NOVA MEASURING INSTRUMENTS LTD
Form 20-F
June 26, 2003

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 20-F

¨ **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, 2002

OR

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

for the transition period from _________ to _________

Commission File Number 333-11640

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, Building 22, 2nd Floor, Rehovot 76100, Israel
(Address of principal executive offices)

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

Title of each class	Name of each exchange on which registered
None	None

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

Ordinary Shares, nominal value NIS 0.01 per share

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

None

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

14,938,909 Ordinary Shares, NIS 0.01 nominal (par) value per share, as of June 16, 2003

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 ¨

Indicate by check mark which financial statement item the registrant has elected to follow:

Item 17 x Item 18 ¨

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Introduction

In this Annual Report, the "Company," "Nova" or "we" 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, 1998, 1999, 2000, 2001 and 2002 and for each of the years in the five-year period ended December 31, 2002 (the Consolidated Financial Statements), included in this Annual Report have been prepared in accordance with United States generally accepted accounting principles (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 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. 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 statement statements are subject to certain risks and uncertainties that could cause actual results to differ materially from historical results and those presently anticipated or projected. We wish to caution readers not to place undue reliance on any such forward-looking statements, which speak only as of the date made. We undertake no obligation to release publicly any revisions to these forward looking statements to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events. Among the factors that could cause our actual results in the future to differ materially from any opinions or statements expressed with respect to future periods are competitive industry conditions in Israel and various other factors set forth in Item 3. Key Information 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 tables below set forth selected consolidated financial data for the Company for the periods indicated and are qualified by reference to, and should be read in conjunction with, the Company s Consolidated Financial Statements and the Notes thereto, which are included elsewhere in this Annual Report, and Item 5. Operating and Financial Review and Prospects.

Summary of Consolidated Financial Data

	Year ended December 31,				
	1998	**1999**	**2000**	**2001**	**2002**
	(in thousands, except per share data)				
Consolidated Statement of Operations Data:					
Revenues	$23,370	$27,581	$48,463	$21,171	$20,371
Cost of revenues	12,985	14,668	23,478	16,470	13,353
Gross profit	10,385	12,913	24,985	4,701	7,018
Operating expenses:					
Research and development expenses, net	5,051	8,569	13,878	13,253	9,894
Sales and marketing expenses	2,968	4,280	7,998	6,852	6,950
General and administrative expenses	1,332	1,458	3,186	3,032	1,797
Other operating expenses	--	4,000	--	1,025	1,478
Total operating expenses	9,351	18,307	25,062	24,162	20,119
Operating income (loss)	1,034	(5,394)	(77)	(19,461)	(13,101)
Financing income, net	330	509	2,858	2,587	144
Other expenses	--	(150)	--	--	--
Net income (loss)	$1,364	$(5,035)	$2,781	$(16,874)	$(12,957)
Earnings (loss) per share:					
Basic earnings (loss) per share	$0.17	$(0.49)	$0.20	$(1.16)	$(0.88)
Diluted earnings (loss) per share	$0.12	--	$0.19	--	--
Shares used in calculation of basic earnings (loss) per share	7,853 .	10,332	13,580	14,578	14,786
Shares used in calculation of diluted earnings per share	11,493	--	14,691	--	--

	December 31,				
	1998	**1999**	**2000**	**2001**	**2002**
	(in thousands)				
Consolidated Balance Sheet Data:					
Working capital	$9,343	$7,168	$61,270	$45,529	$34,574
Total assets	18,039	20,772	81,825	59,564	49,008
Shareholders' equity	10,453	8,276	62,619	47,006	35,677
Dividends declared	--	--	--	--	--

Risk Factors

Risks Related to Our Business and Our Industry

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

Although we have expanded our product offering, we are 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 future revenues for at least the next year. As a result, factors adversely affecting the pricing of or demand for integrated process control for the chemical mechanical polishing equipment field, such as competition and technological change, could substantially reduce our sales.

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 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, and is currently experiencing, severe and protracted cyclical downturns, characterized by slowing product demand, inventory surpluses, accelerated erosion of average selling prices and production overcapacity. These downturns, including the current one, have materially reduced demand for the type of capital equipment and process technology that we offer and our sales and revenues have declined. In addition, our ability to reduce expenses in response to any downturn or slowdown in the rate of capital investment by manufacturers in these industries may be limited because of:

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

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

The semiconductor manufacturing industry is characterized by rapid technological change, new product introductions and enhancements and evolving industry standards. Our ability to remain competitive and generate sales revenue will depend in part upon our ability to develop new and enhanced systems at competitive prices in a timely and cost-effective manner and to accurately predict technology transitions. Because new product development commitments must be made well in advance of sales, new product decisions must anticipate the future demand for products. If we fail to correctly anticipate future demand for products, our sales and competitive position could suffer. In addition, the development of new measurement technologies, new product introductions or enhancements by our competitors could cause a decline in sales or loss of market acceptance of our existing products. For example, some of our competitors are attempting to develop sensors that would measure wafers simultaneously in the chamber as they are being processed. If the efforts of our competitors to produce and market products utilizing this alternative technology are successful, our business could suffer. Increased competitive pressure could also lead to intensified price competition, resulting in lower margins.

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

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

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

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

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

Since our inception in 1993, we have incurred net losses in every year other than in 1998 and 2000, and our losses may continue. As of December 31, 2002, we had an accumulated deficit of $36.2 million. We plan to continue the level of our aggregate product development, sales and marketing and administrative expenses over the next 12 months. Accordingly, to achieve profitability, we will need to increase our revenues. We cannot assure you that our revenues will grow or that we will achieve profitability in the future.

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

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

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

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

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

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

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

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

Our customer base is highly concentrated among a limited number of large customers, primarily because the semiconductor industry is dominated by a small number of large companies. The following table indicates the percentage of our total revenues derived from sales to our five largest customers and the percentage range of these revenues from these customers for the periods indicated:

	Year ended December 31,			
	1999	**2000**	**2001**	**2002**
Total revenues from five largest customers	73%	66%	81%	86%
Range of revenues from five largest customers	4%-47%	6%-21%	2%-33%	4%-29%

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. Furthermore, if any of our customers become insolvent or have difficulties meeting their financial obligations to us as a result of the current protracted slowdown in the semiconductor industry or as a result of any other reason, we may suffer losses.

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

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

- the contribution of our equipment to our customers' productivity;
- our product quality and performance;
- our global technical service and support;
- the return on investment (ROI) of our equipment and its cost of ownership;
- the breadth of our product line; and
- our success in developing and marketing new products.

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

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

We believe that the semiconductor capital equipment market is undergoing consolidation. A number of suppliers have been acquired by larger equipment manufacturers. For example, in 2001 Therma-Wave Inc. acquired Sensys Instruments Corp. and in 2002 Rudolph Technologies Inc. acquired ISOA 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 afford them an advantage in meeting customers needs, particularly with those customers that seek to consolidate their capital equipment requirements with the same vendor. The greater resources, including financial, marketing and support resources, of competitors involved in these acquisitions could permit them to accelerate the development and commercialization of new competitive products and the marketing of existing competitive products to their larger installed bases. Accordingly, such business combinations and acquisitions by competitors or customers could jeopardize our competitive position.

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

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

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

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

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

As of December 31, 2002, we had obtained 19 U.S. patents and had 29 U.S. patent applications pending. In addition, we had obtained 14 foreign patents and had 70 foreign patent applications pending.

We cannot assure you that:

- pending patent applications will be approved;
- any patents will be broad enough to protect our technology, will provide us with competitive advantages or will not be challenged or invalidated by third parties; or
- the patents of others will not have an adverse effect on our ability to do business.

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

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

There has been significant litigation involving intellectual property rights in the semiconductor and related industries and similar litigation involving Nova could force us to divert our limited 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. We are aware that a patent held by a third party that does not compete with us may cover aspects of operating our measurement system. We have not received any notice from this third party of infringement of this patent. 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.

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

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

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

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

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

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

If our principal shareholders sell substantial amounts of our ordinary shares, including shares issued upon the exercise of outstanding employee options, the market price of our ordinary shares may fall. As of December 31, 2002 we had 14,929,867 ordinary shares outstanding, of which 11,178,899 shares were held by seven shareholders.

Because a small group of major shareholders have a significant influence over our business, this group could prevent a change of control or other business combination involving Nova at a premium over the then prevailing price for our ordinary shares.

As of December 31, 2002, three of our principal shareholders held an aggregate of approximately 47% of our outstanding ordinary shares. Three of our directors are currently representatives of these shareholders. By virtue of their stock ownership and board representation, these shareholders will continue to have significant influence over matters submitted to our board and our shareholders, including election of our directors, and will be able to exercise significant control over our business, policies and affairs, including any matters relating to a proposed change of control of Nova or other business combination.

Risks Related to Operations in Israel

Potential political, economic and military instability in Israel may adversely effect 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 the Palestinian Authority 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 which have occurred after the failure of Camp David peace talks, as well as the events of September 11, 2001, and the intensification of such hostilities in recent months, have a negative effect on the stability of the region which might have negative effect on our business conditions and harm our growth and revenues. For further detail see Item 5, paragraph Political and economic conditions in Israel .

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

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

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

We participate in government programs under which we receive tax and other benefits. The reduction or termination of these programs would increase our costs.

We receive conditional grants from the Office of the Chief Scientist of the Israeli Ministry of Industry and Trade for research and development programs that meet specified criteria. We are also eligible to receive tax benefits under Israeli law for capital investments that are designated as approved enterprises. To maintain our eligibility for these programs and tax benefits, we must continue to meet conditions, including paying royalties related to grants received and making specified investments in fixed assets. In addition, some of these programs restrict our ability to manufacture particular products and transfer particular technology outside of Israel. 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 2001 and in 2002, we recorded an aggregate of $1.8 million and $1.7 million, respectively, in conditional grants under Israeli government programs. As of December 31, 2001, our contingent liability to the Office of the Chief Scientist for grants received was approximately $1.4 million. As of December 31, 2002, our contingent liability to the Office of the Chief Scientist for grants received was approximately $0.7 million. 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 or for new programs. These requests might not be approved. The Israeli government has reduced the benefits available under these programs in recent years and has indicated that it may reduce or eliminate these benefits in the future. The termination or reduction of these grants and tax benefits could harm our business, financial condition and results of operations. In addition, if we increase our activities outside the State of Israel due to, for example, future acquisitions, our increased activities generally will not be eligible for inclusion in Israeli tax benefit programs. Accordingly, our effective corporate tax rate could increase significantly in the future.

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

We are organized under the laws of the State of Israel, and we maintain significant operations in Israel. Substantially all 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, you might not be able to enforce any judgment obtained in the United States against us or any of such persons. 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.

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

Our ordinary shares are listed for trading on the NASDAQ national market and on the Tel Aviv Stock Exchange. This may result in price variations. Our ordinary shares are traded on these markets in different currencies, U.S. dollars on the NASDAQ and New Israeli Sheckels 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 proceed. U.S. shareholders should consult with their own U.S. tax advisors with respect to the U.S. tax consequences of investing in our ordinary shares.

We believe that in 2002 we were not a passive foreign investment company and currently we expect that we will not be a passive foreign investment company in 2003. However, passive foreign income company status is determined as of the end of the full tax year and is dependent on a number of factors, including the value of a corporation s assets in the amount and type of its gross income. Therefore, there can be no assurances that we will not become a passive foreign investment company for the current fiscal year ending on December 31, 2003 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. In October 1995, we began manufacturing and marketing systems for chemical mechanical polishing. We have since expanded our product offering to include systems designed for chemical vapor deposition, lithography and etch, and are continuing to develop new products and additional applications for our current products.

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

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

We have four wholly owned subsidiaries in the United States, 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 Weizman Science Park, Building 22, 2nd Floor, Rehovot, 76100. Our telephone number at our main office is +1-972-8-938-7505. Our facilities occupy approximately 5,000 square meters. Our U.S. subsidiary leases approximately 600 square meters in Arizona for use as a marketing and support facility. Our Japanese subsidiary leases approximately 200 square meters for use as a marketing and service facility. Our Taiwanese subsidiary leases approximately 350 square meters for use as a service and demonstration facility.

Our agent for service of process in the United States is David Gitlin, of Wolf, Block, Schorr and Solis-Cohen LLP, 1650 Arch Street, 22nd Floor, Philadelphia PA 19103.

Business review

Overview

We design, develop and produce integrated process control systems used in the manufacture of semiconductors. Our products enable manufacturers to measure wafers immediately after the process steps while the wafers are inside the process equipment.

The semiconductor manufacturing process requires exacting steps and strict control of equipment performance and process sequences. Tight control can be achieved through monitoring wafers and measuring relevant parameters after each process step. Prior to the introduction of our systems, process control was achieved through stand-alone measurement equipment. This technique requires the semiconductor manufacturer to interrupt the process sequence, remove sample wafers from the process equipment and place them on the measuring or inspection tool. In contrast, our approach is based on patented measuring methods that enable us to produce optical measuring systems that are small enough to be integrated directly inside many types of process equipment in semiconductor manufacturing.

We supply our systems to major semiconductor manufacturers worldwide, either directly or through process equipment manufacturers. Semiconductor manufacturers using our systems comprise a large number of the top 20 semiconductor manufacturers in the world, including IBM, Infineon, Intel, Micron, Motorola, Philips, ST Microelectronics, Texas Instruments and UMC. Our process equipment manufacturer customers include Applied Materials, Ebara, Speedfam-IPEC and Strasbaugh. Our first systems were installed in 1995, and we have sold more than 950 systems worldwide. Our approach offers considerable advantages over the conventional approach to process control, enabling manufacturers using our equipment to reduce costs and to improve production efficiency, yield and quality.

The Nova Integrated Process Control Solution

We believe that our systems provide semiconductor manufacturers with more effective process control by measuring wafers thin films thickness and optical properties without removing the wafer from the process equipment. Our products are based on 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. Our integrated systems measure the wafer within the actual process environment, reducing labor and wafer handling as well as the risk of contamination or damage to the wafer. In addition, we believe that our systems deliver significant increases in overall equipment efficiency as well as in wafer-to-wafer uniformity, with minimal operator intervention.

We believe that 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. Our approach centered around our NovaReady integration package, 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 that our integrated process control systems provide several important advantages to semiconductor manufacturers, enabling manufacturers to:

- utilize the process equipment wafer handling system to allow measurement of the sample wafers while processing other wafers;
- perform the measurement 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; and

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

Integrated Process Control throughout the Manufacturing Fab

Nova introduced the Integrated Metrology concept to the industry and is now offering integrated process control systems for the chemical mechanical polishing (CMP), chemical vapor deposition (CVD), and photolithography manufacturing processes.

The Company s integrated thickness monitoring (ITM) systems for CMP process control deliver a high degree of wafer-to-wafer closed loop control.

The NovaReady open architecture policy enables installation of integrated process control systems on all process equipment and delivers advanced Integrated Process Control for the entire fab along with the rapid advancement of the semiconductor manufacturing processes.

Nova s Open Architecture Policy

Nova has established OEM partnerships with the major CMP tool manufacturers. They make their systems NovaReady by finding on-tool space and providing wafer handling access and minimal wiring for the ITM system, which is a little larger than a wafer, with a small optical head that scans the wafers. Applied Materials, Ebara, Peter Wolters, SpeedFam-IPEC, Strasbaugh, and others have made their systems NovaReady, making the installation of Nova s ITM systems a simple plug-and-play process. Nova is strongly committed to its multi-vendor policy and is establishing relationships with different process equipment manufacturers for its new developments.