

NOVA MEASURING INSTRUMENTS LTD  
Form 20-F  
June 28, 2005

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

**Form 20-F**

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REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) or (g)  
OF THE SECURITIES EXCHANGE ACT OF 1934

OR

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 0-030668**  
\_\_\_\_\_

**NOVA MEASURING INSTRUMENTS LTD.**

(Exact name of Registrant as specified in its charter)

**Nova Measuring Instruments Ltd.**  
(Translation of Registrant's name into English)

**Israel**  
(Jurisdiction of incorporation or organization)

**Weizmann Science Park, Building 22, 2nd Floor, Ness-Ziona 76100, Israel**  
(Address of principal executive offices)

\_\_\_\_\_  
**Securities registered or to be registered pursuant to Section 12(b) of the Act.**

**Title of each class**

None

**Name of each exchange on which registered**

None

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

Ordinary Shares, nominal value NIS 0.01 per share

**Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:**

None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report:

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15,308,544 Ordinary Shares, NIS 0.01 nominal (par) value per share, as of December 31, 2004

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 which financial statement item the registrant has elected to follow:

Item 17  Item 18

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**Introduction**

In this Annual Report, the "Company," "Nova," "we" or "our" refers to Nova Measuring Instruments Ltd. and its consolidated subsidiaries, when the context requires.

The consolidated financial statements and selected consolidated financial data as of December 31, 2000, 2001, 2002, 2003 and 2004 and for each of the years in the five-year period ended December 31, 2004 (the Consolidated Financial Statements ), included in this Annual Report have been prepared in accordance with accounting principles generally accepted in the United States of America ( U.S. GAAP ).

**Our Functional Currency**

Unless otherwise indicated, all amounts herein are expressed in United States dollars ("U.S. dollars," "dollars," "USD," "US\$" or "\$").

The currency of the primary economic environment in which we operate is the U.S. dollar, since substantially all our revenues to date have been denominated in U.S. dollars and over 50% of our expenses are in U.S. dollars or in New Israeli Shekels linked to the dollar. Transactions and balances denominated in dollars are presented at their original amounts. Non-dollar transactions and balances have been re-measured into dollars as required by the principles in Statement No. 52 of the Financial Accounting Standards Board (FASB) of the United States of America. All exchange gains and losses from such re-measurement are included in the net financial income when they arise.

**Cautionary Statement Regarding Forward-Looking Statements**

Certain information contained herein, which does not relate to historical financial information, may be deemed to constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. The words or phrases "will likely result," "are expected to," "will continue," "is anticipated," "estimate," "project," "believe," "plan," or similar expressions identify forward looking statements. Such statements are subject to certain risks and uncertainties that could cause actual results to differ materially from historical results and those presently anticipated or projected. We wish to caution readers not to place undue reliance on any such forward-looking statements, which speak only as of the date made. We undertake no obligation to release publicly any revisions to these forward looking statements to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events. Among the factors that could cause our actual results in the future to differ materially from any opinions or statements expressed with respect to future periods are competitive industry conditions and the ability to forecast the needs of the semiconductor industry with respect to the very cyclical nature of the industry and the very fast pace of technology evolutions. Various other factors that could cause our actual results to differ materially are set forth in "Risk Factors" starting on page 3 and elsewhere herein.

## PART I

**Item 1. Identity of Directors, Senior Management and Advisors**

Not applicable.

**Item 2. Offer Statistics and Expected Timetable**

Not applicable.

**Item 3. Key Information****Selected Financial Data**

The following selected consolidated financial data as of December 31, 2003 and 2004 and for the years ended December 31, 2002, 2003 and 2004 have been derived from our audited Consolidated Financial Statements included with this report. These financial statements have been prepared in accordance with U.S. GAAP, and audited by Brightman Almagor & Co., an independent registered public accounting firm and a member firm of Deloitte Touche Tohmatsu ( Brightman Almagor & Co ). The consolidated selected financial data as of December 31, 2000, 2001 and 2002 and for the years ended December 31, 2000 and 2001 have been derived from other consolidated financial statements not included in this Form 20-F that were also prepared in accordance with U.S. GAAP and audited by Brightman Almagor & Co. The selected consolidated financial data set forth below should be read in conjunction with and are qualified by reference to Item 5, Operating and Financial Review and Prospects and the Consolidated Financial Statements and notes thereto and other financial information included elsewhere in this Form 20-F.

**Summary of Consolidated Financial Data**

	Year ended December 31,				
	2000	2001	2002	2003	2004
	(in thousands, except per share data)				
<b>Consolidated Statement of Operations Data:</b>					
Revenues	\$ 48,463	\$ 21,171	\$ 20,371	\$ 26,688	\$ 40,879
Cost of revenues	23,478	16,470	13,353	16,535	22,076
Gross profit	24,985	4,701	7,018	10,153	18,803
Operating expenses:					
Research and development expenses, net	13,878	13,253	9,894	8,561	8,665
Sales and marketing expenses	7,998	6,852	6,950	6,534	6,868
General and administrative expenses	3,186	3,032	1,797	1,898	2,331
Other operating expenses (income)	-	1,025	1,478	(2,203)	-
Total operating expenses	25,062	24,162	20,119	14,790	17,864
Operating Profit (loss)	(77)	(19,461)	(13,101)	(4,637)	939
Financing income, net	2,858	2,587	144	425	528
Other expenses					
Net income (loss)	\$ 2,781	\$ (16,874)	\$ (12,957)	\$ ( 4,212)	\$ 1,467
Earnings (loss) per share:					
Basic earnings (loss) per share	\$ 0.20	\$ (1.16)	\$ (0.88)	\$ (0.28)	\$ 0.10
Diluted earnings per share	\$ 0.19	-	-	-	\$ 0.09
Shares used in calculation of basic earnings (loss) per share	13,580	14,578	14,786	14,994	15,259
Shares used in calculation of					

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Year ended December 31,

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diluted earnings per share	14,691	16,234
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December 31,				
2000	2001	2002	2003	2004
(in \$ thousands)				

**Consolidated Balance Sheet Data:**

Working capital	61,270	45,529	34,574	30,350	25,134
Total assets	81,825	59,564	49,008	47,918	49,462
Shareholders' equity	62,619	47,006	35,677	32,336	34,468
Dividends declared					

**Risk Factors****Risks Related to Our Business and Our Industry**

**Because substantially all our current sales are dependent on a single product line, factors that adversely affect the pricing and demand for this product line could substantially reduce our sales.**

Although we have expanded our product offering, we are still currently dependent on a single integrated process control product line targeting the chemical mechanical polishing market. We expect revenues from this product line to continue to account for a substantial portion of our revenues for at least the next year. As a result, factors adversely affecting the pricing of or demand for integrated process controls for the chemical mechanical polishing equipment field, such as competition and technological change, would substantially reduce our sales.

**The markets we target are highly cyclical and it is difficult to predict the length and strength of any downturn or expansion period.**

The semiconductor capital equipment market and industries are highly cyclical and in 2004 experienced significant expansion. During the first quarter of 2005, however, the market and industries changed direction and exhibited the first signs of a downturn. Although we rely on market research companies, we cannot predict the length and strength of this downturn or any other downturn or expansion. We have only a limited ability to reduce expenses during any industry downturn because of the need for significant ongoing expenditures related to engineering, research and development and worldwide customer service and support operations. Accordingly, we incurred losses in the first quarter of 2005 during this current downturn and we may incur losses during future downturns.

**Our inability to reduce spending during a protracted slowdown in the semiconductor industry could reduce our prospects of sustaining profitability.**

Historically, we have derived all of our revenues, and we expect to continue to derive all of our revenues, from sales of our products and related services to the semiconductor industry. Our business depends in large part upon capital expenditures by semiconductor manufacturers, which in turn depend upon the current and anticipated demand for semiconductors. The semiconductor industry has experienced severe and protracted cyclical downturns, characterized by slowing product demand, inventory surpluses, accelerated erosion of average selling prices and production overcapacity. These downturns, including the current one, have materially reduced demand for the type of capital equipment and process technology that we offer and our sales and revenues have declined. In addition, our ability to reduce expenses in response to any downturn or slowdown in the rate of capital investment by manufacturers in these industries may be limited because of:

- our continuing need to invest in research and development,
- our capital equipment requirements, and
- our extensive ongoing customer service and support requirements worldwide.

**If we do not respond effectively and on a timely basis to rapid technological change, our ability to attract and retain customers could be diminished, which would hurt our sales and ability to remain competitive.**

The semiconductor manufacturing industry is characterized by rapid technological change, new product introductions and enhancements and evolving industry standards. Our ability to remain competitive and generate sales revenue will depend in part upon our ability to develop new and enhanced systems at competitive prices in a timely and cost-effective manner and to accurately predict technology transitions. Because new product development commitments must be made well in advance of sales, new product decisions must anticipate the future demand for products. If we fail to correctly anticipate future demand for products, our sales and competitive position would suffer. In addition, the development of new measurement technologies, new product introductions or enhancements by our competitors could cause a decline in sales or loss of market acceptance of our existing products.

**We may not be able to develop or market new products, which could slow or prevent our growth.**

Our business plan requires the introduction of several new product lines. Our plans to introduce process control products for photolithography, etch and other processes will require development of new capabilities. Some of these projects are in the early stages of development, and we cannot be certain that we will be able to develop or bring to market these new product lines or, if we do, that these products will be well received or profitable. If we are unable to successfully introduce new product lines, our future growth could be adversely affected.

**New product lines that we may introduce in the future may contain defects, which will require us to allocate time and financial resources to correct.**

Our new product lines may contain defects when first introduced. If there are defects, we will need to divert the attention of our personnel from our product development efforts to address the detection and correction of the defects. In the past, no liability claims have been filed against us for damages related to product defects, and we have not experienced any material delays as a result of product defects. However, we cannot assure you that we will not incur these costs or liabilities or experience these lags or delays in the future. Moreover, the occurrence of such defects, whether caused by our products or the products of another vendor, may result in significant customer relations problems and injury to our reputation and may impair the market acceptance of our products.

**We have had a history of losses and may incur future losses.**

Since our inception in 1993, we have incurred net losses in every year other than in 1998, 2000, and 2004 and may incur a net loss in 2005 or in future years. As of December 31, 2004, we had an accumulated deficit of \$38.9 million and incurred a loss of \$4.2 million in the first quarter of 2005 due to a significant reduction in sales volumes. We plan to continue similar levels of our aggregate product development, sales and marketing and administrative expenses over the next 12 months. Accordingly, to achieve profitability in 2005, we will need to significantly increase our sales. In the future, our sales may not grow and we may not achieve profitability.

**Because we have a limited operating history with one product line, our historical results may not be indicative of our future results, and it is difficult to evaluate our business and prospects.**

Our first system for chemical mechanical polishing applications was developed and introduced to the market in October 1995. Because this is the only product line with which we have significant manufacturing and marketing experience and because of our focus on the development and introduction of new products, our past operating results may not be indicative of our future results. Companies in an early stage of product development frequently have higher risks and encounter unexpected expenses and difficulties. These risks, expenses and difficulties apply particularly to us because the semiconductor manufacturing business is a rapidly evolving market characterized by technological advances. The uncertainty of our future performance increases the risk that the value of your investment will decline.



**Our dependence on a single manufacturing facility magnifies the risk of an interruption in our production capabilities.**

We have only one manufacturing facility, which is located in Ness-Ziona, Israel. Any event affecting this site, including natural disaster, labor stoppages or armed conflict, may disrupt or indefinitely discontinue our manufacturing capabilities and could significantly impair our ability to fulfill orders and generate revenues, thus negatively impacting our business.

**We experience quarterly fluctuations in our operating results, which may adversely impact our stock price.**

Our quarterly operating results have fluctuated significantly in the past, and we expect this trend to continue. A principal reason is that we derive a substantial portion of our revenue from the sale of a relatively small number of systems to a relatively small number of customers. As a result, our revenues and results of operations for any given quarter may decrease due to factors relating to the timing of orders by, and shipments of systems to, significant customers. Furthermore, our quarterly results are affected by the highly cyclical nature of the semiconductor capital equipment market and industries.

We also have a limited ability to predict revenues for future quarterly periods and face risks of revenue shortfalls due to our limited sales backlog in current periods. If the number of systems we actually ship, and thus the amount of revenues we are able to record in any particular quarter, is below our expectations, the adverse effect may be magnified by our inability to adjust spending quickly enough to compensate for the revenue shortfall.

**We may not be able to expand our manufacturing capacity or marketing efforts quickly enough to support our future growth.**

Because of our small size and our business strategy to aggressively increase our sales, we anticipate an increased demand on all of our resources. If we do not accurately estimate our need for personnel, manufacturing capacity or marketing and customer support, we may not be able to support our future growth.

**We depend on a small number of large customers, and the loss of one or more of them would lower our revenues.**

Our customer base is highly concentrated among a limited number of large customers, primarily because the semiconductor industry is dominated by a small number of large companies. We anticipate that our revenues will continue to depend on a limited number of major customers, although the companies considered to be our major customers and the percentage of our revenue represented by each major customer may vary from period to period. The loss of any of one of our major customers would adversely affect our sales and revenues. Furthermore, if any of our customers become insolvent or have difficulties meeting their financial obligations to us for any reason, we may suffer losses.

**We operate in an extremely competitive market, and if we fail to compete effectively, our revenues and market share will decline.**

Although the market for integrated process control systems used in semiconductor manufacturing is currently concentrated and characterized by relatively few participants, the semiconductor capital equipment industry is intensely competitive. We compete with Nanometrics Inc., Therma-Wave Inc. and Rudolph Technologies Inc., which manufacture and sell integrated process control systems. In addition, we compete with established manufacturers of conventional stand-alone measurement equipment, such as KLA-Tencor Corp., and original semiconductor equipment manufacturers, such as Tokyo Electron Ltd. Established companies, both domestic and foreign, compete with our product line, and new competitors are entering our market. Many of our competitors have greater financial, engineering, manufacturing and marketing resources than we do. If a particular customer selects a competitor's capital equipment, we expect to experience difficulty in selling to that customer for a significant period of time. A substantial investment is required by customers to evaluate, test, select and integrate capital equipment into a production line. As a result, once a manufacturer has selected a particular vendor's capital equipment, we believe that the manufacturer generally relies upon that equipment for the specific production line application and frequently will attempt to consolidate its other capital equipment requirements with the same vendor. We believe that our ability to compete successfully depends on a number of factors both within and outside of our control, including:

the contribution of our equipment to our customers' productivity;

our product quality and performance;

our global technical service and support;

the return on investment (ROI) of our equipment and its cost of ownership;

the breadth of our product line; and

our success in developing and marketing new products.

If we fail to compete in a timely and cost-effective manner against current or future competitors, our revenues and market share will decline.

**The ongoing consolidation in our industry may harm us if our competitors are able to offer a broader range of products and greater customer support than we can offer.**

We believe that the semiconductor capital equipment market is undergoing consolidation. A number of suppliers have been acquired by larger equipment manufacturers. For example, in 2001 Therma-Wave Inc. acquired Sensys Instruments Corp., in 2002 Rudolph Technologies Inc. acquired ISOA Inc. and in 2003 Applied Materials acquired Boxer Cross Inc. In the first quarter of 2005, our primary competitor, Nanometrics Inc., entered into a merger agreement with August Technologies Inc. We believe that similar acquisitions and business combinations involving our competitors and customers may occur in the future. These acquisitions could adversely impact our competitive position by enabling our competitors and potential competitors to expand their product offerings and customer service, which could provide them an advantage in meeting customers' needs, particularly with those customers that seek to consolidate their capital equipment requirements with a smaller number of vendors. The greater resources, including financial, marketing and support resources, of competitors involved in these acquisitions could permit them to accelerate the development and commercialization of new competitive products and the marketing of existing competitive products to their larger installed bases. Accordingly, such business combinations and acquisitions by competitors or customers could jeopardize our competitive position.

**Because we are small, we depend on a small number of employees who possess both executive and technical expertise, and the loss of any of these key employees would hurt our ability to implement our strategy and to compete effectively.**

Because of our small size and our reliance on employees with both executive and advanced technical skills, our success depends significantly upon the continued contributions of our officers and key personnel. All of our key management and technical personnel have expertise, which is in high demand among our competitors, and the loss of any of these individuals could cause our business to suffer. We do not maintain life insurance policies for our officers and directors.

**Our lengthy sales cycle increases our exposure to customer cancellations or delays in orders, which may result in obsolete inventory and volatile quarterly revenues.**

Sales of our systems depend, in significant part, upon our customers adding new manufacturing capacity or expanding existing manufacturing capacity, both of which involve a significant capital commitment. We may experience delays in finalizing sales following initial system qualification while a customer evaluates and approves an initial purchase of our systems. In general, for new customers or applications, our sales cycle takes between 3 and 24 months to complete. During this time, we may expend substantial funds and management effort. Lengthy sales cycles subject us to a number of significant risks, including inventory obsolescence and fluctuations in operating results, over which we have little or no control.

**Because of the technical nature of our business, our intellectual property is extremely important to our business, and our inability to protect our intellectual property would harm our competitive position.**

As of December 31, 2004, we had obtained 40 U.S. patents and had 23 U.S. patent applications pending. In addition, we had obtained 19 foreign patents and had more than 70 foreign patent applications pending.

We cannot assure you that:

pending patent applications will be approved;

any patents will be broad enough to protect our technology, will provide us with competitive advantages or will not be challenged or invalidated by third parties; or

the patents of others will not have an adverse effect on our ability to do business.

We also cannot assure you that others will not independently develop similar products, duplicate our products or, if patents are issued to us, design around these patents. Further, because patents may afford less protection under foreign law than is available under U.S. law, we cannot assure you that any foreign patents issued to us will adequately protect our proprietary rights.

In addition to patent protection, we also rely upon trade secret protection, employee and third-party nondisclosure agreements and other intellectual property protection methods to protect our confidential and proprietary information. Despite these efforts, we cannot be certain that others will not otherwise gain access to our trade secrets or disclose our technology.

**There has been significant litigation involving intellectual property rights in the semiconductor and related industries and similar litigation involving Nova could force us to divert resources to defend against this litigation or deter our customers from purchasing our systems.**

We have been, and may in the future be, notified of allegations that we may be infringing intellectual property rights possessed by others. In addition, we may be required to commence legal proceedings against third parties, which may be infringing our intellectual property, in order to defend our intellectual property. In the future, protracted litigation and expense may be incurred to defend ourselves against alleged infringement of third party rights or to defend our intellectual property against infringement by third parties. Adverse determinations in that type of litigation could:

result in our loss of proprietary rights;

subject us to significant liabilities, including treble damages in some instances;

require us to seek licenses from third parties, which licenses may not be available on reasonable terms or at all; or

prevent us from selling our products.

Any litigation of this type, even if we are ultimately successful, could result in substantial cost and diversion of time and effort by our management, which by itself could have a negative impact on our profit margin, competitive position and ability to develop and market new and existing products. For additional information on our intellectual property, including information regarding a civil action we recently commenced against Nanometrics Inc., see *Intellectual Property* starting on page 23 of this report.

**We depend on a limited number of suppliers, and in some cases a sole supplier. Any disruption or termination of these supply channels may adversely affect our ability to manufacture our products and to deliver them to our customers.**

We purchase components, subassemblies and services from a limited number of suppliers and occasionally from a single source. Disruption or termination of these sources could occur, and these disruptions could have at least a temporary adverse effect on our operations. To date, we have not experienced any material disruption or termination of our supply sources. A prolonged inability on our part to obtain components included in our systems on a cost-effective basis could adversely impact our ability to deliver products on a timely basis, which could harm our sales and customer relationships.



**We are dependent on international sales, which expose us to foreign political and economic risks that could impede our plans for expansion and growth.**

Our principal customers are located in the United States, Japan, Taiwan and South Korea and we produce our products in Israel. International operations expose us to a variety of risks that could seriously impact our financial condition and impede our growth. For instance, trade restrictions, changes in tariffs and import and export license requirements could adversely affect our ability to sell our products in the countries adopting or changing those restrictions, tariffs or requirements. This could reduce our sales by a material amount.

**Because we derive a significant portion of our revenues from sales in Asia, our sales could be hurt by the instability of Asian economies.**

A number of Asian countries have experienced political and economic instability. For instance, Taiwan and China have had a number of disputes, as have North and South Korea, and Japan has for a number of years experienced significant economic instability. We have a subsidiary in Taiwan and we have significant customers in Japan and South Korea. An outbreak of hostilities or other political upheaval or economic downturns in these or other Asian countries would likely harm the operations of our customers in these countries, causing our sales to suffer.

**A large number of our ordinary shares continue to be owned by a relatively small number of shareholders, whose future sales of our stock, if substantial, may depress our share price.**

If our principal shareholders sell substantial amounts of our ordinary shares, including shares issued upon the exercise of outstanding options, the market price of our ordinary shares may fall. As of December 31, 2004 we had 15,308,544 ordinary shares outstanding, of which 10,216,270 shares were held by nine shareholders.

**Because five of our shareholders control approximately 54% of our ordinary shares, they can control the outcome of matters submitted to a vote of our shareholders, including the election of directors.**

As of April 30, 2005, five of our shareholders controlled approximately 8.3 million, or 54%, of our ordinary shares. As a result, and although we are currently not aware of any voting agreement between such shareholders, if these shareholders voted together or in the same manner, they would have the ability to control the outcome of corporate actions requiring shareholder approval. Even if these five shareholders do not vote together, each has the ability to influence the outcome of corporate actions requiring shareholder approval. For additional information on our major shareholders, see *Major shareholders* on page 46.

**Risks Related to Operations in Israel**

**Potential political, economic and military instability in Israel may adversely affect our growth and revenues.**

Our principal offices and manufacturing facilities and many of our suppliers are located in Israel. Although most of our sales are currently being made outside Israel, political, economic and military conditions in Israel directly affect our operations. Since the establishment of the State of Israel in 1948, a number of armed conflicts have taken place between Israel and its Arab neighbors. Conflicts between Israel and Palestinian militant groups have been ongoing. A state of hostility, varying in degree and intensity, has led to security and economic problems for Israel. The resumption of hostilities in the region, and the on-going tension in the region, have a negative effect on the stability of the region which might have negative effect on our business and harm our growth and revenues. For further detail see *Political and economic conditions in Israel* starting on page 38.

**Our operations may be disrupted by the obligation of key personnel to perform military service.**

Some of our executive officers and employees in Israel are obligated to perform up to 36 days of military reserve duty annually. This time-period may be extended by the Minister of Defense or in the event of a declared national emergency. Our operations could be disrupted by the absence for a significant period of one or more of our executive officers or key employees due to military service. To date, our operations have not been materially disrupted as a result of these military service obligations, and no executive officer or key employee was recruited for any significant time period. Any disruption in our operations due to such obligations would adversely affect our ability to produce and market our existing products and to develop and market future products.

**Because most of our revenues are generated in U.S. dollars, but a significant portion of our expenses is incurred in New Israeli Shekels, our profit margin may be seriously harmed by inflation and currency fluctuations.**

We generate most of our revenues in U.S. dollars, but incur a significant portion of our expenses in New Israeli Shekels, commonly referred to as NIS. As a result, we are exposed to risk to the extent that the rate of inflation in Israel exceeds the rate of devaluation of the NIS in relation to the dollar or if the timing of this devaluation lags behind inflation in Israel with respect to such expenses that might increase as a result of inflation in Israel. In that event, the dollar cost of our operations in Israel will increase and our dollar measured results of operations will be adversely affected. Our operations also could be adversely affected if we are unable to hedge against currency fluctuations in the future. Accordingly, we may enter into currency hedging transactions to decrease the risk of financial exposure from fluctuations in the exchange rate of the dollar against the NIS. These measures, however, may not adequately protect us from material adverse effects due to the impact of inflation in Israel.

**We participate in government programs under which we receive tax and other benefits. These programs impose restrictions on our ability to use the technologies developed under these programs. In addition, the reduction or termination of these programs would increase our costs.**

We receive conditional grants from the Office of the Chief Scientist of the Israeli Ministry of Industry and Trade for research and development programs that meet specified criteria. We are also eligible to receive tax benefits under Israeli law for capital investments that are designated as approved enterprises. To maintain our eligibility for these programs and tax benefits, we must continue to meet certain conditions, including paying royalties related to grants received and making specified investments in fixed assets. Some of these programs also restrict our ability to manufacture particular products and transfer particular technology, which was developed as part of the approved enterprises, outside of Israel, by requiring approval of the research and development committee nominated by the Office of the Chief Scientist of the Israeli Ministry of Industry and Trade under applicable law. Such approval may be given only if the recipient abides by all the provisions of the law and related regulations. Approval to manufacture products outside of Israel or consent to the transfer of technology, if requested, might not be granted.

If we fail to comply with these conditions in the future, the benefits received could be cancelled. We could also be required to pay increased taxes or refund any benefits previously received, adjusted for inflation and interest. In 2003 and 2004, we recorded an aggregate of \$2.3 million and \$1.9 million, respectively, in conditional grants under Israeli government programs. As of December 31, 2004, our contingent liability to the Office of the Chief Scientist for grants received was approximately \$4.0 million. See also Note 7A to our consolidated financial statements contained elsewhere in this report. From time to time, we submit requests for new grants from the Office of the Chief Scientist and for expansion of our approved enterprise programs. These requests might not be approved. The Israeli government has reduced the benefits available under these programs in recent years and has indicated that it may reduce or eliminate these benefits in the future. The termination or reduction of these grants and tax benefits could harm our business, financial condition and results of operations. In addition, if we increase our activities outside Israel due to, for example, future acquisitions, our increased activities generally will not be eligible for inclusion in Israeli tax benefit programs. Accordingly, our effective corporate tax rate could increase significantly in the future.

**Any shareholder with a cause of action against us as a result of purchasing our ordinary shares, or as a result of buying, selling or holding our ordinary shares may have difficulty asserting a claim under U.S. securities laws or enforcing a U.S. judgment against us or our officers, directors or Israeli auditors.**

We are organized under the laws of the State of Israel, and we maintain most of our operations in Israel. Most of our officers and directors as well as our Israeli auditors reside outside of the United States and a substantial portion of our assets and the assets of these persons are located outside the United States. Therefore, if you wish to enforce a judgment obtained in the United States against us, or our officers, directors and auditors, you will probably have to file a claim in an Israeli court. Additionally, you might not be able to bring civil actions under U.S. securities laws if you file a lawsuit in Israel. We have been advised by our Israeli counsel that Israeli courts generally enforce a final executory judgment of a U.S. court for liquidated amounts in civil matters after a hearing in Israel. If a foreign judgment is enforced by an Israeli court, it will be payable in Israeli currency. However, payment in the local currency of the country where the foreign judgment was given shall be acceptable, subject to applicable foreign currency restrictions.

**Our shares are listed for trade on more than one stock exchange, and this may result in price variations.**

Our ordinary shares are listed for trading on the Nasdaq National Market and on the Tel Aviv Stock Exchange. This may result in price variations. Our ordinary shares are traded on these markets in different currencies, U.S. dollars on the Nasdaq and New Israeli Shekels on the Tel Aviv Stock Exchange. These markets have different opening times and close on different days. Different trading times and differences in exchange rates, among other factors, may result in our shares being traded at a price differential on these two markets. In addition, market influences in one market may influence the price at which our shares are traded on the other. While our ordinary shares are listed for trading on the Tel Aviv Stock Exchange, there has been no trading of our shares on that exchange since the fourth quarter of 2002. We believe that there has not been any trading on the Tel Aviv Stock Exchange since fourth quarter of 2002 as a result of the belief of buyers and sellers that the Nasdaq market offers greater liquidity and, generally, more favorable prices. We are unable to predict whether there will be trading on the Tel Aviv exchange in the future.

**We may be classified as a passive foreign investment Company and, as a result, our U.S. shareholders may suffer adverse tax consequences.**

Generally, if for any taxable year 75% or more of our gross income is passive income, or at least 50% of our assets are held for the production of, or produce, passive income, we may be characterized as a passive foreign investment company for U.S. federal income tax purposes. Our passive income would not include income derived from the sale of our products, but would include amounts derived by reason of a temporary investment of any cash amounts. This characterization could result in adverse U.S. tax consequences to our shareholders, including having gain realized on the sale of our shares be treated as ordinary income, as opposed to capital gain income, and having potentially punitive interest charges applied to such sales proceed. U.S. shareholders should consult with their own U.S. tax advisors with respect to the U.S. tax consequences of investing in our ordinary shares.

We believe that in 2004 we were not a passive foreign investment company and currently we expect that we will not be a passive foreign investment company in 2005. However, passive foreign income company status is determined as of the end of the full tax year and is dependent on a number of factors, including the value of a corporation's assets in the amount and type of its gross income. Therefore, there can be no assurances that we will not become a passive foreign investment company for the current fiscal year ending on December 31, 2004 or any future year. For a discussion on how we might be characterized as a passive foreign investment company and related tax consequences, please see the section of this annual report entitled "U.S. Taxation - Passive Foreign Investment Companies."

#### **Item 4. Information on the Company**

##### **History and Development of the Company**

Nova Measuring Instruments Ltd. was incorporated in May 1993 under the laws of the State of Israel. We commenced operations in October 1993 to design, develop and produce integrated process control systems for use in the manufacture of semiconductors, also known as integrated circuits or chips. In October 1995, we began manufacturing and marketing systems for chemical mechanical polishing processes. We have since expanded our product offering to include systems designed for chemical vapor deposition, lithography and etch, and are continuing to develop new products and additional applications for our current products.

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In April 2000, we conducted an initial public offering pursuant to which we sold 3,000,000 ordinary shares for consideration of \$54 million and net proceeds of \$49.2 million. In connection with the public offering, our shares were listed for trading on the Nasdaq National Market.

In June 2002, we listed our shares in the Tel-Aviv Stock Exchange in Israel, pursuant to legislation which enables Israeli companies whose shares are traded on certain stock exchanges outside of Israel to be registered on the Tel Aviv Stock Exchange, while reporting, in substance, according to the provision of the relevant foreign securities law applicable to the company. The Israeli securities laws prescribe that as condition precedent to a company being eligible to register its shares for trade on the Tel Aviv Stock Exchange, the company's capital must consist of a single class of shares with equal voting rights with respect to their par value. Accordingly, all of our series E shares were converted into ordinary shares in May 2002. This conversion was approved by the Tel Aviv District Court on May 2002 and our Articles of Association were amended accordingly.

We have four wholly owned subsidiaries in the U.S., Japan, Taiwan and Netherlands. These subsidiaries are engaged in marketing activities and provide technical support to our customers.

Our main office, research and development and production facilities are located in Israel at the Weizmann Science Park, Building 22, 2nd Floor, Ness-Ziona. Our telephone number at our main office is +1-972-8-938-7505. Our agent for service of process in the U.S. is David Gitlin, of Wolf, Block, Schorr and Solis-Cohen LLP, 1650 Arch Street, 22nd Floor, Philadelphia, PA 19103.

### Overview

We are a worldwide leading designer, developer and producer of integrated process control metrology systems used in the manufacture of semiconductors and a leading designer, manufacturer and producer of stand-alone process control metrology systems. Metrology systems measure various thin film properties, critical circuit dimensions and layer-to-layer circuit alignment, known as overlay, during various steps in the semiconductor manufacturing process, allowing semiconductor manufacturers to increase quality, productivity and yields, lower their manufacturing costs and increase their profitability. We supply our metrology systems to major semiconductor manufacturers worldwide, either directly or through process equipment manufacturers. Of the 20 semiconductor manufacturers that had the highest capital equipment expenditures in 2004, 18 use our systems, including Intel, Samsung, TSMC, UMC, IBM, AMD and Micron Technology. Process equipment manufacturers that purchase our metrology systems include Applied Materials, Ebara, Novellus and Lam Research. Our systems were first installed in 1995 and, since that time, we have sold more than 1,250 metrology systems.

The semiconductor manufacturing process starts with a silicon wafer that has been highly polished on one side to a mirror finish, upon which circuits are constructed. To construct the circuits, a series of layers of thin films that act as conductors, semiconductors or insulators are applied to the polished side of the wafer. During the manufacturing process, these film layers are subjected to processes which remove portions of the film layers, create circuit patterns and perform other functions. The semiconductor manufacturing process requires exacting steps and strict control of equipment performance and process sequences. Tight control can be achieved through monitoring silicon wafers and measuring relevant parameters after each process step with metrology tools such as those we produce.

Prior to the introduction of our integrated metrology systems, process control was achieved through stand-alone measurement equipment. Stand-alone measurement equipment requires semiconductor manufacturers to interrupt the manufacturing process sequence, remove sample silicon wafers from the process equipment and place the silicon wafers on the stand-alone measuring or inspection tool. In contrast, our integrated metrology approach is based upon patented measuring methods that enable us to produce optical measuring systems that are small enough to be integrated directly inside many types of semiconductor process equipment. Our integrated approach offers considerable advantages over the conventional stand-alone approach to metrology control, enabling manufacturers using our integrated equipment to reduce costs and to improve production efficiency, yield and quality.



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We have emphasized our integrated metrology solutions in the past and intend to continue to do so. However, we also produce stand-alone metrology systems. We plan to leverage our technology, methods, metrology expertise and market position in the integrated metrology field to expand our offerings of stand-alone metrology systems. Our long-term strategy is focused on advanced metrology and process control solutions where our integrated process control products and stand alone products are compatible or complementary.

Demand for metrology systems, whether integrated or stand-alone, is driven by capital equipment purchases by semiconductor manufacturers, which in turn are driven by worldwide demand for semiconductors. Industry data indicates that the worldwide demand for semiconductors is growing. We believe that this growth in demand will drive demand for process control equipment, including metrology systems, as semiconductor manufacturers add capacity. Demand for metrology systems will also be driven by the increasing cost to manufacture semiconductors, which are becoming larger and more complex, and the demands of semiconductor manufacturers for process equipment that provides better film uniformity, increased dimensional control, tool-to-tool matching and within-tool uniformity.

### **Our Market**

#### *Growth of the Semiconductor Industry and the Metrology Market*

The use of semiconductor devices continues to increase. Semiconductors are no longer used solely in personal computers and computer systems, but also in wireless communications, Internet infrastructure, Internet access devices, automobiles, portable electronic devices and other advanced consumer electronics. As a result of the increasing demand for semiconductors, the semiconductor industry has experienced significant growth over the past eight to 10 years, despite a severe downturn between 2000 and 2003. According to the Semiconductor Industry Association, worldwide sales of semiconductors decreased from \$223 billion in 2000 to \$178 billion in 2003, and then increased to \$220 billion in 2004. Over the past decade, the increased use of semiconductors has driven demand for additional semiconductor manufacturing capacity. In turn, the addition of semiconductor manufacturing capacity, whether through new construction or refurbishment of existing manufacturing facilities, has been a driver of demand for metrology systems such as those we produce.

The increased use of semiconductors has been accompanied by an increase in their complexity. Due to the creation of new applications and markets for semiconductors, suppliers and manufacturers are faced with an increasing demand for new products that provide greater functionality and higher performance at lower prices. As a result, many new complex materials, structures and processes are being introduced to semiconductor manufacturing. New materials include copper, low- and high-k dielectrics, silicon-on-insulator, silicon-germanium, strained silicon, raised source/drain. New processes include chemical mechanical polishing ( CMP ), electro chemical plating ( ECP ) and atomic layer deposition ( ALD ). Manufacturers are also increasingly moving toward 300 mm silicon wafers from 200 mm silicon wafers. While 300 mm wafers can yield up to twice as many integrated circuits as 200 mm wafers, larger wafers increase manufacturing challenges. For example, because 300 mm wafers can bend or bow more than twice as much as 200 mm wafers, they are more susceptible to damage. The larger area of 300 mm wafers also makes it more difficult to maintain film uniformity across the entire wafer. Semiconductors also continue to move toward smaller feature sizes and more complex multi-level circuitry. The increase in complexity of semiconductors and the resulting increase in the complexity and cost of the semiconductor manufacturing process has also been a driver of demand for metrology systems.

The ever-increasing level of complexity and the decrease in feature sizes has also significantly increased the cost and performance requirements of semiconductor fabrication equipment. The cost of wafer fabrication equipment is also increased due to the higher levels of automation being utilized by manufacturers. Thus, semiconductor manufacturers must increase their investment in capital equipment in order to sustain technological leadership, to expand manufacturing capacity and maintain profitability. According to published reports by an industry market research firm, the cost of building a state-of-the-art semiconductor manufacturing facility has grown from approximately \$200 million in 1983 to over \$3 billion today. Capital equipment, which includes metrology systems, accounts for 65% to 75% of this sum, according to industry data. We believe that the process control equipment market, which includes the metrology segment, in the future will grow at a rate greater than the overall process equipment market since process control equipment is expected to consume a larger portion of the overall costs of semiconductor manufacturing equipment.

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While we expect that the demand for semiconductors will increase and the market for semiconductor process control equipment will expand, we cannot assure you that either will occur, that we will benefit from any increase in demand or expansion of the process control market, or that our products will be accepted in the market place. Our industry is intensively competitive and if we fail to compete effectively our revenues and market share will decline. In addition, the semiconductor industry, and the semiconductor capital equipment market in particular, are highly cyclical. Therefore, while we anticipate demand for semiconductors will increase and the market for semiconductors capital equipment will expand, it is likely that there will be periodic downturns which may be severe and protracted.

### *The Semiconductor Manufacturing Process*

Semiconductors typically consist of transistors or other components connected by an intricate system of circuitry on flat silicon discs known as wafers. Integrated circuit manufacturing involves hundreds of individual steps, some of which are repeated several times, through which numerous copies of an integrated circuit are formed on a single silicon wafer. Typically, up to 30 very thin patterned layers are created on each wafer during the manufacturing process. At the end of the manufacturing process, the wafer is cut into individual chips or die. Because semiconductor specifications are extremely exacting, and integrated circuits are becoming more complex, requiring ever more sophisticated manufacturing processes, the process steps are constantly monitored, and critical parameters are measured at each step using metrology equipment.

Many of the manufacturing steps involve the controlled application or removal of layers of materials to or from the wafer. The application of materials to the wafer, known as deposition, involves the layering of extremely thin films of electrically insulating, conducting or semi-conducting materials. These layers can range from one-thousandth to less than one-hundred-thousandth of a millimeter in thickness and create electrically active regions on the wafer and its surface. A wide range of materials and deposition processes are used to build up thin film layers on wafers to achieve specific performance characteristics. One of the principal methods of thin film layer deposition is chemical vapor deposition (CVD). In CVD, a chemical is introduced into the chamber where the wafer is being processed and is deposited using heat and a chemical reaction to form a layer of solid material on the surface of the silicon wafer. Metrology systems monitor the thickness and uniformity of thin film layers during the deposition process.

Once the thin film has been deposited on the wafer to form a solid material, circuit patterns are created using a process known as photolithography. During this process, a light-sensitive coating called photoresist is applied to the wafer, which is then exposed to intense light through a patterned, opaque piece of glass. For the photolithography process to work properly, the thickness of the photoresist must be precise and uniform. In addition, to control the photolithography process, the film thickness, reflectivity, overlay registration and critical dimensions are all measured and verified. The exposed photoresist is developed when it is subjected to a chemical solution. The developed wafer is then exposed to another chemical solution, or plasma, that etches away any areas not covered by the photoresist to create the structure of the integrated circuit. Semiconductor manufacturers use metrology systems to verify the removal of material through the etch process and the critical dimensions of the structures created.

To meet the processing challenges posed by ever smaller feature sizes and because of the use of new materials such as copper in the manufacture of integrated circuits, manufacturers are increasingly using a process technology known as chemical mechanical polishing. Chemical mechanical polishing, or CMP, removes uneven film material deposited on the surface of the wafer from processes such as CVD and photolithography by carefully sanding the wafer with abrasives and chemicals, creating an extremely flat and even surface for the patterning of subsequent film layers. Metrology systems are used to control and verify the results of the CMP process by measuring the thin film layer to determine when the correct thickness has been achieved.

The processes described above are repeated in sequence until the last layer of structures on the wafer has been completed. Each integrated circuit on the wafer is then inspected and its functionality tested before shipment. Measurements taken by metrology systems during the manufacturing process help insure process uniformity and help semiconductor manufacturers avoid costly rework and mis-processing, thereby increasing efficiency and profitability.

*The Need for Greater Overall Equipment Efficiency*

According to SEMATECH, the industry consortium for semiconductor manufacturers, one of the major challenges to achieving improvements in cost productivity is the ability to maintain continuous improvements in equipment productivity. Overall equipment efficiency, that is, the percentage of time that processing equipment is utilized to produce wafers, is used as a metric to quantify the productivity of a processing tool. The major factors affecting productivity are equipment downtime, qualification time, misprocessing and operator skills. We believe it is imperative that semiconductor manufacturers find ways to improve overall equipment efficiency in order to improve cost productivity and earn an acceptable return on their investment in capital equipment and to meet the demand for improved semiconductor device performance.

Process Control. The steps used to create semiconductors are an exacting processes that require strict control of equipment performance and process sequences for the resulting semiconductors to function properly. Tight control is achieved through monitoring of the in-process wafers and by measuring relevant parameters after each process step. These procedures are usually carried out on a small sample of the wafers. The monitoring may include measurement of several parameters, such as the thickness of the layers of thin film deposited, the sizes of the features that are patterned through the photolithography process, as well as the registration or alignment between two consecutive layers, known as overlay. Monitoring also includes inspection of the wafer for irregularities, defects or scratches. If parameters are out of specification or if defects or contamination are present, the manufacturer adjusts the process and measures another sample of wafers thereby allowing manufacturers to reduce costs and improve device performance.

Traditional Stand-Alone Process Control and Its Limitations. In the standard approach to semiconductor manufacturing, process control is a stand-alone operation. Stand-alone process control systems, however, impose a number of limitations on the semiconductor manufacturer. The semiconductor manufacturer must interrupt the process sequence and add extra steps in order to remove sample wafers from the fabrication process equipment and put them on a stand-alone measuring or inspection tool. The conventional stand-alone approach necessitates redundant robotic wafer handling hardware and software in both the process equipment and the stand-alone process monitoring tools, as well as additional wafer transferring automation systems between the two pieces of equipment, resulting in decreased factory efficiency and reduced productivity. In addition, removing the wafer samples from the process equipment to the metrology tool increases the risk of contamination or damage. As this removal significantly detracts from useable process time, it is not practical to make a large number of measurements, thereby compromising the accuracy of the measurement of process deviations and trends. If a measurement indicates that the process has been out of specification, the wafers made since the sample wafers were removed for inspection may have to be discarded or re-worked, actions that are increasingly costly for the manufacturer.

The Need for More Effective Process Control Tools. In addition to the inherent limitations of stand-alone process control systems, a number of technical and operational trends within the semiconductor manufacturing industry are strengthening the need for more effective process control solutions. These trends include:

*Development of smaller semiconductor features.* The development of smaller features, now as small as 90 nm in production, enables semiconductor manufacturers to produce larger numbers of circuits per wafer and to achieve higher circuit performance. As feature geometries decrease, manufacturing yields become increasingly sensitive to processing deviations and defects, as more integrated circuits are lost with every discarded wafer. In addition, the increased complexity and number of layers of the integrated circuits increase the chance of error during the manufacture of the wafer.

*Shortening of technology life cycles.* The technology life cycle of integrated circuits continues to shorten as semiconductor manufacturers strive to adopt new processes that allow a faster transition to smaller, faster and more complex devices. In the past, the technology life cycle was approximately three years; it is now only two years. The accelerating rate of obsolescence of technology makes early achievement of enhanced productivity and high manufacturing yields an even more critical component of a semiconductor manufacturer's profitability.

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*Transition to copper and other new materials.* Copper metal layers and other new materials such as low and high k-dielectrics and silicon on insulator are increasingly replacing aluminum for advanced integrated circuits in order to increase performance and reduce the cost of integrated circuits. Copper and low-K materials make it possible to build higher speed devices using fewer layers. The use of copper and other new materials, requires new processing and metrology equipment and thus represents challenging developments for the semiconductor manufacturing industry.

*Change to 300-millimeter wafers.* The transition in wafer size from 200-millimeter diameter to 300-millimeter diameter that began in 1999 more than doubles the number of integrated circuits per wafer. Maintaining process uniformity across these larger wafers is more difficult. Processing larger wafers also increases the cost of mistakes caused by both the larger number of integrated circuits per wafer and the greater complexity (and, therefore, cost) of processing larger wafers. Thus, with 300 mm wafers, the need for effective metrology to quickly detect and correct errors in the manufacturing process has increased. In addition, new metrology equipment is needed to accommodate the larger wafer size.

*Increase in foundry manufacturing.* As a result of the rising investment for semiconductor production and the proliferation of different types of semiconductors, semiconductor manufacturing is increasingly being outsourced to large semiconductor contract manufacturers, or foundries. A foundry typically runs several different processes and makes hundreds to thousands of different semiconductor product types in one facility, making the maintenance of a constant high production yield and overall equipment efficiency more difficult to achieve.

*Increase in Automation.* In an effort to achieve greater operating efficiencies, semiconductor manufacturers are increasingly relying upon automation. Automation represents the fastest growing segment of the semiconductor manufacturing industry.

In order to address the increasing costs associated with these trends, we believe semiconductor manufacturers must enhance manufacturing productivity. One way to enhance productivity is through improvements in process control, with a greater emphasis on metrology as part of process control. As part of this emphasis on metrology, manufacturers are taking more measurements to characterize each step of the semiconductor manufacturing process, new and enhanced measurement techniques are being used to provide meaningful data and the data provided is being used in new ways to enhance the manufacturing process. Furthermore, as circuits and materials become more complex, measurement techniques must become more sophisticated, requiring a deeper understanding of the interaction of the various components of the metrology process. Complex automation in the manufacturing process also makes measurement more expensive.

Conventional stand-alone process control systems limit productivity and overall equipment efficiency. As the cost of capital equipment continues to increase as semiconductor manufacturing becomes more complex, manufacturers demand greater productivity and efficiency, which integrated metrology systems can provide. We believe that the demand for advanced process control systems that address the evolving needs of semiconductor manufacturers will continue to drive the growth in the market for integrated process control systems.

We believe integrated metrology systems provide semiconductor manufacturers with the greatest opportunity to increase the productivity and yields of their equipment, thereby increasing their profitability. Therefore, we anticipate that we will continue to focus on the integrated metrology market. However, recognizing that a significant number of semiconductor manufacturers will continue to rely upon stand-alone equipment, we intend to leverage our market leading position in the integrated metrology market and our metrology expertise to deepen our penetration of the stand-alone metrology market. Furthermore, the technological and operational trends within the semiconductor manufacturing industry that are strengthening the need for more effective process control solutions can also be addressed through the use of stand-alone metrology equipment, although, we believe, that greater efficiency can be achieved through the use of integrated metrology systems.

## **The Nova Approach**

### *Integrated Metrology*

Our integrated metrology systems provide semiconductor manufacturers with more effective and efficient process control by measuring wafers and their properties without removing the wafer from the process equipment. Our products use our patented measuring methods that enable us to produce optical measuring systems that are small enough to be incorporated directly inside many types of equipment used in semiconductor processing. Integrated systems measure the wafer within the actual process environment, reducing labor and wafer handling as well as the risk of contamination of or damage to the wafer. In addition, we believe that our systems deliver significant increases in overall equipment efficiency through advanced process control, along with improving wafer-to-wafer uniformity, all with minimal operator intervention.

We provide our customers with flexible integrated process control solutions by offering systems that meet thin film measurement needs in critical applications in the fabrication process. Our integrated process control platform can be deployed to multiple processes and applications of semiconductor manufacturing.

Our systems can be installed directly in new equipment or used to upgrade existing equipment with minimal integration costs, extending the useful life of existing process equipment and saving significant capital costs. To our knowledge, only our metrology systems can be used to retrofit older 200 mm semiconductor manufacturing equipment, giving us a unique opportunity as manufacturers seek to increase production quickly to meet the increasing demand for semiconductors. Our pioneering approach, centered around our NovaReady integration package, later adopted by the process equipment manufacturers, allows process equipment manufacturers to prepare their equipment to accept our measurement and inspection systems, which can then be integrated with a simple plug-and-play installation.

We believe our integrated process control systems provide several important advantages to semiconductor manufacturers, enabling manufacturers to:

- utilize the process equipment wafer handling system to allow measurement of the sample wafers while processing other wafers;
- perform the measurements without removing the wafer from the process equipment, increasing the efficiency of the process and decreasing the risk of contamination;

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reduce capital costs of the fabrication facility by increasing overall equipment efficiency and reducing labor costs and necessary clean room area;

reduce the amount of time required to qualify process equipment that is usually idle during qualification steps, thus, minimizing costly equipment down-time;

reduce the number of test wafers; and

detect processing errors more quickly.

We believe that as semiconductor manufacturers demand greater efficiency from their manufacturing equipment, process equipment manufacturers will increasingly seek to offer their customers integrated metrology in their tools to lower costs and increase overall efficiency. In addition, as semiconductor manufacturers seek to increase production, we believe they will seek to increase the efficiency of older equipment by retrofitting older equipment with new metrology systems. We believe the drive toward more efficient manufacturing operations in the face of increasing complexity will accelerate the adoption of integrated metrology solutions such as those we offer.

### *Stand-alone Metrology*

We believe that our integrated metrology systems offer significant advantages over traditional stand-alone systems. We do, however, believe that a significant number of semiconductor manufacturers will continue to use stand-alone metrology equipment for all or a portion of their manufacturing equipment. In order to be able to serve all the metrology needs of our customers, whether integrated or stand-alone, we plan to leverage our position in integrated metrology to increase our offerings and market penetration for stand-alone systems.

As a result of the ever changing semiconductor manufacturing process and accompanying process control needs, we have begun to develop a new process control equipment concept. Under this concept, the same basic metrology will be used in different configurations, depending upon customer demands. For example, the same metrology module could be used as an integrated system inside the process equipment, as stand-alone systems or in metrology cluster tools. This would allow for easy customization of metrology solutions for any given process and would allow multiple metrology solutions to be combined in a single platform to answer all process needs. As we envision it, this new concept will allow semiconductor manufacturers unparalleled flexibility, upgradeability and affordability in both stand-alone and integrated forms. As technology life cycles continue to decrease, flexibility and upgradeability will become even more important. While we have not yet fully developed our new process equipment concept, we anticipate that we will begin offering new products based on the concept within the next 12 months. We cannot assure you, however, that we will be able to meet this anticipated schedule or that, if introduced, these products will be accepted by the market and purchased by customers in amounts sufficient to generate significant revenues or any profits.

### **Our Strategy**

Our strategy is to continually strengthen our leading position in the semiconductor process control market by providing innovative and superior products and solutions that generate sustainable growth and profitability. The key elements of our strategy are:

*Technological leadership in metrology.* We intend to continue our aggressive investment in research and development to allow us to continue to provide superior leading-edge technology and metrology solutions to the semiconductor manufacturing industry on a timely basis. We believe that our proprietary and patented technology and our extensive expertise in integrated metrology, optics, software, and systems integration provide us with significant advantages over our competitors. We intend to leverage our existing intellectual property and experience and expertise to maintain technological leadership.

*Maintain our open architecture policy that enables us to provide process control solutions that are integrate-able into many different brands of process equipment.* Our open architecture policy enables us to integrate our systems into many different brands of process equipment, thereby offering our end user and process equipment manufacturer customers maximum flexibility. In addition, this policy allows our products to be installed directly in new equipment, whether by the process equipment manufacturer or the end user, or retrofitted in older equipment in order to extend the productive and technological life of older equipment. Through our open architecture policy, we have established original equipment manufacturer partnerships with the major CMP tool manufacturers. Under our NovaReady concept, equipment manufacturers can prepare their equipment to accept our integrated metrology systems with relative ease by finding on-tool space and providing wafer handling access and minimal wiring for our integrated metrology systems, which are a little larger than a wafer, with a small optical head that scans the wafers. Most CMP equipment manufacturers such as Applied Materials, Ebara, Nikon, Novellus, Strasbaugh, and others are using our NovaScan systems. We are strongly committed to our multi-vendor policy and are establishing relationships with different process equipment manufacturers for our new developments.

*Focus on customer needs.* Process equipment manufacturers and end users are our customers and we will continue to focus on them as we develop the next generation of metrology products, including products based on our new process equipment concept. In addition, we plan to continue to strengthen our relationships with our process equipment and end user customers by seeking opportunities for collaborative development of products and new service opportunities. We also intend to focus on increasing our penetration with respect to existing customers by continuing to seek opportunities to offer our metrology solutions across their entire manufacturing facility and to continue to provide excellent service and the highest quality products to our customers.

*Continue to market our pioneering NovaReady concept.* Under our NovaReady concept, we work with process equipment manufacturers so that they can prepare their equipment to accept our integrated metrology systems with a simple plug-and-play installation. We also work directly with semiconductor manufacturers to understand their needs, provide solutions to meet those needs and metrology systems that can be easily integrated into their new or existing manufacturing equipment. By working directly with both process equipment manufacturers and semiconductor manufacturers, we believe our NovaReady concept allows us to create a long-term, three-way relationship among the process equipment manufacturer, the semiconductor manufacturer that is the end-user customer and Nova, encompassing sales, training and on-going support. We plan to continue to market and promote our NovaReady concept, which we believe is unique and allows us to establish strong and long-term relationships with our customers.

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*Continue to expand our worldwide sales and marketing efforts and provide worldwide support.* We plan to focus our marketing efforts on acquiring new key customers around the world. To further these efforts, we continue to expand our global presence with sales and service centers in Europe, Israel, Japan, Korea, Singapore, Taiwan and the U.S. Our global presence allows us to provide the end users with direct service and application support, thereby decreasing tool downtime and providing us opportunities to promote additional uses of our products throughout the fabrication process. We plan to expand into additional territories as customer needs dictate.

*Further penetrate the installed base of process equipment that can be upgraded with our integrated process control products.* We plan to continue to market to the large installed base of existing process equipment that can be retrofitted with our integrated process control products. We believe this represents a large and under-penetrated market segment for our integrated process control products. This opportunity is especially attractive because we believe that we are the only integrated metrology solution provider that can retrofit older systems.

*Establish and maintain strategic relationships with key technology and market partners.* We have established strategic relationships with Applied Materials relating to the development of integrated metrology solutions for copper CMP processing and with Lucent Technologies Inc. and Agere Systems Guardian Corporation to gain access to certain technology we hope will allow us to develop new metrology products and technologies for the semiconductor industry. Going forward, we plan to continue to seek strategic partners that can provide us with access to technologies or markets that will allow us to accelerate our creation of new metrology products and to further penetrate the metrology market.

*Develop and mature the architecture and platform of the new metrology systems, which will offer significant improvements in metrology performance together with the flexibility of fast incorporation of different metrology modules.* We have established a development program that we anticipate will allow us to introduce to the market our first product based upon our new process control equipment concept, the next generation ( NG ), in early 2006. Our intention is that the NG and subsequent related products will allow relatively fast and cost effective introduction of new metrology modules.

### **Our Technology**

We believe that our technological and engineering expertise and research and development capabilities allow us to develop and offer new products and technologies to meet the ever-changing demands of the semiconductor industry. We have applied our technological and engineering expertise to develop a wide range of integrated and stand-alone products for the CMP, copper CMP, etch and lithography processes. Because of our open architecture policy, our integrated metrology solutions can work with all models of CMP and etch tools made by the major process equipment manufacturers, for both 200 mm and 300 mm applications. In addition, to our knowledge, only our integrated metrology systems can be used to retrofit existing 200 mm process equipment, giving us a significant advantage over our competitors.

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Our suite of technological capabilities includes:

*Laser ellipsometry.* Ellipsometry is a non-contact, non-destructive optical measuring technique used to measure very accurately the thickness and other properties of transparent thin films. When a surface is exposed to a polarized light laser, ellipsometers measure the change in the reflected light's polarization. By using multiple light angles and multiple wavelengths, ellipsometry can provide accurate and reliable measurement of a wide range of film thicknesses, film materials and film stacks.

*Broadband spectrophotometry.* Our broadband spectrophotometry capabilities range from deep ultraviolet to near infrared. This technology enables fast, accurate and small spot size film thickness measurement in large range of applications on a very cost effective basis, both as an integrated system and as a stand-alone system.

*Scatterometry.* Our scatterometry systems are based on our broadband spectrophotometry. These systems use fully polarized deep ultraviolet to near-infrared spectral light source. This technology enables fast and cost effective system development. Scatterometry provides two and three dimensional characterization of very fine geometries on patterned product wafers. These profiling and critical dimension capabilities are key enablers of advanced process control, allowing almost real time metrology of the most advanced design rule, down to 65 nm and below.

*Imaging and image processing.* This technology has three different applications: 1) navigating on product wafers to perform measurement on selected very small sites; 2) detecting defects on product wafers after critical process steps, such as lithography and etch; and 3) measurement of the accuracy of registration between two layers (overlay measurement), mostly used in lithography.

*Mass spectrometry.* This technology, which we acquired from Lucent Technologies Inc. and Agere Systems Guardian Corporation, will be developed to help minimize particle contamination on product wafers during processing. We anticipate that the system we are developing will allow to identify contaminating events as soon as they happen. Currently particle detection is performed in an off-line mode, at least after a whole lot has been processed.

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Generally, we develop our own technologies. However, we also directly acquire technology from others and seek strategic partners that can provide us access to new technologies. In February 2002, we signed a joint development agreement with Applied Materials relating to integrated metrology for copper chemical mechanical polishing processing. Pursuant to this agreement, we developed copper chemical mechanical polishing monitoring capabilities using the NovaScan 2020/3030 Cu, which could be sold exclusively to Applied Materials and its customers. At the end of 2003, this exclusivity agreement expired and was not extended. Consequently, we sell our copper chemical mechanical polishing products to and through all equipment manufacturers, yet the majority are still sold through and with Applied Materials. In February 2002, we also signed a licensing agreement with Lucent Technologies Inc. according to which we were licensed the rights to certain of Lucent's patents, software and technical information. In connection with the agreement entered into with Lucent, we also signed an agreement with Agere Systems Guardian Corporation according to which we were granted a license to a patent owned by Agere. Pursuant to this agreement, as well as the agreement entered into with Lucent, we hope to develop new metrology products and technologies for the semiconductor industry. Going forward, we plan to continue to seek strategic partners that can provide us with access to technologies or markets that will allow us to accelerate our creation of new metrology products and to further penetrate the metrology market.

The measurement channels that we use in our metrology products are unique and protected by patented intellectual property. Our measurement channels include: polarized normal incidence spectral reflectometer/ellipsometer; multi-angle oblique incidence spectral ellipsometer; and multi-focal image overlay microscope. In addition, we are developing additional measurement channels including: multi-angle, multi-wavelength, null ellipsometer; eddy current micro-probe and phase imaging profilometer. In addition to these proprietary measurement channels, we are also seeking to acquire new measurement channels from third parties, including: black beam scanning imaging; x-ray fluorescence spectrometer; macroinspection; and other technologies.

Throughout our history, we have been a technological leader in the integrated metrology field. We were the first to offer integrated metrology solutions for semiconductor manufacturers and are the only provider of integrated metrology solutions that can measure wafers in water, which allows for more efficient and accurate metrology. Furthermore, because our systems are small enough to fit inside wafer fabrication equipment, to our knowledge, only our metrology solutions can be used to retrofit older 200 mm systems. Our systems have also been recognized by the industry. In 2004, we received the prestigious Editors' Choice Best Product Award from Semiconductor International magazine for our NovaScan 2020Cu, 3030Cu Copper CMP process monitoring.

### Products

Our products include metrology systems for thin film measurement in chemical mechanical polishing and chemical vapor deposition applications; optical topography systems for use in post-copper chemical mechanical polishing applications; optical critical dimension systems for lithography and etch; and overlay systems for lithography and etch applications. Our integrated thickness monitoring system for chemical mechanical polishing processing control enables wafer-to-wafer closed loop control. We offer several models of this integrated thickness monitoring systems, depending on polisher type and end-user requirements. These metrology systems address a broad range of metrology requirements of our end-user and process equipment manufacturer customers. Both our integrated and stand-alone systems incorporate patented optical scanning, dynamic auto-focus, unique pattern recognition for arbitrarily oriented wafers and proprietary algorithms for in-water measuring of two layers simultaneously. We offer several different product models that are tailored to both conventional chemical mechanical polishing equipment as well as to newer, high throughput polishers. Following is a summary of our products.

#### Thin Film Process Control

**The NovaScan 840** combines high-speed measurement and effective handling, enabling measurement of wafers both before and after polishing. While we no longer market this system, this system and prior generations were our main revenue source in 2001 and prior years.

**The NovaScan 2020 and 2040** are the second generation of integrated thickness monitoring systems with enhanced spectral range, responding to the needs of the industry for emerging chemical mechanical polishing high-end applications of thin films and complex layer stacks. The 2020 model was introduced to the market in the end of 2000, and since then has replaced the NovaScan 840 and accounted for the major portion of our sales for 200 mm production lines. The NovaScan 2040 was introduced in 2002 and is the fastest integrated film thickness 200 mm measurement system in the market today.

**The NovaScan 3030 and 3060** are the second generation of the 300mm measuring system, with improved optics and motion system enabling high speed measurement, and with broad spectral range (ultraviolet to infrared) allowing accurate measurements on complex structures and thin film layers. The 3030 model was introduced to the market in 2001 and since then has replaced the NovaScan 3000 and accounts for the major portion of our sales for 300 mm production lines. The NovaScan 3060 was introduced in 2002 and is the fastest integrated film thickness 300 mm measurement system in the market today.

**The NovaScan 2020Cu** has the same basic platform as the NovaScan 2040, with additional hardware and software improvements, enabling the system to answer the unique requirements of copper chemical mechanical polishing monitoring. The system went through several beta tests during 2001 and 2002 and was released for sale in the beginning of 2003. This product did not generate significant revenues in 2004, and we do not expect it to generate significant revenues in the following years.

**The NovaScan 3030Cu** has same basic platform as the NovaScan 3030, with additional hardware and software improvements, enabling the system to answer the unique requirements of 300mm copper CMP monitoring. The system went through field-testing during 2002 and was released for sale in the beginning of 2003. This product did not generate significant revenues in 2004, and we do not expect it to generate significant revenues in the following years.

**A closed loop control** option for the NovaScan systems delivers reliable, highly automated wafer-to-wafer uniformity over chemical mechanical polishing manufacturing processes. The thickness data of every processed wafer is obtained and process parameters are fed back to adjust the next wafer polish.

**NovaNet** is a highly sophisticated computer network, connecting all NovaScan systems on a factory floor. The network is managed by a dedicated server, running with proprietary software developed by Nova, and insuring safe recipe distribution and recipe integrity across the factory. The NovaNet also includes a report generator (NSA) that allows the creation of reports from all the systems connected and allows programmable cross sections.

**The NovaScan 840CVD** system is a 200 mm integrated metrology vacuum chemical vapor deposition measurement system, measuring different layers in the chemical vapor deposition process. Data can be fed forward to the chemical mechanical polishing process tool. Integration solutions were developed for different process equipment. The system was introduced to the market in the end of 2000 and several units have been sold. However, we do not expect to sell a significant number of these systems in the future.

**The NovaScan 3090CD** system is a scatterometry-based system for measuring the critical dimensions (CD) and profiling lines and trenches on 200 mm and 300 mm wafers. The system went through field-testing during 2002 and was released for sale in 2003. The systems are sold as integrated metrology systems on Lam Research Inc. etch systems and as stand-alone systems with automation modules acquired from different suppliers, such as Integrated Dynamics Engineering and Brooks Automation.

### **Photolithography Process Control**

**The NovaTrack 2020 and 3030** systems are a dual-purpose integrated metrology and stand-alone systems for overlay registration measurement and macro defect inspection in the photolithography process. The systems are designed for integration on a photoresist track and as a stand-alone system. Both stand-alone and integrated models of the NovaTrack 2020 finished beta testing in 2003 and have been released for sale. Currently the need for these integrated overlay solutions is very limited. These products are currently not being promoted in the market due to this low market potential. We believe that our next generation of systems currently under development will meet 65 nm and below technology nodes and will have a rather high integrated metrology potential.

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While we continue to emphasize our integrated metrology solutions, we offer our products as stand-alone equipment as well, thereby significantly expanding our potential customer base. Revenues from stand alone systems were not a significant portion of our revenues in 2004. A significant portion of our revenues are derived from our CMP product line, and we are substantially dependent on this product line.

### Research and Development

We have assembled a core team of experienced scientists and engineers who are highly skilled in their particular field or discipline. Our research and development core competencies, technologies and disciplines are comprised of thin film measurement, image acquisition, pattern recognition, inspection and automatic defect classification. Our management and research and development staff consists of 64 highly skilled members, including independent contractors. Our staff includes 25 scientists holding Ph.D. degrees and 24 persons holding M.S. degrees. In June 2003, our research and development operations received the ISO9001/2000 quality mark from an international certification institution.

The process control market is characterized by continuous technological development and product innovations. We believe that the rapid and ongoing development of new products and enhancements to our existing product line is critical to our success. Accordingly, we devote a significant portion of our technical, management and financial resources to developing new applications and emerging technologies. In 2002, 2003 and 2004, our research and development expenses, net of participation by the Office of the Chief Scientist, were \$9.9 million, \$8.6 million and \$8.7 million, respectively, representing 49%, 32%, and 21% of our respective total revenues for those years. We anticipate that our research and development expenses, net, will be \$9.8 million in 2005, representing an increase of 13% over 2004.

Our research and development policy is based on a structured process of initiating new projects and on-going review of existing development projects. Our vision is to continue to be a market leader in the semiconductor process control market and our research and development policies and activities are designed to support this vision. Our launch of new development projects is based on market requirement specifications, generated through our marketing activities and research on customer needs, followed by a proposed detailed business plan, a detailed development plan with milestones, risk analysis, profit and loss model goals and required budget. Each development project is monitored through a structured process, including design reviews and project management reviews.

### Intellectual Property

Our success depends in part upon our ability to protect our intellectual property. We, therefore, have an extensive program devoted to seeking patent protection for our inventions and discoveries that we believe will provide us with competitive advantages. We have been granted 44 U.S. patents and 25 non-U.S. patents and hold an exclusive license to one U. S. patent. The U.S. patents we hold have expiration dates ranging from 2014 to 2023. We also have 24 U.S. patent applications pending and more than 70 applications pending in other countries. Our patents and applications principally cover various aspects of optical methods, optomechanical and mechanical algorithms, and integrated process control implementation concepts.

To protect our proprietary rights, we also rely on a combination of copyrights, trademarks, trade secret laws, contractual provisions and licenses. Our copyrights include software copyrights. We also enter into confidentiality agreements with our employees and some of our consultants and customers, and seek to control access to and distribution of our proprietary information, such as our proprietary algorithms.

While we attempt to protect our intellectual property through patents, copyrights and non-disclosure and confidentiality agreements, we may not be able to adequately protect our technology. Competitors may be able to develop similar technology independently or design around our patents and, despite our efforts, our trade secrets may be disclosed to others. Furthermore, the laws of countries other than the U.S. may not protect our intellectual property to the same extent as the laws in the U.S. We also cannot assure that: (i) our pending patent applications will be approved; (ii) any patents granted will be broad enough to protect our technology or provide us with competitive advantages or will not be successfully challenged or invalidated by third parties; or (iii) that the patents of others will not have an adverse effect on our ability to do business. We may also have to commence legal proceedings against third parties to protect our intellectual property, as we have done recently.

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In March 2005, we filed a civil action in the United States District Court for the Northern District of California against Nanometrics Inc. seeking to enforce our United States Patent No. 6,752,689. This patent relates to an optical measuring system. In the civil action, we seek an injunction against Nanometrics and its officers, employees, agents, subsidiaries, representatives, distributors, dealers and all persons acting in concert and participation with any of them from infringing patent No. 6,752,689, an accounting of any and all infringing sales, monetary damages and costs and expenses. Nanometrics has filed a counterclaim seeking judgment declaring the patent invalid and that Nanometrics does not infringe the patent and awarding Nanometrics costs and fees. While we believe the patent is valid and enforceable, if the patent is invalidated, our competitors will likely be able to freely use the technology subject to the patent and our competitive position would be harmed. This litigation is in the very early stages and we cannot predict the outcome or the extent of any harm we may suffer if the patent is declared invalid. Furthermore, while we have not as of this time incurred any material litigation costs in connection with this litigation, it is likely that we will incur substantial costs in the future which may be material. In addition, the litigation may divert management's time and attention from other matters.

From time to time, we receive communications from others asserting that our products infringe or may infringe their intellectual property rights. Typically, our in-house patent counsel investigates these matters and, where appropriate, retains outside counsel to provide assistance. Presently, we are not involved in any material legal proceedings in which a third party has asserted that we have violated their intellectual property rights. If, however, we become involved in any such litigation and its outcome is adverse to us, it may result in a loss of proprietary rights, subject us to significant liabilities, including treble damages in some instances, require us to seek licenses from third parties which may not be available on reasonable terms or at all, or prevent us from selling our products. Furthermore, any litigation relating to intellectual property, even if we are ultimately successful, could result in substantial costs and diversion of time and effort by our management. This in and of itself could have a negative impact on us.

While we are not currently involved in any material legal proceedings in which a third party has asserted that we have violated their intellectual property rights, we have become aware of a United States patent held by a competitor, which may be interpreted to cover some aspects of the products we sell in the United States. Nonetheless, we have not received any indications of intention to enforce this patent or any notice from the competitor with respect to this patent. In addition, the patent is being reexamined by the United States Patent and Trademark Office ( USPTO ), is unenforceable at this time, and may or may not survive the reexamination. If the USPTO decides to allow the patent to stand in some reexamined form, it is possible that the competitor could seek to enforce the patent rights against certain of our products sold in the United States, seeking damages, an injunction, or requiring us to pay royalties for a license. While we believe that we would be successful in any litigation seeking to enforce those patent rights, the ultimate outcome of any litigation or other legal proceedings cannot be predicted.

For additional information regarding our intellectual property, *See* Our Technology starting on page 19.

### **Our Customers, Sales and Marketing**

Our two pronged, integrated sales and marketing strategy involves marketing our products directly to semiconductor manufacturers in addition to process equipment manufacturers in order to create demand for our products. We believe that the pricing structure of our NovaReady integration package enables process equipment manufacturers to increase their margins, and that the quality of our systems can improve equipment yields, creating an incentive for process equipment manufacturers to promote our products to semiconductor manufacturers. At the same time, we believe that semiconductor manufacturers, eager to improve their own margins through increased factory throughput and yield improvements, will demand that the equipment they employ incorporate or use our metrology systems. We believe that by marketing directly to end users as well as to process equipment manufacturers, we are able to ensure that both parties are aware of the wide range of benefits that our products can deliver.

To further enhance our marketing efforts, we have established a system of integrated sales and support activities with key process equipment manufacturers, including Applied Materials, Ebara and Lam Research. This allows us to provide comprehensive and long-term application support directly to semiconductor manufacturers. We expect to continue to add new process equipment manufacturers to our roster as we introduce new integrated process control systems that can be integrated with different types of equipment.

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We also seek to establish and maintain close and mutually beneficial relationships with our customers by consistently providing them with a high level of service, support and new capabilities. We have established a global network of direct sales and marketing, customer service and applications support offices. We maintain sales, service or applications offices in Europe, Israel, Japan, Korea, Singapore, Taiwan, and the U.S., with a total staff of 70 people. These offices provide highly qualified application support specialists, training to process equipment manufacturer customers and end users, marketing, demonstrations and evaluations, spare parts hubs and sales and support engineers.

The table below lists some of the largest semiconductor manufacturers who have multiple installations of our systems in one or more sites. These users purchase our products either directly from us or from process equipment manufacturers.

Elpida	TSMC
Infineon	Intel
Micron	STMicroelectronics
Texas Instruments	Samsung

Most of these large semiconductor manufacturers using our systems have placed repeat orders for our systems, which we attribute to the productivity improvements experienced by the semiconductor manufacturers using our equipment, our on-site support of our equipment and the advantages to semiconductor manufacturers of using equipment supplied by the same vendor.

Our customer base is also diverse in terms of both geographic location and types of integrated circuits manufactured by those customers. Our end user and process equipment manufacturer customers are located in different countries, including Japan, Korea, Singapore, Taiwan, the U.S. and various European countries.

The table below describes the distribution of our total revenues, from systems and services, according to the geographic location of the actual installation of our systems in end-user sites:

	Year ended December 31,		
	2002	2003	2004
	(in thousands)		
U.S.	\$ 11,057	\$ 9,422	\$ 15,943
Europe	4,678	5,360	4,905
Japan	1,131	5,953	6,132
Other	3,505	5,953	13,899
Total	\$ 20,371	\$ 26,688	\$ 40,879

The semiconductor industry is dominated by a small number of large companies. As a result, while our overall customer base is diverse, our sales are highly concentrated among a relatively small number of customers. The following table indicates the percentage of our total revenues derived from sales to our five largest customers and the range of these revenues from these customers for the periods indicated.

	Year ended December 31,			
	2001	2002	2003	2004
Total revenues from five largest customers	81%	86%	87%	84%
Range of revenues from five largest customers	2%-33%	4%-30%	3%-47%	3%-42%



We anticipate that our revenues will continue to depend on a limited number of major customers, although the companies considered to be our major customers and the percentage of our revenue represented by each major customer may vary from year to year. As our customer base is highly concentrated, if any of our customers becomes insolvent or has difficulties meeting its financial obligations to us, we may suffer losses that may be material in amount. A loss of any of our major customers may likewise cause us to suffer a material decrease in sales and revenue.

### **Our Competition**

The market for semiconductor capital equipment is highly competitive. Competitive factors in the market for integrated process control systems include technological leadership, system performance, ease of use, reliability, cost of ownership, technical support and customer relationships. For integrated process control, an adequate business model, internal organization and unique process equipment manufacturer agreements and partnerships are also significant factors. We believe we compete favorably on the basis of these factors in the markets we serve.

Our current integrated products compete with products manufactured by Nanometrics Inc. We believe that Dai Nippon Screen has ceased its activities in integrated metrology and Sensys, which had been acquired by Therma Wave in 2002, has reduced its integrated metrology activity to a minimum (selling a small number of optical critical dimension systems to Tokyo Electron). Nanometrics had an exclusive agreement with Applied Materials, which we believe prevented Nanometrics from selling to other customers and had expired in 2002. We currently sell more systems to Applied Materials than Nanometrics. However, since the expiration of its exclusive agreement with Applied Materials, Nanometrics has started to work with other CMP equipment manufacturers, such as Ebara. In the last year, we have lost significant market share to our competitor with respect to three major end-users customers. We believe we lost these sales mainly due to delays in introducing our new deep ultraviolet capabilities. We introduced our deep ultraviolet system in the first quarter of 2005. We expect our integrated products to face intense competition in the coming years.

In the scatterometry field, which is a new application field in the semiconductor industry, we have intense competition in both integrated and stand-alone metrology. Our primary competitors in this area are KLA-Tencor, Therma Wave, Nanometrics and Accent. Nanometrics is our main competitor in this area as well because it provides optical critical dimension systems, which have characteristics similar to our systems. In the software aspects of scatterometry, which is a significant portion of the optical critical dimension business, Timbre (a Tokyo Electron subsidiary), which provides optical critical dimension software only, is a significant competitor that may also become a customer for our critical dimension hardware.

Since we have decided to put on hold our development and marketing efforts for overlay measurement and macro inspection products, the competitive environment in the photolithography metrology market is less important to us. The principal main system suppliers in this market include KLA-Tencor, Accent, August and Rudolph Technologies. Although we have not yet entered this market, we believe our overlay system being developed for the sub-65 nm technology node will be competitive. We anticipate introducing this system in 2006-7

Overall in the integrated metrology market segment, beyond our current market of thin film metrology, new market opportunities are evolving, and these are integrated metrology for copper CMP and integrated metrology for photolithography and etch. In the first segment, our main competitor is Nanometrics. Though currently our offering is unique, the competitor might gain some market share based on their current installed base and presence. For the Lithography and etch process segments, the integrated metrology is based on a new and emerging technology scatterometry. These offerings are based on combined stand-alone and integrated offering. Competition is described above.

### **Manufacturing**

In order to leverage the relatively high volume of integrated systems we manufacture and to decrease production costs, we continue to focus our internal manufacturing activities on processes that add significant value or require unique technology or specialized knowledge and outsource others. Our manufacturing operations received the ISO 9002 quality mark by an international certification institute in October 1999. We have upgrade our quality systems to conform to ISO 9001/2000 requirements.



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Our principal manufacturing activities include assembly, integration, final testing and calibration. Our production activities are conducted in our manufacturing and service facility in Israel. We rely and expect to continue to rely on subcontractors and turnkey suppliers to fabricate components, build assemblies and perform other non-core activities in a cost-effective manner. While we use standard components and subassemblies wherever possible, most mechanical parts, metal fabrications and critical components used in our products are engineered and manufactured to our specifications. A small portion of these components and subassemblies are obtained from a limited group of suppliers, and occasionally from a single source supplier.

We have the capacity to produce up to 80 systems per quarter in our current facilities. Currently, we are operating at approximately 50% of that capacity.

We have only one manufacturing facility, which is located in Ness-Ziona, Israel. Any event affecting this facility, including natural disaster, labor stoppages or armed conflict, may disrupt or indefinitely discontinue our manufacturing capabilities and could significantly impair our ability to fulfill orders and generate revenues.

### Our Subsidiaries

Our subsidiaries and the countries of their incorporation are as follows:

<u>Name of subsidiary</u>	<u>Country of incorporation</u>
Nova Measuring Instruments Inc.	Delaware, USA
Nova Measuring Instruments K.K	Japan
Nova Measuring Instruments Taiwan Ltd.	Taiwan
Nova Measuring Instruments Netherlands B.V	Netherlands

### Capital Expenditures

Our capital expenditures are primarily for network infrastructure, computer hardware and software, leasehold improvements of our facilities and system demonstration tools. None of these assets are held as collateral or guarantee other obligations. For additional information on our capital expenditures, see [Liquidity and Capital Resources](#) starting on page 35.

### Our Properties and Equipment

In January 2002, we relocated our main office, research and development and production facilities. These facilities, located in Ness-Ziona, Israel, occupy approximately 5,000 square meters, including: approximately 800 square meters of production facilities, approximately 3,000 square meters of research and development offices (including approximately 300 square meters of laboratories) and approximately 1,200 square meters of headquarters, sales and marketing, service and support and administration facilities. Originally, the new facilities were planned to be approximately 8,000 square meters, however, due to the change in market conditions, we reduced this office space. Due to the breach of part of our lease commitments associated with the move to the new building, we incurred costs of approximately \$1 million, charged to operations in 2001. Our current lease commitment relating to the new building is until the end of 2007.

Our U.S. subsidiary leases approximately 400 square meters in Arizona and 200 square meters in Santa Clara for use as a pre sale and support facility. Our Japanese, Netherlands & Taiwan subsidiaries lease approximately 100, 200, 300 square meters for use as a service and pre sale facility, respectively.

We believe that our facilities and equipment are in good operating condition and adequate for their present usage.

## Government Regulation

For information relating to the impact of certain government regulations on our business, *See* Conditional Grants from the Office of the Chief Scientist starting on page 37.

## **Item 5. Operating and Financial Review and Prospects**

Information in this Operating Review and Financial Prospects Section should be read in conjunction with our Consolidated Financial Statements and notes thereto which are included elsewhere in this report.

### **Executive Overview**

We are a worldwide leading designer, developer and producer of integrated metrology systems for the semiconductor manufacturing industry and a leading designer, developer and producer of stand-alone metrology systems for the semiconductor industry. Our metrology systems are used to take precise measurements of semiconductors during the manufacturing process to control the manufacturing process and increase the productivity of the manufacturing equipment. We market and sell our metrology systems to semiconductor process equipment manufacturers, such as Applied Materials and Ebara, and directly to semiconductor manufacturers, such as Intel, Samsung and AMD.

Our business is greatly affected by the level of spending on capital equipment by semiconductor manufacturers. Capital expenditures by semiconductor manufacturers tend to be cyclical in nature and depend on numerous factors, many of which are beyond our control. Factors affecting the semiconductor industry, which are beyond our control, include general economic conditions throughout the world and the demand and perceived demand for semiconductors. In addition, demand for our products and services is affected by the timing of new product announcements and releases by us and our competitors, market acceptance of our new or enhanced products and changes or advances in semiconductor design or manufacturing processes.

Starting in 2001, the semiconductor industry went through a severe downturn and manufacturers greatly reduced their spending on capital equipment. Our results for 2001 and 2002 reflect that downturn. In 2003, however, demand for semiconductors started to increase and, as a result, demand for capital equipment by semiconductor manufacturers also increased. Accordingly, our financial results for 2003 improved when compared to 2002. The recovery of the semiconductor equipment industry that began in 2003 continued and accelerated in 2004 and we were profitable in 2004. The existing industry reports indicate a downturn in 2005. This downturn is reflected in our financial results for the first quarter of 2005, in which we suffered a loss. Due to this loss and the expected down-turn, we have made cost reduction efforts including head-count reduction of approximately 10% of our work force. We cannot, however, predict with certainty whether the industry downturn will continue during 2005 and in 2006.

We derive our revenues principally from sales of our metrology systems and services relating to our systems. In 2004, product sales produced 81.6% of our total revenues and services produced 18.4%. Presently, we have no long-term debt and continue to finance our operations mainly from the proceeds of our initial public offering in 2000. As of the end of 2004, we had working capital of \$25.1 million, including cash and cash equivalents, short-term deposits and held to maturity securities of \$22.7 million, and no long-term debt.

From quarter to quarter and from year to year, our revenues can vary significantly for a number of reasons. Importantly, we do not have long-term or multi-unit purchase contracts with our customers. Therefore, while most of our customers have purchased multiple systems from us and we anticipate that our customers will continue to do so, our customers can determine at any time to stop doing business with us. In addition, primarily because the semiconductor industry is dominated by a small number of large companies, our customer base is concentrated among a limited number of customers. A loss of any single customer could cause our revenues to decrease by a material amount. Furthermore, because our systems range in price from \$100,000 to over \$600,000, the loss of relatively few sales could also cause our revenue to decrease by a material amount. Our service revenues, which tend to be more predictable and less subject to wide fluctuations, tend to help decrease volatility in our earnings.

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Our service organization is operated on a profit and loss basis and is measured as a cost center in each territory and on a global basis. The objectives of our service organization are defined and measured by: customer satisfaction; quality parameters, such as time to repair and mean time between failures; and by profit and loss criteria. The service organization provides support to all products we sell, during both the warranty period and the post warranty period.

When evaluating the performance of the Company, our management tends to focus on several financial metrics and several qualitative areas such as: warranty cost per system and warranty costs as a percentage of sale price; costs of production and costs of production as a percentage of sales; inventory as a percentage of yearly sales; days sales outstanding; and the mixture of our sales and geographical distribution of installations of our systems at end users sites compared to industry capital equipment trends. In 2004 and 2003, warranty costs ranged from 8% to 10% of sale price. Factors that affect warranty costs include the number of systems installed in a specific site or territory and the maturity of the products. Costs of production include materials, labor, and write-off per product during product life time, and ranged from 31% to 42% of the sale price in 2004, depending upon the system. Factors that affect cost of production include sales volume, product configuration, product maturity, and actual sale price. Our average inventory levels in 2004 and 2003 were approximately 14% of yearly sales. In year 2004, average days sales outstanding for total revenues were 59, and ranged between 64 and 73 days over the four quarters in 2004. Geographical distribution analysis of installation at end users sites of our products reveals an increase in the installation of our products in Japan from 7% of sales in 2003 to 18% in 2004 and in Asia-Pacific (excluding Japan) from 22% of sales in 2003 to 38% in 2004. This trend is in line with the industry capital equipment trend of higher investments in Japan and in the Asia-Pacific region in 2003 and 2004 compared to 2001 and 2002. In 2005, the Company intends to continue to focus on these regions and seek to increase its market share in strategic accounts sites.

### **Significant Events in 2004 and Outlook for 2005**

For Nova, the most significant events in 2004 were the penetration of the markets for etch and copper process equipment with both stand alone and integrated process control solutions and the delay of about 6 months in the introduction of the new NovaScan 3090 from the second half of 2004 to the first quarter of 2005. As a result of the delayed introduction of the new NovaScan 3090, we lost some of our market share to competitor and suffered a decrease in our revenue and profits. The penetration with the new products and the general recovery in the semiconductor industry in 2004 are reflected in our financial results, which improved from loss in 2003 to profit in 2004. In addition, in 2004, our relationship and integration with a major equipment manufacturer for the etch process led to several joint evaluation processes in strategic accounts creating the potential for multiple systems sales in the etch segment in 2005.

In the first half of 2005, we have seen a mild slowdown in the semiconductor equipment industry (DataQuest forecast for year 2005 is 12% decline relative to 2004). This trend, together with the loss of three strategic end user accounts to our competition, was the reasons for our 57% revenues decline in the first quarter of 2005 compared to the fourth quarter of 2004. Recent semiconductor and industry projections, however, indicate the industry is expected to return to growth in the last quarter of 2005. If the industry returns to growth, we believe semiconductor manufacturers will seek to add capacity and accelerate production, resulting in increased demand for capital equipment, including metrology systems such as those we sell. We are also selling our NovaScan 3090 products in several strategic accounts and we expect to regain market share in 2005.

Other trends in the industry include the move toward more complex semiconductor devices and the adoption of more sophisticated manufacturing techniques. We believe these trends are positive developments for the semiconductor metrology market because, as semiconductors and their manufacture become more complex and sophisticated, manufacturers will increasingly look to make their operations more efficient. Metrology systems can help deliver that efficiency. For additional information on industry trends, see Item 4 Information on the Company starting on page 10.

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Nova will focus in 2005 on continuing development of its current chemical mechanical polishing, ( CMP ), copper CMP and optical critical dimension systems as well as investing in the products and technologies included in its long-term strategy. Over the next three years, Nova anticipates introducing future generations of its current products and new product to address the advancing technology trends toward feature sizes of 45 nm and below and new processes and materials. We believe that in 2005, our opportunities will most likely come from the increased need for monitoring and control resulting from decreasing feature sizes, and the accelerating move to 300 mm equipment and new process materials. The main challenges and risks we see are to be on time with the right process control solutions to meet the needs of our existing customers and new customers. In order to address these risk and challenges, we are working closely with leading customers' development process groups and with the leading process equipment manufacturers. The purpose of working closely with customers and process equipment manufacturers is to receive from them as early as possible information and feedback on the metrology and process needs of the upcoming new manufacturing processes and materials. We believe receiving this information as early as possible will assist us in developing metrology solutions to meet the new needs of the semiconductor industry. In tandem with this type of long term development, our ongoing marketing activity supports our current products with short term improvements to answer the customers' ongoing needs and to make required changes.

Currently, our main revenue generator is our oxide CMP product line and sales of our oxide CMP product line are affected by the total number of process tools sold in this segment. In years prior to 2003, the oxide CMP represented more than 50% of the entire CMP equipment market. In 2004, this percentage decreased and we expect it to continue to decrease as copper CMP equipment is expected to dominate the CMP equipment market. We can not foresee what will ultimately be the process control needs for copper CMP, and whether the products and solutions we will bring to market for the Copper CMP market will be accepted in the market.

### **Critical Accounting Policies**

Our discussion and analysis of our financial condition and results of operations are based upon our Consolidated Financial Statements, which have been prepared in accordance with accounting principals generally accepted in the United States of America. We believe the following critical accounting policies, among others, affect our more significant judgments and estimates used the preparation of our Consolidated Financial Statements.

#### *Use of estimates General*

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

#### *Revenue recognition*

We recognize revenues upon the shipment of our products to the customer or provision of support service, provided that persuasive evidence of an arrangement exists, title has transferred, the price is fixed, collection of resulting receivables is probable and there are no remaining significant obligations.

Adequate provision is made, upon shipment, for estimated product returns and warranties. When transactions involve newly introduced products or when customers specify acceptance criteria that cannot be demonstrated prior to the shipment, we defer the relevant revenues. We currently anticipate introducing several new systems in fiscal 2005. Delays in introducing a product or delays in our ability to obtain customer acceptance, will delay the recognition of revenue and gross profit by us.

#### *Allowances for doubtful accounts*

We review on an on-going basis the need for allowances for doubtful accounts for estimated losses resulting from the inability or unwillingness of our customers to make required payments. When determining what allowance, if any, to make for doubtful accounts, we review many factors, including our history of relatively few write-offs, customer relationships and customers' creditworthiness. Based on this review, we estimate the amount of accounts receivable, if any, we may be unable to collect and allowances for doubtful accounts may be required. To date, based upon management's review, no allowance for doubtful accounts was deemed necessary. If the financial condition of our customers were to deteriorate, their ability to make payments could be impaired and our estimates could prove to be inaccurate. If significant, allowances for doubtful accounts could have a material adverse effect on our financial results.

*Warranty provisions*

We provide for the estimated cost of product warranties at the time revenue is recognized. While we are engaged in extensive product quality programs and processes, including actively monitoring and evaluating the quality of our component suppliers, our warranty obligations are affected by product failure rates, material usage and service delivery costs incurred in correcting product failures at our locations or at customer sites. Should actual product failure rates, material usage or service delivery costs differ from our estimates, revisions to the estimated warranty liability may be required.

*Inventories write-down*

We value our inventory at the lower of the actual cost or the current estimated market value of the inventory. We regularly review inventory quantities on hand and record a provision for excess and obsolete inventory based primarily on our estimated forecast of product demand and production requirements for the next twelve months. As demonstrated during 2000 and 2001, demand for our products can fluctuate significantly. A significant increase in the demand for our products could result in a short-term increase in inventory purchases while a significant decrease in demand could result in an increase in the amount of excess inventory quantities on hand, which could lead to losses. In addition, our industry is characterized by rapid technological change, frequent new product developments, and rapid product obsolescence that could result in an increase in the amount of obsolete inventory quantities on hand. Additionally, our estimates of future product demand may prove to be inaccurate, in which case we may have understated or overstated the provision required for excess and obsolete inventory. In the future, if our inventory is determined to be overvalued, we would be required to recognize such costs in our cost of goods sold at the time of such determination. Likewise, if our inventory is determined to be undervalued, we may have over-reported our costs of goods sold in previous periods and would be required to recognize such additional operating income at the time of sale. Therefore, although we make every effort to ensure the accuracy of our forecasts of future product demand, any significant unanticipated changes in demand or technological developments could have a significant impact on the value of our inventory and our reported operating results.

For a discussion of other significant accounting policies used in the preparation of our financial statements and recent accounting pronouncements, see Note 2 to our Consolidated Financial Statements contained elsewhere in this report.

**Operating results***Overview*

A significant portion of our revenues historically has been derived from customers in the United States of America, and we expect that this trend will continue, although we expect that U.S. sales as a percentage of total sales may decrease as our total sales and sales to other geographic areas, particularly Asia, increase. In 2002, 61% of our revenues were derived from U.S. customers, 16% were from European customers, 20% were from Japanese customers, and 3% were from Asian (other than Japanese) customers. In 2003, 62% of our revenues were derived from U.S. customers, 10% were from European customers, 21% were from Japanese customers, and 7% were from Asian (other than Japanese) customers. In 2004, 39% of our revenues were derived from U.S. customers, 12% were from European customers, 15% were from Japanese customers, and 33% were from Asian (other than Japanese) customers.

The table below describes the distribution of our total revenues, from systems and services, by geographic areas of our product installations at semiconductor manufacturing facilities. As our customers include both semiconductor manufacturers and process equipment manufactures, this distribution is different from the distribution of our revenues by customer location discussed in the immediately preceding paragraph.

	2002	2003	2004
USA	54%	36%	39%
Europe	23%	20%	12%
Japan	6%	22%	15%
Other	17%	22%	34%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

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Historically, a substantial portion of our revenues has come from a small number of customers. In 2002, 2003 and 2004, our five largest customers accounted for 86%, 87 (not in correlation with the information on page 5)% and 84% of our revenues, respectively. In 2002, 2003 and 2004, our single largest customer accounted for 33%, 47% and 42% of our revenues, respectively. We anticipate that our revenues will continue to depend on a limited number of major customers, although the companies considered being major customers and the percentage of our revenue represented by each major customer may vary from period to period. Therefore, the loss of any one of our major customers could materially and adversely affect us.

The sales cycle for our systems typically ranges from three to 24 months and depends upon the status of our systems integration with a particular manufacture and model of process equipment, the evaluation criteria of our customers, and the technology or application of the process. Additionally, the rate and timing of customer orders may vary significantly from month to month as a function of the introduction of a new type of system to a production line. We have a relatively low backlog. Accordingly, if sales of our products do not occur when we expect or we are unable to adjust our estimates on a timely basis, our expenses and inventory levels may fluctuate relative to revenues and total assets. In 2004, our inventory levels at the end of each quarter ranged from \$4.2 million to \$5.2 million. We planned our inventory for 2004 for sales of 200 mm systems and 300 mm systems according to our expectation that approximately 50% of equipment sales would be for 300 mm equipment and that approximately 50% of our sales for 300 mm will be with NovaScan 3060. At the end of 2004, the actual distribution of Nova sales was similar to our expectations and therefore did not have material affect on our inventory levels or write-off. In the future, if our actual sales are significantly different from our expectations, we may have to write-off some of our inventory.

We schedule production of our systems based upon order backlog and customer forecasts. We include in backlog only those orders to which the customer has assigned a purchase order number and for which delivery has been specified within 12 months. As of December 31, 2004 we had a backlog of two systems, representing \$630,000. Because shipment dates may be changed and customers may cancel or delay orders with little or no penalty, our backlog as of any particular date may not be a reliable indicator of actual sales for any succeeding period. We do not maintain any reserves for cancellations or variations in our customers' orders because historically cancellations and variations have been insignificant. In addition, if a cancellation occurs, we may be able to sell the equipment to other customers.

Our revenues increased 53% in 2004 following increases of 31% in 2003 and a 4% decline in 2002. In comparison, overall, according to DataQuest December 2004 published research, the semiconductor wafer front-end equipment industry increased 60% in 2004 over 2003, following 5% increase in 2003, and 32% decline in 2002.

The following table shows the relationship, expressed as a percentage, of the listed items from our consolidated statements of operations to our total revenues for the periods indicated:

	Percentage of Total Revenues Year ended December 31,		
	2002	2003	2004
Revenues from products sale	71.2%	79.3%	81.6%
Revenues from services	28.8%	20.7%	18.4%
<b>Total revenues</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
Cost of products sale	33.1%	38.5%	37.6%
Cost of services	32.4%	23.5%	16.4%
<b>Total cost of revenues</b>	<b>65.5%</b>	<b>62.0%</b>	<b>54.0%</b>
<b>Gross profit</b>	<b>34.5%</b>	<b>38.0%</b>	<b>46.0%</b>
Operating expenses:			
Research and development expenses, net	48.6%	32.1%	21.2%
Technology for use in research and development	7.3%		
Sales and marketing expenses	34.1%	24.5%	16.8%
General and administrative expenses	8.8%	7.1%	5.7%
Other operating income		(8.3)%	
<b>Total operating expenses</b>	<b>98.8%</b>	<b>55.4%</b>	<b>43.7%</b>
<b>Operating profit (loss)</b>	<b>(64.3)%</b>	<b>(17.4)%</b>	<b>2.3%</b>

	Percentage of Total Revenues Year ended December 31,		
	<u>          </u>	<u>          </u>	<u>          </u>
Financing income, net	0.7%	1.6%	1.3%
Net income (loss)	(63.6)%	(15.8)%	3.6%

**Comparison of Years Ended December 31, 2004 and 2003**

*Revenues.* Our revenues in 2004 increased by \$14.2 million, or 53.2%, compared to 2003, with revenues attributable to product sales accounting for \$33.3 million, an increase of \$12.2 million, or 57.7%, compared to 2003, and services accounting for \$7.5 million, an increase of \$2.0 million, or 36.1%, compared to 2003. The increase in product sales revenue in 2004 was attributed mainly to the general growth in the semiconductor industry and also to a moderate increase in revenues from our new products for etch and copper CMP. Revenues from services accounted for 18.4% of total revenues in 2004, as compared to 20.7% of total revenues in 2003. The decrease in service revenues as a percentage of total revenues was attributed mainly to the increase in 2004 revenues from product sales.

We expect that sales from our main integrated process control product line targeting the CMP market, including dielectric and copper, will continue to account for a substantial portion of our revenues for at least the next year, and that the new product lines sales (integrated and stand-alone process control systems for lithography and etch) will gradually become more significant as we introduce our next generation of metrology systems for lithography and etch. As our revenues are largely dependent upon the sale of systems for CMP processing, any decrease in demand for our CMP products would have a material adverse affect on us. We expect service revenue to be at a similar level in 2005.

*Cost of Revenues and Gross Profit.* Cost of revenues consists of the labor, material and overhead costs of manufacturing our systems, and the costs associated with our worldwide service and support infrastructure. It also consists of inventory write-offs and provision for estimated future warranty costs for systems we have sold. Our cost of revenues attributable to product sales in 2004 was \$15.4 million, an increase of \$5.1 million, or 49.6%, compared to 2003. This increase is attributable mainly to the increased volume of systems sold. As a percentage of total revenues, our cost of revenues attributable to product sales in 2004 decreased to 37.6% from 38.5% in 2003. This decrease is attributable to the volume of sales and mixture of products sold. Inventory write-down did not have significant affect on our cost of goods sold in 2003 and in 2004. Our cost of revenues attributable to services in 2004 was \$6.7 million, an increase of \$0.4 million, or 7.2%, compared to 2003.

Our gross profit increased by 85.2% to \$18.8 million in 2004 from \$10.2 million in 2003. Our gross profit represented 46.0% and 38.0% of our total revenues in 2004 and 2003, respectively. Our gross profits increase from 2003 to 2004 is attributable to the higher volume of systems sold and higher average sales price.

*Research and Development expenses, Net.* Research and development expenses, net, consist primarily of salaries and related expenses and also include consulting fees, subcontracting costs, related materials and overhead expenses, after offsetting conditional grants received or receivable from the Office of the Chief Scientist. Our research and development expenses, net, increased 1.2% from \$8.6 million in 2003 to \$8.7 million in 2004, after offsetting conditional grants received or receivable from the Office of the Chief Scientist of \$2.3 million and \$1.9 million in 2004 and 2003, respectively. The grants increased from 2003 to 2004 due to additional development programs initiated in 2004 which were approved by the Office of the Chief Scientist. While our 2004 research and development expenses, net, were at levels similar to 2003, they represented 21.2% and 32.1% of our revenues in 2004 and 2003, respectively, due to the significant increase in our revenues in 2004.



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Approximately \$5.5 million of our research and development expenses, net, in 2004, resulted from our research and development efforts relating to the introduction of new products and new models of the NovaScan systems for the next manufacturing technology nodes. We believe that meeting the needs of semiconductor manufacturers with respect to the manufacture of semiconductors with features ranging from 90 nm to below 45 nm will allow us to maintain our position as a market leader in integrated process control equipment (According to the International Technology Roadmap for Semiconductors, ITRS, semiconductor manufacturers began high volume manufacturing of semiconductors with 90 nm features in 2004, and 90 nm manufacturing is expected to be adopted widely in 2005 and 2006. ITRS also indicates that high volume manufacturing of semiconductors with 65 nm features is expected to begin in 2006). The balance of the research and development expenses, net, were related to current products activities, such as engineering improvements, new versions of software and application support and developments.

*Sales and Marketing.* Sales and marketing expenses are comprised of salaries and related costs for sales and marketing personnel, related travel expenses, and overhead. They also include commissions to our representatives and sales personnel and royalties. Our sales and marketing expenses increased 5.1% from \$6.5 million in 2003 to \$6.9 million in 2004. Sales and marketing expenses represented 16.8% and 24.5%, respectively, of our revenues in 2004 and 2003. This decrease as a percentage of revenue is related to higher volume of revenues in 2004.

*General and Administrative.* General and administrative expenses are comprised of salaries and related expenses and other non-personnel related expenses. Our general and administrative expenses increased 22.8% from \$1.9 million in 2003 to \$2.3 million in 2004. This increase is attributed mainly to increase of legal expenses and increased operation levels of the company. General and administrative expenses represented 7.1% and 5.7% of our revenues in 2003 and 2004, respectively. The decrease in general and administrative expenses as a percentage of revenues from 2003 to 2004 is a result of an increase in our revenues in 2004.

*Other Operating Income.* During the fourth quarter of 2003, the Office of the Chief Scientist approved the Company's request to allocate \$2.2 million from the grants provided by the Office of the Chief Scientist to a specific lithography project, to be repaid as royalties only from sales of specific lithography products. As a result, the Company canceled in 2003 a royalty provision, made mainly in prior years, in the total amount of \$2.2 million. The other income in the year 2003 represents this cancellation.

### Comparison of Years Ended December 31, 2003 and 2002

*Revenues.* Our revenues in 2003 increased by \$6.3 million, or 31.0%, compared to 2002, with revenues attributable to product sales accounting for \$21.2 million, an increase of \$6.6 million, or 45.8%, compared to 2002, and services accounting for \$5.5 million, a decrease of \$0.3 million, or 5.6%, compared to 2002. We believe the increase in product sales revenue was due to the beginning of a recovery in the semiconductor industry in the first half of 2003 which resulted in semiconductor manufacturers adding manufacturing capacity, leading to increased sales of our metrology products. We believe the semiconductor industry recovery in 2003 was driven by increased demand for semiconductors as a result of improving economic conditions worldwide, especially in the U.S. and Japan and the resulting increase in consumer spending, particularly for electronic devices. Revenues from services accounted for 20.7% of total revenues in 2003, as compared to 28.8% of total revenues in 2002. The decrease in service revenues as a percentage of total revenues was attributed mainly to the increase in 2003 total revenues by 31.0% over total 2002 revenues.

*Cost of Revenues and Gross Profit.* Cost of revenues consists of the labor, material and overhead costs of manufacturing our systems, and the costs associated with our worldwide service and support infrastructure. It also consists of inventory write-offs and provision for estimated future warranty costs for systems we have sold. Our cost of revenues attributable to product sales in 2003 was \$10.3 million, an increase of \$3.5 million, or 52.1%, compared to 2002. This increase is attributable mainly to the increased volume of systems sold. As a percentage of total revenues, our cost of revenues attributable to product sales in 2003 increased to 38.5% from 33.1% in 2002. This increase is attributable to the volume of sales and mixture of products sold. Our cost of revenues attributable to services in 2003 was \$6.3 million, a decrease of \$0.3 million, or 5.1%, compared to 2002. This decrease is the result of a decrease in our service-related revenues and the implementation of a cost-reduction plan in 2002.

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Our gross profit increased by 44.7% to \$10.2 million in 2003 from \$7.0 million in 2002. Our gross profit represented 38.0% and 34.5% of our total revenues in 2003 and 2002, respectively. Our gross profits increase from 2002 to 2003 is attributable to the higher volume of systems sold and cost reduction measures and adjustments to our manufacturing and service and support operations to make them more compatible with current sales levels.

*Research and Development expenses, Net.* Research and development expenses, net, consist primarily of salaries and related expenses and also include consulting fees, subcontracting costs, related materials and overhead expenses, after offsetting conditional grants received or receivable from the Office of the Chief Scientist. Our research and development expenses, net, decreased 13.5% from \$9.9 million in 2002 to \$8.6 million in 2003, after offsetting conditional grants received or receivable from the Office of the Chief Scientist of \$2.3 million and \$1.7 million in 2003 and 2002, respectively. The decrease in research and development expenses, net, is attributed mainly to cost reduction steps that we took in 2001 and 2002, mainly significant workforce reductions. We do not expect the workforce reductions to adversely impact our major development plans and the introduction of new products. Research and development expenses, net, represented 32.1% and 48.6% of our revenues in 2003 and 2002, respectively. This decrease is the result of a decrease in net research and development expenses, as well as an increase in our revenues in 2003.

Approximately \$5 million of our research and development expenses, net, in 2003, resulted from our research and development efforts relating to the introduction of new products and new models of the NovaScan systems for the next manufacturing technology nodes. The balance of the research and development expenses, net, were related to current products activities, such as engineering improvements, new versions of software and application support and developments.

*Sales and Marketing.* Sales and marketing expenses are comprised of salaries and related costs for sales and marketing personnel, related travel expenses, and overhead. They also include commissions to our representatives and sales personnel and royalties. Our sales and marketing expenses decreased 6.0% from \$7.0 million in 2002 to \$6.5 million in 2003. Sales and marketing expenses represented 34.1% and 24.5%, respectively, of our revenues in 2002 and 2003. This decrease is related to cost saving measures in our sales and marketing operations.

*General and Administrative.* General and administrative expenses are comprised of salaries and related expenses and other non-personnel related expenses. Our general and administrative expenses increased 5.5% from \$1.8 million in 2002 to \$1.9 million in 2003. This increase is attributed mainly to the increased operating overhead, employee benefits and investor relations activity. General and administrative expenses represented 8.8% and 7.1% of our revenues in 2002 and 2003, respectively. The decrease in general and administrative expenses as a percentage of revenues from 2002 to 2003 is a result of an increase in our revenues in 2003.

*Other Operating Income.* During the fourth quarter of 2003, the Office of the Chief Scientist approved the Company's request to allocate \$2.2 million from the grants provided by the Office of the Chief Scientist to a specific lithography project, to be repaid as royalties only from sales of specific lithography products. As a result, the Company has canceled in 2003 a royalty provision, made mainly in prior years, in the total amount of \$2.2 million. The other income in the year 2003 represents this cancellation.

In 2002, the Company purchased technology for use in one of the Company's specific research and development programs, which had no alternative use, for \$1.5 million. This amount has been charged to the statement of operations for the year ended December 31, 2002 in accordance with the principals set forth in SFAS 2.

### Liquidity and Capital Resources

As of December 31, 2004, we had working capital of \$25.1 million compared to working capital of \$30.3 million as of December 31, 2003. This decrease is attributed primarily to our cash investments in long term assets during 2004 and to the increase in inventories and accounts receivables during 2004. Cash and cash equivalents, short-term and long-term deposits and securities held to maturity as of December 31, 2004 were \$30.8 million compared to \$33.0 million as of December 31, 2003.

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Trade accounts receivables increased from \$5.8 million as of December 31, 2003 to \$7.5 million as of December 31, 2004. This increase is attributable mainly to the increase in our sales during the second half of 2004 (2004 fourth quarter revenues were \$10.8 million compared to \$8.1 million in the fourth quarter of 2003). Inventories increased from \$4.2 million as of December 31, 2003 to \$5.2 million as of December 31, 2004. Typically, during periods of revenue growth, our accounts receivable and inventories increase and represent a use of cash as we expend cash to build inventory and produce and sell systems to customers in advance of receiving cash payment from them.

Operating activities in 2004 used cash of \$1.5 million compared to \$5.5 million used cash in 2003. Operating activities in 2004 used less cash relative to 2003 mainly due to the transition from losses in 2003 to profit in 2004. Financing activities generated \$0.5 million of cash in 2004, compared to \$0.3 million in 2003.

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The following table describes our investments in capital expenditures during the last three years:

	2004		2003		2002	
	Domestic	Abroad	Domestic	Abroad	Domestic	Abroad
(in dollar thousands)						
Electronic equipment	655	78	397	32	300	30
Office furniture and equipment	230	3	14	69	5	0
Leasehold improvements	47	8	564	65	220	46
Total	932	89	975	166	525	76

The investment in capital expenditures was financed mainly from the cash reserves of the Company. The increase in capital expenditures for electronic equipment in 2004 was due to our investments in information systems improvements (software and hardware), electronic equipment used in our research and development labs and systems for our demonstration centers and application development. Although we currently have no significant capital commitments, we expect to spend approximately \$1.4 million on capital expenditures in the next 12 months, mainly for information systems improvements (software and hardware), electronic equipment used in our research and development labs.

We currently have contractual obligations as described in the following table:

	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
(in dollar thousands)					
Operating Lease Obligations	4,713	1,870	2,843	-	-
Purchase Obligations	3,258	3,258	-	-	-
Other Long Term Liabilities	232	87	145	-	-
Total	8,203	5,215	2,988	-	-

Our principal liquidity requirements are expected to be for working capital, research and development, capital expenditures and lease payments for our worldwide facilities. We believe that our current cash reserves and expected cash flow will be adequate to fund our activities for at least the next 12 months.

Our long-term capital requirements will be affected by many factors, including the success of our current products, our ability to enhance our current products and our ability to develop and introduce new products that will be accepted by the semiconductor industry. We plan to finance our long-term capital needs with the remaining net proceeds of our initial public offering, together with cash flow from operations, if any. If these funds are insufficient to finance our activities, we will have to raise additional funds through the issuance of additional equity or debt securities, through borrowing or through other means. We cannot assure you that additional financing will be available on acceptable terms.

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Presently, we have no long-term debt, nor any readily available source of long-term debt financing such as a line of credit.

With regard to usage of hedging financial instruments and the impact of inflation and currency fluctuations, see [Quantitative and Qualitative Disclosures About Market Risk](#) starting on page 62.

### Off-balance sheet arrangements

We do not have and are not party to any off-balance sheet arrangements.

### Research and Development

For information regarding our research and development activities, see [Research and Development](#) starting on page 23.

### Conditional Grants from the Office of the Chief Scientist

Under the Law for the Encouragement of Industrial Research and Development, 1984, a qualifying research and development program is eligible for conditional grants of up to 50% of the program's expenses. The program must be approved by a committee of the Office of the Chief Scientist of the Israeli Ministry of Industry and Trade. The recipient of the conditional grants is required to return the grants by the payment of royalties on the revenues derived from using the grants. Current regulations promulgated under the law provide for the payment of royalties to the Office of the Chief Scientist ranging from 3% to 6% on the revenues derived from using the conditional grants until 100% of the grants are repaid. Conditional grants received under programs approved after January 1, 1999 will accrue interest at an annual rate of the 12-month LIBOR applicable to dollar deposits. Royalties are paid in NIS linked to the dollar at the exchange rate in effect at the time of payment. Following the full payment of such royalties and interest, there is generally no further liability for payment.

The terms of the conditional grants under the law require that we manufacture in Israel the products developed with these grants. These restrictions apply even after grants are fully repaid. Under the regulations promulgated under the law, the products may be manufactured outside Israel by us or by another entity and know-how may be transferred outside of Israel, if prior approval is received from the Office of the Chief Scientist which may be given only if we abide by all the provisions of the law and related regulations. Ordinarily, as a condition to obtaining approval to manufacture outside Israel, we would be required to pay increased royalties and as a condition to obtaining approval to transfer know-how outside Israel, ordinarily we would be required to pay a lump sum, all as defined under the relevant law. If we perform the manufacturing, the increased royalties would ordinarily be one percentage point above the otherwise applicable royalty rate. If the manufacturing is performed by an entity other than us, the rate would depend on the amount of manufacturing performed outside of Israel and the size of the conditional grants in relation to the investments made by us in the project. The total amount to be repaid to the Office of the Chief Scientist would also be adjusted to between 120% and 300% of the conditional grants, depending on the manufacturing volume that is performed outside Israel. If we wish to transfer know-how, the terms for approval shall be determined according to the character of the transaction and the consideration paid to us for such transfer. Approval of the transfer of technology may be granted only if the recipient abides by all the provisions of the law and related regulations, including the restrictions on the transfer of know-how outside of Israel and the obligation to pay royalties in an amount that may be increased. Approval to manufacture products outside of Israel or consent to the transfer of technology, if requested, might not be granted.

As of December 31, 2004 we received conditional grants from the Office of the Chief Scientist totaling \$7.5 million. Because the implementation of regulations raising royalty rates to between 3% and 6% has been deferred, we are obligated to pay royalties of 3% of revenues derived from sales of products funded with these grants. As of December 31, 2004, our contingent liability to the Office of the Chief Scientist for conditional grants received was approximately \$4.0 million. See also Note 7A to our consolidated financial statements contained elsewhere in this report.

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The funds available for Office of the Chief Scientist conditional grants were reduced for 2004, and the Israeli authorities have indicated that the government may further reduce or abolish Office of the Chief Scientist grants in the future. Even if these conditional grants are maintained, we might not receive Office of the Chief Scientist grants in the future and cannot presently predict the amount of any grants we might receive.

In addition to royalty-bearing grants from the Office of Chief Scientist, in 2004, we participated in two programs sponsored by the Office of Chief Scientist. In one program, we are a member of a research consortium comprised of several Israeli high technology companies, which are engaged in the development of multimedia on-line technology. In the other program, we are cooperating with a research institute in Israel for the development of advanced measurement techniques. In both programs, the Office of Chief Scientist contributes 66% of the approved research and development budget for the research consortium and the members of the research consortium contribute the remaining 34%. No royalties from this funding are payable to the Israeli government. Expenses in excess of the approved budget are borne by the consortium members. In general, any consortium member that develops technology as part of the consortium retains the intellectual property rights to the technology developed by this member, and all the members of the consortium have the right to utilize and implement such technology without having to pay royalties to the developing consortium member. As of December 31, 2004, we had received approximately \$1.5 million in grants from the Office of Chief Scientist in connection with the above-mentioned programs.

**Political and economic conditions in Israel**

The Company is incorporated under the laws of Israel, and has its principal offices and manufacturing facilities in Israel. The Company is, therefore, directly influenced by the political, economic and military conditions affecting Israel. Any major hostilities involving Israel, the interruption or curtailment of trade between Israel and its trading partners or a significant downturn in the economic or financial condition of Israel could have a material adverse effect on the Company's business, financial condition and results of operations.

*Political Conditions.* Since the establishment of the state of Israel in 1948, a number of armed conflicts have taken place between Israel and its Arab neighbors and a state of hostility, varying from time-to-time in intensity and degree, has led to security and economic problems for Israel. However, a peace agreement between Israel and Egypt was signed in 1979, a peace agreement between Israel and Jordan was signed in 1994 and, since 1993, several agreements between Israel and the Palestinian Authority representatives have been signed. As of the date hereof, Israel has not entered into any agreement with Syria or Lebanon. Currently there is stagnation in the peace process in the Middle East and ongoing hostilities between Palestinian militant groups and Israel. The resumption of hostilities in the region, which have occurred after the failure of Camp David peace talks, as well as the events of September 11, 2001, and the ongoing tension in the region, has a negative effect on the stability of the region. There can be no assurance as to whether or how the peace process will develop or what affect it or these ongoing hostilities may have upon the Company.

Beginning in 1948, nearly all Arab countries have formally adhered to a boycott of Israel and Israeli companies and, since the early 1950s, of non-Israeli companies doing business in Israel or with Israeli companies. Attempts to ensure that Arab countries are complying with this boycott have intensified due to recent hostilities between the State of Israel and the Palestinians. Despite measures to counteract the boycott, including anti-boycott legislation in the US, the boycott has had an indeterminate negative effect upon trade with and foreign investments in Israel. Although in the past such attempts did not materially affect us, there can be no assurance that restrictive laws, policies, or practices directed toward Israel or Israeli businesses will not have an adverse impact on the operation or expansion of the Company's businesses.

Due to recent presence of the Israeli military in the territories previously transferred to the control of the Palestinian authority, there were certain initiatives within the institutions of the European Union to suspend the trade agreements entered into between the State of Israel and members of the European Union. These initiatives culminated in a resolution of the European Parliament recommending that the European Union members suspend those trade agreements. It is uncertain whether such agreements will in fact be suspended, but if such agreements are suspended, it may affect the Company ability to trade with European companies.

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*Military Service.* Generally, all male adult citizens and permanent residents of Israel under the age of 45, or under the age of 40 with regard to certain units, are, unless exempt, obligated to perform up to approximately 36 days of military reserve duty annually. Additionally, all such residents are subject to being called to active duty at any time under emergency circumstances. Some of the Company's officers and employees are currently obligated to perform annual reserve duty. While the Company has operated effectively under these requirements since it began operations, no assessment can be made as to the full impact of such requirements on the Company's workforce or business if conditions should change, and no prediction can be made as to the effect on Company of any expansion or reduction of such obligations.

*Economic Conditions.* Israel's economy has been subject to numerous destabilizing factors, including a period of rampant inflation in the early to mid-1980s that reached an annual peak of 445%, low foreign exchange reserves, fluctuations in world commodity prices, military conflicts and civil unrest. In the past, the Israeli economy has been in a recession, and the Israeli government has, for these and other reasons, intervened in the economy by utilizing, among other means, fiscal and monetary policies, import duties, foreign currency restrictions and control of wages, prices and exchange rates. The Israeli government periodically changes its policies in all these areas.

**Item 6. Directors, Senior Management and Employees**

The following is the list of officers and directors:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Barry Cox*	65	Chairman of the Board of Directors
Giora Dishon	60	President, Chief Executive Officer, Director and Co-Founder
Moshe Finarov	53	Chief Technology Officer, Director and Co-Founder
Micha Brunstein*	61	Director
Avi Kerbs *	58	Director

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Joseph Ciechanover *	71	Director
Alon Dumanis *	62	Director
Lauri Hanover *	45	External Director
Karey Holland *	49	External Director
Chai Toren *	49	Vice President Finance, Chief Financial Officer
Gad Yaron *	54	GM, Chief Operational Officer
Ronen Frish *	48	Vice President, Sales and Marketing

\* Each one of these persons beneficially owns less than one percent of the Company's ordinary shares.

Our directors (other than the external directors) serve as such until the Company's next annual general meeting of shareholders. Our external directors, in accordance with Israeli law, serve for a three-year term, which may be renewed for only one additional three-year term. All of our external directors were elected in 2000 and were reelected in 2003.

*Mr. Barry L. Cox* was appointed Chairman of the Board of Directors of the Company in May, 2003. Since September, 2000, Mr. Cox has worked with Lightspeed Venture Partners in various capacities. Prior to Lightspeed, Mr. Cox was the Chairman of the Board of Quantum Effect Devices from 1998 to 2000. Mr. Cox was also the President and CEO of Weitek Corporation and ATEQ Corporation. Prior to ATEQ, Mr. Cox held various management positions with Intel Corporation, the last of which was President of Intel Europe. Mr. Cox holds a BS degree in Engineering from the US Air Force Academy and an MBA from Boston University.

*Dr. Giora Dishon* is a co-founder of Nova and has served as President and Chief Executive Officer since Nova's formation in 1993. From 1989 to 1993 he served as Thin Film and Flat Panel Display Product Line Manager at Orbot Systems and Orbotech Ltd., a manufacturer of automated optical inspection equipment. From 1986 to 1988 he was a Visiting Scientist at the Microelectronics Center of North Carolina, and from 1982 to 1986 he served as the Managing Director at AVX Israel Ltd., a manufacturer of electronic devices. Dr. Dishon holds a B.Sc. in Chemistry, a M.Sc. and a Ph.D. in Materials Science from the Hebrew University in Jerusalem.

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*Dr. Moshe Finarov* is a co-founder of Nova and a member of the board of directors. He has served as Chief Technology Officer of Nova since Nova's formation in 1993. From 1989 to 1993 he served as Senior Physicist at Orbotech and from 1978 to 1988 he was employed at the ENIMS and PULSAR Institutes of Research in Moscow. Dr. Finarov holds a Ph.D. in Semiconductor Physics from Moscow University.

*Dr. Micha Brunstein* was elected as director of Nova during November 2003 by the other members of the board of directors. During the years 1990 to 1999, Dr. Brunstein served as a Managing Director of Applied Materials Israel Ltd. Prior to that, Dr. Brunstein served as President of Opal Inc. and as a Director of New Business development in Optrotech Ltd. At present, Dr. Brunstein serves as the chairman and board member of several Israeli companies. Dr. Brunstein holds B.Sc. in Mathematics and Physics from the Hebrew University, Jerusalem, and M.Sc. and Ph.D. degrees in Physics from the Tel Aviv University.

*Mr. Avi Kerbs* has served as a director of Nova since 1993. He serves as the president and chief executive officer of Teuza Management and Development Ltd., the management company of Teuza-A Fairchild Technology Venture Ltd., a venture capital Company and has served in this capacity since 1991. Teuza-A Fairchild Technology Venture Ltd. is a major shareholder of Nova. He serves as a director of most of the companies comprising the investment portfolio of the Teuza Fund. Mr. Kerbs is also a director of DSS Inc., currently traded on Nasdaq Smallcap market and of Bioness Inc. Mr. Kerbs holds a B.Sc. in Industrial Engineering and Management and an M.Sc. in Management, both from the Technion, Israel's Institute of Technology. Mr. Kerbs serves as a member of the Technion's Board of Governors, is a Governor of the Haifa University Board of Governors and the Chairman of the Scientific Academic Club of the Haifa University. Mr. Kerbs was originally appointed to our board of directors by Teuza.

*Mr. Joseph Ciechanover* has served as a director of Nova from October 1996 until December 1998 and again from February 2000 until the present. He is the founder and president of the Challenge Fund-Etgar L.P., a venture capital firm and served as chairman of the board of El-Al Israel Airlines from 1995 until 2001. He served as a chairman of Israel Discount Bank from 1986-1993 and the president and a member of the board of directors of PEC Israel Economic Corporation, a diversified investment company. Mr. Ciechanover holds a law degree from the Hebrew University in Jerusalem, an L.L.M. from the University of California at Berkeley and a Ph.D. in philosophy from Boston University.

*Dr. Alon Dumanis*, is the Chief Executive Officer of Docor International Management, a Dutch venture capital, subsidiary of The Van-Leer Group Foundation. Dr. Dumanis serves as a chairman or a member of various companies' boards of directors. Until 2004, he was also a member

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of the board of El-Al Israeli Airlines (TASE-LY) and the board of Inventech (TASE-IVTC). Previously, Dr. Dumanis was the Head of the Material Command in the Israel Air Force with the rank of Brigadier General. Dr. Dumanis currently serves as chairperson and member of several national steering committees and is the author of many papers published locally and internationally in a number of subject areas, including technology and management. Dr. Dumanis holds a Ph.D. in Aerospace Engineering from Purdue University in the United States.

*Ms. Lauri Hanover* has been a Director of the Company since 2000 and was appointed as the Company's external director in accordance with the provisions of Israeli law. Ms. Hanover has served as Senior Vice President and Chief Financial Officer of Lumenis Ltd. since 2004. She previously served as Corporate Vice President and Chief Financial Officer of NICE Systems Ltd. from 2000 to 2004 and as Executive Vice President and Chief Financial Officer of Sapiens International Corporation N.V. from March 1997 until 2000. From 1984 to 1997, Ms. Hanover served in a variety of financial management positions, including Corporate Controller, at Scitex Corporation Ltd. Ms. Hanover holds a bachelor's degree in finance from the Wharton School of Business and a Bachelor of Arts degree from the College of Arts and Sciences, both of the University of Pennsylvania. Ms. Hanover also holds a master's degree in business administration from New York University.

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*Dr. Karey Holland* was appointed as the Company's external director in accordance with the provisions of Israeli law in 2000. Dr. Holland serves concurrently as Vice President, Technology at RimPAD America Inc., a materials manufacturer for the semiconductor industry, as Senior Managing partner of Techcet, a company providing strategic technical services in the semiconductor industry, and as a member of the board of directors of NanoBlox, a company developing carbon based nanoparticles for multiple industries. Prior to her current positions, Dr. Holland was employed for over five years by IPEC, semiconductor equipment manufacturing company, and later SpeedFam-IPEC, where she held the positions of Vice President of Process Technology and later Vice President and Chief Technological Officer. She worked for IBM from 1981 through 1993 where she held several positions including Sematech Advanced Lithography Technology Development Program Manager, Process Technology Development Manager and Manufacturing Implementation Manager. After leaving IBM and before taking her position at IPEC, Dr. Holland spent nine months at Motorola in Manufacturing Planning for the Microprocessor and Memory Technology Group. Dr. Holland holds a Ph.D. in analytical chemistry from Pennsylvania State University.

*Mr. Chai Toren* has served as Chief Financial Officer of Nova since 1995. From 1994 to 1995 Mr. Toren served as Chief Financial Officer of Zar Laboratories, a biotechnology company. From 1989 to 1994, he was employed as Project Manager of the Jerusalem Foundation, a non-profit organization. Mr. Toren holds a B.A. in Economics and Business Administration from the Hebrew University in Jerusalem.

*Dr. Gad Yaron* was appointed as Nova's Chief Operational Officer in October 2002, and has served as Nova's Lithography Product Line Manager since 2000. From 1998 to 2000 he was New Applications Manager. From 1997 to 1998 he served as Director of Yield Management at Applied Materials Israel, a subsidiary of Applied Materials Inc. From 1988 to 1997 he served in various key engineering management positions at Intel Electronics Ltd. Dr. Yaron holds a Ph.D. in Experimental Semiconductor Physics from the Hebrew University in Jerusalem.

*Mr. Ronen Frish* has served as Vice President, Sales and Marketing of Nova since 1995. From 1993 to 1995, Mr. Frish served as Sales Manager at Digital Equipment Israel, a computer manufacturer. From 1987 to 1993 he held various sales and marketing management positions in Israel and in Europe at Orbot Systems and Orbotech. From 1981 to 1987 he served as a project manager at AREL Electronics. Mr. Frish holds a B.Sc. in Business Management from the Hebrew University in Jerusalem.

### **Voting agreement**

We are not aware of any voting agreement currently valid.

### **Compensation**

The aggregate direct remuneration paid or payable to all 12 persons who served in the capacity of director or executive officer during 2004 was approximately \$800,000, including approximately \$150,000, which was set aside for pension and retirement benefits and including amounts expended by us for automobiles made available to our executive officers.

The Company has approved the terms of remuneration to the external directors of the Company, according to which the external directors shall receive remuneration comprised of: an annual payment in the amount of NIS 34,122 (approximately \$7,600) and an additional per meeting payment of NIS 1,270 (approximately \$300). Israeli Law determines these amounts, and adherence to these amounts exempts the Company from the need to obtain the approval of the Company's shareholders with respect to the remuneration paid to the external directors.

On November 7, 2001, the Company's shareholders approved payment of remuneration to the Company's directors in the same amounts as mentioned above for the external directors. The total amount paid or payable to the directors, including external directors, for 2004 is \$105,000. In 2003, this amount was \$122,000.

### **Compensation**

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As of May 15, 2003, we entered into an agreement with Mr. Barry L. Cox according to which Mr. Cox serves as chairperson of our board of directors. Under the agreement, Mr. Cox is entitled to gross annual compensation of \$50,000 as well as a one-time grant of an option to purchase up to 50,000 ordinary shares of the Company, at the fair market value of the shares at the time of grant. The option vests during a three year period so that a third of the entire amount granted to Mr. Cox shall be exercisable upon each anniversary of the grant.

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On May 15, 2003, the Company's Board of Directors and Audit Committee resolved (i) that the monthly gross salary of Dr. Dishon shall be increased to 44,000 NIS (approximately \$9,800) for the period February 1, 2003 through July 31, 2003 and increased to 50,000 NIS (approximately \$11,120) starting on August 1, 2003 and (ii) that the monthly gross salary of Dr. Finarov shall be increased to 40,000 NIS (approximately \$8,900) for the period February 1, 2003 through July 31, 2003 and increased to 44,000 NIS (approximately \$9,800) starting on August 1, 2003. These changes in the terms of compensation for Drs. Dishon and Finarov were approved by our shareholders on September 1, 2003.

On January 30, 2004, the Company's Board of Directors and the Company's Audit Committee approved the issuance of options to directors as set forth below.

Name of directors	Position	# of options
Giora Dishon	Director, CEO & President	65,000
Moshe Finarov	Director & CTO	55,000
Micha Brunstein	Director	10,000
Avi Kerbs	Director	10,000
Joseph Ciechanover	Director	10,000
Alon Dumanis	Director	10,000
Lauri Hanover	Director	10,000
Karey Holland	Director	10,000

These grants were approved by the shareholders on March 31, 2004. The options were granted in March 2004 and are subject to the terms and conditions of the Company's Option Plan 7A. The options vest over a period of between one and four years and their term may not exceed seven years from the date of grant. The exercise price of these options is \$5.15 per share.

On November 10, 2004, the Company's Board of Directors and the Company's Audit Committee approved the issuance of options to directors as set forth below.

Name of directors	Position	# of options
Giora Dishon	Director, CEO & President	70,000
Moshe Finarov	Director & CTO	60,000
Barry Cox	Chairman of the board	10,000
Micha Brunstein	Director	10,000
Avi Kerbs	Director	10,000
Joseph Ciechanover	Director	10,000
Alon Dumanis	Director	10,000



Lauri Hanover	Director	10,000
Karey Holland	Director	10,000

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These grants are subject to shareholder approval which has not yet been obtained. The options were granted in December 2004 and are subject to the terms and conditions of the Company's Option Plan 7B. The options vest over a period of between one and four years and their term may not exceed seven years from the date of grant. The exercise price of these options is \$3.40 per share.

### Board of Directors Committees

The Company's Board of Directors has appointed the following committees:

The *Audit Committee* is comprised of four members. The members are Lauri Hanover, Karey Holland, Joseph Ciechanover and Micha Brunstein. The functions of the audit committee according to Israeli Law are to locate deficiencies in the business management of the Company, among other things, in consultation with the Company's auditors and internal auditors and to suggest to the Board of Directors the measures to be taken regarding such deficiencies. The Audit Committee is also responsible for approving related party transactions. In addition, as described under Item 16, the audit committee is responsible for the approval of all audit and non-audit services provided to the Company by Deloitte & Touche and Ernst & Young. The Audit Committee operates under a charter adopted by the Board of Directors.

The *Compensation Committee* is comprised of Joseph Ciechanover, Lauri Hanover and Barry Cox. The function of the compensation committee is described in the approved charter of the committee, and includes determining the compensation of directors, senior management and employees (subject to provisions regarding related party transactions).

The *Investment Committee* is comprised of Lauri Hanover, Avi Kerbs and Joseph Ciechanover. The function of the investment committee is described in the approved charter of the committee, and includes reviewing and determining the cash investment policy of the cash reserves of the Company.

The *Nomination Committee* is comprised of Alon Dumanis, Karey Holland and Barry Cox. The function of the nomination committee is described in the approved charter of the committee, and includes reviewing the board structure and recommend nomination of new board members.

### Employees

Set forth below is a chart showing the number of people we employed at the times indicated.

	as of December 31,		
	2002	2003	2004
Total Personnel	215	212	239
Located in Israel	150	150	159
Located abroad (mainly U.S.)	65	62	80
In operations	41	37	40
In research and development	74	72	82
In sales and marketing	24	24	29
In service and support	60	62	80
In general and administration	16	17	22

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As of December 31, 2004, we employed a total of 239 persons worldwide, not including 40 independent contractors and temporary employees, of which 82 were in research and development, 40 were in operations, 80 were in service and support, and testing, 29 were in sales and marketing and 22 were in general and administration. As of December 2004, 159 of our employees were based in Israel and 80 were located abroad.

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Because we were adversely affected by, and our first quarter 2005 financial results reflect, the general slowdown in the semiconductor equipment market that started in 2005, we implemented a cost-reduction plan in the first quarter, which included a reduction in workforce.

We are a member of the Industrialists Association in Israel, an employer's union. As a result of this membership, a number of collective bargaining agreements apply to us. These agreements principally concern cost of living wage increases, paid vacation and holidays, length of the workday, wage tariffs, termination and severance payments. We provide our employees with benefits and working conditions that are at least as favorable as those found in the collective bargaining agreements.

Israeli labor laws and regulations apply to all our employees employed by Nova Measuring Instruments Ltd. The laws principally concern matters such as paid vacation, paid sick days, length of the workday, payment for overtime and severance payments upon the retirement or death of an employee or termination of employment.

### Share ownership

Giora Dishon, President, Chief Executive Officer and Co-Founder, and Moshe Finarov, Vice President, Director of Technology, Director and Co-Founder, owned 697,977 and 646,941 ordinary shares of the Company, respectively, as of April 30, 2005. All other directors, external directors and senior management each hold less than 1% of the Company's shares. The following table sets forth information regarding options held by our directors and officers as of April 1, 2005

Name	Ordinary Shares Underlying Options	Expiration Dates	Exercise Prices (\$/share)
Giora Dishon (1)	255,000	2007-2011	2.06-7.37
Moshe Finarov (1)	225,000	2007-2011	2.06-7.37
10 directors and officers as a group (1)	682,820	2006-2011	2.06-7.37

(1) The vesting period of each option is between one and four years from the date of grant according to the applicable option Plan.

At December 31, 2004, options to acquire 5,730,822 ordinary shares had been issued under our options plans, of which options to acquire 1,621,488 shares have been exercised, 478,956 have been terminated and forfeited and 1,575,108 were exercisable.

As of December 31, 2004, we had seven employee share option plans that provided for the grant of options to our employees, including senior management, to purchase an aggregate of 5,080,822 ordinary shares. The existing share option plans are described below (excluding the first share option plan that was comprised of options to acquire 827,700 ordinary shares, which have been fully exercised).

Option Plan 2 Options to purchase 650,000 shares at an exercise price per share of NIS 0.01 (approximately \$.0023); as of December 31, 2004, all options under this plan were granted, 585,966 options were exercised, 38,578 options were exercisable and 25,456 options had been forfeited;

Option Plan 3 Options to purchase 387,000 shares at an exercise price per share of \$3.17; as of December 31, 2004, all options under this plan were granted, 65,277 options were exercised, 276,500 options were exercisable and 45,223 options had been forfeited;

Option Plan 4 Options to purchase 668,350 shares at exercise price of \$6.27 or \$7.37 per share; originally, this plan included 1,000,000 shares, and was reduced to 668,350 shares by a decision of the Board of Directors of the Company. As of December 31,

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2004, all options under this plan were granted, 5,594 options were exercised, 471,837 options were exercisable and 190,919 options had been forfeited;

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**Option Plan 5** Options to purchase 746,500 shares at an exercise price of \$1.13, \$2.17 or \$2.46, the fair market value of Nova s stock on the date of grant; as of December 31, 2004, all options under this plan were granted, 90,795 options were exercised, 425,816 options were exercisable and 106,793 options had been forfeited;

**Option Plan 6** Options to purchase 960,000 shares at an exercise prices of \$2.06, the fair market value of Nova s stock on the date of grant; as of December 31, 2004, all options under this plan were granted, 12,156 options were exercised, 203,455 options were exercisable and 77,675 options had been forfeited;

Options to purchase 116,272 ordinary shares at an exercise price of \$5.16 per share; granted in March 1999 to Mendy Erad, the Chairman of the Board at that time; as of December 31, 2004, 14,000 options were exercised and 102,272 options were exercisable;

Options to purchase an aggregate of 75,000 ordinary shares at an exercise price of \$3.69 per share granted to the members of our Board of Directors, other than our external directors; as of December 31, 2004, 20,000 options were exercised, 30,000 options were exercisable and 20,000 options had been forfeited;

Options to purchase 50,000 ordinary shares at an exercise price of \$2.68 per share; granted in May 2003 to Barry Cox, the Chairman of the Board; as of December 31, 2004, 16,666 options were exercisable;

**Option Plan 7A** Options to purchase 600,000 shares at an exercise prices of \$4.01 and \$5.15, the fair market value of Nova s stock on the date of grant; as of December 31, 2004, all options under this plan were granted, none were exercisable and 27,580 options had been forfeited; and

**Option Plan 7B** Options to purchase 650,000 shares at an exercise price of \$3.40, the fair market value of Nova s stock on the date of grant; as of December 31, 2004, all options under this plan were granted, none were vested and none had been forfeited.

In addition to the option plans described above, in 2003, the Company implemented an Employee Stock Purchase Plan pursuant to which eligible employees of the Company may purchase up to 150,000 ordinary shares, subject to certain adjustments, at a discounted price. The Company issued a total of 138,505 shares under this plan

**The following table summarizes information about share options outstanding as of December 31, 2004:**

Range of exercise prices	Outstanding as of December 31, 2004		Exercisable as of December 31, 2004		
	Number outstanding	Weighted average remaining contractual life	Weighted average exercise price	Number exercisable	Weighted average exercise price
(US dollars)		(in years)	(US dollars)		(US dollars)
0.0025	38,578	1.5	0.0025	38,578	0.0025
2.06	860,169	5.2	2.06	213,455	2.06
2.46-3.69	910,412	3.4	2.735	748,966	2.78
3.4	650,000	6.9	3.4	0	3.4
4.01	417,110	6.4	4.01	0	4.01
5.15	180,000	6.2	5.15	0	5.15
5.16	102,272	2	5.16	102,272	5.16

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	Outstanding as of December 31, 2004			Exercisable as of December 31, 2004	
6.27-7.37	471,837	2.5	6.95	471,837	2.5
	<u>3,630,378</u>			<u>1,575,108</u>	

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**Item 7. Major Shareholder and Related Party Transactions**

**Major shareholders**

The following table shows the number of ordinary shares beneficially owned by persons known by us to own beneficially more than five percent of the Company's ordinary shares, as of April 30, 2005.

Name	Number of Ordinary Shares Beneficially Owned*	Percentage of Ordinary Shares Beneficially Owned
Clal Electronics Industries Ltd. (1)	2,823,584	18.4%
Inventech Investments Co. Ltd.	833,974	5.4%
Teuza - A Fairchild Technology Venture Ltd. (2)	1,661,327	10.8%
Teuza Management & Development (1991) Ltd. (2)	1,661,327	10.8%
Austin W. Marx & David Greenhouse (3)	2,094,277	13.6%
Tamir Fishman Ventures II, L.L.C. (4)	1,175,600	7.6%
Shai Saul (4)	1,175,600	7.6%
Michael Elias (4)	1,182,850	7.7%
Tamir Fishman & Co. Ltd. (4)	1,180,700	7.7%
Eldad Tamir (4)	1,180,700	7.7%
Danny Fishman (4)	1,180,700	7.7%
Giora Dishon (5)	812,014	5.2%

\* Unless specifically stated otherwise, the information provided hereinabove is based upon information contained in filings made by the named person with the U.S. Securities and Exchange Commission ( SEC ) pursuant to Regulation 13D-G.

- (1) The following information is contained in Schedule 13D (Amendment No. 2) filed by, among others, Clal Electronics Ltd.: each of Clal Electronics Industries Ltd., Clal Industries and Investments Ltd., IDB Development Corporation Ltd., IDB Holding Corporation Ltd., Nochi Dankner (Chairman of Clal Industries), Shelly Dankner-Bergman (Director of Clal Industries), Avraham Livnat and Ruth Manor reported having shared voting and dispositive control over 2,823,584 shares.
- (2) As reported on the Schedule 13G (Amendment No. 3) filed by Teuza-A Fairchild Technology Venture Ltd. ( TFTV ) and Teuza Management & Development (1991) Ltd. ( TMD ) on February 13, 2004, TFTV and TMD each share voting power over 1,661,327 shares.
- (3) As reported on the Schedule 13G (Amendment 3) filed by Messrs. Marx and Greenhouse on March 17, 2004, the amount indicated includes 477,178 shares held by Special Situations Cayman Fund, L.P., 70,831 shares held by Special Situations Technology Fund, L.P., 356,969 shares owned by Special Situations Technology Fund II, L.P. and 1,189,299 shares held by Special Situations Fund III, L.P.
- (4) The following information is contained in a Schedule 13G (Amendment No. 2) filed by, among others, Tamir Fishman Ventures II, LLC ( TFV ), on March 30, 2005: (a) Five limited partnerships and a corporation directly beneficially own, in the aggregate,

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1,175,600 shares; (b) TFV beneficially owns 1,175,600 shares as the sole general partner of the five limited partnerships and by virtue of its management rights with respect to a corporation; (c) Shai Saul, is a managing member of TFV; (d) Michael Elias is a managing member of TFV and reports having sole voting and dispositive power over an additional 7,250 shares; (e) Tamir Fishman & Co. Ltd is a managing member of TFV and reports directly owning 5,100 additional shares; (f) Eldad Tamir and Danny Fishman are each Co-President and Co-CEO of Tamir Fishman & Co. Ltd. The total number of shares beneficially owned collectively in this group is 1,182,850.

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- (5) Includes shares held in trust under Israeli tax law for the benefit of the named shareholder and options to purchase 114,073 ordinary shares, which are currently exercisable or exercisable within 60 days of April 30, 2005.

All major shareholders have the same voting rights.

Filings by Capital Group International, Inc. with the SEC indicate that in 2004 it sold 774,800 of our ordinary shares, representing approximately 5.1% of our outstanding ordinary shares. In addition, public filings with the SEC indicate that Tamir Fishman Ventures II, L.L.C., Shai Saul, Michael Elias, Tamir Fishman & Co. Ltd., Eldad Tamir and Danny Fishman acquired 281,000 of our ordinary shares, representing approximately 1.8% of our outstanding ordinary shares. In addition, public filings indicate that in 2004 Inventech Investments Co. Ltd. sold 331,247 ordinary shares. Between June, 2003 and April 2004, Clal Electronics Ltd. and the entities identified in footnote one above, sold approximately 255,000 of our ordinary shares.

The Company believes that, as of December 31, 2004, approximately 40% of its ordinary shares were held by United States holders, and there were approximately 30 record holders in U.S.

### Control of Registrant

To the Company's knowledge, it is not owned or controlled by a foreign government. Except for the shareholders identified above owning more than ten percent of the Company's ordinary shares, the Company has no knowledge of any corporation or other natural or legal person owning a controlling interest in the Company.

### Related Party Transactions

In 2002, the Company obtained directors and officers' liability insurance for its officers and directors with coverage in an aggregate amount of \$5,000,000. This coverage was renewed in 2003 and 2004. In addition, the Company undertook to indemnify the Company's officers and directors up to an aggregate amount of \$15,000,000 pursuant to the terms set forth in an Indemnification and Exculpation Letter. The Indemnification and Exculpation Letter also exculpates the officers and directors from certain liabilities relating to their positions and directors and officers within the framework allowed under the Israeli Company's Law. The shareholders further approved our undertaking to indemnify our officers and directors within the framework allowed under Israeli Company's Law up to an aggregate amount of \$15,000,000. Under the Companies Law, a company is prohibited from undertaking to indemnify, to insure or to exempt its officers or directors against: (i) breaches of fiduciary duty to the Company (other than with respect to actions taken in good faith and upon reasonable grounds that such actions shall not adversely affect the Company); (ii) breaches of the duty of care which were made either intentionally or recklessly, unless if they were made negligently; (iii) an action intended to produce unlawful personal profit; or (iv) a fine imposed upon the Officer. The directors and officers insurance and Indemnification and Exculpation Letter, to the extent applicable to directors, were approved by the Company's shareholders on October 31, 2002, covering acts and omissions made in their status as officers; worldwide (including the US and Canada). Company's undertakings under the Indemnification and Exculpation Letter are subject to its undertaking made under its F-1 according to which it shall not be bound to indemnify and exculpate its directors and officers if such undertaking shall be held contradictory to public policy under the ruling of a competent court.

As of May 15, 2003 we entered into an agreement with Mr. Barry L. Cox according to which Mr. Cox serves as chairperson of our board of directors. Under the agreement, Mr. Cox is entitled to gross annual compensation of \$50,000 as well as a one-time grant of options to purchase up to 50,000 ordinary shares of the Company, at the fair market value of the shares at the time of grant. The options vest during a three year period so that a third of the entire amount granted to Mr. Cox shall be exercisable upon each anniversary of the grant.

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On May 15, 2003, the Company's Board of Directors and Audit Committee resolved (i) that the monthly gross salary of Dr. Dishon shall be increased to 44,000 NIS (approximately \$9,800) for the period February 1, 2003 through July 31, 2003 and increased to 50,000 NIS (approximately \$11,120) starting on August 1, 2003 and (ii) that the monthly gross salary of Dr. Finarov shall be increased to 40,000 NIS (approximately \$8,900) for the period February 1, 2003 through July 31, 2003 and increased to 44,000 NIS (approximately \$9,800) starting on August 1, 2003. These changes in the terms of compensation for Dr. Dishon and Dr. Finarov were approved by our shareholders on September 1, 2003.

On January 30, 2004, the Company's Board of Directors and the Company's Audit Committee approved the grant of options to directors as set forth in the following chart.

Name of directors	Position	# of options
Giora Dishon	Director, CEO & President	65,000
Moshe Finarov	Director & CTO	55,000
Micha Brunstein	Director	10,000
Avi Kerbs	Director	10,000
Joseph Ciechanover	Director	10,000
Alon Dumanis	Director	10,000
Lauri Hanover	Director	10,000
Karey Holland	Director	10,000

These grants were approved by the shareholders on March 31, 2004. The options were granted during March 2004 and are subject to the terms and conditions of the Company's Option Plan 7A. The options vest over a period of between one and four years and their term may not exceed seven years from the date of grant. The exercise price of these options is \$5.15 per share.

On November 10, 2004, the Company's Board of Directors and the Company's Audit Committee approved the issuance of options to directors as set forth in the following chart.

Name of directors	Position	# of options
Giora Dishon	Director, CEO & President	70,000
Moshe Finarov	Director & CTO	60,000
Barry Cox	Chairman of the board	10,000
Micha Brunstein	Director	10,000
Micha Brunstein	Director	10,000
Avi Kerbs	Director	10,000
Joseph Ciechanover	Director	10,000
Alon Dumanis	Director	10,000
Lauri Hanover	Director	10,000
Karey Holland	Director	10,000

These grants are subject to shareholder approval which has not yet been obtained. The options were granted in December 2004 and are subject to the terms and conditions of the Company's Option Plan 7B. The options vest over a period of between one and four years and their term may not exceed seven years from the date of grant. The exercise price of these options is \$3.40 per share.

## **Item 8. Financial Information**

### **Consolidated Financial Statements**

See Financial Statements on page 65 of this report and pages F-1 through F-21.

### **Significant Changes**

In the first quarter of 2005, the Company experienced a significant reduction in revenues, attributed to the industry slowdown and to severe competition.

### **Legal Proceedings**

From time to time, we are a party to legal proceedings and claims in the ordinary course of business. We are not currently a party to any material legal proceedings.

In 1998, Intel Corporation ( Intel ), a major customer and former shareholder, notified us by letter that a lawsuit had been filed against a number of semiconductor manufacturers, including Intel, by the Lemelson Medical, Education & Research Foundation. The suit alleged that these semiconductor manufacturers infringed upon U.S. patents owned by Lemelson. In its 1998 letter, Intel requested that we defend, indemnify and hold it harmless against the Lemelson claims to the extent the claims resulted from the use of the products we sold to Intel. We did not undertake the defense or agree to hold Intel harmless as it requested. Subsequently, in January 2004, in a suit filed against Lemelson by Cognex Corporation, but not involving Intel or Nova, the United States District Court for the District of Nevada found that various Lemelson patents, including those upon which Lemelson based its claims against Intel, were invalid and not enforceable. We, therefore, believe that we will not have any liability to Intel in connection with the Lemelson suit against Intel and other semiconductor manufacturers. We have, however, not received any formal communication from Intel withdrawing its request for defense and indemnification.

In March 2005, we filed a civil action against Nanometrics Inc. seeking to enforce our United States Patent No. 6,752,689. For additional information, See Intellectual Property starting on page 23.

### **Dividend Policies**

We anticipate that, for the foreseeable future, we will retain any earnings to support operations and to finance the growth and development of our business. Therefore, we do not expect to pay cash dividends for at least the next several years.

We obtained the status of approved enterprise under the Law for the Encouragement of Capital Investments, 1959, under which we may take advantage of certain tax exemptions. We may further obtain such status in the future. If we distribute a cash dividend from income which is tax exempt, we would have to pay corporate tax at a rate of up to 25% on the amount equal to the amount distributed and on the amount of corporate tax which would have been due in the absence of the tax exemption, in addition to withholding tax on such dividends paid. For further description of the conditions limiting our ability to declare and pay dividends see Taxation starting on page 55.

The distribution of dividends may also be limited by the Israeli Companies Law, which permits the distribution of dividends only out of retained earnings or earnings derived over the two most recent fiscal years, whichever is higher, provided that there is no reasonable concern that payment of a dividend will prevent a company from satisfying its existing and foreseeable obligations as they become due. Our Articles provide that dividends will be paid at the discretion of, and upon resolution by, our Board of Directors however, the Board of Directors at its discretion, may transfer the decision in this matter to the general meeting.

**Export Sales**

Substantially all of our products are sold to customers located outside Israel.

**Item 9. The Offer and Listing****Offer and listing details**

The information presented in the table below presents, for the periods indicated, the reported high and low closing sales prices on the Nasdaq National Market of our ordinary shares. The shares began trading on the Nasdaq National Market on April 11, 2000 at a price of \$18 per share. Our ordinary shares were registered for trading on the Tel Aviv Stock Exchange in 2002 and the table below presents, for the periods indicated, the reported high and low sales prices on the Tel Aviv Stock Exchange.

**Nasdaq National Market**

	Price per share (US\$)	
	High	Low
<b><u>Yearly highs and lows</u></b>		
<b>2000</b>	21.94	6.56
<b>2001</b>	10.97	2.46
<b>2002</b>	4.54	0.86
<b>2003</b>	7.19	1.42
<b>2004</b>	8.21	3.00
<b><u>Quarterly highs and lows</u></b>		
<b>2003</b>		
First quarter	2.62	1.42
Second quarter	4.30	2.22
Third quarter	5.78	3.21
Fourth quarter	7.19	4.62
<b>2004</b>		
First quarter	8.20	5.15
Second quarter	7.32	3.80
Third quarter	4.25	3.00
Fourth quarter	4.63	3.19
<b>2005</b>		
First quarter	3.91	2.73
<b><u>Monthly highs and lows</u></b>		
<b>2004</b>		
December	3.84	3.30
<b>2005</b>		
January	3.91	3.30
February	3.85	3.45
March	3.52	2.73
April	3.10	2.29
May	2.60	2.23

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**Tel Aviv Stock Exchange \***

	Price per share (NIS)	
	High	Low



	<u>Price per share (NIS)</u>	
<b><u>Yearly highs and lows</u></b>		
<b>2002</b>	1,158	1,080

\* Since the fourth quarter of 2002, there has been no market activity at the TASE.

#### **Item 10. Additional Information**

Set forth below is a summary of certain provisions of the Company's memorandum and articles of association, as amended to date, and Israeli law affecting shareholders of the Company. This summary does not purport to be complete and is qualified in its entirety by reference to our memorandum and articles of association and such law.

*Registration.* The Company was accepted and registered in the Israeli Registrar of Companies on May 17, 1993, under registration number 51-181-246-3.

*Purpose of the Company.* The purposes of the Company, as provided by Article B(3) of our memorandum and articles of association, are (a) to invent, design, plan, develop, manufacture, market and trade in the field of measuring instruments in electronics, micro-electronics, medicine, chemistry, metallurgy, ceramics and any other field, (b) to initiate, participate, manage, execute, import and export any kind of project within the borders of the State of Israel and/or outside Israel, (c) to register patents, trademarks, trade names intellectual property rights marketing rights and any other right of any kind whatsoever, both in Israel and abroad and (d) to engage in any legal activity, both in Israel and abroad.

*Approval of Related Party Transaction; Corporate Borrowings.* The Israeli Companies Law, to which the company is subject, requires that an office holder of a company, including directors and executive officers, promptly disclose to the board of directors of that company any personal interest that the office holder may have and all related material information known about any existing or proposed transaction with the company. The approval of the board of directors is required, as long as the transaction is in the best of the company, for a transaction that is not an extraordinary transaction, between the company and its office holder or between the company and another person in which the office holder has a personal interest, unless the articles of association provide otherwise. If the transaction is an extraordinary transaction, it also requires the approval of the audit committee prior to its being approved by the board of directors. In the event that the transaction is between the company and a director regarding the director's terms of engagement with the company, including with regard to other positions in the company filled by the director and including with respect to indemnification, insurance and exemptions, the transaction requires the approval of the audit committee, the board of directors and the shareholders.

The Companies Law applies the same disclosure requirements to a controlling shareholder of a public company. A controlling shareholder is a shareholder who has the ability to direct the activities of a company, including a shareholder that owns 25% or more of the voting rights if no other shareholder owns more than 50% of the voting rights, but excluding a shareholder whose power derives solely from his or her position on the board of directors or any other position with the company. Approving an extraordinary transaction with a controlling shareholder requires the approval of the company's audit committee, the board of directors and the company's shareholders. Approval by the company's shareholder must be by the affirmative vote of a majority of the shares attending in person or by proxy and, in addition, at least one third of the holders of shares who do not have personal interest in approving the transaction attending in person or represented by proxy must vote in favor of the proposal, or the aggregate number of shares voted against the proposal must not exceed one per cent (1%) of the Company's voting rights.

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Under our articles of association, a transaction by the Company with an officer or director of the Company, in which transaction such officer or director has a personal interest, other than an extraordinary transaction, does not require any board or shareholder approval. Interested board members may not vote on extraordinary transactions. Arrangements regarding the compensation of directors are considered extraordinary transactions and require approval by the board of directors, audit committee and shareholders. Arrangements as to compensation of officers employment terms require approval only by the board of directors and audit committee.

Under regulations promulgated under the Companies Law regarding payment of compensation to external directors, compensation of external directors shall be comprised of annual compensation ranging from NIS 26,000 to NIS 42,245 and a per meeting payment ranging from NIS 915 to NIS 1,625. These amounts are adjusted twice a year in accordance with the Israeli consumer price index. However, with regard to a company, which shares are traded in an exchange outside of Israel, and is subject to laws which impose upon the external directors demands which exceed the demands imposed upon them under Israeli law, the maximum amount payable to the external directors is 100,000 NIS per annum and NIS 3,000 per meeting. The approval of the shareholders of the Company is required for such compensation, unless it is at a fixed

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amount set forth in these regulations. Additionally, external directors may be entitled to compensation in stock (including by way of granting options to purchase the Company's stock), provided that such compensation is granted within the framework of a stock incentive plan applicable to all other directors and further provided the amount of stock granted or purchasable shall not fall below the lowest amount granted to any other director and shall not exceed the average amount of stock granted to all other directors.

Our articles of association grant broad powers to the board of directors to authorize the Company to borrow funds, repay borrowings, make guarantees, and grant security interests in borrowings. There is no mandatory retirement age for the Company's directors and a director need not be a shareholder of the Company.

*Share Capital.* The Company currently has one class of ordinary stock, 0.01 NIS par value per share. Our articles of association provide that the board of directors may declare dividends out of funds legally available therefor. Under the Israeli Companies Law, dividends may be paid out of net earnings, as calculated under that law, for the two years preceding the distribution of the dividend and retained earnings, provided that there is no reasonable concern that the dividend will prevent the company from satisfying its existing and foreseeable obligations as they become due. For more information, see the Company's balance sheet and the statement of shareholders' equity in the financial statements. Each ordinary share is entitled to one vote of all meetings of shareholders.

*Changes of Rights of Holders of the Ordinary Shares.* The rights attached to the ordinary shares may be changed, converted, expanded or altered in any other way by the shareholders with the vote of the holders of at least 75% of the ordinary shares.

*Shareholders Meetings.* An annual meeting shall be convened at least once every calendar year, and no later than 15 months after the preceding annual meeting, to deliberate on the financial reports, appointment of directors, appointment of an auditing accountant, and any other matter which the board of directors places on the agenda of the annual meeting, at a time and place that the board of directors shall determine. An extraordinary meeting may be called by the board of directors and at the demand of any of the following: two directors or one-quarter of the directors then serving; one or more shareholders who hold at least five per cent of the issued and outstanding capital stock and at least one percent of the voting rights in the Company; or one or more shareholders who hold at least five percent of the voting rights in the Company.

According to our articles of association, the quorum required for an ordinary meeting of shareholders is at least two shareholders present in person or by proxy who together hold or represent in the aggregate more than one third (33.33%) of the voting power. A meeting adjourned for lack of a quorum is adjourned to the same day in the following week at the same time and place or to a later date if said date is indicated in the prior written notice or if the Company has sent to the shareholders a prior notice of no less than 72 hours before the date set for the postponed meeting. At the reconvened meeting, the required quorum consists of any number of members present in person or by proxy, regardless of the number of shares represented. Israeli Companies Law and regulations determine that prior notice of no less than 21 days should be given the company's shareholders, prior to convening a meeting.

There are no limitations on the rights of non-resident or foreign owners to hold or vote ordinary shares imposed under Israeli law or under the Company's memorandum or articles of association.

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*Board of Directors.* Our articles of association provide that directors may be elected either at our annual general meeting or an extraordinary meeting of shareholders by a vote of the holders of at least 50% of the total number of votes represented at such meeting. In addition, our board of directors is authorized to appoint directors, at its discretion, provided that the total number of directors shall not exceed the maximum number of directors permitted by our articles of association. Each of our directors holds office until the next annual general meeting of shareholders. However, in accordance with the Israeli Companies Law, our external directors serve for three years. The Companies Law requires that the offices of the Chief Executive Officer and the Chairman of the board of directors be held by different persons. However, the Companies Law further provide that those positions may be held by the same person for a period not exceeding three years if approved by a majority of the company's shareholder, including at least two thirds of the voting present shareholders (shares held by abstaining shareholders are not considered) which are not controlling shareholders or the aggregate number of shares voting against the proposal shall not exceed 1% of company voting shareholders.

External directors may be elected at our annual general meeting or an extraordinary meeting of our shareholders in a number and manner stipulated by law, namely, for a term of three years which may be renewed for only one additional three year term and requires the affirmative vote of a majority of the shares and in addition either that (i) at least one third (33.33%) of the holders of shares who are not controlling shareholders attending in person or represented by proxy have voted in favor of the proposal (shares held by abstaining shareholders shall not be considered) or (ii) the aggregate number of shares voting against the proposal has not exceeded 1% of the company's voting shareholders. External directors may be removed from office only under the following circumstances: (i) an external director ceases to meet the legal requirements for appointment as an external director or breaches his or her fiduciary duty to the company and a resolution to remove such external director is made by the shareholders at a meeting at which such external director is granted a reasonable opportunity to express his position such a resolution requires the same majority of votes that elected the external director) (ii) an external director ceases to meet the legal

requirements for appointment as an external director or breaches his or her fiduciary duty to the Company and a court orders that such director be removed; or (iii) an external director is unable to perform his or her duties or is convicted of certain felonies and a court orders that such director be removed.

An amendment to the Companies Law, which is to be effective in the near future, requires that an Israeli public company have at least two external directors are required to be nominated as members of the board of director and at least one of the external directors must have accounting and financial expertise. Other external directors must have certain professional qualifications. Regulations are expected to be adopted giving specific criteria for such expertise.

Our board of directors has the authority to issue preferred stock in one or more classes or series and to fix the voting powers, preferences and relative participating, optional or other special rights of such preferred stock, without any further vote or action by the shareholders, subject to specific events as detailed in our Articles of Association and relevant rules.

*Changes in Capital.* Our share capital may be increased or decreased by a vote of the holders of at least 75% of the shares present at the shareholders meeting.

*Acquisition of a Controlling Stake.* According to the Company's Law, an acquisition pursuant to which a purchaser shall hold a controlling stake, that is defined as 25% or more of the voting rights if no other shareholder holds a controlling stake, or an acquisition pursuant to which such purchaser shall hold 45% or more of the voting rights of the company if no other shareholder owns more than 45% of the voting rights, may not be performed by way of market accumulation, but only by way of a tender offer made to all of the company's shareholders on a pro rata basis. Such offer needs to be approved by the company's shareholders. A shareholder may be free to object to such offer without such objection being deemed as waiver of his right to sell its respective shares if the transaction is approved by a majority of the company's shareholders despite his objection. Shares purchased not in accordance with those provisions shall become dormant shares and shall not grant the purchaser any rights so long as held by the purchaser.

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*Merger.* The Companies Law requires an acquirer of a public company's shares who wishes to acquire all of the company's shares without the approval of its minority shareholders to acquire at least 95% of all outstanding shares. Even if the acquirer acquires 95% of the outstanding shares, the remaining minority shareholders may seek to block the acquisition in court.

The Companies Law provides that corporate mergers require the approval of both companies' boards of directors and shareholders. In the event, however that shares of the target company are held by the acquiring company or by a person holding 25% or more of any type of controlling means of the acquiring company, the merger will not be approved if a majority of the shareholders of the target company attending and voting at the meeting at which the merger is considered (without taking into account, for that purpose, the shares held by the acquiring company or by a person holding 25% or more of any type of controlling means of the acquiring company) object to and do not vote in favor of the merger. If a person holds 25% or more of any type of controlling means of more than one merging company, the same provisions shall apply with regard to the shareholders' vote with respect to each such company. Upon the request of a creditor of either party to the proposed merger, the Israeli courts may delay or prevent the merger if the courts conclude that there exists a reasonable concern that as a result of the merger the surviving company will be unable to satisfy the target company's obligations. Furthermore, a merger may not close unless at least 30 days have passed from the time that the general meeting of each of the merging companies was held and at least 50 days have passed from the date on which the merger proposal was sent to the Israeli Registrar of Companies.

In addition, the Companies Law preserves provisions of its predecessor, the Companies Ordinance, dealing with arrangements between a company and its shareholders. These arrangements may be used to effect squeeze out transactions in which the target company becomes a wholly owned subsidiary of the acquirer. These provisions generally require that the merger be approved by at least 75% of the shares of participating shareholders and a majority of the shareholders voting at a shareholders meeting. In addition to shareholder approval, court approval of the transaction is required, which entails further delay.

A merger, the acquisition of a controlling stake or any transaction in which all or substantially all the assets of a company are de facto transferred to another company, may require the approval of the Israeli Commissioner of Restrictive Trade Practices, in the event that the aggregate annual sales volume in Israel of all the companies which are parties to such transaction, exceeds 150,000,000 NIS (approximately \$33,000,000, an amount which is adjusted on an annual basis), and also if after the consummation of such transactions, the joint market, in Israel, or at any identified geographic part of Israel will be in excess of 50% with respect to such products and services.

## Material Contracts

Lease Agreement between Nova and Ef-Shar Ltd. dated May 28, 2000 for Nova's facilities in Israel. A summary of this lease is provided at Exhibit 4.13. For summaries of compensation arrangements with officers and directors, see Related Party Transactions starting on page 47.

## Exchange Controls

Non-residents of Israel who purchase our ordinary shares outside of Israel with U.S. dollars or other foreign currency will be able to convert dividends (if any) thereon, and any amounts payable upon the dissolution, liquidation or winding up of the affairs of the Company, as well as the proceeds of any sale in Israel of the ordinary shares to an Israeli resident, into freely repatriable dollars, at a rate of exchange prevailing at the time of conversion, pursuant to regulations issued under the Currency Control Law, 1978, provided that Israeli income tax has been withheld by the Company with respect to such amounts. Israeli residents are eligible to purchase securities of certain companies, including our ordinary shares, if they are listed on a foreign exchange in a designated country, which is defined to include the Nasdaq.

## Taxation

The following summary describes the current tax structure applicable to companies in Israel, with special reference to its effect on us. It also discusses Israeli tax consequences material to persons holding our ordinary shares. Because some parts of the summary are based on new tax legislation yet to be judicially or administratively interpreted, we cannot be sure that the views expressed will accord with any future interpretation. The summary is not intended, and should not be construed, as legal or professional tax advice and does not exhaust all possible tax considerations. Accordingly, you should consult your own tax advisor as to the particular tax consequences of an investment in our ordinary shares.

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## Tax Reform

During the year 2002, tax reform legislation was enacted with effect from January 1, 2003, which significantly changed the taxation basis of corporate and individual taxpayers from a territorial basis to a worldwide basis. From such date, an Israel resident taxpayer will be taxed on income produced and derived both in and out of Israel. The main provisions of the tax reform that may affect the Company are as follows:

*Transfer pricing of international transactions with related parties.* The Income Tax Ordinance was amended to include provisions concerning transfer pricing between related parties, where one of the parties is situated abroad. Detailed provisions are to be included in Income Tax Regulations that have yet to be issued. Although the Company considers that the transfer pricing policy adopted with foreign affiliates is economically fair, an adjustment may be required following the issue of the said Regulations.

*Employee stock incentive plans.* The tax reform codified past practice and determined three alternative tracks for taxing employee stock option plans. Where a trustee arrangement is in place, the employer can either claim an expense for tax purposes while the employee will be fully taxed up to the maximum marginal tax rate of 50% or the Company can waive the tax expense and the employee will pay a reduced tax rate of 25%. Where there is no trustee arrangement, the employee is fully taxable and no expense is allowed to the Company. There are detailed provisions for implementing these tracks. For Option Plans 6 and 7, which were allocated after the implementation of the tax reform, the Company has used the trustee arrangement, with waiver of the tax expense for the company and employee payment of reduced tax rate of 25%. As a result of the reform, the income tax authorities allowed the Company a change of tracks with regard to unvested options issued under option plans prior to the tax reform taking effect, subject to the optionees agreeing to certain restrictions.

*Controlled foreign company (CFC).* The amendment to the law introduced Controlled Foreign Company (CFC) provisions, which, in certain circumstances, will lead to the Israeli company being charged tax on passive income of foreign affiliates as if it had received a dividend from such companies. This change is not expected to have material effect on the company's financial results and tax payments.

*Capital gains tax.* Capital gains tax is reduced to 25% from 36%, except with respect to capital gains from marketable securities, with transitional provisions for assets acquired prior to January 1, 2003. For further discussion see below Capital Gains Tax.

*Carrying forward of capital losses.* The seven year limit for carrying forward of capital losses has been removed with respect to capital losses arising from 1996 and thereafter. This change is not expected to have material effect on the company's financial results and tax payments.

## General Corporate Tax Structure

Israeli companies are taxed at a rate of 36% of taxable income. In 2004 the Israeli Knesset approved a law for the amendment of the Income Tax Ordinance, according to which the regular corporate tax rate is to be reduced gradually and annually from 36% to 35% for 2005 tax year ending in 30% for 2007 tax year. However, the effective tax rate payable by a company that derives income from an approved enterprise may be considerably less, as further discussed below.

### Tax Benefits under the Law for the Encouragement of Capital Investments, 1959

The Law for the Encouragement of Capital Investments, 1959, provides that upon application to the Investment Center of the Ministry of Industry and Commerce of the State of Israel, a proposed capital investment in eligible facilities may be designated as an approved enterprise. Each certificate of approval for an approved enterprise relates to a specific investment program delineated both by its financial scope, including its capital sources, and by its physical characteristics, such as the equipment to be purchased and utilized under the program. The tax benefits derived from this certificate of approval relate only to taxable income derived from growth in operations as determined generally by the growth in manufacturing revenues attributable to the specific approved enterprise. If a company has more than one approval or only a portion of its capital investments are approved, its effective tax rate is the result of a weighted combination of the applicable rates. The tax benefits under the law are not available for income derived from products manufactured outside of Israel.

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Taxable income of a company derived from an approved enterprise is taxed at the maximum rate of 25%, rather than the usual rate of 35% (or less as described above), for the benefit period. This period is ordinarily seven years commencing with the year in which the approved enterprise first generates taxable income, and is limited to 12 years from the year of commencement of operations, as determined by the Investment Center, or 14 years from the year of approval, whichever is earlier.

A company owning an approved enterprise may elect to receive an alternative package of benefits. Under the alternative package, the company's undistributed income derived from an approved enterprise will be exempt from tax for a period of between two and ten years from the first year of taxable income, depending on the geographic location of the approved enterprise within Israel, subject to the 12- and 14-year limitations, and the company will be eligible for the tax benefits under the law for the remainder of the benefits period.

A company that has an approved enterprise program is eligible for further tax benefits if it qualifies as a foreign investors' company. A foreign investors' company is a company more than 25% of whose share capital and combined share and loan capital is owned by non-Israeli residents. A company, which qualifies as a foreign investors' company and has an approved enterprise program is eligible for tax benefits for a ten-year benefit period instead of the ordinary seven-year period. Income derived from the approved enterprise program will be exempt from tax for a specified period and will be taxed at a reduced rate for the rest of the period. The tax rate for the additional eight years is 25%, unless the level of foreign investment exceeds 49%, in which case the tax rate is 20% if the foreign investment is more than 49% and less than 74%, 15% if more than 74% and less than 90%, and 10% if 90% or more.

The Investment Center bases its decision of whether to approve or reject a company's application for designation as an approved enterprise on criteria set forth in the law and related regulations, the then prevailing policy of the Investment Center and the specific objectives and financial criteria of the applicant. Accordingly, a company cannot be certain in advance whether its application will be approved. In addition, the benefits available to an approved enterprise are conditional upon compliance with the conditions stipulated in the law and related regulations and the criteria set forth in the specific certificate of approval. In the event that a company violates these conditions, in whole or in part, it would be required to refund the amount of tax benefits plus an amount linked to the Israeli consumer price index and interest.

A major portion of our production facilities has been granted the status of approved enterprises. Income arising from our approved enterprise facilities is tax-free under the alternative package of benefits described above and entitled to reduced tax rates of up to 25%, based on the level of foreign ownership for specified periods. We have derived, and expect to continue to derive, a substantial portion of our income from our approved enterprise facilities. In general, the benefits for most of our current production facilities in Israel will continue until termination in 2006. Our current investments in facilities are made under new approvals, the benefits of which will continue no longer than 2012.

An approved enterprise may elect to distribute dividends from taxable or tax-exempt income. Dividends distributed from taxable income are considered to be attributable to the entire taxable income of the enterprise and their effective tax rate is the result of a weighted combination of the applicable tax rates. We currently intend to reinvest the amount of our income and not to distribute such income as a dividend. In the event that we do pay a cash dividend from income that is derived from our approved enterprises under the alternative package of benefits, which income would normally be tax-exempt, we would be required to pay tax on the amount intended to be distributed as dividends at the rate which would have been applicable had we not elected the alternative package of benefits, generally 10% to 25%, depending on the percentage of our shares held by foreign shareholders. The dividend recipient is taxed at the reduced rate of 15% applicable to dividends from approved enterprises

if the dividend is distributed during the tax-exemption period or within 12 years thereafter. We would be required to withhold this tax at source, as final tax in Israel. See U.S. Taxation Distributions on the Ordinary Shares and Note 11 to our Consolidated Financial Statements.

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The law also provides that an approved enterprise is entitled to accelerated depreciation on property and equipment included in an approved investment program, generally ranging from 200% for equipment, to 400% for buildings, of ordinary depreciation rates during the first five tax years of the operation of these assets with a ceiling of 20% per year for depreciation on buildings.

#### **Tax Benefits for Research and Development**

Israeli tax law allows a tax deduction in the year incurred for expenditures, including capital expenditures, in scientific research and development projects, if the projects are approved by the relevant Israeli government ministry and the research and development is for the promotion of the enterprise. Expenditures from projects not so approved are deductible over a three-year period. However, expenses made out of proceeds made available to us through government grants are not deductible according to Israeli law.

#### **Tax Benefits under the Law for the Encouragement of Industry (Taxes), 1969**

According to the Law for the Encouragement of Industry (Taxes), 1969, an industrial company is a company located in Israel, of which at least 90% of the income, exclusive of income from defense loans, capital gains, interest and dividends, is derived from an industrial enterprise owned by it. An industrial enterprise is defined as an enterprise whose major activity in a given tax year is industrial production activity. We believe that we currently qualify as an industrial company within the definition of the Law for the Encouragement of Industry (Taxes), 1969.

Under the law, industrial companies are entitled to the following preferred corporate tax benefits:

deduction of purchases of know-how and patents over an eight-year period for tax purposes;

deduction of specified expenses incurred in connection with a public issuance of securities over a three-year period for tax purposes, although Israeli tax authorities have indicated that they do not allow these deductions in connection with offerings outside of Israel;

an election to file a consolidated tax return with related Israeli industrial companies that satisfy conditions set forth in the law; and

Additionally, certain tax laws and regulation allow accelerated depreciation rates on equipment and buildings for industrial companies while referring to the definition of industrial company set out by the Law for the Encouragement of Industry (Taxes), 1969.

Eligibility for the benefits under the law does not require receipt of prior approval from any governmental authority. However, the Israeli tax authorities may determine that we do not qualify as an industrial company. In addition, we might not continue to qualify as an industrial Company in the future. As a result of either of the foregoing, the benefits described above might not be available in the future.

#### **Special Provisions Relating to Taxation Under Inflationary Conditions**

The Income Tax Law (Inflationary Adjustments) (the Inflationary Adjustments Law ), 1985 represents an attempt to overcome the problems presented to a traditional tax system by an economy undergoing inflation. The law is highly complex. Its features that are material to us can be described as follows:

A special tax adjustment for the preservation of equity whereby corporate assets are classified broadly into fixed, or inflation immune assets and non-fixed, or soft assets. Where a company's equity exceeds the depreciated cost of its fixed assets, the company may take a deduction from taxable income, including tax-exempt income, that reflects the effect of multiplication of the annual rate of inflation on this excess, up to a ceiling of 70% of taxable income, including tax exempt income, in any single tax year, with the unused portion carried forward on a linked basis. If the depreciated cost of fixed assets exceeds a company's equity, then the excess multiplied by the annual rate of inflation is added to taxable income.

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Depreciation deductions on fixed assets and losses carried forward are generally adjusted for inflation based on the increase of the Israeli consumer price index.

Gains on traded securities, which are normally exempt from tax, are taxable in specified circumstances. However, the regular tax rules governing business income in Israel apply to dealers in securities.

In accordance with an amendment to the Inflationary Adjustments Law, the Minister of Finance may, with the approval of the Knesset Finance Committee, determine by order, during a certain fiscal year (or until February 28th of the following year), in which the rate of increase of the price index would not exceed or shall not have exceeded, as applicable, 3%, that all or some of the provisions of this law shall not apply to such fiscal year, or, that the rate of increase of the price index relating to such fiscal year shall be deemed to be 0%, and to make the adjustments required to be made as a result of such determination.

### **Capital Gains Tax**

Israeli law imposes a capital gains tax on the sale of capital assets. The law distinguishes between the inflationary surplus and the real gain. The inflationary surplus is a portion of the total capital gain, which is equivalent to the increase of the relevant asset's purchase price that is attributable to the increase in the Israeli consumer price index between the date of purchase and the date of sale. The real gain is the excess of the total capital gain over the inflationary surplus. Inflationary surplus accumulated after December 31, 1993 is exempt from any capital gains tax in Israel. The real gain is added to ordinary income, which is taxed at ordinary rates of 30% to 50% for individuals and 36%, up to December 31, 2002 and 25% thereafter for corporations. Prior to the reform, individuals were exempt from capital gains tax on the sale of shares listed for trade in certain stock exchanges, including Nasdaq under certain conditions.

As a result of the recent tax reform legislation in Israel, gains from the sale of our ordinary shares and warrants to purchase our ordinary shares derived from January 1, 2003 and on will in general be liable to capital gains tax of up to 15% so long as our shares are eligible for sale on a designated foreign stock market such as Nasdaq. However, according to the tax reform subordinate legislation, non-residents of Israel will be exempt from any capital gains tax from the sale of our securities so long as the gains are not derived through a permanent establishment that the non-resident maintains in Israel, and so long as our securities remain listed for trading as described above. These provisions dealing with capital gains exemptions are not applicable to a person whose gains from selling or otherwise disposing of our securities are: (i) deemed to be business income (such as a broker or dealer); (ii) whose taxable income is determined pursuant to the Israeli Income Tax Law (Inflation Adjustments), 1985; or (iii) who purchased our shares prior to our initial public offering. The Israeli Income Tax Law (Inflation Adjustments) would not normally be applicable to non-resident shareholders who have no business activity in Israel.

In any event, under the US-Israel Tax Treaty, a US treaty resident may only be liable for Israeli capital gains tax on the sale of our ordinary shares (subject to the provisions of Israeli domestic law as described above) if that US treaty resident holds 10% or more of the voting power in our company.

Under a treaty between the governments of the United States and Israel, Israeli capital gains tax does not apply to the sale, exchange or disposition of ordinary shares by a person who qualifies as a resident of the United States within the meaning of the treaty and who is entitled to claim the benefits afforded to such resident by the treaty. This exemption does not apply if the person holds, directly or indirectly, ordinary shares representing 10% or more of our voting power during any part of the 12-month period preceding the applicable sale, exchange or disposition. However, the person would be permitted to claim a credit for the capital gains tax paid in Israel against the U.S. income tax imposed for the applicable sale, exchange or disposition, subject to the limitations in U.S. laws applicable to foreign tax credits. The U.S.-Israel Tax Treaty does not relate to the U.S. state or local taxes.

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### **Taxation of the Ordinary Income of Non-Resident Holders of Our Shares**

Non-residents of Israel pay income tax on income accrued or derived from sources in Israel. These sources of income include passive income such as dividends, royalties and interest, as well as non-passive income from services rendered in Israel. On distributions of dividends other than bonus shares, or stock dividends, income tax at the rate of 25% is withheld at source. If the income out of which the dividend is being paid is attributable to an approved enterprise, the rate is 15%. A different rate may be provided in a treaty between Israel and the shareholder's country of residence. Under the U.S.-Israel Tax Treaty, the maximum tax on dividends paid to a U.S. resident is 25% however, the tax rate is reduced to 12.5% for dividends not generated by an approved enterprise to a corporation which holds 10% or more of the company's voting

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power during a certain period preceding the distribution of the dividend. Also, under the treaty with the U.S., if the income out of which the dividend is being paid is attributable to an approved enterprise and the non-resident is a U.S. corporation that holds 10% of the company's voting power, the rate is 15%.

A non-resident of Israel who receives interest, dividend or royalty income derived from or accrued in Israel, from which tax was withheld at the source, is generally exempt from the duty to file tax returns in Israel on such income, provided that income was not derived from a business conducted in Israel by the taxpayer.

Under Israeli law, non-Israeli corporations might be required to pay Israeli taxes on the sale of traded securities in an Israeli Company, taking into consideration the provisions of any applicable double taxation treaty.

### Foreign Exchange Regulations

Non-residents of Israel who hold our ordinary shares are able to receive any dividends, and any amounts payable upon the dissolution, liquidation and winding up of our affairs, freely repatriable in non-Israeli currency at the rate of exchange prevailing at the time of conversion. However, Israeli income tax is required to have been paid or withheld on these amounts. In addition, there are currently no Israeli currency control restrictions on the proceeds from the sale of ordinary shares. However, legislation remains in effect by which currency controls can be imposed by administrative action at any time.

### U.S. TAXATION

The following describes the material United States federal income tax consequences of the purchase, ownership and disposition of our ordinary shares to a U.S. holder.

For purposes of this discussion, a U.S. holder is:

a natural person who is a citizen or resident of the United States;

a corporation or another entity taxable as a corporation created or organized under the laws of the United States or any political subdivision of the United States;

an estate, the income of which is includable in gross income for United States federal income tax purposes regardless of its source; or

a trust, if (a) a U.S. court is able to exercise primary supervision over its administration and (b) one or more U.S. persons have the authority to control all of its substantial decisions.

This summary is for general information purposes only and does not purport to be a comprehensive description of all of the U.S. federal income tax considerations that may be relevant to a decision to purchase, hold or dispose of the ordinary shares. This summary generally considers only U.S. holders that will own the ordinary shares as capital assets and does not consider the U.S. tax consequences to a person that is not a U.S. holder or the tax treatment of persons who hold the ordinary shares through a partnership or other pass-through entity. In addition, the possible application of U.S. federal estate or gift taxes or any aspect of state, local or non-U.S. tax laws is not considered. This discussion is based on current provisions of the Internal Revenue Code of 1986, as amended (the Code), current and proposed Treasury Regulations promulgated under the Code, and administrative and judicial interpretations of the Code, all as in effect today and all of which may change, possibly with a retroactive effect.

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This discussion does not address all aspects of U.S. federal income taxation that may be relevant to any particular U.S. holder based on the holder's particular circumstances, such as,

persons who own, directly, indirectly or constructively, 10% or more of our outstanding voting shares;

persons who hold the ordinary shares as part of a hedging, straddle or conversion transaction;



persons whose functional currency is not the dollar;

persons who acquire their ordinary shares in a compensatory transaction;

broker-dealers;

insurance companies;

tax-exempt organizations;

financial institutions; and

persons subject to the alternative minimum tax.

### **Availability of Reduced Tax Rates**

U.S. legislation enacted in 2003 reduced to 15% the maximum U.S. Federal income tax rate on certain long-term capital gains and on qualifying dividends. Long-term capital gains from the sale of our ordinary shares would be eligible for this reduced rate. Dividends, if any, would also be eligible for this reduced rate, provided that we do not constitute a passive foreign investment company.

### **Distributions on the Ordinary Shares**

We currently do not intend to pay dividends for at least the next several years. However, if we make any distributions of cash or other property to a U.S. holder of our ordinary shares, the amount of the distribution for U.S. federal income tax purposes will equal the amount of cash and the fair market value of any property distributed and will also include the amount of Israeli taxes withheld, if any, as described above under *Taxation of the Ordinary Income of Non-Resident Holders of Our Shares* starting on page 49. In general, a distribution paid by us on the ordinary shares to a U.S. holder will be treated as dividend income if the distribution does not exceed our current or accumulated earnings and profits, as determined for U.S. federal income tax purposes. The amount of any distribution which exceeds these earnings and profits will be treated first as a non-taxable return of capital, reducing the U.S. holder's tax basis in its ordinary shares to the extent thereof, and then as capital gain from the deemed disposition of the ordinary shares. Corporate holders generally will not be allowed a deduction for dividends received on the ordinary shares.

A dividend paid by us in NIS will be included in the income of U.S. holders at the U.S. dollar value of the dividend, based upon the spot rate of exchange in effect on the date of the distribution. U.S. holders will have a tax basis in the NIS for U.S. federal income tax purposes equal to that U.S. dollar value. Any subsequent gain or loss resulting from exchange rate fluctuations between the day the dividend was included in income of U.S. holders and the day the NIS are converted into U.S. dollars or otherwise are disposed of, will be taxable as ordinary income or loss from U.S. sources.

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Dividends paid by us generally will be foreign source passive income for U.S. foreign tax credit purposes or, in the case of a U.S. holder that is a financial services entity, financial services income. U.S. holders may elect to claim as a foreign tax credit against their U.S. federal income tax liability the Israeli income tax withheld from dividends received on the ordinary shares. The Code provides limitations on the amount of foreign tax credits that a U.S. holder may claim. U.S. holders that do not elect to claim a foreign tax credit may instead claim a deduction for Israeli income tax withheld, but only for a year in which these U.S. holders elect to do so for all foreign income taxes. The rules relating to foreign tax credits are complex, and you should consult your tax advisor to determine whether and if you would be entitled to this credit.

### **Sale or Exchange of the Ordinary Shares**

Upon the sale or exchange of the ordinary shares, a U.S. holder generally will recognize capital gain or loss in an amount equal to the difference between the amount realized on the sale or exchange and the U.S. holder's tax basis in the ordinary shares. The gain or loss recognized on the sale or exchange of the ordinary shares generally will be long-term capital gain or loss if the U.S. holder's holding period of the ordinary shares is more than one year at the time of the disposition.

Gain or loss recognized by a U.S. holder on a sale or exchange of ordinary shares generally will be treated as U.S. source income or loss for U.S. foreign tax credit purposes. Under the tax treaty between the United States and Israel, gain derived from the sale, exchange or other

disposition of ordinary shares by a holder who is a resident of the U.S. for purposes of the treaty and who sells the ordinary shares within Israel may be treated as foreign source income for U.S. foreign tax credit purposes.

### Passive Foreign Investment Companies

In general, a foreign (that is, non-U.S.) corporation will be a passive foreign investment company for any taxable year if either (1) 75% or more of its gross income in the taxable year is passive income, or (2) 50% or more of the average value of its gross assets in the taxable year is held for the production of, or produces, passive income. For purpose of the income test, passive income includes dividends, interest, royalties, rents, annuities and net gains from the disposition of assets, which produce passive income. For purposes of the assets test, assets held for the production of passive income includes assets held for the production of, or that produce dividends, interest, royalties, rents, annuities, and other income included in the income test. The income test is conducted at the taxable year-end. The asset test is conducted on a quarterly basis and the quarterly results are then averaged together.

If a corporation is treated as a passive foreign investment company for any year during a U.S. holder's holding period and the U.S. holder does not timely elect to treat the corporation as a qualified electing fund under Section 1295 of the Code or elect to mark its ordinary shares to market, any gain on the disposition of the shares will be treated as ordinary income, rather than capital gain, and the holder will be required to compute its tax liability on that gain, as well as on dividends and other distributions, as if the income had been earned ratably over each day in the U.S. holder's holding period for the shares. The portion of the gain and distributions allocated to prior taxable years in which a corporation was a passive foreign investment company will be taxed at the highest ordinary income tax rate in effect for each taxable year to which this portion is allocated. An interest charge will be imposed on the amount of the tax allocated to these taxable years. A U.S. holder may elect to treat a corporation as a qualified electing fund only if the corporation complies with requirements imposed by the IRS to enable the shareholder and the IRS to determine the corporation's ordinary income and net capital gain. Additionally, if a corporation is a passive foreign investment company, a U.S. holder who acquires shares in the corporation from a decedent will be denied the normally available step-up in tax basis to fair market value for the shares at the date of death and instead will have a tax basis equal to the decedent's tax basis if lower than fair market value.

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*Status of Nova as a Passive Foreign Investment company.* Under the income test, less than 75% of our gross income was passive income in 2004. The determination of our status under the asset test is more difficult, because that test requires a quarterly determination of the fair market value of our passive and non-passive assets. For 2004, while we continue to have substantial amounts of cash and short-term deposits and the market value of our ordinary shares has decreased, a determination of the value of our non-passive assets by reference to the market value of our ordinary shares would result in a conclusion that the average value of our passive assets does not exceed 50% of the average value of our gross assets. However, there is a risk that we were a passive foreign investment company in 2004 or we will be a passive foreign investment company in subsequent years because there is no accepted authority relating to whether the fair market value of a company's assets can be determined solely by reference to the market value of the company's stock. Accordingly, after making a determination of the gross fair market value of our non-passive assets, we believe that the average percentage of the value of our passive assets is less than 50% of the average gross fair market value of our total assets. If we will be treated as a passive foreign investment company for any taxable year, U.S. holders should consider whether or not to elect to treat us as a qualified electing fund or to elect to mark-to-market their ordinary shares. In particular, if a U.S. holder makes a qualified electing fund election for all taxable years that the U.S. holder holds the ordinary shares during which we are treated as a passive foreign investment company, the U.S. holder will be required for each taxable year to include in income a pro rata share of our undistributed ordinary earnings and net capital gain, if any, as ordinary income and long-term capital gain, respectively. We will comply with all the requirements of the Code so that U.S. holders of our ordinary shares will be able to elect to treat Nova as a qualified electing fund if they so choose.

Alternatively, if a U.S. holder elects to mark-to-market its ordinary shares, the U.S. holder will generally include in income any excess of the fair market value of the ordinary shares at the close of each taxable year over the holder's adjusted basis in such stock. A U.S. holder generally will be allowed an ordinary deduction for the excess, if any, of the adjusted tax basis of the ordinary shares over the fair market value of the ordinary shares as of the close of the taxable year, or the amount of any net mark-to-market gains recognized for prior taxable years, whichever is less. A U.S. holder's adjusted tax basis in the ordinary shares will generally be adjusted to reflect the amounts included or deducted under the mark-to-market election. Additionally, any gain on the actual sale or other disposition of the ordinary shares generally will be treated as ordinary income. Ordinary loss treatment also will apply to any loss recognized on the actual sale or other disposition of ordinary shares to the extent that the amount of such loss does not exceed the net mark-to-market gains previously included with respect to such stock. An election to mark-to-market generally will apply to the taxable year in which the election is made and all subsequent taxable years.

If a U.S. holder makes one of these two elections, distributions and gain will not be recognized ratably over the U.S. holder's holding period or be subject to an interest charge as described above. Further, the denial of basis step-up at death described above will not apply. If a U.S. holder elects to treat us as a qualified electing fund, gain on the sale of the ordinary shares will be characterized as capital gain. However, U.S. holders making one of these two elections may experience current income recognition, even if we do not distribute any cash.

**A number of specific rules and requirements apply to both of these elections, and you are urged to consult your tax advisor concerning these elections if we become a passive foreign investment company.**

#### **United States Information Reporting and Backup Withholding**

Dividend payments and proceeds from the sale or disposal of ordinary shares may be subject to information reporting to the Internal Revenue Service and possible U.S. federal backup withholding at the rate of 31%. Backup withholding will not apply, however, to a holder who furnishes a correct taxpayer identification number or certificate of foreign status and makes any other required certification or who is otherwise exempt from backup withholding (for example, if you are a corporation). Any U.S. holder who is required to establish exempt status generally must file Internal Revenue Service Form W-9 ( Request for Taxpayer Identification Number and Certification ). Finalized Treasury Regulation, which are applicable to payments made after December 31, 2000, have generally expanded the circumstances under which information reporting and backup withholding may apply.

Amounts withheld as backup withholding may be credited against a U.S. holder's federal income tax liability. A U.S. holder may obtain a refund of any excess amounts withheld under the backup withholding rules by filing the appropriate claim for refund with the Internal Revenue Service and furnishing any required information.

#### **Documents on Display**

The documents referred to herein, including our memorandum and articles of association, can be obtained from the Company at its registered office at Weizmann Science Park, Building 22, 2nd Floor, Ness-Ziona 76100, Israel. In addition, the Company is subject to certain informational requirements of the Securities Exchange Act of 1934 and the rules and regulations promulgated thereunder. In accordance therewith, the Company files reports with the United States Securities and Exchange Commission ( SEC ). Reports and other information provided to the SEC by the Company may be inspected and copied at the public reference facilities maintained by the SEC at Room 1024, 450 Fifth Street, N.W., Washington, D.C. 20549. Information on the operation of the public reference facilities may be obtained by calling the SEC at 1-800-SEC-0330. In addition, certain of the Company's reports filed with the SEC are available on-line at [www.sec.gov](http://www.sec.gov).

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#### **Item 11. Quantitative and Qualitative Disclosures About Market Risk**

##### **Market risk**

Market risk represents the risk of loss that may impact the consolidated financial position, results of operations or cash flows of the Company. The Company is exposed to market risk in the area of foreign exchange rates, as described below.

The Company does not utilize financial instruments for trading purposes and holds no derivative financial instruments that could expose it to significant market risk.

##### **Impact of Inflation and Currency Fluctuation**

Substantially all of our sales are made in U.S. dollars. Over 50% of our expenses in 2004 were in dollars or in NIS linked to the dollar. Most of the remaining expenses were in NIS. The dollar cost of our operations in Israel is influenced by any increase and the timing of such increase, in the rate of inflation in Israel that is not offset by the devaluation of the NIS in relation to the dollar. During 2004, the value of the NIS increased against the dollar by 1.62%, while the consumer price index in Israel increased 1.21%. During 2003, the value of the NIS increased against the dollar by 7.6%, while the consumer price index in Israel decreased 1.9%. During 2002, the value of the NIS decreased against the dollar by 7.3%, while the consumer price index in Israel increased by 6.5%. We believe that the rate of inflation in Israel has had a minor effect on our business to date. However, our dollar costs in Israel will increase if inflation in Israel exceeds the devaluation of the NIS against the dollar or if the timing of this devaluation lags behind inflation in Israel. As of December 31, 2004, the majority of our net monetary assets were denominated in dollars and the remainder was denominated mainly in NIS. Net monetary assets that are not denominated in dollars or dollar-linked NIS are affected by the risk of currency fluctuations. In addition, approximately 5% of our expenses are in Euros. During 2004, the value of the Euro increased against the dollar by approximately 7.44%. The weakening of the dollar against the Euro and the NIS has increased the average dollar value of expenses valued in those currencies.

Based upon historical US dollar currency movement, the Company does not believe that reasonably possible near-term changes in the US dollar currency of 5% will result in a material effect on future earnings, financial position or cash flows of the Company.

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In 2002, the Company did not enter into currency-forward transactions (NIS/dollar). The Company did enter into currency-put options transactions to insure (NIS/dollar) the rate in 2002. The total accumulated sum insured in the year was approximately \$4 million, and the results of these transactions did not have, as expected, material effect on the operational results of the Company.

In 2003, the Company entered into currency-forward and currency-put options transactions (NIS/dollar) to insure (NIS/dollar) the rate in 2003. The total accumulated sum insured in the year was approximately \$4 million, and the results of these transactions did not have, as expected, any material effect on the operational results of the Company.

In 2004, the Company entered into currency-forward and currency-put options transactions (NIS/dollar) to insure (NIS/dollar) the rate in 2004. The total accumulated sum insured in the year was approximately \$7.7 million with settlement dates through 2005, and the results of these transactions did not have, as expected, any material effect on the operational results of the Company.

### **Item 12. Description of Securities Other than Equity Securities**

Not applicable.

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## **PART II**

### **Item 13. Defaults, Dividend Arrearages and Delinquencies**

None.

### **Item 14. Material Modification to the Rights of Security Holders and Use of Proceeds**

The effective date of the Securities Act registration statement for which use of proceeds is being disclosed is April 11, 2000. The commission file number assigned to that registration statement is 333-11640.

We sold 3,000,000 ordinary shares for consideration of \$54 million. The net proceeds amounted to \$49.2 million. As of March 31, 2005, approximately \$20 million of the net proceeds had been used for working capital requirements and \$4.5 million for capital expenditures.

### **Item 15. Evaluation of disclosure controls and procedures**

Based on their evaluation as of the end of the period covered by this Annual Report on Form 20-F, the Company's President and Chief Executive Officer and Chief Financial Officer have concluded that the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act")) were effective as of December 31, 2004 so as to provide reasonable assurance that information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the Securities and Exchange Commission's rules and forms.

#### **Changes in internal controls**

During the fiscal year ended December 31, 2004 there was no change in our internal controls over financial reporting that materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

### **Item 16. Reserved**

Reserved.

### **Item 16A. Audit Committee Financial Expert**

Our Board of Directors has determined that our Audit Committee includes one audit committee financial expert, as defined by Item 16A of Form 20-F, Lauri Hanover.

**Item 16B. Code of Ethics**

The Company has adopted a written code of conduct that applies to all Company employees, including the Company's directors, principal executive officer, principal financial officer and principal accounting officer.

You may review our code of conduct on our website, <http://nova.co.il> under "About Nova".

**Item 16C. Principal Accountant Fees and Services**

During each of the last two fiscal years, Brightman Almagor & Co., an independent registered accounting firm and a member firm of Deloitte Touche Tohmatsu (Deloitte & Touche) has acted as the Company's registered public accounting firm and independent auditors.

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**AUDIT FEES**

Deloitte & Touche billed the Company approximately \$34,000 for audit services for fiscal 2003, including fees associated with the annual audit and reviews of the Company's quarterly financial results submitted on Form 6-K, consultations on various accounting issues and performance of local statutory audits. Deloitte & Touche billed the Company approximately \$38,000 for audit services in fiscal 2004.

**AUDIT-RELATED FEES**

Deloitte & Touche did not bill for any audit-related services in 2004 or 2003, except as included under the caption "AUDIT FEES".

**TAX FEES**

Deloitte & Touche billed the Company approximately \$2,000 for tax advice, including fees associated with tax compliance services, tax planning services and other tax consulting services for fiscal 2003. Deloitte & Touche billed the Company approximately \$2,000 for tax advice in fiscal 2004.

**ALL OTHER FEES**

Deloitte & Touche billed the Company approximately \$37,500 for services other than Audit Fees and Tax Fees described above for fiscal 2003. In fiscal 2003, such other services included consulting for Office of the Chief Scientist grants refund and consulting regarding investment center application. Deloitte & Touche billed the Company approximately \$5,000 for SEC compliance related services other than Audit Fees and Tax Fees described above for fiscal 2004.

**PRE-APPROVAL POLICIES FOR NON-AUDIT SERVICES**

Prior to the engagement of Deloitte & Touche each year, the engagement is approved by the Audit Committee of the Board of Directors. The Company's Audit Committee rules of procedure provide for a process with respect to the prior approval of all services, including non-audit services, to be performed by the independent auditors for the Company. In fiscal 2004 and 2003, the Company's Audit Committee approved all of the services provided by Deloitte & Touche.

**Item 16D. Exemptions from the Listing Standards for Audit Committees**

The Company has not obtained any exemption from applicable audit committee listing standards.

**Item 16E. Purchases of Equity Securities by the Issuer and Affiliates Purchasers**

In 2004, neither the Company nor any affiliated purchaser (as defined in the Exchange Act) purchased any of the Company's ordinary shares.

**PART III****Item 17. Financial Statements**

Not applicable.

**Item 18. Financial Statements**

See pages F-1 through F-21.

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**Item 19. Exhibits**

<b><u>Number</u></b>	<b><u>Description</u></b>
1.1	Articles of Association (incorporated by reference to exhibit 3.1 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
1.2	First Amendment to the Company's Articles of Association (incorporated by reference to the Company's Current Report on Form 6-K filed on June 4, 2002)
4.1	1997 Stock Option Plan (Plan 2) (incorporated by reference to exhibit 10.1 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
4.2	Option Plan 3 (incorporated by reference to exhibit 10.2 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
4.3	Option Plan 4A and 4B (incorporated by reference to exhibit 10.3 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
4.4	Option Plan 5 (incorporated by reference to Exhibit 4.4 to the Company's Annual Report for 20-F for 2002 filed May 9, 2002)
4.5	Option Plan 6 (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-8 filed December 24, 2002 (registration number 333-102193))
4.6	Employment Agreement between Nova and Giora Dishon (incorporated by reference to exhibit 10.4 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
4.7	Employment Agreement between Nova and Moshe Finarov (incorporated by reference to exhibit 10.6 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
4.8	Employment Agreement between Nova and Chai Toren (incorporated by reference to exhibit 10.7 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
4.9	Employment Agreement between Nova and Ronen Frish (incorporated by reference to exhibit 10.8 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
4.10	Agreements between Nova and the Office of the Chief Scientist in Israel (incorporated by reference to exhibit 10.10 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
4.11	Certificate of Approval from the Investment Center in Israel (incorporated by reference to exhibit 10.11 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
4.12	Lease Agreement between Nova and Ef-Shar Ltd. (incorporated by reference to Exhibit 4.14 to the Company's Annual Report on Form 20-F filed on May 9, 2002)

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- 4.13 Summary of Lease Agreement between Nova and Ef-Shar Ltd. (incorporated by reference to Exhibit 4.15 to the Company's Annual Report on Form 20-F filed on May 9, 2002)
- 4.14 Letter Agreement between Barry Cox and the Company dated May 15, 2003 (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-8 filed on May 17, 2004 (registration number 333-115556))
- 4.15 Employee Stock Purchase Plan 1 (incorporated herein by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-8 filed on March 24, 2003 (File No. 33-103981))
- 4.16 Letter of Indemnification and Exculpation for certain directors, officers and/or employees (incorporated herein by reference Annex A to the Company's Current Report on Form 6-K filed on October 8, 2002)
- 4.17 Option Plan 7A (incorporated by reference to Exhibit 4.1. to the Company's Registration Statement on Form S-8 filed on May 17, 2004 (registration number 333-115554))
- 4.18 Option Plan 7B (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-8 filed on March 7, 2005 (registration number 333-123158))
- 8 List of Subsidiaries (filed herewith)
- 12.1 Certification required by Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended (filed herewith)

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<b><u>Number</u></b>	<b><u>Description</u></b>
12.2	Certification required by Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended (filed herewith)
13.1	Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (filed herewith)
13.2	Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (filed herewith)
14.1	Consent of Brightman Almagor & Co. (filed herewith)

### Signatures

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, the registrant certifies that it meets all of the requirements for filing on Form 20-F and has duly caused this annual report to be signed on its behalf by the undersigned, thereunto duly authorized.

**NOVA MEASURING INSTRUMENTS, LTD.**

BY: /S/ Giora Dishon

Giora Dishon,  
President and Chief Executive Officer

Date: June 28, 2005

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**NOVA MEASURING INSTRUMENTS LTD.**  
**CONSOLIDATED FINANCIAL STATEMENTS**  
**AS OF DECEMBER 31, 2004**

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**NOVA MEASURING INSTRUMENTS LTD.**  
**CONSOLIDATED FINANCIAL STATEMENTS**  
**AS OF DECEMBER 31, 2004**

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**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM  
TO THE SHAREHOLDERS OF  
NOVA MEASURING INSTRUMENTS LTD.**

We have audited the accompanying consolidated balance sheets of Nova Measuring Instruments Ltd. (the "Company") and its subsidiaries as of December 31, 2004 and 2003, and the related consolidated statements of operations, shareholders' equity and comprehensive income (loss) and cash flows for each of the three years in the period ended December 31, 2004. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also 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, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of the Company and its subsidiaries as of December 31, 2004 and 2003, and their consolidated results of operations and cash flows for each of the three years in the period ended December 31, 2004, in conformity with accounting principles generally accepted in the United States of America.



**Brightman Almagor & Co.**  
**Certified Public Accountants (Israel)**  
**A member firm of Deloitte Touche Tohmatsu**

Tel Aviv, Israel  
 February 16, 2005

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**NOVA MEASURING INSTRUMENTS LTD.**  
**CONSOLIDATED BALANCE SHEETS**  
 (In thousands, except share and per share data)

	<b>As of December 31,</b>	
	<b>2004</b>	<b>2003</b>
<b>CURRENT ASSETS</b>		
Cash and cash equivalents	\$ 12,171	\$ 26,634
Short-term interest-bearing bank deposits	1,916	711
Held to maturity securities	8,583	4,296
Trade accounts receivable (no allowance for doubtful accounts)	7,461	5,804
Inventories (Note 3)	5,239	4,152
Other current assets	1,169	1,244
	36,539	42,841
<b>LONG-TERM ASSETS</b>		
Long-term interest-bearing bank deposits	2,145	1,386
Held to maturity securities	5,989	-
Other Long term assets	382	242
Severance pay funds (Note 6)	2,288	2,024
	10,804	3,652
<b>FIXED ASSETS, NET (Note 4)</b>	<b>2,119</b>	<b>1,425</b>
<b>Total assets</b>	<b>\$ 49,462</b>	<b>\$ 47,918</b>
<b>CURRENT LIABILITIES</b>		
Trade accounts payable	\$ 5,016	\$ 5,389
Other current liabilities (Note 5)	6,389	7,102
	11,405	12,491
<b>LONG-TERM LIABILITIES</b>		
Liability for employee termination benefits (Note 6)	3,075	2,653
Deferred Income	369	263

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	<u>As of December 31,</u>	
	<u>145</u>	<u>175</u>
Other long-term liability (Note 9)	145	175
	<u>3,589</u>	<u>3,091</u>
<b>COMMITMENTS AND CONTINGENCIES (Note 7)</b>		
<b>SHAREHOLDERS' EQUITY (Note 8)</b>		
Ordinary shares, NIS 0.01 par value - authorized 40,000,000 shares, issued and outstanding 15,308,544 and 15,117,538 shares, respectively	46	46
Additional paid-in capital	73,333	72,785
Deferred stock-based compensation	-	(122)
Accumulated other comprehensive income	8	13
Accumulated deficit	(38,919)	(40,386)
<b>Total shareholders' equity</b>	<u>34,468</u>	<u>32,336</u>
<b>Total liabilities and shareholders' equity</b>	<u>\$ 49,462</u>	<u>\$ 47,918</u>

The accompanying notes are an integral part of the consolidated financial statements.

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**NOVA MEASURING INSTRUMENTS LTD.**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**  
(In thousands, except per share data)

	<u>Year ended December 31,</u>		
	<u>2004</u>	<u>2003</u>	<u>2002</u>
<b>REVENUES:</b>			
Product sales	\$ 33,347	\$ 21,152	\$ 14,506
Services	7,532	5,536	5,865
	<u>40,879</u>	<u>26,688</u>	<u>20,371</u>
<b>COST OF REVENUES:</b>			
Product sales	15,361	10,270	6,752
Services	6,715	6,265	6,601
	<u>22,076</u>	<u>16,535</u>	<u>13,353</u>
<b>GROSS PROFIT</b>	<u>18,803</u>	<u>10,153</u>	<u>7,018</u>
<b>OPERATING EXPENSES</b>			
Research and development expenses, net of participation			

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	Year ended December 31,		
by the OCS of \$1,926, \$2,321 and \$1,679, respectively (Note 7)	8,665	8,561	9,894
Technology for use in research and development (Note 9)	-	-	1,478
Sales and marketing expenses	6,868	6,534	6,950
General and administrative expenses	2,331	1,898	1,797
Other operating income (Note 10)	-	(2,203)	-
	<u>17,864</u>	<u>14,790</u>	<u>20,119</u>
<b>OPERATING PROFIT (LOSS)</b>	<b>939</b>	<b>(4,637)</b>	<b>(13,101)</b>
<b>INTEREST INCOME</b> (net of related expenses of \$56, \$28 and \$30, respectively)	<u>528</u>	<u>425</u>	<u>144</u>
<b>NET INCOME (LOSS) FOR THE YEAR</b>	<u>\$ 1,467</u>	<u>\$ (4,212)</u>	<u>\$ (12,957)</u>
<b>EARNINGS (LOSS) PER SHARE</b>			
Basic earnings (Loss) per share	<u>\$ 0.10</u>	<u>\$ (0.28)</u>	<u>\$ (0.88)</u>
Diluted earnings per share	<u>\$ 0.09</u>		
Shares used in calculation of basic earnings (loss) per share	<u>15,259</u>	<u>14,994</u>	<u>14,786</u>
Shares used in calculation of diluted earnings per share	<u>16,234</u>		

The accompanying notes are an integral part of the consolidated financial statements.

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**NOVA MEASURING INSTRUMENTS LTD.**  
**CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS EQUITY AND COMPREHENSIVE LOSS**  
(In thousands)

	<u>Share capital</u>		Additional Paid-in capital	Deferred stock-based compensation	Accumulated other Comprehensive Income (Loss)	Accumulated Deficit	Total
	Ordinary shares	Deferred shares					
Balance as of January 1, 2002	\$ 43	\$ 3	\$ 72,774	\$ (2,073)	\$ (524)	\$ (23,217)	\$ 47,006

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	<u>Share capital</u>													
Employee share-based plans	(*)	-		31			31							
Amortization of deferred stock- based compensation					1,073		1,073							
Forfeiture of employee share options			(191)	191			-							
Realization of losses on derivatives					212		212							
Realization of losses on investments					312		312							
Conversion of deferred shares into ordinary shares		3	(3)				-							
Loss for the year						(12,957)	(12,957)							
<b>Total comprehensive loss</b>							<b>(12,433)</b>							
Balance as of January 1, 2003	\$	46	\$	-	\$	72,614	\$ (809)	\$ -	\$ (36,174)	\$	35,677			
Employee share-based plans	(*)	-		318				318						
Amortization of deferred stock- based compensation					540			540						
Forfeiture of employee share options			(147)	147				-						
Increase in fair market value of derivatives						13		13						
Loss for the year						(4,212)		(4,212)						
<b>Total comprehensive loss</b>								<b>(4,199)</b>						
Balance as of January 1, 2004	\$	46	\$	-	\$	72,785	\$	(122)	\$	13	\$	(40,386)	\$	32,336
Employee share-based plans				548				548						
Amortization of deferred stock- based compensation	(*)	-			122			122						
Forfeiture of employee share options								-						
Decrease in fair market value of derivatives						(5)		(5)						
Net income for the year							1,467	1,467						
<b>Total comprehensive loss</b>								<b>1,462</b>						
Balance as of December 31, 2004	\$	46	\$	-	\$	73,333	\$	-	\$	8	\$	(38,919)	\$	34,468

The accompanying notes are an integral part of the consolidated financial statements. (\*) Less than \$1

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**NOVA MEASURING INSTRUMENTS LTD.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

(In thousands)

	Year ended December 31,		
	2004	2003	2002
<b>CASH FLOWS - OPERATING ACTIVITIES</b>			
Net income (loss) for the year	\$ 1,467	\$ (4,212)	\$ (12,957)

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	<u>Year ended December 31,</u>		
Adjustments to reconcile net income (loss) for the year to net cash used in operating activities - Schedule A	(2,996)	(1,295)	5,046
Net cash - operating activities	(1,529)	(5,507)	(7,911)
<b>CASH FLOWS - INVESTING ACTIVITIES</b>			
Technology for use in research and development	-	-	(1,265)
Increase in short-term and long-term interest-bearing bank deposits	(1,964)	(1,475)	(622)
Decrease (increase) in short-term and long-term held to maturity securities	(10,276)	(3,302)	6,220
Decrease in available for sale securities	-	-	6,644
Additions to fixed assets	(1,242)	(364)	(601)
Net cash - investing activities	(13,482)	(5,141)	10,376
<b>CASH FLOWS - FINANCING ACTIVITIES</b>			
Shares issued under employee share-based plans	548	318	31
Net cash - financing activities	548	318	31
Increase (decrease) in cash and cash equivalents	(14,463)	(10,330)	2,496
Cash and cash equivalents - beginning of year	26,634	36,964	34,468
Cash and cash equivalents - end of year	\$ 12,171	\$ 26,634	\$ 36,964
<b>SUPPLEMENTAL SCHEDULE OF CASH FLOW INFORMATION:</b>			
Taxes paid	\$ 65	\$ 67	\$ 53

The accompanying notes are an integral part of the consolidated financial statements.

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**NOVA MEASURING INSTRUMENTS LTD.**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

(In thousands)

**SCHEDULE A      ADJUSTMENTS TO RECONCILE LOSS TO NET INCOME (LOSS) TO NET CASH USED IN OPERATING ACTIVITIES**

Year ended December 31,

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	Year ended December 31,		
	2004	2003	2002
<b>Income and expense items not involving cash flows:</b>			
Depreciation	\$ 548	\$ 716	\$ 802
Loss from realization of available for sale securities	-	-	652
Technology for use in research and development	-	-	1,478
Amortization of deferred stock-based compensation	122	540	1,073
Increase (decrease) in liability for employee termination benefits, net	310	168	(40)
	<u>980</u>	<u>1,424</u>	<u>3,965</u>
<b>Changes in assets and liabilities:</b>			
Increase in trade accounts receivable	(1,657)	(2,902)	(1,229)
Decrease (increase) in other current assets and other long-term assets	(70)	(336)	252
Decrease (increase) in inventories	(1,087)	(1,002)	1,163
Increase (decrease) in trade accounts payables and other long-term liabilities	(403)	2,011	653
Increase in long-term deferred income	106	24	239
Increase (decrease) in other current liabilities	(865)	(514)	3
	<u>(3,976)</u>	<u>(2,719)</u>	<u>1,081</u>
	<u>\$ (2,996)</u>	<u>\$ (1,295)</u>	<u>\$ 5,046</u>

The accompanying notes are an integral part of the consolidated financial statements.

**NOTE 1 GENERAL**

**A. Business Description**

Nova Measuring Instruments (the Company) was incorporated in May 1993 and commenced operations in October 1993 in the design, development and production of integrated process control systems, used in the manufacturing of semiconductors. In October 1995, the Company began manufacturing and marketing its systems. In addition, the Company is continuing research and development for the next generation of its products and additional applications for such products. The Company operates in one operating segment.

The Company has wholly owned subsidiaries in the United States of America (the U.S.), Japan, The Netherlands and Taiwan. All companies (the subsidiaries) are engaged in pre-sale activities and providing technical support to customers.

The industry in which the Company operates is characterized by rapid technological development in a competitive environment. Substantially most of the Company's current sales are derived from a single product line for use exclusively by the semiconductor industry, whose business is highly cyclical. The Company depends on a limited number of suppliers, and at times a sole supplier. Any disruption or termination of the suppliers' operations may adversely affect the Company's production capabilities. In addition, certain of the Company's development projects are in the early stages and there can be no assurance that these projects will be successful.

The ordinary shares of the Company are traded on the NASDAQ National Market System since April, 2000. The ordinary shares are also traded on the Tel-Aviv Stock Exchange, since June, 2002.

**B. Use of Estimates in the Preparation of Financial Statements**

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements, and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

**NOTE 2 SIGNIFICANT ACCOUNTING POLICIES**

The financial statements have been prepared in accordance with generally accepted accounting principles (GAAP) in the United States of America.

The following is a summary of the significant accounting policies, which were applied in the preparation of these financial statements, on a consistent basis:

**NOVA MEASURING INSTRUMENTS LTD.**  
**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**  
(in thousands, except share and per share data)

**NOTE 2 SIGNIFICANT ACCOUNTING POLICIES (Cont.)**

**A. Financial Statements in U.S. Dollars**

The currency of the primary economic environment in which the operations of the Company and its subsidiaries are conducted is the U.S. dollar (the "dollar"). Accordingly, the Company uses the dollar as its functional and reporting currency. Certain of the dollar amounts in the financial statements may represent the dollar equivalent of other currencies, including the New Israeli Shekel ("NIS"), and may not be exchangeable for dollars.

Transactions and balances denominated in dollars are presented at their dollar amounts. Non-dollar transactions and balances are remeasured into dollars in accordance with the principles set forth in Statement of Financial Accounting Standards ("SFAS") No. 52, "Foreign Currency Translation," of the Financial Accounting Standards Board ("FASB"). Net financing income includes translation gains (losses), which were immaterial for all years presented.

**B. Principles of Consolidation**

The Company's financial statements include the financial statements of the Company and its subsidiaries (the "Group") after elimination of material intercompany transactions and balances.

**C. Cash and Cash Equivalents**

Cash and cash equivalents are comprised of cash and demand deposits in banks and other short-term, highly liquid investments (primarily interest-bearing time deposits and commercial papers) with maturity dates not exceeding three months from the date of deposit.

**D. Allowance for Doubtful Accounts**

The allowance for doubtful accounts is recorded on the specific identification basis. No allowance was deemed necessary by management.

**E. Held to Maturity Securities**

Securities held to maturity include investments in debt securities that the Company has positive intent and ability to hold to maturity. Securities held to maturity are measured at amortized cost.

**F. Inventories**

Inventories are presented at the lower of cost or market. Cost is determined as follows: Raw materials on the average cost basis.

Finished products and work in process at actual cost (materials, labor and indirect manufacturing costs).



**NOVA MEASURING INSTRUMENTS LTD.**  
**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**  
(in thousands, except share and per share data)

**NOTE 2 -SIGNIFICANT ACCOUNTING POLICIES (Cont.)****G. Fixed assets**

Fixed assets are presented at cost, net of accumulated depreciation.

Annual depreciation is calculated based on the straight-line method over the shorter of the estimated useful lives of the related assets or terms of the related leases. Annual depreciation rates are as follows:

	%
Electronic equipment	20-33
Office furniture and equipment	6-15
Leasehold improvements	20

In accordance with SFAS No. 144, *Accounting for Impairment or Disposal of Long-Lived Assets* of the FASB, which supercedes SFAS No. 121, management reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable based on estimated future undiscounted cash flows. If so indicated an impairment loss would be recognized for the difference between the carrying amount of the asset and its fair value.

**H. Accrued Warranty Costs**

Accrued warranty costs are calculated in respect of the warranty period on the Company's products (generally one year) and are based on the Company's prior experience and in accordance with management's estimate. See Note 5B for disclosure with regard to accrued warranty costs.

**I. Revenue Recognition**

The Company recognizes revenues upon the shipment of its products to the customer or provision of support service provided that persuasive evidence of an arrangement exists, title has transferred, the price is fixed, collection of resulting receivables is probable and there are no remaining significant obligations.

**J. Research and Development**

Research and development costs are charged to operations as incurred. Amounts received or receivable from the Government of Israel through the Office of the Chief Scientist ( OCS ) as its participation in certain research and development projects are offset against the Company's research and development costs. The accrual for grants receivable is determined based on the terms of the programs, provided that the criteria for entitlement have been met.

**NOVA MEASURING INSTRUMENTS LTD.**  
**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**  
(in thousands, except share and per share data)

**NOTE 2 SIGNIFICANT ACCOUNTING POLICIES (Cont.)****K. Income Taxes**

The Group accounts for income taxes utilizing the asset and liability method in accordance with SFAS No. 109, *Accounting for Income Taxes* of the FASB. Current tax liabilities are recognized for the estimated taxes payable on tax returns for the current year. Deferred tax liabilities or assets are recognized for the estimated future tax effects attributable to temporary differences between the income tax bases of assets and liabilities and their reported amounts in the financial statements, and for tax loss carryforwards. Measurement of current and deferred tax liabilities and assets is based on provisions of enacted tax laws, and deferred tax assets are reduced, if necessary, by the amount of tax benefits, the realization of which is not considered likely based on available evidence.

**L. Stock-Based Compensation**

The Group accounts for employee stock-based compensation in accordance with Accounting Principles Board Opinion No. 25, *Accounting for Stock Issued to Employees* and in accordance with FASB Interpretation No. 44. Pursuant to these accounting pronouncements, the Group records compensation for stock options granted to employees over the vesting period of the options based on the difference, if any, between the exercise price of the options and the market price of the underlying shares at the grant date. With respect to variable awards, changes in the market price of the underlying shares at each balance sheet date affect the aggregate amount of compensation recorded. Deferred compensation is amortized to compensation expense over the vesting period of the options. See below for pro forma disclosures required in accordance with SFAS No. 123, *Accounting for Stock-Based Compensation*, as amended by SFAS 148.

**Pro forma Income (Loss) Per Share According to SFAS 123 and SFAS 148:**

For purposes of estimating fair value in accordance with SFAS 123, the Company utilized the Black-Scholes option-pricing model. The following assumptions were utilized in such calculations for the years 2004, 2003 and 2002 (all in weighted averages):

	<b>2004</b>	<b>2003</b>	<b>2002</b>
Risk-free interest rate	4%	1.4%	1.5%
Expected life of options	7 years	7 years	7 years
Expected weekly volatility	56%	82%	90%
Expected dividend yield	none	none	none

Had compensation cost for the Company's stock option plans been determined based on fair value at the grant dates for all awards made in 2004, 2003 and 2002 in accordance with SFAS 123, as amended by SFAS 148, the Company's pro forma income (loss) per share would have been as follows:

**NOVA MEASURING INSTRUMENTS LTD.**  
**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**  
(in thousands, except share and per share data)

**NOTE 2 -SIGNIFICANT ACCOUNTING POLICIES (Cont.)****L. Stock-Based Compensation (Cont.)**

	<u>2004</u>	<u>2003</u>	<u>2002</u>
<b><u>Pro forma net income (loss)</u></b>			
Net income (loss) for the year, as reported	\$ 1,467	\$ (4,212)	\$ (12,957)
Deduct - stock-based compensation determined under APB-25	122	540	1,073
Add - stock-based compensation determined under SFAS 123	(1,258)	(1,348)	(2,265)
Pro forma net income (loss)	<u>\$ 331</u>	<u>\$ (5,020)</u>	<u>\$ (14,149)</u>
<b><u>Pro forma earnings (loss) per share</u></b>			
Basic - as reported	<u>\$ 0.10</u>	<u>\$ (0.28)</u>	<u>\$ (0.88)</u>
Basic - pro forma	<u>\$ 0.02</u>	<u>\$ (0.33)</u>	<u>\$ (0.96)</u>
Diluted- as reported	<u>\$ 0.09</u>		
Diluted- pro forma	<u>\$ 0.02</u>		

**M. Earnings (Loss) per Share**

Earnings (loss) per share are presented in accordance with SFAS 128 of the FASB, Earnings per Share. Pursuant to this standard, basic earnings (loss) per share exclude the dilutive effects of convertible securities and are computed by dividing income (loss) available to common shareholders by the weighted-average number of common shares outstanding for the period. Diluted earnings (loss) per share reflect the potential dilutive effect of all convertible securities. Due to the anti-dilutive effect, basic loss per share was equal to diluted loss per share for years 2003 and 2002. The number of potentially dilutive securities excluded from diluted earnings per share due to the anti-dilutive effect amounted to 754,109, 2,608,475 and 2,093,767 in 2004, 2003 and 2002, respectively.

**N. Derivative Financial Instruments**

SFAS No. 133, Accounting for Derivative Instruments and Hedging Activities as amended by SFAS No. 138 and SFAS 149, requires, principally, the presentation of all derivatives as either assets or liabilities on the balance sheet and the measurement of those instruments at fair value. Gains and losses resulting from changes in the fair values of derivative instruments would be accounted for depending on the use of the derivative and whether it qualifies for hedge accounting.

See Note 14 for disclosure of the derivative financial instruments in accordance with such pronouncements.

**NOVA MEASURING INSTRUMENTS LTD.**  
**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**  
(in thousands, except share and per share data)

**NOTE 2 -SIGNIFICANT ACCOUNTING POLICIES (Cont.)**

**O. Reclassification**

Certain previously reported amounts have been reclassified in these financial statements in order to conform with the 2004 financial statements presentation.

**P. New Accounting Pronouncements**

- (1) **SFAS No. 151 Inventory Costs, an Amendment of ARB No. 43, Chapter 4** In November 2004 the FASB issued SFAS No. 151, Inventory Costs, an Amendment of ARB No. 43, Chapter 4". SFAS No. 151 amends the guidance in ARB 43, Chapter 4, Inventory Pricing , which provides guidance on the allocation of certain costs to inventory. SFAS 151 clarifies that abnormal amounts of idle facility expense, freight, handling costs, and wasted material (spoilage) should be recognized as current-period charges. In addition, SFAS 151 requires that allocation of fixed production overheads to the costs of conversion be based on the normal capacity of the production facilities. The provisions of this statement are effective for inventory costs incurred during fiscal years beginning after June 2005. The provisions of this statement shall be applied prospectively. The Company is assessing the impact of the adoption of this Standard, and currently estimates that its adoption is not expected to have a material effect on the Company's financial position and results of operations.

- (2) **SFAS No. 123 (revised 2004) Share Based Payments** In December 2004, the FASB issued SFAS No. 123 (revised 2004) Share Based Payments ( SFAS 123(R) ). This Statement is a revision of FASB Statement No. 123, Accounting for Stock-Based Compensation , which supersedes APB Opinion No. 25, Accounting for Stock Issued to Employees and its authoritative interpretations.

SFAS 123(R) establishes standards for the accounting for transactions in which an entity exchanges its equity instruments for goods or services; focuses primarily on accounting for transactions in which an entity obtains employee and directors services in share-based payment transactions; and does not change the accounting guidance for share-based payment transactions with parties other than employees.

SFAS 123(R) eliminates the alternative to use APB 25's intrinsic value method of accounting that was provided in SFAS 123 as originally issued and requires to measure the cost of employee services received in exchange for an award of equity instruments based on the grant-date fair value of the award. The fair-value-based method in this Statement is similar to the fair-value-based method in SFAS 123 in most respects. The costs associated with the awards will be recognized over the period during which an employee is required to provide service in exchange for the award the requisite service period (usually the vesting period).

The grant-date fair value of employee share options and similar instruments will be estimated using option-pricing models adjusted for the unique characteristics of those instruments (unless observable market prices for the same or similar instruments are available). If an equity award is modified after the grant date, incremental compensation cost will be recognized in an amount equal to the excess of the fair value of the modified award over the fair value of the original award immediately before the modification.

**NOVA MEASURING INSTRUMENTS LTD.**  
**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**  
(in thousands, except share and per share data)

**NOTE 2 -SIGNIFICANT ACCOUNTING POLICIES (Cont.)****P. New Accounting Pronouncements (cont.)**

The provisions of SFAS 123(R) apply to all awards to be granted by the Company after June 30, 2005 and to awards modified, repurchased, or cancelled after that date. When initially applying the provisions of SFAS 123(R), in the third quarter of 2005, the Company will be required to elect between using either the modified prospective method or the modified retrospective method. Under the modified prospective method, the Company is required to recognize compensation cost for all awards granted after the adoption of SFAS 123(R) and for the unvested portion of previously granted awards that are outstanding on that date. Under the modified retrospective method, the Company is required to restate its previously issued financial statements to recognize the amounts previously calculated and reported on a pro forma basis, as if the original provisions of SFAS 123 had been adopted. Under both methods, it is permitted to use either a straight line or an accelerated method to amortize the cost as an expense for awards with graded vesting.

Management has recently commenced identifying the potential future impact of applying the provisions of SFAS 123(R), including each of its proposed transition methods, yet is currently unable to fully quantify the effect of this Standard on the Company's future financial position and results of operations. Nonetheless, it is expected that the adoption of SFAS 123(R) will increase the stock-based-award expenses the Company is to record in the future in comparison to the expenses recorded under the guidance currently applied by the Company.

- (3) **SFAS No. 153, Exchange of Non-Monetary Assets** In December 2004, the FASB issued SFAS No. 153, "Exchanges of Nonmonetary Assets an amendment of APB No. 29". This Statement amends Opinion 29 to eliminate the exception for nonmonetary exchanges of similar productive assets and replaces it with a general exception for exchanges of nonmonetary assets that do not have commercial substance. The Statement specifies that a nonmonetary exchange has commercial substance if the future cash flows of the entity are expected to change significantly as a result of the exchange. This Statement is effective for nonmonetary asset exchanges occurring in fiscal periods beginning after June 15, 2005. Earlier application is permitted for nonmonetary asset exchanges occurring in fiscal periods beginning after the date this Statement is issued. Retroactive application is not permitted. The Company is assessing the impact of the adoption of this Standard, and currently estimates that its adoption is not expected to have a material effect on the Company's financial position and results of operations.

**NOTE 3 -INVENTORIES**

## A.

	December 31,	
	2004	2003
Raw materials	\$ 1,640	\$ 1,050
Work in process	3,444	2,637
Finished goods	155	465
	\$ 5,239	\$ 4,152

- B. In the years ended December 31, 2004 and 2003 the Company wrote down inventory in the amounts of \$250 and \$725, respectively

**NOVA MEASURING INSTRUMENTS LTD.**  
**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**  
(in thousands, except share and per share data)

**NOTE 4 -FIXED ASSETS, NET**

	December 31,	
	2004	2003
<b>Cost:</b>		
Electronic equipment	\$ 4,341	\$ 3,608
Office furniture and equipment	597	364
Leasehold improvements	1,750	1,695
	6,688	5,667
<b>Accumulated depreciation and amortization:</b>		
Electronic equipment	3,140	3,013
Office furniture and equipment	354	226
Leasehold improvements	1,075	1,003
	4,569	4,242
<b>Net book value</b>	\$ 2,119	\$ 1,425

**NOTE 5 -OTHER CURRENT LIABILITIES**

A.

	December 31,	
	2004	2003
Accrued salaries and fringe benefits	\$ 2,667	\$ 2,838
Accrued warranty costs (See B below)	2,765	2,558
Governmental institutions	933	1,249
Other	24	457
	\$ 6,389	\$ 7,102

B. Accrued warranty costs:

	December 31,	
	2004	2003
Balance as of beginning of year	\$ 2,558	\$ 2,276
Services provided under warranty	(2,952)	(1,424)
Changes in provision	3,159	1,706
Balance as of end of year	\$ 2,765	\$ 2,558

December 31,

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**NOTE 6 -ACCRUED SEVERANCE PAY**

Israeli law and labor agreements determine the obligations of the Company to make severance payments to dismissed employees and to employees leaving employment under certain other circumstances. The obligation for severance pay benefits, as determined by Israeli law, is based upon length of service and the employee's most recent salary. The liability is partially covered through insurance policies purchased by the Company and deposits in a severance fund.

Severance-pay expense amounted to \$691, \$614 and \$381 for 2004, 2003 and 2002, respectively.

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**NOVA MEASURING INSTRUMENTS LTD.**  
**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**  
(in thousands, except share and per share data)

**NOTE 7 - COMMITMENTS AND CONTINGENT LIABILITIES**

- A. The Company has received grants in the aggregate amount of \$7,485 from the OCS, as its participation of up to 50% of certain development costs. In consideration for such grants, the Company has undertaken to pay royalties amounting to 3%-3.5% of the net sales of products developed, directly or indirectly, from the projects financed, not to exceed 100% of the grants received. Refund of the grants thereon is contingent on future sales and the Company has no obligation to refund grants if sufficient sales are not generated. During the fourth quarter of 2003, the OCS has approved the Company's request to allocate \$2,203 from the grants provided by it to a specific lithography project, to be repaid as royalties only from sales of lithography products. As a result, the Company has canceled a provision in the total amount of \$2,203, made by it mainly in prior years. Such cancellation is included as Other Operating Income in the Statement of Operations for the year ended December 31, 2003. Royalty expense amounted to \$ 0, \$656, and \$722 for the years 2004, 2003 and 2002, respectively. The balance of the contingent liability to the OCS as of December 31, 2004 was approximately \$4,035 (including \$2,203 with respect to the lithography project, as mentioned above).

- B. The Group rents its facilities under various operating lease agreements, which expire on various dates, the latest of which is in 2007. The minimum rental payments are as follows:

Year	Amount (US dollars)
2005	1,218
2006	1,112
2007	891

Rental expense for the facilities amounted to \$1,248, \$851 and \$884 for the years 2004, 2003 and 2002, respectively.

- C. The Company leases vehicles under various operating lease agreements, which expire on various dates, the latest of which is in 2007. The minimum rental payments are as follows:

Year	Amount (US dollars)
2005	652
2006	582
2007	258

Vehicle lease expense amounted to \$669, \$516 and \$665 for the years 2004, 2003 and 2002, respectively.

- D. A major customer who was a related party until August 2001 (the Former Related Party), has notified the Company that a lawsuit has been filed against it by a third party. The suit alleges that the Former Related Party, while using the Company's products, has infringed upon numerous U.S. patents owned by the third party. According to the agreement between the Company and the Former Related Party, the Company is to assume responsibility and to indemnify the Former Related Party for any losses with regard to such suit. The Company is unable to determine at this time with any certainty the ultimate outcome of the aforementioned issue and its effect, if any, on the Company's financial condition, operating results and business.
- E. On February 2002 the Company signed a technology-license agreement, according to which the Company received a patent usage right as well as equipment in exchange for \$1,502 and future payments of royalties of 5% of the net revenues of the products developed from the abovementioned technology. The Company had no liability with respect to such obligation, through December 31, 2004.



**NOVA MEASURING INSTRUMENTS LTD.**  
**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**  
(in thousands, except share and per share data)

**NOTE 7 -COMMITMENTS AND CONTINGENT LIABILITIES (Cont.)**

- F. In the last few months the Israeli Tax Authorities are approaching Israeli public companies and other entities with a request to provide certain information relating to the stamping of commercial documents in Israel. To the best of the Company's knowledge such companies and entities are arguing that the request contradicts the common practice in Israel. Management estimates that the Company's exposure, if any, in connection with this request is not expected to have a material effect on the Company's financial position and results of operations.

**NOTE 8 -SHAREHOLDERS EQUITY**

**A. Share Capital Transactions**

2. During 2002 the Company converted 1,057,021 issued and outstanding deferred E shares into 551 ordinary shares, and 1,100,000 authorized deferred E shares into 1,100,000 authorized ordinary shares.
3. Since 2003, the Company sponsors an employee stock purchase plan (ESPP) for the benefit of its employees. Under the ESPP, substantially all employees may purchase the Company's ordinary shares through payroll deductions at a price equal to 85 percent of the lower of fair market value at the beginning or end of each six-month offering period. Shares purchases under the ESPP are limited to a maximum aggregate of 150,000 shares. In 2004 and 2003 the Company issued 96,443 and 43,585, respectively shares under the ESPP.

**B. Rights of Shares**

Holder of ordinary shares are entitled to participate equally in the payment of cash dividends and bonus shares (stock dividends) and, in the event of the liquidation of the Company, in the distribution of assets after satisfaction of liabilities to creditors. Each ordinary share is entitled to one vote on all matters to be voted on by shareholders.

**C. Share Option Plans**

The Company's Board of directors approves, from time to time, employee share option plans, the last of which was approved in December 2004. The options usually vest over four years and their term may not exceed 7 years. The exercise price of each option is usually the market price of the underlying share at the date of each grant.

Through December 31, 2004, 5,730,822 share options have been issued under the plans, of which 1,621,488 options have been exercised, 314,700 options have been forfeited, 164,256 have been terminated and 1,575,108 options were exercisable as of December 31, 2004.

The weighted average fair value (in dollars) of the options granted during 2004, 2003 and 2002, according to Black-Scholes option-pricing model, amounted to \$2.11, \$1.43 and \$0.82 per option, respectively. Fair value was determined on the basis of the price of the Company's share.

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**NOVA MEASURING INSTRUMENTS LTD.**  
**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**  
(in thousands, except share and per share data)

## NOTE 8 -SHAREHOLDERS EQUITY (Cont.)

## C. Share Option Plans (cont.)

A summary of the status of the Company's share option plans as of December 31, 2004, 2003 and 2002, as well as changes during each of the years then ended, is presented below:

	2004		2003		2002	
	Share options	Weighted average exercise price	Share options	Weighted average exercise price	Share options	Weighted average exercise price
Outstanding - beginning of year	2,621,213	\$ 3.38	1,922,402	\$ 3.99	2,292,132	\$ 3.57
Granted	1,250,000	3.86	1,010,000	2.09	46,500	1.31
Exercised	(138,640)	2.58	(144,180)	1.66	(294,403)	0.11
Terminated	(37,974)	5.81	(72,240)	5.38	(54,041)	4.78
Forfeited	(64,221)	2.30	(94,769)	3.27	(67,786)	3.96
Outstanding - year end	3,630,378	3.57	2,621,213	3.38	1,922,402	3.99
Options exercisable at year-end	1,575,108		1,290,609		1,149,186	

The following table summarizes information about share options outstanding as of December 31, 2004:

Range of exercise prices	Outstanding as of December 31, 2004		Exercisable as of December 31, 2004		
	Number outstanding	Weighted average remaining contractual life	Weighted average exercise price	Number exercisable	Weighted average exercise price
(US dollars)		(in years)	(US dollars)		(US dollars)
0.0025	38,578	1.5	0.0025	38,578	0.0025
2.06	860,169	5.2	2.06	213,455	2.06
2.46-3.69	910,412	3.4	2.735	748,966	2.78
3.4	650,000	6.9	3.4	0	3.4
4.01	417,110	6.4	4.01	0	4.01
5.15	180,000	6.2	5.15	0	5.15
5.16	102,272	2	5.16	102,272	5.16
6.27-7.37	471,837	2.5	6.95	471,837	6.95
	3,630,378			1,575,108	

**NOVA MEASURING INSTRUMENTS LTD.**  
**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**  
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**NOTE 9 OTHER LONG-TERM LIABILITY**

In February 2002, the Company signed an agreement for the licensing of certain know-how and technology, to be used in one of the Company's specific research and development programs and which has no alternative use. In accordance with the principles set forth in SFAS 2 these costs have been charged to the statement of operations in the year ended December 31, 2002, at the present value of the minimum payments to be made under the agreement.

**NOTE 10 -OTHER OPERATING EXPENSES (INCOME)**

The amount for the year ended December 31, 2003 represents cancellation of a provision with respect to royalties to the OCS (see Note 7A.).

**NOTE 11 -INCOME TAXES**

**A. Law for the Encouragement of Capital Investments 1959**

In October 1995, the Company was granted approved enterprise status under the tax-exempt benefit track, as provided by the Israeli Law for the Encouragement of Capital Investments 1959, for an investment program in the aggregate amount of \$732 ( the first program ). The Company had completed the investments under the program, which received the approval of the Investments Center. The tax-exempt benefit track provides for a tax exemption on undistributed earnings derived from assets included in the approved enterprise investment program for the first four years of the seven-year benefit period and a 25% tax rate for the remaining three years of the benefit period. Pursuant to the tax-exempt benefit track, the Company is liable for tax at a 25% rate on distributions to shareholders of earnings subject to the exemption.

In December 1999, the Company was granted another approved enterprise status for an investment expansion program in the aggregate amount of \$3,229 ( the second program ) under the tax-exempt benefit track. The Company had completed the investments under the expansion program and filled the final report with respect to this plan. The tax-exempt benefit track provides for a tax exemption on undistributed earnings derived from assets included in the approved enterprise investment program for the first two years of the seven-year benefit period and a 25% tax rate for the remaining five years of the benefit period. Pursuant to the tax-exempt benefit track, the Company is liable for tax at a 25% rate on distributions to shareholders of earnings subject to the exemption.

In January 2005, the Company was granted another approved enterprise status for an investment expansion program in the aggregate amount of \$1,000 ( the third program ) under the tax-exempt benefit track. The tax-exempt benefit track, once approved, provides for a tax exemption on undistributed earnings derived from assets included in the approved enterprise investment program for the first two years of the seven-year benefit period and a 25% tax rate for the remaining five years of the benefit period. Pursuant to the tax-exempt benefit track, the Company is liable for tax at a 25% rate on distributions to shareholders of earnings subject to the exemption.

The period in which the Company is entitled to the abovementioned tax benefits is limited to seven years from the first year that taxable revenues are generated, and such benefits must be utilized within 12 years from the year that operation (as defined) of the approved enterprise commences, or 14 years from the year the approval is granted, whichever is earlier. Accordingly, under the existing conditions, the tax benefits period under the above-mentioned first, second and third programs ends in 2006, 2012 and 2018, respectively.

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**NOVA MEASURING INSTRUMENTS LTD.**  
**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**  
(in thousands, except share and per share data)

**NOTE 11 -INCOME TAXES (Cont.)**

**A. Law for the Encouragement of Capital Investments 1959 (cont.)**

Dividends paid from earnings that benefited from the approved enterprise tax status are subject to a 15% tax to the recipient (for a period of 12 years from the end of the seven-year benefit period), whereas dividends paid out of other earnings are subject to tax to the recipient at the rate of 25% (or lower if paid to a treaty country), except when paid to another Israeli company, in which case such dividends are exempt from tax.

The income of the Company that is not derived from assets, which are eligible for reduced taxation benefits, as described above, is taxed at the statutory rate for Israeli companies (see H below).

The above tax benefits are conditioned upon fulfillment of the requirements stipulated by the aforementioned law and the regulations promulgated there under, as well as the criteria set forth in the certificates of approval. In the event of failure by the Company to comply with these conditions, the tax benefits could be canceled, in whole or in part, and the Company would be required to refund the amount of the canceled benefits, plus interest and certain inflation adjustments.

If the investments of non-Israeli investors (as such investments are defined by the Law) will exceed 25% then the seven-year benefit period mentioned above may be extended to ten years. If the investments of non-Israeli investors is 49% or more, then the rate of tax on earnings derived from assets included in the approved enterprise investment program will decrease to 10% 20%, depending on the level of ownership by non-Israeli investors, examined on a yearly basis.

**B. Law for the Encouragement of Industry (Taxation), 1969**

The Company is an industrial company under the Law for the encouragement of Industry (Taxation), 1969 and, therefore, is entitled to certain tax benefits, mainly accelerated rates of depreciation.

**C. Taxation Under Inflationary Conditions**

The Company reports for tax purposes in accordance with the provisions of the Income Tax Law (Adjustments Due to Inflation) 1985, under which taxable income is measured in terms of NIS adjusted for changes in the Israeli Consumer Price Index.

**D. Deferred Taxes**

The Company has accumulated losses for Israeli tax purposes as of December 31, 2004 in the amount of approximately \$43,000. At such date, other temporary differences were approximately \$ 7,000.

The Israeli tax loss carryforwards have no expiration date. The Company expects that during the period these losses are utilized, its undistributed earnings will be tax exempt. Since the Company has no intention to distribute such earnings, there will be no tax benefit available from such tax losses and no deferred taxes have been included in these financial statements for these losses.

As of December 31, 2004, the subsidiaries had a net operating loss carryforward of approximately \$1,290. A valuation allowance in the amount of approximately \$515, representing the entire benefit, was recorded regarding such loss.

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**NOVA MEASURING INSTRUMENTS LTD.**  
**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**  
(in thousands, except share and per share data)

**NOTE 11 -INCOME TAXES (Cont.)**

**E. Effective Tax Rates**

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The Company's effective tax rates differ from the statutory rates applicable to the Company for all years presented due primarily to its approved enterprise status (see A above) and the tax loss carry-forward.

### F. Tax Assessments

The Company received final tax assessments until and including tax year 2001.

- G. In light of losses for both financial reporting and tax purposes in 2002 and 2003, a reconciliation of the effective income tax rate has not been presented. In 2004, theoretical income taxes on the Company's pre-tax income were primarily reduced by the utilization of tax loss carryforward from prior years for which a deferred tax asset had not been recorded and reduced tax rates related to approved enterprise.

### H. Tax Rates

In 2004 the Israeli Knesset approved a law for the amendment of the Income Tax Ordinance, according to which the regular corporate tax rate is to be reduced gradually and annually from 36% to 35% for 2005 tax year ending in 30% for 2007 tax year.

## NOTE 12 -GEOGRAPHIC AREAS AND MAJOR CUSTOMERS

- A. Sales by geographic area (as percentage of total sales):

	Year ended December 31,		
	2004	2003	2002
	%	%	%
USA	62	62	61
Europe - primarily Italy, France and Germany	11	10	16
Japan	18	21	20
Other	9	7	3
	100	100	100
	100	100	100

- B. Sales by major customers (as percentage of total sales):

	Year ended December 31,		
	2004	2003	2002
	%	%	%
Customer A	11	14	20
Customer B	3	6	11
Customer C	42	36	30
Customer D	25	29	22

- C. Assets by location

Substantially all fixed assets are located in Israel.

**NOVA MEASURING INSTRUMENTS LTD.**  
**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**  
(in thousands, except share and per share data)

**NOTE 13 -TRANSACTIONS AND BALANCES WITH RELATED PARTIES**

The total directors' fees (including the chairman of the Board) for the year 2004 amounted to \$103 (2003 \$122, 2002 -\$50). Number of options granted to directors amounted 380,000 and 200,000 in 2004 and 2003 respectively.

**NOTE 14 FINANCIAL INSTRUMENTS**

**A. Fair value of financial instruments**

A financial instrument is defined as cash, evidence of an ownership interest in an entity, or a contract that impose on one entity a contractual obligation either to deliver cash or receive cash or another financial instrument to or from a second entity. Examples of financial instruments include cash and cash equivalents, short-term interest-bearing bank deposits, held to maturity securities, trade accounts receivable, investments, trade accounts payable, accrued expenses, options and forward contracts.

At December 31, 2004 and 2003 the fair market value of the Company's financial instruments did not materially differ from their respective book value.

**B. Hedging activities**

In 2001, the Company entered into several currency-forward transactions (NIS/dollar) of \$8,750 with settlement dates ranging from January to June 2002, designed to reduce cash-flow exposure to the impact of exchange-rate fluctuations on firm commitments of \$12,000. In accordance with SFAS 133 the Company recorded in 2001 an unrealized decrease of \$212 in fair market value in other comprehensive loss. The corresponding liability was separately reported as fair market value of forward contracts within other current liabilities. In 2002 this decrease was charged to operations on the relevant settlement dates.

In 2003, the company entered into currency-forward transaction (NIS/dollar) of \$400 with a settlement date of January 2004, designed to reduce cash-flow exposure to the impact of exchange-rate fluctuations on firm commitments of \$400. In accordance with SFAS 133 the Company recorded in 2003 an increase of \$13 in fair market value in Other Comprehensive Income. In 2004 this increase was charged to operations on the relevant settlement dates. In 2004, the company entered into currency-forward transaction, to currency-put option and to currency-call option (NIS/dollar, Euro/dollar, Yen/dollar) of \$7,700 with settlement date through 2005, designed to reduce cash-flow exposure to the impact of exchange-rate fluctuations on firm commitments of \$7,700. In accordance with SFAS 133 the Company recorded in 2004 an increase of \$8 in fair market value in Other Comprehensive Income.

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**EXHIBIT INDEX**

<u>Number</u>	<u>Description</u>
1.1	Articles of Association (incorporated by reference to exhibit 3.1 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
1.2	First Amendment to the Company's Articles of Association (incorporated by reference to the Company's Current Report on Form 6-K filed on June 4, 2002)
4.1	1997 Stock Option Plan (Plan 2) (incorporated by reference to exhibit 10.1 to the Company's Registration Statement on Form F-1 (registration number 333-11640))

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- 4.2 Option Plan 3 (incorporated by reference to exhibit 10.2 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
- 4.3 Option Plan 4A and 4B (incorporated by reference to exhibit 10.3 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
- 4.4 Option Plan 5 (incorporated by reference to Exhibit 4.4 to the Company's Annual Report for 20-F for 2002 filed May 9, 2002)
- 4.5 Option Plan 6 (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-8 filed December 24, 2002 (registration number 333-102193))
- 4.6 Employment Agreement between Nova and Giora Dishon (incorporated by reference to exhibit 10.4 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
- 4.7 Employment Agreement between Nova and Moshe Finarov (incorporated by reference to exhibit 10.6 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
- 4.8 Employment Agreement between Nova and Chai Toren (incorporated by reference to exhibit 10.7 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
- 4.9 Employment Agreement between Nova and Ronen Frish (incorporated by reference to exhibit 10.8 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
- 4.10 Agreements between Nova and the Office of the Chief Scientist in Israel (incorporated by reference to exhibit 10.10 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
- 4.11 Certificate of Approval from the Investment Center in Israel (incorporated by reference to exhibit 10.11 to the Company's Registration Statement on Form F-1 (registration number 333-11640))
- 4.12 Lease Agreement between Nova and Ef-Shar Ltd. (incorporated by reference to Exhibit 4.14 to the Company's Annual Report on Form 20-F filed on May 9, 2002)
- 4.13 Summary of Lease Agreement between Nova and Ef-Shar Ltd. (incorporated by reference to Exhibit 4.15 to the Company's Annual Report on Form 20-F filed on May 9, 2002)
- 4.14 Letter Agreement between Barry Cox and the Company dated May 15, 2003 (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-8 filed on May 17, 2004 (registration number 333-115556))
- 4.15 Employee Stock Purchase Plan 1 (incorporated herein by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-8 filed on March 24, 2003 (File No. 33-103981))
- 4.16 Letter of Indemnification and Exculpation for certain directors, officers and/or employees (incorporated herein by reference Annex A to the Company's Current Report on Form 6-K filed on October 8, 2002)
- 4.17 Option Plan 7A (incorporated by reference to Exhibit 4.1. to the Company's Registration Statement on Form S-8 filed on May 17, 2004 (registration number 333-115554))
- 4.18 Option Plan 7B (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-8 filed on March 7, 2005 (registration number 333-123158))
- 8 List of Subsidiaries (filed herewith)
- 12.1 Certification required by Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended (filed herewith)
- 12.2 Certification required by Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended (filed herewith)

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- 13.1 Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (filed herewith)
  - 13.2 Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (filed herewith)
  - 14.1 Consent of Brightman Almagor & Co. (filed herewith)
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