

LIQUIDMETAL TECHNOLOGIES INC  
Form 10-K/A  
July 20, 2006

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

**FORM 10-K/A**

Amendment No. 3

**ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE  
ACT OF 1934**

For the fiscal year ended December 31, 2004

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

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File No. 000-31332

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**LIQUIDMETAL TECHNOLOGIES, INC.**

(Exact name of Registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of  
incorporation or  
organization)

**33-0264467**  
(I.R.S. Employer  
Identification No.)

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25800 Commercentre Drive, Suite 100  
Lake Forest, California 92630

(address of principal executive office, zip code)

Registrant's telephone number, including area code: (949) 206-8000

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

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

**Title of each Class**  
Common Stock, \$.001 par value

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 at least the past 90 days. Yes  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 Form 10-K or any amendment to this Form 10-K

Indicate by check mark whether the registrant is an accelerated filer (as defined in Exchange Act Rule 12b-2). Yes  No

The aggregate market value of the registrant's Common Stock held by non-affiliates of the registrant as of June 30, 2004 was approximately \$34,793,699. For purposes of this calculation only, (i) shares of Common Stock are deemed to have a market value of \$1.42 per share, the closing price of the Common Stock as reported on the Nasdaq National Market on June 30, 2004, and (ii) each of the executive officers, directors and persons holding more than 10% of the outstanding Common Stock as of June 30, 2004 is deemed to be an affiliate.

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**LIQUIDMETAL TECHNOLOGIES, INC.**

**Amendment No. 3 to the Annual Report on Form 10-K**

**For the Fiscal Year ended December 31, 2004**

**EXPLANATORY NOTE**

We are filing this Amendment No. 3 to our Annual Report on Form 10-K for the fiscal year ended December 31, 2004, as filed with the U.S. Securities and Exchange Commission (SEC) on March 30, 2005, as amended on May 10, 2005 and on March 16, 2006, to restate our financial statements to properly account for the conversion feature of the senior convertible notes. Additionally, reclassifications to our financial statements have been made for consistent presentation of our warrant liabilities, settlement payable, and change in value of warrant liabilities.

Other than the changes referred to above, all other information included in the above described Form 10-K, as amended, remains unchanged. This amendment does not reflect events occurring after the filing of such Form 10-K, as amended, and does not modify or update the disclosures therein in any way other than as required to reflect the amendment as described above and set forth below.

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## **PART I**

### **Forward-Looking Statements**

This annual report on Form 10-K of Liquidmetal Technologies, Inc. contains forward-looking statements that may state our management's current expectations, estimates, forecasts, and projections about the company and its business. Any statement in this report that is not a statement of historical fact is a forward-looking statement, and in some cases, words such as believe, estimate, project, expect, intend, may, anticipate, plans, seeks, and similar expressions identify forward-looking statements. Forward-looking statements involve risks and uncertainties that could cause actual outcomes and results to differ materially from the anticipated outcomes or result. These statements are not guarantees of future performance, and undue reliance should not be placed on these statements. It is important to note that Liquidmetal Technologies, Inc.'s actual results could differ materially from what is expressed in our forward-looking statements due to the risk factors described in the section of this report entitled "Factors Affecting Future Results," as well as the following risks and uncertainties:

- Our history of losses and uncertainty surrounding our ability to achieve profitability;
- Our limited history of manufacturing products from bulk amorphous alloys;
- Lengthy customer adoption cycles and unpredictable customer adoption practices;
- Our ability to identify, develop, and commercialize new product applications;
- Competition from other materials;
- Our ability to consummate strategic partnerships in the future;
- The potential for manufacturing problems or delays;
- Potential difficulties associated with protecting or expanding our intellectual property position; and
- Pending shareholder litigation against our company

Liquidmetal Technologies, Inc. undertakes no obligation to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

### **Item 1. Business**

#### **Overview**

We are a materials technology company that develops and commercializes products made from amorphous alloys. Our Liquidmetal® family of alloys consists of a variety of proprietary coatings, powders, bulk alloys, and composites that utilize the advantages offered by amorphous alloy technology. We develop, manufacture, and sell products and components from bulk amorphous alloys to customers in various industries, and we also partner with third-party licensees and distributors to develop and commercialize bulk Liquidmetal alloy products. We believe that our proprietary bulk alloys are the only commercially viable bulk amorphous alloys currently available in the marketplace. In addition to our bulk alloys, we market and sell a line of proprietary amorphous alloy-based industrial coatings under the Liquidmetal® Armacor™ Coatings brand.

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Amorphous alloys are unique materials that are distinguished by their ability to retain a random atomic structure when they solidify, in contrast to the crystalline atomic structure that forms in other metals and alloys when they solidify. Liquidmetal alloys possess a combination of performance, processing, and potential cost advantages that we believe will make them preferable to other materials in a variety of applications. The amorphous atomic structure of our alloys enables them to overcome certain performance limitations caused by inherent weaknesses in crystalline atomic structures, thus facilitating performance and processing characteristics superior in many ways to those of their crystalline counterparts. For example, our zirconium-titanium Liquidmetal alloys are approximately 250% stronger than commonly used titanium alloys such as Ti-6Al-4V, but they also have some of the beneficial processing characteristics more commonly associated with plastics. We believe these advantages could result in Liquidmetal alloys supplanting high-performance alloys, such as titanium and stainless steel, and other incumbent materials in a wide variety of applications. Moreover, we believe these advantages could enable the introduction of entirely new products and applications that are not possible or commercially viable with other materials.

### **General Corporate Information**

We were originally incorporated in California in 1987, and we reincorporated in Delaware in May 2003. Our principal executive offices are located at 25800 Commercentre Dr., Suite 100, Lake Forest, California 92630. Our telephone number at that address is (949) 206-8000. Previously, our principal executive offices were located in Tampa, Florida. In December 2003, we consolidated all corporate functions into our Lake Forest facility, which had previously served as our principal research and development office. Our Internet website address is [www.liquidmetal.com](http://www.liquidmetal.com) and all of our filings with the Securities and Exchange Commission are available free of charge on our website.

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## **Our Technology**

The performance, processing, and potential cost advantages of Liquidmetal alloys are a function of their unique atomic structure and their proprietary material composition.

### *Unique Atomic Structure*

The atomic structure of Liquidmetal alloys is the fundamental feature that differentiates them from other alloys and metals. In the molten state, the atomic particles of all alloys and metals have an amorphous atomic structure, which means that the atomic particles appear in a completely random structure with no discernible patterns. However, when non-amorphous alloys and metals are cooled to a solid state, their atoms bond together in a repeating pattern of regular and predictable shapes, or crystalline grains. This process is analogous to the way ice forms when water freezes and crystallizes. In non-amorphous metals and alloys, the individual crystalline grains contain naturally occurring structural defects that limit the potential strength and performance characteristics of the material. These defects, known as dislocations, consist of discontinuities or inconsistencies in the patterned atomic structure of each grain. Unlike other alloys and metals, bulk Liquidmetal alloys can retain their amorphous atomic structure throughout the solidification process and therefore do not develop crystalline grains and the associated dislocations. Consequently, bulk Liquidmetal alloys exhibit superior strength and other superior performance characteristics compared to their crystalline counterparts. Our Liquidmetal alloy coatings, in contrast to our bulk alloys, have a crystalline atomic structure when initially applied, but their atomic structure becomes amorphous as the coatings rub against surfaces under force, thus improving their performance over time.

Prior to 1993, commercially viable amorphous alloys could be created only in thin forms, such as coatings, films, or ribbons. However, in 1993, researchers at the California Institute of Technology (Caltech) developed the first commercially viable amorphous alloy in a bulk form. Today, bulk Liquidmetal alloys can be formed into objects that are up to one inch thick, and we are not aware of any other commercially available amorphous alloys that can achieve this thickness. We have the exclusive right to commercialize bulk amorphous alloy technology through a license agreement with Caltech and other patents that we own.

### *Proprietary Material Composition*

The constituent elements and percentage composition of Liquidmetal alloys are critical to their ability to solidify into an amorphous atomic structure. We have several different alloy compositions that have different constituent elements in varying percentages. These compositions are protected by various patents that we own or exclusively license from third parties, including Caltech. The raw materials that we use in Liquidmetal alloys are readily available and can be purchased from multiple suppliers.

### **Advantages of Liquidmetal Alloys**

Liquidmetal alloys possess a unique combination of performance, processing and cost advantages that we believe makes them superior in many ways to other commercially available materials for a variety of existing and potential future product applications.

### *Performance Advantages*

Our bulk Liquidmetal alloys provide several distinct performance advantages over other materials, and we believe that these advantages make the alloys desirable in applications that require high yield strength, strength-to-weight ratio, elasticity and hardness.





The high yield strength of bulk Liquidmetal alloys means that a high amount of stress must be exerted to create permanent deformation. However, because the yield strength is so high, the yield strength of many of our bulk Liquidmetal alloy compositions is very near their ultimate strength, which is the measure of stress at which total breakage occurs. Therefore, very little additional stress may be required to break an object made of bulk Liquidmetal alloys once the yield strength is exceeded. Although we believe that the yield strength of many of our bulk alloys exceeds the ultimate strength of most other commonly used alloys and metals, our bulk alloys may not be suitable for certain applications, such as pressurized tanks, in which the ability of the material to yield significantly before it breaks is more important than its strength advantage. Additionally, although our bulk alloys show a high resistance to crack initiation because of their very high strength and hardness, certain of our bulk alloys are sensitive to crack propagation under certain long-term, cyclical loading conditions. Crack propagation is the tendency of a crack to grow after it forms. We are currently developing new alloy compositions that have improved material properties to overcome these limitations.

### ***Processing Advantages***

The processing of a material generally refers to how a material is shaped, formed, or combined with other materials to create a finished product. Bulk Liquidmetal alloys possess processing characteristics that we believe make them preferable to other materials in a wide variety of applications. In particular, our alloys are amenable to processing options that are similar in many respects to those associated with plastics. For example, we believe that bulk Liquidmetal alloys have superior net-shape casting capabilities as compared to high-strength crystalline metals and alloys. Net-shape casting is a type of casting that permits the creation of near-to-net shaped products that do not require much costly post-cast processing or machining. Additionally, unlike most metals and alloys, our bulk Liquidmetal alloys are capable of being thermoplastically molded in bulk form. Thermoplastic molding consists of heating a solid piece of material until it is transformed into a moldable state, although at temperatures much lower than the melting temperature, and then introducing it into a mold to form near-to-net shaped products. Accordingly, thermoplastic molding can be beneficial and economical for net shape fabrication of high-strength products.

Bulk Liquidmetal alloys also permit the creation of composite materials that cannot be created with most non-amorphous metals and alloys. A composite is a material that is made from two or more different types of materials. In general, the ability to create composites is beneficial because constituent materials can be combined with one another to optimize the composite's performance characteristics for different applications. In other metals and alloys, the high temperatures required for processing could damage some of the composite's constituent materials and therefore limit their utility. However, the relatively low melting temperatures of bulk Liquidmetal alloys allow mild processing conditions that eliminate or limit damage to the constituent materials when creating composites. In addition to composites, we believe that the processing advantages of Liquidmetal alloys will ultimately allow for a variety of other finished forms, including a coating or a spray. Most high-strength metals and alloys cannot be processed into these forms.

Notwithstanding the foregoing advantages, our bulk Liquidmetal alloys possess certain limitations relative to processing. The beneficial processing features of our bulk alloys are made possible in part by the alloys' relatively low melting temperatures. Although a lower melting temperature is a beneficial characteristic for processing purposes, it renders certain bulk alloy compositions unsuitable for certain high-temperature applications, such as jet engine exhaust components. Additionally, the current one-inch thickness limitation of our zirconium-titanium bulk alloy renders our alloys currently unsuitable for use as structural materials in large-scale applications, such as load-bearing beams in building construction. We are currently engaged in research and development with the goal of developing processing technology and new alloy compositions that will enable our bulk alloys to be formed into thicker objects.

### ***Cost Advantages***

Liquidmetal alloys have the potential to provide cost advantages over other high-strength metals and alloys in certain applications. Because bulk Liquidmetal alloy has processing characteristics similar in some respects to plastics, which lends itself to near-to-net shape casting and molding, Liquidmetal alloys can in many cases be shaped efficiently into intricate, engineered products. This capability can eliminate or reduce certain post-casting steps, such as machining and re-forming, and therefore has the potential to significantly reduce processing costs associated with making parts in high volume.

Additionally, because the near-to-net shape processing of Liquidmetal alloys reduces the need for capital-intensive heavy industrial equipment such as that found in foundry and forging operations, Liquidmetal alloys can be processed with a smaller machinery footprint, which allows for more efficient development of facilities and reduced permitting and regulatory costs. We believe that these advantages may allow our customers an opportunity to maintain or improve the performance of their products without a commensurate increase in cost.



## Our Strategy

As a result of the experience and knowledge that we have gained through our activities to date, and recognizing that developing and commercializing a revolutionary new technology is an evolutionary process, we are continually modifying our business strategy to enable us to better capitalize on our evolving core strengths and more effectively pursue revenue growth and profitability. The key elements of our strategy include:

- *Identifying and Developing New Applications for Our Liquidmetal Alloy Technology.* We intend to continue to identify and develop new applications that will benefit from the performance, processing, and cost advantages of Liquidmetal alloys.
- *Focusing Our Marketing and Internal Manufacturing Activities on Select Products with Expected Higher Gross-Margins.* We intend to focus our marketing and internal manufacturing activities on select products with anticipated higher gross margins. This strategy is designed to align our product development initiatives with our manufacturing processes and manufacturing cost structure, and to reduce our exposure to more commodity-type product applications that are prone to unpredictable demand and fluctuating pricing. Our focus is primarily on higher-margin products that possess design features that take optimal advantage of our existing and developing manufacturing technology and that command a price commensurate with the performance advantages of our alloys. In addition to our focus on products with higher gross margins, we will continue to engage in prototype manufacturing, both for internally manufactured products and for products that will ultimately be licensed to or manufactured by third parties.
- *Further Developing Our Manufacturing Processes, Capabilities, and Efficiencies for Bulk Liquidmetal Alloys.* We intend to improve and enhance our internal manufacturing processes, capabilities, and efficiencies in order to maintain quality control over products made from bulk Liquidmetal alloys, to focus on improvements to the processing of our alloys, and to protect our intellectual property. As our alloys become more pervasive, however, we expect to enter into additional strategic relationships that would involve the licensing of Liquidmetal technology to third parties for certain market segments.
- *Pursuing Strategic Partnerships In Order to More Rapidly Develop and Commercialize Products.* We intend to actively pursue and support strategic partnerships that will enable us to leverage the resources, strength, and technologies of other companies in order to more rapidly develop and commercialize products. These partnerships may include licensing transactions in which we license full commercial rights to our technology in a specific application area, or they may include transactions of a more limited scope in which, for example, we outsource manufacturing activities or grant distribution rights. We believe that utilizing such a partnering strategy will enable us to reduce our working capital burden, better fund product development efforts, better understand customer adoption practices, leverage the technical and financial resources of our partners, and more effectively handle product design and process challenges. As this partnering strategy evolves, a growing portion of our revenue mix may be comprised of revenue from the provision of product development services, technical support, and engineering services, as well as revenues from royalties on the sale of Liquidmetal alloy products by our partners.
- *Advancing the Liquidmetal® Brand.* We believe that building our corporate brand will foster continued adoption of our technology. Our goal is to position Liquidmetal alloys as a superior substitute for materials currently used in a variety of products across a range of industries. Furthermore, we seek to establish Liquidmetal alloys as an enabling technology that will facilitate the creation of a broad range of commercially viable new products. To enhance industry awareness of our company and increase demand for Liquidmetal alloys, we are reviewing various brand development strategies that could include collaborative advertising and promotional campaigns with select customers, industry conference and trade show appearances, public relations, and other means.



## **Initial Applications**

We have focused our commercialization efforts for Liquidmetal alloys on five identified product areas. We believe that these areas are consistent with our strategy in terms of market size, building brand recognition, and providing an opportunity to develop and refine our processing capabilities. Although we believe that strategic partnering transactions could create valuable opportunities beyond the parameters of these target markets, we anticipate continuing to pursue these markets both internally and in conjunction with partners.

### *Casings for Electronic Products*

We produce casing components for electronic devices using our bulk Liquidmetal alloys and believe that our alloys offer enhanced performance and design benefits for these casings in certain applications. Bulk Liquidmetal alloys can be used for various structural components of a cellular phone, including the shield, faceplate, hinge, hinge housings, back plate, side plates, brackets, and the cover on the phones. We initially targeted the electronic casings market because of its potential for high product volumes and branding opportunities; however, unpredictable customer adoption practices, short product model lives, processing limitations, and intense pricing pressures make it very challenging to compete in this high-volume market. Accordingly, we are currently limiting our focus in this market to higher-margin applications that have the potential to benefit from the unique performance characteristics of bulk Liquidmetal alloys. We continue to believe that the high strength-to-weight ratio and elastic limit of bulk Liquidmetal alloys enable the production of stronger and thinner electronic devices as compared to plastic, zinc, and magnesium, and we intend to focus on products that require these design and performance benefits.

Through our shipments to date, we have demonstrated that bulk Liquidmetal alloys can be used for structural components of cellular phones and other electronic devices. During 2003 and 2004, we shipped production quantities of cell phone components to Samsung Electronics Company and Vertu Limited, the luxury communication products subsidiary of Nokia, for inclusion in various cellular phone models.

### *Sporting Goods and Leisure Products*

We are developing a variety of applications for Liquidmetal alloys in the sporting goods and leisure products area.

In the sporting goods industry, we believe that the high strength, hardness, and elasticity of our bulk alloys have the potential to enhance performance in a variety of products, and we further believe that many sporting goods products are conducive to our internal manufacturing strategy of focusing on high-margin products that meet our design criteria. Substantial opportunities also exist for our amorphous alloy coatings, powders and composites. In 2003, Rawlings Sporting Goods Company launched a new line of baseball and softball bats that utilize a Liquidmetal alloy coating, and HEAD NV Sport launched a new line of HEAD® Liquidmetal® tennis racquets that incorporate Liquidmetal alloy in composite form in their racquet design. In 2005, we will also be launching goods that utilize Liquidmetal alloy including skis, lacrosse sticks and other sporting goods. We are continuing to work with golf companies for the development of golf club components made from bulk Liquidmetal alloys. Other potential applications for our alloys in this industry include eyewear, fishing, hunting, diving, bicycle, skate and winter sport products.

In the leisure products category, we believe that bulk Liquidmetal alloys can be used to efficiently produce intricately engineered designs with high-quality finishes, such as premium watchcases, and we further believe that Liquidmetal alloy technology can be used to make high-quality, high-strength jewelry from precious metals. We have successfully produced prototype rings made from an amorphous Liquidmetal platinum alloy that is harder (and hence more scratch resistant) than conventional platinum jewelry. In 2003, a special-edition concept chronograph timepiece featuring our titanium-zirconium Liquidmetal alloy was showcased by luxury watchmaker TAG Heuer at the renowned Basel Watch and Jewelry Show in Basel, Switzerland. In 2004, we have begun prototyping various watch pieces with TAG Heuer and we expect to be ready to move into production in 2005.

In order to accelerate the commercialization of Liquidmetal alloys in the jewelry and high-end luxury products market, in June 2003 we entered into a strategic licensing transaction with LLPG, Inc., a corporation headed by a former director of our company with ties to the Swiss jewelry and luxury goods market. Under this agreement, LLPG was granted a 10-year exclusive worldwide license to manufacture and sell a variety of luxury goods, including watchcases and precious-metal jewelry, utilizing Liquidmetal alloys. Under the agreement, we are entitled to royalties over the life of the contract on all products produced and sold by LLPG.



### *Medical Devices*

We are engaged in product development efforts relating to various medical devices that could be made from Liquidmetal alloys. We believe that the unique properties of bulk Liquidmetal alloys provide a combination of performance and cost benefits that could make them a desirable replacement to incumbent materials, such as stainless steel and titanium, currently used in various medical device applications. Our greatest emphasis in 2003 and ongoing in 2004 has been on surgical instrument applications for Liquidmetal alloys. These include, but are not limited to, specialized blades, orthopedic instruments utilized for implant surgery procedures, ultrasonic devices, dental devices, external fixation devices and general surgery devices. The potential value offered by our alloys is high performance in some cases and cost reduction in others, the latter stemming from the ability of Liquidmetal alloys to be net shape cast into components, thus reducing costs of secondary processing. The status of most components in the prototyping phase is subject to non-disclosure agreements with our customers.

We believe that our future success in the medical device market will be driven largely by strategically aligning ourselves with well-established companies that are uniquely positioned to facilitate the introduction of Liquidmetal alloys into this market, especially as it relates to the unique processing challenges and stringent material qualification requirements that are prevalent in this industry. We also believe that our prospects for success in this market will be enhanced through our focus on optimizing existing alloy compositions and developing new alloy compositions to satisfy the industry's rigorous material qualification standards. For example, we have been working with DePuy Orthopaedics, Inc., a Johnson & Johnson company, to develop an alloy for orthopedic implants and instruments in the knee replacement device market. Our agreement with DePuy gives them the exclusive worldwide right and license to market and sell knee replacement devices that incorporate Liquidmetal alloys. We are also in the early stages of working with other orthopedic companies to identify surgical instrument or device applications that would benefit from utilizing Liquidmetal alloys.

### *Industrial Coatings and Powders*

We continue to market and sell amorphous alloy industrial coatings and powders under the Liquidmetal® Armacor™ Coatings brand name. Liquidmetal alloy coatings are used primarily as a protective coating for industrial machinery and equipment. Since the inception of this business in the late 1980s, our proprietary coatings have demonstrated a high degree of hardness and low coefficient of friction which, when combined with their strong adhesion properties, reduce the wear and consequent failure of the machinery and equipment on which they are used. In contrast to our bulk alloys, we sell Liquidmetal coatings primarily in the form of a wire or powder feedstock that is melted and applied to machinery or equipment through welding or thermal spray processes.

Our Liquidmetal coatings are widely used in the oil drilling industry as a protective coating on drill pipe and casings, and we estimate that our coatings represent a dominant share of annual worldwide sales of hard band coatings for new oil drill pipe. Drilling often places tremendous stress on pipes and casings, especially whenever the drill changes direction. Both the drill pipe and casing experience excessive wear, which leads to higher replacement costs and greater failure rates. Liquidmetal coatings are used to provide a protective coating, or hard band, around the outside of the drill pipe and the inside of casings to reduce wear and failure rates and accordingly reduce operating costs. Our principal coatings customers currently include Grant Prideco, Inc., and TAFE, Inc. among other distributors and applicators.

Liquidmetal coatings have also been sold into the power generation industry specifically for the purpose of coating boiler tubes in coal-burning power plants in order to extend the lives of these boilers. Boiler tubes are subject to high heat, erosion, and corrosion and often require costly replacement, both in terms of replacement parts and length of downtime for installation. Additionally, residue build-up in boiler tubes of coal burning power plants creates operating inefficiencies. Historic performance and testing of Liquidmetal coatings have demonstrated that our coatings extend the life of these boiler tubes meaningfully beyond their current average life depending on the specific environment. In addition, our coatings have demonstrated the ability to reduce build-up of residue on boiler tubes, helping to improve the efficiencies of the boilers. Historically, we have not concentrated sales efforts on the boiler tube market in a substantial way. However, given the size of the market and potential opportunities for our coatings, we have recently dedicated greater effort to this area by, among other initial steps, establishing a team of independent industrial sales representatives who are now including our coatings in their product portfolios. In addition to boiler tubes, these sales representatives are soliciting other OEM product applications for Liquidmetal coatings.

## **Defense Applications**

We are working with the U.S. Department of Defense, as well as a variety of defense-related research and development agencies and large defense contractors, to develop various defense-related applications for Liquidmetal alloys. For example, we are currently developing prototype kinetic energy penetrator rods for use in armor-piercing ammunition systems. Kinetic energy penetrators, or KEPs, are armor piercing munitions that are currently made primarily from depleted uranium or tungsten. Initial live-fire ballistic tests under the Liquidmetal KEP program have demonstrated that tungsten KEPs perform better whenever Liquidmetal alloy is combined with the tungsten to create a composite material. In August 2003, we signed a new \$3.0 million research and development contract with the U.S. Army for the development of KEPs. Our strategy is to orient the KEP program toward future systems such as the Joint Strike Fighter program and the Army's Future Combat System.

In addition to funding the Army KEP program in 2005, the Department of Defense Spending Bill for 2005 contains money to support the development of an advanced Liquidmetal alloy for use in aerospace applications. Lockheed Martin has joined Liquidmetal Technologies for this new program that will be managed by the U.S. Navy.

Liquidmetal is also working with NASA to conduct an experiment to use Liquidmetal alloys as the optical surface for spaced-based telescopes.

We also continue to work with a number of defense-related research and development agencies and large defense companies to identify additional military applications that may benefit from using Liquidmetal alloys. We believe that our alloys are well-positioned to capitalize on the trend toward lighter but stronger weapon systems in the U.S. military, and our strategy is to align ourselves with the largest and most significant players in this industry. Product development programs for defense applications are currently underway with several leading defense contractors, including Alliant Techsystems and Lockheed Martin.

## **Liquidmetal Golf**

From 1997 until September 2001, we engaged in the retail marketing and sale of golf clubs through a majority owned subsidiary, Liquidmetal Golf. The retail business of Liquidmetal Golf was discontinued in September 2001 and is now treated as a discontinued operation in our consolidated financial statements. Although the retail golf club business has been discontinued, Liquidmetal Golf will be engaged in the business of manufacturing and selling golf club components to golf original equipment manufacturers that will integrate these components into their own clubs and then sell them under their respective brand names. Liquidmetal Technologies owns 79% of the outstanding common stock in Liquidmetal Golf.

Our Liquidmetal Golf subsidiary has the exclusive right and license to utilize our Liquidmetal alloy technology for purposes of golf equipment applications. This right and license is set forth in an intercompany license agreement between Liquidmetal Technologies and Liquidmetal Golf. This license agreement provides that Liquidmetal Golf has a perpetual and exclusive license to use Liquidmetal alloy technology for the purpose of manufacturing, marketing, and selling golf club components and other products used in the sport of golf. In consideration of this license, Liquidmetal Golf has issued 4,500,000 shares of Liquidmetal Golf common stock to Liquidmetal Technologies.

## **Our Intellectual Property**

Our intellectual property consists of patents, trade secrets, know-how, and trademarks. Protection of our intellectual property is a strategic priority for our business, and we intend to vigorously protect our patents and other intellectual property. Our intellectual property portfolio includes 24 owned or licensed U.S. patents and numerous patent applications relating to the composition, processing, and application of our alloys, as well as various foreign counterpart patents and patent applications.

Our initial bulk amorphous alloy technology was developed by researchers at the California Institute of Technology ( Caltech ). We have purchased patent rights that provide us with the exclusive right to commercialize the amorphous alloy and other amorphous alloy technology acquired from Caltech through a license agreement ( Caltech License Agreement ) with Caltech. Under the Caltech license agreement, we have the exclusive worldwide right to make, use, and sell products from all of Caltech's inventions, proprietary information, know-how, and other technology relating to amorphous alloys existing as of September 1, 2001. We also have an exclusive worldwide license to nine issued patents and four patent applications held by Caltech relating to amorphous alloy technology, as well as all related foreign counterpart patents and patent applications. Of the patents currently issued to Caltech and licensed by us, the earliest expiration date is 2013 and the latest expiration date is 2021. Furthermore, the license agreement gives us the exclusive right to make, use, and sell products from substantially all amorphous alloy technology that is developed in Professor William Johnson's Caltech laboratory during the period September 1, 2001 through August 31, 2005.



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All fees and other amounts payable by us for these rights and licenses have been paid in full, and no further royalties, license fees, or other amounts will be payable in the future under this license agreement.

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Our rights under the license agreement are perpetual in duration. However, Caltech has the right to convert the license to a non-exclusive license if we fail to utilize the licensed technology for a period of 18 or more consecutive months, provided that Caltech must give us 180-days advance written notice of the conversion and we may cure the failure at any time during the 180-day notice period. If we cure the failure, then the license will not be converted into a non-exclusive license.

Under the license agreement, we have the right to sublicense any of the licensed technology or patents. The license agreement also provides that Caltech reserves the right to use the licensed technology and patents for noncommercial educational and research purposes. The patents and patent applications that we license from Caltech relate primarily to the composition and processing of our alloys. The currently issued U.S. patents covered by the license agreement will expire between 2013 and 2021.

Under the Caltech license agreement, the parties are obligated to provide reasonable cooperation to each other in connection with any threatened or actual infringement of the licensed technology by third parties. We have the right to commence an action for infringement of any of the licensed technology, and although Caltech is not obligated to bring suit or take action against infringers, Caltech is obligated to join in any such lawsuit upon our request.

In addition to the patents and patent applications that we license from Caltech, we are building a portfolio of our own patents to expand and enhance our technology position. These patents and patent applications primarily relate to various applications of our bulk amorphous alloys, the composition of our coatings and powders, and the processing of our alloys. The patents relating to our coatings expire on various dates between 2005 and 2017, and the patents relating to our bulk amorphous alloys expire on various dates between 2013 and 2021. Our policy is to seek patent protection for all technology, inventions, and improvements that are of commercial importance to the development of our business, except to the extent that we believe it is advisable to maintain such technology or invention as a trade secret.

In order to protect the confidentiality of our technology, including trade secrets, know-how, and other proprietary technical and business information, we require that all of our employees, consultants, advisors and collaborators enter into confidentiality agreements that prohibit the use or disclosure of information that is deemed confidential. The agreements also obligate our employees, consultants, advisors and collaborators to assign to us developments, discoveries and inventions made by such persons in connection with their work with us.

## Research and Development

We are engaged in ongoing research and development programs that are driven by the following key objectives:

- *Enhance Material Processing and Manufacturing Efficiencies.* We plan to continue research and development of processes and compositions that will decrease our cost of making products from Liquidmetal alloys.
- *Optimize Existing Alloys and Develop New Compositions.* We believe that the primary technology driver of our business will continue to be our proprietary alloy compositions. We plan to continue research and development on new alloy compositions to generate a broader class of amorphous alloys with a wider range of specialized performance characteristics. During 2003 and continuing into 2004, we have successfully expanded our portfolio of bulk amorphous alloys to include additional zirconium-titanium alloys, as well as alloys based on other metals, such as iron and platinum. Although these various compositions are at different stages of development and only a few are currently suitable for commercial use, we believe that a larger alloy portfolio will enable us to increase the attractiveness of our alloys as an alternative to incumbent materials and, in certain cases, drive down product costs. We also believe that our ability to optimize our existing alloy compositions will enable us to better tailor our alloys to our customers' specific application requirements.
- *Develop New Applications.* We will continue research and development of new applications for Liquidmetal alloys. We believe the range of potential applications will broaden by expanding the forms, compositions, and methods of processing of our alloys.

We conduct our research and development programs internally and also through strategic relationships that we enter into with third parties. Our internal research and development efforts are currently focused on product and process development. Our internal research and development efforts are conducted by a team of 21 scientists, engineers and researchers whom we either employ directly or engage as consultants. Included

among this team are Professor William Johnson, who discovered our initial bulk amorphous alloy at Caltech in 1993, and his graduate student at the time, Atakan Peker, who is employed as our Vice President of Technology. Professor Johnson was an employee of our company from October 2001 through December 2003 and then became a consultant to the Company. Professor Johnson continues to be a member of our board of directors.

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In addition to our internal research and development efforts, we enter into cooperative research and development relationships with leading academic institutions. Professor Johnson continues to supervise a laboratory at Caltech, and through our license agreement with Caltech, we have a continuing relationship with the other researchers in Professor Johnson's Caltech laboratory. We have also entered into research relationships with several other academic institutions for the conduct of research relating to the properties and characteristics of our alloys.

We have entered into development relationships with other companies for the purpose of identifying new applications for our alloys and establishing customer relationships with such companies. Some of our product development programs are partially funded by our customers. We are also engaged in negotiations with other potential customers regarding possible product development relationships. Our research and development expenses for the years ended December 31, 2004, 2003, and 2002 were \$1.5 million, \$8.8 million, and \$11.8 million, respectively.

### **Manufacturing**

We currently own and operate a 166,000 square feet manufacturing facility in Pyongtaek, South Korea, which became operational in the third quarter of 2002. We opened a 14,400 square feet facility in Weihai, China in August 2004 to facilitate our bulk alloy manufacturing business. We believe that these facilities will meet our anticipated manufacturing needs for the foreseeable future, although these needs may change depending upon the actual and forecasted orders we receive for our products. We currently intend to develop supplemental research and development, prototyping and manufacturing capabilities elsewhere, including the United States, for purposes of meeting our long-term manufacturing needs and our customers' requirements. In December 2003, we entered into a license agreement with Florida Custom Mold, Inc., a Clearwater, Florida-based company that specializes in high-quality mold design and injection molding services, under which Florida Custom Mold is currently acting as a contract manufacturer to our company for purposes of producing prototypes of certain defense and medical products in the US.

### **Raw Materials**

Liquidmetal alloy compositions are comprised of many elements, all of which are available commodity products. We believe that each of these raw materials is readily available in sufficient quantities from multiple sources on commercially acceptable terms. However, any substantial increase in the price or interruption in the supply of these materials could have an adverse effect on our profitability.

### **Customers**

During 2004, four customers accounted for 10% or more of our revenue from continuing operations. Revenues from Charm Tech and Pntel, both of which are direct suppliers to Samsung, represented 62% of revenue from continuing operations for the year ended 2004. Also, revenues from defense related contracts with the United States of America represented 10% and Growell Metal represented 12% of revenue from continuing operations for the year ended 2004. During 2003, three customers accounted for 10% or more of our revenue from continuing operations. Revenue from Samsung represented 10% of revenue, revenue from LLPG, Inc. represented 12% and defense-related contracts with three departments of the United States of America represented 16% of revenue from continuing operations for the year ended December 31, 2003. During the year ended December 31, 2002, revenue from Samsung represented 15% of revenue while revenue earned on contracts with the government represented 16% of revenue from continuing operations. We expect that a significant portion of our revenue may continue to be concentrated in a limited number of customers, even as our bulk Liquidmetal alloy business grows.

### **Competition**

We are not aware of any other company or business that manufactures, markets, distributes, or sells bulk amorphous alloys or products made from bulk amorphous alloys. We believe it would be difficult to develop a competitive bulk amorphous alloy without infringing our patents. However, we expect that our bulk Liquidmetal alloys will face competition from other materials, including metals, alloys, plastics and composites, which are currently used in the commercial applications that we pursue. Our alloys could also face competition from new materials that may be developed in the future, including new materials that could render our alloys obsolete.

Our Liquidmetal alloy coatings face competition from industrial coatings currently manufactured or sold by other companies. At present, the primary competitors of our coatings business are Varco International, Inc. and Arco Technology Trust, Limited. Although we believe, based on market data gathered by us, that our coatings compete favorably with these companies' products and that we continue to maintain the dominant market share with respect to protective coatings for oil drill pipe and casings, these competitors are larger well-established businesses that have substantially greater financial, marketing, and other resources than we do.



We will also experience indirect competition from the competitors of our customers. Because we will rely on our customers to market and sell finished goods that incorporate our components or products, our success will depend in part on the ability of our customers to effectively market and sell their own products and compete in their respective markets.

### **Backlog**

In our bulk alloy segment, because of the minimal lead-time associated with orders of bulk alloy parts, we generally do not carry a significant backlog. In our coatings segment, we typically ship our coating products shortly after receipt of an order, and our coatings backlog is therefore also insignificant. In both our bulk alloy segment and coatings segment, the backlog as of any particular date gives no indication of actual sales for any succeeding period.

### **Sales and Marketing**

We direct our marketing efforts towards customers that will incorporate our components and products into their finished goods. To that end, we will continue to hire business development personnel who, in conjunction with engineers and scientists, will actively identify potential customers that may be able to benefit from the introduction of Liquidmetal alloys to their products. In some cases, we will develop applications in conjunction with existing or potential customers. By adopting this strategy, we intend to take advantage of the sales and marketing forces and distribution channels of our customers to facilitate the commercialization of our alloys. We also direct business development efforts toward companies who we believe could be viable candidates for potential partnering transactions, such as licensing relationships, distribution arrangements, joint ventures, and the like.

### **Employees**

As of December 31, 2004, we had 158 full-time employees. As of December 31, 2004, 55 of our Korean operation employees were represented by a labor union. We have not experienced any work stoppages and we consider our employee relations to be favorable.

### **Governmental Regulation**

Medical instruments incorporating our Liquidmetal alloys will be subject to regulation in the United States by the FDA and corresponding state and foreign regulatory agencies. Any orthopedic devices that we develop will be regulated in a similar manner. Medical device manufacturers to whom we intend to sell our products may need to obtain FDA approval before marketing their medical devices that incorporate our products. Medical device manufacturers may need to obtain similar approvals before marketing these medical device products in foreign countries.

Because we intend to sell our medical device products to medical device manufacturers, we do not believe that we will need to obtain FDA approval or similar foreign approvals before selling products to medical device manufacturers. Nonetheless, as a manufacturer of medical device components, we would be subject to quality control and record keeping requirements of FDA and other federal and state statutes and regulations, as well as similar regulations in foreign countries.

The process of obtaining and maintaining required FDA and foreign regulatory approvals for medical devices that incorporate our products could be lengthy, expensive, and uncertain for our customers. Additionally, regulatory agencies can delay or prevent product introductions. Generally, before a medical device manufacturer can market a product incorporating one of our products, our customer must obtain for their finished product marketing clearance through a 510(k) premarket notification or approval of a pre-market approval application, or PMA. The FDA will typically grant a 510(k) clearance if the applicant can establish that the device is substantially equivalent to a predicate device. It generally takes a number of months from the date of a 510(k) submission to obtain clearance, but it may take longer, particularly if a clinical trial is required.

The FDA may find that a 510(k) is not appropriate for a medical device that incorporates our product or that substantial equivalence has not been shown and as a result will require a PMA. A PMA application must be submitted if a proposed medical device does not qualify for a 510(k) pre-market clearance procedure. PMA applications must be supported by valid scientific evidence to demonstrate the safety and effectiveness of the device, typically including the results of clinical trials, bench tests, and laboratory and animal studies. The PMA process can be expensive, uncertain and lengthy, requires detailed and comprehensive data, and generally takes significantly longer than the 510(k) process. Additionally, the FDA may never approve the PMA.



Similar regulations in foreign countries vary significantly from country to country and with respect to the nature of the particular medical device. The time required to obtain these foreign approvals to market our products may be longer or shorter than that required in the United States, and requirements for such approval may differ from FDA requirements.

### **Factors Affecting Future Results**

This report contains forward-looking statements (within the meaning of the Private Securities Litigation Reform Act of 1995) that are based on management's current expectations, estimates, forecasts, and projections about the Company and its business. In addition, other written or oral statements which constitute forward-looking statements may be made from time to time by or on behalf of Liquidmetal Technologies, Inc. Any statement in this report that is not a statement of historical fact is a forward-looking statement, and in some cases, words such as "believe," "estimate," "project," "expect," "intend," "may," "anticipate," "plans," "seeks," and similar expressions identify forward-looking statements. Forward-looking statements involve risks and uncertainties that could cause actual outcomes and results to differ materially from the anticipated outcomes or result. These statements are not guarantees of future performance, and undue reliance should not be placed on these statements. Liquidmetal Technologies, Inc. undertakes no obligation to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

Factors that could cause actual results to differ materially from what is expressed or forecasted in our forward-looking statements include, but are not limited to, the following:

#### **We have not sustained profitability and may incur losses in the future.**

We had an accumulated deficit of approximately \$127.5 million at December 31, 2004. Of this accumulated deficit, \$44.5 million was attributable to losses generated by our discontinued equipment manufacturing and retail golf businesses through December 31, 2004. We may incur additional operating losses in the future. Consequently, it is possible that we may not achieve positive earnings and, if we do achieve positive earnings, we may not be able to achieve them on a sustainable basis.

#### **We have a limited history of developing, manufacturing, and selling products made from our bulk amorphous alloys.**

We have marketed and sold industrial coatings to distributors in the coatings industry since 1987. Prior to the third quarter of 2002, our experience selling products made from bulk amorphous alloys has been limited to our discontinued retail golf business, which had a different marketing strategy than the one we are currently employing. Therefore, we have a relatively limited history of producing bulk amorphous alloy components and products on a mass-production basis. Many of our relationships with potential customers for bulk alloy products are at an early stage, and there can be no assurance that these customers will enter into purchase commitments with us.

#### **We rely on assumptions about the markets for our products and components that, if incorrect, may adversely affect our profitability.**

We have a relatively short history producing bulk amorphous alloy components on a mass-production basis. We have made assumptions regarding the market size for, and the manufacturing requirements of, our products and components based in part on information we received from third parties and also from our limited history. If these assumptions prove to be incorrect, we may not achieve anticipated revenue targets or profitability.

#### **If we cannot establish and maintain relationships with customers that incorporate our components and products into their finished goods, we will not be able to increase our revenue and commercialize our products.**

To increase our revenue, we must establish and maintain relationships with customers that will incorporate our components and products into their finished goods. We expect to rely on the marketing, distribution, and, in some cases, the manufacturing, research, and development abilities of our customers to assist us in developing, commercializing, and marketing our products in different markets. Our future growth and success will depend in large part on our ability to enter into these relationships and the subsequent success of these relationships. If our products are selected for use in a customer's products, we still may not realize significant revenue from that customer if that customer's products are not commercially successful.





**It may take significant time and cost for us to develop new customer relationships, which may delay our ability to generate additional revenue or achieve profitability.**

Our ability to generate revenue from new customers will be affected by the amount of time it takes for us to, among other things:

- identify a potential customer and introduce the customer to Liquidmetal alloys;
- work with the customer to select and design the parts to be fabricated from Liquidmetal alloys;
- make the molds and tooling to be used to produce the selected part;
- make prototypes and samples for customer testing;
- work with our customers to test and analyze prototypes and samples; and
- with respect to some types of products, such as medical devices, to obtain regulatory approval.

We currently do not have a sufficient history of selling products made from our bulk amorphous alloys to predict accurately the length of our average sales cycle. We believe that our average sales cycle from the time we deliver an active proposal to a customer until the time our customer fully integrates our bulk amorphous alloys into its product could be a significant period of time. Our history to date has demonstrated that the sales cycle could extend significantly longer than we anticipate. The time it takes to transition a customer from limited production to full-scale production runs will depend upon the nature of the processes and products into which our alloys are integrated. Moreover, we have found that customers often proceed very cautiously and slowly before incorporating a fundamentally new and unique type of material into their products.

**After we develop a customer relationship, it may take a significant amount of time for that customer to develop, manufacture, and sell finished goods that incorporate our components and products.**

Our experience has shown that our customers will perform numerous tests and extensively evaluate our components and products before incorporating them into their finished products. The time required for testing, evaluating, and designing our components and products into a customer's products, and in some cases, obtaining regulatory approval, can take a significant amount of time, with an additional period of time before a customer commences volume production of products incorporating our components and products, if ever. Moreover, because of this lengthy development cycle, we may experience a delay between the time we accrue expenses for research and development and sales and marketing efforts and the time when we generate revenue, if any. We may incur substantial costs in an attempt to transition a customer from initial testing to prototype and from prototype to final product. If we are unable to minimize these transition costs, or to recover the costs of these transitions from our customers, our operating results will be adversely affected.

**A limited number of our customers generate a significant portion of our revenue.**

For the near future, we expect that a significant portion of our revenue will be concentrated in a limited number of customers. For example, for the year ended December 31, 2004, revenue from two customers represented approximately 62% of total revenue from continuing operations and for the year ended December 31, 2003, revenue from two customers represented approximately 26% of total revenue from continuing operations. A reduction, delay, or cancellation of orders from one or more of these customers or the loss of one or more customer relationships could significantly reduce our revenue. Unless we establish long-term sales arrangements with these customers, they will have the ability to reduce or discontinue their purchases of our products on short notice.

**We expect to rely on our customers to market and sell finished goods that incorporate our products and components, a process over which we will have little control.**

Our future revenue growth and ultimate profitability will depend in part on the ability of our customers to successfully market and sell their finished goods that incorporate our products. We will have little control over our customers' marketing and sales efforts. These marketing and sales efforts may be unsuccessful for various reasons, any of which could hinder our ability to increase revenue or achieve profitability. For example, our customers may not have or devote sufficient resources to develop, market, and sell their finished goods that incorporate our

products. Because we typically will not have exclusive sales arrangements with our customers, they will not be precluded from exploring and adopting competing technologies. Also, products incorporating competing technologies may be more successful for reasons unrelated to the performance of our customers' products or the marketing efforts of our customers.

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**Our growth depends on our ability to identify, develop, and commercialize new applications for our technology.**

Our future growth and success will depend in part on our ability to identify, develop, and commercialize, either alone or in conjunction with our customers, new applications and uses for Liquidmetal alloys. If we are unable to identify and develop new applications, we may be unable to develop new products or generate additional revenue. Successful development of new applications for our products may require additional investment, including costs associated with research and development and the identification of new customers. In addition, difficulties in developing and achieving market acceptance of new products would harm our business.

**We may not be able to effectively compete with current suppliers of incumbent materials or producers of competing products.**

The future growth and success of our bulk amorphous alloy business will depend in part on our ability to establish and retain a technological advantage over other materials for our targeted applications. For many of our targeted applications, we will compete with manufacturers of similar products that use different materials. For example, we have targeted the cellular phone casing market as an application for bulk Liquidmetal alloys. In this market, we believe we will compete with other manufacturers of cellular phone casings who use plastics or metal to construct their casings. In other markets, we will compete directly with suppliers of the incumbent material. In addition, in each of our targeted markets, our success will depend in part on the ability of our customers to compete successfully in their respective markets. Thus, even if we are successful in replacing an incumbent material in a finished product, we will remain subject to the risk that our customer will not compete successfully in its own market.

**Future advances in materials science could render Liquidmetal alloys obsolete.**

Academic institutions and business enterprises frequently engage in the research and testing of new materials, including alloys and plastics. Advances in materials science could lead to new materials that have a more favorable combination of performance, processing, and cost characteristics than our alloys. The future development of any such new materials could render our alloys obsolete and unmarketable or may impair our ability to compete effectively.

**Our growth depends upon our ability to retain and attract a sufficient number of qualified employees.**

Our future growth and success will depend in part on our ability to retain key members of our management and scientific staff, particularly John Kang, our Chairman of the board of directors, Professor William Johnson, a member of our board of directors and a professor at Caltech, and Dr. Atakan Peker, our Vice President of Technology. We do not have key man or similar insurance on any of these individuals. If we lose their services or the services of other key personnel, our financial results or business prospects may be harmed. Additionally, our future growth and success will depend in part on our ability to attract, train, and retain scientific engineering, manufacturing, sales, marketing, and management personnel. We cannot be certain that we will be able to attract and retain the personnel necessary to manage our operations effectively. Competition for experienced executives and scientists from numerous companies and academic and other research institutions may limit our ability to hire or retain personnel on acceptable terms. In addition, many of the companies with which we compete for experienced personnel have greater financial and other resources than we do. Moreover, the employment of non-citizens may be restricted by applicable immigration laws.

**We may not be able to successfully identify, consummate, or integrate strategic partnerships.**

As a part of our business strategy, we intend to pursue strategic partnering transactions that provide access to new technologies, products, markets, and manufacturing capabilities. These transactions could include licensing agreements, joint ventures, or even business combinations. For example, we may pursue transactions that will give us access to new technologies that are useful in connection with the composition, processing, or application of Liquidmetal alloys. We may not be able to successfully identify any potential strategic partnerships. Even if we do identify one or more potentially beneficial strategic partnering, we may not be able to consummate these transactions on favorable terms or obtain the benefits we anticipate from such a transaction.

**We may encounter manufacturing problems or delays or may be unable to produce high-quality products at acceptable costs.**

We have relatively limited experience in manufacturing our products and may be required to manufacture a range of products in high volumes while ensuring high quality and consistency. Although we currently own and operate a 166,000 square feet and a 14,400 square feet manufacturing facilities in South Korea and China, respectively, we cannot guarantee that these facilities will be able to produce the intended products with production yields, quality controls, and production costs that provide us with acceptable margins or profitability or satisfy the requirements of our customers.

**We expect to derive a substantial portion of our revenue from sales outside the United States, and problems associated with international business operations could affect our ability to manufacture and sell our products.**

We expect that we will continue to manufacture a substantial portion of our initial bulk Liquidmetal alloy products in our South Korean facility. As a result, our manufacturing operations are subject to risks of political instability, including the risk of conflict between North Korea and South Korea and tensions between the United States and North Korea. In addition, we anticipate that sales to customers located outside of the United States will account for a significant portion of our revenue in future periods and that the trend of foreign customers accounting for an increasing portion of our total sales may continue. Specifically, we expect to continue to derive a significant amount of revenue from sales to customers located in Asia. A downturn in the economies of Asian countries where our products will be sold, particularly South Korea's economy, could materially harm our business.

Consequently, our operations and revenue likely will be subject to a number of risks associated with foreign commerce, including:

- staffing and managing our manufacturing facility located in South Korea and post-processing facility located in China;
- product or material transportation delays or disruption, including the availability and costs of air and other transportation between our South Korean and Chinese facilities and the United States;
- political and economic instability, including instability involving North Korea;
- potentially adverse tax consequences;
- burden of complying with complex foreign laws and treaties; and
- trade protection laws, policies, and measures and other regulatory requirements affecting trade and investment, including loss or modification of exemptions for taxes and tariffs. Moreover, customers may sell finished goods that incorporate our components and products outside of the United States, which exposes us indirectly to additional foreign commerce risks.

**Our business is subject to the potential adverse consequences of exchange rate fluctuations.**

We expect to conduct business in various foreign currencies and will be exposed to market risk from changes in foreign currency exchange rates and interest rates. Fluctuations in exchange rates between the U.S. dollar and such foreign currencies may have a material adverse effect on our business, results of operations, and financial condition and could specifically result in foreign exchange gains and losses. The impact of future exchange rate fluctuations on our operations cannot be accurately predicted. To the extent that the percentage of our non-U.S. dollar revenue derived from international sales increases in the future, our exposure to risks associated with fluctuations in foreign exchange rates will increase further. Moreover, as a result of operating a manufacturing facility in South Korea, a substantial portion of our costs are and will continue to be denominated in the South Korean won. Adverse changes in the exchange rates of the South Korean won to the U.S. dollar will affect our costs of goods sold and operating margins and could result in exchange losses.



**Our inability to protect our licenses, patents, and proprietary rights in the United States and foreign countries could harm our business because third parties may take advantage of our research and development efforts.**

We have an exclusive license from Caltech to several patents and patent applications relating to amorphous alloy technology, and we have obtained several of our own patents. We also have the exclusive right to Caltech's inventions, proprietary information, know-how, and other technology relating to bulk amorphous alloys existing as of September 1, 2001. Our success depends in part on our ability to obtain and maintain patent and other proprietary right protection for our technologies and products in the United States and other countries. If we are unable to obtain or maintain these protections, we may not be able to prevent third parties from using our proprietary rights. Specifically, we must:

- protect and enforce our license agreement with Caltech and our own patents and intellectual property;
- exploit our license of the patented technology under our license agreement with Caltech as well as our own patents; and
- operate our business without infringing on the intellectual property rights of third parties.

Caltech owns several issued United States patents covering the composition and method of manufacturing of the family of Liquidmetal alloys. We also hold several United States and corresponding foreign patents covering the manufacturing processes of Liquidmetal alloys and their use. The patents relating to our coatings expire on various dates between 2005 and 2017, and those relating to our bulk amorphous alloys between 2013 and 2021. If we are unable to protect our proprietary rights prior to the expiration of these patents, we may lose the advantage we have established as being the first to market bulk amorphous alloy products. In addition, the laws of some foreign countries do not protect proprietary rights to the same extent as the laws of the United States, and we may encounter significant problems and costs in protecting our proprietary rights in these foreign countries.

Patent law is still evolving relative to the scope and enforceability of claims in the fields in which we operate. Our patent protection involves complex legal and technical questions. Our patents and those patents for which we have license rights may be challenged, narrowed, invalidated, or circumvented. We may be able to protect our proprietary rights from infringement by third parties only to the extent that our proprietary technologies are covered by valid and enforceable patents or are effectively maintained as trade secrets. Furthermore, others may independently develop similar or alternative technologies or design around our patented technologies. Litigation or other proceedings to defend or enforce our intellectual property rights could require us to spend significant time and money and could otherwise adversely affect our business.

**Other companies may claim that we infringe their intellectual property rights, which could cause us to incur significant expenses or prevent us from selling our products.**

Our success depends, in part, on our ability to operate without infringing on valid, enforceable patents or proprietary rights of third parties and not breaching any licenses that may relate to our technology and products. Future patents issued to third parties may contain claims that conflict with our patents and that compete with our products and technologies, and third parties could assert infringement claims against us. Any litigation or interference proceedings, regardless of their outcome, may be costly and may require significant time and attention of our management and technical personnel. Litigation or interference proceedings could also force us to:

- stop or delay using our technology;
- stop or delay our customers from selling, manufacturing or using products that incorporate the challenged intellectual property;
- pay damages; or
- enter into licensing or royalty agreements that may be unavailable on acceptable terms.





**The time and cost associated with complying with government regulations to which we could become subject could have a material adverse effect on our business.**

Some of the applications that we have identified or may identify in the future may be subject to government regulations. For example, any medical devices such as precision ophthalmic instruments and orthopedic devices made from our alloys likely will be subject to extensive government regulation in the United States by the Food and Drug Administration, or FDA. Any medical device manufacturers to whom we sell Liquidmetal alloy products may need to comply with FDA requirements, including premarket approval or clearance under Section 510(k) of the Food Drug and Cosmetic Act before marketing in the United States Liquidmetal alloy medical device products. These medical device manufacturers may be required to obtain similar approvals before marketing these medical devices in foreign countries. Any medical device manufacturers with which we jointly develop and sell medical device products may not provide significant assistance to us in obtaining required regulatory approvals. The process of obtaining and maintaining required FDA and foreign regulatory approvals could be lengthy, expensive, and uncertain. Additionally, regulatory agencies can delay or prevent product introductions. The failure to comply with applicable regulatory requirements can result in substantial fines, civil and criminal penalties, stop sale orders, loss or denial of approvals, recalls of products, and product seizures.

In addition, the processing of beryllium, a minor constituent element of some of our alloys, can result in the release of beryllium into the workplace and the environment and in the creation of beryllium oxide as a by-product. Beryllium is classified as a hazardous air pollutant, a toxic substance, a hazardous substance, and a probable human carcinogen under environmental, safety, and health laws, and various acute and chronic health effects may result from exposure to beryllium. We are required to comply with certain regulatory requirements and to obtain a permit from the U.S. Environmental Protection Agency or other government agencies to process beryllium. Our failure to comply with present or future governmental regulations related to the processing of beryllium could result in suspension of manufacturing operations and substantial fines or criminal penalties.

To the extent that our products have the potential for dual use, such as military and non-military applications, they may be subject to import and export restrictions of the U.S. government, as well as other countries. The process of obtaining any required U.S. or foreign licenses or approvals could be time-consuming, costly, and uncertain. Failure to comply with import and export regulatory requirements can lead to substantial fines, civil and criminal penalties, and the loss of government contracting and export privileges.

**We may require additional funding, which may not be available on favorable terms or at all.**

Our future capital requirements will depend on the amount of cash generated by our operations. Our projections of cash flows from operations and, consequently, future cash needs are subject to substantial uncertainty. If our available funds and cash generated from operations are insufficient to satisfy our liquidity requirements, we may need additional funds in the future to support our working capital requirements and for other purposes, and we may seek to raise additional funds through public or private equity financing, bank debt financing, or from other sources. Adequate funds may not be available when needed or may not be available on favorable terms. If we raise additional funds by issuing equity securities, existing shareholders may be diluted. If funding is insufficient at any time in the future, we may not be able to develop or enhance our products or services, take advantage of business opportunities, or respond to competitive pressures, any of which could harm our business.

**Antitakeover provisions of our certificate of incorporation and bylaws and provisions of applicable corporate law could delay or prevent a change of control that you may favor.**

Provisions in our certificate of incorporation, our bylaws, and Delaware law could make it more difficult for a third party to acquire us, even if doing so would be beneficial to our shareholders. These provisions could discourage potential takeover attempts and could adversely affect the market price of our shares. Because of these provisions, you might not be able to receive a premium on your investment. These provisions:

- authorize our board of directors, without shareholder approval, to issue up to 10,000,000 shares of blank check preferred stock that could be issued by our board of directors to increase the number of outstanding shares and prevent a takeover attempt;
- limit shareholders' ability to call a special meeting of our shareholders;
- provide for a classified board of directors; and

- establish advance notice requirements to nominate directors for election to our board of directors or to propose matters that can be acted on by shareholders at shareholder meetings.

The provisions described above could delay or make more difficult transactions involving a change in control of us or our management.

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**Our bulk amorphous alloy technology is still at an early stage of commercialization relative to many other materials.**

Our bulk amorphous alloy technology is a relatively new technology as compared to many other material technologies, such as plastics and widely-used high-performance crystalline alloys. Historically, the successful commercialization of a new materials technology has required the persistent improvement and refining of the technology over a sometimes lengthy period of time. Accordingly, we believe that our Company's future success will be dependent on our ability to continue expanding and improving our technology platform by, among other things, constantly refining and improving our manufacturing processes, optimizing our existing amorphous alloy compositions for various applications, and developing and improving new bulk amorphous alloy compositions. Our failure to further expand our technology base could limit our growth opportunities and hamper our commercialization efforts.

**Our stock price may experience volatility.**

The trading price of our common stock could fluctuate widely due to:

- quarter-to-quarter variations in results of operations;
- loss of a major customer;
- announcements of technological innovations by us or our potential competitors;
- changes in, or our failure to meet, the expectations of securities analysts;
- new products offered by us or our competitors;
- announcements of strategic relationships or strategic partnerships; or
- other events or factors that may be beyond our control.

In addition, the securities markets in general have experienced extreme price and trading volume volatility in the past. The trading prices of securities of many companies at our stage of growth have fluctuated broadly, often for reasons unrelated to the operating performance of the specific companies. These general market and industry factors may adversely affect the trading price of our common stock, regardless of our actual operating performance. If our stock price is volatile, we could face securities class action litigation, which could result in substantial costs and a diversion of management's attention and resources and could cause our stock price to fall.

**Item 2. Properties**

Our principal executive offices and principal research and development offices are located in Lake Forest, California and consist of approximately 30,000 square feet. This facility is occupied pursuant to a lease agreement that expires in June 2007. Prior to December 31, 2003, our principal executive offices were located in Tampa, Florida; however, as an outgrowth of various cost reduction measures in the fourth quarter of 2003, activities of the Tampa office were transferred to and consolidated with the Lake Forest office. In Conroe, Texas, we lease an office and warehouse for our coatings business segment. This facility, which is approximately 10,000 square feet, is leased through September 2006.

Our principal prototyping and manufacturing facility is in Pyongtaek, South Korea, and consists of approximately 166,000 square feet. We lease the land on which this facility is located, although we own the buildings, fixtures, and all personal property located on the land. The parcel of land consists of approximately four acres and is leased through 2022. We currently expect that this facility will meet our anticipated internal manufacturing needs for the foreseeable future. Until June 2004 we also leased a facility in Incheon, South Korea, where an equipment manufacturing division of the Company assembled die casting equipment. This facility is approximately 22,430 square feet, and its lease expired in February 2005; however, that die casting equipment division was divested as of June 14, 2004 and the lease was terminated. On August 2004, we entered into a 3 year lease for a post-processing facility located in Wehai, China, which consists of approximately 14,400 square feet, to facilitate our bulk alloy manufacturing.



**Item 3. Legal Proceedings**

Liquidmetal Technologies and certain of its present and former officers and directors were named as defendants in nine purported class action complaints filed in the United States District Courts for the Middle District of Florida, Tampa Division, and the Central District of California, Southern Division, alleging violations of Sections 11 and 15 of the Securities Act of 1933 and Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 and Rule 10b-5 promulgated thereunder. In August 2004, four complaints were consolidated in the United States District Court for the Middle District of Florida under the caption *Primavera Investors v. Liquidmetal Technologies, Inc., et al.*, Case No. 8:04-CV-919-T-23EAJ. John Lee, Chris Cowley, Dwight Mamanteo, Scott Purcell and Mark Rabold, were appointed co-lead plaintiffs (the Lead Plaintiffs). In September 2004, the other five complaints filed in the Central District of California were transferred to the Middle District of Florida for consolidation with the *Primavera Investors* action. The Lead Plaintiffs served their Consolidated Amended Class Action Complaint on January 12, 2005. The Amended Complaint alleges that the Prospectus issued in connection with the Company's initial public offering in May 2002 contained material misrepresentations and omissions regarding the Company's historical financial condition and regarding a personal stock transaction by the Company's chief executive officer. The Lead Plaintiffs further generally allege that during the proposed Class Period of May 21, 2002, through May 13, 2004, the defendants engaged in improper revenue recognition with respect to certain of the Company's business transactions, failed to maintain adequate internal controls, and knowingly disclosed unrealistic but favorable information about market demand for and commercial viability of the Company's products to artificially inflate the value of the Company's stock. The Amended Complaint seeks unspecified compensatory damages and other relief. Defendants' motion to dismiss will be due on March 28, 2005. We intend to vigorously defend against the class action. We cannot currently predict the impact or resolution of this litigation or reasonably estimate a range of possible loss, which could be material. The resolution of this lawsuit may harm our business and have a material adverse impact on our financial condition.

In addition to the above, certain present and former officers and directors of Liquidmetal Technologies, as well as Liquidmetal Technologies as a nominal defendant, have been named in three shareholder derivative actions. Two shareholder derivative complaints were filed in California state court styled *Brian Clair, Derivatively on Behalf of Liquidmetal Technologies, Inc. v. John Kang, et al.*, Case No. 04CC00551, and *Joseph Durgin Derivatively on Behalf of Liquidmetal Technologies, Inc. v. John Kang, et al.*, Case No. 04CC00553, both commenced in the Superior Court of Orange County, California. A third shareholder derivative complaint was filed in Florida federal court styled *Robert Story v. John Kang, et al.*, Case No. 8:04-CV-1587-T23TBM, commenced in the Middle District of Florida, Tampa Division. These shareholder derivative lawsuits allege that the defendants breached various fiduciary duties and otherwise violated state law based primarily upon the same underlying facts and circumstances as alleged in the federal shareholder class action. The plaintiffs seek unspecified compensatory damages, restitution and disgorgement of profits, equitable and/or injunctive relief as permitted by law and other relief. The two shareholder derivative complaints in California state court have been consolidated. Plaintiffs served a Consolidated Shareholder Derivative Complaint on October 12, 2004. The defendants served a Demurrer to the Consolidated Shareholder Derivative Complaint on November 22, 2004, seeking dismissal of that complaint. At a hearing on February 10, 2005, the court sustained the demurrer, dismissing the Consolidated Shareholder Derivative Complaint but giving the plaintiffs 45 days within which to amend the complaint. The amended complaint is due on March 28, 2005. In the Florida derivative action, the Plaintiff filed a First Amended Shareholder Derivative Complaint on November 22, 2004. The Company's Motion to Dismiss was filed on December 20, 2004. Plaintiff's Response and Objection to the Motion to Dismiss was filed on February 4, 2005. We cannot anticipate when the Court will rule on the Motion to Dismiss. We intend to vigorously defend against the derivative actions. We cannot currently predict the impact or resolution of this litigation or reasonably estimate a range of possible loss, which could be material. The resolution of these lawsuits may harm our business and have a material adverse impact on our financial condition.

**Item 4. Submission of Matters to a Vote of Security Holders**

No matters were submitted to a vote of our security holders during the fourth quarter of 2004.

**PART II****Item 5. Market For Registrant's Common Equity and Related Stockholder Matters**

Prior to July 16, 2004, our common stock was quoted on the Nasdaq National Market under the symbol LQMT. On July 14, 2004, the Company was notified by the Nasdaq Listing Qualifications Panel that the Company's common stock would be delisted from the Nasdaq National Market effective with the open of business on Friday, July 16, 2004. The Company was delisted for its failure to comply with Marketplace Rule 4310(c)(14) due to the Company's inability to file its Form 10-K for the fiscal year 2003 and Form 10-Q for the first quarter of 2004. As of July 19, 2004, the shares of Liquidmetal Technologies, Inc. common stock commenced trading in the Over the Counter (OTC) Pink Sheets Market under the symbol LQMT.PK. On January 13, 2005, the Company filed its Form 10-Q for the third quarter of 2004 and thus, became current on its filings. Subsequently, the Company filed the necessary forms with Nasdaq and is currently working with them to be listed on the Nasdaq (OTC) bulletin boards.

The following table sets forth, for the periods indicated, the high and low sale prices for our common stock as reported by The Nasdaq National Market:

	<b>Fiscal 2004</b>	
	<b>High</b>	<b>Low</b>
Fourth Quarter	\$ 4.00	\$ 1.75
Third Quarter	\$ 2.33	\$ 0.71
Second Quarter	\$ 3.68	\$ 0.55
First Quarter	\$ 4.52	\$ 2.50

The closing price of our common stock as reported on The OTC Pink Sheets Market on February 1, 2005 was \$1.55 per share. As of February 1, 2005, there were 238 holders of record of our common stock.

We have never paid a cash dividend on our common stock. We do not anticipate paying any cash dividends on our common stock in the foreseeable future, and we plan to retain our earnings to finance future growth.

**Item 6. Selected Consolidated Financial Data**

We derived the selected consolidated financial data below as of and for each of the three years in the period ended December 31, 2004 from our audited consolidated financial statements and related notes thereto included elsewhere in this annual report on Form 10-K. The following selected consolidated financial data should be read in conjunction with Liquidmetal Technologies, Inc.'s consolidated financial statements and the related notes thereto, and Management's Discussion and Analysis of Financial Condition and Results of Operations included elsewhere in this annual report on Form 10-K. In addition, readers should note the following information regarding the selected historical consolidated financial data presented below.

We have restated our previously reported consolidated financial statements for the fiscal year ended December 31, 2004 to properly account for the conversion feature of the senior convertible notes. The restatement adjustments resulted in a cumulative net reduction of shareholders' equity by \$4.7 million as of December 31, 2004 and an increase in previously reported net loss by \$2.2 million for the year ended December 31, 2004 (see Note 15). We have restated our previously reported consolidated financial statements for the fiscal years ended December 31, 2002 and 2001. The restatement adjustments resulted in a cumulative net reduction to shareholders' equity of \$2.0 million as of December 31, 2002 and an increase in previously reported net loss of \$1.1 million and \$0.9 million for the years ended December 31, 2002 and 2001, respectively. Further, the 2003, 2002, and 2001 balances from our 10-K filed on November 10, 2004 have been restated in order to conform with the presentation of 2004 financial statements as a result of application of SFAS 144 over discontinued operations of our equipment manufacturing business (see Note 18). The selected consolidated financial data presented below includes all such restatements.

See Note 2 in the notes to consolidated financial statements included in this annual report on Form 10-K and in the fiscal 2003 annual report on Form 10-K filed on November 10, 2004, which reflects the restatements of prior year transactions.



	For the Years Ended December 31,				
	2004	2003	2002	2001	2000
	(Restated)		(Restated)	(Restated)	(Unaudited)
	(In thousands, except per share data)				
<b>Consolidated Statement of Operations Data:</b>					
Revenue	\$ 17,429	\$ 13,658	\$ 9,138	\$ 3,882	\$ 4,200
Cost of sales	12,168	18,162	5,656	1,924	1,983
Gross profit (loss)	5,261	(4,504 )	3,482	1,958	2,217
Operating expenses:					
Selling, general and administrative	11,591	17,729	13,099	5,239	1,449
Research and development	1,467	8,780	11,825	1,726	455
Impairment of goodwill		184			
Impairment of long lived assets		2,684			
Total operating expenses	13,058	29,377	24,924	6,965	1,904
(Loss) income before interest, other income, income taxes, minority interest and discontinued operations	(7,797 )	(33,881 )	(21,442 )	(5,007 )	313
Loss from extinguishments of debt	(2,941 )				
Change in value of warrants, gain	747				
Change in value of conversion feature, gain	2,093				
Other income	302				
Interest expense, net	(6,540 )	(86 )	(603 )	(1,095 )	(188 )
Gain on sale of marketable securities held-for-sale		1,178	832		
(Loss) before income taxes, minority interest and discontinued operations	(14,136 )	(32,789 )	(21,213 )	(6,102 )	125
Income taxes					
Minority interest in loss of consolidated subsidiary		21	118		
(Loss) income from continuing operations	(14,136 )	(32,768 )	(21,095 )	(6,102 )	125
(Loss) income from operations of discontinued operations, net	(749 )	(964 )	83	(5,973 )	(8,938 )
Gain (loss) from disposal of discontinued operations, net		127	1,556	(11,949 )	
Net (loss)	\$ (14,885 )	\$ (33,605 )	\$ (19,456 )	\$ (24,024 )	\$ (8,813 )
(Loss) income per share from continuing operations basic and diluted	\$ (0.34 )	\$ (0.79 )	\$ (0.54 )	\$ (0.18 )	\$ 0.00
Weighted average common shares used to compute income (loss) per share from continuing operations basic and diluted	41,610	41,505	38,714	33,323	30,884



	As of December 31,		2002	2001	2000
	2004	2003	(Restated)	(Restated)	(Unaudited)
	(in thousands, except per share data)				
<b>Consolidated Balance Sheet Data:</b>					
Cash and cash equivalents	\$ 742	\$ 3,127	\$ 25,058	\$ 2,230	\$ 124
Restricted cash	754				
Marketable securities held-for-sale			3,068		
Working capital (deficiency)	(14,910 )	(698 )	24,845	(9,573 )	(1,960 )
Total assets	28,508	30,852	27,772	6,680	1,945
Long-term debt and capital leases, including current portion	9,672	4,360	93	2,988	2,506
Shareholders' equity (deficiency)	4,191	16,163	(50,599 )	(7,504 )	(3,680 )

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

*This management's discussion and analysis should be read in the conjunction with the condensed consolidated financial statements and notes included elsewhere in this report on Form 10-K.*

*This management's discussion and analysis, as well as other sections of this report on Form 10-K, may contain forward-looking statements that involve risks and uncertainties, including statements regarding our plans, future events, objectives, expectations, forecasts, or assumptions. Any statement that is not a statement of historical fact is a forward-looking statement, and in some cases, words such as believe, estimate, project, expect, intend, may, anticipate, plans, seeks, and similar expressions identify forward-looking statements. These statements involve risks and uncertainties that could cause actual outcomes and results to differ materially from the anticipated outcomes or results, and undue reliance should not be placed on these statements. These risks and uncertainties include, but are not limited to, the matters discussed under the caption Factors Affecting Future Results in Item 1 of this report and other risks and uncertainties discussed in filings made with the Securities and Exchange Commission (including risks described in subsequent reports on Form 10-Q, Form 10-K, Form 8-K, and other filings). Liquidmetal Technologies, Inc. disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise.*

### OVERVIEW

We are a materials technology company that develops and commercializes products made from amorphous alloys. Our Liquidmetal® family of alloys consists of a variety of coatings, powders, bulk alloys, and composites that utilize the advantages offered by amorphous alloy technology. We develop, manufacture, and sell products and components from bulk amorphous alloys that are incorporated into the finished goods of our customers, and we also market and sell amorphous alloy industrial coatings. We also partner with third-party licensees and distributors to develop and commercialize Liquidmetal alloy products. We have the exclusive right to develop, manufacture, and sell what we believe are the only commercially viable bulk amorphous alloys.

Amorphous alloys are unique materials that are distinguished by their ability to retain a random atomic structure when they solidify, in contrast to the crystalline atomic structure that forms in ordinary metals and alloys when they solidify. Liquidmetal alloys possess a combination of performance, processing, and cost advantages that we believe makes them preferable to other materials in a variety of applications. The amorphous atomic structure of our alloys enables them to overcome certain performance limitations caused by inherent weaknesses in crystalline atomic structures, thus facilitating performance and processing characteristics superior in many ways to those of their crystalline counterparts. For example, our zirconium-titanium Liquidmetal alloys are approximately 250% stronger than commonly used titanium alloys, such as Ti-6Al-4V, but they have processing characteristics similar in many respects to plastics. We believe these advantages could result in Liquidmetal alloys supplanting other incumbent materials in a wide variety of applications. Moreover, we believe these advantages will enable the introduction of entirely new products and applications that are not possible or commercially viable with other materials.

Our revenues are derived from two principal operating segments: Liquidmetal alloy industrial coatings and bulk Liquidmetal alloy products. Liquidmetal alloy industrial coatings are used primarily as a protective coating for industrial machinery and equipment, such as drill pipe used by the oil drilling industry and boiler tubes used in coal-burning power plants. The historical operating information for fiscal year 2001 is based substantially on sales of Liquidmetal alloy coatings. In the second half of 2002, we began producing bulk Liquidmetal alloy components and products for incorporation into our customers' finished goods. Bulk Liquidmetal alloy segment revenue includes sales of parts or components of electronic devices, medical products, and sports and leisure goods; tooling and prototype parts (including demonstration parts and test samples) for customers with products in development; metal processing equipment (see Note 18 for disclosure regarding the disposal of our equipment manufacturing business); and research and development revenue relating primarily to defense and medical applications. We expect that these sources of revenue will continue to significantly change the character of our revenue mix.

The cost of sales for our Liquidmetal coatings segment consists primarily of the costs of outsourcing our manufacturing to third parties. Consistent with our expectations, our cost of sales has been increasing over historical results as we further build our bulk Liquidmetal alloy business. Although we plan to continue outsourcing the manufacturing of our coatings, we will internally manufacture many products derived from our bulk Liquidmetal alloys.

Selling, general, and administrative expenses currently consist primarily of salaries and related benefits, severance costs, travel, consulting and professional fees, depreciation and amortization, insurance, office and administrative expenses, and other expenses related to our operations.



Research and development expenses represent salaries, related benefits expense, stock-based compensation, depreciation of research equipment, consulting and contract services, expenses incurred for the design and testing of new processing methods, expenses for the development of sample and prototype products, and other expenses related to the research and development of Liquidmetal alloys. Costs associated with research and development activities are expensed as incurred. We plan to enhance our competitive position by improving our existing technologies and developing advances in amorphous alloy technologies. We believe that our research and development efforts will focus on the discovery of new alloy compositions, the development of improved processing technology, and the identification of new applications for our alloys.

Impairment of goodwill represents the write-down of the goodwill balance of Dongyang Yudoro ( Dongyang ), our 51% owned subsidiary in South Korea. During 2003, Dongyang experienced net losses as a result of a continuing economic downturn in markets for its machinery products. These events, along with Dongyang's operating cash flow losses and uncertainty surrounding its future cash flows, led us to evaluate our investment for recoverability as of December 31, 2003. As a result, we determined that the carrying value of our investment in Dongyang exceeded its fair value as of December 31, 2003 in the amount of \$184. In March 2004, we sold our 51% investment in Dongyang to the 49% minority shareholder.

Impairment of Long-Lived Assets consists of a write-down of the building of our manufacturing facility in South Korea on the basis that the fair value of this building was determined to be less than the book value as of December 31, 2003. Our significant operational difficulties in 2003 along with our history of operating or cash flow losses and uncertainty surrounding our future cash flows, led us to evaluate our long-lived assets for recoverability as of December 31, 2003. As a result, we determined that the carrying value of our manufacturing plant in Pyongtaek, South Korea exceeded its fair value as of December 31, 2003 in the amount of \$2,684. The fair value of the building was based on the average of two independent appraisals of the building obtained in the first quarter of 2004.

In conjunction with the divestiture of our Dongyang and Taesung subsidiaries in March and June 2004, respectively, the Company decided to discontinue our equipment manufacturing business in order to conform our operations to our broader corporate business strategy (see Note 18). Pursuant to Accounting Principles Board Opinion No. 30, *Reporting the Results of Operations - Reporting the Effects of Disposal of a Segment of a Business, and Extraordinary, Unusual and Infrequently Occurring Events and Transactions*, we reclassified our consolidated financial statements to reflect the discontinuation of our equipment manufacturing operations. The revenue, costs and expenses, assets and liabilities, and cash flows of the equipment manufacturing business were segregated in our accompanying Consolidated Balance Sheets, Consolidated Statements of Operations and Comprehensive Loss, and Consolidated Statements of Cash Flows.

We have restated our previously issued financial statements for the fiscal year ended December 31, 2004 due to an error related to our accounting for the embedded convertible feature of the senior convertible notes issued in March 2004, which were exchanged in August 2004, in accordance with Statement of Financial Accounting Standards No. 133, *Accounting for Derivative Instruments and Hedging Activities*, (SFAS 133).

The correction of the error to properly state the fair value of the embedded conversion feature of the senior convertible notes in accordance with SFAS 133 resulted in recognition of \$7.6 million as a conversion feature liability as of the issuance of the senior convertible notes in March 2004 as the convertible notes are considered a non-conventional convertible debt instrument. The correction resulted in recognition of the change in fair value of the embedded conversion feature in the our earnings as a gain of \$2.1 million for the year ended December 31, 2004, as well as adjustments to amortization of debt discount as interest expense of \$3.0 million for the year ended December 31, 2004, and an additional loss on extinguishment of debt of \$1.9 million for the year ended December 31, 2004. Additionally, we recognized \$0.9 million in additional paid in capital from redemption and conversion of convertible notes as of December 31, 2004, respectively.

Change in Value of Warrants consists of changes to the fair value of warrants outstanding at each period. The warrants have been accounted for as a liability in accordance with Emerging Issues Task Force Issue No. 00-19, *Accounting for Derivative Financial Instruments Indexed to, and Potentially Settled in, a Company's Own Stock*, with the change in fair values reported in earnings. The fair values are determined using a Black-Scholes pricing model and fluctuations in our stock price have had the greatest impact on the valuation of outstanding warrants.

Change in Value of Conversion Feature consists of changes to the fair value of the embedded conversion feature of our senior convertible notes. The embedded conversion feature has been accounted for as a separate derivative instrument in accordance with SFAS 133. The change in fair values are determined using a Black-Scholes pricing model and fluctuations in our stock price have had the greatest impact on the valuation of the conversion features.

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On May 21, 2003, we completed a reincorporation by transitioning from a California corporation to a Delaware corporation. The reincorporation was effected through the merger of the former California entity into a newly created wholly owned Delaware subsidiary. The reincorporation changed the legal domicile of our company but did not result in any change to our business, management, employees, fiscal year, assets or liabilities, or location of facilities. As part of the reincorporation, each share of the California corporation was automatically converted into one share of the Delaware corporation. In addition, total authorized shares decreased from 200,000,000 shares to 100,000,000 shares.

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On August 4, 2004, the Company established a sub-assembly plant in the city of Weihai in Shandong province of China under Weihai Liquidmetal Company Limited, which is 100 percent owned by Liquidmetal Korea, to facilitate our bulk alloy manufacturing business. Weihai Liquidmetal is consolidated into Liquidmetal Technologies with all intercompany transactions eliminated.

The following discussion and analysis of our financial condition and results of operations focuses on the historical results of our continuing operations and reflects the effect of restating our 2002 and 2003 (2003 quarterly filings) financial statements for proper revenue recognition as disclosed in Note 2 in the notes to the consolidated financial statements in the fiscal 2003 annual report on Form 10-K filed on November 10, 2004.

### *Results of Operations*

#### *Comparison of the years ended December 31, 2004 and 2003*

*Revenue.* Revenue increased to \$17.4 million in the twelve months ended December 31, 2004 from \$13.7 million in the twelve months ended December 31, 2003. The increase was due to increases in revenue earned by our bulk Liquidmetal alloy and coatings segments in the twelve months ended December 31, 2004. This increase in revenue consisted of \$3.8 million from the sale and prototyping of parts manufactured from bulk Liquidmetal alloys, offset by a decrease of \$1.9 million from research and development services related primarily from reduced activity from defense and medical applications. Our coatings business contributed \$1.0 million to the increase in revenues as compared to the twelve months ended December 31, 2003 from increased demand for drill pipe coatings.

*Cost of Sales.* Cost of sales decreased to \$12.2 million, or 70% of revenue, during the twelve months ended December 31, 2004 from \$18.2 million, or 133% of revenue, in the twelve months ended December 31, 2003. This decrease was a result of the continued maturing of our manufacturing process and represents the Company's efforts to manage costs and focus on our core business while continuing to build production pipeline and manufacturing infrastructure required to prepare for and support the anticipated growth of our bulk Liquidmetal alloy business. The cost of sales for the products sold by the coatings business segment is generally consistent from year to year because the Liquidmetal coatings products are produced by third parties and sold wholesale to various industries.

*Selling, General, and Administrative Expenses.* Selling, general, and administrative expenses decreased to \$11.6 million, or 66% of revenue, in the twelve months ended December 31, 2004 from \$17.7 million, or 130% of revenue, in the twelve months ended December 31, 2003. This decrease was primarily a result of decrease in wages and related expense by \$5.0 million, decreases in travel and communication expenses by \$0.8 million, decreases in rent by \$0.8 million, decrease in relocation expenses by \$0.7 million, offset by an increase in professional fees, consultant fees, and contract services by \$0.8 million, and an increase in insurance costs by \$0.4 million. These and other decreases in selling, general and administrative expenses represent the Company's efforts to manage costs and focus on our core business while continuing to build our corporate infrastructure required to prepare for and support the anticipated growth of our bulk Liquidmetal alloy business.

*Research and Development Expenses.* Research and development expenses decreased to \$1.5 million, or 8% of revenue, in the twelve months ended December 31, 2004 from \$8.8 million, or 64% of revenue, in the twelve months ended December 31, 2003. The decrease was primarily a result of decreases in salaries, wages and the related expenses by \$3.0 million, decrease in laboratory and prototyping expenses by \$2.0 million, decrease in depreciation expense by \$0.7 million, decrease in professional fees, consultant fees, and contract services by \$0.6, decrease in research grants by \$0.3 million, and decrease in travel related expenses by \$0.2 million. The decreases were a result of the Company focusing primarily on our core business associated with our bulk Liquidmetal alloy business while managing our costs. The Company continues to perform research and development efforts on new Liquidmetal alloys and related processing capabilities, develop new manufacturing techniques, and contract with consultants and provide research grants to various institutions to advance the development of Liquidmetal alloys.

*Impairment of Goodwill.* Impairment of goodwill was \$184, or 1% of revenue, in the twelve months ended December 31, 2003. Impairment of goodwill represents the write-down of the goodwill balance of Dongyang Yudoro ( Dongyang ), our 51% owned subsidiary in South Korea. During 2003, Dongyang experienced net losses as a result of a continuing economic downturn in the market for its machinery products. These events along with Dongyang s operating, and cash flow losses, and uncertainty surrounding its future cash flows, led us to evaluate our investment for recoverability as of December 31, 2003. As a result, we determined that the carrying value of our investment in Dongyang exceeded its fair value as of December 31, 2003 in the amount of \$184. In March 2004, we sold our 51% investment in Dongyang to the 49% minority shareholder (see Note 18). There was no impairment charge to goodwill in the twelve months ended December 31, 2004.

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*Impairment of Long Lived Assets.* Impairment of long lived assets was \$2.7 million, or 20% of revenue, in the twelve months ended December 31, 2003. Impairment expense represents a write-down of the building of our manufacturing facility in South Korea. Due to the decreased production and usage of our Pyongtaek manufacturing operation, we decided to obtain independent appraisals as to the fair value of this building. Accordingly, the fair value of the building as determined by the average of the two independent appraisals was less than the carrying value of the building as of December 31, 2003. There was no impairment charge to long lived assets in the twelve months ended December 31, 2004.

*Loss from Extinguishment of Debt.* Loss from extinguishment of debt was \$2.9 million, or 17% of revenue, during the twelve months ended December 31, 2004 due to the extinguishment of our March Notes as it relates to the exchange in August 2004. There was no such loss recorded during twelve months ended December 31, 2003.

*Change in Value of Warrants.* Change in value of warrants was a net gain of \$0.7 million, or 4% of revenue, during the twelve months ended December 31, 2004 from the change in valuation of warrant payable issued related to the senior convertible debt funded in March 2004, which was exchanged in August 2004 (see Note 15). There were no such amounts recorded for the twelve months ended December 31, 2003.

*Change in Value of Conversion Feature.* Change in the value of our conversion feature liability from our senior convertible debt funded in March 2004 and exchanged in August 2004 resulted in a Change in value of conversion feature gain of \$2.1 million, or 12% of revenue, during the twelve months ended December 31, 2004, primarily due to fluctuations in our stock price (See Note 15). There were no such amounts recorded for the twelve months ended December 31, 2003.

*Other Income.* Other income was \$0.3 million, or 2% of revenue, during the twelve months ended December 31, 2004 from certain stock transactions with John Kang, our Chairman, President, and Chief Executive Officer during 2002 (see Note 24). There were no amounts recorded as other income for the twelve months ended December 31, 2003.

*Interest Expense.* Interest expense was \$6.6 million, or 38% of revenue, in the twelve months ended December 31, 2004 and was \$0.4 million, or 3% of revenue, in the twelve months ended December 31, 2003. During the twelve months ended December 31, 2004, the interest expense was primarily due to the interest accrued, amortization of debt discount and deferred issuance costs on new senior convertible debt originally sold on March 3, 2004 and exchanged in August 2004, and interest accrued on Kookmin Bank loan funded on February 4, 2003. During the twelve months ended December 31, 2003, interest expense was primarily due to interest accrued on the Kookmin Bank loan to our South Korean subsidiary made on February 4, 2003.

*Interest Income.* Interest income was \$37 for the twelve months ended December 31, 2004 for interest earned on certificate of deposits. Interest income was \$0.3 million or 2% of revenue for the twelve months ended December 31, 2003 for interest earned on short-term, investment grade, interest-bearing securities.

*Gain from Sale of Investment.* In April 2003 we sold our remaining shares of Growell Metal Co., Ltd. that were purchased in July 2002. We recognized a \$1.2 million gain on the sale of these shares during the twelve months ended December 31, 2003. There were no such gains in the twelve months ended December 31, 2004.

*Comparison of the years ended December 31, 2003 and 2002*



*Revenue.* Revenue increased to \$13.7 million in the twelve months ended December 31, 2003 from \$9.1 million in the twelve months ended December 31, 2002. The increase was due to increases in revenue earned by our bulk Liquidmetal alloy segment in the twelve months ended December 31, 2003. This increase in our bulk Liquidmetal alloy segment revenue consisted of a revenue increase of \$1.8 million from the sale of metal processing equipment in the US, an increase of \$0.1 million from the sale and prototyping of parts manufactured from bulk Liquidmetal alloys, and an increase of \$2.2 million from research and development services related primarily to defense and medical applications. The increase in revenue earned by our bulk Liquidmetal alloy segment was offset by a decrease of \$1.6 million in the revenue earned by our coatings business as compared to the twelve months ended December 31, 2002 due to a slowdown in demand for drill pipe coatings.

*Cost of Sales.* Cost of sales increased to \$18.2 million, or 133% of revenue, during the twelve months ended December 31, 2003 from \$5.7 million, or 62% of revenue, in the twelve months ended December 31, 2002. The cost of sales as a percentage of revenue increased due to three primary factors: first, a higher percentage of plant operating costs allocated to manufacturing in the current period, as opposed to the same twelve month period in 2002 when our manufacturing facility was in the final stages of construction and significant in-plant spending was directed to research and development to support the ramp-up of manufacturing operations; second, the impact of unprofitable electronic casing components and prototypes moving through our manufacturing mix; and third, the impact of the write-down of excess raw material in the amount of \$1.0 million and the write-down of raw material and equipment inventory in the amount of \$2.8 million in connection with a settlement of a dispute with Growell which was finalized in January 2004.

Although the cost to manufacture parts from our bulk Liquidmetal alloys is variable and differs based on the unique design of each product, we expect gross margin to improve as we limit production and prototyping to select products that require the high-performance qualities of Liquidmetal alloys and can be priced accordingly. Furthermore, we believe that strategic licensing agreements and other relationships to advance the development of our technology and processes that we will pursue could also contribute to improved gross margins. The cost of sales for the products sold by the coatings business is expected to remain generally consistent because Liquidmetal coatings products are produced by third parties and sold wholesale to various industries.

*Selling, General, and Administrative Expenses.* Selling, general, and administrative expenses increased to \$17.7 million, or 130% of revenue, in the twelve months ended December 31, 2003 from \$13.1 million, or 143% of revenue, in the twelve months ended December 31, 2002. This increase was primarily a result of costs incurred for closing our Tampa, Florida offices, which included: an increase in severance costs of \$2.2 million for releasing a substantial number of these employees as well as our expense and accrual of \$0.8 million for terminating our office lease, due to the determination that we will be unable to sublease this space over the remaining term; an increase in professional fees, consultant fees, and contract services of \$0.8 million; an increase in insurance expense of \$0.5 million; an increase in data communications expense of \$0.2 million; an increase in depreciation expense of \$0.3 million; an increase of warranty expense of \$0.5 million; and a \$0.3 million increase in expenses associated with the disposition of certain assets in the twelve months ended December 31, 2003. The increase in selling, general and administrative expenses are associated with the aforementioned cost reduction measures, including the consolidation of offices, the staff reductions, and a corresponding shift in strategy for the continued development of our bulk Liquidmetal alloy business. This was partially offset by a decrease in advertising expense of \$0.1 million; a decrease in bad debt expense of \$0.9 million; and a \$0.7 million decrease in stock compensation expense.

*Research and Development Expenses.* Research and development expenses decreased to \$8.8 million, or 64% of revenue, in the twelve months ended December 31, 2003 from \$11.8 million, or 129% of revenue, in the twelve months ended December 31, 2002. This decrease was partially a result of the maturing of our manufacturing process and related processing capabilities, the consolidation of our facilities into our California Technology Center, and the discontinuation of certain prototyping and developmental activities that occurred extensively while the Company was identifying our current technology capabilities and limitations. These decreases were partially offset by increases in providing research grants to various institutions to advance the development of Liquidmetal alloys. In the category of research and development expenses: travel decreased by \$0.2 million; professional fees, consultant fees, and contract services decreased by \$1.6 million; laboratory and prototyping expenses decreased by \$0.9 million; and stock compensation expense decreased by \$1.4 million. These expenses were partially offset by increases in depreciation of research equipment of \$0.4 million, increased research grants to educational institutions of \$0.1 million, and increase to salaries, wages and severance net of \$0.5 million.

*Impairment of Goodwill.* Impairment of goodwill represents the write-down of the goodwill balance of Dongyang Yudoro ( Dongyang ), our 51% owned subsidiary in South Korea. During 2003, Dongyang experienced net losses as a result of a continuing economic downturn in the market for its machinery products. These events along with Dongyang's operating, and cash flow losses, and uncertainty surrounding its future cash flows, led us to evaluate our investment for recoverability as of December 31, 2003. As a result, we determined that the carrying value of our investment in Dongyang exceeded its fair value as of December 31, 2003 in the amount of \$184. In March 2004, we sold our 51% investment in Dongyang to the 49% minority shareholder.

*Impairment of Long Lived Assets.* Impairment expense represents a write-down of the building of our manufacturing facility in South Korea. Due to the decreased production and usage of our Pyongtaek manufacturing operation, we decided to obtain independent appraisals as to the fair value of this building. Accordingly, the fair value of the building as determined by the average of the two independent appraisal was less than the carrying value of the building as of December 31, 2003.

*Interest Expense.* Interest expense was \$0.4 million, or 3% of revenue, in the twelve months ended December 31, 2003 and was \$1.1 million, or 12% of revenue, in the twelve months ended December 31, 2002. During the twelve months ended December 31, 2003, interest expense was primarily due to interest accrued on the Kookmin Bank loan to our South Korean subsidiary made on February 4, 2003. During the twelve months ended December 31, 2002, interest expense was primarily due to the amortization of the fair value of warrants granted in connection with subordinated promissory notes we issued in February 2001.

*Interest Income.* Interest income was \$0.3 million, or 2% of revenue, in the twelve months ended December 31, 2003 due to interest earned on short-term, investment grade, interest-bearing securities. During the twelve months ended December 31, 2002, interest income was \$0.5 million, or 6% of revenue, which was interest earned from the proceeds of our May 22, 2002 initial public offering.

*Gain from Sale of Investment.* In April 2003 we sold our remaining shares of Growell Metal Co., Ltd. that were purchased in July 2002. We recognized a \$1.2 million gain on the sale of these shares.

## QUARTERLY RESULTS

The following information presents our unaudited quarterly operating results for 2004 and 2003. The data has been prepared by Liquidmetal Technologies, Inc. on a basis consistent with the Consolidated Financial Statements included elsewhere in this Form 10-K, and includes all adjustments, consisting of normal recurring accruals, that we consider necessary for a fair presentation thereof. Included in our 2003 fourth quarter results are costs charged to our cost of sales for the write-down of raw materials of \$1.0 million and a \$2.8 million write-down of inventory and equipment recorded in connection with a dispute settlement with Growell. In addition, as a result of the Company's cost reduction measures taken in the fourth quarter, our selling, general, and administrative expenses include severance costs of \$2.4 million and office relocation costs of \$0.8 million. These operating results are not necessarily indicative of our future performance.

During the fourth quarter of 2004, although our revenues were comparable to prior year, we had a decrease in revenue of \$2.1 million compared to the third quarter due to an unanticipated and temporary decrease in orders from one of our customers, Samsung. In addition, included in our fourth quarter cost of sales is a \$0.4 million charge related to certain hinge finished goods used in Samsung's cell phone models which were nearing its end of life. The Company experienced a gross loss of \$0.4 million for the fourth quarter due to the one time charge of cost of sales and also due to the fact that our cost of sales from our Liquidmetal bulk alloy segment includes primarily fixed costs from our labor and equipment expenses.

These statements should be read in conjunction with Note 2 in the notes to the consolidated financial statements hereto and Note 2 in the notes to consolidated financial statements in the fiscal 2003 annual report on Form 10-K filed on November 10, 2004, which reflects the restatements of prior year transactions.

Pursuant to Accounting Principles Board Opinion No. 30, *Reporting the Results of Operations - Reporting the Effects of Disposal of a Segment of a Business, and Extraordinary, Unusual and Infrequently Occurring Events and Transactions*, we reclassified our consolidated financial statements to reflect the discontinuation of our equipment manufacturing operations and retail golf business. The revenue, costs and expenses, assets and liabilities, and cash flows of the equipment manufacturing and our retail golf businesses were segregated in our accompanying Consolidated Balance Sheets, Consolidated Statements of Operations and Comprehensive Loss, and Consolidated Statements of Cash Flows. The net operating results, net assets, and net cash flows of the equipment manufacturing and retail golf businesses were reported as discontinued operations in our annual consolidated financial statements and in the condensed consolidated financial statements included in this report on Form 10-K. (see Note 18)

**Consolidated Statements of Operations Data:**

	<b>For the Three Months Ended</b>			
	<b>12/31/04</b>	<b>9/30/04</b>	<b>6/30/04</b>	<b>3/31/04</b>
	<b>(Restated)</b>	<b>(Restated)</b>	<b>(Restated)</b>	<b>(Restated)</b>
	<b>(In thousands, except per share data)</b>			
	<b>(Unaudited)</b>			
Revenue	\$ 2,471	\$ 4,615	\$ 4,055	\$ 6,288
Cost of sales	2,895	3,241	2,475	3,557
Gross profit (loss)	(424 )	1,374	1,580	2,731
Operating expense:				
Selling, general, and administrative	2,413	3,569	2,544	3,065
Research and development	407	374	345	341
Total operating expenses	2,820	3,943	2,889	3,406
Loss from operations	(3,244 )	(2,569 )	(1,309 )	(675 )
Loss on extinguishments of debt		(2,941 )		
Change in value of warrants, (loss) gain	(99 )	(434 )	694	586
Change in value of conversion feature, (loss) gain	(1,183 )	(2,338 )	3,904	1,710
Other income (expense), net		302		
Interest income (expense), net	(640 )	(3,283 )	(2,233 )	(384 )
Income (loss) from operation before income taxes and discontinued operations	(5,166 )	(11,263 )	1,056	1,237
Income taxes				
Income (loss) from continuing operations	(5,166 )	(11,263 )	1,056	1,237
Loss from discontinued operations, net of tax			(356 )	(393 )
Net income (loss)	\$ (5,166 )	\$ (11,263 )	\$ 700	\$ 844
Income (loss) per share from continuing operations basic and diluted	\$ (0.12 )	\$ (0.27 )	\$ 0.03	\$ 0.03
Weighted average common shares used to compute income / loss per share from continuing operations basic and diluted	41,610	41,610	41,610	41,610

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	For the Three Months Ended			
	12/31/03	9/30/03	6/30/03 (Restated)	3/31/03 (Restated)
	(In thousands, except per share data) (Unaudited)			
Revenue	\$ 2,645	\$ 3,281	\$ 4,533	\$ 3,199
Cost of sales	6,761	4,595	4,146	2,660
Gross profit (loss)	(4,116 )	(1,314 )	387	539
Operating expense:				
Selling, general, and administrative	5,435	3,661	4,571	4,062
Research and development	1,025	981	2,736	4,038
Impairment of goodwill	184			
Impairment of long-lived assets	2,684			
Total operating expenses	9,328	4,642	7,307	8,100
Loss from operations	(13,444 )	(5,956 )	(6,920 )	(7,561 )
Interest income (expense), net	(86 )	(53 )	(12 )	65
Gain on sale of marketable securities held-for-sale			1,178	
Loss from operations before income taxes, minority interest and discontinued operations	(13,530 )	(6,009 )	(5,754 )	(7,496 )