NOVA MEASURING INSTRUMENTS LTD
Form 20-F
March 28, 2008

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 20-F

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

OR

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

For the fiscal year ended December 31, 2007

OR

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

OR

o SHELL COMPANY REPORT PURSUANT TO SECTION 13 or 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission File Number 000-30668

NOVA MEASURING INSTRUMENTS LTD.

(Exact name of Registrant as specified in its charter)

Nova Measuring Instruments Ltd.	**Israel**
(Translation of Registrant's name into English)	(Jurisdiction of incorporation or organization)

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

Dror David, +972-8-9387572, +972-8-9407776, P.O.B 266, Rehovot 76100, Israel
(Name, Telephone, E-mail and/or Facsimile number and Address of the Registrant's Contact Person)

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

Title of each class	Name of each exchange on which registered
Ordinary Shares, nominal value NIS 0.01 per share	The Nasdaq Global Market

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

None

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: 19,369,418 Ordinary Shares, NIS 0.01 nominal (par) value per share, as of December 31, 2007, of which 2,229 Ordinary Shares held by the Registrant which have no voting or equity rights.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes o No x

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934.

Yes o No x

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes x No o

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

Large accelerated filer o **Accelerated filer** o **Non-accelerated filer** x

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP x

International Financing Reporting Standards as issued by the International Accounting Standards Board o

Other o

If Other has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow:

Item 17 o Item 18 o

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes o No x

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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, 2003, 2004, 2005, 2006 and 2007 and for each of the years in the five-year period ended December 31, 2007 (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 sta Such statements, including statements relating to our anticipated sales, revenues and expenses in 2008, our expectations with respect to our ability to gain market share, add additional process equipment manufacturers as partners and to develop and introduce new products, possible outcomes of our efforts to identify, complete and integrate future acquisitions, anticipated growth of the semiconductor industry and metrology markets and expected changes in the semiconductor industry, 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 cannot guarantee future results, levels of activity, performance or achievements. We also 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 2 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, 2006 and 2007 and for the years ended December 31, 2005, 2006 and 2007 have been derived from our audited Consolidated Financial Statements included elsewhere in this annual report. These financial statements have been prepared in accordance with U.S. GAAP, and audited by our independent registered public accounting firm. The consolidated selected financial data as of December 31, 2005, 2004 and 2003 and for the years ended December 31, 2004 and 2003 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 our independent registered public accounting firm. 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 annual report on Form 20-F.

Summary of Consolidated Financial Data

	Year ended December 31,				
	2003	2004	2005	2006	2007
	(in thousands, except per share data)				
Consolidated Statement of Operations Data:					
Revenues	$ 26,688	$ 36,806	$ 30,142	$ 48,292	$ 58,077
Cost of revenues	16,535	21,111	19,306	27,743	33,251
Gross profit	10,153	15,695	10,836	20,549	24,826
Operating expenses:					
Research and development expenses, net	8,561	8,665	9,301	9,166	9,143
Sales and marketing expenses	6,534	6,647	6,950	8,754	10,175
General and administrative expenses	1,898	2,331	3,626	5,136	4,830
Other operating expenses (income)	(2,203)	-	-	-	3,831
Total operating expenses	14,790	17,643	19,877	23,056	27,979
Operating loss	(4,637)	(1,948)	(9,041)	(2,507)	(3,153)
Financing income, net	425	528	627	573	(764)
Net loss	$ (4,212)	$ (1,420)	$ (8,414)	$ (1,934)	$ (3,917)
Loss per share:					
Basic and diluted loss per share	$ (0.28)	$ (0.09)	$ (0.55)	$ (0.12)	$ (0.21)
Shares used in calculation of basic and diluted loss per share	14,994	15,259	15,437	15,976	18,606

	December 31,				
	2003	2004	2005	2006	2007

			December 31, (in thousands)		
Consolidated Balance Sheet Data:					
Working capital	30,350	25,709	14,834	15,873	20,660
Total assets	47,918	49,966	42,339	44,419	48,385
Capital stock (including additional paid-in capital)	72,709	73,379	73,682	76,735	83,456
Shareholders' equity	32,336	31,581	23,444	24,575	27,584

Risk Factors

Risks Related to Our Business and Our Industry

Because substantially most of 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, could 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, which are highly cyclical, experienced in 2007 and 2006 significant increases in sales, after a significant decline in 2005, and according to Gartner, a market research company, the forecast for year 2008 predicts a decline in capital spending. Although we rely on market research companies, we cannot predict the length and strength of the downturns or expansions. Furthermore, 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. As a result, during future downturns, we may incur additional losses greater than those we incurred in the past.

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

Historically, we have derived all of our revenues, and we expect to continue to derive practically 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 and upturns. During cyclical downturns, we have in the past experienced, and will likely in the future experience, material reductions in the demand for the type of capital equipment and process technology that we offer and our sales and revenues might decline again. 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.

As a result, we may have difficulty achieving profitability.

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 will suffer. In addition, the development of new measurement technologies, new product introductions or enhancements by our competitors could cause a decline in our 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, metal deposition 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.

If any of our systems fail to meet or exceed our internal quality specifications, we cannot ship them until such time as they have met such specifications. If we experience significant delays or are unable to ship our products to our customers as a result of our internal processes, or for any other reason, our business and reputation may suffer.

Our products are complex and require technical expertise to design and manufacture. Various problems occasionally arise during the manufacturing process that may cause delays and/or impair product quality. We actively monitor our manufacturing processes to ensure that our products meet our internal quality specifications. Any significant delays stemming from the failure of our products to meet or exceed our internal quality specifications, or for any other reasons, would delay our shipments. Shipment delays could harm our business, revenues and reputation in the industry.

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 provide assurances 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 historically generated losses and may incur future losses.

Since our inception in 1993, we have had several years of losses and only one profitable year. We may incur a net loss in 2008 or in future years. As of December 31, 2007, we had an accumulated deficit of approximately $56 million. We do not plan to increase our aggregate operating expenses in 2008 relative to 2007. However, in order to achieve profitability in 2008, we will need to significantly increase our sales relative to 2007. In the future, our sales may not grow and we may not achieve profitability.

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. This trend may 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, the timing of shipments of systems, and the timing of recognizing these revenues. 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, as a result, face risks of revenue shortfalls. 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 depend on a small number of large customers, and the loss of one or more of them would lower our revenues.

Like our peers serving the semiconductor market, 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 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 mainly with Nanometrics Inc., Rudolph Technologies Inc., and KLA-Tencor Corp., which manufacture and sell integrated and stand-alone process control systems. In addition, we compete with original semiconductor equipment manufacturers, such as Tokyo Electron Ltd, which manufacture integrated metrology products and with original semiconductor equipment manufacturers, such as Applied Materials Inc., which develop in-situ sensors and products. Established companies, both domestic and foreign, compete with our product lines, and new competitors are entering our market. Some 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. Accordingly, unless our systems offer performance or cost advantages that outweigh a customer s expense of switching to our systems, it will be difficult for us to achieve significant sales from that customer once it has selected another vendor s system for an application. 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;

our success in developing and marketing new products. and;

the extendibility of our product

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 capital equipment suppliers have been acquired by larger equipment manufacturers. For example, in 2005 Rudolph Technologies Inc. acquired August Technologies Inc., in 2006 Nanometrics Inc. acquired Soluris Inc. and Accent Technologies Inc., and in 2007 KLA-Tencor Corp. acquired Therma-Wave 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 allow 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.

We may not be successful in our efforts to identify, complete and integrate future acquisitions, which could disrupt our current business activities and adversely affect our results of operations or future growth.

Any future acquisitions may involve many risks, including the risks of:

diverting management s attention and other resources from our ongoing business concerns;

entering markets in which we have no direct prior experience;

improperly evaluating new services, products and markets;

being unable to maintain uniform standards, controls, procedures and policies;

being unable to integrate new technologies or personnel;

incurring the expenses of any undisclosed or potential liabilities; and

the departure of key management and employees.

If we are unable to successfully complete future acquisitions or to effectively integrate any future acquisitions, our ability to grow our business or to operate our business effectively could be reduced, and our business, financial condition and operating results could suffer. Even if we are successful in completing acquisitions, we cannot assure you that we will be able to integrate the operations of the acquired business without encountering difficulty regarding different business strategies with respect to marketing, integration of personnel with disparate business backgrounds and corporate cultures, integration of different point-of-sale systems and other technology and managing relationships with other business partners.

One of our customers has no cancellation fee with regard to cancellation of orders.

One of our largest customers has no cancellation fee with regard to cancellation of its orders. Because of that, our ability to rely on our backlog for future forecasting in so far as it depends on that customer is impaired and can severely harm our financial results as well as our ability to forecast our financial results.

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 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 three and 12 months to complete. During this time, we may expend substantial funds and management effort, but

fail to make any sales. Lengthy sales cycles subject us to a number of significant risks, including inventory obsolescence and fluctuations in operating results, over which we have limited 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.

We have obtained 63 U.S. patents and have 24 U.S. patent applications pending. In addition, we have obtained approximately 40 non-U.S. patents and have more than 40 non-U.S. patent applications pending. In August 8, 2006, in connection with the acquisition by us of substantially all the assets of HyperNex, Inc., HyperNex, Inc. assigned to us all of its right, title, and interest in 8 U.S. patents, 3 non-U.S. patents, 6 patent applications filed in countries other than the U.S. and 4 trademarks registered in the U.S.

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

Furthermore, we may be required to institute legal proceedings to protect our intellectual property. If such legal proceedings are resolved adversely to us, our competitive position and/or results of operations could be harmed. For additional information on our intellectual property, including information regarding a patent infringement lawsuit we commenced against Nanometrics Inc., information regarding patent infringement lawsuits Nanometrics commenced against us, and information with respect to the settlement agreement we have recently reached with Nanometrics, see Intellectual Property starting on page 19 of this report.

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 commenced against Nanometrics Inc., or Nanometrics, information regarding civil actions Nanometrics commenced against us, and information with respect to the settlement agreement we have reached with Nanometrics, see Intellectual Property on page 19 of this annual 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.

Our agreement for exclusive supply of a critical component in our wide angle x-ray diffraction tool called CrystalX has expired as of December 31, 2007 and the loss of this exclusivity could allow a competitor to utilize this unique component and successfully compete with our offering.

Our agreement for exclusive supply of a critical component in our wide angle x-ray diffraction tool called CrystalX has expired as of December 31, 2007. The design of this component provides unique advantages to our system which in the hands of our competitors may allow them to successfully compete with us.

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, Singapore, Europe 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 as well as in China. 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, 2007, we had 19,369,418 ordinary shares outstanding, and based on reports filed with the Securities and Exchange Commission and on the information provided to us by our transfer agent, 10,199,366 of such shares were held by five shareholders.

Because as of February 29, 2008, five of our shareholders control approximately 53% 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 February 29, 2008, five of our shareholders controlled approximately 53% of our outstanding ordinary shares (not including warrants currently exercisable or exercisable within 60 days of February 29, 2008). 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 an ordinary majority vote of shareholders as set in the Company s articles of association. Even if these five shareholders do not vote together, each has the ability to influence the outcome of corporate actions requiring the vote of shareholders as set in the Company s article of association. For additional information on our major shareholders, see Major shareholders on page 40.

The market price of our ordinary shares may be affected by a limited trading volume and may fluctuate significantly

There has been a limited public market for our ordinary shares and there can be no assurance that an active trading market for our ordinary shares will continue. An absence of an active trading market could adversely affect our shareholders ability to sell our ordinary shares in short time periods. Our ordinary shares have experienced, and are likely to experience in the future, significant price and volume fluctuations, which could adversely affect the market price of our ordinary shares without regard to our operating performance.

We manage our available cash through various investments the market value and liquidity of which is subject to fluctuations. Impairment of our investments could harm our earnings.

We manage our available cash through investments in various holdings, types and maturities which are subject to fluctuations that may adversely affect the value of our available cash. As of December 31, 2007, approximately 7% of our available cash was invested in different types of Auction Rate Securities.

Investments of our available cash are generally classified as available for sale and, consequently, are recorded on the consolidated balance sheets at fair value. Changes in the current economic situation, interest rates and other factors may adversely affect the value and the liquidity of our available cash. As a result, we may recognize in earnings the decline in fair value of investments of our available cash when the decline is judged to be other- than- temporary. As of December 31, 2007, we have recorded an other-than-temporary impairment loss of $1.4 million related to the above mentioned Auction Rate Securities. For further information regarding the investment of our available cash, see Item 5B. Liquidity and Capital Resources below and note 2G to the financial statements.

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 a negative effect on our business and harm our growth and revenues. For further detail see Political and economic conditions in Israel starting on page 23.

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 until the age of 40 for those serving in combat units and until the age of 45 for non combatants. This time-period may be extended by the Military Chief of General Staff and the approval of the Minister of Defense or by a directive of the Minister of Defense 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. 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 currencies other than U.S. dollars, and mainly New Israeli Shekels, our profit margin may be seriously harmed by currency fluctuations.

We generate most of our revenues in U.S. dollars, but incur a significant portion of our expenses in currencies other than U.S. dollars, and mainly New Israeli Shekels, commonly referred to as NIS. As a result, we are exposed to risk of devaluation of the U.S. dollar in relation to the NIS and other currencies. In that event, the dollar cost of our operations in countries other than the U.S. will increase and our dollar measured results of operations will be adversely affected. During 2007, the U.S. dollar devaluated against the NIS by 9%. 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 other currencies, and mainly the NIS.

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, Trade and Labor 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, Trade and Labor 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 each of 2005, 2006 we recorded an aggregate of $1.9 million, in conditional grants under Israeli government programs, and in 2007 we recorded $2.4 million in conditional grants under Israeli government programs. As of December 31, 2007, our contingent liability to the Office of the Chief Scientist for grants received was approximately $6.2 million. See also Note 9A 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. Also, the Israeli government may reduce or eliminate these benefits in the future. The termination or reduction of these grants or 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 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 Global 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 Global Market 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.

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 proceeds. 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 2007 we were not a passive foreign investment company. Nonetheless, because of the difficulty determining the value of our assets, there is a risk that we were a passive foreign investment company in 2007. Currently we expect that we will not be a passive foreign

investment company in 2008. However, passive foreign investment 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 and 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, 2008 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.

In April 2000, we conducted an initial public offering pursuant to which we sold 3,000,000 ordinary shares for consideration of net proceeds of $49 million. In connection with the public offering, our shares were listed for trading on the Nasdaq Global Market (formally known as 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, in accordance with the provision of the relevant foreign securities law applicable to the company.

During 2003, we began expanding our product offerings to include stand-alone systems. The new offerings of stand-alone products have contributed approximately $4 million to our sales in each of the years 2006 and 2007.

In August 2006**,** we completed the purchase of substantially all the assets of HyperNex, Inc., or HyperNex, a Delaware corporation located at State College, Pennsylvania and assumed certain liabilities, including liabilities accruing after the closing relating to contracts assumed by us**.**

In the first quarter of 2007, we entered into an agreement with several investors for the private placement of 1,937,984 ordinary shares, at a price of $2.58 per share, for gross proceeds of $5 million. As part of the transaction, we issued warrants to the investors for the purchase of approximately 1,453,488 additional ordinary shares at an exercise price of $3.05 per share.

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.

Overview

We are a worldwide leading designer, developer and producer of integrated process control metrology systems and design, manufacture and sell leading edge stand-alone metrology used in the manufacturing process of semiconductors. Metrology systems measure various thin film properties and critical circuit dimensions 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 2007, 17 use our systems. The majority of our integrated metrology systems are sold to process equipment manufacturers. These process equipment manufacturers integrate our metrology systems into their process equipment which is then sold to the semiconductor manufacturers. Our systems were first installed in 1995 and, since that time, we have sold more than 1,800 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. We believe that in several instances during the manufacturing process, 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.

We have always emphasized our integrated metrology solutions as this continues to be an area where we have a leading position. In addition, in the past few years we developed and started manufacturing stand-alone metrology systems as well. 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. Today, both stand alone and integrated metrology solutions have reached a level of maturity allowing semiconductor manufactures to choose how to use either technology and make decisions based on merit specific to the process step in question, always balancing between the amount of data attained and the use made of the data for capabilities such as automated process control. 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 and used in a customized way to meet specific customer needs.

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 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 World Semiconductor Trade Statistics (WSTS), worldwide sales of semiconductors increased by 8.9% from $227.5 billion in 2005 to $247.7 billion in 2006 and by 3.8% to $257.2 billion in 2007. According to Gartner, a market research company, worldwide sales of semiconductor are expected to grow by an additional 3.4% in 2008. Based on several analyst forecasts, wafer fab equipment spending is estimated to decline by 15% in 2008 relative to 2007**.** 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. Furthermore, the diversification of semiconductor types has led to a situation that each discrete device offers macro size market opportunities and thus an increase or decline in any one market does not necessarily drag with it the entire semiconductor manufacturing field.

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 and raised source/drain. 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 has 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 in 2007 for facilities capable of manufacturing 300 mm wafers. We believe that the process control equipment market, which includes the metrology segment, will grow in the future at a rate greater than the overall process equipment market since process control equipment is in the future expected to consume a larger portion of the overall costs of semiconductor manufacturing equipment.

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 well over a dozen 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 dies. 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

We believe that one of the major challenges to achieving improvements in semiconductor manufacturing cost productivity is continuously improving 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, mis-processing and operator skills. We believe that in order to improve cost productivity, earn an acceptable return on their investment in capital equipment and to meet the demand for improved semiconductor device performance, semiconductor manufacturers must find ways to improve overall equipment efficiency.

Process Control. The steps used to create semiconductors are 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.

The Need for Effective Process Control Tools. 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 65 nm and 45nm 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.

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.

Transition to High-K Metal Gate. In order to overcome limitations in the continued shrink of transistor dimensions, leading edge integrated circuit manufacturers are introducing new materials in the transistor gate stack. The use of high-k dielectrics, combined with metal layers, 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. It is estimated that in 2007, most equipment sales have moved towards 300mm processing.

Increase in foundry manufacturing. As a result of the rising investment needed 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. This trend of shifting to foundries for manufacturing needs has progressed even further during recent years with technology leaders such as Texas Instruments announcing that they will also be outsourcing process development to Taiwan Semiconductor Instruments, Limited.

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. 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 process control systems, and integrated process control systems in particular.

We believe that in certain process steps, 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 plan to continue to maintain a major 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 sometimes be addressed through the use of stand-alone metrology equipment.

The Nova Approach

Integrated Metrology

Our integrated metrology systems provide semiconductor manufacturers with effective and efficient process control by measuring wafers and their properties without removing the wafer from the process equipment. All 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 on 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 and solutions 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 and avoid the need for the costly additional wafer handling required by stand-alone metrology systems;

perform the measurements without removing the wafer from the process equipment, increasing the efficiency of the process and decreasing the risk of contamination;

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 as early as possible.

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. We believe the drive toward more efficient manufacturing operations in the face of increasing complexity will continue the trend of adopting integrated metrology solutions such as those we offer to multiple processes.

Stand-Alone Metrology

As stated above, we pioneered the area of integrated metrology and to-date revenues from that product continue to represent the larger portion of our overall revenues. With the adoption of our technology and the formation of long standing relationships with leading manufacturers, we have come to realize that our technology can be extended beyond integrated metrology into areas such as stand alone metrology. Accordingly, in the past several years we developed a stand alone metrology tool to perform measurements similar to those performed by our integrated metrology tools. The expression stand alone metrology generically describes free standing metrology equipment which sits inline, i.e., next to the processing equipment and receives cassettes or FOUPS of wafers to allow sampling of a few or several wafers from each cassette it receives. There are several types of stand alone metrology tools each of which performs a distinct type of measurement, e.g., defect inspection, electrical performance, microscopic analysis, cross sections, etc. Our specific focus is in the area of optical CD measurement which is generally utilized in order to characterize critical dimensions on a wafer, their width, shape and profile. This technology is today utilized in several areas of the fab such as photolithography, etch, CMP, selective deposition of thin films, etc. The key advantage offered by this technique is that it is non destructive and extremely fast with very high accuracy and repeatability.

We introduced this concept in 2006 and while it was well accepted we cannot assure you that these products will be purchased by customers in amounts sufficient to generate significant revenues or any profits.

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 lithography processes as well as Cu electroplating and sputtering of Cu barrier and seed materials. Because of our open architecture policy, our integrated metrology solutions can work with most 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.

Our scatterometry capabilities have enabled us to penetrate new customers with Stand-Alone Optical CD metrology systems. Our combined offering of advanced measurement hardware and advanced modeling software place us in a position to offer an advantageous solution to our customers.

Our suite of technological capabilities includes:

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/or 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 a 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 rules, down to 45 nm and below.

Imaging and image processing. This technology has three different applications: 1) navigating on product wafers to perform measurements on very small selected 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.

Wide Angle X-Ray Diffraction. This technology enables measurement of microstructure of polycrystalline materials. The system is based on collecting a diffracted x-ray signal on a large area detector. The parameters that can be measured using this technique are: phase, phase volume fraction, texture, texture volume fraction, relative grain-size and layer thickness. This technology was originally developed by HyperNex a company that in August of 2006 we purchased substantially all its assets and assumed its certain liabilities.

The measurement techniques used in our metrology products are unique and protected by a number of patents. 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.

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 1998 we received the prestigious Editors Choice Best Product Award from Semiconductor International magazine for our NovaScan 420 integrated thickness measurement tool for CMP process monitoring, in 2004 received the award for our NovaScan 2020Cu and 3030Cu for Copper CMP process monitoring, and in 2007 we received the award for our NovaScan 3090CD for thin-film metrology of dielectric CMP and copper applications, CD control and shape profiling.

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 applications as well as X-Ray based microstructure monitoring for advanced physical vapor deposition and electroplating applications. Our integrated thickness monitoring system for chemical mechanical polishing process 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 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 at the end of 2000, and since then has replaced the NovaScan 840 and accounted for the majority of our sales for 200 mm production lines.

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 rage (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 the 300 mm production lines. The NovaScan 3060 was introduced in 2002.

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.

The NovaScan 3030Cu has the same basic platform as the NovaScan 3030, with additional hardware and software improvements, enabling the system to answer the unique requirements of 300 mm copper CMP monitoring. The system went through field-testing during 2002 and was released for sale in the beginning of 2003.

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 3090 CMP system is a broad spectral range system for chemical mechanical polishing metrology needs, measuring thin film thickness at high throughput. The system went through field-testing and was released for sale in 2005.

The NovaScan 3090 CD 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 2003 and was released for sale in 2004. The systems are sold as integrated metrology systems and as stand-alone systems with third-party automation modules.

The NovaScan 3090 SA is similar in performance to the NovaScan 3090 CD, providing full two and three dimensional profiling capabilities in a stand-alone configuration. The systems are utilized in lithography, etch, thin film deposition and chemical mechanical polishing process. The system was released for sale in 2005.

The NovaScan 3090Next system is the next generation metrology targeted at 45nm and 32nm technology nodes. The NovaScan 3090Next provides up to 50% throughput improvement, better accuracy and tool to tool matching and higher polarized spectral range enabling measurement of smaller features. The NovaScan 3090Next is available as integrated metrology and as standalone metrology systems.

CrystalX II is the newest addition to Nova s product line and is the result of the HyperNex acquisition. Employing Wide Angle X-Ray Diffraction (WA-XRD) CrystalX II answers one of the most critical requirements of IC manufacturing for measurements that provide insight into electrical performance of semiconductor devices. The system quickly identifies changes and irregularities in film microstructure that degrade device performance, reliability and yield - variations that are undetected by other metrology techniques.

NovaMars is an advanced scatterometry modeling and application development software tool enabling complex 2D, 3D and in-die measurements. Process engineers can harness the power and flexibility of the tool to develop their own scatterometry applications by themselves thus keeping the details of their process within the fab. Its user interface and high level of automation provide for easier and faster application development and eliminate discrepancies between different developers, enabling the best solution, independent of user proficiency. The NovaMars is offered as an option together with the 3090 &3090Next product family.

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.

NovaHPC (High Power Computer) supports the NovaMars Application Development Tool and enables effective and timely results. Scalable and user configurable infrastructure with Nova s proprietary task management software addresses the growing needs of IC manufacturing metrology. NovaHPC is just one of the few solutions available for cost effectiveness and computation power growth flexibility. The standalone modular rack:

- HPC
- TurboHPC
- Grid computing connectivity enabled
- Web-based management SW

NovaHPC Value-Added Benefits: accelerates recipe set-up library building, Scalable infrastructure, invest as you grow and Low-cost entry level using grid computing with existing computation resources.

While we continue to emphasize our integrated metrology solutions, we offer our products as stand-alone equipment as well, thereby significantly expanding our potential available markets. While we have succeeded in penetrations of standalone metrology in 2006 and 2007, our revenues remain substantially dependent on sales of our CMP integrated metrology 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 in scatterometry, thin film metrology and x-ray metrology, and include measurement instruments, optical modeling, image acquisition, pattern recognition, equipment integration and fab automation. Our research and development staff consists of about 80 highly skilled members, including independent contractors. Since June 2003, our research and development operations have been certified as ISO9001/2000 quality standard.

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 2005, 2006 and 2007, our research and development expenses, net of participation by the Office of the Chief Scientist, were $9.3 million, $9.2 million and $9.1 million respectively, representing, 31%, 19% and 16% of our respective total revenues for those years. We anticipate that our research and development expenses, net, will be approximately $10.5 million in 2008.

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 63 U.S. patents and approximately 40 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 2024. We also have 24 U.S. patent applications pending and 40 applications pending in other countries. Our patents and applications principally cover various aspects of optical measurement systems and methods, integrated process control implementation concepts, and optical, opto-mechanical and mechanical design. We have also registered 4 trademarks in the United States and 5 trademarks in countries other than the U.S. In August 8, 2006, HyperNex assigned all of its right, title, and interest in 8 U.S. patents, 3 non-U.S. patents, 6 patent applications filed in other countries and 4 trademarks registered in the U.S.

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.

In March 2005, we filed a civil action in the United States District Court for the Northern District of California against Nanometrics seeking to enforce our U.S. Patent No. 6,752,689. This patent relates to an integrated optical measuring system. In the civil action, we seek an injunction against Nanometrics from infringing patent No. 6,752,689, monetary damages for infringement, attorneys fees and costs and expenses. Nanometrics has filed a counterclaim seeking judgment declaring the patent invalid, that Nanometrics does not infringe the patent and awarding Nanometrics costs and fees.

In April 2006, Nanometrics filed a civil action in the United States District Court for the Northern District of California against us and our wholly-owned subsidiary, Nova Inc. alleging infringement of its U.S. No. Re 34,783. This patent relates to measurements of reflectance of materials. In the civil action, Nanometrics is seeking an injunction for monetary damages for willful infringement, attorneys fees, and costs and expenses. We filed our answer and counterclaim in May 2006, seeking a declaration that Nanometrics patent is invalid and unenforceable, and that neither us nor Nova Inc. infringe the patent. Nova filed a request for re-examination of the Nanometrics patent with the U.S. Patent & Trademark Office (PTO). This request for re-examination was accepted by the PTO for review in December 2006. Thereafter, Nova filed a motion with the court for a stay in the patent litigation case pending completion of the re-examination process of the patent in the lawsuit by the PTO. After reading and considering the arguments presented by the parties, the court granted Nova s motion to stay. On May 25, 2007 the PTO rejected all 5 claims of U.S. No. Re34,783 filed by Nanometrics and, in view of Nanometrics failure to file an appropriate response to the rejection, on August 16, 2007 the PTO issued a Notice of Intent to Issue a Re-examination Certificate, cancelling all 5 claims of the patent.

In October 2006, Nanometrics filed a lawsuit with the United States District Court for the Northern District of California alleging Nova is infringing U.S. Patent Numbers 5,867,276, and 7,115,858.

In April 2007, we reached a settlement with Nanometrics regarding all three patent suits between the companies. We agreed to dismiss, without prejudice, all pending patent litigation between the two parties, and have further agreed not to file patent suits against the other and/or any supplier or customer of the other party for patent infringement based on offers to sell, actual sales, manufacturing, purchase or use of any equipment of the other party for a period of one year. The settlement, which received the court approval, terminated the three lawsuits pending in the U.S. District Court for the Northern District of California. No permanent settlement has been reached in these suits. Should the disputes be reopened, even if we are ultimately successful, it 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.

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. We are not presently involved in any material legal proceeds 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 PTO, is unenforceable at this time, and may or may not survive the reexamination. If the PTO 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.

In September 2006, we invited companies to submit bids to license some of our patents. These patents have substantial value because the industry is on the threshold of widespread adoption of integrated metrology and the methods covered by the patents are critical for advanced manufacturing of semiconductors. We were pioneering the use of an auction model to set a market price for patent licenses by offering to the highest bidder licenses for six of our patents pertaining to the use of a lithography tool with integrated metrology in semiconductor processing lines. Participants in the auction also have the option to bid for full ownership of the patents, which represent only a small portion of Nova s extensive patent portfolio. The auction covers two groups of patents:

Integrated Metrology group which consists of four patents that generally relate to a lithography track with an integrated optical measurement capability that can be used for various types of metrology applications including overlay registration, critical dimensions, and macro defect inspection.

Advanced Process Control group which consists of two patents related to methods for photolithographic processing involving making a spectrophotometric measurement and using it to influence the processing time, focus or exposure of a processing tool.

Bids may be as follows:

A license for a particular model of semiconductor processing equipment, including customer rights to use.

A license for practice of the patents at a particular semiconductor fabrication facility or set of facilities.

Complete acquisition of the patents (or one of the two groups).

In July 13, 2007, Nova reached an agreement to license the patents to a large semiconductor manufacturer for a total consideration of more than US$1 million. We are continuing the negotiations with a number of other entities for sale or license of the patents.

For additional information regarding our intellectual property, *see* Our Technology starting on page 16.

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 features and benefits of our systems can improve equipment yields, overall equipment efficiency and increase productivity, 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 metrology systems such as those we manufacture. 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, and that we are able to continuously enhance our products with functionality demanded by these two distinct types of customers.

To further enhance our marketing efforts, we have established a system of integrated sales and support activities with key process equipment manufacturers. 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 as partners as we introduce new integrated process control systems that can be integrated with different types of equipment.

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 113 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.

We serve all sectors of the integrated circuit manufacturing industry including logic, ASIC, foundries and memory manufactures. 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,		
	2005	2006	2007
	(in thousands)		
U.S.	$ 9,945	$ 16,525	$ 15,861
Europe	1,990	4,800	7,405
Japan	6,666	3,214	2,686
Asia-Pacific	11,541	23,753	32,125
Total	$ 30,142	$ 48,292	$ 58,077

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,			
	2004	2005	2006	2007
Total revenues from five largest customers	82%	83%	79%	87%
Range of revenues from five largest customers	3%-45%	2%-48%	1%-46%	1%-47%

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.

The highly competitive nature of the market for semiconductor capital equipment affects our ability to successfully implement our marketing and sale efforts. 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 primarily compete with products manufactured by Nanometrics Inc. We have gained market share with the successful launch of NovaScan 3090 but we expect our integrated products to face intense competition in the coming years. In the scatterometry field, we face intense competition in both integrated and stand-alone metrology, from several companies.

Manufacturing

In order to leverage the relatively high volume of integrated systems we manufacture, and in order 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. Since then, we have upgraded our quality systems to conform to ISO 9001/2000 requirements.

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 70 new systems and repair an additional 65 systems per quarter in our current facilities. Currently, we are operating at approximately 90% of that capacity.

We have our manufacturing facility, which is located in Ness-Ziona, Israel divided into 2 buildings. 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:

Name of Subsidiary	Country of Incorporation
Nova Measuring Instruments Inc.	Delaware, U.S.
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 31.

Properties and Equipment

Our main facilities, located in Ness-Ziona, Israel, occupy approximately 5,200 square meters, including: approximately 1,000 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. Our current lease commitment relating to our facilities in Israel expires at the end of January 2013.

Our U.S. subsidiary leases approximately 400 square meters in Arizona, 300 square meters in Santa Clara for use as a pre-sale and support facility. Our Japanese and Taiwan subsidiaries lease approximately 200 and 400 square meters for use as a service and pre-sale facility, respectively. At the end of 2005 our Netherlands subsidiary closed its offices which occupied approximately 100 square meters. In the forth quarter of 2007, we closed our facility in State College, Pennsylvania USA.

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

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. Additionally, many of the Company s male employees in Israel are currently obligated to perform annual reserve duty in the Israel Defense Forces and virtually all such employees are subject to being called to active duty at any time under emergency circumstances. 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 the Company of any expansion or reduction of such obligations.

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 33.

Item 4A. Unresolved Staff Comments

Not applicable.

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 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 and directly to semiconductor manufacturers.

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.

In 2003, demand for semiconductors started to increase and, as a result, demand for capital equipment by semiconductor manufacturers also increased. This increased demand continued in 2004. Accordingly, our financial results for 2003 and 2004 improved. In 2005, however, demand for capital equipment decreased and the decrease is reflected in our financial results for 2005, in which we suffered steeper losses than in 2003 and 2004. In 2006 we experienced significant growth and our sales grew 60% compared to 2005. This growth was a result of an overall upturn in the industry as well as successful proliferation of our latest model the NovaScan 3090. However, we cannot predict with certainty how long the industry upturn will last and whether we will be able to further increase our sales and revenues in the following years.

We derive our revenues principally from sales of our metrology systems and services relating to our systems. In 2007, product sales produced 80% of our total revenues and services produced 20%. Presently, we have no significant long-term debt, and during 2007 we presented an overall positive cash flow of $7.7 million. As of the end of 2007, we had working capital of $21 million.

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 approximately $100,000 to approximately $1,000,000, 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.

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: gross margins; warranty cost per system and warranty costs as a percentage of sale price; 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. Blended gross margins in 2007 were 43%, while product sales presented gross margins of approximately 50% and services presented gross margins of 9%. In 2007, warranty costs amounted to approximately 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. Our average inventory levels in 2007 were approximately 15% of yearly sales. In 2007, average days sales outstanding for total revenues were 57 and ranged between 52 and 67 days over the four quarters of 2007. Geographical distribution analysis of installation at end user sites of our products reveals an increase in the installation of our products in Asia Pacific (excluding Japan) from 49% in 2006 to 55% in 2007 and a corresponding decrease in installations mainly in the U.S. and Japan.

Significant Events in 2007 and Outlook for 2008

The year 2007 had several significant events:

A 20% increase in revenues year over year, resulting mainly from the continued proliferation of the integrated metrology NovaScan 3090 product family into existing and new customers.

A $4.6 million positive cash flow from operating activities.

Penetration into new customers with the NovaScan 3090 Optical CD Stand Alone product.

A $4.1 million non-cash write-off of tangible and intangible assets related to the 2006 HyperNex Inc. acquisition

In 2008, Nova will focus 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, and products related to the new acquisition, in the x-ray segment. Over the next three years, Nova anticipates introducing future generations of its current products and new products to address the advancing technology trends toward feature sizes of 45 nm and below and new processes and materials. We believe that in 2008 our business opportunities will most likely come from the increased need for monitoring and controlling which result from decreasing feature sizes, and the accelerated move to new 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 risks 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 that 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. Since 2004, this percentage decreased and we expect it to continue to decrease as copper CMP equipment is expected to dominate the CMP equipment market. Given this shift, we have spent development resources with both customers and process equipment manufacturers to accommodate the needs of the Copper CMP process. These needs are different from those of Oxide CMP. We have and continue to offer a solution for Copper CMP which has been adopted on a smaller scale than the Oxide CMP solution and we continue to strive to increase its proliferation, though we can not foresee what will ultimately be the process control needs for copper CMP, and whether the products and solutions we introduce for the copper CMP market will be accepted.

In the past few years we have also worked collaboratively with two of the three leading etch manufacturers to integrate our metrology for a process control scheme similar to the concept used in CMP. Though this integration offers advanced capabilities, its adoption in the market place has been slow. We are constantly monitoring technological advancements and the applicability of our technology to those advancements, but we cannot foresee the extent to which our solutions will ultimately be adopted. In the past year we also started collaborative work with a lithography track manufacturer, again, utilizing our integrated metrology platform. Similar to the situation in the etch market, this market is at its early stages and its advancement to a larger scale business has not yet taken place.

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 in 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 from the sale of products when all the following criteria have been met: a persuasive evidence of an arrangement exists, delivery has occurred, the price is fixed or determinable, collection of resulting receivables is probable and there are no remaining significant obligations.

In accordance with EITF 00-21 for arrangements containing multiple elements, fair value of each element is determined based on specific objective evidence and revenue is allocated to each element based upon its fair value. The revenue relating to the undelivered elements is deferred at estimated fair value until delivery of the deferred elements. If specific objective evidence of fair value does not exist for all elements to support the allocation of the total fee among all delivered and undelivered elements of the arrangement, revenue is deferred until such evidence exists for the undelivered elements, or until all elements are delivered, whichever is earlier.

Service contracts (which sometimes include application support) generally specify fixed payment amounts for periods longer than one month, and are recognized on a straight line basis over the term of the contract. Revenue from sale of spare parts is usually recognized upon shipment of the parts.

Other service revenue (training, time & material, etc.) is recognized upon completion of work.

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 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. 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-off

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 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 U.S., however, we expect that U.S. sales as a percentage of total sales may decrease if the portion of our sales directly to semiconductor manufacturers, rather than through process equipment manufacturers, will increase. In 2005, 66% of our revenues were derived from U.S. customers, 11% were from European customers, 18% were from Japanese customers, and 5% were derived mainly from Asian (other than Japanese) customers. In 2006, 68% of our revenues were derived from U.S. customers, 10% were from European customers, 13% were from Japanese customers, and 9% were derived mainly from Asian (other than Japanese) customers. In 2007, 63% of our revenues were derived from U.S. customers, 8% were from European customers, 20% were from Japanese customers, and 9% were derived mainly 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.

	2005	2006	2007
USA	33%	34%	27%
Europe	7%	10%	13%
Japan	22%	7%	5%
Asia-Pacific	38%	49%	55%
Total	100%	100%	100%

Historically, a substantial portion of our revenues has come from a small number of customers. In 2005, 2006 and 2007 our five largest customers accounted for 83%, 79% and 87% of our revenues, respectively. In 2005, 2006 and 2007 our single largest customer accounted for 48%, 46% and 47% 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 3 to 12 months and depends upon the status of our system s 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 2007, our inventory levels at the end of each quarter ranged from $6.7 million to $9 million. We planned our 2007 inventories for sales of 200 mm systems and 300 mm systems according to our expectation that approximately 90% of equipment sales would be for 300 mm equipment and that the NovaScan 3090 would account for most of our sales of 300 mm systems. Actual sales in 2007 were similar to this plan. In 2008, we anticipate continued proliferation of the new NovaScan 3090 product series for the 300 mm market, and expect that overall 300mm sales will account for over 90% of our revenues. 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. In general, 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 by 20% in 2007 following a 60% increase in 2006 and an 18% decrease in 2005.

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,		
	2005	**2006**	**2007**
Revenues from products sale	72.9%	79.2%	78.5%
Revenues from services	27.1%	20.8%	20.2%
Revenues from IP Licensing	--	--	1.3%
Total revenues	100.0%	100.0%	100.0
Cost of products sale	37.9%	38.8%	38.3%
Inventory write-off related to Hypernex assets and liabilities acquisition	--	--	0.5%
Cost of services	26.2%	18.7%	18.4%
Total cost of revenues	64.1%	57.5%	57.2%
Gross profit	35.9%	42.5%	42.8%
Operating expenses:			

	Percentage of Total Revenues Year ended December 31,		
Research and development expenses, net	30.8%	19.0%	15.8%
Sales and marketing expenses	23.1%	18.1%	17.5%
General and administrative expenses	12.0%	10.6%	8.3%
Impairment loss on intangibles and equipment related to Hypernex assets and liabilities acquisition	--	--	6.6%
Total operating expenses	65.9%	47.7%	48.2%
Operating loss	(30.0)%	(5.2)%	(5.4)%
Financing income, net	2.1%	1.2%	(1.3)%
Net Loss	(27.9)%	(4.0)%	(6.7)%

Comparison of Years Ended December 31, 2007 and 2006

Revenues. Our revenues in 2007 increased by $9.8 million, or 20.3%, compared to 2006, with revenues attributable to product sales accounting for $45.6 million, an increase of $7.3 million, or 19%, compared to 2006, and with revenues attributable to services accounting for $11.7 million, an increase of $1.7 million, or 16.6%, compared to 2007. Revenues in 2007 also included $0.8 million attributable to IP licensing. The increase in product sales revenue in 2007 was attributed mainly to the increased demand for our integrated metrology products from existing and new customers. Revenues from services accounted for 20.2% of total revenues in 2007, compared to 20.8% of total revenues in 2006. The increase in service revenues is attributed mainly to new service contracts.

We expect that sales from our main integrated process control product line targeting the CMP market, including dielectric CMP, copper CMP and etch, will continue to account for a substantial portion of our revenues for at least the next year, and that the new stand alone product lines sales will gradually become more significant following wider market penetration. 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 our revenues. In 2008, we expect that service revenue may increase relative to 2007 as the warranty periods for additional systems will expire and we expect customers to buy service contracts or time and material services for these systems. This increase may of course be mitigated in case of older contracts which are not renewed.

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 2007 was $22.2 million, an increase of $3.5 million, or 18.8%, compared to 2006. This increase is attributable to the increased volume of systems sold in 2007. Our cost of revenues attributable to product sales, as a percentage of total revenues in 2007, was 38.3%, compared to 38.8% in 2006. In the years ended December 31, 2007 and 2006, we wrote-off inventories in the amounts of $0.6 million (including $0.3 million related to the acquisition of HyperNex assets and liabilities) and $0.4 million, respectively. Our cost of revenues attributable to services in 2007 was $10.7 million, an increase of $1.7 million, or 18.7%, compared to 2006. This increase is attributable mainly to labor and material costs relating to the supply of new service contracts.

Our gross profit increased by 21% to $24.8 million in 2007, compared to $20.5 million in 2006. Our gross profit represented 42.7% and 42.6% of our total revenues in 2007 and 2006, respectively.

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 Israel Office of the Chief Scientist. Our net research and development expenses decreased by 0.3% to $9.1 million in 2007 from $9.2 million in 2006, after offsetting conditional grants received or receivable from the Office of the Chief Scientist of $2.4 million in 2007 and $1.9 million in 2006. In 2007, net research and development expenses represented 15.8% of our revenues compared to 19% of our revenues in 2006, due to the significant increase in our revenues in 2007.

Approximately $6 million of our net research and development expenses in 2007, resulted from our research and development efforts relating to the introduction of the new NovaScan 3090 models, to current products activities, and to creating a new technology infrastructure for scatterometry based metrology solutions. 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. Approximately $3 million of our net research and development expenses in 2007, was related to developing a technology infrastructure for next generation metrology tools platforms, for integrated metrology market segments and for stand alone metrology market segments, including x-ray technology.

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 by 16% to $10.2 million in 2007 from $8.8 million in 2006. This increase is attributable to increased expenses associated with evaluations, commissions and sales activity mainly in the Asia Pacific region. Sales and marketing expenses represented 17.5% and 18.1%, of our revenues in 2007 and 2006, respectively. The decrease as a percentage of revenue is related to the higher volume of revenues in 2007.

General and Administrative. General and administrative expenses are comprised of salaries and related expenses and other non-personnel related expenses such as legal expenses. Our general and administrative expenses decreased 6% to $4.8 million in 2007 from $5.1 million in 2006. This decrease is primarily attributed to a decrease in legal expenses related to the Nanometrics intellectual property infringement law suits which were settled in April 2007. General and administrative expenses represented 8.3% and 10.6% of our revenues in 2007 and 2006, respectively. The decrease in general and administrative expenses as a percentage of revenues from 2006 to 2007 is a result of the increase in our revenues in 2007 and the decrease in legal expenses in year 2007.

Other Operating Expenses. During the third quarter of 2007, we incurred a $3.8 million impairment loss on intangibles and equipment related to the acquisition of HyperNex assets and liabilities.

Financial Income, Net. Financial income, net, for year 2007, includes $1.4 million impairment charge, related to short term investments in Auction Rate Securities. Excluding this charge, financial income, net, in year 2007 amounted to $0.6 million, similar to year 2006.

Comparison of Years Ended December 31, 2006 and 2005

Revenues. Our revenues in 2006 increased by $18.2 million, or 60%, compared to 2005, with revenues attributable to product sales accounting for $38.3 million, an increase of $16.3 million, or 74%, compared to 2005, and services accounting for $10.0 million, an increase of $1.9 million, or 23%, compared to 2005. The increase in product sales revenue in 2006 was attributed mainly to the increased demand for our integrated metrology products and the successful penetration and revenues from our stand-alone Optical CD product, which was accompanied by the general upturn in the semiconductor industry in 2006. Revenues from services accounted for 21% of total revenues in 2006, compared to 27% of total revenues in 2005. The decrease in the percentage of our revenues from services is attributed mainly to the increase in product revenues in 2006 relative to 2005. The increase in service revenues is attributed mainly to new service contracts.

Cost of Revenues and Gross Profit. Our cost of revenues attributable to product sales in 2006 was $18.7 million, an increase of $7.3 million, or 64%, compared to 2005. This increase is attributable to the increased volume of systems sold in 2006. As a percentage of total revenues, our cost of revenues attributable to product sales in 2006 increased to 38.8% from 37.9% in 2005. This increase is attributable to the higher sales volume of products with lower gross margins. In the years ended December 31, 2006 and 2005 we wrote-off inventories in the amounts of $0.4 million and $0.1 million, respectively. Our cost of revenues attributable to services in 2006 was $9.0 million, an increase of $1.1 million, or 14%, compared to 2005. This increase is attributable mainly to labor and material costs relating to new service contracts.

Our gross profit increased by 90% to $20.6 million in 2006 from $10.8 million in 2005. Our gross profit represented 42.5% and 35.9% of our total revenues in 2006 and 2005, respectively. Our gross profits increased from 2005 to 2006 due to the higher volume of revenues, and were partially offset by revenues from lower gross margins products.

Research and Development Expenses, Net. Our research and development expenses, net, decreased by 1% from $9.3 million in 2005 to $9.2 million in 2006, after offsetting conditional grants received or receivable from the Office of the Chief Scientist of $1.9 million in 2006 and 2005, each. In 2006 research and development expenses, net, represented 19% of our revenues compared to 31% of our revenues in 2005, due to the significant increase in our revenues in 2006.

Approximately $5 million of our research and development expenses, net, in 2006, resulted from our research and development efforts relating to the introduction of the new NovaScan 3090 models, to current products activities, and to creating a new technology infrastructure for scatterometry based metrology solutions. 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. Approximately $3 million of our research and development expenses, net, in 2006, was related to developing a technology infrastructure for next generation metrology tools platform, both for stand-alone and for integrated metrology market segments. The balance was related mainly to development costs related to the x-ray technology which we acquired in August 2006.

Sales and Marketing. Our sales and marketing expenses increased by 26% from $7.0 million in 2005 to $8.8 million in 2006. Sales and marketing expenses represented 23% and 18%, respectively, of our revenues in 2005 and 2006. The decrease as a percentage of revenue is related to the higher volume of revenues in 2006. This decrease was offset with $1.8 million higher sales and marketing costs in 2006, related to evaluations, commissions and managerial transition costs in the Asia Pacific and Japan regions.

General and Administrative. Our general and administrative expenses increased 42% from $3.6 million in 2005 to $5.1 million in 2006. This increase is attributed mainly to an increase in legal expenses related to the Nanometrics intellectual property infringement law suit. General and administrative expenses represented 12% and 11% of our revenues in 2005 and 2006, respectively. The decrease in general and administrative expenses as a percentage of revenues from 2005 to 2006 is a result of the increase in our revenues in 2006, which was offset mainly by the increase of our legal costs as described above.

Liquidity and Capital Resources

As of December 31, 2007, we had working capital of approximately $21 million compared to working capital of $16 million as of December 31, 2006. This increase is attributed primarily to a $5 million increase in our cash and cash equivalents levels following the private placement that was concluded during the first quarter of 2007.

Cash and cash equivalents, short-term and long-term deposits and securities held to maturity as of December 31, 2007 were $22.9 million compared to $15.2 million as of December 31, 2006.

Trade accounts receivable decreased from $10.3 million as of December 31, 2006 to $9.1 million as of December 31, 2007, despite the increase in sales volumes during year 2007. This decrease is attributable mainly to increased efficiency in our collection cycle. Inventories decreased from $9.0 million as of December 31, 2006 to $8.5 million as of December 31, 2007.

Operating activities in 2007 generated positive cash flow of $4.6 million compared to $5.1 million negative cash flow in 2006, due to the increase in revenues in year 2007, which was accompanied by relatively stable gross margins, by stable operating expenses (excluding impairment loss on intangibles and equipment related to Hypernex assets and liabilities acquisition) and by efficient working capital management in year 2007. Financing activities generated $5.7 million of cash in 2007, compared to $0.1 million in 2006, mainly due to the private placement that was concluded during the first quarter of 2007.

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

	2007		2006		2005	
	Domestic	Abroad	Domestic	Abroad	Domestic	Abroad
	(in dollar thousands)					
Electronic equipment	1,953	51	955	81	1,176	41
Office furniture and equipment	27	32	44	14	13	2
Leasehold improvements	11	97	228	12	48	2
Total	1,991	180	1,227	107	1,237	45

In year 2007, the investment in capital expenditures was financed from the positive cash flow from operating activities. The increase in capital expenditures for electronic equipment in 2007 is attributable mainly to 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 up to $2 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, demonstration centers and expansion of our clean-room manufacturing facility.

Our principal liquidity requirements are expected to be for working capital and capital expenditures. We believe that our current cash reserves, 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 positive 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 that additional financing will be available on acceptable terms.

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

During 2007, short-term investments in the amount of $2.9 million in Auction Rate Securities experienced failed auctions. Accordingly, these investments have been classified as long-term investments in our financial statements. The maturity dates of these investments range from 10 to 30 years. For additional information see note 2G in the financial statements.

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 59.

Off-Balance Sheet Arrangements

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

Contractual Obligation

As of December 31, 2007 we had contractual obligations as described in the following table:

	Total	Less than 1 year	1-3 years
Operating Lease Obligations	4,107	1,404	2,703
Purchase Obligations	6,718	6,663	55
Other Long Term Liabilities	51	-	51
Total	10,876	8,067	2,809

Research and Development

For information regarding our research and development activities, see Research and Development starting on page 19.

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, Trade and Labor. 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 5% 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 the products developed with these grants in Israel. 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, only if prior approval is received from the Office of the Chief Scientist. This approval 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 to another Israeli company 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, 2007 we received conditional grants from the Office of the Chief Scientist totaling $12.1 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, 2007, our contingent liability to the Office of the Chief Scientist for conditional grants received was approximately $6.2 million. See also Note 9A to our consolidated financial statements contained elsewhere in this report.

The funds available for conditional grants from the Office of the Chief Scientist were reduced for 2004 and 2005, and the Israeli authorities have indicated that the government may further reduce or abolish grants of this kind in the future. Even if these conditional grants are maintained, we might not receive them 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 the Chief Scientist, in 2007, 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 the 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, however, the provisions of the law and related regulations regarding the restrictions on the transfer of know-how outside of Israel apply to these programs. 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, 2007, we had received approximately $3.5 million in grants from the Office of Chief Scientist in connection with these programs.

Item 6. Directors, Senior Management and Employees

The following is the list of senior management and directors as of February 29, 2008:

Name	Age	Position
Micha Brunstein	64	Chairman of the board of directors
Giora Dishon	63	Director and co-founder
Moshe Finarov	56	Director and co-founder
Avi Kerbs	61	Director
Alon Dumanis	58	Director
Dan Falk	63	External Director
Naama Zeldis	45	External Director
Nicolas Bright	52	Director
Avi Cohen	54	Director

Name	Age	Position
Gabi Seligsohn	42	President and Chief Executive Officer
Dror David	39	Chief Financial Officer
Avi Magid	47	Executive Vice President Global Business Management Group
David Scheiner	48	Chief Technology Officer
Avron Ger	47	Vice President Thin Film Business Unit
Gabi Sharon	46	Vice President Operations

Our directors (other than the external directors) serve as such until the next annual general meeting of our shareholders. Our external directors, in accordance with Israeli law, serve for a three-year term, which may be renewed for one additional three-year term and thereafter for additional three-year terms, if both the audit committee and the board of directors confirm that in light of the expertise and contribution of the external director, the extension of such external director s term would be in the interest of our company. Mr. Dan Falk was elected in 2005. Ms. Zeldis was elected in 2006.

Dr. Micha Brunstein was named chairman of our board of directors in June 2006, after serving as member of our board of directors from November 2003. During the years 1990 and 1999, Dr. Brunstein served as 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 a board member of Ham-let Ltd., a company listed on the Tel Aviv Stock Exchange and Valor Computerized Systems Ltd., a company listed on the Frankfurt Stock Exchange. He is a chairman and serves on boards of directors of several privately owned companies. Dr. Brunstein holds a B.Sc. in Mathematics and Physics from the Hebrew University, Jerusalem, and a M.Sc. and a Ph.D. in Physics from Tel Aviv University.

Dr. Giora Dishon is a co-founder of Nova and served as President and Chief Executive Officer since Nova s formation in 1993 until August 2006. 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 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, Jerusalem, Israel.

Dr. Moshe Finarov is a co-founder of Nova and a member of our board of directors. He has served as Chief Technology Officer and VP Technology from Nova s formation in 1993 until August 2006. From 1989 to 1993 he served as Senior Physicist at Orbotech Ltd. and from 1974 to 1988 he was employed at PULSAR and ENIMS Scientific Research Institutes in Moscow. Dr. Finarov holds a Ph.D in Semiconductor Physics and a M.Sc. in Microelectronics from Moscow Steel & Alloys Institute. He is named on approximately 44 U.S. patents and published approximately 40 papers.

Mr. Avi Kerbs has served as a director of Nova since 1993. He serves as the President and Chief Executive Officer of Teuza Management & 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 holds a B.Sc. in Industrial Engineering and Management and a M.Sc. in Management from the Technion Israel Institute of Technology. Mr. Kerbs serves as a member of the Technion s Board of Governors and the Haifa University Board of Governors. Mr. Kerbs is also a member of the Board of the United Cerebral Palsy Research and Educational Foundation in the U.S. Mr. Kerbs was originally appointed to our board of directors by Teuza.

Dr. Alon Dumanis, has served as a director of Nova from 2002. He is the Chief Executive Officer of Docor International Management, a Dutch investment company, subsidiary of The Van-Leer Group Foundation. Dr. Dumanis is a member of the board of directors of Tadiran Communications (TASE-TDCM), a former member of the board of directors of El Al Israel Airlines (TASE-LY), and a former member of the board of directors of Inventech Investments Co. Ltd. (TASE-IVTC). Previously, Dr. Dumanis was the Head of the Material Command in the Israel Air Force at the rank of Brigadier General. Dr. Dumanis currently serves as chairman and member of several national steering committees and is the author of many papers published in a number of subject areas, including technology and management. Dr. Dumanis holds a Ph.D. in Aerospace Engineering from Purdue University, West Lafayette, Indiana, USA.

Mr. Dan Falk was elected as the Company s external director in accordance with the provisions of the Israeli Companies Law in 2005. Mr. Falk is a business consultant to public and private companies. During 1999 to 2000 Mr. Falk served as Chief Executive Officer and Chief Operating Officer of Sapiens International NV. Prior to that, Mr. Falk served as Executive Vice President and Chief Financial Officer of Orbotech Ltd. Mr. Falk serves as a member of various companies boards of directors such as Orbotech Ltd., Nice Systems Ltd., Ormat Technologies, Inc., Attunity Ltd., ClickSoftware Technologies, Ltd., Jacada Ltd., (all of which are companies publicly traded in the United

States). Mr. Falk also serves as the chairman of the board of directors of Orad Hi-tech Systems Ltd. and as a board member of Dmatek Ltd., AVT Ltd., Amiad Filtration Systems Ltd. (all of which are companies publicly traded in Europe) and Plastopil Ltd. (traded in TASE). Mr. Falk s son-in-law is a junior partner at Gross, Kleinhendler, Hodak, Berkman & Co., our outside counsel.

Ms. Naama Zeldis was elected as the Company s external director in accordance with the provisions of the Israeli Companies Law in 2006. Ms. Zeldis has been serving as Chief Financial Officer of Netafim Ltd. since December 2005. Prior to that, she served as Chief Financial Officer of EDS Israel, Radguard, and Director of Finance of RAD Data Communications. Ms. Zeldis has been serving as a member of the board of directors and of the audit committee of Metalink since Dec. 2006. Metalink is traded both on Nasdaq and on the Tel Aviv Stock Exchange. Ms. Zeldis holds a B.A. in Economics and an M.A. in Business Administration, majoring in Financing, from the Hebrew University of Jerusalem and a B.A. in Accounting from Tel-Aviv University.

Mr. Nicolas Bright has served as a director of Nova since August 2007. Mr. Bright is Executive Vice President of Products at Lam Research Corporation, focusing on new business opportunities and markets. Mr. Bright joined Lam in 1998 and successfully led Lam s 2300 ® businesses from research and development to market positioning and penetration. He has held various management positions within Lam, including Executive Vice President of Global Products and Regional Operations, Vice President of Technology and Engineering, and Senior Vice President and General Manager of Products. Prior to joining Lam, Mr. Bright spent 16 years at Applied Materials, Inc., where he held a variety of management positions in engineering and technology groups within etch, ion implant, and automation. Before joining Applied Materials, Mr. Bright held management positions at General Electric Co. in the United Kingdom and ABB in Sweden. Mr. Bright holds B.Sc. and M.Sc. degrees in electrical and electronics engineering from Brunel University in England.

Mr. Avi Cohen was elected to serve as a director of Nova by its board of directors on February 18, 2008. Mr. Cohen serves as Chief Operating Officer and Deputy to the CEO at ECI Telecom Ltd. a leading supplier of best-in-class networking infrastructure equipment for carrier and service provider networks worldwide. Prior to joining ECI in September 2006, Mr. Cohen served in a variety of management positions at KLA-Tencor. From 2003 he was a Group Vice President, Corporate Officer and Member of the Executive Management Committee based at the corporate headquarters in the U.S. During his tenure, he successfully led the creation of KLA-Tencor s global Metrology Group. From 1995 he was the President of KLA-Tencor Israel responsible for the Optical Metrology Division. Before joining KLA-Tencor, Mr. Cohen also spent three years as Managing Director of Octel Communications, Israel, after serving as Chief Executive Officer of Allegro Intelligent Systems, which he founded and which was acquired by Octel. Mr. Cohen holds B.Sc. and M.Sc. degrees in electrical engineering and applied physics from Case Western Reserve University, USA.

Mr. Gabi Seligsohn has served as the President and Chief Executive Officer since August 2006. Having joined Nova in 1998, Mr. Seligsohn has served in several key positions in the company including as the Executive Vice President, Global Business Management Group from August 2005 to August 2006. From August 2002 until August 2005 he was President of Nova s U.S. Subsidiary, Nova Inc. Prior to that he was Vice President Strategic Business Development at Nova Inc. where he established Nova s OEM group managing the Applied Materials and Lam Research accounts between the year 2000 to 2002. From 1998 to 2000 he served as Global Strategic Account Manager for the Company s five leading customers. Mr. Seligsohn joined Nova after two years service as Sales Manager for key financial accounts at Digital Equipment Corporation. Mr. Seligsohn holds an LL.B. from the University of Reading, Reading, England.

Mr. Dror David has served as the Chief Financial Officer since November 2005. Mr. David joined Nova in April 1998, as the Company s Controller, and since than served in various financial and operational positions, including the position of Vice President of Resources, in which he was responsible for the finance, operations, information systems and human resources functions of the company. Mr. David was also a leading member in the company s initial public offering in Nasdaq in 2000 and the Company s private placement in 2007. Prior to joining Nova, Mr. David spent five years in public accounting with Delloitte Touch in Tel Aviv, specializing in industrial high-tech companies. Mr. David is a Certified Public Accountant in Israel, holds a B.A. in Accounting and Economics from Bar Ilan University, and an M.B.A. from Derby University of Britain.

Mr. Avi Magid has served as Executive Vice President Global Business Management since November 2006. From 2001 to 2006, Mr. Magid served as Managing Director and Vice President at Kulicke & Soffa, a leading supplier of semiconductor assembly equipment. From 2000 to 2001, Mr. Magid served as Deputy Managing Director for Business Development at K&S Micro Swiss LTD. Prior to that, Mr. Magid served as Managing Director and Deputy Managing Director for Sales & Marketing at Semitec, Santa Clara, CA. Mr. Magid holds a B.A. in Industrial Engineering from Polytechnic University-Pomona, Pomona, California.

Dr. David Scheiner has served as Chief Technology Officer since September 2006. Dr. Scheiner joined Nova in 1996 and initially served in several positions including Applications Group Manager and Physics Group Manager. From 2000 to 2005 he served as R&D Manager. Dr. Scheiner holds a B.Sc. and M.Sc. in Electrical Engineering from the Technion Israel Institute of Technology, Haifa, Israel and a Ph.D. in Physics from the Weizmann Institute of Science, Rehovot, Israel.

Mr. Avron Ger has served as Vice President Thin Film Business Unit since September 2006. Mr. Ger joined Nova in 1996 and held service management positions as well as key product management and marketing positions. Mr. Ger holds a B.Sc in Electronics from the Technion Israel Institute of Technology, Haifa, Israel.

Mr. Gabi Sharon is serving as Vice President of Operations since September 2006. Having joined Nova in 1995, Mr. Sharon served in several key positions in the company including as Global Customer Support Manager from September 1995 to September 2004. From September 2004 until September 2006 Mr. Sharon managed the Product Development Division, and spearheaded the NovaScan 3090 product line and its successful market launch. For a period of 2 years, from 2004 to 2006, he also served as the Product Marketing Manager and led the initial penetration of the Copper CMP market. Prior to joining Nova Mr. Sharon served as Project Manager in ECI Israel. Mr. Sharon holds B.Sc. in Computer Science from Northeastern University, Boston, Massachusetts, and a M.Sc. in Technology Management from Polytechnic University, New York.

Voting Agreement

We are not aware of any voting agreement currently in effect.

Compensation

The aggregate direct remuneration paid or payable to all persons who served in the capacity of executive officer during 2007 was approximately $1.4 million including approximately $0.4 million, which was set aside for pension and retirement benefits and including amounts expended by us for automobiles made available to our executive officers.

The total amount paid or payable to the directors, including external directors, for 2007 was $1.0 million. This sum includes $0.7 million paid to two of our directors who were employed by the company during 2007, of which $0.5 million will be paid during 2008, according to the termination provisions of their employment agreements. As of February 29, 2008, 1,854,965 options to purchase our ordinary shares were outstanding to certain executive officers and directors (consisting of 15 persons), of which 1,072,951 options are currently exercisable or exercisable within 60 days of February 29, 2008. See Share Ownership Section.

Board of Directors Committees

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

The *Audit Committee* is comprised of Dan Falk, Naama Zeldis, Alon Dumanis and Avi Cohen. The functions of the audit committee according to Israeli Law are to locate and monitor deficiencies in the management of the Company, including in consultation with the independent auditors and the internal auditor, and to advise the board of directors on how to correct such deficiencies. The audit committee is also responsible to assist the board of directors in fulfilling its responsibility for oversight of the quality and integrity of accounting, auditing and financial reporting practices of the Company. Furthermore, 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 to oversee the qualifications, independence, appointment, compensation and performance of the Company s independent auditors. The audit committee operates under a charter adopted by the board of directors.

The *Compensation Committee* is comprised of Avi Cohen, Dan Falk and Micha Brunstein. The function of the compensation committee is described in the approved charter of the committee, and includes assisting the board of directors in discharging its responsibilities relating to compensation of the Company s directors and executives and the overall compensation programs. The primary objective of the committee is to develop and implement compensation policies and plans that are appropriate for the Company in light of all relevant circumstances and which provide incentives that further the Company s long-term strategic plans and are consistent with the culture of the Company and the overall goal of enhancing enduring shareholder value.

The *Investment Committee* is comprised of Naama Zeldis, Avi Kerbs, and Giora Dishon. The function of the investment committee is described in the approved charter of the committee, and includes evaluation of the Company s financial strategies and policies.

The *Nominating and Corporate Governance Committee* is comprised of Alon Dumanis, Dan Falk and Micha Brunstein. The function of the nominating committee is described in the approved charter of the committee, and includes responsibility for identifying individuals qualified to become board members and recommending that the board select the director nominees for election at the general meeting of shareholders. The Nominating and Corporate Governance Committee is also responsible for developing and recommending to the board of directors a set of corporate governance guidelines applicable to the company, periodically reviewing such guidelines and recommending any changes thereto.

The *Strategic Committee* is comprised of Alon Dumanis, Micha Brunstein, Avi Kerbs, Giora Dishon, Moshe Finarov, Nicolas Bright, Avi Cohen and Gabi Seligsohn. The function of the strategic committee is described in the approved charter of the committee, and includes assisting the board in fulfilling its responsibilities for overseeing and facilitating the development and implementation of the company s long-term and short-term strategic planning.

All committees are acting according to written charters that were approved by our board of directors.

Employees

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

	as of December 31,		
	2005	**2006**	**2007**
Total Personnel	239	280	288
Located in Israel	156	168	181
Located abroad	83	112	107
In operations	33	60	71
In research and development	84	83	76
In global business	98	116	117
In general and administration	24	21	24

As of December 31, 2007, we employed a total of 275 persons worldwide, not including 13 independent contractors and temporary employees, of which 76 were in research and development, 71 were in operations, 117 were in global business and 24 were in general and administration. As of December 31, 2007, 181 of our employees were based in Israel and 107 were located abroad.

We were a member of the Industrialists Association in Israel, an employer s union until December 31, 2006. As a result of this membership, a number of collective bargaining agreements apply to us. These agreements principally deal with cost of living wage increases, paid vacation and holidays, length of the workday, wage tariffs, termination and severance payments. As of December 31, 2007, to the best of our knowledge, we have been providing 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 employees employed by Nova Measuring Instruments Ltd. The laws are principally concerned with matters such as paid vacation, paid sick days, length of workday, payment for overtime and severance payments upon the retirement or death of an employee or termination of employment.

Share Ownership

Giora Dishon, former President and Chief Executive Officer, current director and co-founder, and Moshe Finarov, former Vice President, Director of Technology, current director and co-founder, beneficially owned 618,042 (including 61,100 shares held by a trustee pursuant to Israeli tax laws) and 646,941 ordinary shares of the Company, respectively, as of February 29, 2008. All other directors and executive officers each beneficially owned less than 1% of the Company s shares. In addition, the following table sets forth information regarding options held by our directors and officers currently exercisable or exercisable within 60 days as of February 29, 2008.

Name	**Ordinary Shares Underlying Options**	**Expiration Dates**	**Exercise Prices ($/share)**
Giora Dishon	289,023	2008-2014	2.06-5.15
Moshe Finarov	253,219	2008-2014	2.06-5.15

Name	Ordinary Shares Underlying Options	Expiration Dates	Exercise Prices ($/share)
15 directors and officers as a group	1,072,951	2008-2014	1.13-5.15

We currently have six active share option plans. As of December 31, 2007, options to acquire 4,907,061 ordinary shares had been issued under these plans, of which 561,616 options to acquire shares have been exercised, 1,435,077 have been cancelled and 1,822,861 were exercisable. The active share option plans are described below:

Option Plan 5 As of December 31, 2007, options to purchase 972,161 ordinary shares at an exercise prices which range from $1.13 to $2.46, the fair market value of Nova s stock on the date of grant were granted; 222,995 options were exercised, 295,877 options were exercisable and 453,289 options had been cancelled;

Option Plan 6 As of December 31, 2007, options to purchase 960,000 ordinary shares at an exercise price of $2.06, the fair market value of Nova s stock on the date of grant were granted; 294,512 options were exercised, 415,700 options were exercisable and 249,788 options had been cancelled. On September 29, 2005, our shareholders have approved amendments to the plan allowing our board of directors to accelerate the vesting dates and to determine an exercise price which is different from the fair market value of our shares at the date of grant;

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, 2007, 20,000 options were exercised, 25,000 options were exercisable and 30,000 options had been cancelled;

Option Plan 7A As of December 31, 2007, options to purchase 600,000 ordinary shares at exercise prices of $4.01 and $5.15, the fair market value of Nova s stock on the date of grant, were granted; 335,100 were exercisable and 264,900 options had been cancelled. On September 29, 2005, our shareholders have approved amendments to the plan allowing our board of directors to accelerate the vesting dates and to determine an exercise price which is different from the fair market value of our shares at the date of grant;

Option Plan 7B As of December 31, 2007, 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, were granted; 372,425 were exercisable and 277,575 had been cancelled. On September 29, 2005, our shareholders approved amendments to the plan allowing our board of directors to accelerate the vesting dates and to determine an exercise price which is different from the fair market value of our shares at the date of grant;

Option Plan 7C As of December 31, 2007, options to purchase 153,000 ordinary shares at an exercise price of $2.20, the fair market value of Nova s stock on the date of grant, were granted; 3,548 options were exercised, 80,958 options were exercisable, 5,452 options had been cancelled and 63,042 were unvested. We do not intend to grant any further options or shares under this plan;

Option Plan 8 As of December 31, 2007 options to purchase 1,496,900 ordinary shares at an exercise prices which range from $1.79 to $2.87 the fair market value of Nova s stock based on the date of grant were granted. As of December 31, 2007, 20,561 options were exercised, 297,801 options were exercisable, 154,073 options had been cancelled and 1,024,465 were unvested. We do not intend to grant any further options or shares under this plan; and

2007 Incentive Plan The maximum number of ordinary shares to be issued under the plan, which was adopted by our shareholders on October 25, 2008, is 2,500,000, subject to future increases or decreases by the Company. As of December 31, 2007, no options were granted under this plan. On February 18, 2008 options to purchase 22,000 ordinary shares were granted to our employees under this plan at an exercise price of $2.54.

On December 20, 2006, the board of directors resolved to amend the Company s incentive plans to clarify that the blackout period pursuant to the Company s blackout policy shall be excluded from the 30-day exercise period allowed under the various incentive plans following the termination of employment.

On February 19, 2007, the board of directors adopted an Equity Based Compensation Policy, according to which the exercise price of granted options will be as provided by the applicable incentive plan, provided, however, that in the event that the grant approval takes place during a blackout period, the exercise price of the options granted will be equal to the closing price of our ordinary shares on Nasdaq on the trading day immediately following the last day of the blackout period (with the exception of approvals subject to shareholder approvals, in which case, the exercise price shall be the closing price on the day of the shareholder approval).

The following table summarizes information about share options outstanding as of December 31, 2007:

Outstanding as of December 31, 2007				Exercisable as of December 31, 2007	
Range of exercise prices	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)
1.13-1.95	632,221	5.3	1.83	247,036	1.80
2.06	415,700	2.1	2.06	415,700	2.06
2.17-3.69	1,527,347	2.2	2.81	825,025	2.90
4.01	185,100	3.4	4.01	185,100	4.01
5.15	150,000	3.2	5.15	150,000	5.15
	2,910,368			1,822,861	

On August 8, 2006, pursuant to the Amended and Restated Asset Purchase Agreement with HyperNex and its stockholders, we issued 1,208,000 ordinary shares to HyperNex, which were distributed by HyperNex to its stockholders and 392,000 restricted shares were allocated to managers and employees of HyperNex. Ordinary shares issued to HyperNex managers will vest over a thirty (30) month period as follows: (i) a third of the these shares vested on November 8, 2006, which is three (3) months after grant date; (ii) a third of these shares vested on November 8, 2007, which is fifteen (15) months after grant date; and (iii) a third of these shares will vest on February 8, 2009, which is thirty (30) months after grant date. The ordinary shares issued to employees of HyperNex will vest over a three (3) year period with a third of such shares vesting on each anniversary as of the grant date. The Amended and Restated Asset Purchase Agreement, also provides the recipients of our ordinary shares with certain limited piggy-back registration rights. These piggy-back registration rights are subject to certain customary carve-outs and limitations as well as other limitations set forth in the Amended and Restated Asset Purchase Agreement.

Item 7. Major Shareholder and Related Party Transactions

Major Shareholders

The following table sets forth certain information regarding the beneficial ownership of our outstanding ordinary shares as of February 29, 2008 for each person who we know beneficially owns five percent or more of the outstanding ordinary shares.

Beneficial ownership of shares is determined under rules of the Securities and Exchange Commission (the Commission) and generally includes any shares over which a person exercises sole or shared voting or investment power. In addition, the following table includes the number of shares underlying warrants that are currently exercisable. Ordinary shares subject to these warants are deemed to be outstanding for the purpose of computing the ownership percentage of the person holding these options, but are not deemed to be outstanding for the purpose of computing the ownership percentage of any other person. Applicable percentages are based on 19,371,234 ordinary shares outstanding as of February 29, 2008, which excludes 2,229 ordinary shares held by us as dormant shares without voting or equity rights.

Name	Number of Ordinary	Percentage of Ordinary

	Shares Beneficially Owned	Shares Beneficially Owned
Clal Electronics Industries Ltd.[1]	5,010,434	24.75%
Austin W. Marxe & David Greenhouse[2]	2,367,837	12.22%
Teuza - A Fairchild Technology Venture Ltd.[3]	1,453,407	7.50%
Teuza Management & Development (1991) Ltd.[3]	1,453,407	7.50%
Tamir Fishman Ventures II, L.L.C.[4]	1,175,600	6.07%
Shai Saul[4]	1,175,600	6.07%
Michael Elias[4]	1,182,850	6.11%
Tamir Fishman & Co. Ltd.[4]	1,180,700	6.10%
Eldad Tamir[4]	1,180,700	6.10%
Danny Fishman[4]	1,180,700	6.10%
Rima Managenent, LLC[5]	1,640,473	8.22%
Richard Mashaal[5]	1,640,473	8.22%

(1) The information is based upon Amendment No. 3 to Schedule 13D filed with the Commission by, among others, Clal Electronics Industries Ltd., or CEI , on December 11, 2007 and information that was provided by Clal. The principal parent companies of the IDB Group are IDB Holding Corporation Ltd., or IDBH , and its majority-owned subsidiary, IDBD Corporation Ltd., or IDBD . Clal Industries and Investments Ltd., or Clal and CEI (a wholly owned subsidiary of Clal) are majority-owned subsidiaries of IDBD. IDBH is controlled as follows:

Ganden Holdings Ltd., or Ganden , which is a private Israeli company controlled by Nochi Dankner (who is also the chairman of IDBH, IDBD and Clal) and his sister Shelly Bergman, holds, as of September 6, 2007, directly and through a wholly-owned subsidiary, approximately 50% of the outstanding shares of IDBH (of which, approximately 12.31% of the outstanding shares of IDBH are held directly and approximately 37.7% of the outstanding shares of IDBH are held through Ganden Investments I.D.B. Ltd. , or Ganden Investment , a private Israeli company, which is an indirect wholly owned subsidiary of Ganden). In addition, Shelly Bergman holds, through a wholly owned company, approximately 4.2% of the outstanding shares of IDBH;

Avraham Livnat Ltd., or Livnat , which is a private company controlled by Avraham Livnat (one of whose sons, Zvi Livnat, is a director and executive vice president of IDBH, Deputy Chairman of IDBD, co-chief executive officer of Clal, and another son, Shay Livnat, is a director of IDBD and Clal) holds, directly and through a wholly-owned subsidiary, approximately 11.7% of the outstanding shares of IDBH (of which, approximately 1.35% are held directly and approximately 10.37% of the outstanding shares of IDBH are held through Avraham Livnat Investments (2002) Ltd., or Livnat Investment , a private Israeli company, which is a wholly owned subsidiary of Livnat); and

Manor Holdings BA Ltd., or Manor , a private company controlled by Ruth Manor (whose husband, Isaac Manor, is deputy chairman of IDBH and a director of IDBD and Clal, and whose son, Dori Manor, is a director of IDBH, IDBD and Clal) holds, directly and through a majority-owned subsidiary, approximately 11.7% of the outstanding shares of IDBH (of which, approximately 1.3% are held directly and approximately 10.4% of the outstanding shares of IDBH are held through Manor Investments IDB Ltd. , or Manor Investments , a private Israeli company which is controlled by Manor). Manor also holds directly approximately 0.3% of the outstanding shares of IDB Development.

Subsidiaries of Ganden, Livnat and Manor have entered into a shareholders agreement with respect to shares of IDBH constituting 31.02%, 10.34% and 10.34%, respectively, of the outstanding shares of IDBH for the purpose of maintaining and exercising control of IDBH as a single group of shareholders. Their additional holdings in IDBH are not subject to the shareholders agreement. The term of the shareholders agreement expires in May 2023.

Based on the foregoing, IDBH (by reason of its control of IDBD and by reason of IDBD s control of Clal and CEI), Ganden, Livnat and Manor (by reason of their control of IDBH), Mr. Nochi Dankner, Ms. Shelly Bergman, Mr. Avraham Livnat and Ms. Ruth Manor (by reason of their control of Ganden, Livnat and Manor, respectively) may be deemed to share with CEI the power to vote and dispose of our shares held by CEI. The address of CEI. is: 3 Azrieli Center, Tel Aviv 67021, Israel.

Including 872,092 ordinary shares currently issuable upon the exercise of warrants.

(2) The information is based upon Amendment No. 4 to Schedule 13G filed with the Commission by Messrs. Marxe and Greenhouse on February 15, 2006. Includes 536,778 shares held by Special Situations Cayman Fund, L.P., 77,631 shares held by Special Situations Technology Fund, L.P., 397,869 shares held by Special Situations Technology Fund II, L.P., 109,246 shares held by Special Situations Fund III, L.P. and 1,246,313 shares held by Special Situations Fund III, QP, L.P.

(3) The information was provided by Avi Kerbs, President and Chief Executive Officer of Teuza Management & Development Ltd., the management company of Teuza-A Fairchild Technology Venture Ltd.

(4) The information is based upon Amendment No. 2 to Schedule 13G filed with the Commission by, among others, Tamir Fishman Ventures II, LLC (TFV), on March 30, 2005: (i) five limited partnerships and a corporation directly beneficially own, in the aggregate, 1,175,600 shares; (ii) 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 the corporation; (c) Shai Saul, is one of the managing members of TFV; (d) Michael Elias is one of the managing members of TFV and reports having sole voting and dispositive power over an additional 7,250 shares; (e) Tamir Fishman & Co. Ltd is one of the managing members 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 by this group is 1,182,850.

(5) The information is based upon Amendment No. 1 to Schedule 13G filed with the Commission by Rima Management, LLC and Richard Mashaal on February 14, 2008 and information that was provided by Rima Management. Based upon such Amendment No. 1, the reporting persons disclaim beneficial ownership in the shares reported therein except to the extent of their pecuniary interest therein. Includes 581,393 ordinary shares issuable upon exercise of warrants currently exercisable.

All the shareholders of the company have the same voting rights.

As of December 31, 2007, our ordinary shares were held by 67 record holders. Based on the information provided to us by our transfer agent, As of December 31, 2007, 55 record holders were U.S. holders and held approximately 15% of outstanding ordinary shares.

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, we obtained directors and officers liability insurance for our officers and directors with coverage in an aggregate amount of $5,000,000. This coverage was renewed in 2003, 2004 and 2005. In 2007, we obtained directors and officers liability insurance for our officers and directors with coverage in an aggregate amount of $7,500,000. This directors and officers liability insurance was presented and approved and ratified at the 2007 Annual General Meeting pursuant to requirements of the Companies Law. Furthermore, at the 2007 Annual General Meeting of Shareholders, the Company s shareholders authorized the Company to renew the directors and officers liability insurance policies, provided, that the aggregate annual premium to be paid by the Company will not exceed 2% of the aggregate coverage of the directors and officers insurance policies and the aggregate coverage of the directors and officers insurance policies will not exceed the greater of $10 million or 20% of the Company s shareholder equity. The insurer, the aggregate coverage amount under the directors and officers insurance policies and the annual premium to be paid for such coverage shall be determined prior to each renewal by the audit Committee and the board of directors, which shall determine that the amounts are reasonable under the circumstances, taking into considerations market conditions. This resolution shall be valid until the termination of, and shall cover the purchase of, the directors and officers insurance policies that are to be purchased by the Company prior to the annual general meeting of the Company s shareholders to be held in 2010. In addition, we undertook to indemnify our officers and directors. Following the 2005 amendment to the Companies Law, on August 31, 2006, the shareholders at the Annual General Meeting approved an amended letter of indemnification to be given to our directors and officers. The aggregate indemnification amount that the Company will pay to all its officers and directors pursuant to these letters of indemnification shall not exceed $10,000,000 or 30% of the Company s shareholders equity, according to the most recent consolidated financial statement prior to the date of indemnification payment, the higher of the two. Prior to that, we undertook to indemnify our officers and directors up to an aggregate amount of $15,000,000.

The Company s undertakings under the indemnification letter are subject to its undertaking made under its registration statement filed with the Commission according to which it shall not be bound to indemnify and exculpate its directors and officers if a court of competent jurisdiction determines that such indemnification is not lawful.

For information relating to option granted to officers and directors, see Share Ownership starting on page 38.

Until June 2007 Dr. Giora Dishon and Dr. Moshe Finarov, our directors and co-founders, served as advisors to our Chief Executive Officer pursuant to employment agreements that were in effect as of July 1, 2006. Pursuant to his employment agreement, Dr. Dishon was paid a gross monthly salary of $15,000 payable in NIS and was granted options to purchase up to 100,000 ordinary shares under our Stock Option Plan No. 8. Pursuant to the employment agreement with Dr. Finarov, Dr. Finarov was paid a gross monthly salary of $14,000 payable in NIS and was granted options to purchase up to 100,000 ordinary shares under our Stock Option Plan No. 8. The employment agreements contain a change of control provision pursuant to which the vesting of the 100,000 options shall be accelerated in certain circumstances. In June 2007, the company terminated the employment agreements with Dr. Giora Dishon and Dr. Moshe Finarov, pursuant to the termination provisions of such employment agreements.

On August 31, 2006 our shareholders approved an agreement with Dr. Micha Brunstein, our Chairman of the Board of Directors. The term of engagement commenced as of June 19, 2006 and continues for an unlimited period, unless terminated in certain circumstances as stated in the agreement. Pursuant to the agreement, Dr. Brunstein is being paid a gross annual fee of $110,000 payable monthly in NIS and was granted options to purchase up to 150,000 ordinary shares under our Stock Option Plan No. 8. The employment agreement contains a change of control provision pursuant to which the vesting of the 150,000 options shall be accelerated in certain circumstances.

On February 28, 2007, we entered into a Share Purchase Agreement with four investors, including Clal Electronics Industries Ltd., pursuant to which such investors purchased in the aggregate 1,937,983 ordinary shares of the Company, at a price of $2.58 per share, for gross proceeds of $5 million. In connection with this transaction, we issued warrants to these investors to purchase 1,453,485 additional ordinary shares at an exercise price of $3.05 per share.

On October 25, 2007, our shareholders approved a new compensation arrangement for the Company s directors (excluding the external directors, the Chairman of the Board of Directors and, unless approved otherwise, any other director who is also an employee of the Company), pursuant to which the director compensation package shall include the following items: (1) An annual payment of $12,000 (in an equivalent amount in NIS), however, not more than the annual payment allowed under the Companies Regulations (Rules Regarding Compensation and Expenses to an External Director), 2000, or the Regulations, in the case of dually listed companies; (2) the following payments (but in each case not more than the applicable payment allowed under the Regulations in the case of dually listed companies): (i) for each meeting that the director attends in person, an amount of $600 (in an equivalent amount in NIS); (ii) for each execution of a written consent in lieu of a meeting, an amount of $300 (in an equivalent amount in NIS); and (iii) for each meeting that the director attends by teleconference, an amount of $360 (in an equivalent amount in NIS); and (3) an annual grant of options to purchase up to 10,000 ordinary shares of the Company to be granted to each director on the date of each annual general meeting at which such director is elected or reelected. The exercise price of the options shall be determined pursuant to the Company s Equity Based Compensation Policy.

On October 25, 2007, our shareholders approved the following consulting arrangement with Mr. Nicolas Bright, a director of the Company, effective as of August 1, 2007. Mr. Bright has agreed to dedicate to his duties as a consultant of the Company not more than five days a month. The engagement as a consultant is at will and may be terminated at any time. Pursuant to the consulting arrangement with him, Mr. Bright is entitled as of August 1, 2007 to a fee of $1,000 per working day but in any case not more than $60,000 during any period of twelve consecutive months. The consulting fee payable to Mr. Bright is in addition to the fee payable to him as a director of the Company. Additionally, Mr. Bright was granted an option to purchase 40,000 ordinary shares of the Company at an exercise price equal to the closing price of the Company s ordinary shares on Nasdaq on the date of the meeting. The option is subject to the provisions of the applicable incentive plan and the Company s Equity Based Compensation Policy. In addition, the Company undertook, subject to the approval of the Company s Chief Executive Officer or Chairman of the Board of Directors, to reimburse Mr. Bright for all reasonable out-of-pocket expenses incurred by him in connection with his participation in meetings of the board of directors and its committees and the services provided by him.

On October 25, 2007 our shareholders approved to accelerate the options received by Mr. Joseph Ciechanover that were not vested at the date of his resignation from the board of directors and to extend the period in which Mr. Ciechanover may exercise the accelerated options to 180 days from the date of resignation.

Item 8. Financial Information

Consolidated Financial Statements

See Financial Statements on page 62 of this report and pages F-1 through F-23.

Significant Changes

None.

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, apart from those mentioned below.

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 U.S. Patent No. 6,752,689 and in April 2006 Nanometrics filed a civil action in the United States District Court for the Northern District of California against us and our wholly-owned subsidiary, Nova Inc. seeking to enforce their U.S. Patent No. Re:34,783. Nova had filed a request for re-examination of the Nanometrics patent with the PTO. This request for re-examination was accepted by the PTO for review in December 2006. Nova filed with the court a motion for a stay in the patent litigation case pending completion of the re-examination process of the patent in the lawsuit by the PTO. After reading and considering the arguments presented by the parties, the Court granted Nova s motion to stay. In October 2006, Nanometrics filed a lawsuit with the District Court of Northern California alleging that Nova infringes U.S. Patent Numbers 5,867,276, and 7,115,858 B1. In April 2007, we reached a settlement with Nanometrics regarding all three patent suits between the companies. We agreed to dismiss, without prejudice, all pending patent litigation between the two parties, and have further agreed not to file patent suits against the other party and/or any supplier or customer of the other party for patent infringement based on offers to sell, actual sales, manufacturing, purchase or use of any equipment of the other party for a period of one year. The settlement, which received court approval, terminated the three lawsuits pending in the U.S. District Court for the Northern District of California. No permanent settlement has been reached in these suits. Should the disputes be reopened, even if we are ultimately successful, it 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. For additional information regarding this litigation, see Intellectual Property starting on page 19.

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 Israeli Taxation starting on page 51.

The distribution of dividends may also be limited by the 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 of association 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 Global Market of our ordinary shares. The shares began trading on Nasdaq 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 Global Market

	Price per share (US$)	
	High	**Low**
Yearly highs and lows		
2003	7.19	1.42
2004	8.21	3.00
2005	3.84	2.00
2006	2.72	1.72
2007	3.02	2.30
Quarterly highs and lows		
2006		
Second quarter	2.40	1.72
Third quarter	2.06	1.82
Fourth quarter	2.72	1.86
2007		
First quarter	3.02	2.42
Second quarter	2.99	2.56
Third quarter	2.86	2.36
Fourth quarter	2.87	2.30
2008		
First quarter (until March 24, 2008)	2.55	1.89
Monthly highs and lows		
September 2007	2.75	2.45
October 2007	2.87	2.71
November 2007	2.84	2.30
December 2007	2.60	2.30
January 2008	2.55	2.37
February 2008	2.55	2.36

Tel Aviv Stock Exchange*

	Price per share (NIS)	
	High	**Low**
Yearly highs and lows		
2005	14.08	9.56
2006	12.79	8.08
2007	12.74	8.70
Quarterly highs and lows		
2006		
Second quarter	11.31	8.17
Third quarter	9.36	8.08

		Price per share (US$)	
	Fourth quarter	11.37	8.20
2007			
	First quarter	12.74	10.40
	Second quarter	12.74	11.21
	Third quarter	12.36	10.10
	Fourth quarter	12.23	8.70
2008			
	First quarter (until March 24, 2008)	9.75	6.70

Monthly highs and lows

September 2007	11.26	10.43
October 2007	12.23	11.26
November 2007	11.69	9.00
December 2007	10.16	8.70
January 2008	9.75	8.35
February 2008	8.80	8.64

*During the years 2003 and 2004 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 incepted and registered in the Israeli Registrar of Company s 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 for a transaction between the company and its office holder or between the company and another person in which the office holder has a personal interest that is not an extraordinary transaction, 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 a 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 a company s voting rights.

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 require approval by the audit committee, board of directors and shareholders. Arrangements as to compensation of officer employment terms, if considered extraordinary transaction , require approval by the audit committee and board of directors.

Under regulations promulgated under the Companies Law regarding payment of compensation to external directors, compensation of external directors shall be comprised of annual compensation and a per meeting payment ranging as stated in the regulations. 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 duties which exceed the duties imposed upon them under Israeli law, the maximum amount payable to the external directors is NIS 100,000 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 amount set forth in these regulations. Alternatively, the compensation of external directors may be linked to the compensation of other directors subject to certain restrictions. 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.

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 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 at all shareholders meetings.

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 affirmative 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. The Companies Law and regulations determine that prior notice of no less than 21 days should be given to the company s shareholders, prior to convening a meeting. In the event that the issue to be resolved is an issue listed in Article 87 to the Companies Law and is to be voted upon pursuant to a proxy solicitation, a notice of no less than 35 days should be given to the company s shareholders.

Subject to anti-terror legislations, 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.

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 Companies Law, our external directors serve for three years, which may be renewed for additional three year terms, if both the audit committee and the board of directors confirm that in light of the expertise and contribution of the

external director, the extension of such external director s term would be in the interest of our company. 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 provides 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 shareholders present (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.

The Companies Law provides that Israeli public companies must have at least two external directors. 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 additional three year terms 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.

According to an amendment made to the Companies Law, an external directo