,000,000 shares of our common stock in a private placement to an investment group. The proceeds of the financing were used for working capital.

In April 2004, we exchanged approximately \$32.9 million of debt owed to Arch Hill Capital and Arch Hill Ventures for our debt and equity securities. Arch Hill Capital exchanged approximately \$9.7 million of indebtedness loaned to LTC for \$3 million of convertible debentures, warrants to purchase up to 1,500,000 shares of our common stock exercisable at \$2.00 per share and 6,069,697 shares of our common stock and Arch Hill Ventures exchanged approximately \$23.2 million of indebtedness loaned to GAIA for 21,001,453 shares of our common stock.

From August 2004 through January 2005 in a private placement we issued \$6,062,000 of our A Units, \$4,357,000 for cash and \$1,705,000 in exchange for outstanding debt, and issued \$1,840,000 of our B Units in exchange for outstanding debt. The outstanding debt in each case was

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held by Arch Hill Capital. The cash proceeds of the financing were used for working capital.

On March 11, 2005, we entered into a standby equity distribution agreement with Cornell Capital Partners, LP pursuant to which we may, at our discretion, periodically sell to Cornell Capital shares of our common stock for a total purchase price of up to \$15,000,000. For each share of common stock purchased under the standby equity distribution agreement, Cornell Capital will pay us 98% of the lowest volume weighted average price of our common stock as quoted by on the Over-the-Counter Bulletin Board or other principal market on which our common stock is traded for the five days immediately following the date we deliver a notice requiring Cornell Capital to purchase our shares under the standby equity distribution agreement. Cornell Capital Partner's obligation to purchase shares of our common stock under the standby equity distribution agreement is subject to certain conditions, including us obtaining an effective registration statement for shares of common stock sold under the standby equity distribution agreement and is limited to \$200,000 per weekly advance and \$800,000 per 30 days. As of the date hereof, we have not filed the Cornell Capital Partner's registration statement. We expect to file our registration statement during the latter part of the second fiscal quarter of 2005.

On March 11, 2005, we entered into a Debenture Purchase Agreement with an investor, pursuant to which we issued debentures in the principal amount of \$2,500,000. The debentures accrue interest at 12% per year and are repayable in 10 equal monthly installments with accrued interest commencing July 15, 2005 and ending April 15, 2006. The cash proceeds of the financing were used for working capital.

We are dependent on external financing to fund our operations. Our financing needs are expected to be provided from the standby equity distribution agreement, in large part. No assurances can be given that such financing will be available in sufficient amounts or at all when needed, in part, because the amount of financing available will fluctuate with the price and volume of our common stock. As the price and volume decline, then the amount of financing available under the standby equity distribution agreement will decline.

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We are continuing to seek other financing initiatives to meet our working capital needs and to complete our product commercialization process. Our operating plan seeks to minimize our capital requirements, but expansion of our production capacity to meet increasing sales and refinement of our manufacturing process and equipment will require additional capital. We expect that operating and production expenses will increase significantly as we continue to ramp up our production and continue our battery technology and develop, produce, sell and license products for commercial applications.

No assurance can be given that we will be successful in completing these or any other financings at the minimum level necessary to fund our capital equipment requirements, current operations or at all. If we are unsuccessful in completing these financings at such minimum level, we will not be able to fund our capital equipment requirements or current expenses. If we are unsuccessful in completing these financings at or near the maximum level or an additional financing, we will not be able to pursue our business strategy. Additional financing may not be available on terms favorable to us or at all.

CORPORATE INFORMATION

We combined the operations of Lithium Technology Corporation with GAIA Akkumulatorenwerke GmbH, a private lithium polymer battery company headquartered in Nordhausen, Germany, in a share exchange in 2002. In the share exchange we acquired a 100% interest in GAIA through our acquisition of 100% of the outstanding shares of GAIA Holding B.V., a Netherlands holding company from Arch Hill Ventures N.V., a private company limited by shares incorporated under the laws of the Netherlands in exchange for our issuance to Arch Hill Ventures of shares of LTC Series A Preferred Stock which were converted into 5,567,027 shares of LTC common stock on February 25, 2004.

Arch Hill Capital N.V., a private company limited by shares incorporated under the laws of the Netherlands, controls Arch Hill Ventures. Subsequent to the Share Exchange, Arch Hill Capital controls LTC. As a result, the Share Exchange acquisition is accounted for as a reverse acquisition, whereby for financial reporting purposes, GAIA Holding is considered the acquiring company. Hence, the historical financial statements of GAIA Holding became the historical financial statements of the Company and include the results of operations of LTC only from the acquisition date. In November 2004, Arch Hill Capital and Arch Hill Ventures transferred all LTC securities owned by such entities to Stichting Gemeenschappelijk Bezir GAIA (Stichting GAIA) and Stichting Gemeenschappelijk Bezir LTC (Stichting LTC), which are controlled by Arch Hill Capital LTC, GAIA, GAIA Holding and all of the subsidiaries of LTC and GAIA Holding are collectively referred to herein as the Company , we or us .

LTC is a Delaware corporation that was incorporated on December 28, 1995. LTC 's predecessor - Lithium Technology Corporation (a Nevada corporation previously named Hope Technologies, Inc.) - merged with and into LTC in a reincorporation merger that became effective on February 8, 1996. The executive office of LTC is located at 5115 Campus Drive, Plymouth Meeting, Pennsylvania 19462, telephone number: (610) 940-6090.

LTC holds 100% of the outstanding shares of GAIA Holding, a Netherlands holding company. GAIA Holding is a private limited liability company incorporated under the laws of the Netherlands on February 2, 1990, with a statutory seat at the Hague (the Netherlands) and office address at Parkweg 2, 2585 JJ, the Hague, the Netherlands.

GAIA Holding is the legal and beneficial owner of all of the issued and outstanding shares of Lithiontech B.V., a Netherlands company limited by shares that was formed on February 8, 1999. Lithiontech has the legal and beneficial ownership of all the issued and outstanding shares of DILO Trading AG, a Switzerland company limited by shares that was formed on September 11, 1975 and Lithiontech Licensing B.V., a Netherlands company limited by shares that was formed on February 8, 1999. DILO Trading holds patents for which the intellectual property

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was developed by DILO Trading in collaboration with GAIA. GAIA holds a license for all these patents.

GAIA Holding is the beneficial owner of all of the issued and outstanding shares of GAIA. Legal ownership of the outstanding shares of GAIA are held pursuant to certain Dutch and German trust agreements by two Netherlands entities (Nominal Stockholder) for the risk and account of GAIA Holding. Based on the Dutch and the German trust agreements, the Nominal Stockholders are obliged to transfer the legal ownership of the shares in GAIA without any further payments to GAIA Holding to a third party designated by GAIA Holding on the demand of GAIA Holding. Pursuant to the trust agreements, GAIA Holding has the right to vote the shares of GAIA held by the Nominal Stockholders.

LTC and GAIA Holding, Arch Hill Ventures and the Nominal Stockholders are parties to an agreement which provides that without LTC 's prior written consent, GAIA Holding may not directly or indirectly transfer or instruct any party to transfer the legal ownership of the shares of GAIA held by the Nominal Stockholders to any party other than to GAIA Holding and that upon LTC 's written direction, GAIA Holding will instruct the Nominal Stockholders to transfer the legal ownership of the shares of GAIA held by the Nominal Stockholders to GAIA Holding for no payment. The Share Transfer Agreement further provides that at such time as the parties determine that there would no longer be any possible adverse tax effect as a result of the transfer of the GAIA shares to GAIA Holding, then the legal ownership of the GAIA shares held by the Nominal Stockholders shall be transferred to GAIA Holding without any payment.

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GAIA is a private limited liability company organized under German law on April 4, 1996. GAIA is located at Montaniastrasse 17, D-99734 Nordhausen/Thuringia, Germany, telephone number: 011 49 3631 616 670.

LTC holds 100% of the outstanding shares of Lithion Corporation, a Pennsylvania corporation that was incorporated on June 3, 1988.

We effected a reverse stock split on a one-for-twenty share basis on July 28, 2003. All share amounts and prices stated herein give retroactive effect to such reverse stock split.

Information contained on the LTC web site or GAIA web site (www.lithiumtech.com and www.gaia-akku.com) does not constitute part of this Report.

DEVELOPMENT AND COMMERCIALIZATION PLAN

GENERAL

The combination of the LTC and GAIA operations in 2002 created a unique advanced battery company. We believe that the combination of LTC's novel and proprietary electro-chemistry and GAIA's patented lower cost extrusion-based manufacturing process gives us a competitive edge in technology and products.

With our large-format rechargeable lithium-ion and lithium polymer batteries, we are addressing the national security, transportation, and stationary power markets. We believe that our battery technology and products are superior to other battery technologies and products and that we have only limited competition in North America and Europe for large-format rechargeable lithium batteries. Thus, we believe we are well-positioned to capitalize upon business opportunities in these target markets. We have scaled up a number of products under the GAIA brand name aimed at specific market requirements, and there has been a growing demand for our batteries.

Compared to other battery technologies and products, rechargeable lithium batteries are one-third of the weight and one-half the volume of lead acid batteries and one-half the weight and two-thirds the volume of nickel metal hydride batteries. Moreover, we believe that our technology offers a wide range of product and process advantages when compared to the technology of other rechargeable lithium-ion battery manufacturers.

On the product side, our proprietary large-format GAIA batteries are easily customizable both in cylindrical or flat form factors to suit various size, shape and performance demands. The modularity of common building block cells allows for maximum design flexibility in building batteries to meet Original Equipment Manufacturers (known as OEMs) customer requirements. Superior product performance is achieved through high power density electro-chemistries that enable high rate discharging and fast charging, as well as a very broad range of operating temperatures (-40°C to +55°C).

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On the production side, equipment at the GAIA Europe plant at Nordhausen embodies our patented low-cost, environmentally friendly extrusion process. This simplified and highly effective extrusion technique provides a significant improvement in volume manufacturing operations when compared to the processes used by other lithium-ion battery manufacturers around the world.

Our near-term strategy is to focus on the high tech military sub-contractor market to ramp up sales at a rate consistent with our capital expansion program to increase capacity while maintaining a premium selling price. The high tech military market is large and less price sensitive than other markets and we have found an immediate demand for our technology and products. We have established relationships with military contractors developing new high tech equipment requiring advanced power sources.

We believe that the military market will provide the bulk of our near term revenues, however, over the longer term, we expect that transportation applications (hybrid electric vehicles and other custom batteries for autos, trucks, buses, etc.) and stationary or back-up power applications (telephone companies, corporate data centers, cell sites, etc.) will provide market opportunities for our technology and products going forward. For these market opportunities, we will seek to enter into joint venture arrangements with established major battery companies to capitalize on our technology and products for these target market segments.

TARGET MARKETS

We plan to leverage our expertise in high power and large battery assemblies to commercialize advanced lithium batteries as a new power source in the national security systems, transportation and stationary power markets with a particular focus on the U.S. and European geographic market segments.

National Security applications demand high power output, broad operating temperatures, low weight, small size, rapid charging and thousands of recharge cycles. Performance is more important than price in the National Security market and the market need is growing quickly.

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Transportation applications reflect a growing need for long-life, durable high power storage for HEV and fuel cells. While this is a small market today, we believe it has mass market potential for the future. Military and heavy duty vehicle OEMs have been early adopters of new technology and are among the first customers for large-format lithium-ion batteries.

Stationary Power applications require high-reliability power for telecommunications, computers and other mission critical applications. We believe this presents a very large potential market. Growing dependence on electrical power worldwide drives the demand for high quality and readily available back-up power.

NATIONAL SECURITY MARKET

The US and its allies are changing the military landscape. The trend is from infantry divisions to many small, rapidly deployed units using extensive power-intensive electronics. There are numerous requirements for advanced power sources in a variety of applications:

Unmanned reconnaissance and combat support systems airborne, ground, underwater

Remotely controlled surveillance, detection and demolition robots

Satellite, surveillance and communications systems

Manned combat support vehicles land-based and underwater

Land Warrior (night goggles, communications equipment, Global Positioning Satellites (known as GPS) computers, handheld spotlights, etc.)

Silent Watch (stealth operations)

We believe that:

Large-format Lithium-ion batteries offer key advantages over competing technologies for various military applications

There are a variety of existing applications for our battery products, particularly retrofitting into existing cavities/packs:

US Military and NATO Allies seek to replace primary batteries with rechargeable batteries US Army Communications & Electronics Command (known as CECOM) initiative

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US Military seeks lighter weight automotive batteries for military vehicles to reduce air transport weight

There are developing applications and trends which demonstrate a growing need for advanced batteries in a number of areas:

US Department of Defense Future Combat Systems Program is defining numerous unmanned vehicle applications that will require advanced rechargeable batteries

US Army Tank & Armaments Command (known as TACOM) is developing HEV platforms to reduce fuel consumption (supply line problem)

TACOM is developing electric vehicle platforms to reduce emissions on military bases

Unmanned Aerial Vehicles need advanced batteries for surveillance and ordinance delivery

Military Robotics need advanced batteries

Navy submarines and All Electric Ship Applications need advanced batteries

Unmanned underwater vehicles need pressure tolerant (flat) cells.

TRANSPORTATION MARKET

A fundamental shift is underway to add increasing quantities of electronics to conventional vehicles. Hybrid Electric Vehicles are gaining increasing market acceptance. Existing nickel-metal hydride batteries are heavy, expensive, and intolerant of temperature variations. Present niche OEM markets include heavy-duty vehicles, buses, trucks and military vehicles as early adopters of new technology. We believe our GAIA batteries can meet the required specifications.

The market today for All-Electric Vehicles (known as EVs) is limited to small special purpose vehicles. We believe that our GAIA batteries are well-suited for these applications.

We believe that:

Large-format lithium-ion batteries offer key advantages over competing technologies for various transportation applications

There are existing niche market applications for our products, including:

Opportunities for 12-V Starting-Lighting-Ignition and Auxiliary Batteries

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HEV and EV experimental trucks and buses

Racing cars and motorcycles

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Marine applications

Developing applications and trends will increase the demand for advanced battery systems for the following in the future:

New higher voltage power net systems in automobiles

Heavy duty HEVs for buses, taxis and truck fleets (shorter development time and ideal proving platform for batteries)

Mid-size pickup trucks, electric bikes (for military or law enforcement usage), highway capable EVs

HEVs for automotive OEMs

Over the longer term, lithium-ion batteries will work in tandem with fuel cells

Our GAIA batteries are well-suited for the developing transportation market applications

STATIONARY POWER MARKET

A growing dependence on digital devices for mission critical applications drives the demand for back-up power and uninterrupted high quality power. This is a very cost-sensitive market and the life cycle value of lithium ion batteries over lead acid batteries is a key market advantage.

Uninterruptible Power Systems (known as UPS) are public utility back-up systems that do not operate continuously or feed back into the power grid. They generally consist of batteries or banks of batteries that provide power while the grid supply is inoperative and until it is restored. The demand for commercial and industrial UPS applications has tracked the increasing dependence of business on computerized systems. UPS users are seeking more reliable, robust, longer-life and lower maintenance batteries. Communications and data processing infrastructure systems are a specific subset of UPS that need uninterruptible quality power for assured continuity of operations. Applications include telephone landline Points of Presence (known as POPs), cell sites, cable television, internet service sites, data centers, and remote locations.

Distributed power systems generally consist of small, continuously operating, self-contained power generating units. These systems often employ high power batteries or capacitors for power control and conditioning functions, and a low power battery for energy storage. These units are privately owned by companies other than public utility companies such as telecommunications companies, industrial firms, hospitals, universities, broadcast networks and data centers and government installations. These power users have determined that they cannot always rely on the power grid to meet their power reliability and quality needs. The energy storage component of distributed power systems currently consists of older battery technology, and there is a demand for advanced, low maintenance, long-life high performance batteries.

In the stationary power market we believe that GAIA products offer higher power and longer life at a lower life cycle cost than current solutions, particularly lead acid batteries. Specifically, we believe that GAIA products offer broader operating temperatures, increased flexibility and lower maintenance and operating costs to telecommunications, cellular, cable television, Internet, and remote users.

We believe that:

Large-format lithium-ion batteries offer key advantages over competing technologies

There are existing applications where advanced batteries are needed:

Telecom: lower cost of cooling/heating the facilities; less maintenance; remote monitoring.

Solar: less maintenance, longer battery life.

UPS: space/weight savings, higher reliability, less maintenance, longer life and lower life cycle cost.

The developing applications and trends reflect increasing market opportunities for advanced batteries in the future:

New wireless network installations with lower cost infrastructure

Heightened awareness of need for backup systems following 2003 blackout in Northeastern US

Wind and solar power

PATHS TO MARKETS

Our intended paths to the various markets are to:

Obtain funded development contracts

Sell directly to military sub-contractors and niche customers

Sell to OEMs in the national security, transportation and stationary power markets

Design to customer specifications

Prototype and advanced product development (customer funds development and pilot production)

Produce small-volume requirements in-house

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Establish relationships with major battery manufacturers for large-scale production to meet mass market requirements, including technology licensing, joint ventures and partnerships

Sell products manufactured by joint ventures, partnerships and technology licensees

MILESTONES

In 2002, we delivered a 42-volt automotive battery prototype to BMW under the auspices of the Astor Consortium of seven European auto manufacturers, and in January 2004 delivered a hybrid electric vehicle module to the Astor Program. Over the past twelve months, we have shipped our large-format GAIA batteries and cells to a variety of customers under firm purchase orders, including:

A defense systems integrator for a classified UK military application

An electric bike OEM for a classified military application

A defense contractor for an Unmanned Aerial Vehicle application

A nuclear power industry OEM for a portable radiation detector

A phase II feasibility study from a leading submarine builder for a NATO Navy submarine application

A leading aerospace contractor for missile and other application evaluations

High-end European car manufacturers, including one of the world's leading sports car manufacturers

A heavy-duty vehicle OEM

The US Advanced Battery Consortium

Penn State University for an HEV application in a future truck competition entry which finished in second place

A commercial high altitude airship developer

A commercial security robot manufacturer

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A development contract for a submarine battery

Various SBIRs and contracts for materials evaluation and cell development

TECHNOLOGY OVERVIEW

Our rechargeable lithium battery technology base dates back to 1983. Since 1983, LTC has evaluated a wide array of lithium-ion cell designs covering a broad spectrum of applications. These evaluations have involved coating a wide variety of electrode materials, including those for lithium-ion liquid, lithium metal and lithium polymer chemistries, onto a variety of substrates, including solid foils, expanded metal grids and fiber webs. We have engaged in high-yield pilot line operations since 1996. Over the last eight years, certain manufacturing steps were adapted to our pilot line to accommodate these new techniques. These factors have allowed us the flexibility to match the battery design to the application. In recent years, we have extended our experience to the assembly of full batteries complete with battery management systems. In 1997, we began focusing on unique large footprint flat cells and large battery assemblies comprised of stacked cells and control circuitry.

GAIA began as a venture business based upon proprietary, novel manufacturing technology in 1996. GAIA has developed technology to continuously extrude lithium-ion polymer electrodes and the separator that contains the final electrolyte solution. This simplifies the manufacturing process by eliminating process steps such as drying coatings, extraction of plasticizer, and cell activation with electrolyte solution. The result is a liquid-free process that operates at lower cost and with minimal emission of organic solvents. GAIA Europe unit's plant is a modern facility with state-of-the-art automated equipment for extrusion/coating, lamination, winding, packaging and formation/testing.

In 2000, after four years of development, the GAIA team of experienced industrial managers, battery development engineers and production engineers, succeeded in advancing our GAIA Europe unit's lithium polymer technology to the pilot production stage. By the end of 2001, the GAIA Europe unit had developed two new types of cylindrical cells which will be used in HEV batteries and in national security applications.

Our lithium-ion and lithium polymer batteries encompass both thin, flat prismatic cells and large wound cylindrical cells. Our proprietary technology includes critical composition, processing, and packaging aspects of the battery. We also have experience in cell and battery manufacturing processes. Our coating, lamination and extrusion know-how enables us to achieve uniformity and consistency through a range of application techniques. We have the ability to handle large footprint cells and assemble cells into large battery stacks. In addition, we are familiar with many coating, lamination, extrusion, assembly, packaging, and formation equipment suites, which can be scaled up for large volume operations.

Currently our electrodes are extruded and laminated on to foil current collectors. Work is ongoing to streamline the operation to an extrusion coating directly on to foil. The resulting components are then wound and/or laminated together into thin, lightweight, flexible form factor polymer cells and packaged in either flat or cylindrical cell geometries. Batteries for the military, consumer, transportation, and industrial markets require different electro-chemical systems that we believe can be easily accommodated by our extrusion process. We also believe that our extrusion process can be applied to producing supercapacitors and electrodes for fuel cells.

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The technological advantages of lithium-ion over other chemistries are as follows:

Versus lead acid:

Lithium-ion is 1/3 the weight and 1/2 the volume

Better suited to pulse power generated by regenerative braking (HEVs and EVs)

Wider range of temperature tolerance

No deterioration of capacity when kept at a low state of charge

Versus nickel-metal hydride:

Lithium-ion is 1/2 the weight and 2/3 the volume

Wider range of temperature tolerance

Better suited to pulse power generated by regenerative braking (HEVs and EVs)

Less heat generation

Less complex batteries and therefore less prone to failure (lithium-ion operates at 3.6 volt versus 1.2 volt for nickel-metal hydride and therefore requires one-third the number of cells in order to attain the same voltage)

We believe that our GAIA cells and batteries have the following differentiators:

Largest and highest power commercial cells in the Western hemisphere.

Common cell designs to allow for customizing sizes, shapes and performance demands

Good operating temperature range from -40°C to +55°C

Proprietary chemistry and technical design for superior performance, safety and long operating life

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Low internal resistance allows for high power output and rapid charging with limited heat generation

Many thousands of charge/discharge cycles (between 30 and 80 % depth of discharge)

Proprietary manufacturing process

Low cost extrusion and assembly allows scalability and opportunity for high gross margins

Environmentally friendly (no solvents)

Our GAIA Europe plant employs a proprietary extrusion-based process (versus solvent-based processes used by competitors) in the manufacturing of our rechargeable large-format lithium-ion batteries. This environmentally-friendly proprietary process reduces the costs of raw materials, labor, energy and capital in comparison to solvent-based production processes.

COMPETITION

Competition in the battery industry is, and is expected to remain, intense. The lithium ion battery market is rapidly expanding and maturing. Lithium ion batteries are becoming more widely known and accepted resulting in accelerating market growth. We are benefiting from this expansion of new product applications by being able to be involved in the initial design of these applications rather than competing directly with low cost mass-market 18650 cells from Asia. This market expansion is also driving material suppliers to develop higher energy, lower cost and safer products. Increasing volumes of production are being shifted to China and this continues to put downward pressure on pricing. Some of our Asian competitors have introduced high power cells and large formats which emphasizes our need to ramp up quickly and provide custom solutions to capture market share. Our sales and marketing efforts are focused on markets where we can obtain a premium by being a domestic supplier, providing a better product and better service and co-developing custom solutions for new emerging high tech products. Our business plan does not incorporate mass commercial markets in the immediate future from our existing facilities. Entry into these large volume markets is projected though the licensing of our technology and collaborative efforts with third parties.

In our target markets of transportation and stationary power systems, the principal competitive technologies are currently lead acid and nickel-metal hydride. We believe that lithium-ion and lithium polymer batteries will enter specific niches of this segment of the rechargeable battery market in the near future. We believe that lithium-ion and lithium polymer batteries will compete in the HEV market which requires constant deep cycle charge and discharge, high rate regenerative braking and operation over a wide range of temperatures. We also believe that there will be certain limited niches in the stationary power market where new products will be able to compete based upon superior performance and energy density.

The rechargeable battery industry consists of major domestic and international companies, many of which have financial, technical, marketing, sales, manufacturing, distribution and other resources substantially greater than ours. We compete against companies producing lithium batteries as well as other primary and rechargeable battery technologies. Our primary competitors in the national security market are: Saft, Eagle-Pitcher, The Yardney Technical Products, Inc. and Ultralife Batteries, Inc. Our primary competitors in the Transportation Market are: Johnson Controls, Inc., Exide Technologies, Saft, Panasonic EV Energy Co., Ltd., The Sanyo Group of Companies, Delphi Automotive Systems, and Trojan Battery Company. Our primary competitors in the stationary power market are EnerSys, Inc., C&D Technologies, Inc. and Avestor.

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DEVELOPMENT CONTRACTS AND RESEARCH GRANTS

We had revenue from development contracts and prototype sales of \$766,000 and \$229,000 for the years ended December 31, 2004 and 2003, respectively. In addition, we received a total of \$435,000 and \$885,000 from foreign government subsidies (research grants) for the years ended December 31, 2004 and 2003, respectively. The GAIA Europe unit had one technology research grant in 2005. The end-date for this grant was April 30, 2005.

INTELLECTUAL PROPERTY

PATENTS AND PROPRIETARY INFORMATION

As of May 11, 2005, 29 patents have been issued to LTC and LTC has four patent applications pending in the U.S. LTC also pursues foreign patent protection in countries of interest. LTC has been granted three foreign patents and has seven patent applications pending in foreign countries. DILO Trading holds patents for which the intellectual property was developed by DILO Trading in collaboration with GAIA. DILO Trading has granted GAIA the right to use these patents. As of May 6, 2005, five patents have been issued to DILO Trading and DILO Trading has 40 patent applications pending in Europe. Although we believe that the pending patent applications will be granted, no assurance to this effect can be given.

We also have proprietary knowledge that is in the patent disclosure stage or that we protect as trade secrets. Our early patents relate to materials and construction for lightweight solid-state rechargeable batteries. Our later patents and applications relate to improvements to the technology contained in the first patents or to other key aspects of rechargeable lithium battery technology. The earliest any of our patents expires is 2005. There is no current or, to our knowledge, threatened litigation regarding our patents.

We also rely on unpatented proprietary information to maintain and develop our commercial position. Although we seek to protect our proprietary information, there can be no assurance that others will not either develop independently the same or similar information or obtain access to our proprietary information. In addition, there can be no assurance that we would prevail if we were to challenge intellectual property rights claimed by third parties that we believed infringed upon our rights or that third parties will not successfully assert infringement claims against us in the future.

Our employees are required to enter into agreements providing for confidentiality and assignment of rights to inventions made by them while employed by us. There can be no assurance that these agreements will be enforceable by us.

LICENSING RELATIONSHIPS AND RELATED MATTERS

We have entered into a cross-license with Valence Technology Corporation with respect to rights relating to U.S. Patent No. 4,997,732 held by Valence (Battery in a Vacuum Sealed Enveloping Material and Process for Making the Same) and rights relating to U.S. Patent No. 5,057,385 held by us (Battery Packaging Construction) and granted certain license/distributorship option rights pursuant to a Japanese consortium

technology development agreement entered into in 1996.

In connection with terminating LTC s previously proposed merger with Iliion