

SOUTHWALL TECHNOLOGIES INC /DE/
Form 10-K
March 30, 2005

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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2004

OR

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

For the transition period from _____ to _____

Commission file number 0-15930

Southwall Technologies Inc.
(Exact name of Registrant as specified in its Charter)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

94-2551470
(I.R.S. Employer Identification
Number)

3975 East Bayshore Road
Palo Alto, California 94303
(Address of Principal Executive Offices including Zip Code)

(650) 962-9111
(Registrant's Telephone Number, Including Area Code)

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

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

Common Stock
(Title of Class)

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

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The approximate aggregate market value of the Common Stock held by non-affiliates of the registrant on June 27, 2004 (based upon the closing sales price of the Common Stock on the Over-the-Counter Bulletin Market on such date) was \$5 million. For purposes of this disclosure, Common Stock held by stockholders whose ownership exceeds five percent of the Common Stock outstanding as of June 27, 2004, and Common Stock held by officers and directors of the registrant has been excluded in that such persons may be deemed to be "affiliates" as that term is defined in the rules and regulations promulgated under the Securities Act of 1933, as amended. This determination is not necessarily conclusive.

The number of shares of the registrant's Common Stock outstanding on March 1, 2005 was 26,778,482.

Documents Incorporated by Reference

<u>Document Description</u>	<u>10-K Part</u>
Portions of the Registrant's Proxy Statement For the Annual Meeting of Stockholders to be held May 26, 2005	III

**SOUTHWALL TECHNOLOGIES INC.
2004 ANNUAL REPORT ON FORM 10-K**

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As used in this report, the terms "we," "us," "our," "Southwall" and the "Company" mean Southwall Technologies Inc. and its subsidiaries, unless the context indicates another meaning.

This report contains forward-looking statements as that term is defined in the Private Securities Litigation Reform Act of 1995, that are subject to a number of risks and uncertainties. All statements other than statements of historical facts are forward-looking statements. These statements are identified by terminology such as "may," "will," "could," "should," "expects," "plans," "intends," "seeks," "anticipates," "believes," "estimates," "potential," or "continue," or the negative of such terms or other comparable terminology, although not all forward-looking statements contain these identifying words. Forward-looking statements are only predictions and include, without limitation, statements relating to:

our ability to continue as a going concern;

our strategy, future operations and financial plans, including, without limitation, our plans to install and commercially produce products on new machines;

the continued trading of our common stock on the Over-the-Counter Bulletin Board Market;

future applications of thin film coating technologies and our development of new products;

our expectations with respect to future grants, investment allowances and bank guarantees from the Saxony government;

our projected need for additional borrowings and future liquidity;

statements about our ability to implement and maintain effective controls and procedures;

statements about the future size of markets;

pending and threatened litigation and its outcome;

our competition; and

our projected capital expenditures.

You should not place undue reliance on our forward-looking statements. Actual events or results may differ materially. In evaluating these statements, you should specifically consider various factors, including the risks outlined under "Risk Factors" below. These factors may cause our actual results to differ materially from any forward-looking statement. Although we believe the expectations reflected in our forward-looking statements are reasonable as of the date they are being made, we cannot guarantee our future results, levels of activity, performance, or achievements. Moreover, neither we nor any other person assumes responsibility for the future accuracy and completeness of these forward-looking statements.

XIR, XUV, Triangle Design, Superglass, Heat Mirror, California Series, Solis, ETCH-A-FLEX, and Southwall are registered trademarks of Southwall. V-KOOL is a registered trademark of Globamatrix Holdings Pte. Ltd. All other trade names and trademarks referred to in this prospectus are the property of their respective owners.

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PART I

ITEM 1. BUSINESS

Overview

We are a global developer, manufacturer and marketer of thin film coatings for the automotive glass, electronic display, architectural glass and window film markets. We have developed a variety of products that control sunlight in automotive glass, reduce light reflection, reduce potentially harmful electromagnetic emissions and improve image quality in electronic display products, and conserve energy in architectural products and after-market window film products. Our products consist of transparent solar-control films for automotive glass; anti-reflective films for computer screens and reflective films for back-lighting in liquid crystal displays; transparent conductive films for use in touch screen and plasma panel displays; energy control films for architectural glass; and various other coatings. Based upon our production capacity, we believe we are one of the world's largest producers of sputter-coated, flexible thin film products.

We maintain a website with the address of www.southwall.com. We are not including the information contained on our website as a part of, or incorporating it by reference into, this Annual Report on Form 10-K. We make available free of charge through our website our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, and amendments to these reports, as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the Securities and Exchange Commission. In addition, we intend to disclose on our website any amendments to, or waivers from, our code of business conduct and ethics that are required to be publicly disclosed pursuant to the rules of the Securities and Exchange Commission.

Industry Background

Large area, single layer, thin film coatings were developed in the early 1960s using vacuum evaporation, a less precise precursor to sputter coating. As a result of technological developments in the early 1970s, multi-layer coatings for large substrates became possible. Sputtering based on these developments is used today in a large number of applications in which high quality; uniform coatings need to be deposited on large surfaces or on many smaller surfaces simultaneously. Examples of sputter coating include the deposition of various metal and metal oxide layers on wafers in the semiconductor and hard disk industries, and optical coatings on transparent surfaces in the automotive glass, electronic display, and architectural markets.

Thin film coatings are used in a wide variety of applications to control the transmission and reflection of light and the flow of energy. Thin film coatings can modify the transmission, reflection and absorption of both visible and non-visible light, such as infrared and ultra-violet light, to enhance the performance and characteristics of the material.

Thin film process technologies

The three most common methods for commercially producing thin film coatings on glass and flexible substrates are:

Wet coating. The wet coating process generally involves depositing a thin layer of material onto glass by a spin coating technique or onto a flexible substrate, or film, by a number of different methods. In the case of spin coating, which is sometimes used for computer display tubes, or CDTs, a small amount of liquid is placed at the center of a spinning CDT, forcing the liquid from the center towards the outside edge. Once a uniform thin layer of liquid is thus applied, the layer is bake-dried at a moderate temperature. In the case of film coating, a thin layer of liquid material is applied to the surface of plastic film and then dried by means of thermal or direct radiation. This process is generally less expensive than sputter coating, but generally yields coatings with lower quality optical and mechanical

characteristics.

Direct coating onto glass substrates. Direct coating onto glass can be accomplished by sputtering and by pyrolytic means. Direct-to-glass sputtering is a mature, well-known process for applying thin film coatings to glass. This technology is commonly used to manufacture products that conserve energy in buildings. Pyrolytic coatings are formed directly on the glass as it is produced on a float line. The pyrolytic process uses the heat of the molten glass to make a single layer, metal oxide coating from a solution sprayed onto the glass. Because this technique produces only single layer coatings, the performance is limited.

Sputter coating onto flexible film substrates. The sputter coating process, which is the process we primarily employ, deposits a thin layer of materials, generally metals and metal oxides, onto the surface of a flexible substrate, usually polyester. The substrate can then be either laminated in or applied to glass or suspended between panes of glass. The substrate can be applied to both flat glass and curved glass, such as is used in automotive applications.

The thin film coating process begins with a clear base substrate that is typically glass or a flexible polyester film. When using a flexible film, a hard coat is sometimes applied to prevent undesired interactions between the materials to be deposited and the base substrate, as well as improve the mechanical properties of the coating. Various materials are then deposited in very thin layers on the substrate. The process of building up the various layers results in a "stack." The stack consists of layers of materials that produce the desired optical and performance effects. In some applications, primarily with flexible films, adhesive or protective layers may be applied to the substrate to improve the subsequent application of the product onto a rigid substrate, such as glass.

Our Markets

The primary markets for thin film coated substrates that we manufacture are the automotive glass, electronic display, architectural glass and window film markets. Advances in manufacturing processes coupled with improved thin film deposition technologies in the automotive glass and electronic display markets are reducing production costs, allowing thin film coated substrates to more cost-effectively address these markets.

Automotive glass products

The thin film coated substrates we sell in this market reflect infrared heat. These coatings allow carmakers to use more glass and increase energy efficiency by reducing the demand on a vehicle's air conditioning system, as well as improving thermal comfort in the vehicle. Thin film coated substrates in this market are sold primarily to original equipment manufacturers, or OEMs, that produce glass for sale to European manufacturers of new cars and trucks for worldwide distribution.

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Nearly all automotive glass in the world uses some degree of tint or coloration to absorb light and solar energy, thus reducing solar transmission into the vehicle. This tint is usually created through the mixing of inorganic metals and metal oxides into the glass as the glass is produced. The cost of adding these materials is very low, but the solar control benefit is limited by the fact that solar energy is absorbed in the glass, causing the glass to heat up, which eventually increases the temperature inside the automobile.

Electronic display products

The thin film coated products we sell in this market primarily reduce glare caused by reflection from glass surfaces, improve contrast and image quality, block electromagnetic emissions and infrared energy, and enhance the light output of certain displays. Our thin film coated substrates are used in cathode ray tubes, or CRTs, liquid crystal and plasma displays, and in applications such as touch screens. In 2002, we started shipping production quantities and sizes of an anti-reflective film specifically designed for the liquid crystal display, or LCD, market. In 2003, we started shipments of coatings for the plasma display panel, or PDP, market. Thin film coated substrates in this market are generally sold to OEMs, which apply the film to flat screens.

Architectural glass products

The thin film coated substrates we sell in this market are primarily used to control the transmission of heat through window glass, as well as to limit ultra-violet light damage. Window glass is a poor thermal barrier; thus, the primary source of heat build-up and loss in buildings is through the glass windows.

Window Film

The thin film coated substrates we sell in this market are similar to the films sold into the automotive and architectural glass markets. Differences include certain product characteristics that allow the architectural window film products to be sold in the aftermarket rather than through the OEMs. In addition, our automotive window film products are used for retrofit application to the inside surface of a vehicle window and are sold through resellers who install the film.

Technology

In a sputtering process, a solid target and a substrate are placed in a vacuum chamber. By adding a small amount of process gas, typically argon, to the chamber and negatively charging the target, the process gas is ionized and a plasma discharge is formed. The positively charged gas ions strike the solid target with enough force to eject atoms from its surface. The ejected target atoms condense on the substrate and a thin film coating is constructed atom by atom. By placing a magnet behind the target, the electrons in the ionized plasma are confined to a specific region on the target enhancing the creation of ionized gas atoms and increasing the efficiency of the target atom ejection process. By using different targets as the substrate moves through the vacuum chamber, we can create a multi-layered coating, or stack.

If the process gas is inert, such as argon, the coating will have the same composition as the target material. As an example, many of our coatings have a layer of silver in the stack. However, by adding a reactive gas such as oxygen or nitrogen to the process, it is possible to create metal oxide or metal nitride coatings from a metal target.

The advantages of our sputtering process include the high density of the formed coatings and the high degree of uniformity control that we can achieve.

In addition to the process techniques described above, we have developed the ability to deposit wet chemistry based coatings under atmospheric conditions. In this technique, the active component of the thin film is in a solution and is

applied to the substrate by rotating cylinder. After applying the wet film, the substrate is heated, evaporating the solvent and leaving a thin film of the active component behind. This technology is used to apply an anti-smudge coating on top of our sputtered anti-reflective films. The function of the anti-smudge coating is to make the final product more resistant to fingerprints and easier to clean. Other coatings can be applied through this technique as well. This technology was moved from our former Tempe, Arizona manufacturing facility to our Palo Alto, California manufacturing facility during the first half of 2004.

We rely extensively upon trade secrets and know-how to develop and maintain our competitive position. We have 34 patents and 6 patent applications pending in the United States and 67 patents and more than 40 patent applications pending outside the United States that cover materials, processes, products and production equipment. Of our existing patents, six U.S. patents and four international patents will expire in the next three years. We also seek to avoid disclosure of our know-how and trade secrets through a number of means, including requiring those persons with access to our proprietary information to execute nondisclosure agreements with us. We consider our proprietary technology, as well as its patent protection, to be an important factor in our business.

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The following table describes the markets into which we sell our products, the applications of our products, our product families, key features of our various products and representative customers.

MARKET	APPLICATION	FILM PRODUCTS	KEY FEATURES	REPRESENTATIVE CUSTOMERS
<i>Automotive glass</i>	Windscreens, side windows, and back windows	Infrared reflective (XIR 70 and XIR 75)	Transmits 70% or 75% visible light	Saint Gobain Sekurit
			Reflects 85% of infrared heat energy	Pilkington PLC
				Asahi
				Guardian Glass
<i>Electronic display</i>	Flat screen CRT monitors and TVs	Anti-reflective absorbing (ARA)	Pigmented film	Mitsubishi Electric
			8X reduction in light reflection	
			High picture quality	
	Liquid crystal display (LCD) screens	Anti-reflective clear (ARC)	Clear anti-reflective product	Berliner Glass
	Plasma display panels (PDP)	Infrared reflective (TCP)	Clear and Conductive	Mitsui Chemicals
			Clear infrared blocking	
<i>Architectural glass</i>	New and retrofit residential and commercial windows and doors	Suspended Heat Mirror	Cool in summer	Kensington Windows
			Warm in winter	Zamil Glass
			UV blocking	Traco
			Noise reducing	
	Commercial buildings	Laminated (XIR)	Infrared reflecting	Gulf Glass Industries
			UV blocking	Cristales Curvados

Cool in summer

Noise reducing

Window film

After-market
installation

Solis/V-KOOL

Transmits up to 75%
visible light

Globamatrix

Huper Optik

Reflects up to 85%
of infrared heat
energy

Huper Optik

Infrared reflecting

UV blocking

Cool in summer

Noise reducing

Automotive glass products

Direct-to-glass sputtering for automotive windshields has not historically been well developed because of the need to bend the glass before it can be coated and then installed in an automobile. Coating flat glass and then bending it to match complex automobile designs is less difficult. Therefore, coating flat glass and then bending it is the method currently used by most windshield glass producers. Our sputter coated flexible substrates can be applied to windshields with different curvatures and incorporated into most in-line windshield production processes used by glass companies today.

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Our XIR coated solar-control films are transparent, sputter-coated, polyester films used in laminated glass for automobiles. The films have a patented, transparent solar-control coating on one side and a proprietary adhesion-promotion layer on the other.

Our net revenues from sales of automotive glass products were \$20.6 million, \$20.3 million and \$20.4 million in 2004, 2003 and 2002, respectively.

Electronic display products

Our sputter coated substrates offer the high optical quality necessary for higher resolution electronic displays. Our substrates can be easily cut into different shapes and sizes, providing increased flexibility for our customers. In addition, our products can effectively reduce undesirable or potentially harmful emissions without affecting the resolution of the display.

Anti-reflective films. Our anti-reflective films minimize reflection of visible light while allowing high picture quality. Our anti-reflective absorbing, or ARA, films are pigmented and used in flat screen CRT monitors. Our anti-reflective clear, or ARC, films are clear and used in LCD and plasma display panel screens.

Silver reflecting films. Our silver reflecting film is a mirror-like product used as a reflector in LCD backlit screens and for mirrors in rear-projection TV systems.

Transparent conductors. XIR films are used in the plasma display panel markets to block near-infrared and electromagnetic radiation from the display. Our ALTAIR-M films are used in products such as touch panels, liquid crystal displays and electroluminescent displays where the circuit or conductive material must not obscure the screen. ALTAIR films are also used in electromagnetic interference shielding, infrared rejection and electrostatic discharge packaging applications.

Our net revenues from sales of electronic display products were \$20.6 million, \$19.0 million and \$26.6 million in 2004, 2003 and 2002, respectively.

Architectural glass products

Windows containing our Heat Mirror product have approximately two to five times the insulating capacity of conventional double-pane windows. They also provide high levels of solar shading while transmitting a high percentage of visible light. In addition, our products also offer ultra-violet protection and reduce noise and condensation build-up. Our products allow architectural glass manufacturers to improve insulation without adding numerous panes of glass that are impractical to lift and cannot be supported by a structure's frame. This drives the need for thin film inside the glass that is a high performance insulator at a fraction of the weight of the glass.

Suspended Heat Mirror films. Our Heat Mirror films provide a variety of shading and insulating properties as well as ultra-violet damage protection. Windows are the primary areas of heat loss in winter and a major source of heat gain in summer. Heat Mirror films, which are sold in rolls to window manufacturers, are suspended in the airspace between sealed double-pane residential and commercial windows. We have developed proprietary film-mounting technology, which we license to window fabricators. There are more than 50 Heat Mirror licenses in approximately 20 countries. We currently offer 12 different Heat Mirror films for architectural applications.

Laminated films. Our thin film coated flexible substrates are laminated between panes of glass and perform similarly to our XIR solar control films for automobiles. This film is currently sold primarily to fabricators of laminated window glass for large commercial building applications such as airports, office buildings, and museums. We have

sold more than 20 licenses for this architectural film product in approximately 15 countries.

Our net revenues from sales of architectural products were \$7.0 million, \$6.3 million and \$11.2 million in 2004, 2003 and 2002, respectively.

Window Film Products

Our Solis/V-KOOL and Huper Optik solar-control films for automotive glass and architectural glass aftermarket installation use our XIR and other patented coating technologies. These products are applied to existing windows and have a protective hard coat over the patented, transparent solar-control coating on one side and an adhesion layer on the other. Solis/V-KOOL and Huper Optik are sold through a worldwide distribution network of companies owned by or affiliated with Globamatrix.

Our net revenues from sales of window film products were \$9.4 million, \$7.7 million and \$10.6 million in 2004, 2003 and 2002, respectively.

Sales and Marketing

Distribution channels

We sell our automobile and electronic display products primarily to OEMs in North America, Europe, the Middle East and Asia, principally through our own direct sales force and sales representatives. Mitsui Chemicals is our licensee and distributor for certain of our electronic products, and has exclusive manufacturing and distribution rights for certain of our electronic products using our proprietary sputtering technology.

We supply our Heat Mirror architectural products to approximately 50 insulated glass and window fabricators and distributors worldwide. Our proprietary mounting technology is licensed to our customers, who use special equipment for the manufacture of Heat Mirror-equipped windows. Our field services organization assists customers in the manufacture of Heat Mirror-equipped windows. In North America, we also promote our Heat Mirror product line through approximately 6 regionally based architectural glass sales representatives.

We sell our Solis/V-KOOL and Huper Optik aftermarket products for the automotive glass and architectural markets through a worldwide distribution network of companies owned by or affiliated with Globamatrix.

International revenues amounted to approximately 79%, 89% and 85% of our net revenues during 2004, 2003 and 2002, respectively. The principal foreign markets for our products in 2004 were Japan (\$18 million) and France (\$10 million).

Quality claims

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We accept sales returns for quality claims on our products, which we believe are competitive for the markets in which those products are sold. The nature and extent of these quality claims depend on the product, the market, and in some cases the customer being served. We carry liability insurance. However, our insurance does not cover quality claims and there can be no assurance that our insurance will be sufficient to cover all product liability claims in the future or that the costs of this insurance or the related deductibles will not increase materially.

Customers

Our customers include many of the world's leading OEMs in the automotive glass and electronic display markets. Our customers in the OEM automotive glass market include Saint Gobain Sekurit, Pilkington PLC, and Asahi, which sell glass to automobile manufacturers including DaimlerChrysler, Renault, Audi, BMW, Volvo, Volkswagen and the PSA Group (which includes Peugeot and Citroen). We currently have a supply agreement with Saint Gobain Sekurit, which runs through December 2005. Our failure to produce the required amounts of products under the agreement could result in penalties on future sales under the agreements.

Our customers in the electronic display market include Mitsui Chemicals, Berliner Glass and a number of other small accounts.

In 2004, our customers in the architectural market included approximately 50 fabricators of insulated glass units and laminated glass for architectural applications.

Our aftermarket applied film in the automotive and architectural glass markets is sold pursuant to an exclusive worldwide license in our distribution agreement with Globamatrix. Under the Agreement, which is scheduled to expire in 2011, Globamatrix agreed to purchase a set amount of our products during the term of the agreement subject to volume and quality standards. Our failure to produce required amounts of product under the agreement will result in penalties under which we would be required to reimburse Globamatrix for the full cost of any product not timely delivered. For each year after 2004 through and including 2011, Globamatrix is required to purchase an amount of product equal to 110% of the amount of product it was required to purchase in the prior year. Globamatrix is obligated to purchase at least \$10.3 million from us in 2005.

A small number of customers have accounted for a substantial portion of our revenues. Our ten largest customers accounted for approximately 79%, 84% and 84% of our net revenues in, 2004, 2003 and 2002, respectively. During 2004, Mitsui Chemicals, Saint Gobain Sekurit, V-Kool and Pilkington PLC accounted for 28.4%, 17.8%, 11.4% and 10.9%, respectively, of our net revenues. During 2003, Mitsui Chemicals, Saint Gobain Sekurit, Pilkington PLC and V-Kool accounted for 21.4%, 17.2%, 13.7% and 10.0%, respectively, of our net revenues. During 2002, Saint Gobain Sekurit, Mitsubishi, Mitsui Chemicals and Pilkington PLC accounted for 18.7%, 18.0%, 15.7% and 10.8%, respectively, of our net revenues. Because of our fixed costs, the loss of, or substantial reduction in orders from, one or more of these customers would have a material adverse affect on our profitability and cash flow. The timing and amount of sales to these customers depends on sales levels and shipping schedules for the OEM products into which our products are incorporated. We have no control over the shipping dates or volume of products shipped by our OEM customers, and we cannot be certain that they will continue to ship products that incorporate our products at current levels or at all. In addition, we rely on our OEM customers to timely inform us of opportunities to develop new products that serve end-user demands.

Research and Development

Our research and development activities are focused upon the development of new proprietary products, thin film materials science, and deposition process optimization and automation and applied engineering. Our research and development expenditures totaled \$3.2 million, \$6.7 million and \$7.7 million, or approximately 5.6%, 12.6% and

11.2% of total net revenues in 2004, 2003 and 2002, respectively.

Historically, our research and development efforts have been driven by customer requests for the development of new applications for thin film coated substrates. To meet the future needs of our customers, we continually seek to improve the quality and functionality of our current products and enhance our core technology. For example, in 2002 we began shipping production quantities and sizes of an anti-reflective film specifically designed for the liquid crystal display and plasma display panel markets that maintain optical clarity while reducing the reflection of ambient light to improve image quality. In 2003, we developed a new conductive film to satisfy Class B infrared shielding requirements for plasma display panels. In 2004, the Class B film was sold in substantial quantities for the first time for use in PDP television sets. We cannot guarantee that we will be successful in developing or marketing these applications or that our films will continue to meet the demanding requirements of the changing technology.

We are presently conducting a national search for a new Chief Technology Officer/Vice President of Engineering as well as for several new scientific and engineering positions.

Although our production systems are built by outside vendors, we work closely with our vendors on the detailed implementation of the production machine designs. Our experience with designing production systems is critical for the proper construction of these machines. Once a new machine is installed and accepted by us, our engineers are responsible for transitioning the system into commercial production to help ensure stable manufacturing yields.

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The table below provides information about our current production machines and the class of products that each is currently tooled to produce.

Machine Number	Location	Primary Markets For Current Production	Year Commercial Production Initiated	Estimated Annual Capacity (Millions of Sq. Ft.) ⁽¹⁾
PM 1	Palo Alto	Architectural	1980	none
PM 2	Palo Alto	Electronic display (currently not in use)	1982	6.0
PM 4A	Palo Alto	Automotive, architectural, electronic display and window film	1991	12.0
PM 4B	Palo Alto	Automotive, architectural, electronic display and window film	1991	12.0
PM 8	Dresden	Automotive, architectural, electronic display and window film	2000	16.0
PM 9	Dresden	Automotive, architectural, electronic display and window film	2001	16.0
PM 10	Dresden	Automotive, architectural, electronic display and window film	2003	16.0

⁽¹⁾ Estimated annual capacity represents our estimated yields based on our historical experience and anticipated product mix. The amount of product for which we receive orders and which we actually produce in any year may be materially less than these estimates.

We previously had three additional production machines located in Tempe, Arizona, which were used for electronic display and automotive product manufacturing. In December 2003, we ceased production on those machines and transferred ownership of two of the machines to a third party in connection with the settlement of litigation relating to the machines. We sold a third machine in the second quarter of 2004, and the majority of the proceeds were applied against the outstanding loan obligation owed to the holder of a lien on the machine. We also employ a wet coating and

laminating machine, which is used to apply various topcoats and adhesives, and for lamination of liner films. This technology was utilized at our Tempe, Arizona manufacturing facility during 2003 and was moved to our Palo Alto, California manufacturing facility in the first half of 2004.

Our Dresden, Germany facility is ISO 9001/2000 certified.

Dresden, Germany facility

We own a production plant in Grossroehrsdorf, Germany, near the city of Dresden. The plant has three production machines and manufactures about 60% of our products. Southwall's Dresden plant is a supplier of automotive and architectural energy management films used by glass companies to enhance the thermal performance of their products.

Environmental Matters

We use potentially hazardous materials in our research and manufacturing operations and have air and water emissions that require controls. As a result, we are subject to stringent federal, state and local regulations governing the storage, use and disposal of wastes. We contract with outside vendors to collect and dispose of waste at both of our production facilities in compliance with applicable environmental laws. In addition, we have in place procedures that we believe enable us to deal properly with the gasses emitted in our production process, and we have implemented a program to monitor our past and present compliance with environmental laws and regulations. Although we believe we are currently in material compliance with such laws and regulations, current or future laws and regulations may require us to make substantial expenditures for compliance with chemical exposure, waste treatment or disposal regulations.

Suppliers and Subcontractors

We manufacture our products using materials procured from third-party suppliers. We obtain certain of these materials from limited sources. For example, the substrate we use in the manufacture of the Heat Mirror product is currently available from only one qualified source, Teijin Limited, holder of approximately 3% of our common stock as of March 1, 2005. The substrates used in the manufacture of our anti-reflective film are currently available from only two qualified sources, Teijin and Dai Nippon Printing. The loss of these current sources could adversely affect our ability to meet our scheduled product deliveries to customers. In each case, alternative sources of supply are being pursued; however, it takes approximately 18 to 24 months for us to qualify a new supplier and we may not be able to successfully develop such sources.

We rely on third-party subcontractors to add properties, such as adhesives, to some of our products. There are only a limited number of qualified subcontractors that can provide some of the services we require. A significant increase in the price charged by one or more of our subcontractors could force us to raise prices on our products or lower our margins, which could have a material adverse effect on our operating results.

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Furthermore, our production machines are large, complex and difficult to design and assemble. It can take up to a year from the time we order a machine until it is delivered. Following delivery, it can take us, with the assistance of the manufacturer, up to six additional months to test and prepare the machine for commercial production. There are a limited number of companies that are capable of manufacturing these machines to our specifications. Our inability in the future to have new production machines manufactured and prepared for commercial production in a timely manner would have a material adverse effect on our business.

Backlog

Our backlog primarily consists of purchase orders for products to be delivered within 90 days. As of February 28, 2005 and March 28, 2004, we had a backlog of orders able to be shipped over the next 12 months of approximately \$7.6 million and \$9.6 million, respectively. Some of these orders are not firm orders and are subject to cancellation. For these reasons, these orders may not be indicative of our future revenues.

Competition

The thin film coatings industry and the markets in which our customers compete experience rapid technological change, especially the electronic display market. Adoption by our competitors of new equipment or process technologies could adversely affect us. We have a number of present and potential competitors, including our customers, many of which have greater financial resources and greater selling, marketing and technical resources than we possess.

Automotive glass market. Large, worldwide glass laminators typically have divisions selling products to the commercial flat glass industry and provide solar control products in the automotive OEM market. Several of these companies, such as PPG Industries, Pilkington PLC, Saint Gobain, Asahi, Guardian, and Glaverbel, have direct-to-glass sputtering capability. In addition, during 2001, 3M entered the automotive solar control market with an all-polymer film. Although this non-metallic film has the advantage of being completely corrosion resistant, its many layers may delaminate. We may also be subject to future competition from companies that are able to infuse glass with solar control properties. We estimate that in 2004 our coated substrates were used in less than 1% of the total worldwide automotive OEM glass produced.

Electronic display market. Competitors in the electronic display market include companies developing new coatings, such as wet coatings, for flat panel displays, as well as competitors who supply sputter coated films similar to those produced by us. Customers' selection of anti-reflective products is driven by quality, price and capacity. In addition, some of our current and potential customers are capable of creating products that compete with our products. We estimate that in 2004 our coated substrates were applied to less than 4% of the products in the worldwide, flat screen plasma display market.

Architectural glass market. Products that provide solar control and energy conservation have been available to this market for almost 20 years. Since our introduction of our Heat Mirror suspended film product in 1979, large glass producers, such as Guardian, PPG, Apogee Enterprises, Pilkington, Saint Gobain Sekurit, and Asahi, have produced their own direct-to-glass sputtered products that provide solar control and energy conservation similar to our Heat Mirror product. We estimate that in 2004 our coated substrates were used in less than 1% of the glass used worldwide in residential and commercial buildings.

Window film market. In the applied film segment of the market, companies such as 3M, Bekeart, CP Films (a subdivision of Solutia), and Lintec Inc. produce competitive solar control products that are widely accepted in the market.

Basis of competition

We believe we compete principally on the basis of:

- Proprietary thin film sputtering process knowledge and control systems;
- Our extensive thin film materials expertise and optical design capabilities;

• Our state-of-the-art coating facility in a low-cost labor environment, which receives significant financial support from local and federal governments in Germany; and

- Our ability to easily alter the format of our products, providing our customers with inventory versatility and higher production yields.

Employees

As of December, 31, 2004, we had 158 full-time and 5 part-time employees, of whom 16 were engaged in engineering, 109 in manufacturing, 12 in sales and marketing, and 26 in general management, finance and administration. We are highly dependent upon the continuing services of certain technical and management personnel. None of our U.S. employees is represented by a labor union. To our knowledge, none of our German employees are represented by a labor union. We consider our employee relations to be good.

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ITEM 2. PROPERTIES

Our administrative, marketing, engineering and manufacturing facilities are located in three buildings totaling approximately 51,000 square feet in Palo Alto, California. The buildings in Palo Alto are occupied under leases that expire on December 31, 2005 and January 31, 2006. In addition, we are leasing a warehouse in South San Francisco, California totaling approximately 9,200 square feet. This lease expires on August 31, 2005. We own a 60,000 square foot building in Dresden, Germany, which we took possession of in May 2000. We expect to renew our leases in Palo Alto and believe that our current facility leases, when renewed, are sufficient for our needs.

ITEM 3. LEGAL PROCEEDINGS

The Company is named as a defendant, along with Bostik, Inc., in an action captioned WASCO Products, Inc. v. Southwall Technologies, Inc. and Bostik, Inc., Div. Action No. C 02 2926 SBA, which was filed in Federal District Court for the Northern District of California on June 18, 2002. We were served with the Complaint in this matter on July 1, 2002. The plaintiff filed the matter as a class action on behalf of all entities and individuals in the United States who manufactured and/or sold and warranted the service life of insulated glass units manufactured between 1989 and 1999, which contained Southwall Heat Mirror film and were sealed with a specific type of sealant manufactured by Bostik, Inc. The plaintiff alleged that the sealant provided by Bostik, Inc. was defective, resulting in elevated warranty replacement claims and costs. The plaintiff asserted claims against us for breach of an implied warranty of fitness, misrepresentation, fraudulent concealment, negligence, negligent interference with prospective economic advantage, breach of contract, unfair business practices and false or misleading business practices. The plaintiff sought recovery on behalf of the class of \$100 million for damages allegedly resulting from elevated warranty replacement claims, restitution, injunctive relief, and non-specific compensation for lost profits. By Order entered December 22, 2003, the Court dismissed all claims against us. The plaintiff has filed a notice of appeal to the Ninth Circuit Court of Appeals. Our insurance carriers under reservation of rights are paying a percentage of our defense costs.

We are a defendant in the action captioned Four Seasons Solar Products Corp. v. Black & Decker Corp., Bostik, Inc. and Southwall Technologies Inc., No. 5 CV 1695, in the United States District Court for the Eastern District of New York. Plaintiff was a manufacturer of insulated glass units, which incorporate Heat Mirror film. Plaintiff alleged that a sealant produced by a co-defendant is defective, asserts causes of action for breach of contract, unfair competition, and fraudulent concealment, and sought monetary damages of approximately \$36 million for past and future replacement costs, loss of customer goodwill, and punitive damages against all defendants. On April 8, 2003, the Court issued an order granting final judgment in our favor. Four Seasons filed a Notice of Appeal. On appeal, the judgment in our favor was affirmed. Our insurance carriers under reservation of rights paid a percentage of our defense costs.

The insurance carriers in some of the litigation related to alleged product failures and defects in window products manufactured by others in which we were a defendant in the past paid the defense and settlement costs related to such litigation. Those insurance carriers reserved their rights to recover a portion or all of such payments from us. As a result, those insurance carriers could seek from us up to an aggregate of \$12.9 million plus defense costs, although any such recovery would be restricted to claims that were not covered by our insurance policies. We intend to vigorously defend any attempts by these insurance carriers to seek reimbursement. We are not able to estimate the likelihood that these insurance carriers will seek to recover any such payments, the amount, if any, they might seek, or the outcome of such attempts.

In addition, we are involved in certain other legal actions arising in the ordinary course of business. We believe, however, that none of these actions, either individually or in the aggregate, will have a material adverse effect on our business, our consolidated financial position, results of operations or cash flows.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS

On October 5, 2004, we held our Annual Meeting of Stockholders. The following matters were voted upon:

1. Our stockholders elected William A. Berry, George Boyadjieff, Thomas G. Hood, Jami K. Nachtsheim, Joseph B. Reagan and Walter C. Sedgwick as directors to serve for the ensuing year.

The vote for each director was as follows:

<u>Director</u>	<u>For</u>	<u>Withheld</u>
William A. Berry	11,309,711	544,557
George Boyadjieff	11,309,711	544,557
Thomas G. Hood	11,290,611	563,657
Jami K. Nachtsheim	11,304,711	549,557
Joseph B. Reagan	11,250,411	603,857
Walter Sedgwick	11,311,211	543,057

There were no votes abstaining, nor were there any broker non-votes, in the selection of directors.

2. Our stockholders approved an amendment to our certificate of incorporation to increase the number of authorized shares of common stock from 20,000,000 to 50,000,000 and the total number of authorized shares of capital stock from 25,000,000 to 55,000,000. The proposal passed with 10,956,991 votes "FOR", 848,716 votes "AGAINST", 48, votes "WITHHELD", 49,561 votes "ABSTAINING", and none broker non- votes.

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3. Our stockholders approved an amendment to our 1997 Stock Incentive Plan to increase the number of shares of common stock reserved for issuance under such plan from 2,150,000 to 6,150,000 and to eliminate the evergreen provisions that automatically on the first day of each year increased the number of shares available for issuance. The proposal passed with 4,436,441 votes "FOR", 1,734,464 votes "AGAINST", 22,661 votes "ABSTAINING", and 5,660,702 broker non-votes.
4. Our stockholders approved our 1998 Stock Plan for Employees and Consultants, which was originally adopted by our Board of Directors in August 1998. On March 25, 2004, we adopted an amendment to our 1998 Stock Plan for Employees and Consultants to increase the number of shares of common stock reserved for issuance under such plan from 1,150,000 to 2,400,000 and to eliminate the evergreen provisions that automatically on the first day of each year increased the number of shares available for issuance. The proposal passed with 4,459,971 votes "FOR", 1,712,334 votes "AGAINST", 21,261 votes "ABSTAINING", and 5,660,702 broker non-votes.

Executive Officers of Registrant

The names, ages and positions of our current executive officers are as follows:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Thomas G. Hood	49	President, Chief Executive Officer and Director
Maury Austin	47	Senior Vice President and Chief Financial Officer and Secretary
Sicco W.T. Westra	54	Vice President, Business Development
Wolfgang Heinze	56	Vice President, General Manager Southwall Europe GmbH
Dennis Capovilla	45	Vice President, Sales and Marketing

Thomas G. Hood has served as our President and Chief Executive Officer since July 1998 and as a member of our board of directors since March 1998. From March 1998 until July 1998, he served as Interim President and Chief Executive Officer. From July 1996 to March 1998, he served as Senior Vice President, General Manager, Energy Products Division. From January 1995 to July 1996, he was Vice President, General Manager, International Operations, and from October 1991 to January 1995, he was Vice President, Marketing and Sales. He is the inventor of record on ten of our patents. Mr. Hood has an MS degree in Mechanical Engineering from New Mexico State University.

Maury Austin has been our Chief Financial Officer and Secretary since February 2004. From 2000 until 2003, he served as Chief Financial Officer for Vicinity Corporation, a supplier of products that enable businesses and governments to market local availability of their products. From 1999 until 2000, he served as the Chief Financial Officer of Symmetricom, Inc., a supplier of atomic clocks and network synchronization and timing solutions. From 1997 until 1999, he served as the Chief Financial/Operating Officer of Flashpoint Technology, Inc., a provider of software for digital photography and imaging devices. He also held a variety of senior positions at General Electric and Apple Computer between 1980 and 1997, last serving in the post of Apple's Vice President and General Manager of the Imaging Division. Mr. Austin holds an MBA from Santa Clara University and a B.S. in Business

Administration from University of California at Berkeley.

Sicco W. T. Westra has been Vice President, Business Development since June 2002. From August 1998 until June 2002, he was the Senior Vice President, Engineering and Chief Technical Officer of Southwall. From February 1998 until August 1998, he served as the Director of Global Production Management for Applied Materials, Inc., a provider of products and services to the semiconductor industry. From March 1994 to August 1998, he served as a Manager of Business Development for BOC Coating Technology, Inc., a manufacturer of sputter-coating equipment. Dr. Westra holds a PhD. from the University of Leiden in the Netherlands.

Wolfgang Heinze joined Southwall in January 1999 as Plant Manager of our Dresden factory. In December 2000, Mr. Heinze was promoted to the position of Vice President, General Manager Southwall Europe GmbH. Prior to joining Southwall; Mr. Heinze had been the Chief Executive Officer of FUBA Printed Circuits, GmbH, a manufacturer of printed circuit boards, from February 1991 to April 1998. Mr. Heinze has a MD of Commercial Science from the Technical University in Merseburg, Germany.

Dennis Capovilla joined Southwall in July 2003. Mr. Capovilla came to Southwall from Palm, Inc., a manufacturer of personal digital assistant devices, where he was the Vice President, Enterprise sales since 2002. From 1997 to 2002 he was with FATBRAIN, LLC, an e-commerce provider of books and information products, as the President and Chief Executive Officer from 2000-2002, the President and Chief Operating Officer from 1999 to 2000, and the VP of Sales and Business Development from 1997-1999. From 1993-1997, Mr. Capovilla was with Apple Computer, Inc., a computer manufacturer, as the Director, Americas Imaging Division and Worldwide Printer Supplies (1996-1997), Manager Printer Supplies Business unit (1995-1996) and as Worldwide Product Marketing Manager, Imaging Systems (1993-1995). Prior, Mr. Capovilla held various Sales and Marketing Management positions with Versatec, Inc. and Xerox Corporation. Mr. Capovilla holds a B.S. in Marketing from the University of Santa Clara.

Table of Contents**PART II****ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER'S PURCHASE OF EQUITY SECURITIES**

Our common stock is traded on the Over-the-Counter Bulletin Board Market under the symbol "SWTX.OB". From the completion of our initial public offering in June 1987 until March 26, 2004, our common stock was traded on the NASDAQ National Market System. Effective March 26, 2004, we voluntarily de-listed from NASDAQ and applied to begin trading on the Over-the-Counter Bulletin Board Market. Due to the structure of the recent transaction in which we issued convertible promissory notes and warrants, as further described below, we were no longer in compliance with certain NASDAQ listing requirements. We felt that a voluntary delisting from NASDAQ and move to the Over-the-Counter Bulletin Board Market would provide the best option to our stockholders by retaining liquidity in our common stock. Prices in the following table represent the high and low closing sales prices per share for our common stock as reported by NASDAQ and Over-the-Counter Bulletin Board Market during the periods indicated.

	High	Low
2003		
1st Quarter	\$ 3.35	\$ 1.01
2nd Quarter	1.39	0.82
3rd Quarter	2.63	1.04
4th Quarter	2.38	0.80
2004		
1st Quarter	\$ 2.09	\$ 0.98
2nd Quarter	0.94	0.40
3rd Quarter	0.85	0.48
4th Quarter	1.72	0.48

On March 1, 2005, the last reported sale price for our common stock as reported on the Over-the-Counter Bulletin Board Market was \$1.30 per share. On such date, there were approximately 294 holders of record of our common stock, and we believe there were approximately 3,000 beneficial owners of our common stock.

Dividends

We have never declared or paid any cash dividends on our common stock, and we do not anticipate paying cash dividends in the foreseeable future. The Series A 10% Redeemable Preferred Stock is entitled to cumulative dividends of 10% per year, payable at the discretion of our Board of Directors. We currently intend to retain future earnings, if any, to fund the expansion and growth of our business. Furthermore, payment of cash dividends on our common stock is prohibited without the consent of our Series A 10% Redeemable Preferred shares, and payment of cash dividends on any series of our capital stock is prohibited by our credit facilities with our senior lender, Pacific Business Funding.

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The following selected consolidated financial data as of and for each of the five years ended December 31, 2004 are derived from our audited consolidated financial statements. This information should be read together with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and related notes included elsewhere in this report.

Consolidated Statements of Operations Data:

	Years Ended December 31,				
	2004	2003	2002	2001	2000
	(in thousands, except per share data)				
Net revenues	\$ 57,573	\$ 53,326	\$ 68,759	\$ 82,976	\$ 85,348
Cost of revenues	36,787	45,914	49,614	60,148	69,060
Gross profit	20,786	7,412	19,145	22,828	16,288
Gross profit %	36.1%	13.9%	27.8%	27.5%	19.1%
Operating expenses:					
Research and development	3,199	6,714	7,685	5,456	6,732
Selling, general and administrative	10,217	12,348	12,450	11,036	12,614
Legal settlement	--	--	--	--	536
Restructuring costs	--	(65)	2,624	--	--
Impairment charge (recoveries) for long-lived assets					(1,513)
)					27,990
					--
					--
					--
Total operating expenses					11,903
					46,987
					22,759
					16,492
					19,882

Income (loss) from operations

8,883

(39,575

)

(3,614

)

6,336

(3,594

)

Interest expense, net

(2,206

)

(1,590

)

(1,734

)

(2,872

)

(2,808

)

Costs of warrants issued

(6,782

)

(865

)

--

--

--

Other income, net

534

419

27

	1,070
	1,385
	350
Income (loss) before provision for (benefit from) income taxes	
	429
)	(41,611)
)	(4,278)
	4,849
)	(6,052)
Provision for (benefit from) income taxes	
	614
	681
)	(87)
	214
	128
Net income (loss)	
\$	(185)
)	
\$	(42,292)
)	
\$	(4,191)
)	
\$	4,635
\$	

)	(6,180)
Net income (loss) per share:	
Basic	
\$	(0.01)
)	
\$	(3.37)
)	
\$	(0.40)
)	
\$	0.58
\$	(0.81)
)	
Diluted	
\$	(0.01)
)	
\$	(3.37)
)	
\$	(0.40)
)	
\$	0.57
\$	(0.81)
)	
Weighted average shares used in computing net income (loss) per share:	
Basic	
	14,589
	12,537
	10,418
	8,032
	7,642
Diluted	

14,589

12,537

10,418

8,186

7,642

15

Table of Contents**Consolidated Balance Sheet Data:**

	As of December 31,				
	2004	2003	2002	2001	2000
	(in thousands)				
Cash, cash equivalents and restricted cash	\$ 5,233	\$ 1,891	\$ 2,629	\$ 3,362	\$ 61
Working capital (deficit)	6,528	(4,210)	588	(6,471)	(32,148)
Property, plant and equipment	21,110	21,787	50,251	47,841	49,884
Total assets	44,947	41,721	76,582	73,158	80,462
Term debt and capital leases including current portion	13,107	15,700	16,752	22,828	26,430
Total liabilities	30,374	40,000	36,108	46,706	60,324
Preferred stock	4,810	--	--	--	--
Total stockholders' equity	9,763	1,721	40,474	26,452	20,138

Selected Cash Flow Data:

	Years Ended December 31,				
	2004	2003	2002	2001	2000
(in thousands)					
Net cash provided by (used in) operating activities	\$ 3,830	\$ (2,990)	\$ (2,824)	\$ 13,792	\$ 1,188
Net cash provided by (used in) investing activities	1,261	(2,775)	(6,014)	(5,698)	(12,855)
Net cash provided by (used in) financing activities	(2,249)	5,548	7,679	(4,628)	9,994

Quarterly Financial Data:

The following table sets forth consolidated statements of operations data for the eight fiscal quarters ended December 31, 2004. This information has been derived from our unaudited consolidated financial statements and has been prepared on the same basis as our audited consolidated financial statements contained in this report. It includes all adjustments, consisting only of normal recurring adjustments, that we consider necessary for a fair presentation of such information when read in conjunction with our audited financial statements and related notes. Operating results for any quarter are not necessarily indicative of results for any future period. This information should be read together with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the consolidated financial statements and related notes included elsewhere in this report.

Selected Quarterly Financial Information (Unaudited):

	Quarters Ended			
	Mar. 28, 2004	Jun. 27, 2004	Sep. 26, 2004	Dec. 31, 2004
	(in thousands, except per share amounts)			
Net revenues	\$ 11,067	\$ 14,548	\$ 15,932	\$ 16,026
Gross profit	2,601	5,612	5,780	6,793

Income (loss) before provision for (benefit from) income taxes	(6,335)
)	
	1,529
	1,834
	3,401
Net income (loss)	
\$	(6,690)
)	
\$	1,186
\$	2,132
\$	3,187
Net income (loss) per share:	
Basic	
\$	(0.53)
)	
\$	0.09
\$	0.17
\$	0.16
Diluted	
\$	(0.53)
)	
\$	0.04
\$	0.07
\$	

0.10

Weighted average shares used in computing net income (loss) per share:

Basic

12,548

12,548

12,550

20,327

Diluted

12,548

31,416

31,218

32,697

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	Quarters Ended			
	Mar. 30, 2003	Jun. 29, 2003	Sep. 28, 2003	Dec. 31, 2003
	(in thousands, except per share amounts)			
Net revenues	\$ 15,221	\$ 15,328	\$ 11,902	\$ 10,875
Gross profit (loss)	3,038	2,923	1,664	(213)
Loss before provision for (benefit from) income taxes				(1,644)
)				(1,537)
)				(22,684)
)				(15,746)
Net loss				(1,659)
\$				(1,713)
)				(22,781)
\$				(16,139)
)				
Net loss per share:				
Basic and diluted				
\$				(0.13)
)				(0.14)
\$				(1.82)
)				
\$				

)

Weighted average shares used in computing net loss per share:

Basic and diluted

12,527

12,532

12,542

12,544

Our results of operations have varied significantly from quarter to quarter, and we expect them to continue to do so in the future. As a result of our high fixed costs, if revenues fall below our expectations, we may not be able to reduce our spending sufficiently to prevent a loss from operations. We anticipate that our sales will continue to have long sales cycles. Therefore, the timing of future customer contracts could be difficult to predict, making it very difficult to predict revenues in future quarters, and our operating results may continue to vary significantly.

Other factors that could affect our quarterly operating results include those described elsewhere in this report and the following:

fluctuating customer demand, which is influenced by a number of factors, including market acceptance of our products and the products of our customers and end-users, changes in product mix, and the timing, cancellation or delay of customer orders and shipments;

our ability to maintain sufficient liquidity;

timing of shipments of our products by us and by independent subcontractors to our customers;

manufacturing and operational difficulties that may arise due to, among other things, quality control, capacity utilization of our production machines, unscheduled equipment maintenance, and the hiring and training of additional staff;

progress and outcome of litigation with which we are involved;

announcement, consummation or integration by us of any acquired businesses, technologies or products;

our ability to introduce new products on a timely basis;

competition, including the introduction or announcement of new products by competitors, the adoption of competitive technologies by our customers, the addition of new production capacity by competitors and competitive pressures on prices of our products and those of our customers; and

product returns and customer allowances stemming from product quality defects.

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ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with Item 6, "Selected Consolidated Financial Data", our consolidated financial statements and notes thereto appearing elsewhere in this report and the risk factors beginning on page 31. This discussion and analysis contains forward-looking statements that involve risks and uncertainties. You should not place undue reliance on these forward-looking statements. Our actual results may differ materially from those anticipated in these forward-looking statements.

Overview

We are a global developer, manufacturer and marketer of thin film coatings on flexible substrates for the automotive glass, electronic display, architectural glass and window film markets. We have developed a variety of products that control sunlight in automotive glass, reduce light reflection, reduce electromagnetic radiation and improve image quality in electronic display products and conserve energy in architectural products. Our products consist of transparent solar-control films for automotive glass; anti-reflective films for computer screens, including flat panel displays, plasma displays; and transparent conductive films for use in touch screen and liquid crystal displays; energy control films for architectural glass; and various other coatings.

Our cash and cash equivalents increased by \$3.4 million from \$1.2 million at December 31, 2003 to \$4.5 million at December 31, 2004. Cash provided by operating activities increased by \$6.8 million from \$3.0 million used in operations in 2003, to \$3.8 million provided by operations in 2004. The increase in cash provided by operating activities during 2004 was primarily the result of a reduction in our net loss for the year and \$6.8 million associated with the issuance of warrants to investors and creditors, which was partially offset by the decrease in accounts payable and accrued liabilities. Cash provided by investing activities increased by \$4.0 million from \$2.8 million used in investing activities in 2003, to \$1.3 million provided by investing activities in 2004. The increase in cash provided by investing activities was primarily due to the sale of fixed assets during the year and a decrease in expenditures for property, plant, equipment and other assets. Cash used in financing activities decreased by \$7.8 million from \$5.5 million provided by financing activities in 2003, to \$2.2 million used in financing activities in 2004. The decrease was the result of debt repayments, partially offset by the proceeds we received from the sales of our convertible notes.

We have experienced a significant reduction in our annual revenues from 2000 to 2003, but our annual revenues increased in 2004. We expect revenues will continue to increase in 2005 due to an improved economy. Demand for our customers' products, which has a significant effect on our results, has changed rapidly from time to time in the past and may do so in the future. For example, as a result of changing demand in the personal computer industry from 1999 through 2003, our electronic display revenues rose from \$16.0 million in 1999 to \$47.7 million in 2000 then declined to \$29.7 million, \$26.6 million and \$19.0 million in 2001, 2002, and 2003, respectively, and increased to \$20.6 million in 2004. Similarly, revenues from our automotive segment rose from \$20.2 million in 2000, to \$37.4 million in 2001, and declined to \$20.4 million, \$20.3 million and \$20.6 million in 2002, 2003 and 2004, respectively, because of competition from alternative technology solutions. Demand for our products can also be affected when the markets for the products in which our films are used evolve to new technologies, such as the evolution from cathode ray tubes, or CRTs, to flat panel displays.

Recent Financing and Related Transactions

Overview

On December 18, 2003, in order to raise cash to fund our operations and continue as a going concern, we entered into an investment agreement with Needham & Company, Inc., Needham Capital Partners II, L.P., Needham Capital Partners II (Bermuda), L.P., Needham Capital Partners III, L.P., Needham Capital Partners IIIA, L.P., Needham Capital Partners III (Bermuda), L.P., (together referred to as “Needham Company and its Affiliates”) and Dolphin Direct Equity Partners, LP (collectively with Needham Company and its Affiliates, the investors). On January 19, 2004, due to the structure of the transaction contemplated by the investment agreement, we did not have enough authorized and un-issued shares to satisfy the existing commitments had all outstanding warrants been exercised thereby triggering liability classification for all outstanding warrants. We measured and re-measured the fair value of the warrants at the issuance dates and each subsequent quarter end based on a methodology used by a third party until our stockholders approved the increase of the number of authorized shares of our common stock in the fourth quarter of 2004.

On February 20, 2004, we amended and restated the investment agreement and issued \$4.5 million of Secured Convertible Promissory Notes that were convertible into our Series A 10% Cumulative Convertible Preferred Stock, par value \$0.001 per share, or the Series A shares, at a conversion price of \$1.00 per share, together with warrants initially exercisable for 13,881,535 shares of our common stock at a nominal exercise price. Each of the Series A shares is convertible into common stock at any time at the option of the holder at a conversion price of \$1.00 per share, subject to adjustment, plus accumulated but unpaid dividends. The securities issued were exempt from registration under Regulation D of the Securities Act of 1933, as amended.

On October 5, 2004, our stockholders approved an amendment to our certificate of incorporation to increase the number of authorized shares of common stock from 20,000,000 to 50,000,000 and the total number of authorized shares of capital stock from 25,000,000 to 55,000,000. This provided us with sufficient number of available shares to cover all possible future conversions and exercises of all outstanding notes and warrants. We reclassified \$8.1 million of accrued warrant liability from other long term liabilities to additional paid in capital in the fourth quarter of 2004 in connection with the stockholder approval.

On November 4, 2004, Needham Company and its Affiliates received a total of 9,155,379 shares of our common stock upon the exercise of warrants. In exercising the warrants, the Needham entities elected to use a “cashless exercise option” in which 98,977 of the shares underlying the warrants were surrendered in lieu of paying in cash the exercise price. The warrants were originally exercisable for 9,254,356 shares of our common stock at an exercise price of \$0.01 per share of common stock. The value of the 98,977 shares of common stock surrendered was based upon the average trading price on November 3, 2004 of our common stock on the Over-the-Counter Bulletin Board Market.

On November 24, 2004, Dolphin Direct Equity Partners, LP exercised warrants to purchase a total of 4,627,179 shares of our common stock. Dolphin paid approximately \$46,000 in cash as the exercise price.

On December 31, 2004, Needham Company and its Affiliates and Dolphin Direct Equity Partners, LP elected to convert all outstanding principal of, and accrued but unpaid interest on, their Secured Convertible Promissory Notes into Series A shares. The Secured Convertible Promissory Notes by their terms were convertible at the option of the holders into Series A shares at a rate of one share for each \$1.00 of principal or interest converted. The aggregate principal amount of the Secured Convertible Promissory Notes was \$4,500,000 and interest accrued thereon as of the time of conversion was \$392,500. The aggregate number of shares of Series A shares issued as a result of the conversion was 4,892,500. In particular, Needham Company and its Affiliates received 3,261,667 shares and Dolphin Direct Equity Partners, LP received 1,630,833 shares.

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Background.

During 2003, we experienced a significant decline in sales which led to a significant deterioration in our working capital position, which raised concerns about our ability to fund our operations and continue as a going concern in the short term and our ability to meet obligations coming due over the following few years.

On October 8, 2003, our management reviewed the revenue forecast for the fourth quarter of 2003 and determined the anticipated sales for the quarter would not generate enough cash flow to continue operations through the end of the quarter. Management presented its findings to our Board of Directors on October 10, 2003 and the directors instructed our management team to develop an emergency restructuring plan to improve our cash flow and to obtain new financing.

The primary elements of management's restructuring plan included:

• Shutting down a majority of our domestic manufacturing and transferring that production to our Dresden, Germany facility;

• Beginning a series of staggered layoffs;

• Arranging new payment terms with all major creditors and vendors to extend or reduce our payment obligations;

• Accelerating our cash collections;

• Reducing our operating expenses and inventory levels; and

• Minimizing our capital expenditures.

We also began to solicit and receive proposals from potential investors and lenders. We evaluated a variety of public and private market alternatives to raise additional capital, as well as alternatives to restructure our upcoming payment obligations without raising additional capital. Our access to the traditional capital markets was, and continues to be, constrained, however, by a number of factors, including the risks described below under "Risk Factors." As a result, we concluded that a private equity investment was the most attractive alternative to continue as a going concern. We received and evaluated three financing proposals, including the Needham proposal, which is described in further detail below.

After reviewing and seeking to negotiate revisions to all of the proposals submitted, the Board determined on November 10, 2003 to proceed with the Needham & Company, Inc., or Needham, offer. We entered into a non-binding letter of intent with Needham on November 11, 2003 to sell \$3.0 million of Series A shares at a price of \$1.00 per share. Needham also agreed to guarantee up to \$2.0 million of additional borrowing under our existing Domestic Factoring Agreement with our senior lender, PBF. In connection with the guarantee and the sale of the Series A shares, we agreed to issue warrants to Needham exercisable for a number of shares of our common stock equal to 10% of the total shares then outstanding, at a nominal exercise price. During the negotiations of the investment agreement, the parties agreed to increase the aggregate number Series A shares to be sold to 4.5 million. The parties also increased the guarantee to \$3.0 million and determined that it would apply to a new line of credit facility with PBF. In connection with the new credit facilities with our senior lender, PBF, we issued warrants to PBF that may be exercised to acquire up to 360,000 shares of common stock at an initial exercise price of \$0.01 per share. All other terms of these warrants mirrored the terms of the warrants issued to the Investors.

On December 18, 2003, we entered into the investment agreement with the Investors. Under the terms of the investment agreement, Needham agreed to issue the guarantees of our new line of credit facility in two separate tranches of \$2.25 million and \$750,000, respectively, and the Investors agreed to purchase the Series A shares in two separate tranches of \$1.5 million and \$3.0 million, respectively. The new borrowings and the purchase of each equity tranche were subject to certain conditions, including, among other things, the receipt of concessions from creditors and landlords, the completion by us of certain restructuring actions and the achievement of cash flow break-even at quarterly revenue levels below those of the third quarter of 2003. Needham executed a guarantee of up to \$2.25 million under the new line of credit facility on December 18, 2003, and received a warrant to purchase 941,115 shares of our common stock, approximately 7.5% of our total shares currently outstanding at an exercise price of \$0.01. On January 15, 2004, Needham executed a guarantee with respect to an additional \$750,000 under the new line of credit and received an additional warrant to purchase 941,115 shares of common stock at an exercise price of \$0.01.

On February 20, 2004, the parties amended and restated the investment agreement to provide that we would issue and sell to the Investors an aggregate of \$4.5 million of our Secured Convertible Promissory Notes in one tranche instead of Series A shares in two separate tranches. Under the investment agreement, we were also required to issue additional common stock warrants to the Investors as anti-dilution protection for the issuance of debt and equity by us as part of the restructuring of our obligations to creditors. In connection with the sale of the Secured Convertible Promissory Notes and honoring the Investors' anti-dilution protection, on February 20, 2004 we issued warrants to the Investors to purchase a total of 10,305,297 shares of our common stock at an exercise price of \$0.01, approximately 82.1% of our total shares then outstanding.

At December 31, 2004, Needham Company and Affiliates and Dolphin Direct Equity Partners, LP own 34.6% and 17.5%, respectively, of our outstanding common stock. In addition, if Needham Company and its Affiliates and Dolphin had converted their Series A shares into common stock at December 31, 2004, they would have owned 39.6% and 19.9%, respectively, of our outstanding common stock.

Material Terms of the Series A Shares

Our Series A shares have the following terms:

Dividends. Each of the Series A shares have a stated value of \$1.00 and are entitled to a cumulative dividend of 10% per year, payable at the discretion of the Board of Directors. Dividends on the Series A shares accrue daily commencing on the date of issuance and are deemed to accrue whether or not earned or declared and whether or not there are profits, surplus or other funds legally available for the payment of dividends. Accumulated dividends, when and if declared by the Board, will be paid in cash.

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Restrictions. So long as any Series A shares are outstanding, unless all accrued dividends on all Series A shares have been paid, we are prohibited from taking certain actions, including redeeming or purchasing shares of our common stock and paying dividends on our common stock.

General Voting Rights. Except under certain circumstances or as otherwise provided by law, the holders of Series A shares have no voting rights. The approval of the holders of a majority of the Series A shares voting separately as a class will be required to effect certain corporate actions.

Liquidation Preference. Upon a liquidation or dissolution of Southwall, the holders of Series A shares are entitled to be paid a liquidation preference out of assets legally available for distribution to our stockholders before any payment may be made to the holders of common stock. The liquidation preference is equal to the stated value of the Series A shares, which is \$1.00 per share, plus any accumulated but unpaid dividends. Mergers, the sale of all or substantially all of our assets, or the acquisition of Southwall by another entity and certain other similar transactions may be deemed to be liquidation events for these purposes.

Conversion . Each of the Series A shares is convertible into common stock at any time at the option of the holder. Each of the Series A shares is convertible into a number of shares of common stock equal to the sum of its stated value plus any accumulated but unpaid dividends, divided by the conversion price of the Series A shares. The conversion price of the Series A shares is \$1.00 per share and is subject to adjustment in the event of any stock dividend, stock split, reverse stock split or combination affecting such shares. The Series A shares also have anti-dilution protection that adjusts the conversion price downwards using a weighted-average calculation in the event we issue certain additional securities at a price per share less than the closing price per share of our common stock on any stock exchange on which our common stock is listed. Each Series A share is initially convertible into one share of common stock. If the closing price of our common stock on any stock exchange on which our common stock is listed is \$4.00 or more per share (subject to appropriate adjustment if a stock split, reverse split or similar transaction is effected) for 30 consecutive days, all outstanding Series A shares shall automatically be converted.

Redemption. The Series A shares are not redeemable.

Agreements with Major Creditors

Teijin Limited. Teijin Limited, or Teijin, previously guaranteed our outstanding debt owed to UFJ Bank Limited (formerly known as Sanwa Bank Limited). On November 5, 2003, we defaulted on this debt and Teijin honored its guarantee by satisfying the obligation. Under the terms of Teijin's guarantee, we were obligated to immediately repay the amounts paid by Teijin. As part of the restructuring plan, we entered into an agreement with Teijin in January 2004 to satisfy Teijin's claim. The agreement included a payment schedule that spread the payments out over a period of four years until 2008. The obligations owed to Teijin will not accrue interest if paid according to the payment schedule. Teijin previously held a security interest in one of our production machines, which they have released. In June 2004, we sold the production machine and portions of the proceeds of such sale were applied against the outstanding obligation with Teijin. Our remaining obligations to Teijin of \$0.4 million at December 31, 2004 are guaranteed by our subsidiary, Southwall Europe GmbH. In February and March 2005, the Company paid \$0.1 million and \$0.3 million, respectively, of the remaining debt to Teijin. See Note 14, Subsequent Events.

Judd Properties, LLC. In January 2004, we reached an agreement with Judd Properties, LLC, or Judd, to modify our obligations under the lease for our executive offices. We agreed to a payment schedule that extends our obligations and provides us with options to extend the lease. We further agreed to issue a warrant issuable for 4% of our capital stock on a fully diluted basis to be held in an escrow account as security for our obligations in the event we fail to restore the property in accordance with the original lease terms upon our departure from the premises. Upon our

departure, if we fail to restore the property in accordance with the original lease the warrant will be released to Judd. The warrant is exercisable for 1,410,426 shares of our common stock at a nominal exercise price. The other terms of the warrant mirror the terms of the warrants issued to the Investors. Judd will hold certain registration rights with respect to the warrant shares. Because we did not have available enough authorized shares of common stock to issue upon exercise of the warrant, we were required to issue a letter of credit in the amount of \$1.0 million to be held by Judd as security for our obligations until such time as the requisite number of authorized shares are approved by our stockholders on the condition that we are in compliance with the settlement agreement. The letter of credit is collateralized by \$1.0 million of our cash, which will not be released by the bank that issued the letter of credit until Judd releases the letter of credit. Following the approval of the charter amendment by our stockholders, Judd maintained that we were not fully in compliance with the settlement agreement and refused to release the letter of credit. Judd continues to hold the letter of credit pending the resolution of discussions regarding the restoration of the property. Under the terms of the agreement, we will renegotiate the current terms of our lease in June 2005. At December 31, 2004, our accrued liability to Judd Properties LLC was approximately \$0.9 million.

Portfolio Financial Servicing Company, Bank of America and Lehman Brothers. On February 20, 2004, we entered into a settlement agreement with Portfolio Financial Services, Bank of America and Lehman Brothers, which extinguished a claim arising out of sale-leaseback agreements, which we entered into in connection with the acquisition of two of our production machines. As part of the settlement, we agreed to pay a total of \$2.0 million plus interest over a period of 6 years. The settlement required us to make an interest payment in 2004, and beginning in 2005, we will make quarterly principal and interest payments until 2010. We also agreed to return the production machines in question. If we fail to make the required payments, Portfolio Financial Services, Bank of America and Lehman Brothers may enter a confession of judgment against us in the amount of \$5.9 million.

Richard A. Christina and Diane L. Christina Trust. On December 1, 2003, we reached an agreement with the Richard A. Christina and Diane L. Christina Trust (the "Trust") to modify the lease agreement for a building located in Palo Alto, California. Under the terms of the agreement we agreed to the Trust's claim for damages in the amount of \$0.3 million. At December 31, 2004, our accrued liability to the Trust was approximately \$0.3 million.

Other Factors Affecting Our Financial Condition and Results of Operations

Restructuring activities. As a consequence of the decline in our revenues and negative cash flows, we implemented several cost cutting and business restructuring activities during 2003 and 2004. These activities, which included employee layoffs and the closure of several facilities (including the closure of our Tempe manufacturing facility in the fourth quarter of 2003), were designed to improve our cash flow from operations to allow us to continue as a going concern. During the fourth quarter of 2003 and the first quarter of 2004, we agreed to new payment terms with all of our major creditors and vendors, which extended or reduced our payment obligations. We also entered into the investment agreement described above pursuant to which we issued \$4.5 million of convertible promissory notes and warrants to investors. The convertible promissory notes were converted to Series A shares and the warrants were exercised for shares of common stock in the fourth quarter of 2004. Our existing line of credit facility will expire on May 5, 2005, and we will need to renew our credit line or replace it.

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Voluntary Delisting from Nasdaq. Effective March 26, 2004, we voluntarily delisted from the Nasdaq National Market and applied to begin trading on the Over-the-Counter Bulletin Board Market. Due to the structure of the transaction contemplated by the investment agreement, we were no longer in compliance with certain NASDAQ listing requirements. We felt that a voluntary delisting from NASDAQ and a move to the Over-the-Counter Bulletin Board Market would provide the best option to our shareholders by retaining liquidity in our common stock.

Demand for our customers' products. We derive significant benefits from our relationships with a few large customers and suppliers. Our revenues and gross profit can increase or decrease rapidly reflecting underlying demand for the products of one or a small number of our customers. We may also be unable to replace a customer when a relationship ends or demand for our product declines as a result of evolution of our customers' products.

In 1999, we began our relationship with Mitsubishi Electric Company, or Mitsubishi, which accounted for 1%, 9% and 18% of our total revenues in 2004, 2003 and 2002, respectively. The decrease in sales to Mitsubishi was due to Mitsubishi's ceasing production of their 17-inch CRT Monitor, and this decrease in revenues was a significant contributing factor in the decline in our revenues in 2003 as compared to 2002.

In 1999, we expanded our relationship with customers in the automotive glass market, including Pilkington PLC, Saint Gobain Sekurit and Globamatrix Holdings Pte. Ltd., or Globamatrix, which collectively accounted for approximately 45%, 45% and 37% of our total revenues in 2004, 2003 and 2002, respectively.

In September 2003, we entered into an amendment of the agreement with Globamatrix to materially reduce the quantity of product they are required to purchase from us. The adjustment was due to certain events beyond the control of the parties, including the Asian SARs epidemic, which affected the demand for our film products distributed by Globamatrix. The amendment provided that Globamatrix was required to purchase at least \$7.6 million of product in 2003 (rather than \$13.25 million as required in the original distribution agreement). In December 2003, the distribution agreement was further amended to set Globamatrix's 2004 minimum purchase commitments at \$9.0 million. Under the original distribution agreement, Globamatrix had been required to purchase at least \$15.25 million of product in 2004. For each year after 2004 through and including 2011, Globamatrix is required to purchase an amount of product equal to 110% of the amount of product it was required to purchase in the prior year. For the year ended December 31, 2004, Globamatrix is obligated to purchase \$10.3 million of products in 2005.

Sales returns and allowances. Our gross margins and profitability have been adversely affected from time to time by product quality claims. From 2000 to 2004, our sales returns provision has averaged approximately 3.5% to 4.7% of gross revenues. In 2002, we had certain quality claims with respect to products produced for Globamatrix, which reduced our gross profit by approximately \$1.5 million.

Restructuring costs. Based on lower revenue expectations, in December 2002, we transferred most of our product manufacturing from our Palo Alto manufacturing site to our Tempe and Dresden manufacturing facilities, which have lower cost structures. In addition, we implemented a reduction in force at our Palo Alto location in December 2002, and consolidated our Palo Alto facilities. As a result, we incurred a restructuring charge of \$2.6 million in 2002 relating to employee severance packages and the remaining rents due on excess facilities in Palo Alto that would no longer be occupied. Of the \$2.6 million, approximately \$0.2 million of the restructuring costs were paid in fiscal 2002. During the first quarter of 2003, we recorded a \$65,000 reduction to our restructuring accrual as a result of modifications to the severance packages of certain employees. In the second quarter of 2003, we implemented a reduction in force in our Tempe and Palo Alto locations. As a result, we incurred a charge and made cash payments of \$0.1 million relating to employee severance packages, which is recorded in cost of sales. During the fourth quarter of fiscal 2003, we implemented another reduction-in-force as well as closed our Tempe manufacturing facility; however, no restructuring charges were incurred in the fourth quarter of 2003. We also did not incur restructuring charges during the year ended December 31, 2004.

Impairment charge for long-lived assets. During 2003, we experienced shortfalls in revenue compared to our budgeted and forecasted revenues. In addition, in the third quarter of 2003, we determined that due to reduced demand for our products, anticipated revenues through the remainder of 2003 and 2004 would be substantially below historical levels. As our U.S. operations have a higher operating cash break-even point compared to our Dresden operations, we believed that the lower than anticipated revenues indicated that an impairment analysis of the long-lived assets of our U.S. operations was necessary at September 28, 2003. Subsequently, in the fourth quarter of 2003, as a result of our decision to close the Tempe operation, we concluded that a further impairment analysis of the long-lived assets of the U.S. operation was necessary at December 31, 2003. Our evaluation concluded that an impairment charge was required to write down the carrying amount of our long-lived assets to their fair market values of \$19.4 million and \$8.6 million for the periods ended September 28, 2003 and December 31, 2003, respectively. During 2004, we sold one of our impaired long-lived assets and recovered approximately \$1.5 million.

Critical Accounting Policies and Estimates

The preparation of our consolidated financial statements requires us to make estimates and assumptions that affect the amounts of assets and liabilities we report, our disclosure of contingencies, and the amounts of revenue and expenses we report in our consolidated financial statements. If we used different judgments or different estimates, there might be material differences in the amount and timing of revenues and expenses we report. See Note 1 of our notes to consolidated financial statements for details of our accounting policies. The critical accounting policies, judgment and estimates, which we believe have the most significant effect on our consolidated financial statements, are set forth below:

	•	Revenue recognition;
•	•	Allowances for doubtful accounts and sales returns;
	•	Valuation of inventories;
•	•	Assessment of the probability of the outcome of current litigation;
	•	Restructuring costs;
•	•	Impairment charge for long-lived assets; and
	•	Accounting for income taxes.

Revenue recognition. We recognize revenue when persuasive evidence of an arrangement exists, delivery has occurred or services have been provided, the sale price is fixed or determinable, and collectibility is reasonably assured. Accordingly, we generally recognize revenue from product sales when the terms of sale transfer title and risk of loss, which occurs either upon shipment or upon receipt by customers. In connection with product sales, we make allowances for estimated returns and allowances. We adjust these allowances periodically to reflect our actual and anticipated experience. If any of these conditions to recognize revenue are not met, we defer revenue recognition.

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Allowances for doubtful accounts and sales returns. We establish allowances for doubtful accounts and sales returns for specifically identified, as well as anticipated, doubtful accounts and product quality claims based on credit profiles of our customers, current economic trends, contractual terms and conditions, and historical payment and sales returns experience. As of December 31, 2004, our consolidated balance sheet included allowances for doubtful accounts of \$0.3 million and \$2.7 million for sales returns and warranties. As of December 31, 2003, our consolidated balance sheet included allowances for doubtful accounts of \$0.8 million and \$1.9 million for sales returns. During 2004, 2003 and 2002, we recorded sales return costs of \$2.4 million, \$2.5 million and \$2.2 million, respectively. Bad debt expenses were \$0.3 million, and \$0.3 million during 2003 and 2002, respectively. We incurred a credit of \$0.5 million in bad debt expense in 2004 as a result of reducing our allowance for doubtful accounts to a more acceptable amount. If our actual bad debt and product quality costs differ from estimates or we adjust our estimates in future periods, our operating results, cash flows and financial position could be materially adversely affected.

Valuation of inventories. We state inventories at the lower of cost or market. We establish provisions for excess and obsolete inventories after periodic evaluation of historical sales, current economic trends, forecasted sales, predicted lifecycle and current inventory levels. During 2004, 2003 and 2002, we charged \$2.1 million, \$0.9 million and \$0.7 million, respectively, against cost of sales for excess and obsolete inventories. If our actual experience of excess and obsolete inventories differs from estimates or we adjust our estimates, such forecasted sales and expected product lifecycle; our operating results, cash flows and financial position could be materially adversely affected.

Assessment of the probability of the outcome of current litigation. In the ordinary course of business, we have periodically become engaged in litigation principally as a result of disputes with customers of our architectural products. We have relied upon insurance coverage to fund the defense of these actions and significant portions of the settlements that were reached. Based on our review of pending litigation, we record accruals for loss contingencies when we believe that a liability is likely of being incurred and we can reasonably estimate the amount of our share of the loss. In connection with recent settlements related to sales of architectural products, we have been advised by some of our insurers that they have reserved the right to proceed against us to recoup a portion or all of the settlements paid to plaintiffs.

Restructuring costs. We have recorded reserves/accruals for restructuring costs related to the restructuring of operations. The restructuring reserves include payments to employees for severance, termination fees associated with leases and other contracts, and other costs related to the closure of facilities. After the adoption of Statement of Financial Accounting Standards ("SFAS") No. 146 on January 1, 2003, the reserves have been recorded when management has approved a plan to restructure operations and a liability has been incurred rather than the date upon which management has approved and announced a plan. The restructuring reserves are based upon management estimates at the time they are recorded. These estimates can change depending upon changes in facts and circumstances subsequent to the date the original liability was recorded. Accruals for facility leases under which we ceased using the benefits conveyed to us under the lease may change if market conditions for subleases change or if we later negotiate a termination of the lease. Prior to the adoption of SFAS 146, restructuring reserves were recorded at the time we announced a plan to exit certain activities and were based on estimates of the costs and length of time to exit those activities. See Note 2 - Balance Sheet Detail of the Notes to the Consolidated Financial Statements for a complete discussion of our restructuring actions and all related restructuring reserves by type as of December 31, 2004.

Valuation of long-lived assets. We assess the impairment of long-lived assets if events or changes in circumstances indicate that the carrying value may not be recoverable. Factors that could trigger an impairment review include the following: (i) significant negative industry or economic trends; (ii) exiting an activity in conjunction with a restructuring of operations; (iii) current, historical or projected losses that demonstrate continuing losses associated with an asset; or (iv) a significant decline in our market capitalization, for an extended period of time, relative to net book value. When we determine that there is an indicator that the carrying value of long-lived assets may not be

recoverable, we measure impairment based on estimates of future cash flows. These estimates include assumptions about future conditions such as future revenues, gross margins, operating expenses within our company, the fair values of certain assets based on appraisals, and industry trends.

Accounting for income taxes. In preparing our consolidated financial statements, we estimate our income taxes for each of the jurisdictions in which we operate, including Germany. We include differences between our deferred tax assets, such as net operating loss carry forwards, and tax liabilities in our consolidated balance sheet. We must then assess the likelihood that our deferred tax assets will be recovered from future taxable income, and to the extent we believe that recovery is not likely, we must establish a valuation allowance. To the extent we establish a valuation allowance or increase this allowance in any period, we must include an expense within the tax provision in our statement of operations. To date, we have recorded a full allowance against our deferred tax assets. The valuation allowance were \$22.3 million and \$29.5 million at December 31, 2004 and 2003, respectively, which fully reserved our net deferred tax assets related to temporary differences, net operating loss carry forwards and other tax credits. Future income tax liabilities may be reduced to the extent permitted under federal and applicable state income tax laws, when the future tax benefit can be utilized by applying it against future income.

Significant management judgment is required in determining our provisions for income taxes, our deferred tax assets and liabilities and our future taxable income for purposes of assessing our ability to utilize any future tax benefit from our deferred tax assets. If actual results differ from these estimates or we adjust these estimates in future periods, our financial position, cash flows and results of operations could be materially affected.

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Recently issued accounting pronouncements

In November 2004, the Financial Accounting Statement Board ("FASB") issued SFAS No. 151, "Inventory Costs - An Amendment of ARB No. 43, Chapter 4 ("SFAS 151"). SFAS 151 amends the guidance in ARB No. 43, Chapter 4, "Inventory Pricing," to clarify the accounting for abnormal amounts of idle facility expense, freight, handling costs, and wasted material (spoilage). Among other provisions, the new rule requires that items such as idle facility expense, excessive spoilage, double freight and re-handling costs must be recognized as current-period charges regardless of whether they meet the criterion of "so abnormal" as stated in ARB No. 43. Additionally, SFAS 151 requires that the allocation of fixed production overheads to the costs of conversion be based on the normal capacity of the production facilities. SFAS 151 is effective for fiscal years beginning after June 15, 2005 and is required to be adopted by us in the first quarter of 2006, beginning on January 1, 2006. We are currently evaluating the effect that the adoption of SFAS 151 will have on our consolidated results of operations and financial condition but do not expect SFAS 151 to have a material impact.

In December 2004, the FASB issued SFAS No. 123 (revised 2004), "Share-Based Payment" ("SFAS 123R"), which replaces SFAS No. 123, "Accounting for Stock-Based Compensation," ("SFAS 123R"), and supercedes APB Opinion No. 25, "Accounting for Stock Issued to Employees." SFAS 123R requires all share-based payments to employees, including grants of employee stock options, to be recognized in the financial statements based on their fair values beginning with the first interim or annual period after June 15, 2005, with early adoption encouraged. The pro forma disclosures previously permitted under SFAS 123 no longer will be an alternative to financial statement recognition. We are required to adopt SFAS 123R in the third quarter of fiscal 2005, beginning June 27, 2005. Under SFAS 123R, we must determine the appropriate fair value model to be used for valuing share-based payments, the amortization method for compensation cost and the transition method to be used at date of adoption. The transition methods include prospective and retroactive adoption options. Under the retroactive option, prior periods may be restated either as of the beginning of the year of adoption or for all periods presented. The prospective method requires that compensation expense be recorded for all unvested stock options and restricted stock at the beginning of the first quarter of adoption of SFAS 123R, while the retroactive methods would record compensation expense for all unvested stock options and restricted stock beginning with the first period restated. We are evaluating the requirements of SFAS 123R and expect that the adoption of SFAS 123R will have a material impact on our consolidated results of operations and earnings per share. We have not yet determined the method of adoption or the effect of adopting SFAS 123R, and have not determined whether the adoption will result in amounts that are similar to the current pro forma disclosures under SFAS 123.

In December 2004, the FASB issued SFAS No. 153, "Exchanges of Non-monetary Assets - An Amendment of APB Opinion No. 29," ("SFAS 153"). SFAS 153 eliminates the exception from fair value measurement for non-monetary exchanges of similar productive assets in paragraph 21(b) of APB Opinion No. 29, "Accounting for Non-monetary Transactions," and replaces it with the exception for exchanges that do not have commercial substance. SFAS 153 specifies that a non-monetary exchange has commercial substance if the future cash flows of the entity are expected to change significantly as a result of the exchange. SFAS 153 is effective for the fiscal periods beginning after June 15, 2005 and is required to be adopted by us in the first quarter of fiscal 2006, beginning on January 1, 2006. We are currently evaluating the effect that the adoption of SFAS 153 will have on our consolidated results of operations and financial condition but do not expect it to have a material impact.

Table of Contents**Results of Operations****Consolidated Statements of Operations Data:**

	Years Ended December 31,				
	2004	Percent Change	2003	Percent Change	2002
	(dollars in thousands)				
Net revenues, by product					
Automotive glass	\$ 20,584	1%	\$ 20,297	0%	\$ 20,374
Electronic display	20,554	8	19,019	(28)	26,555
Architectural	7,010	11	6,297	(44)	11,183
Window film	9,425	22	7,713	(28)	10,647
Total net revenues	57,573	8	53,326	(22)	68,759
Cost of revenues	36,787	(20)	45,914	(7)	49,614
Gross profit	20,786	180	7,412	(61)	19,145
Operating expenses:					
Research and development	3,199	(52)	6,714	(13)	7,685
Selling, general and administrative	10,217	(17)	12,348	(1)	12,450
Restructuring costs	--	--	(65)	(102)	2,624
Impairment charge (recoveries) for long-lived assets					(1,513)
)					(105)
)					27,990
					--
					--
Total operating expenses					11,903
)					(75)
					46,987
					106
					22,759

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Income (loss) from operations

	8,883
	122
)	(39,575
)	(995
)	(3,614
Interest expense, net	
)	(2,206
)	(39
)	(1,590
)	(8
)	(1,734
Costs of warrants issued	
)	(6,782
)	(684
)	(865
	--
	--
Other income, net	
	534
	27
	48

	419
)	(61
	1,070
Income (loss) before provision for (benefit from) income taxes	
	429
	101
)	(41,611
)	(873
)	(4,278
Provision for (benefit from) income taxes	
	614
)	(10
	681
	883
)	(87
Net loss	
\$	(185
)	(100
)%	
\$	(42,292
)	
	909
%	
\$	(4,191
)	
	49

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The following table sets forth our results of operations expressed as a percentage of total revenues:

	Years Ended December 31,		
	2004	2003	2002
Net Revenues:			
Automotive glass	35.8%	38.0%	29.6%
Electronic display	35.7	35.7	38.6
Architectural	12.2	11.8	16.3
Window film	16.4	14.5	15.5
Total net revenues	100.0	100.0	100.0
Cost of revenues	63.9	86.1	72.2
Gross profit	36.1	13.9	27.8
Research and development	5.6	12.6	11.2
Selling, general and administrative	17.7	23.2	18.1
Restructuring costs	--	(0.1)	3.8
Impairment charge (recoveries) for long-lived assets			(2.6)
)			52.4
			--
Total operating expenses			20.7
			88.1
			33.1
Income (loss) from operations			15.4
)			(74.2)
			(5.3)
)			
Interest expense			(3.8)
)			
			(3.0)
)			
			51

)	(2.5)
Cost of warrants issued	
)	(11.8)
)	(1.6)
)	--
Other income, net	
	0.9
	0.8
	1.6
Income (loss) before provision for (benefit from) income taxes	
	0.7
)	(78.0)
)	(6.2)
Provision for (benefit from) income taxes	
	1.0
	1.3
)	(0.1)
Net loss	
	(0.3)
%	(79.3)
%	(6.1)
%	
<i>Net revenues.</i>	

Net revenues were \$57.6 million in 2004, \$53.3 million in 2003 and \$68.8 million in 2002. Net revenues for 2004 increased by \$4.2 million, or 8% from 2003, and net revenues for 2003 decreased by \$15.4 million, or 22% from 2002.

Our net revenues in the automotive market remained relatively the same in 2004, 2003 and 2002 at \$20.6 million, \$20.3 million and \$20.4 million, respectively.

Our net revenues to the electronic display market increased by 8% or \$1.5 million in 2004 when compared to 2003 as a result of increased sales to Mitsui Chemicals in the plasma display market, partially offset by decreased sales to Mitsubishi as Mitsubishi ceased production of their 17-inch CRT monitor. The decline in our CRT business of \$4.0 million was partially offset by an increase in sales of our reflective film products of \$5.0 million used in liquid crystal displays, or LCDs, which provide backlighting for laptop computers, and our plasma display film product, TCP, which provides electronic and infrared shielding for the PDP market. Revenues from these products increased to \$16.4 million in 2004 from \$11.4 million in 2003. The decrease in our electronic display revenues to \$19.0 million in 2003 when compared to \$26.6 million in 2002 was primarily due to decrease in revenues from CRT film products. The decline in sales of our CRT film products was primarily due to lower selling prices and lower unit volumes, which we believe resulted from the decline of CRT technology as the primary technology for computer monitors. Mitsubishi Electric was the primary CRT manufacturer that buys our anti-reflective, or AR film, and it ceased production of the 17-inch AR product in the third quarter of 2003.

Our net revenues in the architectural market increased 11% or \$0.7 million in 2004 when compared to 2003 due to an increase in sales from our customers in all regions. The decrease in our net revenues to the architectural market of 44% or \$6.3 million in 2003 from \$11.2 million in 2002 was primarily attributable to a reduction in orders of our Heat Mirror® product from several architectural customers, and the loss of a major architectural customer in the U.S.

Our net revenues to our window film market increased 22% or \$1.7 million in 2004 when compared to 2003. Our sales decreased 28% or \$2.9 million in 2003 when compared to 2002. We sell our window film products primarily to customers located in the Pacific Rim, Middle East and the U. S.

Cost of Revenues.

Cost of revenues decreased 20% or \$9.1 million in 2004 from 2003. As a percent of sales, cost of sales was 63.9% in 2004 compared to 86.1% in 2003. Facility costs, depreciation expense and labor costs have historically comprised the majority of our manufacturing expenses, and these costs are relatively fixed and do not fluctuate proportionately with net revenues. The reduction in 2004 from 2003 in cost of revenues was the result of a reduction of overhead costs, the increased production from our Dresden facility which has lower manufacturing costs and lower fixed costs than in the United States as a result of our restructuring actions taken in 2003. Depreciation expense is lower for our Dresden plant due to the grants and investment allowances for plant and equipment provided to us by the Saxony government. The grants and allowances are recorded as a reduction of property and equipment costs, thereby lowering the depreciation base of those assets.

Cost of revenues decreased 7% or \$3.7 million in 2003 when compared to 2002. As a percent of sales, cost of revenues was 86.1% in 2003 compared to 72.2% in 2002. In 2003, we recorded inventory adjustments of approximately \$1.0 million as a result of higher than expected yield losses by our outside converters. In addition, we recorded approximately \$0.3 million of product transition costs, which were the result of the transition of certain products from our United States manufacturing locations to our Dresden facility.

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Gross margin

Gross margin increased from 13.9% in 2003 to 36.1% in 2004. The improvement in gross margin was largely the result of product mix and manufacturing efficiencies. Continued improvements in our Dresden operations combined with stabilized U.S. production have played an important role in the increase of our gross margin in 2004 when compared to 2003. Our gross margin decreased from 27.8% in 2002 to 13.9% in 2003. The decrease was primarily a result of lower revenues in each of our market segments, relatively fixed manufacturing costs, higher than anticipated yield losses by outside converters and product transition costs.

Operating expenses

Research and development spending decreased 52% or \$3.5 million in 2004 compared to 2003. The decrease was due to lower headcount in 2004 of 16 compared to 2003 of 33 as a result of restructuring activities in 2003. Also, patent service costs, tool and allocation expenses were all reduced in 2004 compared to 2003. Our research and development spending decreased 13% or \$1.0 million in 2003 from 2002, primarily due to lower labor and occupancy costs, as a result of restructuring and cost control measures, which were partially offset by an increase in materials that were used in on-going research and development activities.

Our selling, general and administrative expenses decreased 17% or \$2.1 million in 2004 from 2003 due to lower business insurance premiums of \$0.5 million, lower bad debts of \$0.7 million, lower depreciation expenses of \$0.5 million, reduced legal fees of \$0.5 million and decrease in accounting fees of \$0.2 million, offset by higher consulting fees of \$0.3 million and outside services of \$0.2 million. Selling, general and administrative expenses were relatively flat in 2003 when compared to 2002. In 2003, we incurred an increase of \$0.4 million in outside services, a charge of \$0.2 million to forgive an employee loan and an increase of \$0.1 million in consulting fees. Selling, general and administrative expenses in 2002 included \$0.5 million in severance payments and \$0.3 million in employment compensation costs resulting from reduced headcount from 2002.

Restructuring costs

During 2004, we did not incur restructuring costs. In 2003, we recorded an accounting adjustment of \$65,000 as a result of modifications to the severance packages of certain employees. In 2002, we incurred restructuring costs of \$2.6 million as a result of management's decision to reduce our workforce, consolidate our Palo Alto facilities and shift a greater percentage of our operations to our Tempe and Dresden manufacturing facilities. The restructuring charges in 2002 primarily reflected the recognition of the remaining lease expense in the amount of \$2.2 million associated with certain buildings we vacated in 2003 and severance packages of \$0.4 million.

Impairment charge/recoveries for long-lived assets

In June 2004, we had a recovery for long-lived assets as a result of selling a production machine from our Tempe manufacturing facility to a third party. The sale value was \$1.7 million, which included the price of the production machine, other miscellaneous hardware, training to be provided by us and operating software to run the machine. All of our obligations were completed and we recognized a gain of \$1.5 million, representing 90% of the sale value, less book value of the machine of \$0.1 million. Collection of the final 10% was contingent on installation of the machine by a third party or 120 days after shipment. We collected the final 10% in January 2005 and will recognize the gain in the first quarter of 2005. In accordance with the amended settlement agreement reach with Teijin Limited (see Note 5 - Term Debt and Capital Leases to our consolidated financial statements), we have paid off the loan to Teijin from the portion of net proceeds from the sale of this production machine.

During 2003, we experienced shortfalls in revenue compared to our budgeted and forecast revenues. In addition, in the third quarter of 2003, we determined that, due to reduced demand for our products, anticipated revenues through the remainder of 2003 and 2004 would be substantially below expected as well as historical levels. We believed that the reduced demand for our products was caused by the decline in personal computer sales worldwide, competition from alternative technologies in the automotive glass segment, as well as declines in certain residential and commercial construction markets as a result of the economic recession in the U.S. As our U.S. operations have a higher operating cash break-even point compared to our Dresden operations, we believed that the lower than anticipated revenues indicated that an impairment analysis of the assets of our U.S. operations was necessary at September 28, 2003. As a result of our decision to close the Tempe operations in the fourth quarter, we concluded that a further impairment analysis of the long-lived assets of the U.S. operations was necessary at December 31, 2003. We, therefore, performed an evaluation of the recoverability of long-lived assets related to the U.S. business at September 28, 2003 and December 31, 2003 in accordance with Statement of Financial Accounting Standards ("SFAS") No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets". For long-lived assets to be held and used, the determination of recoverability is based on an estimate of undiscounted cash flows expected to result from the use and eventual disposition of the assets. Our evaluation concluded that the undiscounted expected future cash flows were less than the carrying values of these assets, and an impairment charge was required. The impairment charge represents the amount required to write-down long-lived assets to our best estimate of fair value. For long-lived assets to be disposed of by sale or abandonment, principally the long-lived assets located at the Tempe operation, the impairment loss is estimated as the excess of the carrying value of the assets over fair value. As a result of our assessment we recorded non-cash, impairment charges of \$19.4 million and \$8.6 million for the periods ended September 28, 2003 and December 31, 2003, respectively. The factors considered by us in performing this assessment included current operating results, trends, and prospects, the closure of our Tempe operation, as well as the effects of obsolescence, demand, competition, and other economic factors.

Income (loss) from operations

Income from operations was \$8.9 million in 2004 compared to loss from operations of \$39.6 million in 2003. Loss from operations was \$3.6 million in 2002. Income from operations in 2004 was a result of higher net sales and gross profit margin, lower operating expenses and recovery from long-lived assets. Loss from operations in 2003 increased over 2002 primarily due to impairment charges on long-lived assets of \$19.4 million and \$8.6 million in the third and fourth quarters of 2003, respectively. The higher loss was also attributable to lower revenues, which were partially offset by lower research and development expenses.

Interest expense, net

Interest expense increased from \$1.6 million in 2003 to \$2.2 million in 2004. The increase in interest expense in 2004 compared to 2003 was mainly due to a \$0.3 million interest expense incurred for amortization of debt issuance costs related to warrants, \$0.4 million interest expense attributable to interest incurred on our convertible promissory notes and \$0.2 million interest incurred with our line of credit, partially offset by interest income of \$0.2 million. The reduction in interest expense in 2003 as compared to 2002 was primarily attributable to lower interest rates.

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Cost of warrants issued

Warrants issued in connection with the Letter of Intent

In connection with the November 11, 2003 Letter of Intent signed between Needham & Company, Inc., or Needham, and us outlining the proposed debt guarantee and equity financing we issued a warrant for 1,254,235 shares of common stock, representing 10% of the outstanding common stock of Southwall, exercisable at \$0.01 per share.

We valued the warrant at \$0.1 million and the amount was recorded as a non-operating expense. This warrant terminated upon signing of definitive documentation with Needham on December 18, 2003.

Warrants issued in connection with the investment agreement

In accordance with the investment agreement, warrants were to be issued to the Investors on the closing of each guarantee and equity tranche. However, the terms of the investment agreement were such that the Investors were entitled to receive the 752,892 warrants associated with the second tranche of equity regardless of whether the second equity closing occurred. This term was included as further incentive for the Investors to enter into definitive agreements. Because we had an enforceable obligation to issue the warrants and because the terms of the warrant were known as of the date of the investor agreement, the warrants were considered issued for accounting purposes as of December 18, 2003.

Because they were issued as an incentive to enter into definitive agreements for transactions to which the Investors are not committed, we determined that the value of the warrants should be recorded as a non-operating expense. We determined the value of the warrants to be \$0.3 million.

The investment agreement also included terms that required us to issue additional warrants to the Investors if, as part of the restructuring efforts, we issued any equity instruments, notes or other debt instruments to any creditor, landlord, employee, director, agent or consultant.

Following the issuance of equity instruments we are required to issue to each of the Investors warrants in such amounts as would allow the Investors to maintain their aggregate ownership percentage (on a fully-diluted basis) as if such issuance had not occurred. Such warrants represent anti-dilution protection for the Investor and are therefore not valued as a stand-alone instrument.

Following note or debt issuances to creditors we are required to issue additional warrants to each of the Investors representing the right to purchase that number of shares of common stock equal to the product of (x) 1.25 and (y) the original principal amount of such note or debt instrument. Such warrants represent penalties for our failing to eliminate obligations to creditors, and are regarded as issued for accounting purposes as of the date of the agreement triggering legal entitlement.

In December 2003, additional warrants totaling 409,246 were triggered by note or debt issuances. We determined the value of the warrants to be \$0.2 million. The fair value of the warrants was recorded as a non-operating expense.

Warrants issued in connection with the guarantee from Needham

In connection with the guarantee from Needham and as additional incentive to complete the financing closings, as contemplated in the investment agreement, we issued warrants for 941,115 shares of common stock. We have determined the value of the guarantee and warrants at \$0.1 million and \$0.4 million, respectively.

We recorded the amount of the warrant value equal to the fair value of the guarantee, \$0.1 million, as debt issuance costs to be amortized as interest expense over the life of our line of credit with our senior lender. The residual value of the warrants, \$0.3 million, is recorded as a non-operating expense, because it represented an incentive to enter into definitive agreements for transactions to which Needham is not committed.

In the first quarter of 2004, due to the structure of the transaction contemplated by the investment agreement, the Company had insufficient authorized and un-issued shares to satisfy the existing commitments had all outstanding warrants been exercised, thereby triggering liability classification for all outstanding warrants and a charge to non-operating expense. The Company re-measured the fair value of the warrants at the issuance date and each subsequent quarter end, based on a methodology used by a third party, until the Company's stockholders approved the increase of the number of authorized shares of its common stock in the fourth quarter of 2004. As a result of this, the Company incurred \$6.8 million in cost of warrants issued in 2004.

Other income, net

Other income increased from \$0.4 million in 2003 to \$0.5 million in 2004. Other income, net, includes sublease income and foreign exchange transaction gains and losses. As exchange rates fluctuate relative to the U.S. dollar, exchange gains and losses occur. The increase in other income in 2004 from 2003 was attributable to an increase in foreign currency gain recognized from receivables denominated in Euros and VAT refunds, also denominated in Euros. The reduction in other income in 2003 from 2002 was primarily attributable to a decrease of \$0.3 million in foreign currency gains, and a decrease of sublease income from \$0.4 million in 2002. There was no sublease income in 2004 and 2003.

Income (loss) before provision (benefit) from income taxes

The pre-tax income in 2004 was a result of higher net revenue and gross profit margin, lower operating expenses, and impairment recovery for long-lived assets, partially offset by interest expense and cost of warrants issued. The pre-tax loss in 2003 increased over the pre-tax loss incurred in 2002, due to the impairment charge on long-lived assets, lower revenues, a non-cash charge for warrants issued in conjunction with the financing and related transactions, lower sublease income, and lower foreign currency gains, which were partially offset by lower research and development expenses and lower interest expense.

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Provision for (benefit from) income taxes

The provision for income taxes in 2004 and 2003 was related to our German subsidiary, SEG. The decrease in the provision for income taxes in 2004 from 2003 was due to lower taxable income for SEG in 2004 compared to 2003. The increase in the provision for income taxes in 2003 from 2002 was primarily due to a provision to accrue foreign income tax of \$0.6 million during 2003 for our German operation. In 2003, we fully utilized our operating loss carry forward for German statutory tax purposes, and as a result, we expect to incur tax obligations related to our Dresden plant for the foreseeable future based on expected continuing profitability of our German operations on a stand-alone basis. During 2002 the Federal government enacted legislation that established a tax holiday on alternative minimum tax obligations for 2001 and 2002 for which we received a refund during the second quarter of 2002. The benefit from income taxes realized in 2002 resulted from the reversal of an accrual for alternative minimum tax for 2001 and a refund during the second quarter from the Internal Revenue Service for our 2002 alternative minimum tax payment, and we were able to use an operating loss carry-forward to offset fully the federal income taxes incurred during the period.

Liquidity and capital resources

Liquidity

Our principal liquidity requirements are for working capital, consisting primarily of accounts receivable and inventories. We believe that because of the relatively long production cycle of certain of our products, our inventories will continue to represent a significant portion of our working capital. We incurred a net loss in 2004, 2003 and 2002, and negative cash flows from operations in 2003 and 2002. We incurred positive cash flow from operations in 2004. Based on our current financial outlook, we believe we may earn an operating profit and maintain positive cash flow in 2005.

In December 2002, we restructured our operations to reduce our cost structure by reducing our work force in Palo Alto and vacating excess facilities after consolidating our operations in Palo Alto. We have extended our lease commitment in our current facility in Palo Alto to January 2006. We will be reviewing our facilities need in the second quarter of 2005 for our short term and long-term business plans. These actions might adversely affect our operating cash flows. As discussed in the "Overview" above, upon the satisfaction of certain conditions, we are entitled to replace the letter of credit held by one of our landlords with a warrant to purchase approximately 1.4 million shares of our common stock. If we are able to replace the letter of credit in 2005, we will be entitled to the return of the \$1 million of cash collateral supporting the letter of credit.

During the first quarter of 2004, we agreed to new payment terms with certain of our major creditors and vendors, which extended or reduced our payment obligations.

Our cash and cash equivalents increased by \$3.4 million from \$1.2 million at December 31, 2003 to \$4.5 million at December 31, 2004. Cash provided by operating activities increased by \$6.7 million from \$3.0 million used in operations in 2003, to \$3.8 million provided by operations in 2004. The increase in cash provided by operating activities during 2004 was primarily the result of reduction in our net loss for the year and \$6.8 million associated with the issuance of warrants to investors and creditors, which was partially offset by the decrease in accounts payable and accrued liabilities. Cash provided by investing activities increased by \$4.0 million from \$2.8 million used in investing activities in 2003, to \$1.3 million provided by investing activities in 2004. The increase in cash provided by investing activities was primarily due to the sale of fixed assets during the year and a decrease in expenditures for property, plant, equipment and other assets. Cash used in financing activities decreased by \$7.8 million from \$5.5 million provided by financing activities in 2003, to \$2.2 million used in financing activities in 2004. The decrease was the result of debt repayments, partially offset by the proceeds we received from the sales of our convertible notes.

We entered into an agreement with the Saxony government in May 1999 under which we receive investment grants. As of December 31, 2004, we had received 5.0 million Euros or \$6.8 million of the grants and accounted for these grants by applying the proceeds received to reduce the cost of our fixed assets of our Dresden manufacturing facility. Additionally, as of December 31, 2004, we have a balance remaining from the government grants received in May 1999 of 0.4 million Euros or \$0.5 million, which has been recorded as an advance and held as restricted cash until we receive approval from the Saxony government to apply the funds to reduce our capital expenditures. If we fail to meet certain requirements in connection with these grants, the Saxony government has the right to demand repayment of the grants. The total annual amount of investment grants and investment allowances that we are entitled to seek varies from year to year based upon the amount of our capital expenditures that meet certain requirements of the Saxony government. Generally, we are not eligible to seek total investment grants and allowances for any year in excess of 33% of our eligible capital expenditures for that year. We expect to continue to finance a portion of our capital expenditures in Dresden with additional grants from the Saxony government and additional loans from German banks, some of which may be guaranteed by the Saxony government. However, we cannot guarantee that we will be eligible for or will receive additional grants in the future from the Saxony government. We do not plan to spend a significant amount on capital expenditures for our Germany facility in 2005.

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Borrowing arrangements

On April 29, 2004, we entered into a credit agreement with PBF, which will expire on May 5, 2005. The new agreement provides for a maximum borrowing capacity of \$9.0 million. The credit agreement consists of a \$3.0 million credit facility, which is guaranteed by Needham & Company, and a \$6.0 million receivables line of credit. The \$3.0 million facility bears an annual interest rate of 2% above PBF's base rate, and the annual interest is calculated based on the borrowings outstanding under the line. The \$6.0 million facility bears an annual interest rate of 7% above PBF's base rate, and the annual interest is calculated based on the average daily accounts receivable against which we have borrowed. Availability under the \$6.0 million line is limited to 75% of the value of eligible accounts receivables acceptable to PBF. PBF continues to reserve the right to lower the 75% of the value of eligible receivable standards for borrowings under the credit agreement or to terminate the credit agreement at any time. The amendment also deleted the requirements that we maintain a listing on the NASDAQ National Market and comply with financial covenants to maintain minimum net tangible net worth of \$33.0 million, a current ratio of assets to liabilities at least 0.70, and revenues equal to or greater than 80% of revenues projected. As of December 31, 2004, we had approximately \$3.0 million of borrowings outstanding.

At December 31, 2002, we were not in compliance with certain of the covenants of the guarantee by Teijin of our Japanese bank loan. Teijin and the Japanese bank waived the defaults under Teijin's guarantee of the loan that may exist for any measurement period through and including September 30, 2003 arising out of our failure to comply with the minimum quick ratio, tangible net worth and maximum debt/tangible net worth covenants. Teijin previously guaranteed our outstanding debt owed to UFJ Bank Limited (formerly known as Sanwa Bank Limited). On November 5, 2003, we defaulted on this debt and Teijin honored its guarantee by satisfying the obligation. Under the terms of Teijin's guarantee, we were obligated to immediately repay the amounts paid by Teijin. As part of the restructuring plan, we entered into a guaranteed Loan Agreement with Teijin to satisfy Teijin's claim. The agreement included a payment schedule that spreads the payments over a period of four years until 2008. The obligations owed to Teijin will not accrue interest if paid according to the payment schedule. Our obligations to Teijin are guaranteed by our subsidiary, Southwall Europe GmbH. (See Note 5 - Term Debt and Capital Leases). In June 2004, the January 19, 2004 agreement with Teijin was amended as the Company sold one of its machines to a third party. The amendment provided that the Company would pay to Teijin the proceeds from the sale of the equipment. In June 2004, we paid \$560,000 and in September 2004, we paid \$290,000 to Teijin from the proceeds of the disposal of a fixed asset. The remaining balance due to Teijin under the agreement was \$419,000 at December 31, 2004. In February and March 2005, we paid \$150,000 and \$269,000, respectively, of the remaining balance. All amounts under the Teijin agreement have been paid.

Our borrowing arrangements with various German banks as of December 31, 2004 are described in Note 5 to our consolidated financial statements set forth herein. We are in compliance with all of the covenants of the German bank loans, and we have classified \$1.1 million and \$10.6 million outstanding under the German bank loans as a short-term liability and long-term liability, respectively, at December 31, 2004. We are obligated to pay an aggregate of \$1.2 million in principal amount under our German bank loans in 2005.

As of December 31, 2003, we were in default under a master sale-leaseback agreement with respect to two of our production machines. We had withheld lease payments in connection with a dispute with the leasing company, Matrix Funding Corporation. An agent purporting to act on behalf of the leasing company filed suit against us to recover the unpaid lease payments and the alleged residual value of the machines, totaling \$6.5 million in the aggregate. In February 2004, we reached a settlement agreement with the agent for \$2.0 million to be repaid over six years at a stepped rate of interest, and we returned the equipment in question to the plaintiffs (See Note 5 - Term Debt and Capital Leases). We are obligated to pay an aggregate of \$0.1 million under this agreement in 2005.

Equity transactions

On December 18, 2003, we entered into a definitive agreement for a new bank loan guarantee and equity-financing package of up to \$7.5 million from Needham & Company and affiliates, and Dolphin Direct Equity Partners, L.P, as further described above under "Overview - Recent Financing and Related Transactions". The agreement enabled us to receive up to \$3.0 million in new borrowings under a new line of credit facility with PBF, supported by guarantees provided by Needham in two separate allotments of \$2.25 million and \$0.75 million. The \$3.0 million in new borrowings reduced the amount of availability under the factoring agreements we previously entered into with Pacific Business Funding to \$7.0 million.

On February 20, 2004, the investors also purchased \$4.5 million of convertible notes from us, which they converted into shares of our preferred stock in December 2004. After deducting approximately \$0.5 million in professional fees relating to the financing transactions and the restructuring of creditor agreements, the net proceeds of the financing were approximately \$4.0 million. We applied the net proceeds as follows:

• Approximately \$2.2 million was spent during February and March of 2004, in the normal course of our business for general corporate purposes, including purchases of raw materials, payments to subcontractors and suppliers of approximately \$1.0 million, payroll costs of approximately \$0.8 million, and rent and lease payments;

• Approximately \$0.8 million was paid between February 24, 2004 and March 30, 2004, to Judd Properties, LLC, the landlord of our Palo Alto executive offices and manufacturing facilities, in connection with the settlement and restructuring of our lease obligations to Judd Properties, LLC; and

• Approximately \$1.0 million has been set aside to support a letter of credit in favor of Judd Properties as security for our obligations to depart from and properly restore the property pursuant to our settlement and restructuring with Judd.

Capital expenditures

We anticipate spending approximately \$1.1 million in capital expenditures in 2005, primarily to maintain and upgrade our production facilities in Dresden. We spent approximately \$0.4 million in capital expenditures in Germany in 2004.

Management's Plan

In response to cumulative operating losses, negative cash flows in 2003 and 2002, and our limited current cash balance, we implemented several cost cutting and business restructuring activities during 2003. These activities, which included employee layoffs and the closure of and reduction of operations at several facilities (including the closure of our Tempe manufacturing facility in the fourth quarter of 2003), were designed to improve our cash flow from operations to allow us to continue as a going concern. As a result of migrating most of our manufacturing production to our Dresden facility, we have reduced our headcount in the U.S. by approximately 89, thereby lowering our labor costs by approximately \$0.9 million per fiscal quarter. Our Dresden plant generally has had lower manufacturing costs than our United States facilities as a result of lower payroll costs, lower operating expenses, and lower depreciation charges. Our cost of revenues decreased \$9.1 million, from \$45.9 million 2003 to \$36.8 million in 2004, due in large part to these actions.

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While we have been in the process of instituting these cost-cutting measures, the demand for our products has grown in certain areas. We increased market share in 2004 in the electronic display market as our plasma display filter and flat panel display products continue to gain customer acceptance. In addition, sales of our silver reflector product, used primarily in laptop computers, increased by \$0.3 million in 2004 over 2003 as a result of the addition of a new display customer and an improvement in the worldwide personal computer market. Our actions to reduce costs as well as the restructuring of our payment terms with our major creditors and vendors led to \$8.9 million of income from operations in 2004 as compared to a loss from operations of \$39.6 million in 2003. Our gross profit increased from \$7.4 million in 2003 to \$20.8 million in 2004.

During the fourth quarter of 2003 and the first quarter of 2004, we agreed to new payment terms with most of our major creditors and vendors, which reduced our payment obligations over the next 12 months by approximately \$5.0 million. We also entered into the investment agreement described above pursuant to which we issued \$4.5 million of convertible promissory notes and warrants to investors. We believe that this investment, along with the cost-cutting measures and our revenue improvements outlined above, should provide our company with sufficient cash to continue operations for the next 12 months.

If the Company is unable to deliver existing or new plasma filter products to Mitsui, which allow them to maintain their market share with our technology, a reduction in demand for our plasma films would significantly impact our revenues and profitability. Additionally, if Saint-Gobain were to reduce the amount of film they require from the Company for automotive windshields, this would negatively impact our revenues and profitability. Finally, a lessening in demand or problem with third party converters would negatively affect our window film business and impact the Company's revenues and profitability.

We will continue to face a number of challenges over the next 12 months. We will continue to look for ways to cut costs and establish platforms for future revenue growth to rebuild the confidence of our customers, vendors, employees and shareholders and to return to sustained profitability during 2005 and beyond.

Our future payment obligations on our borrowings pursuant to our term debt, capital lease obligations, non-cancelable operating leases and other non-cancelable contractual commitments are as follows (in thousands):

	Total	Less than 1 Year	1-3 Year	4-5 Year	Greater Than 5 Year
Contractual Obligations:					
Term debt (1)	\$ 13,064	\$ 1,420	\$ 2,617	\$ 5,732	\$ 3,295
Line of credit	2,975	2,975	--	--	--
Capital lease obligations	43	43	--	--	--
Operating leases (2)	2,295	674	1,610	11	--
Total contractual cash obligations	\$ 18,377	\$ 5,112	\$ 4,227	\$ 5,743	\$ 3,295

(1) Represents loan agreements with Teijin; Portfolio Financial Servicing Company, Bank of America and Lehman Brothers, and several German Bank (see Note 5 and Note 11 of notes to our consolidated financial statements).

(2) Represents the remaining rents owed on buildings we rent in Palo Alto, California.

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RISK FACTORS

Financial Risks

Our working capital position, financial commitments and historical performance may raise doubt about our ability to have positive earnings in the future.

We incurred net losses in 2004, 2003 and 2002 and negative cash flows from operations in 2003 and 2002. These factors together with our working capital position and our significant debt service and other contractual obligations at December 31, 2004, may raise doubt about our ability to restore profitable operations, generate cash flow from operating activities and obtain additional financing. These and other factors related to our business during recent years, including the restatement in 2000 of our consolidated financial statements for prior periods, operating losses in 1998, 1999, 2000, 2002 and 2003, our past failure to comply with covenants in our financing agreements and our voluntary delisting from NASDAQ in March 2004 may make it difficult for us to secure the required additional borrowings on favorable terms or at all. We intend to seek additional borrowings or alternative sources of financing; however, difficulties in borrowing money or raising financing could have a material adverse effect on our operations, planned capital expenditures and ability to comply with the terms of government grants.

The transactions with Needham and Dolphin may have a negative effect on us or our stock price.

As a result of the consummation of the financing transactions in December 2003 and February 2004 with Needham Company and its Affiliates and Dolphin, our shareholders suffered material dilution. As our largest stockholder and the guarantor of our line of credit, Needham could prevent us from seeking additional borrowings or alternative sources of financing that we require for future operations or otherwise control the company in ways that might have a material adverse effect on the company or our stock price.

Covenants or defaults under our credit and other loan agreements may prevent us from borrowing or force us to curtail our operations.

As of December 31, 2004, we had total outstanding obligations under our credit and other loan agreements of \$16.1 million. Our inability to make timely payments of interest or principal under these facilities could materially adversely affect our ability to borrow money under existing credit facilities, to secure additional borrowings or to function as a going concern. Our current credit facilities contain financial covenants that will require us to meet certain financial performance targets and operating covenants that limit our discretion with respect to business matters. Among other things, these covenants restrict our ability to borrow additional money, create liens or other encumbrances, and make certain payments including dividends and capital expenditures. Many of these loans contain provisions that permit the lender to declare the loans immediately due if there is a material adverse change in our business. These credit facilities also contain events of default that could require us to pay off indebtedness before its maturity. The restrictions imposed by these credit facilities or the failure of lenders to advance funds under these facilities could force us to curtail our operations or have a material adverse effect on our liquidity.

Our ability to borrow is limited by the nature of our equipment and some of our accounts receivable.

Our equipment is custom designed for a special purpose. In addition, a large portion of our accounts receivable are from foreign sales, which are often more difficult to collect than domestic accounts receivable. As a result of the nature of our equipment and accounts receivable, lenders will generally allow us to borrow less against these items as collateral than they would for other types of equipment or domestic accounts receivable, or require us to provide additional credit enhancements.

If we default under our secured credit facilities and financing arrangements, the lenders could foreclose on the assets we have pledged to them requiring us to significantly curtail or even cease our operations.

In connection with our current borrowing facilities and financing arrangements, we have granted security interests in and liens on substantially all of our assets, including our production machines and our Dresden facility, to secure the loans. If our senior lenders were to repossess one or more of those machines, our ability to produce product would be materially impaired. Our revenues, gross margins and operating efficiency would also be materially adversely affected. Our obligations under our secured credit facilities contain cross-default and cross-acceleration provisions and provisions that allow the lenders to declare the loans immediately due if there is a material adverse change in our business. If we default under the credit facilities or financing arrangements the lenders could declare all of the funds borrowed there under, together with all accrued interest, immediately due and payable. If we are unable to repay such indebtedness, the lenders could foreclose on the pledged assets. If the lenders foreclose on our assets, we would be forced to significantly curtail or even cease our operations.

Our quarterly revenue and operating results are volatile and difficult to predict. If we fail to meet the expectations of public market analysts or investors, the market price of our common stock may decrease significantly.

Our quarterly revenue and operating results have varied significantly in the past and will likely vary significantly in the future. Our revenue and operating results may fall below the expectations of securities analysts or investors in future periods. Our failure to meet these expectations would likely adversely affect the market price of our common stock.

Our quarterly revenue and operating results may vary depending on a number of factors, including:

• Fluctuating customer demand, which is influenced by a number of factors, including market acceptance of our products and the products of our customers and end-users, changes in product mix, and the timing, cancellation or delay of customer orders and shipments;

• the timing of shipments of our products by us and by independent subcontractors to our customers;

• Manufacturing and operational difficulties that may arise due to, among other things, quality control, capacity utilization of our production machines, unscheduled equipment maintenance, and the hiring and training of additional staff;

• our ability to introduce new products on a timely basis; and

• Competition, including the introduction or announcement of new products by competitors, the adoption of competitive technologies by our customers, the addition of new production capacity by competitors and competitive pressures on prices of our products and those of our customers.

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We expect to be subject to increased foreign currency risk in our international operations.

In 2003 and 2004, approximately 34% and 31% of our revenues, respectively, were denominated in euros, primarily related to sales from our Dresden operation, including sales to one of our largest customers, a European automotive glass manufacturer. In addition, other customers may request to make payments in foreign currencies. Also, certain transactions with foreign suppliers are denominated in foreign currencies, primarily Japanese Yen.

A strengthening in the dollar relative to the currencies of those countries in which we do business would increase the prices of our products as stated in those currencies and could hurt our sales in those countries. Significant fluctuations in the exchange rates between the U.S. dollar and foreign currencies could cause us to lower our prices and thus reduce our profitability and cash flows. These fluctuations could also cause prospective customers to cancel or delay orders because of the increased relative cost of our products.

Our suppliers and subcontractors may impose more onerous payment terms on us.

As a result of our financial performance and voluntary delisting from NASDAQ, our suppliers and creditors may impose more onerous payment terms on us, which may have a material adverse effect on our financial performance and our liquidity. For example, one of our subcontractors has required us to provide it with a security interest in all of our inventory held by it and has limited the amount of unpaid invoices we may have outstanding with it at any time.

Operational Risks

We depend on a small number of customers for nearly all of our revenues, and the loss of a large customer could materially adversely affect our revenues or operating results.

Our ten largest customers accounted for approximately 79%, 84% and 84% of net revenues in 2004, 2003, and 2002, respectively. We have contracts extending past 2004 with only two of these customers. We expect to continue to derive a significant portion of our net revenues from this relatively small number of customers. Accordingly, the loss of a large customer could materially hurt our business, and the deferral or loss of anticipated orders from a large customer or a small number of customers could materially reduce our revenue and operating results in any period. Some of our largest automotive glass customers have used a technology—direct-to-glass sputtering—as an alternative to our window films, which in 2002 and 2003 resulted in a decrease in orders from these customers. The continued or expanded use of this technology by our automotive glass customers would have a material adverse effect on our results of operations and financial position.

We must continue to develop new products or enhance existing products on a timely basis to compete successfully in a rapidly changing marketplace.

Our future success depends upon our ability to introduce new products, improve existing products and processes to keep pace with technological and market developments, and to address the increasingly sophisticated and demanding needs of our customers, especially in the electronic display and automotive markets. Technological changes, process improvements, or operating improvements that could adversely affect us include:

• the development of competing technologies to our anti-reflective and silver reflector films for liquid crystal displays in the flat panel display industry;

• changes in the way coatings are applied to alternative substrates such as tri-acetate cellulose, or TAC;

• the development of new technologies that improve the manufacturing efficiency of our competitors;

• The development of new materials that improve the performance of products that could compete with our products;
and

• Improvements in the alternatives to the sputtering technology we use to produce our products, such as plasma enhanced chemical vapor deposition, or PECVD.

Our research and development efforts may not be successful in developing products in the time, or with the characteristics, necessary to meet customer needs. If we do not adapt to technological changes or process or operating improvements, our competitive position, operations and prospects would be materially adversely affected.

Our ability to successfully identify suitable target companies and integrate acquired companies or technologies may affect our future growth.

A potential part of our continuing business strategy is to consider acquiring companies, products, and technologies that complement our current products, enhance our market coverage, technical capabilities or production capacity, or offer other growth opportunities. Our ability to successfully complete acquisitions requires that we identify suitable target companies, agree on acceptable terms, and obtain acquisition financing on acceptable terms. In connection with these acquisitions, we could incur debt, amortization expenses relating to identified intangibles, impairment charges relating to goodwill, or merger related charges, or could issue stock that would dilute our current shareholders' percentage of ownership. The success of any acquisitions will depend upon our ability to integrate acquired operations, retain and motivate acquired personnel, and increase the customer base of the combined businesses. We cannot assure you that we will be able to accomplish all of these goals. Any future acquisitions would involve certain additional risks, including:

- difficulty integrating the purchased operations, technologies, or products;
- unanticipated costs, which would reduce our profitability;
- diversion of management's attention from our core business;
- potential entrance into markets in which we have limited or no prior experience; and
- potential loss of key employees, particularly those of the acquired business.

If one of our customers is able to enforce a European automotive film patent, we may be restricted from using the methods present in such patent to produce some of our products.

On March 3, 2005, the European Patent Office allowed a European patent owned by Pilkington Automotive GmbH entitled "Method for producing a laminated glass pane free of optical obstruction caused by warping, use of a particular carrier film for the production of the laminated glass pane and carrier films particularly suitable for the method of use." This European patent covers certain laminated films and methods of using them which may prevent us from producing certain films designed for the automotive markets. Our inability to use this technology could adversely affect our ability to provide a full range of products to the automotive film market. We participated in opposing the European patent and will appeal the European Patent Office decision.

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Failure to meet the volume requirements of our customers may result in a loss of business or contractual penalties.

Our long-term competitive position will depend to a significant extent on our manufacturing capacity. The failure to have sufficient capacity, to fully utilize capacity when needed or to successfully integrate and manage additional capacity in the future could adversely affect our relationships with customers and cause customers to buy similar products from our competitors if we are unable to meet their needs. For example, we believe that we lost substantial potential architectural products sales in 2001 because we did not have the capacity to manufacture the required amounts of products. Also, our failure to produce required amounts of products under some of our contracts will result in price reductions on future sales under such contracts or penalties under which we would be required to reimburse the customer for the full cost of any product not delivered in a timely manner, either of which would reduce our gross margins.

We depend on our OEM customers for the sale of our products.

We sell a substantial portion of our products to a relatively small number of original equipment manufacturers, or OEMs. The timing and amount of sales to these customers ultimately depend on sales levels and shipping schedules for the OEM products into which our products are incorporated. We have no control over the volume of products shipped by our OEM customers or shipping dates, and we cannot be certain that our OEM customers will continue to ship products that incorporate our products at current levels or at all. We currently have long-term contracts with only two of our OEM customers. Failure of our OEM customers to achieve significant sales of products incorporating our products and fluctuations in the timing and volume of such sales could be harmful to our business. Failure of these customers to inform us of changes in their production needs in a timely manner could also hinder our ability to effectively manage our business.

We rely upon our OEM customers for information relating to the development of new products so that we are able to meet end-user demands.

We rely on our OEM customers to inform us of opportunities to develop new products that serve end-user demands. If our OEM customers do not present us with market opportunities early enough for us to develop products to meet end-user needs in a timely fashion, or if the OEMs fail to anticipate end-user needs at all, we may fail to develop new products or modify our existing products for the end-user markets for our products. In addition, if our OEM customers fail to accurately anticipate end-user demands, we may spend resources on products that are not commercially successful.

We depend on a distributor for the sale of our after-market products.

We primarily use one independent distributor to sell our after-market products. We have a distribution agreement with Globamatrix Holdings Pte. Ltd., or Globamatrix, under which we granted an exclusive worldwide license to distribute our after-market applied film in the automotive and architectural glass markets. Failure of Globamatrix to achieve significant sales of products incorporating our products and fluctuations in the timing and volume of such sales could be harmful to our business. We believe that the success of our after-market products will continue to depend upon this distributor.

We face intense competition, which could affect our ability to increase our revenue, maintain our margins and increase our market share.

The market for each of our products is intensely competitive and we expect competition to increase in the future. Competitors vary in size and in the scope and breadth of the products they offer. We compete both with companies using technology similar to ours and companies using other technologies or developing improved technologies.

Direct-to-glass sputtering represents the principal alternative technology to our sputter-coated film products. Direct-to-glass is a mature, well-known process for applying thin film coatings directly to glass, which is used by some of our current and potential customers to produce products that compete with our products. This technology is commonly used to manufacture products that conserve energy in buildings and automobiles. Many of our current and potential competitors have significantly greater financial, technical, marketing and other resources than we have. In addition, many of our competitors have well-established relationships with our current and potential customers and have extensive knowledge of our industry.

We are dependent on key suppliers of materials, which may prevent us from delivering product in a timely manner.

We manufacture all of our products using materials procured from third-party suppliers. We do not have long-term contracts with our third-party suppliers. Certain of the materials we require are obtained from a limited number of sources. Delays or reductions in product shipments could damage our relationships with customers. Further, a significant increase in the price of one or more of the materials used in our products could have a material adverse effect on our cost of goods sold and operating results.

We are dependent on a few qualified subcontractors to add properties to some of our products.

We rely on third-party subcontractors to add properties, such as adhesives, to some of our products. There are only a limited number of qualified subcontractors that can provide some of the services we require, and we do not have long-term contracts with any of those subcontractors. Qualifying alternative subcontractors could take a great deal of time or cause us to change product designs. The loss of a subcontractor could adversely affect our ability to meet our scheduled product deliveries to customers, which could damage our relationships with customers. If our subcontractors do not produce a quality product, our yield will decrease and our margins will be lower. Further, a significant increase in the price charged by one or more of our subcontractors could force us to raise prices on our products or lower our margins, which could have a material adverse effect on our operating results.

We are dependent on key suppliers of production machines, which may prevent us from delivering an acceptable product on a timely basis and limit our capacity for revenue growth.

Our production machines are large, complex and difficult to manufacture. It can take up to a year from the time we order a machine until it is delivered. Following delivery, it can take us, with the assistance of the manufacturer, up to six additional months to test and prepare the machine for commercial production. There are a very limited number of companies that are capable of manufacturing these machines. Our inability in the future to have new production machines manufactured and prepared for commercial production in a timely manner would prevent us from delivering product on a timely basis and limit our capacity for revenue growth.

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Fluctuations or slowdowns in the overall electronic display industry have and may continue to adversely affect our revenues.

Our business depends in part on sales by manufacturers of products that include electronic displays. The markets for electronic display products are highly cyclical and have experienced periods of oversupply resulting in significantly reduced demand for our products. For example, due to the deteriorating economic environment, sales by flat cathode ray tube manufacturers decreased in 2002 and further in 2003, contributing to our electronic display product revenues declining by 11% in 2002, and another 3% for 2003. Mitsubishi Electric was the only CRT manufacturer that buys our anti-reflective, or AR, film and it decided to consolidate all of the manufacturing of this product to Japan. In connection with that consolidation, Mitsubishi ceased production of the 17" AR product in its Mexico plant during the third quarter of 2003.

Performance, reliability or quality problems with our products may cause our customers to reduce or cancel their orders.

We manufacture our products based on specific, technical requirements of each of our customers. We believe that future orders of our products will depend in part on our ability to maintain the performance, reliability and quality standards required by our customers. If our products have performance, reliability or quality problems, then we may experience:

- delays in collecting accounts receivable;
- higher manufacturing costs;
- additional warranty and service expenses; and
- reduced or cancelled orders.

If we fail to recruit and retain a significant number of qualified technical personnel we may not be able to develop, enhance and introduce our products on a timely basis, and our business will be harmed.

We require the services of a substantial number of qualified technical personnel. Intense competition and aggressive recruiting, as well as a high-level of employee mobility characterize the market for skilled technical personnel. These characteristics make it particularly difficult for us to attract and retain the qualified technical personnel we require. We have experienced, and we expect to continue to experience, difficulty in hiring and retaining highly skilled employees with appropriate technical qualifications. It is especially difficult for us to recruit qualified personnel to move to the location of our Palo Alto, California offices because of the high-cost of living. If we are unable to recruit and retain a sufficient number of qualified technical employees, we may not be able to complete the development of, or enhance, our products in a timely manner. As a result, our business may be harmed and our operating results may suffer.

We may be unable to attract or retain the other highly skilled employees that are necessary for the success of our business.

In addition to our dependence on our technical personnel, our success also depends on our continuing ability to attract and retain other highly skilled employees. We depend on the continued services of our senior management, particularly Thomas G. Hood, our President and Chief Executive Officer. We do not have employment contracts with any of our officers or key-person life insurance covering any officer or employee. Our officers have technical and industry knowledge that cannot easily be replaced. Competition for similar personnel in our industry where we operate is intense. We have experienced, and we expect to continue to experience, difficulty in hiring and retaining highly

skilled employees with appropriate qualifications. If we do not succeed in attracting or retaining the necessary personnel, our business could be adversely affected.

If we are unable to adequately protect our intellectual property, third parties may be able to duplicate our products or develop functionally equivalent or superior technology.

Our success depends in large part upon our proprietary technology. We rely on our know-how, as well as a combination of patent, trademark and trade secret protection, to establish and protect our intellectual property rights. Despite our efforts to protect our proprietary rights, unauthorized parties may attempt to copy aspects of our products or to obtain and use information that we regard as proprietary. Policing unauthorized use of our products is difficult. Our means of protecting our proprietary rights may not be adequate. In addition, the laws of some foreign countries do not protect our proprietary rights to as great an extent as do the laws of the United States. In the next three years, one of our U.S. patents relating to our architectural products will expire. Expiration of these patents or our failure to adequately protect our proprietary rights may allow third parties to duplicate our products or develop functionally equivalent or superior technology. In addition, our competitors may independently develop similar technology or design around our proprietary intellectual property.

Our business is susceptible to numerous risks associated with international operations.

Revenues from international sales amounted to approximately 79%, 89% and 85% of our net revenues during 2004, 2003 and 2002, respectively. The distance between our two manufacturing sites creates logistical and communications challenges. In addition, to achieve acceptance in international markets, our products must be modified to handle a variety of factors specific to each international market as well as local regulations. We may also be subject to a number of other risks associated with international business activities. These risks include:

• unexpected changes in and the burdens and costs of compliance with a variety of foreign laws and regulatory requirements;

• potentially adverse tax consequences; and

• global economic turbulence and political instability.

If we fail to comply with environmental regulations, our operations could be suspended.

We use hazardous chemicals in producing our products and have air and water emissions that require controls. As a result, we are subject to a variety of local, state and federal governmental regulations relating to the storage, discharge, handling, emission, generation, manufacture and disposal of toxic or other hazardous substances used to manufacture our products, compliance with which is expensive. Our failure to comply with current or future regulations could result in the imposition of substantial fines on us, suspension of production, alteration of our manufacturing processes, increased costs or cessation of operations.

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We rely on our domestic sales representatives, without whom our architectural product sales may suffer.

We use independent sales representatives to promote our Heat Mirror products to architects in the United States. If some or all of our sales representatives experience financial difficulties, or otherwise become unable or unwilling to promote our products, our business could be harmed. These sales representatives could reduce or discontinue promotion of our products. They may not devote the resources necessary to provide effective marketing support to us. In addition, we depend upon the continued viability and financial resources of these representatives, many of which are small organizations with limited working capital. These representatives, in turn, depend substantially on general economic conditions and other factors affecting the markets for the products they promote. We believe that our success in this market will continue to depend upon these sales representatives.

We may experience unanticipated warranty or other claims with respect to our products, which may lead to extensive litigation costs and expenses.

In the ordinary course of business, we have periodically become engaged in litigation principally as a result of disputes with customers of our architectural products. We have settled some of these suits and others are pending. We may become engaged in similar or other lawsuits in the future. Some of our products that have been the basis for lawsuits against us could be the basis for future lawsuits. An adverse outcome in the defense of a warranty or other claim could subject us to significant liabilities to third parties. Any litigation, regardless of the outcome, could be costly and require significant time and attention of key members of our management and technical personnel.

We may face extensive damages or litigation costs if our insurance carriers seek to have us indemnify them for settlements of past and outstanding litigation.

Several of our insurance carriers have reserved their rights to seek indemnification from us for substantial amounts paid to plaintiffs by the insurance carriers as part of settlements of litigation relating to our architectural products. Our insurance carriers in a case in which the plaintiff alleged we were responsible for defects in window products manufactured by others have advised us that they intend to seek reimbursement for settlement and defense costs. Any claims, with or without merit, could require significant time and attention of key members of our management and result in costly litigation.

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ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Financing risk:

Our exposure to market rate risk for changes in interest rates relates primarily to our term loans, specifically our factoring line of credit which bears an interest rate equal to 7% above the bank Base Rate (which was 5.25% at December 31, 2004) and is calculated based on the average daily balance of the accounts receivable against which we have borrowed, and our line of credit facility with our senior lender which bears an interest rate equal to 2.5% above the bank Prime Rate (which was 5.25% at December 31, 2004) and is calculated based on the average daily balance of the amounts we have borrowed. In addition, the interest rate on one of our German loans will be reset to the prevailing market rate in 2005 and another of our German loans will have its interest rate reset to the prevailing market rate in 2009. Fluctuations or changes in interest rates may adversely affect our expected interest expense. The effect of a 10% fluctuation in the interest rate on our factoring line of credit and our other line of credit would have had an effect of less than \$47,000 on our interest expense for 2004.

Investment risk:

We invest our excess cash in money market accounts and, by practice, limit the amount of exposure to any one institution. Investments in both fixed rate and floating rate interest earning instruments carry a degree of interest rate risk. Fixed rate securities may have their fair market value adversely affected due to a rise in interest rates, while floating rate securities may produce less income than expected if interest rates fall. The effect of a 10% fluctuation in the interest rate of any floating rate securities would have had an adverse effect of less than \$4,000 for 2004.

Foreign currency risk:

International revenues (defined as sales to customers located outside of the United States) accounted for approximately 79% of our total sales in 2004. Of this amount, approximately 42% was denominated in euros relating to sales from our Dresden operation. The other 58% of our international sales were denominated in US dollars. In addition, certain transactions with foreign suppliers are denominated in foreign currencies (principally Japanese Yen). The effect of a 10% fluctuation in the euro exchange rate would have had an effect of \$1.9 million on net revenues for the year ended December 31, 2004 and the effect on expenses of a 10% fluctuation in the Yen exchange rate would have been approximately \$24,000 for 2004.

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ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Southwall Technologies Inc.

We have audited the accompanying consolidated balance sheet of Southwall Technologies Inc. and its subsidiaries as of December 31, 2004, and the related consolidated statements of operations, stockholders' equity and cash flows for the year then ended. Our audit also included the financial statement schedule listed in the Index at Item 15(a)(2). These consolidated financial statements and financial statement schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements and financial statement schedule based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Southwall Technologies Inc. and its subsidiaries at December 31, 2004, and the results of their operations and their cash flows for the year then ended, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the related financial statement schedule, when considered in relation to the consolidated financial statements taken as a whole, presents fairly, in all material respects, the information set forth therein.

/s/ Burr, Pilger & Mayer LLP

Palo Alto, California

February 18, 2005, except as to Note 14, which is as of March 21, 2005

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Southwall Technologies Inc.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the financial position of Southwall Technologies Inc. and its subsidiaries at December 31, 2003, and the results of their operations and their cash flows for each of the two years in the period ended December 31, 2003, in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the accompanying financial statement schedule presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. These financial statements and financial statement schedule are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements and financial statement schedule based on our audits. We conducted our audits of these statements in accordance with the standards of the Public Company Accounting Oversight Board (United States), which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. The Company incurred a net loss and negative cash flows from operating activities in 2003 and has significant debt service and other contractual obligations at December 31, 2003. These factors raise substantial doubt about its ability to continue as a going concern. The consolidated financial statements do not include any adjustments that may result from the ultimate resolution of this matter.

PricewaterhouseCoopers LLP

San Jose, California
April 13, 2004

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SOUTHWALL TECHNOLOGIES INC.
CONSOLIDATED BALANCE SHEETS
(in thousands, except per share data)

	December 31,	
ASSETS	2004	2003
Current Assets:		
Cash and cash equivalents	\$ 4,547	\$ 1,152
Restricted cash	686	739
Accounts receivable, net of allowance for doubtful accounts of \$292 and \$778 in 2004 and 2003, respectively	6,186	7,096
Inventories, net	8,355	6,830
Other current assets	1,757	2,617
Total current assets	21,531	18,434
Property, plant and equipment, net	21,110	21,787
Restricted cash loans	1,149	1,066
Other assets	1,157	434
Total assets	\$ 44,947	\$ 41,721
LIABILITIES, REDEEMABLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY		
Current Liabilities:		
Current portion of long term debt and capital leases	\$ 1,463	\$ 2,042
Short term obligations	2,975	6,844
Accounts payable	2,544	6,315
Accrued compensation	1,378	1,392
Other accrued liabilities	6,643	6,051
Total current liabilities	15,003	22,644
Term debt and capital leases	11,644	13,658
Government grants advanced	505	614
Other long term liabilities	3,222	3,084
Total liabilities	30,374	40,000
Commitments and contingencies (Note 11)		
Series A redeemable convertible preferred stock, \$0.001 par value; 5,000 shares authorized, 4,893 and 0 shares outstanding at 2004 and 2003, respectively (Liquidation preference: \$4,893)	4,810	--
Stockholders' Equity:		
Common stock, \$0.001 par value; 50,000 shares authorized, and 26,488 and 12,548 shares	26	13

outstanding at 2004 and 2003, respectively

Capital in excess of par value	77,957	70,861
Accumulated other comprehensive income		
Translation gain on subsidiary	4,358	3,240
Accumulated deficit		