

**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

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

For the fiscal year ended December 31, 2022

OR

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

OR

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

Commission File Number 000-30668

NOVA LTD.

(Exact name of Registrant as specified in its charter)

Nova Ltd.

(Translation of Registrant's name into English)

Israel

(Jurisdiction of incorporation or organization)

5 David Fikes St., Rehovot 7632805, Israel

(Address of principal executive offices)

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(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	Trading Symbol(s)	Name of each exchange on which registered
Ordinary Shares	NVMI	The Nasdaq Global Select 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: 28,678,476 ordinary shares, as of December 31, 2022.

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

Yes No

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 No

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

Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See definition of “accelerated filer and large accelerated filer” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer Non-accelerated filer
Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

Indicate by check mark whether the registrant has filed a report on the attestation to its management’s assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

Yes No

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive – based compensation received by any of the registrant’s executive officers during the relevant recovery period pursuant to §240.10D-1(b).

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

U.S. GAAP

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

Other

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 Item 18

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 No

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INTRODUCTION

In this annual report (this “**Annual Report**”), references to “we,” “us,” “our,” “our business,” “the Company,” “Nova” and similar references refer to Nova Ltd. and, where appropriate, its consolidated subsidiaries.

This annual report contains estimates, projections and other information concerning our industry and our business, as well as data regarding market research, estimates and forecasts prepared by our management. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties, and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those discussed under the headings “Special Note Regarding Forward-Looking Statements” and Item 3.D. “Risk Factors” in this Annual Report.

CAUTIONARY STATEMENT REGARDING FORWARD – LOOKING STATEMENTS AND RISK FACTORS SUMMARY

This Annual Report contains estimates and forward-looking statements, principally in the sections entitled Item 3.D. “Key Information—Risk Factors,” Item 4. “Information on the Company,” and Item 5. “Operating and Financial Review and Prospects.” In some cases, these forward-looking statements can be identified by words or phrases such as “may,” “might,” “will,” “could,” “would,” “should,” “expect,” “plan,” “anticipate,” “intend,” “seek,” “believe,” “estimate,” “predict,” “potential,” “continue,” “contemplate,” “possible” or similar words. Statements regarding our future results of operations and financial position, growth strategy and plans and objectives of management for future operations, including, among others, expansion in new and existing markets, are forward-looking statements.

Our estimates and forward-looking statements are mainly based on our current expectations and estimates of future events and trends which affect or may affect our business, operations and industry. Although we believe that these estimates and forward-looking statements are based upon reasonable assumptions, they are subject to numerous risks and uncertainties.

These forward-looking statements are subject to a number of known and unknown risks, uncertainties, other factors and assumptions, including the risks described in Item 3.D “Key Information—Risk Factors” and elsewhere in this Annual Report.

The below important factors and uncertainties, among others, could cause actual results to differ materially from those described in these forward-looking statements. The below is also a summary of the risk factors described in Item 3.D “Key Information – Risk Factors” of this Annual Report.

Risks related to economic and external risks

- Increased cybersecurity threats and more sophisticated computer crime could disrupt our business.
- We depend on international sales, which expose us to foreign political and economic risks.
- We are subject to laws and regulations that could restrict our operations such as economic sanctions and export restrictions.
- Changes in global trade policies and other factors beyond our control may adversely impact our business, financial condition and results of operations.
- We may be affected by instability in the global economy and by financial turmoil.
- Because we derive a significant portion of our revenues from sales in Asia, our sales could be hurt by instability of Asian economies.
- Our business is subject to risks related with doing business in China.

Risks related to technology and Intellectual Property

- 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 could harm our competitive position.
- There has been significant litigation involving intellectual property rights in the semiconductor and related industries, and similar litigation could force us to divert resources to defend against such litigation or deter our customers from purchasing our systems.
- We may incorporate open-source technology in some of our software and product, which may expose us to liability and have a material impact on our product development and sales.

Risks related to our Industry

- We operate in an extremely competitive market, and if we fail to compete effectively, our revenues and market share will decline.
- If we do not respond effectively and on a timely basis to rapid technological changes, our ability to attract and retain customers could be diminished, which would have an adverse effect on our sales and ability to remain competitive.

- 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 or if our main suppliers cease delivery of important component as a result of being acquired by a larger company.
- The markets we target are cyclical and it is difficult to predict the length and strength of any downturn or expansion period.
- Our operations may be delayed or interrupted and our business could suffer if we violate environmental, safety and health, or ESH, regulations.

Risks related to our Operations

- Pricing and demand for our specific product lines could substantially reduce our sales.
- We depend on a small number of large customers, and the loss of one or more of them could significantly lower our revenues.
- Our inability to significantly reduce spending during a protracted slowdown in the semiconductor industry could reduce our prospects of achieving continued profitability.
- There can be no assurance that revenues from future products or product enhancements will be sufficient to recover the development costs.
- 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.
- 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.
- Our dependence on a single manufacturing facility per product line magnifies the risk of an interruption in our production capabilities.
- Our lease agreements for our Manufacturing Facilities include provisions that exempt the landlord and others from liability for damages to our Manufacturing Facilities.
- Shipment changes or cancellation may render our backlog not a reliable indicator of actual sales and financial results.
- We may not be able to successfully complete and integrate current and/or future acquisitions.
- We depend on continuous cooperation with Process Equipment Manufacturers (“PEMs”) to enable sales of our systems which are integrated with the process equipment.
- Some of our commercial agreements with PEMs and customers may include exclusivity provisions and limitations on the use of certain intellectual property which could limit or prevent future business relationships with third parties.
- We depend on a limited number of suppliers, and in some cases a sole supplier.
- The disclosure rules regarding the use of conflict minerals may affect our relationships with suppliers and customers.
- Our lengthy sales cycle increases our exposure to customer delays in orders, which may result in obsolete inventory and volatile quarterly revenues.
- Our inability to attract, recruit, retain highly skilled key personnel.

Risks Related to Our Incorporation and Location in Israel

- Political, economic and military instability in Israel may impede our ability to operate and harm our financial results.

Risks Related to Our Indebtedness and Capital Structure

- Our convertible senior notes may impact our financial results, dilute existing shareholders, and create downward pressure on the price of our ordinary shares.

Risks related to Financial, Legal, Regulatory and taxation risks

- Currency fluctuations could harm our profit margins.
- We received certain research and development grants, which could impose restrictions on our ability to use technology developed under these programs.
- Certain shareholders may control the outcome of matters submitted to a vote of our shareholders, including the election of directors.
- The market price of our ordinary shares may be affected by a limited trading volume and may fluctuate significantly.
- We may be classified as a “passive foreign investment company” for U.S. income tax purposes, which could have significant and adverse tax consequences to U.S. shareholders.
- The rights and responsibilities of our shareholders are governed by Israeli law and differ in some respects from the rights and responsibilities of shareholders under U.S. law.
- Our shares are listed for trade on more than one stock exchange.

You should not rely on forward-looking statements as predictions of future events. We have based the forward-looking statements contained in this Annual Report primarily on our current expectations and projections about future events and trends that we believe may affect our business, financial condition and operating results. The outcome of the events described in these forward-looking statements is subject to risks, uncertainties and other factors described in the section titled “Risk factors” and elsewhere in this Annual Report. Moreover, we operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time, and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this Annual Report. The results, events and circumstances reflected in the forward-looking statements may not be achieved or occur, and actual results, events or circumstances could differ materially from those described in the forward-looking statements.

In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based on information available to us as of the date of this Annual Report. While we believe that information provides a reasonable basis for these statements, that information may be limited or incomplete. Our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all relevant information. These statements are inherently uncertain, and investors are cautioned not to unduly rely on these statements.

The forward-looking statements made in this Annual Report relate only to events as of the date on which the statements are made. We undertake no obligation to update any forward-looking statements made in this Annual Report to reflect events or circumstances after the date of this Annual Report or to reflect new information or the occurrence of unanticipated events, except as required by law. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments.

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 ASC 830 Foreign Currency Matters. All exchange gains and losses from such re-measurement are included in the net financial income when they arise.

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

3A. Selected Financial Data

[Reserved]

3B. Capitalization and Indebtedness

Not applicable.

3C. Reasons for the Offer and Use of Proceeds

Not applicable.

3D. Risk Factors

You should carefully consider the risks described below before making an investment decision. Additional risks not presently known to us or that we currently deem immaterial may also impair our business operations. Our business, financial condition or results of operations could be materially and adversely affected by any of these risks. The trading price and value of our ordinary shares could decline due to any of these risks, and you may lose all or part of your investment. This Annual Report also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks faced by us described below and elsewhere in this Annual Report.

Economic and External Risks

Increased information technology security threats and more sophisticated computer crime, could disrupt our business.

Our global operations are linked by information systems, including telecommunications, the internet, our corporate intranet, network communications, email and various computer hardware and software applications. In light of information technology security threats, we have implemented network security measures and engaged the services of a cybersecurity experts to implement security policies and tools which were reviewed and discussed by our audit committee and board of directors. In the current environment, there are numerous and evolving risks with regards to cybersecurity and privacy, including criminal hackers, hacktivists, state-sponsored intrusions, industrial espionage, employee malfeasance and human or technological error. High-profile security breaches at other companies and in government agencies have increased in recent years, and security industry experts and government officials have warned about the risks of hackers and cyberattacks targeting businesses such as ours. Computer hackers and others routinely attempt to breach the security of technology products, services and systems, and to fraudulently induce employees, customers, sub-contractors, agents, distributors or others to disclose information or unwittingly provide access to systems or data. In addition, some of our software and products utilize open-source technologies, which may also be used by computer hackers for purpose of cyber-attacks.

Although we have invested in measures to reduce these risks, we can provide no assurance that our current IT systems are fully protected against third-party intrusions, viruses, hacker attacks, information or data theft or other similar threats. The cost and operational consequences of implementing, maintaining and enhancing further data or system protection measures could increase significantly to overcome increasingly intense, complex, and sophisticated global cyber threats. Despite our best efforts, we are not fully insulated from data breaches and system disruptions and, accordingly, we have experienced and expect to continue to experience actual or attempted cyberattacks of our IT networks. Although none of these actual or attempted cyberattacks has had a material adverse effect on our operations or financial condition thus far, we cannot guarantee that any such incidents will not have a material adverse effect on our operations or financial condition in the future. For instance, during 2020 and 2021, we experienced a few fraud attempts involving instructions given by a fraudster to third parties working with the Company, and in one of these attempts a financial institution used by the Company for certain financial transactions, wired out Company funds without Company's authorization. Although almost all of such funds have been retrieved in full by the Company, there is no assurance that such events, at a larger scale, will not happen in the future. Any material breaches of cybersecurity or media reports of perceived security vulnerabilities to our systems or those of the Company's third parties, even if no breach has been attempted or occurred, could cause us to experience reputational harm, loss of customers and revenue, regulatory actions and scrutiny, sanctions or other statutory penalties, litigation, liability for failure to safeguard our customers' information, or financial losses that are either not insured against or not fully covered through any insurance maintained by us. Any of the foregoing may have a material adverse effect on our business, operating results and financial condition.

Furthermore, we are currently in the process of replacing our current enterprise resource planning system ("ERP") with a new one, which requires significant investment of human and financial resources. Should we experience difficulties in managing the new system or in the transition from the previous to the new ERP, there could be disruptions to our operations and financial results. In turn, these disruptions could adversely affect our ability to manage our business and to appropriately forecast and report our results.

As such, our tools and servers are vulnerable to computer viruses, break-ins and similar disruptions from unauthorized tampering with our computer systems and tools located at our facility, at cloud services or at customer sites, or could be subject to system failures or malfunctions for other reasons. Increased information technology security threats and more sophisticated computer crime pose a risk to the security of our systems and networks and the confidentiality, availability and integrity of our data or customer data. Cybersecurity attacks could also include attacks targeting the security, integrity and/or reliability of the hardware and software installed in our products. System failures or malfunctioning could disrupt our operations and our ability to timely and accurately process and report key components of our financial results.

We are dependent on international sales, which expose us to foreign political and economic risks that could impede our revenue stream.

Our principal customers are located in Taiwan, South Korea, China and the United States, and we produce our products in Israel, the United States and Germany. International operations expose us to a variety of risks that could seriously impact our financial condition and impede our revenue stream including:

- instability in political or economic conditions, including but not limited to inflation, recession, foreign currency exchange restrictions and devaluations, restrictive governmental controls on the movement and repatriation of earnings and capital, and actual or anticipated military or political conflicts, particularly in emerging markets; Rising inflation and elevated U.S. budget deficits and overall debt levels, including as a result of federal pandemic relief and stimulus legislation and/or economic or market and supply chain conditions, can put upward pressure on interest rates and could be among the factors that could lead to higher interest rates in the future. Higher interest rates could adversely affect our overall business or reduce our liquidity.
- intergovernmental conflicts or actions, including but not limited to armed conflict, trade wars and acts of terrorism or war, including current war between Russia and the Ukraine; and
- interruptions to the Company's business with its largest customers, distributors and suppliers resulting from but not limited to, strikes, and financial instabilities. 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.

All of these risks could result in increased costs or decreased revenues, either of which could have a materially adverse effect on our profitability.

We are subject to laws and regulations that could restrict our operations including economic sanctions and export restrictions.

Our business is subject to certain laws and restrictions based on countries with which we conduct business.

Specifically, starting 2018 and to date, the U.S. Department of Commerce has taken actions to restrict exports to several Chinese based semiconductor manufacturers which have been added to the U.S. EAR (export administration regulations) Entity List. These manufacturers have acquired and continue to acquire several of our metrology solutions. Due to the abovementioned export restrictions, our U.S. subsidiary is currently restricted from shipping tools or parts or provide any form of service to such customers, until it is cleared to resume by the appropriate authorities.

In addition, in 2020 the U.S. Department of State introduced restrictions on exporting to customers who are suppliers to Huawei, which is a Chinese based electronics supplier.

In October 2022, the U.S. Department of Commerce introduced additional restrictions that have limited the ability of our U.S. Subsidiary to serve a small portion of the available Chinese market. Consequently, our U.S. subsidiary is required to obtain certification/license in order to ship to certain Chinese entities, which are known to have or are known to plan to have, certain advanced-nodes manufacturing or development abilities (as those are defined in the regulations). The new restrictions also apply to shipments of high-power advanced chips to China (as those are defined in the regulations), by any entity.

These new restrictions also impose personal liability on any “U.S. Person” with “knowledge” that any item shipped, transmitted or transferred will be used for certain advanced nodes and/or high-powered chips development or production.

In some cases, the abovementioned export restrictions might also be applicable to the products which we export from countries other than the US, either by international arrangements made between countries, as updated from time to time, imposing export limitation and supervisory duties, or by limitations on re-export of certain U.S. origin items.

Since the introduction of these restrictions, we have put in place processes to ensure compliance with these restrictions. While we continue to monitor new sanctions and restrictions that could arise, any potential violations of such laws whether U.S. or other jurisdictions, could have an adverse impact on our reputation, business, results of operations and financials.

Certain additional export administration regulations issued by the U.S. Department of Commerce since October 2022, which do not apply to us, may have an adverse effect on the semiconductor manufacturing sector in China and reduce the demand for metrology equipment from this sector and therefore to indirectly effect our sales in China.

Changes in global trade policies and other factors beyond our control may adversely impact our business, financial condition and results of operations.

The international environment in which we operate is affected from inter-country trade agreements and tariffs. As a result of recent revisions in the U.S. administrative policy there are, and may be additional, changes to existing trade agreements, greater restrictions on free trade and significant increases in tariffs on goods imported into the United States, particularly those manufactured in China, Mexico and Canada. Future actions of the U.S. administration and that of foreign governments, including China, with respect to tariffs or international trade agreements and policies remains currently unclear.

The escalation of a trade war, tariffs, retaliatory tariffs or other trade restrictions on products and materials either exported by us to China or raw materials imported by us from China may significantly impede our ability to provide our solutions and service our customers in China or other effected locations. Such developments may result in a decrease in demand for our products and technologies as well as delays in payments from our customers. Furthermore, other governmental action related to tariffs or international trade agreements, changes in U.S. social, political, regulatory and economic conditions or in laws and policies governing foreign trade, manufacturing, development and investment in the territories and countries, where our customers are located, could adversely affect our business, financial condition, operating results and cash flows.

We may be affected by instability in the global economy and by financial turmoil.

There is an inherent risk, based on the complex relationships among China, Japan, Korea, Taiwan, and the United States, that political, diplomatic and national security influences might lead to trade disputes, impacts and/or disruptions, in particular those affecting the semiconductor industry. This would adversely affect our business with China, Japan, Korea, and/or Taiwan and perhaps the entire Asia Pacific region or global economy. A significant trade dispute, impact and/or disruption in any area where we do business could have a materially adverse impact on our future revenue and profits. Instability in the global markets and in the geopolitical environment in many parts of the world, including current war between Russia and the Ukraine, as well as other disruptions may continue to put pressure on global economic conditions. In the event global economic and market conditions, or economic conditions in key markets, remain uncertain or deteriorate further, we may experience material impacts on our business, operating results, and financial condition.

The Russia – Ukraine conflict could affect our business.

The ongoing war between Russia and Ukraine has impacted not only the global economy but the global energy markets as well, in particular the European energy market. Following our recent acquisition of a German subsidiary, we are experiencing the effects of the increasing prices for energy supplies. This could result in increased operating expenses in Germany, in the expense of shipping materials to and from our various facilities, and wellbeing of our employees with respect to the energy crisis in Europe and the inability to heat buildings etc. Since the Russian invasion of Ukraine, the cost for liquefied natural gas has more than doubled, this could lead to further energy price increase, causing global market disruption and volatilities in supply chain. The high volatility of energy prices could have a negative effect on our acquisition in Germany, and our business expansion in other regions, which may adversely affect our financial condition and operating results.

Current market conditions, including inflation and recessionary pressures could affect our growth and profitability.

The recent inflation, geopolitical issues, increase in energy costs, increases in interest rates, unstable global conditions and changes in currency exchange rates have led to global economical instability. Such changes, and their impact on the global macro-economic environment, can impact our business, operating results, and financial condition.

Because we derive a significant portion of our revenues from sales in Asia, our sales could be hurt by 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. Additionally, the Asia-Pacific region is susceptible to the occurrence of natural disasters, such as earthquakes, cyclones, tsunamis and flooding. We have subsidiaries in Taiwan, South Korea, China and Japan and we have significant customers in Taiwan, South Korea and China. An outbreak of hostilities or other political upheaval, economic downturns or the occurrence of a natural disaster in these or other Asian countries would likely harm the operations of our customers in these countries, causing our sales to suffer.

Our business is subject to the risks associated with doing business in China.

Our results of operations, financial conditions, and prospects are subject to a significant degree to economic, political and legal developments in China including government control over capital investments or changes in tax regulations that are applicable to us. China's economy differs from the economies of most developed countries in many respects, including with respect to the amount of government involvement, level of development, growth rate and control of foreign exchange, and allocation of resources. As one of our subsidiaries is located in China, our business is subject to the risks associated with doing business in China, including:

- trade protection measures, such as tariff increases, and import and export licensing and control requirements;
- potentially negative consequences from changes in tax laws;
- difficulties associated with the Chinese legal system, including increased costs and uncertainties associated with enforcing contractual obligations in China;
- historically, lower protection of intellectual property rights;
- changes and volatility in currency exchange rates; and
- unexpected or unfavorable changes in regulatory requirements.

Our business could be disrupted by catastrophic events, such as the outbreak of COVID-19.

The COVID-19 pandemic has caused substantial global disruptions, including in the jurisdictions where we develop our products and conduct business and may cause additional disruptions in the future.

Some of the effects that pandemic had on us were supply chain disruptions, travel bans, governmental order or employee exposure which required us, our customers and our suppliers delays in operations such as reduction of routes available from certain carriers, yet none of these effects were material to our business or financials results.

While most of the COVID-19 restrictions have been lifted around the world, there are still regions, such as China, in which we conduct business, that are subject to new developing regulations. While as of yet, the pandemic has not adversely affected our business and financial results, the extent of future impact on our business and the global economy remains uncertain. As the pandemic continues to evolve, and we will continue to monitor the developments closely. The evolving regulations in China have risks such as reduction of routes available from common carriers which may harm our ability to deliver or service our products or harm our supply chain, travel bans or lengthy quarantine requirements which may delay our ability to install or service our products, our customers or our suppliers to discontinue operations for a period of time, lower availability of components necessary for the manufacture of our products, and financial difficulties of our suppliers.

The occurrence of unforeseen or catastrophic events such as terrorist attacks, extreme terrestrial or solar weather events or other natural disasters, emergence of a pandemic, or other widespread health emergencies (or concerns over the possibility of such an emergency), could create economic and financial disruptions, and could lead to operational difficulties that could impair our ability to manage our business.

Risks related to technology and Intellectual Property

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 could harm our competitive position.

Our continued success depends upon our ability to protect our core technology and intellectual property. We therefore have an extensive program devoting resources to seeking patent protection for our inventions and discoveries that we believe will provide us with competitive advantages. Our patents, utility models and patent applications principally cover various aspects of optical measurement systems and methods, integrated process control implementation concepts, and optical, opto-mechanical and mechanical design. In addition, our patents and applications cover various aspects of X-ray based measurement systems and methods, including process control implementation concepts, X-ray energy sources, electron optics and detection, vacuum systems and equipment integration. Additionally, our chemical metrology equipment requires coverage of various elements and sub-systems performing various types of chemical analysis of the process chemicals and semiconductor wet process control – including electrodeposition, wet etch and clean and CMP sectors.

We cannot assure that:

- pending patent applications will be approved; or
- 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. 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, number of the patents which relating to our main-stream products have already expired or are expected to be expired in the coming years. Such expiration may add significant competition to our tools in this area, which may lead to a decrease in our incomes. In addition, not all of our patents are covering all territories we operate in, and thus in some territories there is less coverage to some product lines.

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.

Additionally, as part of our long-term technological collaboration, we are engaged with joint development activities with some of our strategic customers and vendors as well as with research institutes. These activities impose some limitations on the joint intellectual property developed as part of these programs.

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, see “Item 4B. Business Overview — Intellectual Property” in this Annual 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 such 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 triple 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, available funds, competitive position and ability to develop and market new and existing products. For additional information on our intellectual property, see “Item 4B. Business Overview — Intellectual Property” in this Annual Report.

We may incorporate open-source technology in some of our software and products, which may expose us to liability and have a material impact on our product development and sales.

In order to leverage big data and distributed computing, some of our software and products utilize open-source technologies. These technologies may be subject to certain open-source licenses, including but not limited to the General Public License, which, when used or integrated in particular manners, impose certain requirements on the subsequent use of such technologies, and pose a potential risk to proprietary nature of products. In the event that we have or will in the future, use or integrate software that is subject to such open source licenses into or in connection with our products in such ways that will trigger certain requirements of these open source licenses, we may (i) be required to include certain notices and abide by other requirements in the absence of which we may be found in breach of the copyrights owned by the creators of such open source technologies; and/or (ii) be required to disclose our own source code or parts thereof to the public, which could enable our competitors to eliminate some or any technological advantage that our products may have over theirs. Any such requirement to disclose our source code or other confidential information related to our products, and the failure to abide by license requirement resulting in copyright infringement, could materially adversely affect our competitive position and impact our business results of operations and financial condition.

Risks related to our industry

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 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 Onto Innovation Inc., and KLA Corp., which manufacture and sell CD, thin films and chemical metrology and process control systems. In addition, we compete with process equipment manufacturers (“PEMs”), such as ASML Holdings N.V., and Applied Materials Inc., which develop (or might as well acquire companies which develop) in-situ sensors and metrology products. Established companies, both domestic and foreign, compete with our product lines, and new competitors enter our market from time to time. 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 our solution to that customer for a significant period of time. A substantial investment is required by the 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 and value our solutions bring to our customers;
- our product innovation, 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 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.

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

The semiconductor manufacturing industry is characterized by rapid technological changes, new product introductions and enhancements and evolving industry standards. Our ability to remain competitive and generate 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 deteriorate. 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.

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 or if our main suppliers cease delivery of important component as a result of being acquired by a larger company.

We believe that the semiconductor capital equipment market has undergone consolidation over the last few years. For example, Lam Research Corporation acquired Novellus Systems Inc. in 2016 and Coventor in 2017; Thermo Fisher Scientific Inc. acquired FEI Company, Inc. in 2016; ASML Holdings N.V. acquired Hermes Microvision Inc. in 2016 and Berliner Glas Group in 2020; KLA Corporation acquired Orbotech Ltd. in 2019 and ECI Technology in 2022; and Nanometrics Inc. and Rudolph Technologies, Inc. merged in 2019. We believe that similar acquisitions and business combinations involving our competitors, our customers, and our suppliers and the PEMs 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 services, 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, intellectual property 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 and/or customers could jeopardize our competitive position. In addition, an acquisition of a major supplier by a larger company may lead to a cease delivery of components that are important to the delivery of our products and will require us to invest resources to find alternative sources.

The markets we target are 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 cyclical, experienced steep downturns and upturns in the last two decades. In recent years, we have seen a more stable overall capital investment patterns, however there is an expected market slowdown in 2023 and we cannot predict the length and strength of potential future downturns or expansions and the impact on our business.

Our operations may be delayed or interrupted and our business could suffer if we violate environmental, safety and health, or ESH, regulations.

Some of our activities require the use of various gases, chemicals, hazardous materials and other substances such as solvents and sulfuric acid which may have an impact on the environment. We are subject to ESH regulations, and a failure to manage the use, storage, transportation, emission, discharge, recycling or disposal of raw materials or to comply with these ESH regulations could result in (i) regulatory penalties, fines and other legal liabilities, (ii) suspension of production or delays in operation and capacity expansion, (iii) a decrease in our sales, (iv) an increase in pollution cleaning fees and other operation costs, or (v) damage to our public image, any of which could harm our business. In addition, as ESH regulations are becoming more comprehensive and stringent, we may incur a greater amount of capital expenditures in technology innovation and materials substitution in order to comply with such regulations, which may adversely affect our results of operations.

Operational risks

Because substantially most of our current sales are dependent on few specific product lines, factors that adversely affect the pricing and demand for these product lines could substantially reduce our sales.

We are currently dependent on few process control product lines. We expect these product lines to continue to account for a substantial portion of our revenues in the coming years. As a result, factors adversely affecting the pricing of, or demand for, these product lines, such as competition and technological change, could significantly reduce our sales.

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

Like our peers serving the semiconductor market, our customer base is highly concentrated among a limited number of large customers. 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. As a result of our customer concentration, our financial performance may fluctuate significantly from period to period based, among others, on exogenous circumstances related to our clients. For example, it is possible that any of our major customers could terminate its purchasing relationship with us or significantly reduce or delay the amount of orders for our products, purchase products from our competitors, or develop its own alternative solutions internally. The loss of any one of our major customers would adversely affect our 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. For more information regarding our sales by major customers as percentage of our total sales, see Note 16 to our consolidated financial statements contained elsewhere in this Annual Report.

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

Historically, we have derived all 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. Cyclical downturns, as those we have experienced in the past, and the expected slowdown in 2023, may cause material reductions in the demand for the products and services that we offer, and may result in a decline in our sales. In addition, our ability to significantly reduce expenses during such cyclical downturn may be limited because of:

- our continuing need to invest in research and development;
- our continuing need to market our new products; and
- our extensive ongoing customer service and support requirements worldwide.

Furthermore, during 2022, we increased our leased facilities and related investments and our operating expenses. In the event of a global recession or certain other economic conditions forcing the Company to materially reduce its expenses, portions of such facilities may be rendered obsolete. As a result, we may have difficulty achieving continued profitability during a protracted slowdown.

There can be no assurance that revenues from future products or product enhancements will be sufficient to recover the development costs or to ensure the sale of inventory related to these products.

We must continue to make significant investments in research and development in order to introduce new products and technologies, or to enhance the performance, features and functionality of our existing products, to keep pace with the competitive landscape and to satisfy customer demands. Substantial research and development costs are typically incurred before we confirm the technical feasibility and commercial viability of a new product, and not all development activities result in commercially viable products. There can be no assurance that revenues from future products or product enhancements will be sufficient to recover the development costs associated with such products or enhancements. In addition, we cannot be sure that these products or enhancements will receive market acceptance or that we will be able to sell these products at prices that are favorable to us. Our business will be seriously harmed if we are unable to sell our products at favorable prices or if the market in which we operate does not accept our products. In addition, in some cases, we accumulate inventories based on sales forecasts. If such sales forecasts are not materialized, we might need to write-off the related inventory, which will increase our losses.

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 ongoing product development efforts to address the detection and correction of the defects. We cannot provide assurances that we will not incur any costs or liabilities or experience any 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 adversely affect our reputation and may impair the market acceptance of our products.

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 be adversely affected.

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 be harmful to our business, revenues and reputation in the industry.

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

We have one manufacturing facility for our Optical CD and Raman technology related product lines, which is located in Weizmann Science Park, Nes Ziona, Israel, one manufacturing facility for our XPS and secondary ion mass spectrometry ("SIMS") technology related product lines, which is located in Fremont, CA, US, and two manufacturing facilities for our Chemical Metrology product lines, which are located in Pliezhausen and Bad Urach, Germany (the "Manufacturing Facilities"). In the first half of 2023 we plan to operate additional new manufacturing facilities and new laboratories (which can also be used for manufacturing if needed), in Weizmann Science Park, Rehovot, Israel and Fremont, CA US. Some of our current production lines will be expanded or transitioned to these new manufacturing facilities. These Manufacturing Facilities include special clean manufacturing jigs and/or room environments, which are customized to our needs. In addition, most of our ongoing inventories, including our main warehouse and work in process, are located in these Manufacturing Facilities. Although we adopted measures to protect these manufacturing facilities and inventories, and a disaster recovery plan, any event affecting any of our Manufacturing Facilities, 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.

Our lease agreements for our Manufacturing Facilities include provisions that exempt the landlord and others from liability for damages to our Manufacturing Facilities.

Pursuant to the lease agreements for our Manufacturing Facilities, the landlord and anyone on its behalf, and additional tenants are exempt from any liability for direct or consequential damages to our Manufacturing Facilities, except in the event of willful misconduct. While we have obtained insurance policies against certain damages, the aforementioned exemption of liability could compromise our ability to recover the full amount of such damages, and consequently we may incur substantial costs upon the occurrence of such damages.

Because shipment dates may be changed and some of our customers may cancel or delay orders with little or no penalty, and since we encounter difficulties in collecting cancellation fees from our customers, our backlog may not be a reliable indicator of actual sales and financial results.

We schedule production of our systems based upon order backlog and customer forecasts. We include in backlog only those orders received from the customers in which a delivery date has been specified. In general, our ability to rely on our backlog for future forecasting and planning is limited because shipment dates may be changed, some customers may cancel or delay orders with little or no penalty, and our ability to collect cancellation fees from customers is not assured. Thus, our backlog may not be a reliable indicator of actual sales and financial results and this may affect the accuracy of our forecasts.

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

Any acquisition 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;
- failing to comply with governmental requirements pertaining to acquisitions of local companies or assets by foreign entities;
- 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 our future acquisitions or to effectively integrate our current acquisition of ancossys GmbH (hereinafter: “ancossys”) or 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 that we will be able to integrate the operations of the acquired business without encountering difficulty regarding different business strategies with respect to marketing and integration of personnel with disparate business backgrounds and corporate cultures. The integration of ancossys acquisition, which closed in January 2022, is still in progress and, as of the date of this Annual Report, we cannot assure that such process will be completed without encountering difficulties. Further, in certain cases, mergers and acquisitions require special approvals, or are subject to scrutiny by the local authorities, and failing to comply with such requirements or to receive such approvals, may prevent or limit our ability to complete the acquisitions as well as expose us to legal proceedings prior or following the consummation of such acquisitions. In some cases, such proceedings, if initiated, may conclude in a requirement to divest portions of the acquired business. As of the date of this Annual Report, we are not aware of any pending proceedings as such in connection with the acquisition of ancossys.

We depend on continuous cooperation with Process Equipment Manufacturers (“PEMs”) to enable sales of our systems which are integrated with the process equipment, and the loss of PEMs as business partners could harm our business.

We believe that sales of systems which are integrated with the process equipment will continue to be an important source of our products revenues. Sales of such integrated systems, which include Optical CD integrated metrology and chemical metrology, depend upon the ability of PEMs to sell semiconductor equipment products that are able to integrate with these metrology systems. If our PEMs are unable to sell such products, if they choose to focus their attention on products that do not integrate our systems, or if they choose to develop their own metrology solutions, our business could suffer. If we were to lose our PEMs as business partners for any reason, our inability to realize sales from such systems could significantly harm our business. In addition, we may not be able to develop or market such new systems, which could slow or prevent our growth.

Some of our commercial agreements with PEMs and customers may include exclusivity provisions and limitations on the use of certain intellectual property. Such limitations may prevent us from engaging in certain business relationships with third parties, and may limit our ability to use certain elements of our intellectual property. As a result, our ability to introduce new products in relevant markets might be affected.

Some of our commercial agreements with PEMs and customers may include exclusivity provisions, which prevent us from engaging in certain business relationships with third parties. In addition, some of our commercial agreements with PEMs also include limitations on the use of certain joint intellectual property. These exclusivity obligations and limitations are often used as a tool to promote the development and the penetration of innovative new solutions, and are usually limited in terms of scope and length. When considering whether to enter into any such exclusivity arrangements or accepting such limitations, we usually take into consideration the terms of the exclusivity (e.g., length and scope), the expected benefit to the Company, and the risks and limitations associated with such exclusivity or limiting undertakings. Exclusivity obligations or limitation of use relating to certain parts of our technology and products may affect our ability to commercialize our products, engage in potentially beneficial business relationships with third parties (including by means of a merger or acquisition), or introduce new products into relevant markets, which could slow or prevent our growth.

We depend on a limited number of suppliers, and in some cases a sole supplier. Any disruption, delay 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 or a sole source. Disruption or termination of these sources could occur (due to several factors, including, but not limited to, supplier capacity limitations, low availability of raw materials, bankruptcy, work stoppages due to a pandemic, such as COVID-19, or other reasons, acts of war, terrorism, fire, earthquake, energy shortages, flooding or other natural disasters), and these disruptions could have at least a temporary adverse effect on our operations. Although we generally maintain an inventory of critical components used in the manufacture and assembly of our systems, such supplies may not be sufficient to avoid potential delays that could have an adverse effect on our business.

In addition, an acquisition of a major supplier by a larger company may lead to a cease delivery of components that are important to the delivery of our products and will require us to invest resources to find alternative sources.

To date, we have not experienced any material disruption or termination of our supply sources where replacement material has not been found and qualified.

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.

The disclosure rules regarding the use of conflict minerals may affect our relationships with suppliers and customers.

The Securities and Exchange Commission, or SEC, requires certain disclosure by companies that use conflict minerals in their products, with substantial supply chain verification requirements in the event that the materials come from, or could have come from, the Democratic Republic of the Congo or adjoining countries. These rules and verification requirements may impose additional costs on us and on our suppliers, and limit the sources or increase the prices of materials used in our products. Among other things, this rule could affect sourcing at competitive prices and availability in sufficient quantities of certain minerals used in the manufacture of components that are incorporated into our products. In addition, the number of suppliers who provide conflict-free minerals may be limited, and there may be material costs associated with complying with the disclosure requirements, such as costs related to the process of determining the source of certain minerals used in our products, as well as costs of possible changes to products, processes, or sources of supply as a consequence of such verification activities. We may not be able to sufficiently verify the origins of the relevant minerals used in components manufactured by third parties through the procedures that we implement, and we may encounter challenges to satisfy those customers who require that all of the components of our products be certified as conflict-free, which could place us at a competitive disadvantage if we are unable to do so. While we have created processes and procedures designed to enable compliance to these rules, if in the future we are unable to certify that our products are conflict free, we may face challenges with our customers, which could place us at a competitive disadvantage and harm our reputation.

Increased attention to ESG matters and conservation measures may adversely impact our business or that of our manufacturers.

In June 2022, the SEC published a proposed climate disclosure rule, subject to which we would be required to disclose certain climate-related information such as governance of climate-related risks and relevant risk management processes that could affect us, a climate related financial statements matrix and more. While the proposed rule has yet to be finalized and we cannot predict the ultimate scope and impact this will have on our business, if finalized, it would likely result in additional legal, accounting and financial compliance and increased general and administrative expenses. Moreover, this could result in increased management time and attention to ensure we are compliant with the regulations and expectations.

Though the disclosure is currently voluntary, we plan to disclose our ESG plan over the course of the year, which will include disclosures pertaining to our practices associated with climate change, human capital and diversity, governance, sustainability, diversity of our board and other Company policies. Any standards we may set for ourselves or a failure to meet these standards, could negatively impact our reputation. Furthermore, it is possible that our shareholders may not be satisfied with our ESG Plan or the speed of its adoption.

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 while a customer evaluates and approves an initial purchase of our systems. Our sales cycle for new customers, products or applications, may take longer than twelve (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.

Due to intense competition for highly skilled personnel, we may fail to attract, recruit, retain and develop qualified employees, which could materially and adversely impact our business, financial condition and results of operations.

We compete in a market that involves rapidly changing technological and regulatory developments that require a wide-ranging set of expertise and intellectual capital. In order for us to successfully compete and grow, we must attract, recruit, retain and develop the necessary personnel who can provide the needed expertise across the entire spectrum of our intellectual capital needs. While we have a number of our key personnel who have substantial experience with our operations, we must also develop and exercise our personnel to provide succession plans capable of maintaining continuity in the midst of the inevitable unpredictability of human capital. Our principal research and development activities are conducted from our headquarters in Israel and our subsidiary in the U.S. and we face significant competition for suitably skilled developers in this region. The high-tech industry in Israel, the U.S. and other territories we operate in has experienced significant levels of employee attrition and is currently facing a severe shortage of skilled human capital. We may encounter higher attrition rates in the future, particularly if Israel continues to experience strong economic growth. We may not succeed in recruiting additional experienced or professional personnel, retaining current personnel or effectively replacing current personnel who depart with qualified or effective successors. Many of the companies with which we compete for experienced personnel have greater resources than us.

Our effort to retain and develop personnel may also result in significant additional expenses, which could adversely affect our profitability. There can be no assurance that qualified employees will continue to be employed or that we will be able to attract and retain qualified personnel in the future. Failure to retain or attract qualified personnel could have a material adverse effect on our business, financial condition and results of operations.

Risks Related to Our Incorporation and Location in Israel

Political, economic and military instability in Israel may impede our ability to operate and harm our financial results.

Our principal executive offices and part of the research and development facilities are located in Israel and therefore may be influenced by regional instability and extreme military tension. Accordingly, political, economic and military conditions in Israel and the surrounding region could directly affect our business. Any armed conflicts, political instability, terrorism, cyberattacks or any other hostilities involving Israel or the interruption or curtailment of trade between Israel and its present trading partners could affect adversely our operations. Ongoing and revived hostilities or other Israeli political or economic factors, could prevent or delay shipments of our products, harm our operations and product development and cause any future sales to decrease. In the event that hostilities disrupt the ongoing operation of our facilities or the airports and seaports on which we depend to import and export our supplies and products, our operations may be materially adversely affected.

Furthermore, the Israeli government is currently pursuing extensive changes to Israel's judicial system. This has sparked extensive political debate. In response to the foregoing developments, many individuals, organizations and institutions, both within and outside of Israel, have voiced concerns that the proposed changes may negatively impact the business environment in Israel, including due to reluctance of foreign investors to invest or transact business in Israel, increased currency fluctuations, downgrades in credit rating, increased interest rates, increased volatility in security markets, and other changes in macroeconomic conditions. To the extent that any of these negative developments do occur, they may have an adverse effect on our business, our results of operations and our ability to raise additional funds, if deemed necessary by our management and board of directors.

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 significant periods of military reserve service until the age of 40 for soldiers and until the age of 45 for officers. This time-period may also be extended by the Military Chief of the 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.

Risks Related to Our Indebtedness and Capital Structure

Our convertible senior notes due 2025 ("Convertible Senior Notes") may impact our financial results, result in the dilution of existing shareholders, create downward pressure on the price of our ordinary shares, and restrict our ability to take advantage of future opportunities.

In October 2020, we closed an offering of \$200 million aggregate principal amount of 0% Convertible Senior Notes due 2025 in a private offering to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933, as amended, of which all Convertible Senior Notes remains outstanding as of December 31, 2022. The Convertible Senior Notes affect our earnings per diluted share figures, as procedures under the Accounting Standards Update ("ASU") 2020-06 require that we include in our calculation of earnings per diluted share the number of ordinary shares into which the Convertible Senior Notes are convertible. See also Note 11 to our consolidated financial statements contained elsewhere in this Annual Report.

The Convertible Senior Notes may be converted, under the conditions, during the periods and at the premium specified in the Convertible Senior Notes, into cash and our ordinary shares, if any (subject to our right to pay cash in lieu of all or a portion of such shares). If our ordinary shares are issued to the holders of the Convertible Senior Notes upon conversion, there will be dilution to our shareholders' equity and the market price of our ordinary shares may decrease due to the additional selling pressure in the market. Any downward pressure on the price of our ordinary shares caused by the sale or potential sale of ordinary shares issuable upon conversion of the Convertible Senior Notes could also encourage short sales by third parties, creating additional downward pressure on our share price.

Furthermore, the indenture for the Convertible Senior Notes prohibits us from engaging in certain mergers or acquisitions unless, among other things, the surviving entity assumes our obligations under the Convertible Senior Notes. These and other provisions in the indenture could deter or prevent a third party from acquiring us even when the acquisition may be favorable.

We currently anticipate that we will be able to rely on and to implement certain clarifications from the applicable Tax Authorities, with respect to the administration of our Israeli withholding tax obligations in relation to considerations to be paid to the holders of the Convertible Senior Notes upon their future conversion and settlement as well as other related tax aspects. Unexpected failure to ultimately obtain such anticipated clarifications from the Israeli Tax Authorities ("ITA") could potentially result in increased Israeli withholding tax gross-up costs.

We may not have the ability to raise the funds necessary to settle conversions of the Convertible Senior Notes, if we are obligated to settle such conversions, in whole or in part, in cash, repurchase the Convertible Senior Notes upon a fundamental change or repay the Convertible Senior Notes in cash at their maturity, and our future debt may contain limitations on our ability to pay cash upon conversion or repurchase of the Convertible Senior Notes.

Holders of the Convertible Senior Notes have the right, under the indenture governing the Convertible Senior Notes to require us to repurchase all or a portion of their Convertible Senior Notes upon the occurrence of a fundamental change before the applicable maturity date, at a repurchase price equal to 100% of the principal amount of such Convertible Senior Notes to be repurchased, plus accrued and unpaid interest, if any. Moreover, we will be required to repay the Convertible Senior Notes in cash at their maturity, unless earlier converted, repurchased or redeemed. We may not have enough available cash or be able to obtain financing at the time we are required to make such repurchases of the Convertible Senior Notes and/or repay the Convertible Senior Notes upon maturity and/or settle conversions of the Convertible Senior Notes (should we elect to settle such conversions, in whole or in part, in cash or should we be required to settle such conversions, in whole or in part, in cash, if in the future we irrevocably elect to settle the conversions in cash, in whole or in part).

Our ability to repurchase or to pay cash upon conversion of Convertible Senior Notes may be limited by law, regulatory authority or agreements governing our future indebtedness. Our failure to repurchase the Convertible Senior Notes at a time when the repurchase is required by the indenture or to pay cash upon conversion of the Convertible Senior Notes when required or at maturity as required by the indenture would constitute a default under the indenture. A default under the indenture or the fundamental change itself could also lead to a default under agreements governing our future indebtedness. If the payment of the related indebtedness were to be accelerated after any applicable notice or grace periods, we may not have sufficient funds to repay the indebtedness and repurchase the Convertible Senior Notes or to pay cash upon conversion of the Convertible Senior Notes or at maturity.

Financial, legal, regulatory and taxation risks

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 and Euro, 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. dollar, and mainly New Israeli Shekel (commonly referred to as NIS) and Euro. Starting January 1, 2019, in accordance with ASC 842 of lease accounting standard, we are required to present a significant NIS linked liability related to our operational leases in Israel. In addition, starting January 25, 2022, we acquired ancosys GmbH which operation is mainly Euro based. As a result, we are exposed to risk of devaluation of the U.S. dollar in relation to the NIS, Euro and other currencies. In such 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 2022, the U.S. dollar revaluated against the NIS by 13.2%, after being devaluated by approximately 17.0% in the previous three years, and revaluated against the Euro by 5.8%, after being revaluated by approximately 1.2% in the previous three years. We cannot predict the future trends in the rate of devaluation or revaluation of the U.S. dollar against the NIS and the Euro, and our cost of operations could be adversely affected by such trends.

We are subject to various regulations and standards relating to data privacy and security. Failure to comply any applicable privacy, security, data protection laws, regulations, standards or other requirement could have an adverse effect on our business prospects, results of operations, and financial condition.

The regulatory framework for privacy and security issues worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. In particular, in the European Union, the General Data Protection Regulation (the “GDPR”) imposes more stringent data protection requirements and provides for greater penalties for noncompliance. For example, we collect, use, maintain and otherwise process certain data about candidates and employees. Our ability to collect, use, maintain or otherwise process personal data has been, and could be further, restricted by existing and new laws and regulations relating to privacy and data collection and protection, including the GDPR.

Additionally, the uncertainty created by these laws and regulations can be compounded when services hosted in one jurisdiction are directed at users in another jurisdiction. For instance, European data protection rules may apply to companies which are not established in the European Union (“EU”) (this is the so-called extraterritorial scope of the GDPR). The GDPR has an even wider territorial scope and contains significant penalties for non-compliance. The GDPR, among other things, imposes requirements to provide detailed and transparent disclosures about how personal data is collected and processed, grants rights for data subjects to access, delete or object to the processing of their personal data, provides for a mandatory breach notification to supervisory authorities (and in certain cases, affected individuals) of certain data breaches, sets limitations on the retention of personal data and outlines significant documentary requirements to demonstrate compliance through policies, procedures, training and audits. To further complicate matters in Europe, to date, supervisory authorities in the member states have some flexibility when implementing European Directives and certain aspects of the GDPR, which can lead to diverging national rules. European supervisory authorities have been very active in terms of enforcing data protection rules, including with respect to cookie-related matters.

Additionally, recent legal developments in EU have created complexity and uncertainty regarding transfers of personal data from the EEA to the United States and other jurisdictions. Most recently, on July 16, 2020, in a case known as Schrems II, the Court of Justice of the European Union (“CJEU”) invalidated the EU-US Privacy Shield Framework (“Privacy Shield”), under which personal data could be transferred from the EEA to U.S. entities which had self-certified under the Privacy Shield scheme. While the CJEU upheld the adequacy of the standard contractual clauses (a standard form of contract approved by the European Commission as an adequate personal data transfer mechanism, and potential alternative to the Privacy Shield) (“SCCs”), it made clear that reliance on SCCs alone may not necessarily be sufficient in all circumstances. The CJEU’s decision also cast doubt over the effectiveness of the SCCs. The European Data Protection Board, which subsequently issued a revised set of SCCs for organizations to utilize, released their comments on the supplementary measures that can be used to ensure a sufficient level of data protection when transferring personal data. The comments indicated that organizations need to perform a data transfer impact assessment to evaluate the legal regime applicable in the destination country, in particular applicable surveillance laws and rights of individuals, and that additional measures and/or contractual provisions may need to be put in place. However, the nature of these additional measures is currently uncertain.

Similarly, there have been laws and regulations adopted throughout the United States and Israel that impose obligations in areas such as privacy, in particular protection of personal information and implementing adequate cybersecurity measures to protect such information. The most prominent to which we are exposed is the California Consumer Privacy Act of 2020 (CCPA) which increases the privacy and security obligations companies have towards the consumer when handling personal data. The CCPA allows civil penalties for violations as well as private right of action for data breaches. In addition, the California Privacy Rights Act (CPRA) which became effective as of January 1, 2023, imposes additional obligations such as expanding the current data privacy compliance requirements under the CCPA. The CPRA has established a regulatory agency to enforce these privacy acts. Additional U.S. states have implemented, or are in the process of implementing, similar new laws or regulations (for example, the Virginia Consumer Data Protection Act (VCDPA) that became effective in January 1, 2023 and the Colorado Privacy Act (CPA) which is subject to take effect as of July 1, 2023) that impose new privacy rights and obligations. More generally, some observers have noted that the CCPA, CPRA, VCDPA and CPA could mark the beginning of a trend toward more stringent United States federal privacy legislation, which could increase our potential liability and adversely affect our business.

In addition, failure to comply with the Israeli Privacy Protection Law 1981 and its regulations, as well as the guidelines of the Israeli Privacy Protection Authority, may expose us to administrative fines, civil claims (including class actions) and, in certain cases, criminal liability. Current pending legislation may result in a change to the current enforcement measures and sanctions. There have also been privacy bills enacted in other countries around the world which have introduced new or expanded privacy requirements and we expect that privacy legislation will continue to evolve in the coming years. Therefore, it is difficult to determine whether and how such existing and laws and regulations will apply to and impact the internet and our business.

Any inability to adequately address privacy and security concerns or comply with applicable privacy and data security laws, rules and regulations could have an adverse effect on our business prospects, results of operations and/or financial position.

We participate in government programs under which we receive research and development grants. Some of these programs imposed restrictions on our ability to use the technologies developed under these programs. The reduction or termination of these programs would increase our costs.

Until the end of 2016, we received royalty-bearing grants from the Israel Innovation Authority, or IIA (formerly known as the Office of the Chief Scientist of the Ministry of Economy and Industry, or the OCS), for the financing of certain of our research and development programs that meet specified criteria. Starting 2018, we have participated only in IIA royalty free grant programs.

In addition, through the years, we participated in consortiums which are either solely managed by the IIA, or are joint consortium of the IIA and the European Research Area, or only European managed consortium. To maintain our eligibility for these programs, we must continue to meet certain conditions.

Some of these programs also restrict our ability to manufacture particular products and transfer particular technology, which were developed as part of the IIA's programs, outside of Israel. The restrictions associated with these IIA's programs may require us to obtain approval of the research and development committee nominated by the IIA for certain actions and transactions and pay additional payments to the IIA. Approval to manufacture products, which their development was partially funded by IIA grants, outside of Israel or consent to the transfer of technology, if requested, might not be granted and if granted, may increase our financial liabilities to the IIA. In addition, if we fail to comply with certain restrictions associated with formerly received IIA's funding, we may be subject to criminal charges.

We are further exposed to risks related to the receipt of funding from other governments or governmental agencies in connection with strategic development programs, under which we receive funding. Under such strategic development programs, governments and governmental agencies typically have the right to terminate the program's funding at any time. In addition, a project may be terminated by a mutual agreement, if the parties determine that the project's goals or milestones are not being achieved. As a result, there is no assurance that these sources of external funding will continue to be available to us in the future. Moreover, under the terms of certain governmental funding programs in which we receive funding, the applicable granting agency has the right to audit the costs that we incur, directly and indirectly, in connection with such programs. Any such audit could result in modifications to, or even termination of, the applicable governmental funding program. Any adverse finding resulting from any such audit could lead to penalties (financial or otherwise), termination of funding programs, suspension of payments or other adverse consequences to our ability to receive governmental funding. In addition, obligations related to grants received from the IIA grants bear an annual interest rate based on the 12-month LIBOR.

The application of tax laws is subject to interpretation and if tax authorities challenge our methodologies or our analysis of our tax rates it could result in an increase to our worldwide effective tax rate and cause us to change the way we operate our business.

The application of the tax laws of various jurisdictions to our international business activities (as well as to entities which we acquired) is subject to interpretation and also depends on our ability to operate our business in a manner consistent with our corporate structure and intercompany arrangements. The tax authorities of the jurisdictions in which we (and entities we acquired) operate may challenge our methodologies for valuing developed technology or intercompany arrangements, including the transfer pricing, or determine that the manner in which we (and the entities we acquired) operate the business does not achieve the expected tax consequences, which could result in tax and penalty payments and in an increase of our worldwide effective tax rate, and could adversely affect our financial position and results of operations.

A certain degree of judgment is required in evaluating our tax positions and determining our provision for income taxes. In the ordinary course of business, there are many transactions and calculations for which the ultimate tax determination is uncertain. For example, our effective tax rates could be adversely affected by earnings being lower than anticipated in countries where we have lower statutory rates and higher than anticipated in countries where we have higher statutory rates, by changes in foreign currency exchange rates or by changes in the relevant tax, accounting and other laws, regulations, principles and interpretations. As we operate in numerous taxing jurisdictions, the application of tax laws can be subject to diverging and sometimes conflicting interpretations by tax authorities of these jurisdictions. It is not uncommon for tax authorities in different countries to have conflicting views. In addition, tax laws are dynamic and subject to change as new laws are passed and new interpretations of the law are issued or applied. For example, the work being carried out by the OECD on base erosion and profit shifting as a response to increasing globalization of trade could result in changes in tax treaties or the introduction of new legislation that could impose an additional tax on businesses. As a result of changes to laws or interpretations, our tax positions could be challenged, and our income tax expenses could increase in the future.

For instance, if tax authorities in any of the countries in which we operate were to successfully challenge our transfer prices, they could require us to reallocate our income to reflect transfer pricing adjustments, which could result in an increased tax liability to us. In addition, if the country from which the income was reallocated did not agree with the reallocation asserted by the first country, we could become subject to tax on the same income in both countries, resulting in double taxation. If tax authorities were to allocate income to a higher tax jurisdiction, subject our income to double taxation or assess interest and penalties, it could increase our tax liability, which could adversely affect our financial position and results of operations.

The enactment of legislation implementing changes in taxation of international business activities, the adoption of other corporate tax reform policies, or changes in tax legislation or policies could impact our future financial position and results of operations.

There can be no assurance that our effective tax rate for the year ended December 31, 2022 will not change over time as a result of changes in corporate income tax rates or other changes in the tax laws the jurisdictions in which we operate. Any changes in tax laws could have an adverse impact on our financial results. Corporate tax reform, base-erosion efforts and tax transparency continue to be high priorities in many tax jurisdictions where we have business operations. As a result, policies regarding corporate income and other taxes in numerous jurisdictions are under heightened scrutiny and tax reform legislation is being proposed or enacted in a number of jurisdictions. For example, the Inflation Reduction Act of 2022 signed into law in the United States on August 16, 2022 among other changes, introduced a 15% corporate minimum tax on certain corporations and a 1% excess tax on certain stock repurchases by certain corporations.

In addition, there is growing pressure in many jurisdictions and from multinational organizations such as the Organization for Economic Cooperation and Development (OECD) and the EU to amend existing international taxation rules in order to align the tax regimes with current global business practices. Specifically, in October 2015, the OECD published its final package of measures for reform of the international tax rules as a product of its Base Erosion and Profit Shifting (BEPS) initiative, which was endorsed by the G20 finance ministers. Many of the initiatives in the BEPS package required and resulted in specific amendments to the domestic tax legislation of various jurisdictions and to existing tax treaties. We continuously monitor these developments. Although many of the BEPS measures have already been implemented or are currently being implemented globally (including, in certain cases, through adoption of the OECD's "multilateral convention" (to which Israel is also a party) to effect changes to tax treaties which entered into force on July 1, 2018 and through the European Union's "Anti Tax Avoidance" Directives), it is still difficult in some cases to assess to what extent these changes our tax liabilities in the jurisdictions in which we conduct our business or to what extent they may impact the way in which we conduct our business or our effective tax rate due to the unpredictability and interdependency of these potential changes. In January 2019 the OECD announced further work in continuation of the BEPS project, focusing on two "pillars." On October 8, 2021, 136 countries approved a statement known as the OECD BEPS Inclusive Framework, which builds upon the OECD's continuation of the BEPS project. The first pillar is focused on the allocation of taxing rights between countries for in-scope large multinational enterprises (with revenue in excess of Euro 20 Billion and profitability of at least 10%) that sell goods and services into countries with little or no local physical presence. The second pillar is focused on developing a global minimum tax rate of at least 15 percent applicable to in-scope multinational enterprises (with revenue in excess of Euro 750 million). Israel is one of the 136 jurisdictions that has agreed in principle to the adoption of the global minimum tax rate. Given these developments, it is generally expected that tax authorities in various jurisdictions in which we operate may increase their audit activity and may seek to challenge some of the tax positions we have adopted. It is difficult to assess if and to what extent such challenges, if raised, might impact our effective tax rate. On December 15, 2022, Council of the EU unanimously adopted the EU Directive on Global Minimum Tax. Thus, it is now expected that that the second Pillar rules will be enacted by EU member states by December, 31 2023 effective for fiscal years beginning on or after that date.

Changes in certain tax benefits under the Israeli Capital Investment Encouragement Law may increase our ETR.

Starting 2017, we made an election to receive Tax benefits under Israeli "Economic Efficiency Law" as a "Preferred Technological Enterprise". While we believe that we meet the statutory conditions to entitle us to such benefits there can be no assurance that the tax authorities in Israel will concur to our position in general and for each specific year separately. Should it be determined that we have not, or do not meet such conditions, the benefits received would be cancelled. We would also be required to pay increased taxes or refund any benefits previously received, adjusted to the Israeli consumer price index and interest, or other monetary penalty.

For additional information regarding Approved and Benefited Enterprise, Preferred Enterprise and Preferred Technological Enterprise see, “Item 10E. Taxation – Israeli Taxation” in this Annual Report.

It should be noted that the Israeli government may reduce or eliminate the above-mentioned benefits in the future, inter-alia, in light of or as a response to the OECD or the “two Pillars” initiatives. The termination or reduction of these grants or tax benefits could harm our financial condition and results of operations, and result in significantly higher tax payment. In addition, if we increase our activities outside Israel due to, for example, future acquisitions or outsourcing of manufacturing or development activities, these activities generally will not be eligible for inclusion in Israeli grants or tax benefit programs. Accordingly, our effective corporate tax rate could increase significantly in the future.

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

Our quarterly operating results within a specific year can fluctuate significantly. 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 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.

Some of our contracts and arrangements potentially subject us to the risk of significant or non-limited liability.

We produce highly complex optical, mechanical and electronic components and, accordingly, there is a risk that defects may occur in any of our products. Such defects can give rise to significant costs, including expenses relating to recalling products, replacing defective items, writing down defective inventory and loss of potential sales. In addition, the occurrence of such defects may give rise to product liability and warranty claims, including liability for damages caused by such defects.

In our commercial relationship with customers, we attempt to negotiate waivers of consequential and indirect damages arising from damages for loss of use, loss of product, loss of revenue and loss of profit caused by our products. Similarly, with respect to our commercial relationship with subcontractors and suppliers, we attempt to negotiate arrangements which do not include a limitation of liabilities and limitation of consequential and indirect damages. However, some contracts and arrangements we are bound by, expose us to product liability claims resulting in personal injury or death, up to an unlimited amount, and the incurrence of the risk of material penalties for consequential or liquidated damages. Additionally, under such contracts and arrangements, we may be named in product liability claims even if there is no evidence that our products caused the damage in question, and such claims could result in significant costs and expenses relating to attorneys’ fees and damages.

In addition, such contracts and arrangements may include non-limited liability provisions for infringement of a third party's intellectual property rights in connection with our products.

Although we have not incurred in the past any material penalties for consequential or liquidated damages, we may incur such penalties in the future. Such penalties for consequential or liquidated damages may be significant (and so is the legal process conducted in connection with such penalties) and could negatively affect our financial condition or results of operations.

A large number of our ordinary shares continue to be owned by a relatively small number of shareholders, whose future sales of our shares, 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 or warrants, the market price of our ordinary shares may fall. For additional information on our major shareholders, see "Item 7A – Major Shareholders" in this Annual Report.

Certain shareholders may control the outcome of matters submitted to a vote of our shareholders, including the election of directors.

To the best of our knowledge, approximately 34% of our outstanding ordinary shares are cumulatively held by five of our shareholders. 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 Amended and Restated Articles of Association. Even if these shareholders do not vote together, each one of them may have the ability to influence the outcome of corporate actions requiring the vote of shareholders as set in the Company's Amended and Restated Articles of Association. For additional information on our major shareholders, see "Item 7A – Major Shareholders" in this Annual Report.

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

In the past, 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.

In addition, the price of our ordinary shares could also be affected by possible sales of our ordinary shares by investors who view our convertible senior notes as a more attractive means of equity participation in our company, and by hedging and arbitrage trading activity that such investors may engage in.

We manage our available cash through various bank institutions and invest large portions of our cash reserves in bank deposits. A bankruptcy of one of the banks in which or through which we hold or invest our cash reserves, might prevent us to access that cash for an uncertain period of time.

We manage our available cash through various bank institutions and invest large portions of our cash reserves in bank deposits. As of December 31, 2022, a large portion of our cash reserves were invested in bank institutions, of which approximately 11% (from total cash reserves and investment portfolio) was invested in one bank institution in Israel. A bankruptcy of one of the bank institutions in which we hold our cash reserves or through which we invest our cash reserves, might prevent us to access that cash for an uncertain period of time.

Our investment portfolio may be adversely affected by market conditions and interest rates.

We maintain substantial balances of liquid investments, for purposes of financing our operations and acquisitions. Our marketable securities totaled \$321 million as of December 31, 2022. The performance of the capital markets affects the values of funds that are held in marketable securities. These assets are subject to market fluctuations and various developments, including, without limitation, rating agency downgrades that may impair their value. We generally buy and hold our portfolio positions, while minimizing credit risk by setting limits for minimum credit rating and maximum concentration per issuer. Our investments consist primarily of government and corporate debentures, which are primarily fixed-income securities.

Although we believe that we generally adhere to conservative investment guidelines, the continuing turmoil in the financial markets may result in impairments of the carrying value of our investment assets. In addition, as our investment portfolio is invested primarily in fixed-income securities it is affected by changes in interest rates. Interest rates are highly sensitive to many factors, including governmental monetary policies and domestic and international economic and political conditions. Any significant decline in our financial income or the value of our investments as a result of the changes in interest rates and interest rate expectations of the financial markets, deterioration in the credit rating of the securities in which we have invested, or general market conditions, could have an adverse effect on our results of operations and financial condition. We classify our investments as available-for-sale. Changes in the fair value of investments classified as available-for-sale are not recognized as income during the period, but rather are recognized as other comprehensive income, or OCI, which is a separate component of equity until realized. Realized losses in our investments portfolio may adversely affect our financial position and results.

We may fail to maintain effective internal control over financial reporting in accordance with Section 404 of the Sarbanes-Oxley Act of 2002.

The Sarbanes-Oxley Act of 2002 imposes certain duties on us and our executives and directors. Our efforts to comply with the requirements of Section 404 (Assessment of Internal Control), which started in connection with our Annual Report on Form 20-F for the fiscal year ended December 31, 2007, have resulted in increased general and administrative expense and a diversion of management time and attention, and we expect these efforts to require the continued commitment of resources. Section 404 of the Sarbanes-Oxley Act of 2002 requires (i) management's annual review and evaluation of our internal control over financial reporting and (ii) an attestation report issued by an independent registered public accounting firm on our internal control over financial reporting, in connection with the filing of our Annual Report on Form 20-F for each fiscal year. We have documented and tested our internal control systems and procedures in order for us to comply with the requirements of Section 404. While our assessment of our internal control over financial reporting resulted in our conclusion that as of December 31, 2022, our internal control over financial reporting was effective, we cannot predict the outcome of our testing in future periods. If we fail to maintain the adequacy of our internal controls, we may not be able to ensure that we can conclude on an ongoing basis that we have effective internal controls over financial reporting. Failure to maintain effective internal control over financial reporting could result in investigation or sanctions by regulatory authorities, and could have a material adverse effect on our operating results, investor confidence in our reported financial information, and the market price of our ordinary shares.

Provisions of our Amended and Restated Articles of Association and Israeli law may delay, prevent or make difficult an acquisition of Nova, which could prevent a change of control and negatively affect the price of our ordinary shares.

Israeli corporate law regulates mergers, requires tender offers for acquisitions of shares above specified thresholds, for special approvals for transactions involving directors, officers or significant shareholders and regulates other matters that may be relevant to these types of transactions. Furthermore, Israeli tax considerations may make potential transactions unappealing to us or to some of our shareholders. See Exhibit 2.1 to this Annual Report, “Description of the Securities”. For a more detailed discussion regarding some anti-takeover effects of Israeli law.

These provisions of Israeli law may delay, prevent or make difficult an acquisition of Nova, which could prevent a change of control and therefore depress the price of our shares.

The rights and responsibilities of our shareholders are governed by Israeli law and differ in some respects from the rights and responsibilities of shareholders under U.S. law.

We are incorporated under Israeli law. The rights and responsibilities of holders of our ordinary shares are governed by our Amended and Restated Articles of Association and by the Israeli Companies Law, 1999 (the “Companies Law”). These rights and responsibilities differ in some respects from the rights and responsibilities of shareholders in typical U.S. corporations. In particular, pursuant to the Companies Law each shareholder of an Israeli company has to act in good faith in exercising his or her rights and fulfilling his or her obligations toward the company and other shareholders and to refrain from abusing his power in the company, including, among other things, in voting at the general meeting of shareholders and class meetings, on amendments to a company’s articles of association, increases in a company’s authorized share capital, mergers, and transactions requiring shareholders’ approval under the Companies Law. In addition, a controlling shareholder of an Israeli company or a shareholder who knows that it possesses the power to determine the outcome of a shareholder vote or who has the power to appoint or prevent the appointment of a director or officer in the company, or has other powers toward the company has a duty of fairness toward the company. However, Israeli law does not define the substance of this duty of fairness. Because Israeli corporate law has undergone extensive revision in recent years, there is little case law available to assist in understanding the implications of these provisions that govern shareholder behavior.

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 will 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 Select Market and on the Tel Aviv Stock Exchange Ltd., or TASE. This may result in price variations. Our ordinary shares are traded on these markets in different currencies, U.S. dollars on the Nasdaq Global Select Market and New Israeli Shekels on the TASE. 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.

Our business could be negatively affected as a result of actions of activist shareholders, and such activism could impact the trading value of our securities.

In recent years, certain Israeli issuers listed on United States exchanges have been faced with governance-related demands from activist shareholders, as well as unsolicited tender offers and proxy contests. Although as a foreign private issuer we are not subject to U.S. proxy rules, responding to these types of actions by activist shareholders could be costly and time-consuming, disrupting our operations and diverting the attention of management and our employees. Such activities could interfere with our ability to execute our strategic plan. In addition, a proxy contest for the election of directors at our annual meeting would require us to incur significant legal fees and proxy solicitation expenses and require significant time and attention by management and our board of directors. The perceived uncertainties due to these potential actions of activist shareholders also could affect the market price and volatility of our securities.

We may be classified as a “passive foreign investment company” for U.S. income tax purposes, which could have significant and adverse tax consequences to U.S. shareholders.

Generally, if for any taxable year 75% or more of our gross income consists of specified types of passive income, or, on average, 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 (a “PFIC”) for U.S. federal income tax purposes. Classification of Nova as a PFIC could result in adverse U.S. tax consequences to our U.S. shareholders, such as ineligibility for any preferential tax rates on capital gains or on dividends, interest charges on certain taxes treated as deferred, and additional reporting requirements under U.S. federal income tax laws and regulations. If we are a PFIC, it may be possible for U.S. holders of our ordinary shares to mitigate certain of these consequences by making an election to treat us as a “qualified electing fund” under Section 1295 of the Internal Revenue Code of 1986, as amended (the “Code”) or a “mark-to-market election” under Section 1296 of the Code. 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 for our 2022 taxable year we were not a PFIC. Nonetheless, because the determination of whether we are, or will be, a PFIC for a taxable year depends on the application of complex U.S. federal income tax rules, which are subject to various interpretations, there is a risk that we were a PFIC in 2022. Absent one of the elections referenced above, if we are a PFIC for any taxable year during which a U.S. holder holds our ordinary shares, we generally will continue to be treated as a PFIC with respect to such U.S. holder in all succeeding years regardless of whether we cease to meet the PFIC tests in one or more subsequent years. Currently we expect that we will not be a PFIC in 2023 or subsequent years. However, PFIC status is determined based on our assets and income over the course of each taxable year, and is dependent on a number of factors, including the value of our assets, the trading price of our ordinary shares and the amount and type of our gross income. Therefore, there can be no assurances that we will not become a PFIC for the 2023 taxable year, or any future year, or that the Internal Revenue Service will not challenge any determination made by us concerning our PFIC status. For a discussion on how we might be characterized as a PFIC and related tax consequences, please see the section of this Annual Report entitled “Taxation - U.S. Taxation – Passive Foreign Investment Companies.” Investors should consult their own tax advisors regarding all aspects of the application of the PFIC rules to our ordinary shares.

If a United States person is treated as owning at least 10% of our shares, such holder may be subject to adverse U.S. federal income tax consequences.

If a United States person is treated as owning (directly, indirectly or constructively) at least 10% of the value or voting power of our shares, such person may be treated as a “United States shareholder” with respect to each “controlled foreign corporation” in our group. Because our group includes one or more U.S. subsidiaries, certain of our non-U.S. subsidiaries will be treated as controlled foreign corporations (regardless of whether we are or are not treated as a controlled foreign corporation). A United States shareholder of a controlled foreign corporation may be required to annually report and include in its U.S. taxable income its pro rata share of the controlled foreign corporation’s “Subpart F income”, “global intangible low-taxed income” and investments in U.S. property, whether or not such controlled foreign corporation makes any distributions. An individual that is a United States shareholder with respect to a controlled foreign corporation generally would not be allowed certain tax deductions or foreign tax credits that would be allowed to a United States shareholder that is a U.S. corporation. A failure to comply with these reporting obligations may subject you to significant monetary penalties and may prevent the statute of limitations with respect to your U.S. federal income tax return for the year for which reporting was due from starting. We cannot provide any assurances that we will assist investors in determining whether any of our current or future non-U.S. subsidiaries are treated as a controlled foreign corporation or whether such investor is treated as a United States shareholder with respect to any of such controlled foreign corporations or furnish to any United States shareholders information that may be necessary to comply with the aforementioned reporting and tax paying obligations. The Internal Revenue Service provided limited guidance on situations in which U.S. shareholders may rely on publicly available information to comply with their reporting and tax paying obligations with respect to foreign-controlled CFCs. A United States investor should consult their own advisors regarding the potential application of these rules to its investment in the shares.

Item 4. Information on the Company

4.A History and Development of the Company

Nova 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 April 2000, we conducted an initial public offering and our shares were listed for trading on the Nasdaq stock exchange.

In June 2002, we listed our shares on the TASE, pursuant to legislation which enables Israeli companies whose shares are traded on certain stock exchanges outside of Israel to be registered on the TASE, while reporting, in substance, in accordance with the provision of the relevant foreign securities law applicable to the Company.

Until 2008, most of our products were sold to process equipment manufacturers such as Applied Materials, Inc. and Ebara Corp., which later sold these products to semiconductor manufacturers. Since then, we have changed our business model, selling substantially all of our products directly to semiconductor manufacturers. Through this process, which has also enabled us to introduce to these customers additional products and features, we have improved our products gross margins and net profitability.

In April 2015, we acquired ReVera Inc., a privately held company headquartered in Santa Clara, California, which develops, manufactures and sells stand-alone metrology tools for measurements of thin-films and composition applications in the semiconductor industry, and on December 31, 2017, we merged ReVera into its parent company, Nova Measuring Instruments, Inc.

In July 25, 2021, we changed the legal name of our Company from Nova Measuring Instruments Ltd. to Nova Ltd. to match the Company's long-term strategy. The Company has retained its NVMI ticker symbol and its Process Insight® tagline

In January 2022, we acquired ancosys, a privately held company headquartered in Pliezhausen Germany which is a leading provider of chemical analysis and metrology solutions for advanced semiconductor manufacturing, supporting both frontend and backend semiconductor manufacturing.

At the end of 2022, we had six direct fully owned subsidiaries, in the U.S., Taiwan, Korea, China, Japan and Germany, and one indirect fully owned subsidiary in Germany.

Our headquarter office is located in Israel at 5 David Fikes St., 10th Floor, Rehovot.

Our website address is www.novami.com, and our telephone number is +972-73-229-5600. We use our website as a means of disclosing material non-public information. Such disclosures will be included on our website in the "Investors" sections. Accordingly, investors should monitor such sections of our website, in addition to following our press releases and SEC filings. Information contained on, or that can be accessed through, our website does not constitute a part of this Annual Report and is not incorporated by reference herein. We have included our website address in this Annual Report solely for informational purposes. Our SEC filings are available to you on the SEC's website at <http://www.sec.gov>. This site contains reports and other information regarding issuers that file electronically with the SEC. The information on that website is not part of this Annual Report and is not incorporated by reference herein.

Our agent for service of process in the United States is Nova Measuring Instruments Inc., which maintains its principal offices at 3342 Gateway Blvd, Fremont CA 94538. Its' telephone number is +1-408-510-7400.

4.B Business Overview

Our Company

Nova is a leading innovator and key provider of metrology solutions for advanced process control used in semiconductor manufacturing. Nova delivers continuous innovation by providing high-performance metrology solutions for effective process control throughout the semiconductor fabrication process. We bring pioneering metrology solutions to semiconductors process control, by industrializing lab and research-grade technologies and developing emerging metrology solutions. Nova's product portfolio, deployed at the world's largest integrated-circuit manufacturers, combines high-precision hardware and cutting-edge software, and provides its customers with deep insight into the development and production of the most advanced semiconductor devices. Nova's capability to deliver innovative Optical, X-ray, SIMS and Chemical analysis technology solutions enables its customers to improve performance, enhance product yields and accelerate time to market.

Nova's market offering is driven by three product divisions: The Dimensional Metrology Division (DMD) which is responsible for optical technology-based metrology solutions (integrated and standalone), the Materials Metrology Division (MMD) which is responsible for X-ray and SIMS (Secondary Ion Mass Spectrometry) based solutions, and the Chemical Metrology Division (CMD) which is responsible for chemical metrology and replenishment solutions. The corporate units, such as marketing, next generation technology, human resources, finance and global business group, support both divisions. This structure allows the company to focus management attention on each product line separately, as well as to facilitate the integration of additional businesses or technologies in the future.

Our Market

Semiconductor Industry and the Metrology Market

The semiconductor manufacturing process starts with a flat silicon disc known as a silicon wafer upon which integrated circuits are constructed. To construct the integrated circuits, a series of layers of thin films that act as conductors, semiconductors or insulators are applied. During the manufacturing process, these film layers are subjected to processes which remove portions of the film, create circuit patterns and perform other functions. The semiconductor manufacturing process requires numerous precise steps and strict control of equipment performance and process sequences. Tight process control can be achieved through monitoring silicon wafers and measuring relevant parameters before, during or after each process step, with metrology tools.

The demand for our metrology systems is driven by capital equipment spending of the semiconductor manufacturers, which is in turn driven by the worldwide demand for semiconductor components embedded in technology devices. Industry data indicates worldwide demand for semiconductors will continue to grow, driven by the growing adoption of 5G and advanced network infrastructure, automotive, artificial intelligence ("AI") and internet of things ("IoT") applications, as well as network and data centers thriving through the work-from-home, learn-from-home, buy from home and gaming trends.

The growing investment in advanced technology nodes introduces growing complexity and new challenges into the semiconductor manufacturing process, as manufacturers are continuously pushed to improve performance and cost to gain competitive advantage. In a climate of constant growth, suppliers and manufacturers are asked to constantly come up with new products with greater functionality, better performance at lower prices. As a result, many new complex materials, advanced structures and processes are being introduced into the semiconductor manufacturing ecosystem. An environment of growing complexity in chip design and manufacturing set favorable business conditions for process control demand.

In addition, we see growing demand for trailing node capacity in the last few years, driven by the growing need for IoT and sensors that do not require leading edge technologies. This trend is expected to continue in coming years and to increase the demand for metrology and process control solutions.

The Semiconductor Manufacturing Process

Semiconductors devices typically consist of transistors, memory cells or other components connected by an intricate system of circuitry on silicon wafers. Integrated circuit manufacturing involves many individual steps, some of which are repeated several times, through which numerous copies of an integrated circuit are formed on a single silicon wafer. Because semiconductor specifications are extremely tight, and integrated circuits are becoming more complex, the process steps are constantly monitored, and critical parameters are measured at each step using metrology equipment. Key process steps, such as Deposition, Photolithography, Etch and Chemical-Mechanical Planarization, rely on metrology systems to monitor film thickness, uniformity, and critical dimensions and material characteristics, to ensure the correct result has been achieved.

The measurements taken by metrology systems during the manufacturing process help ensure process uniformity and help semiconductor manufacturers avoid costly rework and misprocessing, therefore increasing efficiency, yield and time to market.

The Need for Effective Process Control and Metrology Tools

Several technical and operational trends within the semiconductor manufacturing industry are strengthening the need for more effective process control and metrology solutions. These trends include:

- **Smaller IC Devices.** The development of advanced smaller features means a larger numbers of integrated circuits per wafer. As feature geometries decrease, the manufacturing process tolerances decreases as well, and manufacturing yield becomes increasingly sensitive to processing deviations and defects. In addition, the increased complexity means higher chance of error during manufacturing, leading to additional inline monitoring and metrology steps.
- **Transition to 3D Device.** The transition to ever more complex 3D Integration technology, in order to improve performance, requires complex fabrication and as a result more sophisticated metrology solutions to be capable of measuring critical dimensions and materials properties in these 3D structures.
- **Faster Time to Market.** The accelerating rate of obsolescence of technology and the faster ramp to yield required by customers makes early achievement of high manufacturing yields a critical component of profitability and metrology has a critical role in achieving these demanding results.

- **Materials Engineering.** In order to overcome limitations in the continued shrink of transistor dimensions, which is used to improve performance, leading manufacturers are introducing new novel materials to IC production. New materials introduction requires new processing and metrology solutions in the atom level and thus represents a challenging development for the semiconductor manufacturing industry. It also represents a growing demand for tighter materials control and therefore increasing demand for Materials Metrology solutions to control parameters such as composition, stress, ultra-thickness, crystallization and more.

- **New Manufacturing Steps.** Multiple Lithography technologies including multi-patterning and E-Beam are increasing the number of Etch and CMP process steps and EUV poses unique metrology challenges.

- **Foundry Model.** The rising investment needed for leading edge semiconductor process development and production, as well as the proliferation of different types of devices, lead to manufacturing increasingly being outsourced to foundries. A foundry typically runs several different processes and makes numerous different semiconductor product types in one facility. Since Foundries are running multiple products at the same time, the need for process control and metrology is increasing in order to qualify multiple devices on the same wafer at the same high process quality.

- **Advanced Memory Technology (SSD).** Memory manufacturers are going through technology evolution and build vertical devices to manage layers of NAND Memory. Such a complex device that can hold up to hundreds of thin high aspect ratio vertical layers requires significant changes in the manufacturing process. These changes require also many more steps to control through different Metrology solutions and increase the overall process control intensity for these High Aspect Ratio evolving structures.

- **Advanced Packaging.** The evolution in packaging to high-end performance packaging technologies such as flip chip, fan out, 2.5D and 3D packaging is driven by the need for enhanced performance with higher I/O density and smaller pitch. The advanced packaging business growth is propelled by automotive, 5G and HPC-related applications. Capital investment for High-End Performance Packaging represents a significant part of the total packaging CAPEX and is shifting from OSATs to Integrated Device Manufacturers and Foundries as the production and process control requirements are becoming similar to Front-End Fabs. These trends are increasing the TAM for process control and metrology solutions that Nova delivers to the packaging market.

In order to address the continuous increasing costs and challenges associated with these trends, semiconductor manufacturers must improve manufacturing procedures, production yields and time to market. Beyond improving the technology, introducing new process steps and innovative fabrication capabilities, Semiconductors manufacturers must tighten the control over the process and therefore must increase the Metrology intensity as well as introduce new innovative Metrology solutions. These new solutions will allow manufactures to overcome new challenges in dimensions, materials and chemical engineering.

According to Gartner, semiconductor revenues are expected to decline by 6.5% in 2023, compared to growth of 1.1% in 2022. In addition, Gartner forecasts capital spending and wafer fab equipment each to decline in 2023 by 19.0%, following growth of 11.0% in CAPEX and 8.9% in WFE in 2022. (Gartner Forecast Semiconductor Wafer Fab Equipment, Worldwide, Q422 Update, published December 2022).

According to research reports, future demand drivers for semiconductors include 5G mobile devices, automotive, data center and cloud infrastructure, Artificial Intelligence, Augmented and Virtual Reality, Smart Sensors, internet-of-things and other electronic equipment.

Products & Technologies

Our product portfolio includes a complete set of metrology platforms suited for dimensional, films, materials and chemical metrology measurements for process control across multiple semiconductor manufacturing process steps including lithography, Etch, CMP, deposition, electrochemical plating and advanced packaging. Our offering is comprised of several key product lines, spanning multiple technologies and addressing key challenges in semiconductor process control, from R&D to High-Volume-Manufacturing.

Our strategy to offer holistic and diversified portfolio supports the industry’s frequent transitions, establishing the advantages and unique value we bring to our customers. With the introduction of new technologies and products, we cover a wider variety of applications, which increase our served and available markets and footprint in the semiconductor manufacturing market.

Technology	Product Line	Key applications	Product families
<ul style="list-style-type: none"> • Broadband Spectrophotometry • Scatterometry • Spectral Reflectometry • Imaging and Image Processing 	Dimensional Optical CD Integrated Metrology	Critical Dimensions Thin films	Nova i Platform Nova 3090 Nova 2040 Nova ASTERA
	Dimensional Optical CD Stand-Alone Metrology		Nova T-platform Nova MMSR
<ul style="list-style-type: none"> • Spectral Interferometry 			Nova PRISM
<ul style="list-style-type: none"> • X-Ray Photoelectron Spectroscopy • X-Ray Fluorescence 	X-Ray Materials Metrology	Thin film Composition	Nova VERAFLX
<ul style="list-style-type: none"> • Secondary Ion Mass Spectrometry 	SIMS Materials Metrology	Composition depth-profiling	Nova METRION
<ul style="list-style-type: none"> • Raman Spectroscopy 	Optical Materials Metrology	Strain Crystallinity	Nova ELIPSON
<ul style="list-style-type: none"> • Computational Modeling for Metrology Platforms 	Physical modeling (Modeling Software Solutions)		Nova MARS
<ul style="list-style-type: none"> • Machine Learning • Advanced Algorithms 	Mathematical modeling algorithms (Software solutions)		Nova FIT
<ul style="list-style-type: none"> • Big Data Analytics • High Power Computing 	Fleet Management (Software solutions)		Nova FM Nova HPC QED
<ul style="list-style-type: none"> • Titration – various types • CVS, CPVS, PCGA • Spectrophotometry • HPLC • Dynamic Surface Tension • pH, conductivity, density 	Chemical Process Control – Analysis and Replenishment	Electroplating process applications in interconnect, advanced packaging, and PCB markets	Nova ancolyzer platform
<ul style="list-style-type: none"> • Solid dosing 	Metal Replenishment	Powder dosing specialty metal oxide materials for electroplating applications	Nova DMR

About the product lines

Our product portfolio is composed from 4 major product lines.

1. Dimensional Metrology

Nova's integrated metrology (IM) - Integrated platforms that enable advanced process control (APC) required for the most advanced logic and memory technology nodes. Nova' IM solutions offer fast metrology with high productivity, targeting manufacturing of advanced logic and memory device technologies. Integrated metrology systems are directly integrated with manufacturing process equipment and provide semiconductor manufacturers with effective and efficient process control by measuring wafers within the process environment. This family of products allows within-wafer and within-die variation control. Enriched with Nova's advanced modeling and algorithmic solutions, Nova's integrated metrology provides enhancements in metrology accuracy, precision, and tool matching.

Nova's stand-alone metrology platforms are utilized to characterize critical dimensions such as width, shape and profile with high precision and accuracy and are used in multiple areas of the fabrication process such as photolithography, etch, CMP and deposition steps. Nova's stand-alone platforms are targeted for critical dimensions (CD) and thin films measurements at the most advanced logic and memory technology nodes across all semiconductor leading customers. The expression "stand-alone metrology" generically describes free standing metrology equipment, located in line, i.e., next to the processing equipment measuring wafer samples in a station of its own. Nova's stand-alone metrology product line is comprised of several platforms, ranging from normal channel only to multiple channels of information in one tool. Nova's unique channels of information enables high metrology performance combined with high productivity. When incorporating Nova's advanced suite of modeling and machine learning solutions, the Optical CD stand-alone platform provides cutting-edge performance for critical dimensions (CD) and thin films measurements of the most complex layer stacks and 3D structures.

2. Modeling and Software

Some of Nova's hardware products, mainly as related to Dimensional Metrology, are combined with our suite of advanced algorithms and software modeling solutions. Nova's software modeling solutions combine top notch algorithms in the field of Artificial Intelligence and machine learning. Nova's suite of software modeling products is comprised of Nova MARS physical and geometrical modeling and Nova FIT data driven machine learning modeling solutions. These solutions are supported by Nova HPC, a computational management layer, which also serves as the foundation for Nova's Centralized Fleet Management and Control. Our comprehensive software modeling portfolio provides customers with a complete modeling and application development solution designed for complex 3D and HAR structures in the most advanced logic and memory technology nodes:

- Nova MARS - Nova MARS software package is a multi-channel metrology modeling engine designed for the most advanced 3D structures in advanced process nodes of semiconductor manufacturing. It's a complete modeling solution for scatterometry and interferometry models' development, material characterization and recipe optimization which is crucial for facing increasing challenges in semiconductor metrology. The Nova MARS also injects physical and process related knowledge to solve complex structures.
- Nova FIT - Nova FIT modeling suite complements traditional modeling of Optical Critical Dimensions by machine learning and data driven algorithmic solutions. The algorithmic suite works in conjunction with Nova MARS physical modeling engine and Nova's fleet management solution to improve metrology performance, speed up time to solution and expand metrology envelope for enriched process control. Nova FIT embeds advanced machine learning and big data architecture into optical modeling, enhancing the way customers utilize metrology measurement data to tighten process windows, avoid process excursions and improve yield.
- Nova's Centralized Fleet Management and Control - Nova's Fleet Management and Performance Monitoring Center simplify the management and enhance the productivity of Nova tools in the fabrication site. The platform's ability to process and analyze large amounts of fleet and metrology data using advanced data analytic tools provides our customers with intelligent and predictive insights on tool performance and process trends.

- Nova HPC - The Nova HPC is a High-Performance Computing solution, which is designed to accelerate Nova MARS and Nova FIT work processes. Nova HPC significantly expedites application development by accelerating library-building, real time regression and recipe-setting processes. Its advanced computing hardware design enables optimization of Nova's proprietary algorithm performance, thus enabling the most calculation-demanding application development.

3. *Materials Metrology*

Materials are considered the next frontier in advancing integrated circuits beyond dimensional and architectural scaling. The growing usage of complex and novel materials in advanced technology nodes has increased the demand for metrology solutions that can measure materials properties, In Line and In Die, with high precision and accuracy. Nova's materials metrology offering utilizes powerful X-ray, Raman and SIMS technologies that have been optimized to provide the automation, speed and reliability required in today's advanced semiconductor production environment. As part of Nova's strategic plan, Nova intends to increase its focus on the evolving materials engineering market. The demand to precisely characterize and control materials composition, thickness, stress and more, is growing in advanced Memory and Logic nodes and requires innovative metrology solutions. Our Nova ELIPSON, METRION and VERAFLEX platforms aim to provide such capabilities.

- VERAFLEX - Nova's VERAFLEX combines enhanced XPS (X-ray photoelectron spectroscopy) capability with an optional unique low energy XRF (X-ray fluorescence) channel to address logic and memory device fabrication challenges. This innovative inline technology is a surface-sensitive quantitative spectroscopic technique that is used to determine the elemental composition and thickness of thin films.
- Nova METRION - Nova METRION targets process control of 3D logic and memory semiconductor devices. The technology enables advanced materials profile measurements by bringing secondary ion mass spectrometry (SIMS) into semiconductor production lines on both monitor and product wafer. The Nova METRION provides quantitative and actionable results on depth profiling of compositional information with high-depth resolution and precision.
- Nova ELIPSON - Nova ELIPSON utilizes Raman spectroscopy, a vibrational spectroscopy technique, to detect multiple material properties such as strain, crystallinity, phases, grain size and composition. The combination of a small spot and high speed of this non-destructive, optical method makes it a metrology of choice for both memory and logic segments.

4. *Chemical Metrology* –

With the acquisition of ancosys GmbH, Nova offers a market-leading portfolio of advanced, open and flexible chemical metrology platforms for backend wafer-level packaging and front-end dual-damascene process steps.

The growing number of interconnect steps that require plating at the front-end of the process as well as the substantial increase in the number of organic alloys and compounds used in advanced packaging are increasing the need for advanced chemical metrology solutions. Furthermore, the higher material costs, and tighter environmental regulations are driving up the cost of operations and increasing the need for manufacturers to perform chemical process control on more elements and with increasing intensity. Our portfolio helps manufacturers ensure high-quality electroplating processes by carrying out chemical analysis and replenishment in real time.

- Nova ancolyzer Damascene – the Nova ancolyzer Damascene is an industry-standard chemical metrology solution for Damascene copper plating interconnects applications, qualified by leading global manufacturers for operation in advanced nodes production processes. The solution supports a continuously growing range of copper baths and applications and offers a fully automated analysis of bath components, overall plating performance, excursions, trends alarms and warnings, and overall process control.
- Nova ANCOLYZER – the ancolyzer is a fully automated online chemical metrology platform designed with the most flexible architecture for advanced packaging processes. Nova’s ancolyzer offers superior analytical performance and supports a wide variety of analytical techniques for process control. The platform’s flexible and scalable architecture is configured to the specific process analysis and replenishment requirements. The platform’s superior accuracy and precision are coupled with uncompromising reliability and the highest availability.
- Nova DMR – the Nova DMR offers economical replenishment of metals in a plating bath. This significantly extends the bath chemicals’ lifetime and improves the plater utilization. DMR provides fully automatic powder container docking for uninterrupted operation and eliminates the constant increase in bath volume, reducing the need for bleed and feed or full bath dump. Thus, reducing environmental impact and minimizing operational risks and costs. The platform integrates with Nova ANCOLYZER® and can directly connect to any process tools.

Our Customers, Sales and Marketing

Our sales and marketing strategy is based mostly on direct sales channels where we engage with our customers from the early stages of process development, to address their challenges in the development phase, and later on support their technology transition to high volume production. We seek to establish and maintain tight cooperative relationships with our customers by consistently providing them with a high level of service, support and new capabilities. We have a global network of sales and marketing, customer service and applications support offices worldwide. Our teams are empowered by frequent trainings, remote support options, online resources and rich marketing collateral.

We serve all leading manufacturers in the logic, foundry and memory sectors of the integrated circuit manufacturing industry. Our customers are located across Asia, Europe and North America.

For the distribution of our total revenues, from products and services, by geographic areas, see Note 16A to our consolidated financial statements.

The semiconductor industry is dominated by a small number of large companies. As a result, 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.

	2020	2021	2022
Total revenues from five largest customers	69%	70%	57%
Range of revenues from five largest customers	5%-26%	4%-31%	6%-23%

Competition

The industries in which Nova operates are highly competitive and characterized by rapid technological change. Nova's ability to compete generally depends on its ability to develop and introduce competitive solutions, commercialize its technology in a timely manner, continuously improve its products, and develop new products that meet the evolving customer requirements. Significant competitive factors include technical capability and differentiation, productivity, cost-effectiveness and the ability to support a global customer base. The importance of these factors varies according to customers' needs, including product mix and respective product requirements, applications, and the timing and circumstances of purchasing decisions. Substantial competition exists in all areas of Nova's business.

Competitors range from small companies that compete in a single region, which may benefit from policies and regulations that favor domestic companies, to global, diversified companies. Nova's ability to compete requires a high level of investment in R&D, marketing and sales, and global customer support activities.

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, XPS, interferometry, Raman Spectroscopy metrology, chemical metrology techniques and semiconductor process control, and include multidisciplinary measurement instruments, complex system engineering, algorithms, physical modeling, optical design, interpretation software, machine learning, image acquisition, pattern recognition, X-ray energy sources, electron optics and detection, multiple types of electrochemical, and spectroscopic analysis methods, applied to characterize individual and complex multi-component mixes vacuum systems and equipment integration. Our research and development staff consist of about 460 highly skilled members, approximately 100 of whom hold Ph.D.'s. In addition, we rely on independent subcontractors and consultants in various fields. Since June 2003, our research and development operations in Israel are certified for ISO 9001 quality standard (Current ISO 9001:2015 version), additionally certified in Germany and the U.S. as of 2020 and 2021, respectively.

The metrology and 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 lines is critical to our success. Accordingly, we devote a significant portion of our technical, management and financial resources to developing innovative products, new applications and emerging innovative technologies.

Our vision is to continue to be an innovative leader in the semiconductor process control market, through increasing our leadership in the Dimensional, Materials and Chemical metrology solutions.

Our research and development efforts, designed to support this vision, are structured through different and separate development projects, which are initiated following a detailed project plan, technical feasibility, and risk analysis. The main projects are monitored throughout their life cycle in a structured process, including design reviews and project management reviews.

In the frame of our research and development activities we participate from time to time in development consortium arrangements, which also help us to support our customers in the transition to advance technology nodes. These consortia are joint collaboration programs with other semiconductor companies and are supported and funded by the IIA and/or European Joint Research. It should be noted, that in order to maintain our eligibility for these programs, we must continue to meet certain conditions. These programs might restrict our ability to manufacture particular products and transfer particular technology, which were funded by the IIA. For additional information, see “Item 5C - Grants from the Israel Innovation Authority & European programs” in this Annual Report.

As part of our long-term technological collaboration, we are also engaged with joint development activities with some of our strategic customers, as well as with research institutes and other semiconductor companies. These activities sometimes impose limitations on the joint intellectual property developed as part of these programs.

Patents and Other Proprietary Rights

Our continued success depends upon our ability to protect our core technology and intellectual property. We therefore have an extensive program devoting resources to seeking patent protection for our inventions and discoveries that we believe will provide us with competitive advantages. 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. In addition, our patents and applications cover various aspects of X-ray based measurement systems and methods, including process control implementation concepts, X-ray energy sources, electron optics and detection, vacuum systems and equipment integration. With the acquisition of ancosys GmbH in January 2022, our patents and applications portfolio also include aspects of Chemical metrology. To protect our proprietary rights, we also rely on a combination of copyrights, trademarks, trade secret laws, contractual provisions (e.g. confidentiality agreements) and licenses. Our copyrights include software copyrights. We constantly seek to control access to, and distribution of our proprietary information, such as our proprietary algorithms. We enter into confidentiality and proprietary rights agreements with our employees, consultants and business partners, and we control access to and distribution of our proprietary information.

Our in-house know-how is an important element of our intellectual property. The development and management of our products requires sophisticated coordination among many specialized employees. We believe that duplication of this coordination by competitors or individuals seeking to copy our products would be difficult. The risk of a competitor effectively replicating the functionality of our products is further mitigated by the fact that most of the core technology operating on our systems is not exposed to a user or to our competitors. To protect our technology, we implement multiple layers of security.

Despite our efforts to protect our proprietary rights, 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.

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 proceedings in which a third party has asserted that we have violated their intellectual property rights. If, however, we become involved in any such litigation and its outcome is adverse to us, it may result in a loss of proprietary rights, subject us to significant liabilities, including triple 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 believe that we would be successful in any litigation seeking to enforce our patent rights, the ultimate outcome of any litigation or other legal proceedings cannot be predicted.

Manufacturing

We have one manufacturing facility for our Optical based product lines (including the Raman technology), which is located in Ness-Ziona, Israel, one manufacturing facility for our X-ray and SIMS based product lines, which is located in Fremont, CA, U.S., and two manufacturing facilities for our Chemical Analysis and Metrology technology related product lines, which are located in Pliezhausen and Bad Urach, Germany.

In addition, we have expanded our production and development capabilities with a new state-of-the-art cleanroom in Rehovot, Israel that will support the Company's newly introduced technologies and continuous growth. In addition, we also established a cleanroom in a new facility at our Fremont site. These facilities are expected to become operational during the first half of 2023. As part of Nova's corporate social responsibility, the construction is also expected to support high sustainability standards.

Our principal manufacturing activities include assembly, integration, final testing and calibration. Our production activities are conducted in our manufacturing and repair center facilities in Israel, Germany and in California. We rely and expect to continue to rely on subcontractors and turnkey suppliers to fabricate components, build subassemblies 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, optical components and other 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.

In order to leverage the relatively high volume of 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 site in Israel received the ISO 9001 quality mark by an international certification institute in October 1999. Since then, we have upgraded our quality systems to conform to ISO 9001:2015 requirements. Our site in Fremont received the ISO 9001:2015 quality mark in November 2021 and our site in Germany received the ISO 9001:2015 quality mark in 2020. We received the formal certification of ISO 14001 in 2010 which was upgraded to ISO 14001:2015 in 2016 and in 2014 we received the formal certification of OHSAS 18001:2007 for our manufacturing operations in Israel which was upgraded to ISO 45001 in 2019. We are being annually recertified for these standards.

Environmental, Social and Governance (ESG)

Nova ESG 2022 Status

In 2020, we commenced our ESG journey, by focusing on developing a broader perspective and examination of the ESG aspects we affect. When COVID-19 disrupted everyday operations and lives across the globe, our top priority was keeping our employees and their families safe and cared for. Therefore, we quickly adapted our operations and health and safety measures to provide support for all our global teams. From this, we recognized a need to streamline ESG management within the company. Thus, our board of directors in collaboration with a global steering committee, which is composed of several officers and employees, established an ESG plan.

The Company established a management level ESG Steering Committee, led by our Chief Human Resources Officer, which among other items, is responsible for developing strategies and initiatives to achieve the company's ESG goals. The activities related to ESG are driven and managed by the ESG Leader, who advises the Chief Human Resources Officers. The ESG Steering Committee provides oversight for the ESG policies and strategy implementation and has been granted the mandate to monitor Nova's long term and annual guidelines and results related to ESG matters.

We are proud of our ESG achievements to date, and plan to continue developing our corporate ESG strategy. Our existing and planned ESG activities which are described below, indicate our growing commitment and engagement in this matter.

Our Current ESG Analysis

In 2021 and 2022, we engaged Ernst & Young (Israel) Ltd. and additional consultants to conduct a full initial analysis of ESG maturity throughout identified significant topics, across all our locations. The analysis was based on global ESG standards, such as GRI and SASB, and leading ESG raters' expectations, including MSCI and Sustainalytics. Key findings of the review indicated the following:

- We have a medium-high maturity level ESG with Business Continuity Plan indicating high level understanding of risk management and preparedness.
- We demonstrate a wide range of Social and Governance activities, including but not limited to, employees trainings on code of ethics, promoting gender equality, supporting employees and suppliers during COVID19, putting emphasis on product quality, and more.

Steps we have taken to enhance our ESG:

Environment

As a global organization with supply chains spanning over multiple countries and cultures, it presents various environmental hazards and potential risks, despite our best mitigation efforts. To that end, we have built our headquarters using a green building rating system and provide a framework for healthy, safe, highly efficient, and cost-saving green buildings. We are trying to manage our footprint and energy resources by analyzing and implementing a program to decrease GHG impact per tool.

In general, our production lines do not involve significant industrial waste, and any waste that is created from used metal and electronics components is being processed through authorized companies which manage the disposal of toxic substances. We also implemented a waste management comprehensive program, known as 3 *RRR* (Reduce, Reuse and Recycle), to efficiently reuse materials over their life cycles. We are partnering with an environmental organization to implement a waste tracking management system to help reduce the waste generated by our offices.

Social

With over 1,000 employees and almost a dozen worldwide sites, we wish to have a meaningful impact on the community surrounding us. We believe that by welcoming diverse cultures, experiences and opinions, we can develop technologies and ideas that transform lives and shape and impact the population around us. We strive to implement accessible work environment for all our employees and make our key facilities accessible by the end of 2024. We intend to provide all of our employees with global access to health care. Additionally, we plan to enhance employee growth through educational and personal advancement opportunities. Furthermore, we aim to increase global gender representation of women, with emphasis on technical and managerial roles. In 2022, we deepened our community relationships through volunteering work and charitable contribution, and aim to further enrich these relationships by supporting and nurturing projects and activities together with numerous non-profit organizations worldwide.

Governance

As part of our sustainable operations policies, we aim that our corporate governance and corporate behavior mechanisms align the interest of all our stakeholders. To do so, we developed a strong set of corporate values that inspire ethical behavior across all decision-making processes, and a management and control system to ensure that ethics and security issues are given their due weight.

We aim to develop and publish a company wide Data Privacy Policy by the end of 2023, with implementation in 2024 across major sites.

Our corporate governance policies include: (i) Compensation Policy; (ii) Code of Conduct; (iii) Insider Trading Policy; and (iv) Anti-Fraud and Anti Bribery Policies. For further details on our policies, please refer to Item 6B, 16B, and 6C of this Annual Report, respectively. We intend to implement online training modules to monitor compliance and awareness of these policies.

Additionally, we aim to increase equality and diversity in our board and committees as well as in the Company. Our Board of Directors consists of seven (7) members, of which three (3) are women; our Audit Committee consists of four (4) members, of which three (3) are women; and our Compensation Committee consists of four (4) members, of which two (2) are women.

Capital Expenditures

Our capital expenditures are primarily for network infrastructure, computer hardware and software, construction and leasehold improvements of our facilities, expansion of clean room facilities and demonstration and development tools. None of these assets are held as collateral or guarantee other obligations. For additional information on our capital expenditures, see “Item 5B. Liquidity and Capital Resources” in this Annual Report.

Government Regulation

For information relating to the impact of certain government regulations on our business, see “Item 5.C – Grants from the Israel Innovation Authority” on this Annual Report.

4.C Organizational Structure

Our Subsidiaries

Our subsidiaries as of the end of 2022 and the countries of their incorporation are as follows. All of our subsidiaries are wholly owned by the Company:

Name of Subsidiary	Place of Incorporation	
Nova Measuring Instruments, Inc.	Delaware, U.S.	
Nova Measuring Instruments K.K.	Japan	
Nova Measuring Instruments Taiwan Ltd.	Taiwan	
Nova Measuring Instruments Korea Ltd.	Korea	
Nova Measuring Instruments GmbH	Germany	
Nova Measuring Instruments (Shanghai) Co., Ltd.	China	
ancosys GmbH	Germany	100% owned by Nova Measuring Instruments GmbH

4.D Property, Plant and Equipment

As of the end of 2022, our main facilities, located in Rehovot and Ness-Ziona, Israel, are currently occupying an aggregate of approximately 14,000 square meters, including approximately 2,000 square meters of production facilities.

The main lease agreement in Rehovot is expected to extend until 2029, and we have the option to extend this lease period by two periods of five years each, subject to customary conditions.

Our subsidiaries lease offices in various locations, for use as a research and development, manufacturing, service and pre-sale facilities (depending on each subsidiary's needs). The substantial lease agreement for our U.S. subsidiary, Nova Measuring Instruments, Inc. is a lease agreement of approximately 5,000 square meters in Fremont, CA, which includes approximately 1,250 square meters of production facilities. In addition to this space, the U.S. entity entered into a new lease agreement for an additional 2,880 square meter facility, of which approximately 700 square feet will be allocated as an engineering cleanroom. Both Fremont leases are now synchronized to expire on March 31, 2029 with an option to extend for additional five years, subject to customary conditions. In addition, we lease several smaller offices in other U.S. locations close to customers' sites. Our Taiwanese subsidiary leases approximately 1,800 square meters which includes a cleanroom facility and laboratory. Our Korean subsidiary leases approximately 2,050 square meters. In August 31, 2022 our Korean subsidiary signed a lease agreement for a new office, which is expected to replace the previous office in the first half of 2023, with a net size of approximately 1,000 square meters. Our subsidiary in China leases approximately 1,200 square meters. Our other subsidiaries also lease small offices in Germany, France and Japan.

ancosys and its subsidiaries, which we acquired in January 2022, hold leased offices in each of their respective locations, including leased office and production space in Pliezhausen of approximately 3.500 square meters.

In addition, ancossys owns a 15,800 square meters of real estate located in Bad Urach, Germany, out of which approximately 8,000 square meters can be utilized for ancossys' operations. In 2022, we commenced the construction of a new facility in that location, which is expected to replace all other facilities, and is expected to become operational by 2025.

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

Item 4A. Unresolved Staff Comments

None.

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 Annual Report.

Executive Overview

Nova is a leading innovator and key provider of metrology solutions for advanced process control used in semiconductor manufacturing. Nova delivers continuous innovation by providing state-of-the-art high-performance metrology solutions for effective process control throughout the semiconductor fabrication lifecycle. We bring pioneering metrology solutions to the world of process control, by industrializing laboratory and research-grade technologies and developing emerging metrology solutions. Nova's product portfolio, deployed by the world's largest integrated-circuit manufacturers, combines high-precision hardware and cutting-edge software, provides its customers with deep insight into the development and production of the most advanced semiconductor devices. Nova's unique capability to develop innovative metrology solutions allows its customers to improve device performance, enhance yields and accelerate time to market. We sell our solutions mainly to semiconductor manufacturers, and in some cases to semiconductor process equipment manufacturers.

Our business is greatly affected by the level of spending on capital equipment by semiconductor manufacturers. In addition, demand for our products and services is affected by the timing of new IC capacity expansion and ramping up of new technology nodes, by the timing of releasing new products by us and our competitors, market acceptance of our new or enhanced products and changes or improvements in semiconductor design or manufacturing processes.

In the last five years (2017-2022), we were able to achieve positive Compound Annual Growth Rate (CAGR) of products revenues of approximately 21%, while Gartner Inc. estimates that the Process Control segment has achieved a CAGR of approximately 17.4% (Gartner Q4-2022 forecast, published on December 2022). During these years, we successfully diversified our technology to include Material and Chemical metrology capabilities, on top of our Dimensional metrology solutions. We also added advanced machine learning algorithms on top of our physical modeling, and we advanced our traditional tool set to include advanced capabilities in both hardware and software. We also diversified our revenue mix across semiconductor segments, customers and geographies. During these years, we were also able to increase our total available market through development of new technologies used for Materials and Dimensions metrology, addressing emerging applications in both Memory and Foundry/Logic across trailing edge and advanced technology nodes.

In 2022, product sales accounted for approximately 81% of our total revenues, and services accounted for approximately 19%.

As of the end of 2022, we had cash reserves, net of long-term debt related to convertible senior notes, of approximately \$333 million, and working capital of approximately \$111 million. During 2022, we used approximately \$92 million of this cash to pay for the acquisition of ancosys, including a performance based earn out of approximately \$10 million.

Our service organization is operating on a profit and loss basis and the objectives of our service organization are defined and measured by customer satisfaction, quality support parameters; 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. Service revenues are mostly driven by extended warranty, time and material requests, service contracts and proactive sales to the install base to improve productivity and metrology capabilities.

Significant Events in 2022 and Outlook for 2023

During 2022, we demonstrated several significant achievements:

- Significant business growth to record levels, with meaningful growth in both products and service sales.
- Growth in systems' production and deliveries at all our global sites.
- Diversified customers mix, across multiple territories.
- Expansion to adjacent semiconductor market, including advanced packaging and backend.
- Further market adoption of Nova's advanced portfolio:
 - Materials, chemical and dimensional metrology solutions.
 - Hardware and software coupling.
 - Machine learning capabilities to compliment physical modeling.
 - Holistic offering, including Integrated and Standalone metrology.
- Continuous proliferation of Nova's newly announced solutions of ELIPSON, Metrion and FE damascene chemical platform.
- Continued evolution of our OCD solutions with new generation of Integrated and Standalone metrology platforms (PRISM).
- Continued investments in research and development programs aimed to generate new organic growth engines for process control.
- Introduction of advanced Machine Learning solutions (NovaFIT) to enhance metrology measurements and to complement the traditional Physical modeling (NovaMARS).
- Deepening collaboration with research institutes and customers' development centers, utilizing a variety of our products, leading to our positioning as a long-term technology development and high-volume manufacturing partner.
- The acquisition of ancosys, a privately held company headquartered in Germany, which was completed in January 2022. Ancosys is a leading provider of chemical analysis and metrology solutions for advanced semiconductor manufacturing.
- ESG (Environment, Social and Governance) – during 2022 the company has built and embraced an enhanced Corporate Social Responsibility Strategy. We are determined as a company to play a vital role in creating a world that values equality, safety and environmental health for the benefit of future generations to come. We are committed to proactively invest in embedding social responsibility as part of our culture and business management to support our values.

In 2023, we plan to focus on the following:

- Investing in organization development to enhance our human capital and the strength of our global teams based on our values and culture.
- Continue to strengthen our competitive market position, through unique innovation and technical leadership.
- Continue executing our innovation and development plans to meet future industry challenges.
- Continue executing our well-defined strategy to reach \$1 billion in revenues, organically and inorganically. The strategy defines the Company's growth path in revenue, customers, technology and financial performance.
- Expand our total available markets by addressing new emerging metrology applications and market segments, through solutions delivery to the challenging buildup of advanced Logic technology nodes, memory scaled VNAND nodes and DRAM scaled devices at leading edge customers.
- Continue delivery of metrology systems to the trailing edge technology nodes to support new applications ramp up and expansions.
- Continue the collaborations and joint research programs with leading semiconductor manufacturers and relevant leading research institutes.
- Continue our products innovation and diversification through several new product introductions to extend the Company's market leadership and total available market.
- Continue our plans to generate revenues and competitive edge through SW algorithm and Machine Learning solutions.
- Strengthening the partnership with our customers and build a "Customer Centric" approach to accommodate and deliver customers' requirements along the semiconductor lifecycle.
- Continue investing in developing new approach and methods to Inline materials process control.
- Continue the post merger integration of ancosys, and build an extensive roadmap for ancosys' chemical metrology products in order to enhance Nova's existing product offering.
- Create synergy between our product lines towards a combined offering for advanced applications, which require dimensional, material and chemical metrology.
- Grow our production facilities to meet semiconductor demand and our strategic plans, and continue to develop modern and streamlined core business processes through new ERP and Service CRM infrastructure.
- Elevate our investment in ESG programs in order to promote social responsibilities programs through our five pillars program (for details refer to Environmental, Social and Governance (ESG) chapter in Item 4.B in this Annual Report).

The major challenges Nova faces in meeting its plans include:

- Meeting strategic, development, operational and delivery targets in light of the global macro economical, geopolitical and trade restriction issues across the globe.
- Outbreak of another COVID-19 variant.
- Overcoming supply chain challenges in light of continuous shortage, demand and cost.
- On time delivery of the required solutions to meet the current and future needs of our existing and new customers.
- Correctly understanding the market trends and competitive landscape to ensure our products retain proper differentiation to win customer confidence.
- Creating aggressive, innovative and competitive roadmap deliverables at reasonable costs in order to properly control expenses.
- Identifying the metrology evolution roadmap for future industry needs to meet process control requirements and lead the market.
- Achieving long-term growth targets while supporting extensive growth in all our activities.
- Building a solid global infrastructure to accommodate further growth.

In order to address the risks above Nova implemented a global plan to secure the employees safety, guarantee supply chain resiliency, and assure business continuity and continuous support to our customers.

We collaborate with key customers, equipment manufacturers, and research institutes to stay informed about their metrology and process control requirements. This helps us to align our roadmap with their needs and address any technical or roadmap risks and challenges.

It is our belief that Nova has been able to consistently improve its market position as a result of a combination of factors:

- Optical metrology has become an enabler for the industry over the last few years, sometimes on the account of other metrology and process control methods.
- Materials metrology has been widely adopted by leading memory and logic/foundry customers. We expect further adoption in the next few years.
- Nova's unique metrology portfolio, combining optical, X-ray and chemical metrology for both dimensions and materials. This provides the most advanced portfolio, combining the best innovative metrology capabilities with the best reliability and return on investment.

- The ability to provide a unique and differentiated technology portfolio sets Nova apart from the competition and adding a competitive edge to our offering.
- Our solutions are well accepted by leading customers that allow us to gain more market share with additional process steps and new applications.
- Our ability to closely team with our customers allows us to predict the industry evolution and process control challenges and by that introduce innovative metrology roadmap to solve industry needs.
- Our diversified portfolio, which is a result of continuous investment in research and development, is becoming more attractive to our customers.
- Extending our solutions' base to include hardware and software elements in a coupled offering.
- Successful track record in completing and integrating inorganic products, as a result of M&A, which allows us to diversify our product offering to expand our addressable markets.
- Well controlled and efficient operating model to support our profitable growth and operational resiliency.

We anticipate ongoing growth in the adoption of our solutions as the semiconductor manufacturing process becomes increasingly complex and the industry evolves. We believe that our target market is growing as we expand our offering to more stages of the semiconductor manufacturing process and develop innovative new metrology solutions. As the semiconductor production process becomes increasingly challenging, we believe that the need for our diverse portfolio of technologies for both materials and dimensional metrology will continue to grow in the coming years.

5.A Operating Results

Overview

A substantial portion of our revenues is coming from a small number of customers, and we anticipate that our revenues will continue to depend on a limited number of major customers.

For the distribution of our total revenues, from products and services, by geographic areas, see Note 16A to our consolidated financial statements.

The sales cycle of our systems is long and the rate and timing of customer orders may vary significantly from month to month as a function of the specific timing of fab expansions. We schedule production of our systems based upon order backlog and customer forecasts.

Our revenues increased by 37% in 2022 following an increased by 54% in 2021, and an increase of 20% in 2020.

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

Percentage of Total Revenues Year ended December 31:

	<u>2020</u>	<u>2021</u>	<u>2022</u>
Revenues from product sales	78%	81%	81%
Revenues from services	22%	19%	19%
Total revenues	100%	100%	100%
Cost of products sale	30%	32%	34%
Cost of services	14%	12%	11%
Total cost of revenues	44%	43%	45%
Gross profit	56%	57%	56%
Operating expenses:			
Research and development expenses, net	20%	16%	16%
Sales and marketing expenses	11%	10%	9%
General and administrative expenses	5%	4%	4%
Total operating expenses	36%	30%	29%
Operating profit	21%	27%	26%
Financial income, net	*0%	(1)%	2%
Income before income taxes	21%	26%	28%
Income tax expenses	3%	4%	3%
Net income	18%	22%	25%

* Less than 1%

Comparison of Years Ended December 31, 2022 and 2021

Revenues. Our revenues in 2022 increased by \$154.6 million, or 37%, compared to 2021. Revenues attributable to product sales were \$464.2 million, an increase of \$127.1 million, or 38%, compared to 2021. Revenues attributable to services were \$106.6 million, an increase of \$27.5 million, or 35%, compared to 2021. The increase in product revenues in 2022 was attributed to higher demand for our products across all main product lines, including revenues from the acquisition of ancossys. The increase in services revenues in 2022 was attributed mainly to the increase in our systems installed base and to higher professional services and time and materials sales.

Cost of Revenues and Gross Profit. Cost of revenues consists of labor, material and overhead costs of manufacturing our systems, royalties, amortization of intangible assets and the costs associated with our worldwide service and support infrastructure. It also consists of inventory write-offs and provisions for estimated future warranty costs for systems we have sold. Our cost of revenues attributable to product sales in 2022 was \$191.4 million. Our gross margin attributable to product revenues in 2022 was 59%, compared to 61% in 2021. The decrease in products gross margins in 2022 is related mainly to a different product mix, to higher supply chain costs and to the revenues from ancossys acquisition which has lower gross margins than the corporate average. Our cost of services in 2022 was \$62.4 million, compared to \$49.2 million in 2021. Gross margin attributable to service revenues in 2022 was 41%, compared to 38% in 2021. The increase in services gross margins in 2022 is related mainly to the increase in service revenues which also included a more favorable service revenue mix.

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 grants received or receivable from the IIA and the European Community, as well as other funding for research and development activities. Our net research and development expenses in 2022 were \$90.5 million, an increase of \$24.6 million, or 37%, compared to 2021, after offsetting grants received of \$3.1 million in 2022 and \$4.9 million in 2021. Research and development expenses excluding grants received or receivable in 2022 were \$93.5 million, compared to \$70.8 million in 2021, and increased due to higher investment in existing and new products and technologies, higher personnel costs and the acquisition of ancossys. In 2022, net research and development expenses represented 16% of our revenues, same as in 2021.

Sales and Marketing Expenses. Sales and marketing expenses are mainly comprised of salaries and related costs for sales and marketing personnel, travel related expenses, overhead and commissions to our representatives and sales personnel. Our sales and marketing expenses in 2022 were \$52.7 million, an increase of \$12.9 million, or 32%, compared to 2021. The increase in sales and marketing expenses in 2022 was mainly attributed to the higher personnel costs and higher commissions due to the increase in revenues and the acquisition of ancossys. Sales and marketing expenses represented 9% of our revenues in 2022 compared to 10% of our revenues in 2021.

General and Administrative Expenses. 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 in 2022 were \$23.9 million, an increase of \$6.5 million, or 38%, compared to 2021. The increase in general and administration expenses was attributed mainly to higher personnel costs and related overhead, and the acquisition of ancossys. In 2022, general and administration expenses represented 4% of our revenues, same as in 2021.

Financial income (expense), net. Financial income (expenses), net is comprised of interest income, financial expenses related to the Convertible Senior Notes, exchange rate impact and bank charges. In 2022, we recorded \$8.5 million of net financial income compared to \$3.1 million of net financial expenses in 2021. The increase in financial income was mainly attributed to \$3 million decrease in financial expenses related to the Convertible Senior Notes which reflect the adoption of ASU 2020-06, (as described in Critical Accounting Policies above), \$4.5 million higher interest income in 2022 due to the increase in global interest rates during 2022, and \$2.6 million exchange rate gains in 2022 mainly attributed to revaluation of the USD compares to the NIS.

Income Tax Expenses. Income tax expenses are comprised of current tax expenses and deferred tax expenses/income. In 2022, we recorded \$18.2 million of income tax expenses, reflecting effective tax rate of 11%. In 2021, we recorded \$16.2 million of income tax expenses, reflecting effective tax rate of 15%. The decrease in the effective tax rate in 2022 is attributed mainly to increase in U.S. territory tax benefits, and the one-time \$3.7 million taxes related to elective tax settlement in Israel in 2021.

Comparison of Years Ended December 31, 2021 and 2020 is incorporated by reference to the Company's Annual Report on Form 20-F filed with the Securities and Exchange Commission on March 1, 2022.

5.B Liquidity and Capital Resources

As of December 31, 2022, we had non-cash working capital of approximately \$105 million, compared to working capital of approximately \$51 million as of December 31, 2021. The increase in our working capital in 2022 was mainly due to the increase in trade account receivable and inventories due to the increase in our results in 2022.

Cash and cash equivalents, short-term and long-term deposits and marketable securities as of December 31, 2022 were \$529.0 million compared to \$552.9 million as of December 31, 2021, and decreased mainly due the acquisition of ancossys, offset by our fluent operating cash flow.

Trade accounts receivables increased from \$68.4 million as of December 31, 2021 to \$109.3 million as of December 31, 2022. The increase in trade accounts receivables is mainly related to the increase in revenues in 2022.

Inventories increased from \$78.7 million as of December 31, 2021 to \$116.6 million as of December 31, 2022. The increase in inventory is related to the acquisition of ancossys, new products inventories and to the overall increase in our business levels for products and services.

Operating activities in 2022 generated positive cash flow from operating activities of \$119.5 million compared to a positive cash flow from operating activities of \$132.3 million in 2021. The decrease in operating cash flow in 2022 is mainly related to working capital requirements during business growth.

The following table describes our investments in capital expenditures during the last three years (US dollars, in thousands):

	2020		2021		2022	
	Domestic	Abroad	Domestic	Abroad	Domestic	Abroad
Electronic equipment	2,742	431	2,356	1,134	3,664	4,155
Office furniture and equipment	28	510	22	283	66	1,055
Leasehold improvements	1,865	867	371	650	8,934	436
Land and buildings	-	-	-	-	-	3,004
Total	4,635	1,808	2,749	2,067	12,664	8,650

In 2022, the investment in capital expenditures was financed from our operating cash flow. In 2023, we expect our capital spending to significantly increase to approximately \$35 million, mainly as a result of expected investments in new facilities in Germany and new ERP.

Our principal liquidity requirement is expected to be for working capital and capital expenditures, as well as additional acquisitions. We believe that our current cash reserves will be adequate to fund our planned activities for at least the next twelve 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 our cash reserves together with positive cash flow from operations, if any. If these funds are insufficient to finance our future business activities, which may include acquisitions, we would 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, our long-term debt is comprised from Convertible Senior Notes.

We do not have a readily available source of other long-term debt financing such as a line of credit.

With regard to usage of hedging financial instruments and the impact of inflation and currency fluctuations, see “Item 11. Quantitative and Qualitative Disclosures about Market Risk” in this Annual Report.

5.C Research and Development, Patents and Licenses, etc.

For information regarding our research and development activities, see “Item 4B – Research and Development” in this Annual Report.

Grants from the Israeli Innovation Authority & European Programs

IIA sponsoring for generic research and development projects of large Israeli companies

We participate in a generic research and development programs sponsored by the IIA, available for Israeli companies that meet specific criteria’s set forth by the IIA. Companies eligible to participate in these programs receive IIA funding intended to focus on long-term creation of know-how and technological infrastructure, used for the development or production of future innovative products. These programs do not require payments of royalties to the IIA, but all other restrictions under the Innovation Law, such as local manufacturing obligations and know-how transfer limitations, as further detailed hereunder, are applicable to the know how developed by us with the funding received in such programs.

Joint programs of the European Research Area and the IIA

We participate in European consortia, which are joint programs governed by the Electronic Component Systems (ECSEL) for European Leadership Joint Undertaking (the “JU”) as part of the Horizon 2020 cooperation between the European Research Area and the IIA and starting to participate also in the new Joint Undertaking (the “JU”) framework which is replacing ECSEL, named KDT (Key Digital Technologies) as part of the new Horizon Europe umbrella (the “EU Consortiums”).

Some of the obligations and undertakings specified hereunder in connection with our IIA activities (such as the restrictions under the Innovation Law and obligation to grant certain access rights to our technology and intellectual property rights) apply with respect to some of these joint projects. In addition, the participation in an EU Consortium includes specific obligations, such as the following: The budgeted grant will be paid to the company pursuant to certain rules regarding ‘eligible costs’; Obligation to properly implement the activities assigned under the specific EU Consortium project; Restrictions in contributions of third parties (by service or otherwise); Obligation to keep information up to date and to inform about events and circumstances likely to affect the consortium activity; Obligations related to records keeping, investigations and audits by the JU in order to verify the proper implementation of the specific EU Consortium project and compliance with the obligations under the terms of the program, including assessing deliverables and reports during a period of up to two years following the receipt by the company of the full grant payment; Obligations related to Intellectual property allocation generated by an EU Consortium, background intellectual property designation prior to the commencement of the EU Consortium’s project and the provision of access rights to results obtained as part of the EU Consortium. Breach of such obligations may result in the reduction of the aggregate expected grant amount or claiming back previously received grants. In addition, the company may be subject to administrative and financial penalties such as temporary exclusion from all JU European Consortia and fines of up to 10% of the maximum expected grant, as well as to contractual liabilities.

We also participate in European consortia which are not part of the JU (Joint Undertaking) program, thus, these programs are funded only by the European commission with no national funding from the Israel Innovation Authority. The restrictions under the Israeli Innovation Law do not apply to the project under these programs. Some of the specific obligations mentioned in the previous paragraph apply to the projects under these programs.

Past royalty bearing programs and royalties arrangements

Some of our previous research and development efforts were financed in part through royalty-bearing grants. We were obligated to pay royalties from sales of products funded with these grants. This obligation included different annual interest rates ranging up to 5%. In August 2016, we entered into a royalty buyout arrangement (the "Arrangement") with the IIA. As part of the Arrangement we paid approximately \$12.9 million to the IIA in September 2016. The contingent net royalty liability to the IIA at the time we executed the Arrangement was approximately \$24 million. As a result of the foregoing payment, we are released from any future royalty payments on these previous funds received from the IIA. However, to the extent that we will be able to commercialize products that were developed as part of IIA programs and were declared as "failed" at the time of the Arrangement, we will be required to pay royalties to the IIA from income generated from such commercialization. Currently, we do not anticipate that such failed projects will generate revenues in the future. We note that the Arrangement does not release the Company from other obligations towards the IIA as further detailed herein. In addition, in the future, we may, alone or together with third parties, participate in research and development programs, which may bear royalty obligations (depending on the specific terms of the applicable program).

Pertinent obligations under the Israeli Encouragement of Research, Development and Technological Innovation in the Industry Law 1984

Under the Encouragement of Research, Development and Technological Innovation in the Industry Law 1984 and the provisions of the applicable regulations, rules, procedures and benefit tracks, together the Innovation Law, a qualifying research and development program is typically eligible for grants of up to 50% of the program's pre-approved research and development expenses. The program must be approved by a committee of the IIA. The recipient of the grants is required to return the grants by the payment of royalties on the revenues generated from the sale of products (and related services) developed (in whole or in part) under IIA program up to the total amount of the grants received from IIA, linked to the U.S. dollar and bearing annual interest (as determined in the Innovation Law). Following the full payment of such royalties and interest, there is generally no further liability for royalty payment for our currently developed and sold products. Nonetheless, the restrictions under the Innovation Law (as generally specified below) will continue to apply even after our company has repaid the grants, including accrued interest, in full.

The main pertinent obligations under the Innovation Law are as follows:

- *Local Manufacturing Obligation.* The terms of the grants under the Innovation Law require that we manufacture the products developed with these grants in Israel. Under the regulations promulgated under the Innovation Law, the products may be manufactured outside Israel by us or by another entity only if prior approval is received from the IIA (such approval is not required for the transfer of less than 10% of the manufacturing capacity in the aggregate, as declared to be manufactured out of Israel in the applications for funding, in which case a notice should be provided to the IIA). This approval may be given only if we abide by all the provisions of the Innovation Law and related regulations. Ordinarily, as a condition to obtaining approval to manufacture outside Israel, we would be required to pay royalties at an increased rate (usually 1% in addition to the standard rate and increased royalties cap between 120% and 300% of the grants, depending on the manufacturing volume that is performed outside Israel). We note that a company also has the option of declaring in its IIA grant application an intention to exercise a portion of the manufacturing capacity abroad, thus, if the grant application is approved by IIA, such company will avoid the need to obtain additional approvals and pay the increased royalties cap for manufacturing outside of Israel at portions which were mentioned in such approved grant applications.

- *Know-How transfer limitation.* The Innovation Law restricts the ability to transfer know-how funded by the IIA outside of Israel, including by way of a license to a non-Israeli entity. Transfer of IIA funded know-how outside of Israel requires prior approval of the IIA. The IIA approval to transfer know-how created, in whole or in part, in connection with an IIA-funded project to third party outside Israel is subject to payment of a redemption fee to the IIA calculated according to a formula provided under the Innovation Law that is based, in general, on the ratio between the aggregate IIA grants to the company's aggregate investments in the project that was funded by these IIA grants, multiplied by the transaction consideration, taking into account depreciation mechanism, and less royalties already paid to the IIA. The regulations promulgated under the Innovation Law establish a maximum payment of the redemption fee paid to the IIA under the above mentioned formulas and differentiates between two situations: (i) in the event that the company sells its IIA funded know-how, in whole or in part, or is sold as part of an M&A transaction, and subsequently ceases to conduct business in Israel, the maximum redemption fee under the above mentioned formulas will be no more than six times the total grants received (plus accrued interest) for development of the know-how being transferred, or the entire amount received from the IIA, as applicable; (ii) in the event that following the transactions described above (i.e., asset sale of IIA funded know-how or transfer as part of an M&A transaction) the company undertakes to continue its R&D activity in Israel (for at least three years following such transfer and maintain at least 75% of its R&D staff employees it had for the six months before the know-how was transferred, while keeping the same scope of employment for such R&D staff), then the company is eligible for a reduced cap of the redemption fee of no more than three times the amounts received (plus accrued interest) for the applicable know-how being transferred, or the entire amount received from the IIA, as applicable. No assurance can be given that approval to any such transfer, if requested, will be granted and what will be the amount of the redemption fee payable.

Approval of the transfer of IIA funded technology to another Israeli company requires a pre-approval by IIA and may be granted only if the recipient undertakes to fulfil all the liabilities to IIA and undertakes abides by all the provisions of the Innovation law and related regulations, including the restrictions on the transfer of know-how and manufacturing rights outside of Israel and the obligation to pay royalties. In light of the Arrangement (as further discussed below), in certain circumstances, under such sale transactions (i.e., the transfer of IIA funded technology or portion thereof to another Israeli company), we might be obligated to pay royalties to the IIA from any income derived from such a sale transaction.

- *Licensing arrangements.* Under the terms of the Innovation Law, licensing know how developed under the IIA programs outside of Israel, requires prior consent of IIA and payment of license fees to IIA, calculated in accordance with the licensing rules promulgated under the Innovation Law. The payment of the license fees does not discharge the company from the obligation to pay royalties or other payments due to IIA in accordance with Innovation Law.

These restrictions may impair our ability to enter into agreements for those products or technologies which were developed with assistance of the IIA grants without the approval of the IIA. We cannot be certain that any approval of the IIA will be obtained on terms that are acceptable to us, or at all. Furthermore, in the event that we undertake a transaction involving the transfer to a non-Israeli entity of know-how developed with IIA funding pursuant to a merger or similar transaction, the consideration available to our shareholders may be reduced by the amounts we are required to pay to the IIA. Any approval, if given, will generally be subject to additional financial obligations. Failure to comply with the requirements under the Innovation Law may subject us to mandatory repayment of grants received by us (together with interest and penalties), as well as may expose us to criminal proceedings. In addition, IIA may from time-to-time audit sales of products which it claims incorporate technology funded via IIA programs and this may lead to additional royalties being payable on additional products.

5.D Trend Information

For Information regarding most significant recent trends in our market, see “Item 4B– Our Market – The World Economy – Update” in this Annual Report.

5.E Critical Accounting Estimates

We have provided a summary of our significant accounting policies, estimates and judgments in Note 2 to our consolidated financial statements, which are included elsewhere in this Annual Report. The following critical accounting discussion pertains to accounting policies management believes are most critical to the portrayal of our historical financial condition and results of operations and that require significant, difficult, subjective or complex judgments. Other companies in similar businesses may use different estimation policies and methodologies, which may impact the comparability of our financial condition, results of operations and cash flows to those of other companies.

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 the United States of America generally accepted accounting principles (U.S. GAAP). 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. Our management evaluates its estimates on an ongoing basis, including those related to, but not limited to income taxes and tax uncertainties, collectability of accounts receivable, inventory accruals, fair value and useful lives of intangible assets, lease discount rate, lease period, convertible senior notes borrowing rate, and revenue recognition. These estimates are based on management's knowledge about current events and expectations about actions the Company may undertake in the future. Actual results could differ from those estimates.

Revenue Recognition

Under ASC 606, the company derives revenue from the sales of advanced process control systems, spare parts, labor hours (mainly systems installation) and service contracts.

Revenues derived from sales of advanced process control systems, spare parts and labor hour are recognized at point in time, when control of the promised goods or services is transferred to the customers, upon fulfillment of the contractual terms.

Revenues derived from service contract, which generally specify fixed payment amounts and contractual terms for periods longer than one month, are recognized ratably over time.

The amount recognized reflects the consideration that the Company expects to be entitled to in exchange for those performance obligations.

Revenues from sales which were not yet determined to be final sales due to acceptance provisions are deferred.

Contracts with customers may include multiple performance obligations. For such arrangements, the Company allocates revenue to each performance obligation based on its relative Standalone Selling Price ("SSP"). Judgment is required to determine the SSP for each distinct performance obligation. The Company uses a range of amounts to estimate SSP when it sells each of the products and services separately and needs to determine whether there is a discount to be allocated based on the relative SSP of the various products and services.

The Company enters into revenue arrangements that includes products and services which are generally distinct and accounted for as separate performance obligations. The Company determines whether arrangements are distinct based on whether the customer can benefit from the product or service on its own or together with other resources that are readily available and whether the Company's commitment to transfer the product or service to the customer is separately identifiable from other obligations in the contract.

Marketable Securities

The Company accounts for marketable securities in accordance with ASC Topic 320, "Investments – Debt and Equity Securities". The Company's investments in marketable securities consist of high-grade treasury, corporate and municipal bonds.

Investments in marketable securities are classified as available for sale at the time of purchase. Available for sale securities are carried at fair value based on quoted market prices, with unrealized gains and losses, reported in accumulated other comprehensive income (loss) in shareholders' equity. Realized gains and losses on sales of marketable securities, are included in financial expenses (income), net. The amortized cost of marketable securities is adjusted for amortization of premium and accretion of discount to maturity, both of which, together with interest, are included in financial expenses (income), net.

The Company classifies its marketable securities as either short term or long term based on each instruments' underlying contractual maturity date. Marketable securities with maturities of 12 months or less are classified as short-term and marketable securities with maturities greater than 12 months are classified as long-term.

The Company accounts for Credit losses in accordance with ASU 2016-13, Topic 326 “Financial Instruments – Credit Losses: Measurement of Credit Losses on Financial Instruments” which modified the other than temporary impairment model for available for sale debt securities. The guidance requires the Company to determine whether a decline in fair value below the amortized cost basis of an available for sale debt security is due to credit related factors or noncredit related factors. A credit related impairment should be recognized as an allowance on the balance sheet with a corresponding adjustment to earnings, however, if the Company intends to sell an impaired available for sale debt security or more likely than not would be required to sell such a security before recovering its amortized cost basis, the entire impairment amount would be recognized in earnings with a corresponding adjustment to the security’s amortized cost basis.

Inventories

Inventories are stated at the lower of cost or net realizable value. Inventory write-downs are provided to cover risks arising from slow-moving items, technological obsolescence, excess inventories, discontinued products, and for market prices lower than cost, if any. We periodically evaluates the quantities on hand relative to historical and projected sales volume (which is determined based on an assumption of future demand and market conditions), the age of the inventory and the expected consumption of service spare parts. At the point of the loss recognition, a new lower cost basis for that inventory is established. Any adjustments to reduce the cost of inventories to their net realizable value are recognized in earnings in the current period.

Inventory includes costs of products delivered to customers and not recognized as cost of sales, where revenues in the related arrangements were not recognized.

To support our service operations, we maintain service spare parts inventory and reduce the net carrying value of this inventory over the service life.

Business Combination

The results of an acquired business in a business combination are included in the Company’s consolidated financial statements from the date of acquisition according to the guidance of ASC Topic 805, “Business Combinations.” The Company allocates the purchase price, which is the sum of the consideration provided and may consist of cash, equity or a combination of the two, to the identifiable assets and liabilities of the acquired business at their fair values as of the acquisition date. The excess of the purchase price over the amount allocated to the identifiable assets and liabilities, if any, is recorded as goodwill.

Following the adoption of ASU 2021-08, “Accounting for Contract Assets and Contract Liabilities from Contracts with Customers” for all business combinations with acquisition date from January 1, 2022, the Company applies ASC 606 “Revenue from Contracts with Customer”, to recognize and measure contract assets and contract liabilities on the acquisition date.

Contingent consideration incurred in a business combination is included as part of the purchase price and recorded at a probability weighted assessment of the fair value as of the acquisition date. The fair value of the contingent consideration is re-measured at each reporting period, with any adjustments in fair value recognized in earnings under general and administrative expenses.

Acquisition related costs incurred by the Company are not included as a component of consideration transferred but are accounted for as an expense in the period in which the costs are incurred.

Goodwill

Goodwill and other purchased intangible assets have been recorded as a result of the acquisition of ReVera and ancosys. Goodwill represents the excess of the purchase price in a business combination over the fair value of net tangible and intangible assets acquired, and related liabilities. Goodwill amount on December 31, 2022 was \$49 million.

Goodwill is not amortized, but rather is subject to an impairment test. In accordance with ASC 350, "Intangibles – Goodwill and Other", at least annually (in the fourth quarter), or more frequently if events or changes in circumstances indicate that the carrying value may be impaired. The Company has an option to perform a qualitative assessment to determine whether it is more-likely-than-not that the fair value of a reporting unit is less than its carrying value prior to performing the quantitative goodwill impairment test. The Company operates in one operating segment, and this segment comprises its only reporting unit.

Following the adoption of ASU 2017-04, "Simplifying the Test for Goodwill Impairment", as part of the quantitative goodwill impairment test, any excess of the carrying value of the reporting unit over its fair value is recognized as an impairment loss, and the carrying value of goodwill is written down to the fair value of the reporting unit. For the year ended December 31, 2022, we performed an annual impairment analysis, and no impairment losses have been identified.

Intangible assets

As a result of previous acquisitions, our balance sheet included acquired intangible assets, in the aggregate amount of approximately \$43.6 million and \$2.6 million as of December 31, 2021 and 2022, respectively.

We allocate the purchase price to the tangible and intangible assets acquired and liabilities assumed, based on their estimated fair values. These valuations require management to make significant estimations and assumptions, especially with respect to intangible assets. Critical estimates in valuing intangible assets include future expected cash flows from technology acquired, backlog and customer relationships. Management's estimates of fair value are based on assumptions believed to be reasonable, but which are inherently uncertain and unpredictable.

Intangible assets are comprised of acquired technology and customer relations.

Accounting for income tax

We are subject to income taxes in Israel, the United States and numerous foreign jurisdictions. Significant judgment is required in evaluating our uncertain tax positions and determining our taxes. Although we believe our reserves are reasonable, no assurance can be given that the final tax outcome of these matters will not be different from that which is reflected in our historical income tax provisions and accruals. We adjust these reserves in light of changing facts and circumstances, such as the closing of a tax audit or the refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will affect the provision for income taxes in the period in which such determination is made.

Our accounting for certain income tax effects is incomplete, but we have determined reasonable estimates for those effects. Our reasonable estimates are included in our financial statements as of December 31, 2022.

Significant judgment is also required in determining any valuation allowance recorded against deferred tax assets. In assessing the need for a valuation allowance, we consider all available evidence, including past operating results, estimates of future taxable income, and the feasibility of tax planning strategies. In the event that we change our determination as to the amount of deferred tax assets that can be realized, we will adjust our valuation allowance with a corresponding impact to the provision for income taxes in the period in which such determination is made.

Convertible senior notes

The Company accounts for its convertible senior notes in accordance with ASC 470-20 "Debt with Conversion and Other Options" including Accounting Standards Update No. 2020-06, Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity (ASU 2020-06). This simplifies the accounting for certain financial instruments with characteristics of liabilities and equity, including convertible instruments and contracts on an entity's own equity. This guidance also eliminates the treasury stock method to calculate diluted earnings per share for convertible instruments and requires the use of the if-converted method. The Company adopted ASU 2020-06 using the modified retrospective method as of January 1, 2022. For additional information, see Note 11 to our consolidated financial statements contained elsewhere in this Annual Report.

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 Annual Report.

Item 6. Directors, Senior Management and Employees

6.A Directors and Senior Management

The following is the list of senior management and directors as of February 13, 2023:

Name	Age	Position
Avi Cohen (1)(2)	69	Interim Chairman of the Board of Directors
Michael Brunstein (3)	79	Director
Raanan Cohen (2)(3)	67	Director
Zehava Simon (1)(2)	64	Director
Dafna Gruber (1)(3)	57	Director
Sarit Sagiv (1)(2)	54	Director
Eitan Oppenheim	57	Director, President and Chief Executive Officer
Gabriel Waisman	52	Chief Business Officer*
Dror David	53	Chief Financial Officer
Shay Wolfling	51	Chief Technology Officer
Adrian S. Wilson	51	President of US subsidiary & General Manager Material Metrology Division
Effi Aboody	52	Corporate VP and General Manager Dimensional Metrology Division

(1) Member of the audit committee

(2) Member of the compensation committee

(3) Member of the Nominating governance and sustainability committee

* On February 21, 2023, Nova announced changes in senior leadership positions. Gaby Waisman, who has served as the Nova's Chief Business Officer since 2016, was appointed as the Nova's Chief Executive Officer & President. Eitan Oppenheim, who has served as Nova's Chief Executive Officer and President since 2013, was appointed as Executive Chairman of the Board, succeeding Dr. Michael Brunstein. The changes will take place simultaneously on March 31, 2023. Certain amendments to executives' compensation terms following the abovementioned changes are expected to be brought for approval of the Company's shareholders in the coming annual general meeting of shareholders.

Mr. Avi Cohen has served as a director of the Company since 2008 and in December 2022 our Board of Directors appointed Mr. Cohen as the interim chairperson of our board of directors while Dr. Michael Brunstein absent for health related reasons. He also, serves as executive chairman of XJet Ltd. (a private company) and ZOOZ Power Ltd. (a public company) as well as on the board of directors of Cortica Ltd. and CGS Tower Networks Ltd. From July 2016 to September 2017 Mr. Cohen served as the chief executive officer of MX1, a global media service provider founded in July 2016 as a result of the acquisition of RR Media (Nasdaq: RRM) by SES S.A. and the following merger between RR Media, and SES Platform Services GmbH. From July 2012 until the merger, Mr. Cohen served as the chief executive officer of RR Media. Prior to that, until March 2012, Mr. Cohen served as president and chief executive officer of Orbit Technologies, a public company traded on the TASE. From September 2006 to December 2008, Mr. Cohen served as chief operating officer and deputy to the chief executive officer of ECI Telecom Ltd. Prior to joining ECI, Mr. Cohen served in a variety of executive management positions at KLA (Nasdaq: KLAC). From 2003 he was a group vice president, corporate officer and member of the executive management committee. From 1995 he was the president of KLA Israel responsible for the optical metrology division. Prior to joining KLA, 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.

Dr. Michael Brunstein was named chairman of our board of directors in June 2006, after serving as member of our board of directors from November 2003. Between 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. Dr. Brunstein holds a B.Sc. in Mathematics and Physics from the Hebrew University of Jerusalem, and a M.Sc. and a Ph.D. in Physics from Tel-Aviv University, Israel.

Mr. Raanan Cohen was appointed as a director of the Company by our board of directors in February 2014. Prior to that and until December 2012, Mr. Cohen has served as the President and Chief Executive Officer of Orbotech Ltd., a public company traded on Nasdaq. Mr. Cohen has also served in a range of other executive positions at Orbotech Ltd, including Co-President for Business and Strategy, EVP and President of the Printed Circuit Board (PCB) Division, Vice President for the PCB-AOI product line and President and chief executive officer of Orbotech, Inc. Prior to its merger with Orbotech in 1991, Mr. Cohen held various positions at Orbot, another manufacturer of AOI systems. Prior to joining Orbot in 1984, he worked at Telrad Networks Ltd. Mr. Cohen currently serves as the Chief Executive Officer of EyeWay Vision Ltd., a private company. Mr. Cohen holds a B.Sc. in Computer Science from the Hebrew University of Jerusalem, Israel.

Ms. Zehava Simon was elected as the Company's external director in accordance with the provisions of the Companies Law in June 2014 and reelected in June 2017. Effective as of May 2018, and our adoption of the exemption under the Regulation (as defined below), Ms. Simon is no longer classified as an external director under the Companies Law. Ms. Simon served as a Vice President of BMC Software from 2000 until 2013 and in her last position (as of 2011) acted as Vice President of Corporate Development. From 2002 to 2011, Ms. Simon served as Vice President and General Manager of BMC Software in Israel. In this role, she was responsible for directing operations in Israel and India as well as offshore sites. Prior to that, Ms. Simon held various positions at Intel Israel, which she joined in 1982, including leading of Finance & Operations and Business Development for Intel in Israel. Ms. Simon is currently a board member of Audiocodes Ltd., a public company traded on Nasdaq and TASE, Nice Systems, a public company traded on Nasdaq and TASE. Ms. Simon is a former member of the board of directors of Insightec Ltd. (2005-2012), M-Systems Ltd., a Nasdaq listed company which was acquired in 2006 by SanDisk Corp., a public company traded on Nasdaq as well (2005-2006) and Tower Semiconductor Ltd., a public company traded on TASE and Nasdaq (1999-2004). Ms. Simon holds a B.A. in Social Sciences from the Hebrew University of Jerusalem, Israel, a law degree (LL.B.) from Reichman University (formerly, the Interdisciplinary Center in Herzliya, Israel) and an M.A. in Business and Management from Boston University, USA.

Ms. Dafna Gruber was elected as the Company's external director in accordance with the provisions of the Companies Law in April 2015 and reelected in April 2018. Effective as of May 2018, and our adoption of the exemption under the Regulation, Ms. Gruber is no longer classified as an external director under the Companies Law. Ms. Gruber has broad experience serving as chief financial officer and a senior executive management member in leading hi-tech companies traded on both Nasdaq and TASE. Ms. Gruber serves as the chief financial officer of Netafim Ltd., a private company. Prior to that she served as chief financial officer in various companies including Aqua security Ltd. Landa Corporation Ltd. and Clal Industries Ltd. From 2007 until 2015, Ms. Gruber served as the chief financial officer of Nice Systems Ltd., a public company traded on Nasdaq and TASE responsible, *inter alia*, for finance, operation, MIS and IT, legal and investor relations. From 1996 until 2007, Ms. Gruber was part of Alvarion Ltd., a public company traded on Nasdaq and TASE, mostly as chief financial officer. Ms. Gruber currently serves as an external director at ICL group Ltd., and a board member of Cellebrite Ltd. Ms. Gruber is a certified public accountant and holds a Bachelor's degree in Accounting and Economics from Tel-Aviv University, Israel.

Ms. Sarit Sagiv was appointed to serve as a director of the Company by our board of directors in August 2021. Ms. Sagiv serves as a member of the Investments Committee of Phoenix Insurance and as a member of the board of directors of OPC Energy Ltd., a public company traded on TASE. Ms. Sagiv had served as General Manager of the Global Business division at Amdocs (Nasdaq: DOX) between 2016 and 2020. Prior to this role, Ms. Sagiv served as the Chief Financial Officer of Nice Ltd. (NASDAQ and TASE: NICE), with responsibility for the finance, legal, operations and IT areas, as well as the Chief Financial Officer of Retalix Ltd. (Nasdaq and TASE: RTLX). Ms. Sagiv also held various other Chief Financial Officer and senior financial positions. Ms. Sagiv is a certified public accountant. She holds a B.A. in Accounting and Economics and an MBA, both from Tel-Aviv University, Israel and an M.A. in Law from Bar Ilan University, Israel.

Mr. Eitan Oppenheim has been serving as the President and Chief Executive Officer of the Company since July 31, 2013, and was appointed by our board of directors to also serve as a director in October 2019. Prior to this, Mr. Oppenheim served as the Executive Vice President Global Business Group, beginning in November 2010. From 2009 until 2010, Mr. Oppenheim served as Vice President and Europe General Manager of Alvarion Ltd., a public company traded on Nasdaq. During the years 2007 through 2009, Mr. Oppenheim served as Vice President of sales and marketing of OptimalTest Ltd. Prior to that, from 2002 until 2006, Mr. Oppenheim served as Vice President – Business Manager of the Flat Panel Displays division of Orbotech Ltd., a public company traded on Nasdaq. From 2001 until 2002, Mr. Oppenheim served as Managing Director of Asia Pacific at TTI Telecom International, a leading provider of assurance, analytics and optimization solutions to communications service providers (CSP) worldwide. Prior to that, from 1994 until 2001, Mr. Oppenheim held several key executive positions at Comverse Network Systems Ltd., a public company traded on Nasdaq. Mr. Oppenheim holds a B.A. in Economics from the Haifa University, Israel and an MBA from Ben-Gurion University of the Negev, Beer Sheva, Israel.

Mr. Gabriel Waisman joined Nova in 2016 as our Chief Business Officer, responsible for the Company's customer facing groups, including global sales, marketing, customer support and applications. Mr. Waisman brings over 23 years of managerial expertise in a global geographically dispersed environment, and extensive experience in working with pioneering multidisciplinary technologies, particularly within the electronics and telecom sectors. Prior to joining Nova, Mr. Waisman served as President at Orbotech Pacific (Orbotech LTD, Hong Kong) from August 2013 until April 2016 and Orbotech West (Orbotech Inc., USA) from May 2011 until July 2013, where he was responsible for sales and marketing, finance and operations, and customer support. Previous to this, from June 2003 until May 2011, Mr. Waisman served in various managerial positions at Alvarion Technologies Ltd., starting as Strategic Marketing Director, EMEA, and moving on to Vice President of Strategic Accounts, General Manager of West Europe, followed by Managing Director, Asia-Pacific. Mr. Waisman has also served as EMEA Regional Sales and Marketing Director (Broadband division) at Comverse Ltd. Mr. Waisman holds a B.Sc. in Electronic Engineering from the Technion – Israel Institute of Technology, Haifa, Israel and an MBA in Business Administration from the Tel-Aviv University, Israel.

Mr. Dror David has served as the Chief Financial Officer since November 2005. Mr. David joined Nova in April 1998, as the Company's Contoller, and since then 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 on Nasdaq in 2000, the Company's private placement in 2007 and the Company's secondary offering in 2010. Prior to joining Nova, Mr. David spent five years in public accounting with Deloitte 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, Israel, and an MBA. from Derby University of Britain.

Dr. Shay Wolfling joined Nova in 2011, as Chief Technology Officer. Prior to joining Nova, Dr. Wolfling was an R&D manager at KLA-Tencor-Belgium (formerly ICOS Vision Systems, a public traded company acquired by KLA in 2008), where he led multidisciplinary metrology & inspection development projects. From 2000 until its technology acquisition by ICOS in 2005, Dr. Wolfling was a founder and Vice President of Research and Development of Nano-Or-Technologies, a start-up company with a proprietary technology for 3D optical measurements. Dr. Wolfling helped Nano-Or develop from the idea stage to initial product sales. Prior to founding Nano-Or, Dr. Wolfling was a project manager in Y-Beam-Technologies, a start-up offering laser-based skin treatments. Dr. Wolfling has several patents under his name in the field of optical measurements. Dr. Wolfling holds a B.Sc. in physics and mathematics from the Hebrew University of Jerusalem, Israel, a second degree in physics from Tel-Aviv University, Israel and a Ph.D. in physics from the Hebrew University of Jerusalem, Israel.

Mr. Adrian S. Wilson joined Nova in January 2018 as General Manager Material Metrology Division and President of our U.S. subsidiary, Nova Measuring Instruments, Inc. Mr. Wilson has over 30 years of Semiconductor capital equipment and materials experience. Mr. Wilson joins us from Nanometrics Inc., where he held the position of Vice President & General Manager of Advanced Imaging and Analytics Business Unit. Prior to Nanometrics Inc., he held the position of Managing Director of Element Six Technologies Ltd., the non-abrasive arm of the synthetic diamond group of DeBeers, focused on thermal management and optical components for the semiconductor industry. Mr. Wilson has experience in leading both start-ups and divisions within large public multi-national companies, including KLA, FormFactor Inc. and Phoenix X-ray Systems & Services Inc., a capital equipment start-up. Mr. Wilson holds a bachelor's degree in Electronics Engineering, post Grad in Marketing Management and a MBA in Technology Management. Mr. Wilson's accreditations include Fellow of the Chartered Institute of Marketing (UK) and Fellow of the Institute of Directors (UK).

Mr. Effi Aboody has served as our Corporate VP and General Manager Dimensional Metrology Division since September 2019. Mr. Aboody joined Nova in 2016 as Vice President and Head of the Global Applications team. Mr. Aboody started his career at Intel Corporation Ltd in 1996 as an Integration engineer, working in Portland and California R&D centers, in both logic and memory devices, followed by several managerial positions including Process Integration, Sort testing manager and Yield manager. In 2008, Mr. Aboody served as Yield and Integration Departments at Numonyx Ltd focusing on NOR flash memory process and reliability. In 2011, Mr. Aboody managed the Engineering and Yield Departments at Micron Technology Ltd Fab12. In 2013, Mr. Aboody returned to Intel Corporation to manage the Fab28 Yield Organization, responsible for CPU and SoC outgoing yield performance, defects and Labs. Mr. Aboody holds an Executive MBA from Tel-Aviv University, Israel and a B.Sc. in Materials Engineering from Ben-Gurion University of the Negev, Israel.

Voting Agreement

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

6.B Compensation

The aggregate compensation expensed, including share-based compensation and other compensation expensed by us, to our board and senior management members listed in item 6.A in this Annual Report, with respect to the year ended December 31, 2022 (consisting of 12 persons) was approximately \$13 million. This amount includes approximately \$0.5 million set aside or accrued to provide pension, severance, retirement, or similar benefits and amounts expensed by the Company for automobiles made available to its executive officers).

Disclosure regarding the compensation of our senior executives on an individual basis will be disclosed in our proxy statement in connection with the 2022 annual general meeting of shareholders in accordance with Israeli regulations.

Terms of employment of Mr. Eitan Oppenheim, our President and Chief Executive Officer and a member of the board of directors, as approved by our shareholders, are as follows:

General

(i) a monthly base salary of NIS 172,500 (approximately US \$49,450); (ii) an annual bonus of up to eighteen (18) monthly base salaries (with additional payment of up to twenty four (24) monthly base salaries in the case of over achievement), subject to objectives which are annually predetermined by the board of directors and its committees, in accordance with our compensation policy; (iii) in connection with termination of employment (other than for cause), a three month advance notice and a six month adjustment period, during which Mr. Oppenheim will be entitled to all of his compensation elements, and to the continuation of vesting of his options. In the event of employment termination during a fiscal year (unless for cause), the bonus shall be prorated (subject to certain adjustments); (iv) customary social benefits such as pension fund or management insurance, education fund, vacation pay, sick leave and convalescence pay; (v) subject to required approvals under applicable law, a directors and officers insurance, including a “run-off” insurance policy; (vi) non-disclosure, non-compete and ownership of intellectual property undertakings; and (vii) monthly travel expenses or a Company car, cellular phone, a land line phone, toll road expenses, a laptop computer and other expense reimbursements pursuant to the Company general policies.

Equity-Based Compensation

Since January 1, 2020 until December 31, 2022, per the approval of the respective annual general meeting of shareholders, Mr. Oppenheim was granted a total of 80,915 restricted share units. In addition, Mr. Oppenheim was granted in July 2020, July 2021 and July 2022, a total of 80,915 performance based restricted units that vest over a period of three (3) years, provided that the Company meets or exceeds the performance targets for vesting set by the compensation committee and board of directors of the Company, unless such restricted share units have been cancelled in accordance with the terms and conditions of the share incentive plan of the Company or the employment terms of Mr. Oppenheim. In the event a portion of these restricted share units fails to vest, such portion will be carried forward to the third vesting date and will vest if the Company's average annual return on equity based on net income during the previous three (3) years shall be no less than ten percent (10%).

Compensation upon Significant Event

Upon the occurrence of a Significant Event, unvested options granted to Mr. Oppenheim will vest upon the consummation of the Significant Event, and unexercised options may be exercised until the earlier of two years from the consummation of the Significant Event, and termination of the options. Such arrangements will not apply if Mr. Oppenheim remains the chief executive officer of our company or the surviving entity, and unvested options are replaced for new options of the surviving entity as part of the Significant Event with a vesting schedule and terms identical to the replaced options. Further, upon a Significant Event, Mr. Oppenheim will be entitled to a special bonus of up to 12 monthly salaries, subject to the approval of the compensation committee and our board of directors and subject to the limitation on a special bonus imposed by our compensation policy. In the event of termination of employment (up to 12 months from the Significant Event), Mr. Oppenheim will be entitled to the retirement terms under his employment agreement, the special bonus described above and the payment of the annual bonus in full for the year in which the Significant Event has occurred, subject to the annual bonus plan, on an annual basis calculation, and subject to the approval of the compensation committee and our board of directors prior to the consummation of the transaction, or the respective body in the new surviving entity following the transaction, as applicable. A "Significant Event" is defined for this purpose as: (1) the sale of all or substantially all of our company's assets; (2) a merger of our company with or into another company or entity after which our shareholders will hold 50% or less of the surviving entity; (3) our company becoming a division or a subsidiary of another company; or (4) the purchase of our company's shares, after which the purchaser will hold 50% or more of our company's shares, provided, however, that the purchaser is not one of our institutional investors upon execution of the purchase agreement.

Compensation upon Acquisition

Upon Acquisition of a company (which is not an affiliate of the company), Mr. Oppenheim will be entitled to receive a bonus of up to 12 monthly salaries subject to the approval of the compensation committee and our board of directors and subject to the limitation on a special bonus imposed by our compensation policy. An "Acquisition" includes, among others, a merger of our company or a subsidiary of our company with or into another entity, such that upon consummation of such transaction our shareholders will hold more than 50% of the surviving entity. In accordance with this entitlement, on February 2022 our compensation committee and board have approved a bonus of 12 monthly salaries for the acquisition of ancossys, to be paid to Mr. Oppenheim in April 2022.

Directors and Officers Equity Based Compensation

As of February 13, 2023, a total of 194,414 options to purchase our ordinary shares and 205,589 RSU's were outstanding and held by certain directors and senior management members listed in item 6.A in this Annual Report (consisting of 12 persons), of which 150,647 options are currently exercisable or exercisable within 60 days of February 13, 2023. 130,771 shares are held by trustee due to vested RSUs and 648 RSU's will vest within 60 days of February 13, 2023. See "Item 6E. Share Ownership" in this Annual Report.

In accordance with our current equity-based compensation policy, the exercise price of granted options is equal to the closing sale price of the Company's ordinary shares on Nasdaq on the day of grant.

Compensation of Directors

As approved by our shareholders in June 23, 2022, we adopted a new compensation scheme for non-executive directors (other than the chairperson of our board of directors), which does not include any pay per meeting, as follows:

(i) an annual cash payment of NIS 210,000 (approximately US\$65,000) with additional annual payment for service on board committees as follows: NIS 42,000 (approximately US\$13,000) (or NIS 63,000 (approximately US\$19,500) for the chairperson) for each member of the audit or compensation committee; and NIS 30,000 (approximately US\$9,000) (or NIS 44,000 (approximately US\$13,500) for the chairperson) for each member of the nominating committee or any other Board Committee;

(ii) in the event of a director appointed by our board of directors, a one-time equity award of restricted share units of up to \$170,000 prorated based on the number of days between the date of appointment to our board of directors and the date of the first annual general meeting of our shareholders following such appointment, which will vest over a period of four (4) years; and

(iii) each non-employee director will be granted equity awards of restricted share units, on an annual basis on the date of our annual general meeting of the Company's shareholders, under our incentive plan (provided the director is still on our board of directors) at a value of \$170,000, which will vest over a period of four (4) years, subject to such director's continued service through such date.

Our shareholders further approved that the chairperson of the Board will be entitled to an annual compensation of NIS 360,000 (approximately US\$103,200) and an annual equity grant of restricted share units at a value of \$600,000.

On June 23, 2022, our shareholders approved our current compensation policy.

The full text of our current compensation policy was included as Appendix A to the proxy statement attached to our report on Form 6-K, furnished to the Securities and Exchange Commission on May 18, 2022 and is filed as an exhibit to this Annual Report as Exhibit 4.7.

6.C Board Practices

Our Amended and Restated Articles of Association, as adopted by the Company's shareholders on June 24, 2021, or the Articles, provide that we may have between five and nine directors. Our board of directors currently consists of seven directors, three of which are female directors.

Under the Companies Law, companies incorporated under the laws of the State of Israel that are "public companies," including companies with shares listed on the Nasdaq Global Select Market, are required to appoint at least two external directors.

Pursuant to regulations promulgated under the Companies Law, companies with shares traded on a U.S. stock exchange, including the Nasdaq Global Select Market, may, subject to certain conditions, "opt out" from the Companies Law requirements to appoint external directors and related Companies Law rules concerning the composition of the audit committee and compensation committee of the board of directors. In accordance with these regulations, in May 2018, we elected to "opt out" from the Companies Law requirements to appoint external directors and related Companies Law rules concerning the composition of the audit committee and compensation committee of the board of directors.

Under these regulations, the exemptions from such Companies Law requirements will continue to be available to us so long as: (i) we do not have a "controlling shareholder" (as such term is defined under the Companies Law), (ii) our shares are traded on a U.S. stock exchange, including the Nasdaq Global Select Market, and (iii) we comply with the director independence requirements, the audit committee and the compensation committee composition requirements, under U.S. laws (including applicable Nasdaq Rules) applicable to U.S. domestic issuers.

Our board of directors has determined that all of our directors, except for Mr. Oppenheim, qualify as "independent directors" as defined by the Nasdaq Stock Market Rules.

Our Articles provide that directors may be elected at our annual general meeting of shareholders by a vote of the holders of more than 50% of the total number of votes represented at such meeting, not taking into consideration abstention votes. In addition, our board of directors is authorized to appoint directors, at its discretion, provided that the total number of directors does not exceed the maximum number of directors permitted by the Articles. Our directors serve as such until the next annual general meeting of our shareholders.

According to the Companies Law, the board of directors of a public company must establish the minimum number of board members that are to have accounting and financial expertise while considering, *inter alia*, the nature of the company, its size, the scope and complexity of its operations and the number of directors stated in the Articles.

Our board of directors resolved that the minimum number of board members that need to have accounting and financial expertise is one (1).

Our board of directors determined that each of Ms. Dafna Gruber and Ms. Sarit Sagiv has accounting and financial expertise as described in the regulations promulgated pursuant to the Companies Law, and that, therefore, the requirements of the minimum number of board members that need to have accounting and financial expertise, as set by the board of directors, has been met.

Our board of directors has adopted a training program for newly appointed directors. Once appointed and following the completion of their onboard training, our directors continue to receive ongoing training as part of our directors training and development efforts.

Family Relationships

There are no family relationships between any members of our executive management and our directors.

Board of Directors' Committees

The Company's board of directors has appointed the following committees:

Audit Committee

Our Audit Committee is comprised of Sarit Sagiv (Chairperson), Zehava Simon, Avi Cohen and Dafna Gruber. The audit committee is responsible to provide oversight of the accounting and financial reporting process of the Company and the audits of the financial statements of the Company, and assist the Board in its oversight of (i) the integrity of the Company's financial statements and other published financial information, (ii) the Company's compliance with applicable financial and accounting related standards, rules and regulations, (iii) the selection, engagement and termination, subject to shareholder approval, of the Company's independent auditor, (iv) the pre-approval of all audit, audit-related and all permitted non-audit services, if any, by the Company's independent auditor, and the compensation therefor, (v) the Company's internal controls over financial reporting and (vi) risk assessment and risk management, including cyber risks.

Under the Companies Law, the audit committee is responsible, among others, for (i) identifying deficiencies in the business management practices of the Company, including by consulting with the internal auditor, and recommending remedial actions with respect to such deficiencies; (ii) reviewing and approving related party transactions, including, among others, determining whether or not such transactions are deemed material actions or extraordinary transactions; (iii) ensuring that a competitive process is conducted for related party transactions with a controlling shareholder (regardless of whether or not such transactions are deemed extraordinary transactions), optionally based on criteria which may be determined by the audit committee annually in advance; (iv) setting forth the approval process for transactions that are 'non-negligible' (i.e., transactions with a controlling shareholder that are classified by the audit committee as non-negligible, even though they are not deemed extraordinary transactions), as well as determining which types of transactions would require the approval of the audit committee, optionally based on criteria which may be determined annually in advance by the audit committee; (v) evaluating the Company's internal audit program and the performance of the Company's internal auditor and the resources at his/her disposal; (vi) reviewing the scope of work of the Company's external auditor and making recommendations regarding his/her salary; and (vii) creating procedures relating to the employees' complaints regarding deficiencies in the administration of the Company as well as adopting against retaliation. The audit committee is also responsible for reviewing and approving any material change or waiver in the Company's Corporate Code of Conduct regarding directors or executive officers, and disclosures made in the Company's annual report in such regard. The audit committee operates under a charter dully adopted by the board of directors.

Our board of directors has determined that each member of our audit committee is independent as such term is defined in Rule 10A-3 under the Exchange Act, and that each member of our audit committee satisfies the additional requirements applicable under the Nasdaq rules to members of an audit committee.

Compensation Committee

Our Compensation Committee is comprised of Zehava Simon (Chairperson), Avi Cohen, Raanan Cohen and Sarit Sagiv. 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 officers, directors and executives and the overall compensation programs and reviewing and approving, or if required by law, approving and recommending for approval by the board of directors, grants and awards under the Company's equity incentive plans. The primary objective of the committee is to oversee the development and implementation of the compensation policies and plans that are appropriate for the Company in light of all relevant circumstances, and which provide incentives that fit the Company's long-term strategic plans and are consistent with the culture of the Company and the overall goal of enhancing shareholder's value.

Our board of directors has determined that each member of our compensation committee is independent under the Nasdaq rules, including the additional independence requirements applicable to the members of a compensation committee.

Under the Companies Law and our compensation committee charter, our compensation committee is responsible, among others, for (i) recommending to the board of directors regarding its approval of a compensation policy in accordance with the requirements of the Companies Law, and any other compensation policies, incentive-based compensation plans and equity-based plans; (ii) overseeing the development and implementation of such compensation plans and policies that are appropriate in light of all relevant circumstances and recommending to the board of directors regarding any amendments or modifications that the compensation committee deems appropriate; (iii) determining whether to approve transactions concerning the terms of engagement and employment of our officers and directors that require compensation committee approval under the Companies Law or our compensation plans and policies; and (iv) taking any further actions as the compensation committee is required or allowed to under the Companies Law or the compensation plans and policies.

Nominating Governance and Sustainability Committee

Our *Nominating Governance and Sustainability Committee* is comprised of Raanan Cohen (Chairperson), Michael Brunstein, and Dafna Gruber. 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 of directors consider the director nominees for election at the general meeting of shareholders. In June 2022, our board of directors expanded the committee's responsibilities to also include recommending to the Board on governance matters and for developing and recommending to our board of directors business conduct and ethics guidelines, applicable to the Company, including overseeing the Company's policies, programs and strategies related to environmental, social and governance ("ESG") matters, periodically reviewing such guidelines and recommending any changes thereto, and overseeing the evaluation of our board of directors and management.

Our audit committee also acts as our investment committee.

All committees are acting according to written charters that were approved by our board of directors. Additionally, we adopted an internal enforcement plan which was approved by our board of directors. The internal enforcement plan, as part of which we adopted and implementing procedures and policies in order to comply with the provisions of the Israeli Securities Law, 5728-1968 (the "Israeli Securities Law"), the Companies Law. The internal enforcement plan includes, among others, the board committees' charters and the internal auditor charter, procedures with respect to related party transactions, insider trading, which prohibits hedging activities, equity-based compensation policy, reporting and complaints, anti-bribery and anti-fraud policies and a code of conduct. Each of our committees have the power to retain, terminate and approve the related fees and other retention terms, as it deems appropriate, outside counsel and other experts and consultants to assist the committee in connection with its responsibilities without our board of directors' approval and at the Company's expense.

Approval of Related Party Transaction

The Companies Law requires that office holders of a company, including directors and executive officers, promptly disclose to the board of directors any personal interest they may have and all related material information known to them about any existing or proposed transaction with such company. The approval of the board of directors is required for 'non-extraordinary' transactions between a company and its office holders, or between a company and other persons in which an office holder has a personal interest, unless such company's articles of association provide otherwise. Under the Companies Law, a 'non-extraordinary' transaction between a company or between the company and a third party in which an office holder of a company has a personal interest, will require the approval of the board of directors or a committee authorized by the board of directors, unless such company's articles of association provide otherwise. Our Articles do not provide otherwise, and therefore such transaction requires the approval of our board of directors. If a transaction is an "extraordinary transaction", it is subject to the approval of the audit committee prior to its approval by the board of directors. For information regarding the necessary approvals under the Companies Law for transactions with office holders and directors regarding their terms of engagement with the company, see "— Compensation of Officers and Directors" in this Item below.

In addition, an extraordinary transaction between a public company and a controlling shareholder (i.e. 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 its position on the board of directors or any other position with the company), or in which a controlling shareholder has a personal interest, including a private placement in which the controlling shareholder has a personal interest, a transaction between a public company and a controlling shareholder, the controlling shareholders' relative, or entities under its control, directly or indirectly, with respect to services to be provided to the public company, and a transaction concerning the terms of compensation of the controlling shareholder or the controlling shareholder's relative, who is an office holder or an employee, requires the approval of the audit committee or, in some cases, the compensation committee (see "— Compensation of Officers and Directors" in this Item below), the board of directors and a majority of the shares voted by the shareholders of the company participating and voting on the matter in a shareholders' meeting. In addition, the shareholder approval must fulfill one of the following requirements: (i) the majority must include at least a majority of the shares of the voting shareholders who have no personal interest in the transaction (in counting the total votes of such shareholders, abstentions are not taken into account); or (ii) the total of opposition votes among the shareholders who have no personal interest in the transaction may not exceed 2% of the aggregate voting rights in the company. Any such transaction the term of which is more than three years, must be approved in the same manner every three years, unless with respect to certain transactions as permitted by the Companies Law, the audit committee has determined that longer term is reasonable under the circumstances.

According to the Companies Law, if an extraordinary transaction is discussed by the board of directors or the audit committee, directors and office holders that have personal interest in the proposed transaction, may not participate in the discussion or vote. However, if the majority of the members of the audit committee or the board of directors (as applicable) have personal interest in the proposed transaction, then all directors (including those with personal interest) may participate in the discussion and vote, provided that in the event the majority of the members of the board of directors have personal interest in the transaction, said transaction will also be subject to the approval of the Company's shareholders.

Compensation of Officers and Directors

Under the Companies Law, Israeli public companies are required to establish a compensation committee and adopt a policy regarding the compensation and terms of employment of their directors and officers. For information on the composition, roles and objectives of the compensation committee pursuant to the Companies Law and our compensation committee charter, see above “—Board of Directors’ Committees — Compensation Committee” in this Annual Report.

Pursuant to the Companies Law, the compensation policy must be approved by the company's board of directors after reviewing the recommendations of the compensation committee. The compensation policy also requires the approval of the general meeting of the shareholders, which approval must satisfy one of the following (the "Majority Requirement"): (i) the majority should include at least a majority of the shares of the voting shareholders who are non-controlling shareholders or do not have a personal interest in the approval of the compensation policy (in counting the total votes of such shareholders, abstentions are not be taken into account) or (ii) the total number of votes against the proposal among the shareholders mentioned in paragraph (i) does not exceed two percent of the aggregate voting power in the company. Under certain circumstances and subject to certain exceptions, the board of directors may approve the compensation policy despite the objection of the shareholders, provided that the compensation committee and the board of directors determines that it is for the benefit of the company, following an additional discussion and based on detailed arguments.

The Companies Law provides that the compensation policy must be re-approved (and re-considered) every three years, in the manner described above. Moreover, the board of directors is responsible for reviewing from time to time the compensation policy and deciding whether or not there are any circumstances that require an adjustment to the company's compensation policy. When approving the compensation policy, the relevant organs must take into consideration the goals and objectives listed in the Companies Law, and include reference to specific issues listed in the Companies Law. Such issues include, among others (the “Compensation Policy Mandatory Criteria”): (i) the relevant person’s education, qualifications, professional experience and achievements; (ii) such person's position within the company, the scope of his responsibilities and previous compensation arrangements with the company; (iii) the proportionality of the employer cost of such person in relation to the employer cost of other employees of the company, and in particular, the average and median pay of other employees in the company, including contract workers, and the impact of the differences between such person's compensation and the other employees' compensation on the labor relations in the company; (iv) the authority, at the board of director's sole discretion, to lower any variable compensation components or set a maximum limit (cap) on the actual value of the non-cash variable components, when paid; and (v) in the event that the terms of engagement include any termination payments - the term of employment of the departing person, the company’s performance during that term, and the departing person’s contribution to the performance of the company.

In addition, the Companies Law provides that the following matters must be included in the compensation policy (the "Compensation Policy Mandatory Provisions"): (i) the award of variable components must be based on long term and measurable performance criteria (other than non-material variable components, which may be based on non-measurable criteria taking into account the relevant person's contribution to the performance of the company); (ii) the company must set a ratio between fixed and variable pay, set a cap on the payment of any cash variable compensation components as of the payment of such components, and set a cap on the maximum cash value all non-cash variable components as of their grant date; (iii) the compensation policy must include a provision requiring the relevant person to return to the company any compensation that was awarded on the basis of financial figures that were subsequently restated; (iv) equity based variable compensation components should have an appropriate minimum vesting periods, which should be linked to long term performance objectives; and (v) the company must set a clear limit on termination payments.

Pursuant to the Companies Law, any transaction with an office holder (except directors and the chief executive officer of the company) with respect to such office holder's compensation arrangements and terms of engagement, requires the approval of the compensation committee and the board of directors. Such transaction must be consistent with the provisions of the company's compensation policy, provided that the compensation committee and the board of directors may, under special circumstances, approve such transaction that is not in accordance with the company's compensation policy, if both of the following conditions are met: (i) the compensation committee and the board of directors discussed the transaction in light of the roles and objectives of the compensation committee (also see above "—Board of Directors' Committees — Compensation Committee" in this Annual Report) and after taking into consideration the Compensation Policy Mandatory Criteria and including in such transaction the Compensation Policy Mandatory Provisions; and (ii) the company's shareholders approved the transaction, provided that in public companies the approval must satisfy the Majority Requirement. Notwithstanding the above, the compensation committee and the board of directors may, under special circumstances, approve such transaction even if the shareholders' meeting objected to its approval, provided that (i) both the compensation committee and the board of directors re-discussed the transactions and decided to approve it despite the shareholder's objection, based on detailed arguments, and (ii) the company is not a 'Public Pyramid Held Company'. For the purpose hereof, a "Public Pyramid Held Company" is a public company that is controlled by another public company (including companies that issued only debentures to the public), which is also controlled by another public company (including companies that issued only debentures to the public) that has a controlling shareholder.

Transactions between public companies (including companies that have issued only debentures to the public) and their chief executive officer, with respect to his or her compensation arrangement and terms of engagement, require the approval of the compensation committee, the board of directors and the shareholder's meeting, provided that the approval of the shareholders' meeting must satisfy the Majority Requirement. Notwithstanding the above, the compensation committee and the board of directors may, under special circumstances, approve such transaction with the chief executive officer even if the shareholders' meeting objected to its approval, provided that (i) both the compensation committee and the board of directors re-discussed the transactions and decided to approve it despite the shareholder's objection, based on detailed arguments, and (ii) the company is not a Public Pyramid Held Company. Such transaction with the chief executive officer must be consistent with the provisions of the company's compensation policy, provided that the compensation committee and the board of directors may, under special circumstances, approve such transaction that is not in accordance with the company's compensation policy, if both of the following conditions are met: (i) the compensation committee and the board of directors discussed the transaction in light of the roles and objectives of the compensation committee (see above —"Board of Directors' Committees – Compensation Committee" in this Annual Report) and after taking into consideration the Compensation Policy Mandatory Criteria and including in such transaction the Compensation Policy Mandatory Provisions; and (ii) the company's shareholders approved the transaction, provided that in public companies the approval must satisfy the Majority Requirement. In addition, the compensation committee may determine that such transaction with the chief executive officer of the company does not have to be approved by the shareholders of the company, provided that: (i) the chief executive officer is independent based on criteria set forth in the Companies Law; (ii) the compensation committee determined, based on detailed arguments, that bringing the transaction to the approval of the shareholders may compromise the chances of entering into the transaction; and (iii) the terms of the transaction are consistent with the provisions of the company's compensation policy. Under the Companies Law, non-material amendments of transactions relating to the compensation arrangement or terms of engagement of office holders (including the chief executive officer), require only the approval of the compensation committee.

With respect to transactions relating to the compensation arrangement and terms of engagements of directors in public companies (including companies that have issued only debentures to the public), the Companies Law provides that such transaction is subject to the approval of the compensation committee, the board of directors and the shareholders' meeting. Such transaction must be consistent with the provisions of the company's compensation policy, provided that the compensation committee and the board of directors may, under special circumstances, approve such transaction that is not in accordance with the company's compensation policy, if both of the following conditions are met: (i) the compensation committee and the board of directors discussed the transaction in light of the roles and objectives of the compensation committee (see above —"Board Practices –Board of Directors' Committees – Compensation Committee" in this Annual Report) and after taking into consideration the Compensation Policy Mandatory Criteria and including in such transaction the Compensation Policy Mandatory Provisions; and (ii) the company's shareholders approved the transaction, provided that in public companies the approval must satisfy the Majority Requirement.

Pursuant to the Companies Law, a compensation policy must be re-approved (and re-considered) at least once in every three years. The current compensation policy was approved by our shareholders on June 23, 2022.

Internal Auditor

Under the Companies Law, the board of directors must also appoint an internal auditor nominated by the audit committee. Our internal auditor is Ms. Dana Gottesman-Erlich, CPA (Isr.) of BDO Ziv Haft, an independent registered accounting firm which is a part of the BDO international accounting firm. The role of the internal auditor is to examine whether a company's actions comply with the law and proper business procedure. The internal auditor may not be an interested party or office holder, or a relative of any interested party or office holder, and may not be a member of the company's independent accounting firm or its representative. The Companies Law defines an interested party as a holder of 5% or more of the shares or voting rights of a company, any person or entity that has the right to nominate or appoint at least one director or the general manager of the company or any person who serves as a director or as the general manager of a company. Our internal auditor is working based on a risk survey and audit plan, which is determined by our audit committee and approved by our board of directors.

6.D Employees

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

As of December 31,	2020(*)	2021(*)	2022(*)
Total Personnel	713	819	1,177
Located in Israel	385	428	505
Located abroad	328	391	672
In operations	129	176	280
In research and development	300	328	462
In global business	263	240	311
In general and administration	49	75	124

(*) The numbers of employees set forth in this table do not include contractors and an insignificant number of temporary employees retained by the Company from time to time. The numbers do not include employees of ancossys, acquired in January 2022.

In the high-tech industry in general and specifically in the semiconductors industry, there is intense competition for high-skilled employees. Nova believes that the company's future success will depend, by a large part, on our continued ability to attract, hire and retain qualified and highly motivated employees in every role and seniority level.

Under applicable Israeli law, we and our employees are subject to protective labor provisions such as restrictions on working hours, minimum wages, paid vacation, sick pay, severance pay and advance notice of termination of employment as well as equal opportunity and anti-discrimination laws. Orders issued by the Israeli Ministry of Economy and Industry make certain industry-wide collective bargaining agreements applicable to us. These agreements affect matters such as cost of living adjustments to salaries, length of working hours and week, recuperation and travel expenses. In Israel, we are subject to the instructions of the Extension Order in the Industrial Field for Extensive Pension Insurance 2006 according to the Israeli Collective Bargaining Agreements Law, 1957 (the "Extension Order"). The Extension Order determines the pension terms of the employees which fall under its criteria.

6.E Share Ownership

Based on information provided to us, our 12 directors and senior management members listed in Item 6.A in this Annual Report, have had, as a group, sole voting and investment power for 281,418 shares beneficially owned by them as of February 13, 2023 (representing approximately 1% of the 28,680,998 issued and outstanding ordinary shares of our company as of such date). Such number includes 150,647 shares subject to options that are immediately exercisable or exercisable within 60 days of February 13, 2023 (with expiration dates ranging between 2023 and 2029; exercise prices (\$/share) ranging between \$11.28 and \$102.35), 130,771 shares held by the trustee due to vested RSUs, and 648 RSUs to be vested within 60 days as of February 13, 2023. Each of such directors and senior management members beneficially owned less than 1% of our company's shares as of such date.

Beneficial ownership of shares is determined in accordance with the rules of the SEC and generally includes any shares over which a person exercises sole or shared voting or investment power. Ordinary shares that are subject to warrants or options that are presently exercisable or exercisable within 60 days of the date of February 13, 2023 are deemed to be outstanding and beneficially owned by the person holding the options for the purpose of computing the percentage ownership of that person, but are not treated as outstanding for the purpose of computing the percentage of any other person.

Employee Benefit Plans

The share option plans under which we have outstanding equity grants, are described below:

2007 Incentive Plan (which was active until October 2017) - As of December 31, 2022, options to purchase 4,304,112 ordinary shares at an exercise prices which range from \$0.43 to \$24.96, the fair market value of our shares on the dates of grant, were granted under this plan of which, as of December 31, 2022, 3,039,511 options were exercised, 46,812 options were outstanding and exercisable, 1,217,789 options had been cancelled and no options were outstanding and unvested. As of December 31, 2022, a total of 834,142 RSU's had been granted, of which 728,223 had vested, 105,919 had been cancelled and no RSU's were outstanding. Following adoption of 2017 share incentive plan, as detailed herein, we have ceased granting equity under the 2007 incentive plan.

2017 Share Incentive Plan - The maximum number of ordinary shares to be issued under the plan, which was adopted by our board of directors on August 1, 2017, is 2,500,000, subject to future increases or decreases by the Company. As of December 31, 2022, options to purchase 635,877 ordinary shares at an exercise prices which range from \$22.56 to \$102.35, the closing price of the Company's ordinary shares on Nasdaq on the day of grant, were granted under this plan of which, as of December 31, 2022, 196,473 options were exercised, 243,899 options were outstanding and exercisable, 195,505 options had been cancelled and 54,766 were outstanding and unvested. As of December 31, 2022, 1,078,671 RSU's had been granted, of which 502,011 RSU's had vested, 92,029 had been cancelled and 484,721 RSU's were outstanding. On June 23, 2022, our shareholders (following an approval by our compensation committee and board of directors), approved the Company's compensation policy, which includes, among others, provisions relating to equity-based compensation for Nova's executive officers.

The compensation policy provides, among others, that: (i) such equity based compensation is intended to be in a form of share options and/or other equity based awards, such as RSUs, in accordance with the Company's equity incentive plan in place as may be updated from time to time; (ii) all equity-based incentives granted to executive officers will be subject to vesting periods in order to promote long-term retention of the awarded executive officers. Unless determined otherwise in a specific award agreement approved by the compensation committee and the board of directors, grants to executive officers (other than directors) will vest gradually over a period of between three to five years; and (iii) all other terms of the equity awards will be in accordance with Nova's incentive plans and other related practices and policies. The board of directors may, following approval by the compensation committee, extend the period of time for which an award is to remain exercisable and make provisions with respect to the acceleration of the vesting period of any executive officer's awards, including, without limitation, in connection with a corporate transaction involving a change of control, subject to any additional approval as may be required by the Companies Law. The compensation policy also provides that the equity-based compensation will be granted from time to time and be individually determined and awarded according to the performance, educational background, prior business experience, qualifications, role and the personal responsibilities of the executive officer. The fair market value of the equity-based compensation for the executive officers will be determined according to acceptable valuation practices at the time of grant. Our compensation policy provides that equity-based compensation awarded to employees, executive officers or directors shall not be, in the aggregate, in excess of 10% of our share capital on a fully diluted basis at the date of the grant.

Our equity-based compensation policy, provides, among others, that the exercise price for each option will be equal to the closing sale price of the Company's ordinary shares on Nasdaq on the day of grant.

For additional information regarding our employees' incentive plans, see Note 10 of our consolidated financial statements, contained elsewhere in this Annual Report.

6.F Disclosure of Registrant's Action to Recover Erroneously Awarded Compensation.

Not applicable.

Item 7. Major Shareholder and Related Party Transactions

7.A Major Shareholders

The following table sets forth certain information regarding the beneficial ownership of our outstanding ordinary shares as of the dates indicated below for each shareholder who we know beneficially owns five percent or more of the outstanding ordinary shares.

Beneficial ownership of shares is determined under rules of the SEC and generally includes any shares over which a person exercises sole or shared voting or investment power. Applicable percentages are based on 28,680,998 ordinary shares outstanding as of February 13, 2023.

Name	Number of Ordinary Shares Beneficially Owned	Percentage of Ordinary Shares Beneficially Owned
Wasatch Advisors Inc. (1)	2,882,156	10.05%
Menora Mivtachim Holdings Ltd. (2)	2,299,934	8.02%
FMR LLC (3)	2,252,097	7.85%
Migdal Insurance & Financial Holdings Ltd. (4)	1,982,699	6.91%
Harel Insurance Investments & Financial Services Ltd. (5)	1,964,559	6.85%

(1) The information is based upon Amendment no. 3 Schedule 13G/A filed with the SEC by Wasatch Advisors Inc. on February 8, 2023 regarding holdings as of December 31, 2022.

(2) The information is based upon Amendment no. 5 to Schedule 13G/A filed with the SEC by Menora Mivtachim Holdings Ltd., Menora Mivtachim Pensions and Gemel Ltd., Menora Mivtahim Insurance Ltd., Menora Mivtachim Vehistadrut Hamehandesim Nihul Kupot Gemel Ltd. and Shomera Insurance Company Ltd. on February 14, 2023 regarding holdings as of December 31, 2022.

(3) The information is based upon Amendment no. 1 to Schedule 13G/A filed with the SEC by FMR LLC, its subsidiaries and Abigail P. Johnson on February 9, 2023 regarding holdings as of December 31, 2022.

(4) The information is based upon Schedule 13G filed with the SEC by Migdal Insurance & Financial Holdings Ltd. on January 26, 2023 regarding holdings as of December 31, 2022.

(5) The information is based upon Amendment no. 9 to Schedule 13G/A filed with the SEC by Harel Insurance Investments & Financial Services Ltd. on January 17, 2023 regarding holdings as of December 31, 2022.

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

To our knowledge, the significant changes in the percentage of ownership held by our major shareholders during the past three years have been: (i) the increase in the percentage of ownership of Migdal Insurance & Financial Holdings above 5% in 2020; (ii) the decrease in the percentage of ownership by The Phoenix Holdings Ltd., Itshak Sharon (Tshuva), and Delek Group Ltd below 5% in 2020; (iii) the decrease in the percentage of ownership by Adage Capital Partners LP, Adage Capital Partners GP, L.L.C and Adage Capital Advisors L.L.C below 5% in 2021; (iv) the increase in the percentage of ownership by Wasatch Advisors Inc. above 5% in 2020 and the additional increase to above 10% in 2022. (v) the increase in the percentage of ownership by FMR LLC above 5% in 2021.

As of February 13, 2023, our ordinary shares were held by 10 registered holders (not including CEDE & Co.). Based on the information provided to us by our transfer agent, as of February 13, 2023, 9 registered holders were U.S. domicile holders and held approximately 0.0002% of our 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 five 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.

7.B Related Party Transactions

In June 2022, we obtained directors' and officers' liability insurance for our officers and directors with coverage in an aggregate amount of \$40 million (including \$10 million Side A DIC). This directors' and officers' liability insurance was presented and approved by our compensation committee in accordance with the framework under our compensation policy.

Our compensation policy authorizes the Company, as long as the compensation policy is in effect, to extend and/or renew the directors' and officers' liability insurance or enter into a new insurance policy, provided however, that the insurance transaction complies with the following conditions: (i) the limit of liability of the insurer will not exceed the greater of \$50 million or 30% of our shareholders equity based on our most recent financial statements at the time of approval by the compensation committee; and (ii) the insurance policy, as well as the limit of liability and the premium for each extension or renewal will be approved by the compensation committee (and, if required by law, by the board of directors) which will determine that the sums are reasonable considering our exposures, the scope of coverage and the market conditions and that the insurance policy reflects the current market conditions, and it will not materially affect our profitability, assets or liabilities.

Further, upon circumstances to be approved by the compensation committee (and, if required by law, by the board of directors), we will be entitled to enter into a "run off" insurance policy of up to seven years, with the same insurer or any other insurance, as follows: (i) the limit of liability of the insurer will not exceed the greater of \$50 million or 30% of our shareholders equity based on our most recent financial statements at the time of approval by the compensation committee; and (ii) the insurance policy, as well as the limit of liability and the premium for each extension or renewal will be approved by the compensation committee (and, if required by law, by the board of directors) which shall determine that the sums are reasonable considering our exposures covered under such policy, the scope of cover and the market conditions, and that the insurance policy reflects the current market conditions and that it will not materially affect our profitability, assets or liabilities.

We may also extend the insurance policy in place to include cover for liability pursuant to a future public offering of securities. The insurance policy as well as the additional premium should be approved by the compensation committee (and if required by law, by the board of directors) which will determine that the sums are reasonable considering the exposures pursuant to such public offering of securities, the scope of cover and the market conditions and that the insurance policy reflects the current market conditions, and it does not materially affect our profitability, assets or liabilities.

In addition, following the approval by our shareholders at the annual general meeting held on June 24, 2021, we undertook to indemnify our officers and directors up to the greater of (a) twenty-five percent (25%) of the Company's total shareholders' equity according to the Company's most recent financial statements as of the time of the actual payment of indemnification; (b) US\$200 million; (c) ten percent (10%) of the Company "total market cap" (which shall mean the average closing price of the Company's ordinary shares over the 30 trading days prior to the actual payment of indemnification multiplied by the total number of issued and outstanding shares of the Company as of the date of actual payment); and (d) in connection with or arising out of a public offering of the Company's securities, the aggregate amount of proceeds from the sale by the Company and/or any shareholder of Company's securities in such offering.

Following the approval by our shareholders at the annual general meeting held on June 23, 2022, and as provided in our compensation policy, we have exempted our directors and officers in advance for all or any of their liability for damage in consequence of a breach of the duty of care vis-a-vis our company, to the extent permitted by applicable law.

Pursuant to our amended and restated compensation policy, we may indemnify our directors and officers to the fullest extent permitted by applicable law, for any liability and expense that may be imposed on the director or the officer, as provided in the indemnity agreement between us and such individuals, all subject to applicable law and our articles of association.

For information relating to options granted to officers and directors, see "Item 6E. Share Ownership" in this Annual Report. For information regarding our compensation policy and compensation arrangements with our directors and executive officers (including our chairman and chief executive officer), please refer to "Item 6B. Compensation" in this Annual Report.

7.C Interest of Experts and Counsel

Not applicable.

Item 8. Financial Information

8.A Consolidated Statements and Other Financial Information

See "Item 17. Financial Statements" in this Annual Report.

Legal Proceedings

From time to time, we or our subsidiaries may be a party to legal proceedings and claims in the ordinary course of business. While the outcome of these matters cannot be predicted with certainty, we do not believe they will have a material effect on our consolidated financial position, results of operations, or cash flows. We are currently not involved in any significant proceedings.

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.

The distribution of dividends may 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 Amended and Restated Articles of Association provide that dividends will be paid at the discretion of, and upon resolution by, our board of directors.

In addition, distribution of dividends may be subject to certain tax implication. For additional information regarding tax implication of dividends' distribution, see "Item 10E. Taxation – Israeli Taxation" in this Annual Report.

Export Sales

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

8.B Significant Changes

Not applicable.

Item 9. The Offer and Listing

9.A Offer and Listing Details

Our ordinary shares began trading on Nasdaq on April 11, 2000 under the symbol "NVMI". Our ordinary shares were registered for trading on the Tel Aviv Stock Exchange Ltd. in 2002 under the symbol "ניבמה".

9.B Plan of Distribution

Not applicable.

9.C Markets

Our ordinary shares are quoted on the Nasdaq Global Select Market under the symbol "NVMI" and on the Tel Aviv Stock Exchange Ltd.

9.D Selling Shareholders

Not applicable.

9.E Dilution

Not applicable.

9.F Expenses of the Issue

Not applicable.

Item 10. Additional Information

10.A Share Capital

Not applicable.

10.B Memorandum and Articles of Association

A copy of our amended and restated articles of association is attached as Exhibit 1.1 to this Annual Report. The information called for by this Item is set forth in Exhibit 2.1 to this Annual Report and is incorporated by reference into this Annual Report.

10.C Material Contracts

Acquisition of ancossys GmbH

In January 2022, we consummated from existing funds the acquisition of 100% of the equity of ancossys GmbH, a privately held company headquartered in Pliezhausen Germany, in an all-cash transaction valued at approximately \$92 million, including a performance based earn out of approximately \$10 million. The agreement dated November 16, 2021 by and among Nova Ltd., Nova Measuring Instruments GmbH, ancossys GmbH and the Representative (named therein) is filed as exhibit to this Annual Report. See Note 3 to our consolidated financial statements included within this Annual Report.

Israeli Lease Agreement

A summary of our Israeli Lease Agreement is attached as Exhibit 4.8 to this Annual Report. See Note 12 to our consolidated financial statements included within this Annual Report.

Convertible Senior notes

For a description of our issuance of convertible notes, see Note 11 to our consolidated financial statements included within this Annual Report.

10.D Exchange Controls

Israeli law and regulations do not impose any material foreign exchange restrictions on non-Israeli holders of our ordinary shares.

Dividends, if any, paid to holders of our ordinary shares, and any amounts payable upon our dissolution, liquidation or winding up, as well as the proceeds of any sale in Israel of our ordinary shares to an Israeli resident, may be paid in non-Israeli currency or, if paid in Israeli currency, may be converted into freely repatriable dollars at the rate of exchange prevailing at the time of conversion.

10.E Taxation

Israeli Taxation

The following is a summary of the material Israeli tax laws applicable to us, and some Israeli Government programs benefiting us. This section also contains a discussion of some Israeli tax consequences to persons owning our ordinary shares. This summary does not discuss all the aspects of Israeli tax law that may be relevant to a particular investor in light of his or her personal investment circumstances or to some types of investors subject to special treatment under Israeli law. Examples of this kind of investor include, not for profit organizations, pension funds and other exempt institutional investors, traders in securities, partnerships and other transparent entities, individuals under the tax regime for “new immigrants” or “returning residents” and other taxpayers who are subject to special tax regimes not covered in this discussion. Some parts of this discussion are based on a new tax legislation which has not been subject to judicial or administrative interpretation. The discussion should not be construed as legal or professional tax advice and does not cover all possible tax considerations.

SHAREHOLDERS ARE URGED TO CONSULT THEIR OWN TAX ADVISORS AS TO THE ISRAELI OR OTHER TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF OUR ORDINARY SHARES, INCLUDING, IN PARTICULAR, THE EFFECT OF ANY FOREIGN, STATE OR LOCAL TAXES.

General Corporate Tax Structure in Israel

Israeli companies are generally subject to corporate tax on their taxable income at the rate of 23% for the 2018 tax year and thereafter. However, the effective tax rate payable by a company that derives income from an Approved Enterprise, a Beneficiary Enterprise, a Preferred Enterprise, a Special Preferred Enterprise, a Preferred Technology Enterprise or Special Preferred Technology Enterprise (as discussed below) may be lower. Capital gains derived by an Israeli company are generally subject to the prevailing regular corporate tax rate.

Income Tax Regulations (Rules on Bookkeeping by Foreign Invested Companies and Certain Partnerships and Determination of their Taxable Income), 1986

As a “foreign invested company” (as defined in the Israeli Law for the Encouragement of Capital Investments-1959), the Company's management has elected to apply Income Tax Regulations (Rules for Maintaining Accounting Records of Foreign Invested Companies and Certain Partnerships and Determining Their Taxable Income) - 1986. Accordingly, its taxable income or loss is calculated in US Dollars.

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

Tax benefits prior to the 2005 Amendment

The Law for the Encouragement of Capital Investments, 1959, generally referred to as the “Investments Law”, provided (prior to the 2005 amendment) that a capital investment in eligible facilities may, upon application to the Israeli Authority for Investments and Development of the Industry and Economy (the “Investment Center”), be granted the status of an Approved Enterprise. Each certificate of approval for an Approved Enterprise relates to a specific investment program delineated both by its financial scope, including sources or funds, and by its physical characteristics or the facility or other assets, e.g., the equipment to be purchased and utilized pursuant to the program.

A company owning an Approved Enterprise is eligible for a combination of grants and tax benefits (the “Grant Track”). The tax benefits under the Grant Track include, among others, accelerated depreciation and amortization for tax purposes. The benefits period is ordinarily seven years commencing with the year in which the Approved Enterprise first generates taxable income. The benefits period is limited to 12 years from the earlier of the commencement of production by the Approved Enterprise or 14 years from the date of approval of the Approved Enterprise.

A company owning an Approved Enterprise may elect to forego its entitlements to grants and tax benefits under the Grant Track and apply for alternative package of tax benefits for a benefit period of between seven and ten years (the “Alternative Track”). Under the Alternative Track, a company's undistributed income derived from the Approved Enterprise will be exempt from corporate tax for a period of between two and ten years, starting from the first year the company derives taxable income under the Approved Enterprise program. The length of this exemption will depend on the geographic location of the Approved Enterprise within Israel. After the exemption period lapses, the company shall be subject to tax at a reduced corporate tax rate between of 10% to 25% depending on the level of foreign investment in the company in each year for the remainder of the benefits period.

In the past, we had elected to be taxed under the Alternative Track (and in subsequent years elected to forego this tax regime and elected to adopt the Preferred Technological Enterprise regime as mentioned below.

Dividends paid to Shareholders out of income attributed to an Approved Enterprise (or out of dividends received from a company whose income is attributed to an Approved Enterprise) are generally subject to withholding tax at the rate of 15% or at a lower rate provided under an applicable tax treaty (subject to the receipt in advance of a valid certificate from the ITA allowing for a reduced tax rate). The 15% tax rate is limited to dividends and distributions out of income derived during the benefits period and actually paid at any time up to 12 years thereafter. After this period, the withholding tax is applied at a rate of up to 30%, or at the lower rate under an applicable tax treaty (subject to the receipt in advance of a valid certificate from the Israel Tax Authority allowing for a reduced tax rate). In the case of a company which is considered a Foreign Investment Company as defined in the Investment Law, the 12-year limitation on reduced withholding tax on dividends does not apply.

A dividend distributed or deemed distributed out of income derived from the Approved Enterprise which was exempt from tax ("**Trapped Profits**") will be subject to corporate tax (on grossed up the amount reflecting such pre-tax income from which such dividend was distributed) at the rate which would have been applied had the income not been exempt, which is at ranged between 10%-25%, depending on the level of foreign investment in the company in each year.

On November 15, 2021 a new amendment of the Investment Law was enacted (i) providing a reduced corporate income tax on the Trapped Profits distributed within a year from such amendment. The reduced corporate income tax is based on a certain formula and subject to reinvestment of certain amounts in enumerated assets/activities; (ii) harshening the rules with respect to determining the profits from which a dividend was distributed and providing that part of any dividend distribution, will be deemed as distributed from the Trapped Profits, according to a certain formula.

In December 2021, we entered into an elective tax agreement with the Israeli Tax Authorities and opt-in with the new amendment. The reduced corporate income tax on the Trapped Profits was approximately \$5.8million, or 10%, and was provided for in the 2021 financial statements of operations, net of related provisions. We currently intend to reinvest any income derived from our Approved Enterprise program and not to distribute such income as a dividend. See also Note 11B to our consolidated financial statements contained elsewhere in this Annual Report.

Tax benefits under the 2005 Amendment

An amendment to the Investments Law, which was effective as of April 1, 2005, changed certain provisions of the Investments Law, or the 2005 Amendment. An eligible investment program under the 2005 Amendment qualified for benefits as a "Beneficiary Enterprise" (rather than as an Approved Enterprise, which status is still applicable for investment programs approved prior to April 1, 2005 and/or investment programs under the Grant Track). According to the 2005 Amendment, only Approved Enterprises receiving cash grants require the prior approval of the Investment Center. As a result, a company was no longer required to obtain the advance approval of the Investment Center in order to receive the tax benefits previously available under the alternative benefits program. Rather, a company may claim the tax benefits offered by the Investment Law directly in its tax returns, provided that its facilities meet the criteria for tax benefits set forth in the 2005 Amendment. A company that had a Beneficiary Enterprise may, at its discretion, approach the ITA for a pre-ruling confirming that it is in compliance with the provisions of the Investment Law.

The duration of the tax benefits described herein is limited to the earlier of seven (7) or ten (10) years (depending on the geographic location of the Beneficiary Enterprise within Israel) from the Commencement Year (as described below) or 12 or 14 years from the first day of the Year of Election (as described below), depending on the location of the company within Israel. Commencement Year is defined as the later of the first tax year in which a company had derived liable income for tax purposes from the Beneficiary Enterprise, or the Year of Election, which is defined as the year in which a company requested to have the tax benefits apply to the Beneficiary Enterprise. The tax benefits granted to a Beneficiary Enterprise are determined, depending on the geographic location of the Beneficiary Enterprise within Israel.

Similar to the previously available Alternative Track, exemption from corporate tax may be available on undistributed income for a period of two to ten years (“Trapped Profits”), depending on the geographic location of the Beneficiary Enterprise within Israel, and a reduced corporate tax rate of 10% to 25% for the remainder of the benefits period, depending on the level of foreign investment in each year. If the company pays a dividend out of income derived from the Beneficiary Enterprise during the benefits period and such dividend is actually paid at any time up to 12 years thereafter, except with respect to a foreign investment company (an “FIC”), in which case the 12-year limit does not apply, such income will be subject to withholding tax at the rate of 15% (in case of non-Israeli shareholders – subject to the receipt in advance of valid certificate from the ITA allowing the 15% tax rate, or a lower rate under a tax treaty, if applicable). A Company that pays dividend out of Trapped Profits will be subject to tax with respect to the amount distributed (grossed up to reflect such pre-tax income that it would have had to earn in order to distribute the dividend) at the corporate tax rate which would have otherwise been applicable.

The benefits available to a Beneficiary Enterprise are subject to the continued fulfillment of conditions stipulated in the Investment Law and its regulations. If a company does not meet these conditions, it would be required to refund the amount of tax benefits, as adjusted by the Israeli consumer price index and interest, or other monetary penalty.

As a result of the 2005 Amendment, tax-exempt income generated under the provisions of the Investments Law, as amended, will subject us to taxes upon distribution or liquidation and we may be required to record deferred tax liability with respect to such tax-exempt income. On November 15, 2021 a new amendment of the Investment Law was enacted (i) providing a reduced corporate income tax on the Trapped Profits distributed within a year from such amendment. The reduced corporate income tax is based on a certain formula and subject to reinvestment of certain amounts in enumerated assets/activities.; (ii) harshening the rules with respect to determining the profits from which a dividend was distributed and providing that part of any dividend distribution, will be deemed as distributed from the Trapped Profits, according to a certain formula.

In December 2021, we entered into an elective tax agreement with the Israeli Tax Authorities and opt-in with the new Amendment. The reduced corporate income tax on the Trapped Profits was approximately \$5.8million, or 10%, and was provided for in the 2021 financial statements of operations, net of related provisions. We had three Approved Enterprise plans under the Investments Law, which entitled us to certain tax benefits. In addition, in 2011, based on Company investments in property and equipment in the years 2008 and 2009, the Company submitted the applicable form as a Benefited Enterprise in accordance with the 2005 Amendment to the Investments Law. The year of election was 2010.

Tax benefits under the 2011 Amendment

On December 29, 2010, the Israeli Parliament approved the 2011 amendment to the Investments Law (the “2011 Amendment”). The 2011 Amendment significantly revised the tax incentive regime in Israel, commencing on January 1, 2011.

The 2011 Amendment introduced a new status of “Preferred Enterprise”, replacing the existed status of “Beneficiary Enterprise” and introduced new benefits for income generated by a “Preferred Company” through its Preferred Enterprise. A Preferred Company is an industrial company that meets certain conditions (including a minimum threshold of 25% export). However, under the 2011 Amendment the requirement for a minimum investment in productive assets in order to be eligible for the benefits granted under the Investments Law as with respect to “Beneficiary Enterprise” was cancelled.

A Preferred Company is entitled to a reduced flat tax rate with respect to its preferred income attributed to the Preferred Enterprise, at the following rates:

Tax Year	Development Region “A”	Other Areas within Israel
2011-2012	10%	15%
2013	7%	12.5%
2014-2016	9%	16%
2017 onwards	7.5%	16%

* In December 2016, the Israeli Parliament (the Knesset) approved an amendment to the Investments Law pursuant to which the tax rate applicable to Preferred Enterprises in Development Region "A" would be reduced to 7.5% as of January 1, 2017.

The classification of income generated from the provision of usage rights in know-how or software that were developed in the Preferred Enterprise, as well as royalty income received with respect to such usage, as preferred income is subject to the issuance of a pre-ruling from the ITA stipulates that such income is associated with the productive activity of the Preferred Enterprise in Israel.

In addition, the 2011 Amendment introduced a new status of “Special Preferred Company” which is an Industrial company meeting, in addition to the conditions prescribed for “Preferred Company” certain additional conditions (including that the total Preferred Enterprise income is at least NIS 1 billion and part of a group that generates income of at least NIS 10 billion). The tax rate applicable for a period of 10 years to income generated by such an enterprise will be reduced to 5%, if located in Development Region “A”, or to 8%, if located in other area within the State of Israel.

Dividends distributed from preferred income which is attributed to a “Preferred Enterprise” or a “Special Preferred Enterprise” will be subject to withholding tax at source at the following rates: (i) Israeli resident corporations – 0% (although, if such dividends are subsequently distributed to individuals or a non-Israeli company, withholding tax at a rate of 20% (with respect to non-Israeli shareholders – subject to the receipt in advance of a valid certificate from the ITA allowing the reduced 20%, or such lower rate as may be provided in an applicable tax treaty), (ii) Israeli resident individuals – 20% (iii) non-Israeli residents - 20% or a lower rate under a tax treaty, if applicable, subject to the receipt in advance of a valid certificate from the ITA allowing for a reduced tax rate.

The 2011 Amendment also revised the Grant Track to apply only to the approved programs located in Development Region “A” and shall provide not only cash grants (as prior to the 2011 Amendment) but also the granting of loans. The rates for grants and loans shall not be fixed but up to 20% of the amount of the approved investment. In addition, a company owning a Preferred Enterprise under the Grant Track may be entitled also to the tax benefits which are prescribed for a Preferred Enterprise.

The provisions of the 2011 Amendment do not apply to existing “Beneficiary Enterprises” or “Approved Enterprises”, which will continue to be entitled to the tax benefits under the Investments Law, as has been in effect prior to the 2011 Amendment, unless the company owning such enterprises had made an election to apply the provisions of the 2011 Amendment (such election cannot be later rescinded), which is to be filed with the ITA, not later than the date prescribed for the filing of the company’s annual tax return for the respective year. A company owning a Beneficiary Enterprise or Approved Enterprise which made such election by June 30, 2015, will be entitled to distribute income generated by the Approved/Beneficiary Enterprise (which is not related to Trapped Profits) to its Israeli corporate shareholders tax free.

Until the end of 2015, we did not utilize tax benefits related to Preferred Enterprises. In 2016, we started utilized such benefits, with a related tax rate of 16%.

The New Technological Enterprise Incentives Regime—the 2017 Amendment

The 2017 Amendment was enacted as part of the Economic Efficiency Law that was published on December 29, 2016, and became effective on January 1, 2017. The 2017 Amendment provides new tax benefits for two types of “Technology Enterprises”, as described below, and is in addition to the other existing tax beneficial programs under the Investment Law.

The new incentives regime will apply to “Preferred Technological Enterprises” that meet certain conditions, including: (1) the R&D expenses in the three years preceding the tax year were on average at least 7% out of the company's turnover or exceeded NIS 75 million (approximately \$21 million) for a year; and (2) one of the following: (a) at least 20% of the workforce (or at least 200 employees) are employees whose full salary has been paid and reported in the Company’s financial statements as R&D expenses; (b) a venture capital investment approximately equivalent to at least NIS 8 million (approximately \$2.2 million) was previously made in the company and the company did not change its line of business; (c) growth in sales by an average of 25% or more, over the three years preceding the tax year, provided that the turnover was at least NIS 10 million (approximately \$2.8 million), in the tax year and in each of the preceding three years; or (d) growth in workforce by an average of 25% or more, over the three years preceding the tax year, provided that the company employed at least 50 employees, in the tax year and in each of the preceding three years.

A “Special Preferred Technological Enterprise” is an enterprise that meets conditions 1 and 2 above, and in addition is part of a group that has total annual consolidated revenues at least NIS 10 billion (approximately \$2.73 billion).

Preferred Technological Enterprises will be subject to a reduced corporate tax rate of 12% on their income that qualifies as “Preferred Technology Income”, as defined in the Investment Law. The tax rate is further reduced to 7.5% for a Preferred Technology Enterprise located in Development Region "A". These corporate tax rates shall apply only with respect to the portion of intellectual property developed in Israel. In addition, a Preferred Technology Company will enjoy a reduced corporate tax rate of 12% on capital gain derived from the sale of certain “Benefited Intangible Assets” (as defined in the Investment Law) to a related foreign company if the Benefited Intangible Assets were acquired from a foreign company on or after January 1, 2017 for at least NIS 200 million (approximately \$56 million), and the sale receives prior approval from the IIA. Special Preferred Technological Enterprises will be subject to 6% on “Preferred Technology Income” regardless of the company’s geographic location within Israel.

In addition, a Special Preferred Technology Enterprise will enjoy a reduced corporate tax rate of 6% on capital gain derived from the sale of certain “Beneficiary Intangible Assets” to a related foreign company if the Beneficiary Intangible Assets were either developed by the Special Preferred Technology Enterprise or acquired from a foreign company on or after January 1, 2017, and the sale received prior approval from the IIA.

A Special Preferred Technology Enterprise that acquires Benefited Intangible Assets from a foreign company for more than NIS 500 million (approximately \$142 million), will be eligible for these benefits for at least ten years, subject to certain approvals as specified in the Investment Law.

Dividends distributed by a Preferred Technology Enterprise or a Special Preferred Technology Enterprise, paid out of Preferred Technology Income, are generally subject to withholding tax at source at the rate of 20% (in case of non-Israeli shareholders - subject to the receipt in advance of a valid certificate from the ITA allowing the 20% reduced tax rate or a reduced rate as may be provided in an applicable tax treaty). However, if such dividends are paid to an Israeli company, no tax is required to be withheld. If such dividends are, distributed to a foreign company that holds solely or together with other foreign companies at least 90% of the shares of the distributing company and other conditions are met, the withholding tax rate will be 4% (or a lower rate under a tax treaty, if applicable, and subject to the receipt in advance of a valid certificate from the ITA allowing for a reduced tax rate).

We reviewed the criteria for the tax rate of a “Preferred Technological Enterprise” and a “Special Preferred Technological Enterprise” and concluded that we are entitled to the reduced tax rate under the “Preferred Technological Enterprises” tax incentive regime starting 2017. We have notified the ITA that we elected applying this status starting 2017. As part of these tax incentives, the Company is required to allocate its taxable income between income from preferred technological enterprise and income related to preferred enterprise or regular corporate income.

Law for the Encouragement of Industry (Taxes), 5729-1969

The Law for the Encouragement of Industry (Taxes), 1969, or the Industry Encouragement Law defines “Industrial Company” as an Israeli resident company which was incorporated in Israel, which 90% or more of its income in any tax year (exclusive of income from certain government loans) is generated from an “Industrial Enterprise” that it owns and located in Israel or in the “Area”, in accordance with the definition under section 3A of the Israeli Income Tax Ordinance (New Version) 1961, or the Ordinance. An “Industrial Enterprise” is defined as an enterprise whose principal activity in a given tax year is industrial manufacturing.

An Industrial Company is entitled to certain tax benefits, including: (i) an amortization of the cost of purchased patent, the right to use patent or know-how that were purchased in good faith and are used for the development or promotion of the Industrial Enterprise, over an eight-year period, beginning from the year in which such rights were first used, (ii) the right to elect to file consolidated tax returns with additional Israeli Industrial Companies controlled by it, and (iii) the right to deduct expenses related to public offerings in equal amounts over a period of three years beginning from the year of the offering.

Eligibility for benefits under the Encouragement of Industry Law is not contingent upon the approval of any governmental authority.

We believe that we qualify as an “Industrial Company” within the meaning of the Industry Encouragement Law. There is no assurance that we qualify or will continue to qualify as an Industrial Company or that the benefits described above will be available to us in the future.

Taxation of the Company Shareholders

Capital Gains

Capital gain tax is imposed on the disposition of capital assets by an Israeli resident, and on the disposition of such assets by a non-Israeli resident if those assets are either (i) located in Israel; (ii) are shares or a right to a share in an Israeli resident corporation, or (iii) represent, directly or indirectly, rights to assets located in Israel, unless a tax treaty between Israel and the seller’s country of residence provides otherwise. The Ordinance distinguishes between “Real Gain” and the “Inflationary Surplus”. Real Gain is the excess of the total capital gain over Inflationary Surplus computed generally on the basis of the increase in the Israeli Consumer Price Index (CPI) or, in certain circumstances, according to the change in the foreign currency exchange rate, between the date of purchase and the date of disposition.

Generally, the capital gain accrued by individuals on the sale of our ordinary shares will be taxed at their marginal tax rates and capped at the rate of 25%. However, if the individual shareholder is a “Controlling Shareholder” (i.e., a person who holds, directly or indirectly, alone or together with such person’s relative or another person who collaborates with such person on a permanent basis based on a contract, 10% or more of one of the Israeli resident company’s “means of control”) at the time of sale or at any time during the preceding twelve (12) months period (or claims a deduction for interest and linkage differences expenses in connection with the purchase and holding of such shares), such gain will be capped at the rate of 30%.

The Real Gain derived by corporations will be generally subject to the ordinary corporate tax rate (23% in 2018 and thereafter).

Individual and corporate shareholder dealing in securities in Israel are taxed at the tax rates applicable to business income – 23% for corporations in 2018 and thereafter and a marginal tax rate of up to 47% in 2022 for individuals, unless the benefiting provisions of an applicable treaty applies.

Notwithstanding the foregoing, capital gain derived from the sale of our ordinary shares by a non-Israeli shareholder may be exempt under the Ordinance from Israeli taxation provided that the following cumulative conditions, among other things, are met: (i) the shares were purchased upon or after the registration of the securities on the stock exchange, (ii) the seller does not have a permanent establishment in Israel to which the derived capital gain is attributed; and (iii) with respect to our ordinary shares listed on a recognized stock exchange outside of Israel, so long as neither the shareholder nor the particular capital gain is otherwise subject to the Israeli Income Tax Law (Inflationary Adjustments) 5745-1985. Non-Israeli corporations will not be entitled to the foregoing exemptions if (i) an Israeli resident has a controlling interest, directly or indirectly, alone or together with another (i.e., together with a relative, or together with someone who is not a relative but with whom, according to an agreement, there is regular cooperation in material matters of the company, directly or indirectly), or together with another Israeli resident, exceed 25% in one or more of the “means of control” in such non-Israeli resident corporation or (ii) Israeli residents are the beneficiaries of, or are entitled to, 25% or more of the revenues or profits of such non-Israeli resident corporation, whether directly or indirectly.

In addition, the sale of shares may be exempt from Israeli capital gain tax under the provisions of an applicable tax treaty. For example, the U.S.-Israel Double Tax Treaty exempts U.S. resident from Israeli capital gain tax in connection with such sale, exchange or disposition provided, among others, that (i) the U.S. resident owned, directly or indirectly, less than 10% of an Israeli resident company's voting power at any time within the 12 month period preceding such sale; (ii) the seller, being an individual, is present in Israel for a period or periods of less than 183 days in the aggregate at the taxable year; (iii) the capital gain from the sale was not derived through a permanent establishment of the U.S. resident which is maintained in Israel; (iv) the capital gain arising from such sale, exchange or disposition is not attributed to real estate located in Israel; (v) the capital gains arising from such sale, exchange or disposition is not attributed to royalties; and (vi) the shareholder is a U.S. resident (for purposes of the U.S.-Israel Double Tax Treaty) and is holding the shares as a capital asset. Under the U.S.-Israel Double Tax Treaty, a U.S. resident would be permitted to claim a credit for the Israeli tax against the U.S. federal income tax imposed with respect to the sale, exchange or disposition, subject to the limitations in U.S. laws applicable to foreign tax credits. The U.S.-Israel Double Tax Treaty does not provide such credit against any U.S. state or local taxes.

Either the purchaser, the stockbrokers or financial institution, through which payment to the seller is made, are obliged, subject to the above-mentioned exemptions, to withhold Israeli tax at source from such payment. Shareholders may be required to demonstrate that they are exempt from tax on their capital gains in order to avoid withholding at source at the time of sale. Specifically, in transactions involving a sale of all of the shares of an Israeli resident company, in the form of a merger or otherwise, the ITA may require from shareholders who are not liable for Israeli tax to sign declarations in forms specified by this authority or obtain a specific exemption from the ITA to confirm their status as non-Israeli resident.

At the sale of securities traded on a stock exchange a detailed return, including a computation of the tax due, must be filed and an advanced payment must be paid on January 31 and July 31 of every tax year in respect of sales of securities made within the previous six months. However, if all tax due was withheld at source according to applicable provisions of the Ordinance and regulations promulgated thereunder the aforementioned return need not be filed and no advance payment must be paid. Capital gain is also reportable on the annual income tax return.

Dividends

A distribution of dividends from income, which is not attributed to an Approved Enterprise/Beneficiary Enterprise/Preferred Enterprise/Preferred Technological Enterprise to an Israeli resident individual, will generally be subject to income tax at a rate of 25%. However, a 30% tax rate will apply if the dividend recipient is a "Controlling Shareholder" (as defined above) at the time of distribution or at any time during the preceding 12 months period. If the recipient of the dividend is an Israeli resident corporation, such dividend will be exempt from income tax provided the income from which such dividend is distributed was derived or accrued within Israel.

Distribution of dividends from income attributed to a Preferred Enterprise or a Preferred Technological Enterprise is generally subject to a withholding tax at source at the rate of 20%. However, if such dividends are distributed to an Israeli company, no withholding tax is imposed, although, if such dividends are subsequently distributed to individuals or a non-Israeli company, withholding tax at a rate of 20% (in case of a non-Israeli shareholder – subject to the receipt in advance of a valid certificate from the ITA allowing the reduced 20% or such lower rate as may be provided in an applicable tax treaty may apply). Dividends distributed from income attributed to an Approved Enterprise and/or a Beneficiary Enterprise are generally subject to a withholding tax at source at the rate of 15% (in the case of non-Israeli shareholders – subject to the receipt in advance of valid certificate from the ITA allowing the reduced 15% tax rate or such a reduced tax rate as may be provided under an applicable tax treaty).

The Ordinance generally provides that a non-Israeli resident (either individual or corporation) is subject to an Israeli income tax on the receipt of dividends at the rate of 25% (30% if the dividends recipient is a “Controlling Shareholder” (as defined above), at the time of distribution or at any time during the preceding 12 months period); those rates are subject to a reduced tax rate under the provisions of an applicable double tax treaty (subject to the receipt in advance of a valid certificate from the ITA allowing for a reduced tax rate). For example, under the U.S.-Israel Double Tax Treaty the following rates will generally apply in respect of dividends distributed by an Israeli resident company to a U.S. resident: (i) if the U.S. resident is a corporation which holds during that portion of the taxable year which precedes the date of payment of the dividend and during the whole of its prior taxable year (if any), at least 10% of the outstanding shares of the voting stock of the Israeli resident paying corporation and not more than 25% of the gross income of the Israeli resident paying corporation for such prior taxable year (if any) consists of certain type of interest or dividends – the maximum tax rate is 12.5% on dividends, not generated by an Approved Enterprise, (ii) if both the conditions mentioned in section (i) above are met and the dividend is paid from an Israeli resident company’s income which was entitled to a reduced tax rate applicable to an Approved Enterprise– the tax rate is 15%, and (iii) in all other cases, the tax rate is 25%, or the domestic rate (if such is lower). The aforementioned rates under the U.S.-Israel Double Tax Treaty will not apply if the dividend income was derived through a permanent establishment of the U.S. resident maintained in Israel.

If the dividend is attributable partly to income derived from an Approved Enterprise, a Beneficiary Enterprise a Preferred Enterprise, or a Technological Preferred Enterprise, and partly to other sources of income, the withholding rate will be a blended rate reflecting the relative portions of the two types of income.

Payors of dividends on our shares, including the Israeli stockbroker effectuating the transaction, or the financial institution through which the securities are held, are generally required, subject to any of the foregoing exemption, reduced tax rates and the demonstration of a shareholder of his, her or its foreign residency, to withhold taxes upon the distribution of dividends at a rate of 25%, provided that the shares are registered with a Nominee Company (for corporations and individuals, whether the recipient is a Controlling Shareholder or not).

A non-Israeli resident who receives dividends from which tax was withheld is generally exempt from the obligation to file tax returns in Israel with respect to such income, provided that (i) such income was not generated from business conducted in Israel by the taxpayer, (ii) the taxpayer has no other taxable sources of income in Israel with respect to which a tax return is required to be filed, and (iii) the taxpayer is not obligated to pay excess tax (as further explained below).

Excess Tax

Individuals who are subject to tax in Israel are also subject to an additional tax at a rate of 3% on annual income exceeding NIS 663,240 for 2022 (NIS 698,280 for 2023), which amount is linked to the Israeli Consumer Price Index, (including, but not limited to income derived from dividends, interest and capital gains).

Estate and Gift Tax

Israeli law presently does not impose estate or gift taxes.

Foreign Exchange Regulations

Non-residents of Israel who hold our ordinary shares are able to receive any dividends, and any amounts payable upon the dissolution, liquidation and winding up of our affairs, repayable in non-Israeli currency at the rate of exchange prevailing at the time of conversion. However, Israeli income tax is generally required to have been paid or withheld on these amounts. In addition, the statutory framework for the potential imposition of currency exchange control has not been eliminated, and may be restored at any time by administrative action.

U.S. Taxation

The following discussion describes certain material United States (“U.S.”) federal income tax consequences generally applicable to U.S. holders (as defined below) of the purchase, ownership and disposition of our ordinary shares. This summary addresses only holders who acquire and hold ordinary shares as “capital assets” for U.S. federal income tax purposes (generally, assets held for investment purposes).

For purposes of this discussion, a “U.S. holder” is a beneficial owner of ordinary shares who is:

- An individual citizen or resident of the U.S. (as determined under U.S. federal income tax rules);
- a corporation (or another entity taxable as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the U.S., any state thereof, or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust, if (a) a U.S. court is able to exercise primary supervision over its administration and one or more U.S. persons have the authority to control all of its substantial decisions; or (b) the trust has in effect a valid election in effect under applicable Treasury Regulations (as defined below) to be treated as a United States person.

This summary is for general information purposes only and does not purport to be a comprehensive description of all of the U.S. federal income tax considerations that may be relevant to a decision to purchase, hold or dispose of the Company’s ordinary shares. In addition, the possible application of U.S. federal estate or gift taxes or any aspect of state, local or non-U.S. tax laws is not considered. This discussion is based on current provisions of the Internal Revenue Code of 1986, as amended (the “Code”), Treasury Regulations promulgated under the Code by the U.S. Treasury Department (including proposed and temporary regulations) (the “Treasury Regulations”), rulings, current administrative interpretations and official pronouncements by the Internal Revenue Service (the “IRS”), and judicial decisions, all as currently in effect and all of which are subject to differing interpretations or to change, with a retroactive effect. Such changes could materially and adversely affect the tax consequences described below. No assurance can be given that the IRS would not assert, or that a court would not sustain, a position contrary to any of the tax consequences described below.

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

- persons who own, directly, indirectly or constructively, 10% or more (by voting power or value) of our outstanding voting shares;
- persons who hold the ordinary shares as part of a hedging, straddle or conversion transaction;
- persons whose functional currency is not the U.S. dollar;
- persons who acquire their ordinary shares in a compensatory transaction;
- broker-dealers;
- insurance companies;
- regulated investment companies;
- real estate investment companies;
- qualified retirement plans, individual retirement accounts and other tax-deferred accounts;
- traders who elect to mark-to-market their securities;
- tax-exempt organizations;
- banks or other financial institutions;
- persons subject to special tax accounting rules as a result of any item of gross income with respect to ordinary shares being taken into account in an applicable financial statement;
- U.S. expatriates and certain former citizens and long-term residents of the United States; and
- persons subject to any alternative minimum tax.

The tax treatment of a partner in a partnership (or other entity or arrangement classified as a partnership for U.S. federal income tax purposes) may depend on both the partnership's and the partner's status and the activities of the partnership. Partnerships (or other entities or arrangements classified as a partnership for U.S. federal income tax purposes) that are beneficial owners of ordinary shares, and their partners and other owners, should consult their own tax advisers regarding the tax consequences of the acquisition, ownership and disposition of ordinary shares.

THIS SUMMARY OF MATERIAL UNITED STATES FEDERAL INCOME TAX CONSIDERATIONS IS FOR GENERAL INFORMATION ONLY AND IS NOT TAX ADVICE. EACH HOLDER SHOULD CONSULT ITS TAX ADVISOR WITH RESPECT TO THE PARTICULAR TAX CONSEQUENCES TO IT OF AN INVESTMENT IN THE ORDINARY SHARES, INCLUDING THE EFFECTS OF APPLICABLE UNITED STATES FEDERAL INCOME TAX LAWS AS WELL AS ANY TAX CONSEQUENCES ARISING UNDER THE UNITED STATES FEDERAL ESTATE OR GIFT TAX RULES OR UNDER THE LAWS OF ANY FOREIGN, STATE OR LOCAL JURISDICTION OR UNDER ANY APPLICABLE TAX TREATY.

Distributions on the Ordinary Shares

We currently do not intend to distribute dividends for at least the next several years. However, if we make any distributions of cash or other property to a U.S. holder of our ordinary shares, the amount of the distribution for U.S. federal income tax purposes will equal the amount of cash and the fair market value of any property distributed and will also include the amount of Israeli taxes withheld, if any, as described above under “[Israel Taxation] — Dividends” above. In general (and subject to the PFIC rules discussed below), any distribution paid by us on the ordinary shares to a U.S. holder will be treated as dividend income to the extent the distribution does not exceed our current and/or accumulated earnings and profits, as determined under U.S. federal income tax principles. The amount of any distribution which exceeds these earnings and profits will be treated first as a non-taxable return of capital, reducing the U.S. holder’s tax basis in its ordinary shares to the extent thereof, and then as capital gain income (long-term capital gain if the U.S. holder’s holding period exceeds one year), from the deemed disposition of the ordinary shares (subject to the PFIC rules discussed below). Corporate holders generally will not be allowed a deduction for dividends received on the ordinary shares.

The amount of any dividend paid in NIS (including amounts withheld to pay Israeli withholding taxes) will equal the U.S. dollar value of the NIS calculated by reference to the exchange rate in effect on the date the dividend is received by the U.S. holder, regardless of whether the NIS are converted into U.S. dollars. A U.S. holder will have a tax basis in the NIS equal to their U.S. dollar value on the date of receipt. If the NIS received are converted into U.S. dollars on the date of receipt, the U.S. holder should generally not be required to recognize foreign currency gain or loss in respect of the distribution. If the NIS received are not converted into U.S. dollars on the date of receipt, a U.S. holder may recognize foreign currency gain or loss on a subsequent conversion or other disposition of the NIS. Such gain or loss will be treated as U.S. source ordinary income or loss.

Dividends paid by us generally will be foreign source, “passive income” for U.S. foreign tax credit purposes. U.S. holders may elect to claim as a foreign tax credit against their U.S. federal income tax liability the Israeli income tax withheld from dividends received on the ordinary shares. The Code provides limitations on the amount of foreign tax credits that a U.S. holder may claim. U.S. holders that do not elect to claim a foreign tax credit may instead claim a deduction for Israeli income tax withheld, but only for a year in which these U.S. holders elect to do so for all foreign income taxes. Recently issued U.S. Treasury Regulations that apply to foreign income taxes paid or accrued in taxable years beginning on or after December 28, 2021 restrict the availability of any such credit based on the nature of any withholding tax imposed by the foreign jurisdiction. The rules relating to foreign tax credits are complex (and may also be impacted by the tax treaty between the United States and Israel), and you should consult your tax advisor to determine whether you would be entitled to this credit.

Under current law, certain distributions treated as dividends that are received by an individual U.S. holder from a “qualified foreign corporation” generally qualify for a 20% reduced maximum tax rate so long as certain holding period and other requirements are met. A non-U.S. corporation (other than a corporation that is treated as a PFIC with respect to the U.S. holder for the taxable year in which the dividend is paid or the preceding taxable year) generally will be considered to be a qualified foreign corporation (i) if it is eligible for the benefits of a comprehensive tax treaty with the United States which the Secretary of Treasury of the United States determines is satisfactory for purposes of this provision and which includes an exchange of information program, or (ii) with respect to any dividend it pays on stock which is readily tradable on an established securities market in the United States. Dividends paid by us in a taxable year in which we are not a PFIC and with respect to which we were not a PFIC in the preceding taxable year with respect to the U.S. holder are expected to be eligible for the 20% reduced maximum tax rate, although we can offer no assurances in this regard. However, any dividend paid by us in a taxable year in which we are a PFIC or were a PFIC in the preceding taxable year with respect to the U.S. holder will be subject to tax at regular ordinary income rates (along with any applicable additional PFIC tax liability, as discussed below).

The additional 3.8% tax on “net investment income” (described below) may apply to dividends received by certain U.S. holders who meet certain modified adjusted gross income thresholds.

Sale, Exchange or Other Taxable Disposition of the Ordinary Shares

Upon the sale, exchange or other taxable disposition of the ordinary shares (subject to the PFIC rules discussed below), a U.S. holder generally will recognize capital gain or loss in an amount equal to the difference between the amount realized and the U.S. holder’s tax basis in the ordinary shares. The gain or loss recognized on the sale or exchange of the ordinary shares generally will be long-term capital gain (currently taxable at a reduced rate for non-corporate U.S. holders) or loss if the U.S. holder’s holding period of the ordinary shares is more than one year at the time of the disposition. The deductibility of capital losses is subject to limitations.

Gain or loss recognized by a U.S. holder on a sale or exchange of ordinary shares generally will be treated as U.S. source income or loss for U.S. foreign tax credit purposes. Under the tax treaty between the United States and Israel, gain derived from the sale, exchange or other taxable disposition of ordinary shares by a holder who is a resident of the U.S. for purposes of the treaty and who sells the ordinary shares within Israel may be treated as foreign source income for U.S. foreign tax credit purposes. However, if a U.S. holder is eligible for the benefit of the income tax convention between the United States and the State of Israel and pays Israeli tax in excess of the amount applicable to such U.S. holder under such convention or if the Israeli tax paid is refundable, the U.S. holder will not be able to claim any foreign tax credit or deduction with respect to such excess portion of Israeli tax paid or the amount of Israeli tax refunded. In addition, pursuant to applicable United States Treasury regulations, if a U.S. holder is not eligible for the benefits of an applicable income tax treaty or does not elect to apply such treaty, then such holder may not be able to claim a foreign tax credit arising from any foreign tax imposed on the disposition of our ordinary shares, depending on the nature of such foreign tax. The rules governing the treatment of foreign taxes imposed on a U.S. holder and foreign tax credits are complex, and U.S. holders should consult their tax advisors as to whether the Israeli tax on gains may be creditable or deductible in light of their particular circumstances, including their eligibility for benefits under an applicable treaty and the potential impact of applicable United States Treasury regulations.

The additional 3.8% tax on “net investment income” (described below) may apply to certain U.S. holders who meet certain modified adjusted gross income thresholds, including capital gains.

Passive Foreign Investment Companies

In general, a foreign (i.e., non-U.S.) corporation will be a PFIC for any taxable year in which, after applying the relevant look-through rules with respect to the income and assets of its subsidiaries, either (1) 75% or more of its gross income in the taxable year is “passive income,” or (2) assets held for the production of, or that produce, passive income comprise 50% or more of the average of its total asset value in the taxable year. For purpose of the income test, passive income generally includes dividends, interest, royalties, rents, annuities and net gains from the disposition of assets, which produce passive income. For purposes of the asset test, assets held for the production of passive income includes assets held for the production of, or that produce dividends, interest, royalties, rents, annuities, and other income that are considered passive income for purposes of the income test. In determining whether we meet the asset test, cash is considered a passive asset and the total value of our assets generally will be treated as equal to the sum of the aggregate fair market value of our outstanding stock plus our liabilities. If we own at least 25% (by value) of the stock of another corporation, we will be treated, for purposes of the PFIC tests, as owning our proportionate share of the other corporation’s assets and receiving our proportionate share of the other corporation’s income. The income test is conducted at the taxable year-end. The asset test is conducted on a quarterly basis and the quarterly results are then averaged together.

If a corporation is treated as a PFIC for any year during a U.S. holder’s holding period and the U.S. holder does not timely elect to treat the corporation as a “qualified electing fund” under Section 1295 of the Code or elect to mark its ordinary shares to market (both elections described below), any gain on the disposition of the shares will be treated as ordinary income, rather than capital gain, and the holder will be required to compute its tax liability on that gain, as well as on dividends and other distributions, as if the income had been earned ratably over each day in the U.S. holder’s holding period for the shares. The portion of the gain and distributions allocated to prior taxable years in which a corporation was a PFIC will be ineligible for any preferential tax rate otherwise applicable to any “qualified dividend income” or capital gains, and will be taxed at the highest ordinary income tax rate in effect for each taxable year to which this portion is allocated. An interest charge will be imposed on the amount of the tax allocated to these taxable years. A U.S. holder may elect to treat a corporation as a qualified electing fund only if the corporation complies with requirements imposed by the IRS to enable the shareholder and the IRS to determine the corporation’s ordinary earnings and net capital gain. Additionally, if a corporation is a PFIC, a U.S. holder who acquires shares in the corporation from a decedent generally will be denied the normally available step-up in tax basis to fair market value for the shares at the date of death of the decedent and instead will have a tax basis equal to the decedent’s tax basis if lower than fair market value. These adverse tax consequences associated with PFIC status could result in a material increase in the amount of tax that a U.S. holder would owe and an imposition of tax earlier than would otherwise be imposed and additional tax form filing requirements. Unless otherwise provided by the IRS, if a corporation is classified as a PFIC, a U.S. person that is a direct or indirect holder generally will be required to file IRS Form 8621, Information Return by a Shareholder of a Passive Foreign Investment Company or Qualified Electing Fund, or any applicable successor form, to report its ownership interest in such entity.

If a corporation is treated as a PFIC with respect to a U.S. holder for any taxable year, the U.S. holder will be deemed to own shares in any of the foreign entities in which such corporation holds equity interests that are also PFICs (or “lower-tier PFICs”), and the U.S. holder may be subject to the tax consequences described above with respect to the shares of such lower-tier PFIC such U.S. holder would be deemed to own.

Status of Nova as a PFIC. Under the income test, less than 75% of our gross income was passive income in 2021. Under the asset test, while we continued to have substantial amounts of cash and short-term deposits and the market value of our ordinary shares continued to be volatile, a determination of the value of our assets by reference to the average market value of our ordinary shares and our liabilities results in a conclusion that the average value of our passive assets did not exceed 50% of the average value of our gross assets in 2022. Nonetheless, there is a risk that we were a PFIC in 2022 or we will be a PFIC in 2023 or subsequent years. Additionally, due to the complexity of the PFIC provisions and the limited authority available to interpret such provisions, there can be no assurance that our determination regarding our PFIC status could not be successfully challenged by the IRS.

Available Elections. If we become a PFIC for any taxable year, an election to treat us as a “qualified electing fund” or to “mark-to-market” our ordinary shares may mitigate the adverse tax consequences of PFIC status to a U.S. holder.

If a U.S. holder makes a qualified electing fund election (a “QEF election”) for its ordinary shares that is effective from the first taxable year that the U.S. holder holds our ordinary shares and during which we are a PFIC, the electing U.S. holder will avoid the adverse consequences of our being classified as a PFIC, but will instead be required to include in income a pro rata share of our net capital gain, if any, and other earnings and profits (“ordinary earnings”) as long-term capital gains and ordinary income, respectively, on a current basis, in each case whether or not distributed, in the taxable year of the U.S. holder in which or with which our taxable year ends. A subsequent distribution of amounts that were previously included in the gross income of U.S. holders should not be taxable as a dividend to those U.S. holders who made a QEF election. In the event we incur a net loss for a taxable year, such loss will not be available as a deduction to an electing U.S. holder, and may not be carried forward or back in computing our net capital gain or ordinary earnings in other taxable years. The tax basis of the shares of an electing U.S. holder generally will be increased by amounts that are included in income, and decreased by amounts distributed but not taxed as dividends, under the QEF rules described above. In order to make (or maintain) a QEF election, the U.S. holder must annually complete and file IRS Form 8621, Information Return by a Shareholder of a Passive Foreign Investment Company or Qualified Electing Fund, or any applicable successor form. However, we do not expect that we will prepare or provide to U.S. Holders a “PFIC annual information statement,” which would enable a U.S. Holder to make a QEF election.

Alternatively, if a U.S. holder elects to “mark-to-market” its ordinary shares, the U.S. holder generally will include in its income any excess of the fair market value of our ordinary shares at the close of each taxable year over the holder’s adjusted basis in such ordinary shares. A U.S. holder generally will be allowed an ordinary deduction for the excess, if any, of the adjusted tax basis of the ordinary shares over the fair market value of the ordinary shares as of the close of the taxable year, or the amount of any net mark-to-market gains recognized for prior taxable years, whichever is less. A U.S. holder’s adjusted tax basis in the ordinary shares generally will be adjusted to reflect the amounts included or deducted under the mark-to-market election. Additionally, any gain on the actual sale or other disposition of the ordinary shares generally will be treated as ordinary income. Ordinary loss treatment also will apply to any loss recognized on the actual sale or other disposition of ordinary shares to the extent that the amount of such loss does not exceed the net mark-to-market gains previously included with respect to such ordinary shares. If a U.S. holder makes a valid mark-to-market election with respect to our ordinary shares for the first taxable year of the U.S. holder in which the U.S. holder holds (or is deemed to hold) our ordinary shares and for which we are determined to be a PFIC, such holder generally will not be subject to the PFIC rules described above in respect of its ordinary shares. A mark-to-market election applies to the tax year for which the election is made and to each subsequent year, unless our ordinary shares cease to be marketable, as specifically defined, or the IRS consents to revocation of the election. No view is expressed regarding whether our ordinary shares are marketable for these purposes or whether the election will be available. However, because a mark-to-market election likely cannot be made for any lower-tier PFICs, if we are a PFIC, a U.S. holder will generally continue to be subject to the PFIC rules discussed above with respect to such holder’s indirect interest in any investments that we hold that are treated as an equity interest in a PFIC for U.S. federal income tax purposes. As a result, it is possible that any mark-to-market election will be of limited benefit.

If a U.S. holder makes either the QEF election or the mark-to-market election, distributions and gain will not be recognized ratably over the U.S. holder’s holding period or be subject to an interest charge as described above. Further, the denial of basis step-up at death described above will not apply. If a U.S. holder makes the QEF election, gain on the sale of the ordinary shares will be characterized as capital gain. However, U.S. holders making one of these two elections may experience current income recognition, even if we do not distribute any cash. The elections must be made with the U.S. holder’s federal income tax return for the year of election, filed by the due date of the return (as it may be extended) or, under certain circumstances provided in applicable Treasury Regulations, subsequent to that date.

The foregoing discussion relating to the QEF election and mark-to-market elections assumes that a U.S. holder makes the applicable election with respect to the first year in which Nova qualifies as a PFIC. If the election is not made for the first year in which Nova qualifies as a PFIC, the procedures for making the election and the consequences of election will be different.

SPECIFIC RULES AND REQUIREMENTS APPLY TO BOTH THE QEF ELECTION AND THE MARK-TO-MARKET ELECTION, AND YOU ARE URGED TO CONSULT YOUR TAX ADVISOR CONCERNING OUR PFIC STATUS AND THE VARIOUS ELECTIONS YOU CAN MAKE.

Medicare Tax on Net Investment Income

A U.S. holder that is an individual or estate, or a trust that does not fall into a special class of trusts that is exempt from such tax, will be subject to a 3.8% tax on the lesser of (1) the U.S. holder’s “net investment income” for the relevant taxable year and (2) the excess of the U.S. holder’s modified adjusted gross income for the taxable year over a certain threshold. A U.S. holder’s “net investment income” generally may include its dividend income and its net gains from the disposition of shares, unless such dividends or net gains are derived in the ordinary course of the conduct of a trade or business (other than a trade or business that consists of certain passive or trading activities). If you are a U.S. holder that is an individual, estate or trust, you are urged to consult your tax advisors regarding the applicability of the Medicare tax to your income and gains in respect of your investment in the shares and the interaction of these rules with the rules applicable to income included as a result of the QEF election.

United States Information Reporting and Backup Withholding

In general, U.S. holders may be subject to certain information reporting requirements under the Code relating to their purchase and/or ownership of stock of a foreign corporation such as the Company. Failure to comply with these information reporting requirements may result in substantial penalties.

Specifically, certain U.S. Holders holding specified foreign financial assets, including our ordinary shares, with an aggregate value in excess of the applicable U.S. dollar threshold, are subject to certain exceptions, required to report information relating to our Ordinary Shares by attaching a complete IRS Form 8938, Statement of Specified Foreign Financial Assets, to their tax returns, for each year in which they hold our ordinary shares. U.S. Holders are urged to consult their own tax advisors regarding information reporting requirements relating to the ownership of our Ordinary Shares.

In addition, and as discussed in the section of this Annual Report entitled “U.S. Taxation – Passive Foreign Investment Companies”, if a corporation is classified as a PFIC, a U.S. person that is a direct or indirect holder generally will be required to file an informational return annually on IRS Form 8621, Information Return by a Shareholder of a Passive Foreign Investment Company or Qualified Electing Fund, or any applicable successor form, to report its ownership interest in such entity, unless otherwise provided by the IRS.

Dividend payments and proceeds from the sale or disposal of ordinary shares may be subject to information reporting to the IRS and possible U.S. federal backup withholding. Certain holders (including, among others, corporations) generally are not subject to information reporting and backup withholding. A U.S. holder generally will be subject to backup withholding if such holder is not otherwise exempt and such holder:

- fails to furnish its taxpayer identification number, or TIN, which, for an individual, is ordinarily his or her social security number;
- furnishes an incorrect TIN;
- is notified by the IRS that it is subject to backup withholding because it has previously failed to properly report payments of interest or dividends;
or
- fails to certify, under penalties of perjury, that it has furnished a correct TIN and that the IRS has not notified the U.S. holder that it is subject to backup withholding.

Any U.S. holder who is required to establish exempt status generally must file IRS Form W-9 (“Request for Taxpayer Identification Number and Certification”).

Backup withholding is not an additional tax and may be claimed as a refund or a credit against the U.S. federal income tax liability of a U.S. Holder, provided that the required information is timely furnished to the IRS.

10.F Dividends and Paying Agents

Not applicable.

10.G Statements by Experts

Not applicable.

10.H Documents on Display

As a foreign private issuer, are exempt from the rules under the Exchange Act related to the furnishing and content of proxy statements, and our officers, directors and principal shareholders are exempt from the reporting and short-swing profit recovery provisions contained in Section 16 of the Exchange Act. Furthermore, as a foreign private issuer, we are also not subject to the requirements of Regulation FD (Fair Disclosure) promulgated under the Exchange Act. In addition, we are not be required under the Exchange Act to file annual or other reports and consolidated financial statements with the SEC as frequently or as promptly as U.S. companies whose securities are registered under the Exchange Act. Instead, we must file with the SEC, within 120 days after the end of each fiscal year, or such other applicable time as required by the SEC, an Annual Report containing consolidated financial statements audited by an independent registered public accounting firm. We also intend to furnish certain other material information to the SEC under cover of Form 6-K.

We maintain a corporate website at www.novami.com. Information contained on, or that can be accessed through, our website does not constitute a part of this Annual Report. We have included our website address in this Annual Report solely as an inactive textual reference.

10.I Subsidiary Information

Not applicable.

10.J Annual Report to Security Holders

Not applicable.

Item 11. Quantitative and Qualitative Disclosures About Market Risk

Market Risk

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

We do not utilize financial instruments for trading purposes and hold no derivative financial instruments that could expose it to significant market risk.

Impact of Currency Fluctuation

Because our results are reported in U.S. Dollars, changes in the rate of exchange between the Dollar and local currencies in those countries in which we operate (primarily NIS and Euro) will affect the results of our operations. The dollar cost of our operations in countries other than the U.S., is negatively influenced by revaluation of the U.S. dollar against other currencies. During 2022, the value of the U.S. dollar revaluated against the NIS by approximately 13.2%, and revaluated against the Euro by approximately 5.8%. As of December 31, 2022, the majority of our net monetary assets were denominated in dollars and the remainder was denominated mainly in NIS and Euro. Net monetary assets that are not denominated in dollars or dollar-linked NIS were affected by the currency fluctuations in 2022 and are expected to continue to be affected by such currency fluctuations in 2023. As of December 31, 2022 the Company recorded a NIS and Israel CPI linked lease liability, under the implementation of ASC 842 in the amount of \$30.7 million (including exchange rate differences of \$3.4 million).

In 2022, we entered into currency-forward transactions and currency-put options (NIS/dollar) of approximately \$216 million with settlement dates through 2022-2023, designed to reduce cash-flow exposure to the impact of exchange-rate fluctuations on firm commitments of approximately \$216 million. In accordance with ASC 815-10, we recorded in 2021 an increase of approximately \$1.8 million in fair market value in "Other Comprehensive Income". Short-term exposures to changing foreign exchange rates are primarily due to operating cash flows denominated in foreign currencies and transactions denominated in non-functional currencies. Our most significant foreign currency exposures are related to our operations in Israel. We have used foreign exchange forward contracts to partially cover known and anticipated exposures. We estimate that an instantaneous 10% depreciation in NIS from its level against the dollar as of December 31, 2022, with all other variables held constant, would decrease the fair value of our net liabilities denominated in NIS, held at December 31, 2022, by approximately \$3.1 million.

Item 12. Description of Securities Other than Equity Securities

Not applicable.

PART II

Item 13. Defaults, Dividend Arrearages and Delinquencies

None.

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

Not applicable.

Item 15. Controls and Procedures

a) Our management, including our chief executive officer and chief financial officer, has evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2022. The term “disclosure controls and procedures”, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures that are designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the rules and forms of the SEC. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is accumulated and communicated to the our management, including our chief executive officer and chief financial officer, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. Based on the foregoing, our chief executive officer and chief financial officer have concluded that, as of December 31, 2022, our disclosure controls and procedures were effective.

b) Our management, under the supervision of our chief executive officer and chief financial officer, is responsible for establishing and maintaining adequate internal control over our financial reporting. The Company’s internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act, means a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Internal control over financial reporting includes policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect our transactions and asset dispositions;
- provide reasonable assurance that transactions are recorded as necessary to permit the preparation of our financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and
- provide reasonable assurance regarding the prevention or timely detection of unauthorized acquisition, use or disposition of assets that could have a material effect on our financial statements.

Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. In addition, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In accordance with guidance issued by the Securities and Exchange Commission, companies are permitted to exclude acquisitions from their final assessment of internal control over financial reporting for the first fiscal year in which the acquisition occurred. Our management’s evaluation of internal control over financial reporting excluded the internal control activities of ancossys GmbH, which we acquired in January 2022. Total assets subject to ancossys’s internal control over financial reporting represented approximately 4% of our consolidated total assets for the fiscal year ended December 31, 2022. Total operating income subject to ancossys’s internal control over financial reporting represented approximately 4% of our consolidated total operating income for the fiscal year ended December 31, 2022.

Our management evaluated the effectiveness of our internal control over financial reporting as of December 31, 2022, based on the criteria established in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this evaluation, our management concluded that, as of December 31, 2022, the Company’s internal control over financial reporting was effective.

c) Kost Forer Gabbay & Kasierer, an independent registered accounting firm and a member firm of Ernst & Young, has issued an attestation report on the effectiveness of our internal control over financial reporting, as stated in their report included herein. See “Report of Independent Registered Public Accounting Firm” on page F-3.

d) There were no changes in our internal controls over financial reporting identified with the evaluation thereof that occurred during the period covered by this Annual Report that have materially affected, or are reasonable likely to materially affect our internal control over financial reporting.

Item 16 [Reserved]

Item 16A. Audit Committee Financial Expert

Our board of directors has determined that our audit committee includes two audit committee financial experts, as defined by Item 16A of Form 20-F. Our board of directors has determined that each of Ms. Dafna Gruber and Ms. Sarit Sagiv is an “audit committee financial expert” as defined by the SEC rules as well as an independent director as such term is defined by Rule 5605(a)(2) of the Nasdaq Stock Market and has the requisite financial experience as defined by the Nasdaq rules.

Item 16B. Code of Ethics

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

You may review our code of conduct on our website: <https://www.novami.com/>, under “Investors/Corporate Governance”.

Item 16C. Principal Accountant Fees and Services

Since 2015, Kost Forer Gabbay & Kasierer, an independent registered accounting firm and a member of Ernst & Young Global (“Kost Forer Gabbay & Kasierer”) has acted as our registered public accounting firm and independent auditors. The following table provides information regarding fees paid by us to Kost Forer Gabbay & Kasierer for all services, including audit services, for the years ended December 31, 2021 and 2022:

	<u>2021</u>	<u>2022</u>
Audit Fees	570,000	713,000
Tax Fees	64,000	50,000
Other Fees	314,000	61,000
Total	948,000	824,000

“Audit fees” are fees associated with the annual audit of the Company consolidated financial statements and services that generally the independent accountant provides, such as consents and assistance with and review of documents filed with the SEC as well as certain fees related to the audit in connection with our issuance of convertible senior notes in October 2020. The audit fee also includes consultations on various accounting issues, performance of local statutory audits, fees associated with the audit of management assessment of internal control over financial reporting, annual tax returns and audit of reports to IIA. “Tax Fees” are fees related to ad hoc tax consulting services and opinions.

“Other Fees” include services related to SEC regulation consulting, organizational consultation, and due diligence services.

Our audit committee has adopted a pre-approval policy for the engagement of our independent accountant to perform certain services. Pursuant to this policy, which is designed to assure that such engagements do not impair the independence of our auditors, all audit, audit related and tax services must be specifically approved by the audit committee and certain other non-audit, non-audit related and non-tax services may be approved without consideration of specific case-by-case provided certain terms and procedures are met. The Company’s audit committee approved all of the services provided by Kost Forer Gabbay & Kasierer in fiscal years 2022 and 2021.

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

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

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

In March 2022, we announced a \$100 million repurchase program of our ordinary shares. Through December 31, 2022, we spent an aggregate of \$21.4 million to repurchase 251,738 ordinary shares under our share repurchase program. The following table provides information regarding our repurchases of our ordinary shares for each month included in the period covered by this annual report on Form 20-F:

Period	(a) Total Number of Ordinary Shares Purchased	(b) Average Price Paid per Ordinary Share	(c) Total Number of Ordinary Shares Purchased as Part of Publicly Announced Plans or Programs	(d) Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (in millions)
May 2022	1,586	\$ 91.96	1,586	99.86
June 2022	45,471	\$ 90.73	69,765	93.58
November 2022	181,973	\$ 82.45	251,738	78.58

Item 16F. Change In Registrant's Certifying Accountant

None.

Item 16G. Corporate Governance

There are no significant ways in which the Company's corporate governance practices differ from those followed by domestic companies listed on the Nasdaq Global Select Market.

Item 16H. Mine Safety Disclosure

Not applicable.

Item 16I. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III

Item 17. Financial Statements

Not applicable.

Item 18. Financial Statements

See pages F-1 through F-39.

Item 19. Exhibits

See Exhibit Index.

NOVA LTD.

**CONSOLIDATED FINANCIAL STATEMENTS
AS OF DECEMBER 31, 2022**

NOVA LTD.
CONSOLIDATED FINANCIAL STATEMENTS
AS OF DECEMBER 31, 2022

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of

NOVA LTD.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Nova Ltd. (the Company) as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended December 31, 2022, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated February 28, 2023, expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing a separate opinion on the critical audit matters or on the accounts or disclosures to which they relate.

Valuation of excess and obsolete inventory reserve

Description of the Matter

The Company's inventories totaled \$116.6 million as of December 31, 2022. As described in Note 2i to the consolidated financial statements, the Company assesses the value of inventories, including raw materials, service inventory, work-in-process and finished goods, in each reporting period, and values its inventories at the lower of cost or net realizable value. Reserves for potential excess and obsolete inventory are made based on management's analysis of inventory levels, future sales forecasts, the expected consumption of service spare parts, and market conditions.

Auditing management's estimates for valuation of inventories involved subjective auditor judgment due to the significant assumptions made by management about the future salability of the inventories. These assumptions include the assessment, by inventory category (finished goods, work-in-process, service inventory and raw materials), of future usage and market demand for the Company's products.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design, and tested the operating effectiveness of internal controls over the Company's excess and obsolete inventory reserve process, including management's assessment of the underlying assumptions and data.

Our substantive audit procedures included, among others, evaluating the significant assumptions stated above and the accuracy and completeness of the underlying data management used to value excess and obsolete inventory. We compared the cost of on-hand inventories to historical sales and evaluated adjustments to sales forecasts for specific product considerations, such as technological changes or alternative uses. We also assessed the historical accuracy of management's estimates and performed sensitivity analyses over the significant assumptions to evaluate the changes in the obsolete and excess inventory estimates that would result from changes in the underlying assumptions.

Valuation of Acquired Intangible Asset as a result of business combination (Developed Technology)

Description of the Matter

As described in Note 3 to the consolidated financial statements, on January 25, 2022, the Company acquired all of the outstanding shares of ancossys GmbH for a total consideration of \$86.9M, net of cash assumed (the "Acquisition"). The Acquisition was accounted for as a business combination in accordance with ASC 805 "Business Combination". The Company's accounting for the Acquisition included determining the fair value of the identifiable assets acquired and liabilities assumed, which included primarily technology intangible asset (\$45.3M).

Auditing the Company's determination of the technology intangible asset for the Acquisition was complex due to the significant estimations required by management. The complexity was primarily due to the sensitivity of the fair value to certain significant underlying assumptions. The Company primarily used a Multiperiod Excess Earnings Method (MEEM) to measure the technology intangible asset. The significant assumptions used to estimate the value of the technology intangible asset included the discount rate, technology migration curves and certain assumptions that form the basis of the projected financial information (e.g., revenue and operating profit margin). These significant assumptions are forward looking and could be affected by future economic and market conditions.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's process for determining the fair value of the technology intangible asset.

For example, we tested controls over management's estimation process supporting the recognition and measurement of the technology intangible asset, including the review of the valuation model and significant assumptions used in the valuation model.

To test the estimated fair value of the technology intangible asset, we performed audit procedures that included, among others, evaluating the Company's selection of the appropriate valuation methodology, evaluating the significant assumptions used by management and testing the completeness and accuracy of the underlying data. For example, we compared the significant assumptions to current industry, market and economic trends, historical results of the acquired business and to other relevant third-party industry outlooks. We also performed a sensitivity analysis of the significant assumptions to evaluate the effects on the estimated fair value. We also involved our valuation specialists to assist with our evaluation of the methodology used by the Company and significant assumptions included in the fair value estimates, such as the discount rate utilized in the valuation of the technology intangible asset.

In addition, we evaluated the appropriateness of the related disclosures in relation to the Acquisition.

/s/ KOST FORER GABBAY & KASIERER
KOST FORER GABBAY & KASIERER
A Member of Ernst & Young Global

We have served as the Company's auditor since 2015.

Tel-Aviv, Israel
February 28, 2023



REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

**To the Shareholders and the Board of Directors of
NOVA LTD.**

Opinion on Internal Control Over Financial Reporting

We have audited Nova Ltd.'s internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Nova Ltd. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on the COSO criteria.

As indicated in the accompanying assessment of Internal Controls, management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of ancosys GmbH ("ancosys"), which is included in the 2022 consolidated financial statements of the Company and constituted 4% of total assets as of December 31, 2022 and 4% of operating income for the year then ended. Our audit of internal control over financial reporting of the Company also did not include an evaluation of the internal control over financial reporting of ancosys.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2022, and 2021, the related consolidated statements of operations, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended December 31, 2022, and the related notes, and our report dated February 28, 2023, expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ **KOST FORER GABBAY & KASIERER**
KOST FORER GABBAY & KASIERER
A Member of Ernst & Young Global

Tel-Aviv, Israel
February 28, 2023

NOVA LTD.
CONSOLIDATED BALANCE SHEETS
(U.S. dollars in thousands, except share data)

	As of December 31,	
	2022	2021
ASSETS		
Current assets		
Cash and cash equivalents	111,121	126,698
Short-term interest-bearing bank deposits	95,305	221,897
Marketable securities (Note 4)	167,073	61,568
Trade accounts receivable, net of allowance of \$215 and \$37 at December 31, 2022 and 2021, respectively	109,320	68,446
Inventories (Note 5)	116,600	78,665
Other current assets (Note 6)	13,527	9,242
Total current assets	612,946	566,516
Non-current assets		
Marketable securities (Note 4)	153,462	137,415
Interest-bearing bank deposits	483	3,672
Restricted interest-bearing bank deposits and restricted cash	1,600	1,600
Deferred tax assets (Note 15)	20,097	6,161
Severance pay funds (Note 10)	1,194	1,327
Operating lease right-of-use assets (Note 12)	44,885	30,627
Property, plant and equipment, net (Note 7)	55,886	34,460
Intangible assets, net (Note 8)	43,586	2,601
Goodwill	49,009	20,114
Other long-term assets	957	661
Total non-current assets	371,159	238,638
TOTAL ASSETS	984,105	805,154
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities		
Convertible senior notes, net (Note 11)	-	183,037
Trade accounts payable	42,732	36,218
Deferred revenues	30,543	15,338
Operating lease current liabilities (Note 12)	5,968	4,452
Other current liabilities (Note 9)	54,825	48,885
Total current liabilities	134,068	287,930
Non-Current liabilities		
Convertible senior notes, net (Note 11)	196,394	-
Accrued severance pay (Note 10)	3,599	3,686
Operating lease long-term liabilities (Note 12)	43,697	33,450
Deferred tax liability (Note 15)	12,190	-
Other long-term liabilities	7,194	6,334
Total non-current liabilities	263,074	43,470
Commitments and contingencies (Note 13)		
TOTAL LIABILITIES	397,142	331,400
SHAREHOLDERS' EQUITY (Note 14)		
Ordinary shares, no par value - Authorized 60,000,000 shares at December 31, 2022 and 2021; Issued and Outstanding 28,678,476 and 28,579,044 at December 31, 2022 and 2021, respectively.		
Additional paid-in capital	121,398	139,847
Accumulated other comprehensive loss	(12,508)	(814)
Retained earnings	478,073	334,721
Total shareholders' equity	586,963	473,754
Total liabilities and shareholders' equity	984,105	805,154

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

NOVA LTD.
CONSOLIDATED STATEMENTS OF OPERATIONS
(U.S. dollars in thousands, except share and per share data)

	Year ended December 31,		
	2022	2021	2020
Revenues:			
Products	464,152	337,026	209,320
Services	106,577	79,087	60,076
Total revenues	570,729	416,113	269,396
Cost of revenues:			
Products	191,402	131,453	80,313
Services	62,357	49,217	37,918
Total cost of revenues	253,759	180,670	118,231
Gross profit	316,970	235,443	151,165
Operating expenses:			
Research and development, net (Note 2R)	90,458	65,857	53,015
Sales and marketing	52,729	39,876	30,066
General and administrative	23,852	17,324	12,514
Total operating expenses	167,039	123,057	95,595
Operating income	149,931	112,386	55,570
Financial income (expense), net (Note 18)	8,478	(3,133)	926
Income before taxes on income	158,409	109,253	56,496
Income tax expenses (Note 15)	18,196	16,152	8,589
Net income	140,213	93,101	47,907
Earnings per share:			
Basic	4.89	3.28	1.71
Diluted	4.40	3.12	1.65
Shares used in calculation of earnings per share:			
Basic	28,697,365	28,371,610	28,096,814
Diluted	31,869,788	29,816,066	28,949,739

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

NOVA LTD.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(U.S. dollars in thousands)

	Year ended December 31,		
	2 0 2 2	2 0 2 1	2 0 2 0
Net income	140,213	93,101	47,907
Other comprehensive income (loss), net of tax:			
Cumulative Translation Adjustment	(5,039)	-	-
<u>Available-for-sale investments (Note 4):</u>			
Unrealized gain (loss) on available-for-sale marketable securities, net	(6,047)	(1,016)	-
<u>Cash flow hedges (Note 17):</u>			
Unrealized gain (loss) from cash flow hedges	(2,421)	74	1,351
Less: reclassification adjustment for net gain (loss) included in net income	1,813	(442)	(796)
Other comprehensive income (loss)	<u>(11,694)</u>	<u>(1,384)</u>	<u>555</u>
Total comprehensive income	<u>128,519</u>	<u>91,717</u>	<u>48,462</u>

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

NOVA LTD.
CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
(U.S. dollars in thousands, except share amounts)

	Ordinary Shares		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earning	Total Shareholders' Equity
	Number	Amount				
Balance as of January 1, 2020	28,005,617	74	120,737	15	193,713	314,539
Issuance of shares upon exercise of options	302,730	(*)	367	-	-	367
Issuance of shares upon vesting of RSU	119,281	(*)	(*)	-	-	-
Share based compensation	-	-	6,949	-	-	6,949
Equity component of convertible senior notes, net of issuance costs and tax	-	-	13,770	-	-	13,770
Share repurchase at cost	(250,766)	(*)	(12,549)	-	-	(12,549)
Other comprehensive income	-	-	-	555	-	555
Net income	-	-	-	-	47,907	47,907
Balance as of December 31, 2020	<u>28,176,862</u>	<u>74</u>	<u>129,274</u>	<u>570</u>	<u>241,620</u>	<u>371,538</u>
Issuance of shares upon exercise of options	236,652	(*)	11	-	-	11
Issuance of shares upon vesting of RSU	165,530	(*)	(*)	-	-	-
Share based compensation	-	-	10,488	-	-	10,488
Elimination of the par value of the Ordinary shares (Note 1)	-	(74)	74	-	-	-
Other comprehensive loss	-	-	-	(1,384)	-	(1,384)
Net income	-	-	-	-	93,101	93,101
Balance as of December 31, 2021	<u>28,579,044</u>	<u>-</u>	<u>139,847</u>	<u>(814)</u>	<u>334,721</u>	<u>473,754</u>
ASU 2020-06 adoption (Note 11)	-	-	(13,770)	-	3,139	(10,631)
Issuance of shares upon exercise of options	161,416	-	90	-	-	90
Issuance of shares upon vesting of RSU	191,494	-	-	-	-	-
Share based compensation	-	-	16,647	-	-	16,647
Share repurchase at cost	(253,478)	-	(21,416)	-	-	(21,416)
Other comprehensive loss	-	-	-	(11,694)	-	(11,694)
Net income	-	-	-	-	140,213	140,213
Balance as of December 31, 2022	<u>28,678,476</u>	<u>-</u>	<u>121,398</u>	<u>(12,508)</u>	<u>478,073</u>	<u>586,963</u>

(*) Less than \$1

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

NOVA LTD.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(U.S. dollars in thousands)

	Year ended December 31,		
	2022	2021	2020
Cash flows from operating activities:			
Net income	140,213	93,101	47,907
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation of property, plant and equipment	8,621	6,475	5,875
Amortization of intangible assets	6,033	2,458	2,503
Amortization of premium and accretion of discount on marketable securities, net	1,666	1,708	-
Amortization of debt discount and issuance costs	1,282	4,229	868
Share-based compensation	16,647	10,488	6,949
Net effect of exchange rate fluctuation	4,523	(745)	(1,584)
Changes in assets and liabilities:			
Trade accounts receivables, net	(31,634)	(5,132)	(11,711)
Inventories	(29,311)	(18,457)	(16,271)
Other current and long-term assets	(4,223)	192	6,878
Deferred tax assets, net	(13,740)	(2,989)	(193)
Operating lease right-of-use assets	3,873	1,680	1,351
Trade accounts payables	5,142	11,697	3,255
Deferred revenues	15,243	10,621	2,461
Operating lease liabilities	(6,351)	(904)	91
Other current and long-term liabilities	1,509	17,919	11,520
Accrued severance pay, net	46	(79)	354
Net cash provided by operating activities	<u>119,539</u>	<u>132,262</u>	<u>60,253</u>
Cash flows from investment activities:			
Acquisition of subsidiary, net of acquired cash	(78,469)	-	-
Change in short-term and long-term interest-bearing bank deposits	129,944	(31,456)	(36,016)
Investment in marketable securities	(211,742)	(215,091)	-
Proceed from sales and maturities of marketable securities	81,325	12,862	-
Purchase of property, plant and equipment	(21,314)	(4,816)	(6,443)
Net cash used in investing activities	<u>(100,256)</u>	<u>(238,501)</u>	<u>(42,459)</u>
Cash flows from financing activities:			
Proceeds from the issuance of convertible senior notes, net of issuance costs	-	-	193,588
Settlement of a contingent consideration liability	(8,480)	-	-
Purchases of treasury shares	(21,416)	-	(12,549)
Proceeds from exercise of options	90	11	367
Net cash provided by (used in) financing activities	<u>(29,806)</u>	<u>11</u>	<u>181,406</u>
Effect of exchange rate fluctuations on cash, cash equivalents and restricted cash	(4,454)	622	1,356
Increase (decrease) in cash, cash equivalents and restricted cash	<u>(14,977)</u>	<u>(105,606)</u>	<u>200,556</u>
Cash and cash equivalents - beginning of year	<u>126,698</u>	<u>232,304</u>	<u>31,748</u>
Cash, cash equivalents and restricted cash - end of year	<u>111,721</u>	<u>126,698</u>	<u>232,304</u>
Supplemental disclosure of non-cash activities:			
Operating right-of-use assets recognized with corresponding operating lease liabilities	17,398	3,198	2,367
Supplemental disclosure of cash flow information:			
Cash paid during the year for income taxes	23,014	13,275	3,981

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

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 1 - GENERAL

Business Description:

Nova Ltd. ("Nova" or the "Parent Company") was incorporated and commenced operations in 1993 in the design, development and production of process control systems, used in the manufacturing of semiconductors. Nova has wholly owned subsidiaries in the United States of America (the "U.S."), Japan, Taiwan, Korea, China and Germany (together defined as the "Company").

The Company's Chief Operating Decision Maker (CODM) is the Company's president and CEO. The Company operates in one operating segment.

On April 2, 2015, the Company completed the acquisition of 100% shares of ReVera Inc. (hereinafter – ReVera) a privately-held U.S. company. On December 31, 2017, ReVera, merged into Nova Measuring Instruments, Inc.

On January 25, 2022, the Company completed the acquisition of 100% shares of ancosys GmbH (hereinafter – ancosys) a privately-held German company.

The ordinary shares of the Company are traded on the NASDAQ Global Market since April 2000 and on the Tel-Aviv Stock Exchange since June 2002.

On June 24, 2021, the Company increased its authorized share capital to 60,000,000 Ordinary Shares and eliminated the par value of the Ordinary shares.

NOTE 2 - SIGNIFICANT ACCOUNTING POLICIES

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

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

A. Principles of Consolidation and Basis of Presentation

The Company's consolidated financial statements include the financial statements of Nova Ltd. and its wholly owned subsidiaries. All intercompany balances and transactions have been eliminated.

B. Use of Estimates in the Preparation of Financial Statements

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements, and the reported amounts of revenues and expenses during the reporting periods. The Company's management evaluates its estimates on an ongoing basis, including those related to, but not limited to income taxes and tax uncertainties, collectability of trade accounts receivable, inventory accruals, fair value and useful lives of intangible assets, lease discount rate, lease period, and revenue recognition. These estimates are based on management's knowledge about current events and expectations about actions the Company may undertake in the future. Actual results could differ from those estimates.

The Company considered the impact of COVID-19 on the estimates and assumptions and determined that there were no material adverse impacts on the consolidated financial statements for the period ended December 31, 2022.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 2 - SIGNIFICANT ACCOUNTING POLICIES (Cont.)

C. Financial Statements in U.S. Dollars

The currency of the primary economic environment in which the operations of the Company is conducted is the U.S. dollar (“dollar” or “USD”). Accordingly, the Company uses the dollar as its functional and reporting currency. Certain dollar amounts in the financial statements may represent the dollar equivalent of other currencies, including the New Israeli Shekel (“NIS”) and the Euro. Transactions and balances denominated in dollars are presented at their dollar amounts. Non-dollar transactions and balances are re-measured into dollars in accordance with the principles set forth in ASC 830, “Foreign Currency Translation”.

All transaction gains and losses of the re-measured monetary balance sheet items are reflected in the statements of operations as financial income or expenses, as appropriate.

On consolidation, the assets and liabilities of foreign operations with functional currency other than dollar are translated into dollars at the rate of exchange prevailing at the reporting date and their statements of profit or loss are translated at exchange rates prevailing at the dates of the transactions. The exchange differences arising on translation for consolidation are recognized in other comprehensive income (“OCI”).

Any goodwill arising on the acquisition of a foreign operation and any fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition are treated as assets and liabilities of the foreign operation and translated at the spot rate of exchange at the reporting date.

D. Cash, Cash Equivalents and Restricted Cash

Cash and cash equivalents represent short-term highly liquid investments (mainly interest-bearing deposits) with maturity dates not exceeding three months from the date of deposit. Restricted Cash consist primarily of cash used as collateral for the Company's office leases. Any cash that is legally restricted from use is classified as restricted cash.

The following table provides a summary of cash, cash equivalents and restricted cash that constitute the total amounts shown in the consolidated statements of cash flows:

	As of December 31,		
	2022	2021	2020
Cash and cash equivalents	111,121	126,698	232,304
Long term restricted cash	600	-	-
Cash, cash equivalents and restricted cash	111,721	126,698	232,304

E. Short Term Bank Deposit

Short-term bank deposits consist of bank deposits with original maturities of more than three months and up to twelve months.

F. Marketable Securities

The Company accounts for marketable securities in accordance with ASC Topic 320, “Investments – Debt Securities”. The Company’s investments in marketable securities consist of high-grade treasury, corporate and municipal bonds.

Investments in marketable securities are classified as available for sale at the time of purchase. Available for sale securities are carried at fair value based on quoted market prices, with unrealized gains and losses, reported in accumulated other comprehensive income (loss) in shareholders’ equity. Realized gains and losses on sales of marketable securities, are included in financial income (expenses), net. The amortized cost of marketable securities is adjusted for amortization of premium and accretion of discount to maturity, both of which, together with interest, are included in financial income (expenses), net.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 2 - SIGNIFICANT ACCOUNTING POLICIES (Cont.)

The Company classifies its marketable securities as either short term or long term based on each instrument's underlying contractual maturity date. Marketable securities with maturities of 12 months or less are classified as short-term and marketable securities with maturities greater than 12 months are classified as long-term.

The Company accounts for Credit losses in accordance with ASU 2016-13, Topic 326 "Financial Instruments – Credit Losses: Measurement of Credit Losses on Financial Instruments" which modified the other than temporary impairment model for available for sale debt securities. The guidance requires the Company to determine whether a decline in fair value below the amortized cost basis of an available for sale debt security is due to credit related factors or noncredit related factors. A credit related impairment should be recognized as an allowance on the balance sheet with a corresponding adjustment to earnings, however, if the Company intends to sell an impaired available for sale debt security or more likely than not would be required to sell such a security before recovering its amortized cost basis, the entire impairment amount would be recognized in earnings with a corresponding adjustment to the security's amortized cost basis.

The Company did not recognize an allowance for credit losses on marketable securities as there were no expected credit losses for the years ended December 31, 2022 and 2021.

G. Trade Accounts Receivables

Trade accounts receivables are recorded and carried at the original invoiced amount less an allowance for any potential uncollectible amounts, in accordance with ASC 326. The Company makes estimates of expected credit losses for based upon its assessment of various factors, including historical experience, the age of the trade receivable balances, credit quality of its customers, current economic conditions, reasonable and supportable forecasts of future economic conditions, and other factors that may affect its ability to collect from customers.

H. Business Combination

The results of an acquired business in a business combination are included in the Company's consolidated financial statements from the date of acquisition according to the guidance of ASC Topic 805, "Business Combinations." The Company allocates the purchase price, which is the sum of the consideration provided and may consist of cash, equity or a combination of the two, to the identifiable assets and liabilities of the acquired business at their fair values as of the acquisition date. The excess of the purchase price over the amount allocated to the identifiable assets and liabilities, if any, is recorded as goodwill.

Following the adoption of ASU 2021-08, "Accounting for Contract Assets and Contract Liabilities from Contracts with Customers" for all business combinations with acquisition date from January 1, 2022, the Company applies ASC 606 "Revenue from Contracts with Customer", to recognize and measure contract assets and contract liabilities on the acquisition date.

Contingent consideration incurred in a business combination is included as part of the purchase price and recorded at a probability weighted assessment of the fair value as of the acquisition date. The fair value of the contingent consideration is re-measured at each reporting period, with any adjustments in fair value recognized in earnings under general and administrative expenses.

Acquisition related costs incurred by the Company are not included as a component of consideration transferred but are accounted for as an expense in the period in which the costs are incurred.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 2 - SIGNIFICANT ACCOUNTING POLICIES (Cont.)

I. Inventories

Inventories are stated at the lower of cost or net realizable value. Inventory write-downs are provided to cover risks arising from slow-moving items, technological obsolescence, excess inventories, discontinued products, and for market prices lower than cost, if any. The Company periodically evaluates the quantities on hand relative to historical and projected sales volume (which is determined based on an assumption of future demand and market conditions), the age of the inventory and the expected consumption of service spare parts. At the point of the loss recognition, a new lower cost basis for that inventory is established. Any adjustments to reduce the cost of inventories to their net realizable value are recognized in earnings in the current period.

Inventory includes costs of products delivered to customers and not recognized as cost of revenues, where revenues in the related arrangements were not recognized.

To support the Company's service operations, the Company maintains service spare parts inventory and reduce the net carrying value of this inventory over the service life.

Cost is determined as follows:

- Raw materials - based on the moving average cost method.
- Service inventory, work in process and finished goods - based on actual production cost basis (materials, labor and indirect manufacturing costs).

J. Property, Plant and Equipment

Property, plant and equipment are presented at cost, net of accumulated depreciation. Annual depreciation is calculated based on the straight-line method over the estimated useful lives of the related assets. Estimated useful life is as follows:

	Years
Electronic equipment	3-7
Office furniture and equipment	3-17
Leasehold improvements	Over the shorter of the term of the lease (including its extension periods) or the useful life of the asset

Depreciation methods, useful lives and residual values are reviewed at the end each reporting year and adjusted if appropriate.

K. Goodwill and Intangible Assets

Goodwill and other purchased intangible assets have been recorded as a result of the acquisition of ReVera and ancosys. Goodwill represents the excess of the purchase price in a business combination over the fair value of net tangible and identifiable intangible assets acquired, and related liabilities.

Goodwill is carried at cost and is not amortized, but rather is subject to an impairment test, in accordance with ASC 350, "Intangibles – Goodwill and Other", at least annually (in the fourth quarter), or more frequently if events or changes in circumstances indicate that the carrying value may be impaired. ASC 350 allows the Company to first perform a qualitative assessment to determine whether it is more-likely-than-not that the fair value of a reporting unit is less than its carrying value prior to performing the quantitative goodwill impairment test. The Company operates in one operating segment, and this segment comprises its only reporting unit.

Following the adoption of ASU 2017-04, "Simplifying the Test for Goodwill Impairment", any excess of the carrying value of the reporting unit over its fair value is recognized as an impairment loss, and the carrying value of goodwill is written down to the fair value of the reporting unit.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 2 - SIGNIFICANT ACCOUNTING POLICIES (Cont.)

Intangible assets with finite life (refer to note 2L for impairment assessment of intangible assets with finite life) are amortized over their useful lives using a method that reflects the pattern in which the economic benefits of the intangible assets are consumed or otherwise used, or, if that pattern cannot be reliably determined, using a straight-line amortization method. There was no impairment of goodwill during the periods presented.

	Weighted Average Useful Life (Years)
Technology	3-9
Customer relationships	10-13

L. Impairment of Long-Lived Assets

Long-lived assets (tangible and intangible assets with finite life), held and used by the Company are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets (or asset Group) may not be recoverable. In the event that the sum of the expected future cash flows (undiscounted and without interest charges) of the long-lived assets is less than the carrying amount of such assets, an impairment charge would be recognized, and the assets (or asset Group) would be written down to their estimated fair values. During the years 2022, 2021 and 2020, no impairment losses have been identified.

M. Accrued Warranty Costs

Accrued warranty costs are calculated with respect to the warranty period on the Company's products and are based on the Company's prior experience and in accordance with management's estimate. The estimated future warranty obligations are affected by the warranty periods, install base, labor and other related costs incurred in correcting a product failure.

N. Derivative Financial Instruments

ASC 815 requires the presentation of all derivatives as either assets or liabilities on the balance sheet and the measurement of those instruments at fair value.

For derivative instruments that are designated and qualify as a cash flow hedge (i.e., hedging the exposure to variability in expected future cash flows that is attributable to a particular risk), the gain or loss on the derivative instrument is reported as a component of other comprehensive income and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings.

In addition to the derivatives that are designated and qualify as a cash flow hedge, the Company enters into certain foreign exchange forward and option transactions to hedge suppliers. Gains and losses related to such derivative instruments are recorded in financial income (expenses), net.

See Note 17 for disclosure of the derivative financial instruments in accordance with such pronouncements.

O. Leases

Under ASC 842, a contract is or contains a lease when the Company has the right to control the use of an identified asset for a period of time. The Company determines if an arrangement is a lease at inception of the contract, which is the date on which the terms of the contract are agreed to, and the agreement creates enforceable rights and obligations. The commencement date of the lease is the date that the lessor makes an underlying asset available for the Company's use. On the commencement date leases are evaluated for classification and assets and liabilities are recognized based on the present value of lease payments over the lease term.

The lease term used to calculate the lease liability includes options to extend or terminate the lease when it is reasonably certain that the option will be exercised. The right-of-use ("ROU") asset is initially measured as the amount of lease liability, adjusted for any initial lease costs, prepaid lease payments and any lease incentives. Costs incurred for common area maintenance, real estate taxes, and insurance are not included in the lease liability and are recognized as they are incurred.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 2 - SIGNIFICANT ACCOUNTING POLICIES (Cont.)

The Company's leases include buildings and car leases, which are all classified as operating leases. Certain lease agreements include rental payments that are adjusted periodically for the consumer price index ("CPI"). The ROU and lease liability were calculated using the CPI as of the adoption date and will not be subsequently adjusted, unless the liability is reassessed for other reasons. Certain leases include renewal options that are under the Company's sole discretion. The renewal options were included in the ROU and liability calculation if it was reasonably assured that the Company will exercise the option.

As the Company's lease arrangements do not provide an implicit rate, the Company uses its incremental estimated borrowing rate at lease commencement to measure ROU assets and lease liabilities. Operating lease expense is generally recognized on a straight-line basis over the lease term. For leases with a term of one year or less, the Company elected not to record the ROU asset or liability.

P. Convertible Senior Notes

The Company accounts for its convertible senior notes in accordance with ASC 470-20 "Debt with Conversion and Other Options" including Accounting Standards Update No. 2020-06, Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity (ASU 2020-06) which simplifies the accounting for certain financial instruments with characteristics of liabilities and equity, including convertible instruments and contracts on an entity's own equity. This guidance also eliminates the treasury stock method to calculate diluted earnings per share for convertible instruments and requires the use of the if-converted method. The Company adopted ASU 2020-06 using the modified retrospective method as of January 1, 2022. See also Note 11.

Prior to the adoption of the above-mentioned ASU 2020-06, issuers of certain convertible debt instruments, such as the Notes, that may be settled wholly or partially in cash upon conversion were required to separately account for the liability (debt) and equity (conversion option) components of the instrument. The liability component at issuance was recognized at fair value, based on the fair value of a similar instrument of similar credit rating and maturity that does not have a conversion feature. The equity component was based on the excess of the principal amount of the convertible senior notes over the fair value of the liability component and was recorded in additional paid-in capital. The equity component, net of issuance costs and deferred tax effects was presented within additional paid-in-capital and was not remeasured as long as it continues to meet the conditions for equity classification. The difference between the principal amount and the liability component represents a debt discount that was amortized to financial expense over the respective terms of the Notes using an effective interest rate method. The Company allocated the total issuance costs incurred to the liability and equity components of the convertible senior notes based on their relative values. Issuance costs attributable to the liability and equity components were \$5,894 and \$518, respectively. Issuance costs attributable to the liability were netted against the principal balance and were amortized to financial expense using the effective interest method over the contractual term of the notes. The effective borrowing rate of the liability component of the notes (after deduction of the abovementioned issuance costs attributed to the liability component) was 2.365%. This borrowing rate was based on Company's synthetic credit risk rating.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 2 - SIGNIFICANT ACCOUNTING POLICIES (Cont.)

Q. Revenue Recognition

Revenue Recognition Policy

The Company enters into revenue arrangements that include products and services which are distinct and accounted for as separate performance obligations. The Company determines whether promises are distinct based on whether the customer can benefit from the product or service on its own or together with other resources that are readily available and whether the Company's commitment to transfer the product or service to the customer is separately identifiable from other obligations in the contract.

The Company derives revenue from sales of advanced process control systems, spare parts, labor hours (mainly related to installation) and service contracts.

Revenues derived from sales of advanced process control systems, spare parts and labor hours are recognized at a point in time, when control of the promised goods or services is transferred to the customers, upon fulfillment of the contractual terms (typically upon shipment of the systems and spare parts or when the service is completed for labor hours).

Revenues derived from service contracts, are recognized ratably over time in accordance with the term of the contract since the Company has a stand-ready obligation to provide the service. Such contracts generally include a fixed fee.

Revenues from sales which were not yet determined to be final sales due to certain acceptance provisions are deferred.

Contracts with Multiple Performance Obligations

Contracts with customers may include multiple performance obligations. For such arrangements, the Company allocates revenue to each performance obligation based on its relative Standalone Selling Price ("SSP"). Judgment is required to determine the SSP for each distinct performance obligation. The Company uses a range of amounts to estimate SSP when it sells each of the products and services separately and needs to determine whether there is a discount to be allocated based on the relative SSP of the various products and services.

Remaining Performance Obligations

Remaining performance obligations (RPOs) represent contracted revenues that had not yet been recognized and include deferred revenues and invoices that have been issued to customers but were uncollected and have not been recognized as revenues. As of December 31, 2022, the aggregate amount of the RPOs was \$46,602, comprised of \$30,543 deferred revenues and \$16,059 of uncollected amounts that were not yet recognized as revenues. The Company expects the RPO to be recognized as revenues over the next year.

Contract Balances

Contract balances are presented separately on the consolidated balance sheets.

Revenues recognized during 2022, 2021 and 2020 from deferred revenues amounts included in current liabilities at the beginning of the period amounted to \$12,924, \$3,651 and \$1,544 respectively.

In certain arrangements, the Company receives payment from a customer either before or after the performance obligation has been satisfied. The expected timing difference between the payment and satisfaction of performance obligations for the Company's contracts is one year or less; therefore, the Company applies a practical expedient and does not consider the effects of the time value of money.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 2 - SIGNIFICANT ACCOUNTING POLICIES (Cont.)

R. Research and Development

Research and development costs are charged to operations as incurred. Amounts received or receivable from the Government of Israel through the Israeli Innovation Authority (“IIA”) or from the European Community as participation in certain research and development programs are offset against research and development costs. The accrual for grants receivable is determined based on the terms of the programs, provided that the criteria for entitlement are expected to be met. Research and development grants recognized during the years ended December 31, 2022, 2021 and 2020 were \$3,064, \$4,395 and \$5,645 respectively.

S. Income Taxes

The Company accounts for income taxes utilizing the asset and liability method in accordance with ASC 740, “Income Taxes”. Current tax liabilities are recognized for the estimated taxes payable on tax returns for the current year. Deferred tax liabilities or assets are recognized for the estimated future tax effects attributable to temporary differences between the income tax bases of assets and liabilities and their reported amounts in the financial statements, and for tax loss carryforwards.

Measurement of current and deferred tax liabilities and assets is based on provisions of enacted tax laws, and deferred tax assets are reduced, if necessary, by the amount of tax benefits, the realization of which is not considered more likely than not based on available evidence.

ASC 740-10 requires a two-step approach to recognizing and measuring uncertain tax positions. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained on audit, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount which is more than 50% likely of being realized upon ultimate settlement.

T. Share-Based Compensation

The Company accounts for equity-based compensation using ASC 718 “Compensation - Stock Compensation,” which requires companies to recognize the cost of employee services received in exchange for awards of equity instruments based upon the grant-date fair value of those awards.

Share Options

In 2022 the Company did not grant share options.

The Company policy, under ASC 718, the fair market value of each option grant is estimated on the date of grant using the “Black-Scholes option pricing” method with the following weighted-average assumptions as relevant for prior years:

	2021	2020
Risk-free interest rate	0.89%	0.38%
Expected term of options	4.97 years	5.08 years
Expected volatility	39.02%	36.61%
Expected dividend yield	0%	0%

Expected volatility was calculated based on actual historical share price movements over a term that is equivalent to the expected term of granted options. The expected term of options granted is based on historical experience and represents the period of time that options granted are expected to be outstanding. The risk-free interest rate is based on the yield from U.S. treasury bonds with an equivalent term. The Company has historically not paid dividends and has no foreseeable plans to pay dividends.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 2 - SIGNIFICANT ACCOUNTING POLICIES (Cont.)

The Company recognizes compensation expenses for the value of awards granted, based on the accelerated method. The Company account for forfeitures as they occur.

Restricted Share Units

The Company recognizes the fair value of Restricted Share Units (“RSUs”) on the grant date based on the market value of the underlying share and the expense is recognized over the requisite service period for awards using the accelerated method.

U. Earnings per Share

Earnings per share are presented in accordance with ASC 260-10, “Earnings per Share”. Pursuant to which, basic earnings per share excludes the dilutive effects of convertible securities and is computed by dividing income (loss) available to ordinary shareholders by the weighted-average number of ordinary shares outstanding for the period, net of treasury shares. Diluted earnings per share reflect the potential dilutive effect of options and RSUs. The number of potentially dilutive options and RSUs excluded from diluted earnings per share due to the anti-dilutive effect of out of the money options amounted to 265,085 in 2022, 336,857 in 2021 and 492,963 in 2020.

Subsequent to the modified retrospective adoption of ASU 2020-06 (see note 2P), as of January 1, 2022, diluted earnings per share reflect the full dilutive effect of the Convertible Senior Notes. In 2021 and 2020, prior to the adoption of ASU 2020-06, shares amounted to 2,055,641 and 2,680,965 in 2021 and 2020 respectively, underlying the conversion option of the Convertible Senior Notes were not considered in the calculation of earnings per share.

V. Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash and cash equivalents, bank deposits, marketable securities, trade accounts receivable and foreign currency derivative contracts.

The majority of the Company’s cash and cash equivalents and bank deposits are invested in dollar instruments with major banks in Israel. Management believes that the financial institutions that hold the Company’s investments are corporations with high credit standing. Accordingly, management believes that low credit risk exists with respect to these financial investments.

The trade accounts receivable of the Company are derived from sales to customers located primarily in Taiwan R.O.C., Korea, China and USA. The management of the Company performed risk assessment on an ongoing basis and believes it bears low risk.

The Company entered into options and forward contracts to hedge against the risk of overall changes in future cash flow from payments of payroll and related expenses as well as other expenses denominated in NIS. The derivative instruments hedge a portion of the Company’s non-dollar currency exposure. Counterparty to the Company’s derivative instruments is major financial institution.

The Company’s debt marketable securities include investments in highly rated corporate debentures and governmental bonds. The financial institutions that hold the Company’s debt marketable securities are major financial institutions located in the United States. The Company believes its debt marketable securities portfolio is a diverse portfolio of highly rated securities and the Company’s investment policy limits the amount the Company may invest in an issuer.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 2 - SIGNIFICANT ACCOUNTING POLICIES (Cont.)

W. Fair Value Measurements

The fair values of the Company's cash and cash equivalents, short-term interest-bearing bank deposits, trade accounts receivable, and accounts payable approximate their carrying amounts due to their short-term nature.

The Company follows the provisions of ASC No. 820, "Fair Value Measurement" ("ASC 820"), which defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

In determining a fair value, the Company uses various valuation approaches. ASC 820 establishes a hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the most observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing an asset or liability, based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect assumptions that market participants would use in pricing an asset or liability, based on the best information available under given circumstances.

The hierarchy is broken down into three levels, based on the observability of inputs and assumptions, as follows:

Level 1 - Observable inputs obtained from independent sources, such as quoted prices for identical assets and liabilities in active markets.

Level 2 - Other inputs that are directly or indirectly observable in the market place.

Level 3 - Unobservable inputs which are supported by little or no market activity.

In accordance with ASC 820, the Company measures its marketable securities, at fair value using the market approach valuation technique. Marketable securities are classified within Level 2 because these assets are valued using quoted market prices or alternative pricing sources and models utilizing market observable inputs.

The estimated fair values of the derivative instruments are determined based on market rates to settle the instruments. The fair value of the Company's derivative contracts (including forwards and options) is determined using standard valuation models. The significant inputs used in these models are readily available in public markets or can be derived from observable market transactions and, therefore, the Company's derivative contracts have been classified as Level 2.

Inputs used in these standard valuation models include the applicable spot, forward, and discount rates. The standard valuation model for the Company options contracts also includes implied volatility, which is specific to individual options and is based on rates quoted from a widely used third-party resource.

The Company's cash and cash equivalents, Interest-bearing bank deposits and restricted interest-bearing bank deposits are classified within level 1. Marketable securities, Derivative instruments and Convertible senior notes classified within Level 2 (see Note 4, Note 17 and Note 11, respectively).

X. Certain prior period amounts have been reclassified to conform to the current period presentation.

Y. Recent accounting guidance - Accounting standards adopted

In November 2021, the FASB issued ASU 2021-10, ASC Topic 832 "Disclosures by Business Entities about Government Assistance". The standard require the following annual disclosures about transactions with a government that are accounted for by applying a grant or contribution accounting model by analogy: (1) Information about the nature of the transactions and the related accounting policy used to account for the transactions (2) The line items on the balance sheet and income statement that are affected by the transactions, and the amounts applicable to each financial statement line item (3) Significant terms and conditions of the transactions, including commitments and contingencies. The standard will become effective for fiscal years beginning after December 15, 2021. The Company adopted ASU 2021-10 on January 1, 2022. The adoption of this guidance did not have a material effect on the Company's consolidated financial statements.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 3 - BUSINESS COMBINATION

On January 25, 2022, the Company acquired all of the outstanding shares of ancossys GmbH. (“ancossys”), a provider of chemical analysis and metrology solutions for semiconductor manufacturing for a cash amount of \$81,708. The results of operations of ancossys were consolidated in the Company’s financial statements commencing the date of acquisition.

The agreement stipulated additional performance-based contingent consideration to shareholders of ancossys in an aggregate amount of up to \$10,115 to be paid during 2022. The fair-value of the contingent consideration as of the acquisition date was \$8,480 and measured based on the estimated future cash outflows, utilizing the Risk Neutral Probabilities Method. As of December 31, 2022, the performance-based contingent consideration was fully paid.

The following table summarizes the fair value of the consideration transferred to ancossys shareholders as of the acquisition date:

Cash paid	81,708
Fair-value of contingent consideration	8,480
	<u>90,188</u>

The table below summarizes the fair value of the acquired assets and assumed liabilities and the resulting goodwill as of the acquisition date:

	<u>Fair Value</u>	<u>Amortization period</u>
Cash and cash equivalents	3,239	
Trade accounts receivable	10,074	
Inventories	13,849	
Property, plant and equipment	4,345	
Other tangible assets assumed	1,192	
Current Technology	45,284	9 years
Customer Relationships	4,681	13 years
Goodwill	30,655	
Total assets acquired	<u>113,319</u>	
Deferred tax liability	15,245	
Other liabilities assumed	7,886	
Total liabilities assumed	<u>23,131</u>	
Net assets acquired	<u>90,188</u>	

Goodwill is primarily attributable to expected synergies arising from technology integration and expanded product availability to the Company’s existing and new customers. Goodwill is not deductible for income tax purpose.

The Company incurred approximately \$1,360 in acquisition-related expenses and \$1,635 in contingent consideration revaluation for the year ended December 31, 2022, recorded under general and administrative expenses. The contingent consideration was paid in full during 2022.

Pro forma results of operations related to this acquisition have not been presented because they are not material to the Company’s consolidated statements of operations. The amounts of revenue and earning of the acquiree since the acquisition date included in the consolidated income statements for the reporting period.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 4 - MARKETABLE SECURITIES

The following is a summary of marketable securities amortized cost, unrealized gains, unrealized losses, and fair value as of December 31, 2022:

Marketable securities	Amortized Cost	Unrealized gains	Unrealized losses	Fair Value
Matures within one year:				
Corporate bonds	114,475	1	(1,341)	113,135
Governmental bonds	54,282	-	(344)	53,938
	<u>168,757</u>	<u>1</u>	<u>(1,685)</u>	<u>167,073</u>
Matures after one year:				
Corporate bonds	147,888	28	(6,046)	141,870
Governmental bonds	11,948	-	(356)	11,592
	<u>159,836</u>	<u>28</u>	<u>(6,402)</u>	<u>153,462</u>
	<u>328,593</u>	<u>29</u>	<u>(8,087)</u>	<u>320,535</u>

The following is a summary of marketable securities amortized cost, unrealized gains, unrealized losses, and fair value as of December 31, 2021:

Marketable securities	Amortized Cost	Unrealized gains	Unrealized losses	Fair Value
Matures within one year:				
Corporate bonds	53,238	-	(67)	53,171
Governmental bonds	8,409	-	(12)	8,397
	<u>61,647</u>	<u>-</u>	<u>(79)</u>	<u>61,568</u>
Matures after one year:				
Corporate bonds	122,701	-	(1,138)	121,563
Governmental bonds	15,954	1	(103)	15,852
	<u>138,655</u>	<u>1</u>	<u>(1,241)</u>	<u>137,415</u>
	<u>200,302</u>	<u>1</u>	<u>(1,320)</u>	<u>198,983</u>

Proceeds from maturity of available-for-sale marketable securities during the year ended December 31, 2022, were \$80,391.

Proceeds from sales of available-for sale marketable securities during the year ended December 31, 2022, were \$934 which led to \$68 realized losses. The Company had no proceeds from sales of available-for sale marketable securities during the year ended December 31, 2021, therefore no realized gains or losses from the sale of available-for-sale marketable securities were recognized.

Out of the \$8,087 unrealized loss as of December 31, 2022, unrealized loss of \$1,191 was included in the unrealized loss balance as of December 31, 2021.

NOTE 5 - INVENTORIES

A. Composition:

	As of December 31,	
	2022	2021
Raw materials	38,050	22,953
Service inventory	26,069	19,838
Work in process	25,676	19,125
Finished goods	26,805	16,749
	<u>116,600</u>	<u>78,665</u>

B. In the years ended December 31, 2022, 2021 and 2020, the Company wrote down inventories in a total amount of \$6,406, \$5,126 and \$5,664, respectively.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 6 - OTHER CURRENT ASSETS

	As of December 31,	
	<u>2022</u>	<u>2021</u>
Prepaid expenses	9,107	4,412
Governmental institutions	2,889	3,441
Governments grants receivables	1,416	1,006
Other	115	383
	<u>13,527</u>	<u>9,242</u>

NOTE 7 - PROPERTY, PLANT AND EQUIPMENT, NET

	As of December 31,	
	<u>2022</u>	<u>2021</u>
Cost:		
Electronic equipment	64,135	48,861
Office furniture and equipment	6,301	4,602
Leasehold improvements	34,166	24,364
Land and building	5,181	-
	<u>109,783</u>	<u>77,827</u>
Accumulated depreciation:		
Electronic equipment	43,414	36,932
Office furniture and equipment	2,833	883
Leasehold improvements	7,650	5,552
Land and building	-	-
	<u>53,897</u>	<u>43,367</u>
Net book value	<u>55,886</u>	<u>34,460</u>

Depreciation expenses amounted to \$8,621, \$6,475 and \$5,875 for the years ended December 31, 2022, 2021 and 2020, respectively.

NOTE 8 - INTANGIBLE ASSETS

Intangible assets originated from the acquisition of ReVera on April 2, 2015, and the acquisition of ancossys on January 25, 2022. The following is a summary of intangible assets as of December 31, 2022 and 2021:

	As of December 31,	
	<u>2022</u>	<u>2021</u>
Original amount:		
Technology	56,916	14,232
Customer relationships	9,603	5,191
	<u>66,519</u>	<u>19,423</u>
Accumulated amortization:		
Technology	17,525	12,026
Customer relationships	5,408	4,796
	<u>22,933</u>	<u>16,822</u>
Net book value	<u>43,586</u>	<u>2,601</u>

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 8 - INTANGIBLE ASSETS (Cont.)

Amortization expenses amounted as following:

	Year ended December 31,		
	2022	2021	2020
Technology	5,426	1,918	1,758
Customer relationships	607	540	745
	<u>6,033</u>	<u>2,458</u>	<u>2,503</u>

Annual amortization expenses are expected as follows:

Year ending December 31,	
2023	5,808
2024	5,579
2025	5,082
2026	5,082
2027 and thereafter	22,036
Total	<u>43,587</u>

NOTE 9 - OTHER CURRENT LIABILITIES

A. Consists of:

	As of December 31,	
	2022	2021
Accrued salaries and fringe benefits	31,652	28,176
Accrued warranty costs (See B below)	9,517	8,287
Governmental institutions	12,202	11,377
Governments grants payables	647	995
Other	807	50
	<u>54,825</u>	<u>48,885</u>

B. Accrued Warranty Costs:

The Company provides standard warranty coverage on its systems. Parts and labor are covered under the terms of the warranty agreement. The Company accounts for the estimated warranty cost as a charge to costs of revenues when revenue is recognized.

Accrued warranty costs presented in:

	As of December 31,	
	2022	2021
Other current liabilities	9,517	8,287
Other long-term liabilities	1,113	598
	<u>10,630</u>	<u>8,885</u>

The following table provides the changes in the product warranty accrual for the fiscal years ended December 31, 2022 and 2021:

	As of December 31,	
	2022	2021
Balance as of beginning of year	8,885	5,152
Services provided under warranty	(11,959)	(8,798)
Changes in provision	13,704	12,531
Balance as of end of year	<u>10,630</u>	<u>8,885</u>

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 10 - LIABILITY FOR EMPLOYEE SEVERANCE PAY, NET

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

The deposited funds include profits accumulated up to the balance sheet date. The deposited funds may be withdrawn only upon the fulfillment of the obligation pursuant to Israel's Severance Pay Law, 1963 or labor agreements.

Since July 2008, the Company's agreements with new Israeli employees are under Section 14 of the Israeli Severance Pay Law, 1963. The Company's contributions for severance pay have replaced its severance obligation.

Upon contribution of the full amount of the employee's monthly salary for each year of service, no additional calculations are conducted between the parties regarding the matter of severance pay and no additional payments are made by the Company to the employee.

Labor agreements in Taiwan determine the obligations of the Company to make severance payments to dismissed employees and to employees leaving employment under certain other circumstances. The obligation for severance pay benefits is based upon length of service and the employee's average salary.

Severance pay expenses for the years ended December 31, 2022, 2021 and 2020, amounted to \$1,114, \$818 and \$617, respectively (excluding the Company's contributions for severance pay under section 14).

NOTE 11 - CONVERTIBLE SENIOR NOTES, NET

In October 2020, the Company issued \$175,000 aggregate principal amount, 0% coupon rate, of convertible senior notes due 2025 and an additional \$25,000 aggregate principal amount of such notes pursuant to the exercise in full of the over-allotment option of the initial purchasers (collectively, "Convertible Notes" or "Notes").

The Convertible Notes are convertible based upon an initial conversion rate of 13.4048 of the Company's ordinary shares per \$1,000 principal amount of Convertible Notes (equivalent to a conversion price of approximately \$74.60 per ordinary share). The conversion rate will be subject to adjustment upon the occurrence of certain specified events. The Convertible Notes are senior unsecured obligations of the Company.

The Convertible Notes will mature on October 15, 2025, (the "Maturity Date"), unless earlier repurchased, redeemed or converted. Prior to July 15, 2025, a holder may convert all or a portion of its Convertible Notes only under the following circumstances:

1. During any calendar quarter commencing after the calendar quarter ending on March 31, 2021 (and only during such calendar quarter), if the last reported sale price of the Company's ordinary shares for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day;
2. During the five business day period after any 10 consecutive trading day period ("measurement period") in which the trading price, determined pursuant to the terms of the Convertible Notes, per \$1,000 principal amount of Convertible Notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the ordinary shares and the conversion rate on each such trading day;
3. If the Company calls such Convertible Notes for redemption in certain circumstances, at any time prior to the close of business on the second scheduled trading day immediately preceding the redemption date; or
4. Upon the occurrence of specified corporate events.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 11 - CONVERTIBLE SENIOR NOTES, NET (Cont.)

On or after July 15, 2025 until the close of business on the second scheduled trading day immediately preceding the Maturity Date, a holder may convert its Convertible Notes at any time, regardless of the foregoing circumstances.

Upon conversion, the Company can pay or deliver cash, ordinary shares or a combination of cash and ordinary shares, at the Company's election.

The Company may not redeem the notes prior to October 20, 2023, except in the event of certain tax law changes. The Company may, at any time and from time to time, redeem for cash all or any portion of the notes, at the Company's option, on or after October 20, 2023, if the last reported sale price of the Company's ordinary shares has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period (including the last trading day of such period) ending on, and including, the trading day immediately preceding the date on which it delivers notice of redemption at a redemption price equal to 100% of the principal amount of the notes to be redeemed, (plus accrued and unpaid special interest (if any) to, but excluding, the redemption date).

Upon the occurrence of a Fundamental Change as defined in the Indenture, holders may require the Company to repurchase for cash all or any portion of their Convertible Notes at a fundamental change repurchase price equal to 100% of the principal amount of the Convertible Notes, (plus accrued and unpaid special interest payable under certain circumstances set forth in the terms of the Convertible Notes (if any) to, but excluding, the fundamental change repurchase date). In addition, in connection with a make-whole fundamental change (as defined in the Indenture), or following our delivery of a notice of redemption, the Company will, in certain circumstances, increase the conversion rate for a holder who elects to convert its notes in connection with such a corporate event or redemption, as the case may be.

As of December 31, 2022, condition 1 as stated above has not been met, as the Company share price did not exceed the abovementioned threshold. The Notes are therefore non-convertible as of December 31, 2022 and are classified as non-current liability.

As of December 31, 2021, condition 1 as stated above has been met, as the Company share price exceeded the abovementioned threshold. The Notes were therefore convertible as of December 31, 2021, and were classified as current liability.

The adoption of ASU 2020-06 (see Note 2P) resulted in:

- An increase of \$12,075 to liability for convertible senior notes, in the consolidated balance sheets, to reflect the full principal amount of the convertible notes outstanding net of issuance costs.
- A reduction of \$13,770 to additional paid-in capital, net of estimated income tax effects, to remove the equity component separately recorded for the conversion features associated with the convertible notes.
- An increase to deferred tax assets, net of \$1,444, to reflect the decrease in deferred tax liability relating to removal of the equity component stated above.
- A cumulative-effect adjustment of \$3,139, net of estimated income tax effects, to the beginning balance of retained earnings as of January 1, 2022.

The adoption of this new guidance reduced interest expense by \$3,053 in 2022. In addition, the required use of the if-converted method by the new guidance in calculating diluted earnings per share increased the number of potentially dilutive shares in 2022 by 2,055,641 shares compared to the potentially dilutive shares used in 2021 calculation of earnings per share. In connection with the adoption, the Company calculated an effective interest rate of 0.7%.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 11 - CONVERTIBLE SENIOR NOTES, NET (Cont.)

The net carrying amount of the liability and equity components of the Convertible Notes as of December 31, 2022 and December 31, 2021 are as follows:

	As of December 31,	
	2022	2021
Liability component:		
Principal amount	200,000	200,000
Unamortized discount	-	(12,032)
Unamortized issuance costs	(3,606)	(4,931)
Net carrying amount	196,394	183,037
Equity component, net of issuance costs of \$518 and deferred taxes of \$1,878	-	13,770

Interest expense related to the Convertible Notes was as follows:

	Year ended	
	December 31,	
	2022	2021
Amortization of debt discount	-	3,000
Amortization of debt issuance costs	1,276	1,229
Total financial expense recognized	1,276	4,229

As of December 31, 2022, the total estimated fair value of the convertible senior notes was approximately \$245,000. The fair value of the convertible senior notes is considered to be Level 2 within the fair value hierarchy and was determined based on quoted price of the convertible senior notes in an over-the-counter market.

NOTE 12 - LEASES

The Company has operating leases for facilities and vehicles. The Company recognized Operating lease right-of-use assets of \$44,885 and corresponding operating lease current liabilities of \$5,968, and non-current liabilities of \$43,697, as of December 31, 2022. The Company's leases have remaining terms of 1 to 8 years, some of which include options to extend the leases for up to additional 10 years. The weighted average remaining lease term was 13.8 years, and the weighted average discount rate was 3.7% as of December 31, 2022.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 12 - LEASES (Cont.)

Lease expenses amounted to \$8,194, \$3,935 and \$4,654 for the years ended December 31, 2022, 2021 and 2020, respectively. The expected discounted and undiscounted lease payments under non-cancelable leases as of December 31, 2022, excluding non-lease components, were as follows:

Year	
2023	6,032
2024	6,323
2025	5,815
2026	5,399
2027	5,370
2028 and thereafter	36,131
Total lease payments	<u>65,070</u>
Less imputed interest	<u>(15,405)</u>
Total	<u><u>49,665</u></u>

Operating cash flows for operating leases amounted to \$6,450, \$4,134 and \$5,840 for the years ended December 31, 2022, 2021 and 2020, respectively.

NOTE 13 - COMMITMENTS AND CONTINGENCIES

The Company is obligated under certain agreements with its suppliers to purchase specified items of inventory which are expected to be utilized during the years 2023-2025. As of December 31, 2022, non-cancelable purchase obligations were approximately \$152,000.

From time to time, the Company may be involved in various claims and legal proceedings. The Company reviews the status of each matter and assesses its potential financial exposure. If the potential loss from any claim or legal proceeding is considered probable and the amount can be reasonably estimated the Company would accrue a liability for the estimated loss. As of December 31, 2022 and 2021, the Company is not involved in any material claims or legal proceedings which require accrual of liability for the estimated loss.

NOTE 14 - SHAREHOLDERS' EQUITY

A. Rights of Shares:

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

B. Share Repurchase:

In March 2022, the Company announced a \$100 million repurchase program of the Company's ordinary shares. Through December 31, 2022, the Company spent an aggregate of \$21,416 million to repurchase 251,738 ordinary shares under the Company's share repurchase program.

All treasury shares have been canceled as of the end of each respective year.

C. Equity Based Incentive Plans:

The Company's Board of directors approves, from time to time, equity-based incentive plans, the last of which was approved in August 2017. Equity-based incentive plans include stock options, restricted share units and restricted stock awards to employees, officers and directors.

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NOTE 14 - SHAREHOLDERS' EQUITY (Cont.)

Share-based compensation

The following table summarizes the effects of share-based compensation resulting from the application of ASC 718 included in the Statements of Operations as follows:

	Year ended December 31,		
	2022	2021	2020
Cost of Revenues:			
Product	2,456	1,358	927
Service	1,710	802	437
Research and Development	6,861	3,994	2,556
Sales and Marketing	3,179	2,221	1,531
General and Administrative	2,441	2,113	1,498
Total	16,647	10,488	6,949

As of December 31, 2022, there was \$209 of total unrecognized compensation cost related to non-vested employee options and \$23,514 of total unrecognized compensation cost related to non-vested employee RSUs. These costs are generally expected to be recognized over a period of four years.

Shares Options

Share options vest over four years and their contractual term may not exceed 10 years. The exercise price is the market price at the date of each grant.

During 2022, the Company did not grant share options. The weighted average fair value (in dollars) of the options granted during 2021 and 2020, according to Black-Scholes option-pricing model, amounted to \$35.94 and \$15.46 per option, respectively.

Summary of the status of the Company's share option plans as of December 31, 2022, as well as changes during the year then ended, is presented below:

	2022	
	Share Options	Weighted Average Exercise Price
Outstanding - beginning of year	485,542	25.33
Exercised	(161,416)	17.61
Expired and forfeited	(33,415)	23.34
Outstanding - year end	<u>290,711</u>	<u>29.83</u>
Options exercisable at year end	<u>235,952</u>	<u>26.98</u>

The aggregate intrinsic value represents the total intrinsic value (the difference between the Company's closing share market price on the last trading day of the fiscal year and the exercise price, multiplied by the number of in-the-money options) that would have been received by the option holders had all option holders exercised their options on the last trading day of the fiscal year. This amount changes based on the fair market value of the Company's shares.

The total intrinsic value of options outstanding as of December 31, 2022 and 2021 was \$15,271 and \$58,835, respectively. The total intrinsic value of options exercisable as of December 31, 2022 and 2021 was \$12,956 and \$41,117, respectively. The total intrinsic value of options exercised during the years 2022, 2021 and 2020 was \$14,523, \$18,571 and \$10,463 respectively.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 14 - SHAREHOLDERS' EQUITY (Cont.)

The following table summarizes information about share options outstanding as of December 31, 2022:

<u>Range of Exercise Prices</u> (US dollars)	<u>Number Outstanding</u>	<u>Weighted Average Remaining Contractual Life</u> (in years)	<u>Weighted Average Exercise Price</u> (US dollars)	<u>Number Exercisable</u>	<u>Weighted Average Exercise Price</u> (US dollars)
10.01-20.00	24,220	0.61	11.73	24,220	11.73
20.01-35.00	225,320	2.56	26.31	193,683	26.35
35.01-50.00	28,635	4.43	46.08	14,181	46.15
50.01-70.00	2,921	4.59	53.61	1,462	53.61
70.01-102.35	9,615	4.48	102.35	2,406	102.35
	<u>290,711</u>		<u>29.83</u>	<u>235,952</u>	<u>26.98</u>

Restricted Share Units

Restricted Share Units ("RSU") grants are rights to receive shares of the Company's ordinary shares on a one-for-one basis and are not entitled to dividends or voting rights, if any, until they are vested. RSU's vesting schedules are 25% on each of the first, second, third and fourth anniversaries of the grant date, or, 33% on each of the first, second, and third anniversaries of the grant date. The fair value of such RSU grants is being recognized based on the accelerated method over the vesting period. Performance based RSU grants vest over a period of 3 years and are subject to certain performance criteria; accordingly, compensation expense is recognized for such awards when it becomes probable that the related performance condition will be satisfied.

	<u>2022</u>	
	<u>Number of RSUs</u>	<u>Weighted average grant date fair value (USD)</u>
Unvested - beginning of year	463,051	67.79
Granted	228,938	87.02
Vested	(191,494)	55.69
Canceled	(15,774)	86.95
Unvested at year end	<u>484,721</u>	<u>81.05</u>

The total intrinsic value of RSUs vested during the years 2022, 2021 and 2020 was \$16,907, \$17,341 and \$6,344, respectively.

NOTE 15 - INCOME TAXES

A. Income Tax Regulations (Rules on Bookkeeping by Foreign Invested Companies and Certain Partnerships and Determination of their Taxable Income), 1986:

As a "Controlled Foreign Cooperation" (as defined in the Israeli Law for the Encouragement of Capital Investments-1959), the Company's management has elected to apply Income Tax Regulations (Rules for Maintaining Accounting Records of Foreign Invested Companies and Certain Partnerships and Determining Their Taxable Income)-1986. Accordingly, its taxable income or loss is calculated in US Dollars.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 15 - INCOME TAXES (Cont.)

B. Law for the Encouragement of Capital Investments-1959:

Part of the Company's investment in equipment has received approvals in accordance with the Law for the Encouragement of Capital Investments, 1959 ("Approved Enterprise" status) in three separate investment plans. The Company has chosen to receive its benefits through the "Alternative Benefits" track, and, as such, is eligible for various benefits. These benefits include accelerated depreciation of fixed assets used in the investment program, as well as a full tax exemption on undistributed income in relation to income derived from the first plan for a period of 4 years and for the second and third plans for a period of 2 years. Thereafter a reduced tax rate of 25% will be applicable for an additional period of up to 3 years for the first plan and 5 years for the second and third plans, commencing with the date on which taxable income is first earned but not later than certain dates. The benefit period of the second and third plan have commenced.

On April 1, 2005, an amendment to the Investment Law came into effect ("the Amendment") and has significantly changed the provisions of the Investment Law. The Amendment limits the scope of enterprises which may be approved by the Investment Center by setting criteria for the approval of a facility as a Privileged Enterprise, such as provisions generally requiring that at least 25% of the Privileged Enterprise's Income will be derived from export. Additionally, the Amendment enacted major changes in the manner in which tax benefits are awarded under the Investment Law so that companies no longer require Investment Center approval in order to qualify for tax benefits.

However, the Investment Law provides that terms and benefits included in any certificate of approval already granted will remain subject to the provisions of the law as they were on the date of such approval. Therefore, the Israeli companies with Approved Enterprise status will generally not be subject to the provisions of the Amendment.

The entitlement to the above benefits is conditional upon the Company fulfilling the conditions stipulated by the above law, regulations published thereunder and the instruments of approval for the specific investments in "Approved Enterprises". In the event of failure to comply with these conditions, the benefits may be canceled, and the Company may be required to refund the amount of the benefits, in whole or in part, including interest.

In the event of distribution by the Company of a cash dividend out of retained earnings that were tax exempt due to its Approved Enterprise status, the Company would have to pay corporate tax of 10% - 25% on the income from which the dividend was distributed based on the extent to which non-Israeli shareholders hold Company's shares. A 15% withholding tax may be deducted from dividends distributed to the recipients.

On November 15, 2021 a new amendment of the Investment Law ("the Amendment") was enacted (i) providing a reduced corporate income tax on the Trapped Profits distributed within a year from such amendment. The reduced corporate income tax is based on a certain formula and subject to reinvestment of certain amounts in enumerated assets/activities; (ii) harshening the rules with respect to determining the profits from which a dividend was distributed and providing that part of any dividend distribution, will be deemed as distributed from the Trapped Profits, according to a certain formula.

During December 2021, as part of the Tax Assessment audit for the years 2016-2019, the Company entered into an agreement with the Israeli Tax Authorities and opted-in with the new Amendment. The reduced corporate income tax on the Trapped Profits resulted in income tax expenses (net of reductions of uncertain tax positions provisions) of approximately \$3.7M, and was included in the 2021 consolidated statements of operations.

In 2008, the Company submitted a request to approve a new plan (fourth plan) as a Privileged Enterprise in accordance with the Amendment to the Investment Law. The commencing year was 2010, and the expiration year was 2021.

In 2011, new legislation amending to the Investment Law was adopted. Under this new legislation, a uniform corporate tax rate will apply to all qualifying income of certain Industrial Companies (Requirement of a minimum export of 25% of the company's total turnover), as opposed to the current law's incentives, which are limited to income from Approved Enterprises during their benefits period. Under the new law, the uniform tax rate will be 10% in areas in Israel designated as Development Zone A and 15% elsewhere in Israel during 2011-2012, 7% and 12.5%, respectively, in 2013-2014, and 6% and 12%, respectively thereafter. The profits of these Industrial Companies will be freely distributable as dividends, subject to a 15% withholding tax (or lower, under an applicable tax treaty).

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 15 - INCOME TAXES (Cont.)

Under the transition provisions of the new legislation, the Company may decide to irrevocably implement the new law while waiving benefits provided under the current law or to remain subject to the current law.

In August 2013 "The Arrangements Law" (hereinafter—"the Law") was officially published. The following significant changes affecting taxation were approved:

1. The tax rate on a company in Development area A, effective January 1, 2014 is 9% (instead of 7% in 2014 and 6% in 2015 and thereafter), and the tax rate for companies in all other areas will be 16% (instead of 12.5% in 2014 and 12% in 2015 and thereafter).
2. The tax rate on dividend distributed, generated from "preferred income" or by a company that has an approved enterprise increased effective January 1, 2014 from 15% to 20%.

In 2016, most of the Company's taxable income in Israel was attributable to Preferred Enterprises, with a related tax rate of 16%. In 2015 and 2014, most of the Company's taxable income in Israel was attributable to Approved Enterprise programs with zero tax.

C. The New Technological Enterprise Incentives Regime - Amendment 73 to the Investment Law

In December 2016, the Economic Efficiency Law (Legislative Amendments for Applying the Economic Policy for the 2017 and 2018 Budget Years), 2016 which includes Amendment 73 to the Law for the Encouragement of Capital Investments ("the 2017 Amendment") was published. According to the 2017 Amendment, Technological preferred enterprise, as defined in the Law for the Encouragement of Capital Investments, 1959 ("the Encouragement Law"), with total consolidated revenues of less than NIS 10 billion, shall be subject to 12% tax rate on income deriving from intellectual property (in development area A - a tax rate of 7.5%).

Any dividends distributed deriving from income from the preferred technological enterprises will be subject to tax at a rate of 20%. The 2017 Amendment further provides that, in certain circumstances, a dividend distributed to a foreign corporate shareholder, would be subject to a 4% tax rate (if the percentage of foreign investors exceeds 90%).

The Company assessed the criteria for qualifying to a "Preferred Technological Enterprise," status and concluded that the Israeli entity is entitled to the above-mentioned benefits. The Company implemented the new incentives in its tax calculations starting 2017.

D. The Tax Cuts and Jobs Act, 2017:

On December 22, 2017, the U.S. enacted the Tax Cuts and Jobs Act (the "US Tax Act") that instituted fundamental changes to the taxation of multinational corporations. The Tax Act includes significant changes to the U.S. corporate income tax system, including a Federal corporate rate reduction from 35% to 21%, adjustments to rules relating to limitations on the deductibility of interest expense and executive compensation, the transition of U.S. international taxation from a worldwide tax system to a territorial tax system, foreign derived intangible income deduction, rules that impact the utilization of US NOLs and other corporate tax provisions.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 15 - INCOME TAXES (Cont.)

Foreign-Derived Intangible Income:

The 2017 Tax Act provides tax incentives to U.S. companies to earn income from the sale, lease or license of goods and services abroad (i.e., the portion of a domestic corporation's intangible income that is derived from serving foreign markets) in the form of a deduction for foreign-derived intangible income ("FDII"). FDII is taxed at an effective rate of 13.125% for taxable years beginning after December 31, 2017 and at an effective rate of 16.406% for taxable years beginning after December 31, 2025. The accounting for the deduction for FDII is similar to a special deduction and should be accounted for based on the guidance in ASC 740-10-25-37. The tax benefits for special deductions ordinarily are recognized no earlier than the year in which they are deductible on a tax return.

In 2022 Congress enacted the CHIPS and Science Act. Among other provisions, the law includes an "advanced manufacturing investment credit". This is a 25% investment tax credit for investments in semiconductor manufacturing and includes incentives for the manufacturing of semiconductors, as well as for manufacturing of specialized tooling equipment required in the semiconductor manufacturing process. Taxpayers are allowed to treat the credit as a payment against tax ("direct pay").

E. Deferred Taxes:

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes.

Deferred tax assets

Significant components of the deferred tax assets are as follows

	As of December 31,	
	<u>2022</u>	<u>2021</u>
Deferred tax assets:		
Net operating loss carryforwards	1,080	501
Tax credits carryforward	1,610	1,052
Reserve and allowances, mainly research and development expenses carryforward	20,234	8,692
Operating lease liabilities	<u>3,178</u>	<u>1,627</u>
Deferred tax assets before valuation allowance	26,102	11,872
Valuation Allowance	<u>(2,098)</u>	<u>(1,737)</u>
Deferred tax assets after valuation allowance	24,004	10,135
Deferred tax liabilities:		
Convertible senior notes	-	(1,444)
Operating lease right-of-use assets	(2,631)	(1,300)
Intangible assets	(349)	(578)
Reserve and allowances	<u>(927)</u>	<u>(652)</u>
Deferred tax liabilities	<u>(3,907)</u>	<u>(3,974)</u>
Deferred tax assets, net	<u><u>20,097</u></u>	<u><u>6,161</u></u>

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 15 - INCOME TAXES (Cont.)

Deferred tax assets by domestic and foreign are as follows:

	Year ended December 31,	
	2022	2021
Domestic	8,683	3,414
Foreign	11,414	2,747
	<u>20,097</u>	<u>6,161</u>

Under ASC 740-10, deferred tax assets are to be recognized for the anticipated tax benefits associated with net operating loss and tax credits carry-forwards and deductible temporary differences; unless it is more-likely-than-not that some or all of the deferred tax assets will not be realized.

Deferred Tax liability

The \$12,190 deferred tax liability as of December 31, 2022, is due to the intangible assets acquired in the business combination, see note 3 above.

F. Income before taxes on income included in the consolidated statements of operations:

	Year ended December 31,		
	2022	2021	2020
Domestic	121,076	76,400	42,164
Foreign (mainly US)	37,333	32,853	14,332
	<u>158,409</u>	<u>109,253</u>	<u>56,496</u>

G. Income tax expenses (tax benefits) included in the consolidated statements of operations:

	Year ended December 31,		
	2022	2021	2020
Domestic	15,868	12,297	7,238
Foreign (mainly US)	2,328	3,855	1,351
	<u>18,196</u>	<u>16,152</u>	<u>8,589</u>
Current	32,323	19,311	9,620
Deferred	(14,127)	(3,159)	(1,031)
	<u>18,196</u>	<u>16,152</u>	<u>8,589</u>

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 15 - INCOME TAXES (Cont.)

H. Tax Reconciliation:

The following is a reconciliation of the theoretical tax expense, assuming that all income is taxed at the ordinary statutory average corporate tax rate in Israel and the actual tax expense in the statement of operations, is as follows:

	Year ended December 31,		
	2022	2021	2020
Income before taxes on income	158,409	109,253	56,496
Statutory tax expenses	19,009	13,110	6,780
Effect of non-benefited income New Technological or Preferred Enterprises statuses in Israel	335	88	130
Permanent differences, including difference between the basis of measurement of income reported for tax purposes and the basis of measurement of income for financial reporting purposes, net	(1,131)	(448)	(199)
Change in tax reserve for uncertain tax positions	(51)	(713)	1,806
Effect of foreign operations taxed at various rates	3,477	3,249	1,381
Foreign Derived Intangible Income benefit	(2,483)	(1,785)	(526)
Tax credits	(1,640)	(1,592)	(1,526)
Trapped Profits agreement net effect	-	3,716	-
Adjustments for previous year's tax	(172)	(113)	249
Change in valuation allowance	692	601	413
Other	160	39	81
	<u>(813)</u>	<u>3,042</u>	<u>1,809</u>
Actual tax expenses	<u>18,196</u>	<u>16,152</u>	<u>8,589</u>

I. Effective Tax Rates:

The Company's effective tax rates differ from the statutory rates applicable to the Company for tax year 2022, primarily due to stock-based compensation deductible expenses, tax credits and foreign derived intangible income benefit in the US.

The Company's effective tax rates differ from the statutory rates applicable to the Company for tax year 2021, primarily due to stock-based compensation deductible expenses, tax credits and foreign derived intangible income benefit in the US.

J. Tax Assessments:

In December 2021 the Parent Company has received final tax assessments for the years 2016-2019 from the Israeli Tax Authorities.

For the US subsidiary, with regards to any tax years starting 2015 and any tax attributes carryforwards from prior periods remain subject to examination in future periods (under the standard US statute of limitation and subject to tax filing).

In 2019, Ancosys GmbH received final tax assessments for the years 2014-2016.

The other subsidiaries received final tax assessments through tax years 2012 until 2016.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 15 - INCOME TAXES (Cont.)

K. Undistributed earnings of foreign subsidiaries:

The Company considers the earnings of certain subsidiaries to be indefinitely invested outside Israel on the basis of estimates that future domestic cash generation will be sufficient to meet future domestic cash needs and the Company's specific plans for reinvestment of those subsidiary earnings. The Company has not recorded a deferred tax liability of approximately \$26,432 related to the Israel income taxes of undistributed earnings of foreign subsidiaries indefinitely invested outside Israel. Should the Company decide to repatriate the foreign earnings, the Company would need to adjust the Company's income tax provision in the period the Company determined that the earnings will no longer be indefinitely invested outside Israel.

L. Uncertain Tax Positions:

The taxation of the Company's business is subject to the application of multiple and sometimes conflicting tax laws and regulations as well as multinational tax conventions. The application of tax laws and regulations is subject to legal and factual interpretation, judgment and uncertainty.

In addition, the Company classifies interest and penalties recognized in the financial statements relating to uncertain tax position under the income taxes line item.

Tax laws themselves are subject to change as a result of changes in fiscal policy, changes in legislation and the evolution of regulations and court rulings. Consequently, taxing authorities may impose tax assessments or judgments against the Company that could materially impact its tax liability and/or its effective income tax rate.

The Company believes that it has adequately provided for any reasonably foreseeable outcomes related to tax audits and settlement. The final tax outcome of its tax audits could be different from that which is reflected in the Company's income tax provisions and accruals. Such differences could have a material effect on the Company's income tax provision and net income in the period in which such determination is made.

The following table summarizes the changes in uncertain tax positions:

	As of	
	December 31,	
	2022	2021
Balance at the beginning of the year	8,135	11,080
Increase related to prior year tax positions	-	271
Decrease related to prior year tax positions	(1,099)	(4,403)
Increase related to current year tax positions	1,709	1,187
Balance at the end of the year*	8,745	8,135

* The amounts for the years ended December 31, 2022 and 2021 includes \$2,590 and \$2,412 unrecognized tax benefits, respectively, which are presented as a reduction from deferred tax assets, see Note 15e.

The Company recognizes interest and penalties related to unrecognized tax benefits as a component of income tax expenses.

M. Income from Other Sources in Israel:

Income not eligible for benefits under the New Technological Enterprise Laws mentioned in "C" above are taxed at the corporate tax rate of 23%.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 16 - GEOGRAPHIC AREAS AND MAJOR CUSTOMERS

A. Sales by Geographic Area (as Percentage of Total Sales):

	Year ended December 31,		
	2 0 2 2	2 0 2 1	2 0 2 0
	%	%	%
Taiwan, R.O.C.	32	37	33
China	28	21	19
USA	16	23	23
Korea	13	11	17
Other	11	8	8
Total	100	100	100

Revenues are attributed to countries based on the geographic location of the customer.

B. Sales by Major Customers (as Percentage of Total Sales):

	Year ended December 31,		
	2 0 2 2	2 0 2 1	2 0 2 0
	%	%	%
Customer A	23	31	26
Customer B	12	21	24

C. Long-lived assets by geographic location:

	As of	
	December 31,	
	2 0 2 2	2 0 2 1
	%	%
Israel	66	74
US	20	19
Other	14	7
Total long-lived assets (*)	100	100

(*) Long-lived assets are comprised of property, plant and equipment, net and operating lease right-of-use assets.

NOVA LTD.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(U.S. dollars in thousands, except share and per share data)

NOTE 17 - FINANCIAL INSTRUMENTS

A. Hedging Activities

The Company enters into forward contracts, and currency options to hedge its balance sheet exposure as well as certain future cash flows in connection with certain operating expenses (mainly payroll and related expenses) and forecast transactions which are expected to be denominated mainly in New Israeli Shekel ("NIS"). The Company is exposed to losses in the event of non-performance by counterparties to financial instruments; however, as the counterparties are major Israeli banks, credit risk is considered immaterial. The Company does not hold or issue derivatives for trading purposes. The notional amounts of the hedging instruments as of December 31, 2022 and December 31, 2021 were \$85,293, and \$32,590 respectively. The terms of all of these currency derivatives are less than one year.

B. Derivative Instruments

The fair value of derivative contracts as of December 31, 2022 and December 31, 2021 was as follows:

	Derivative Assets		Derivative Liabilities	
	Reported in		Reported in	
	Other Current Assets		Other Current Liabilities	
	December 31,		December 31,	
	2022	2021	2022	2021
Derivatives designated as hedging instruments in cash flow hedge	-	249	454	-

The impact of derivative instrument on total operating expenses in the year ended December 31, 2022, 2021 and 2020 was:

	Year ended December 31,		
	2022	2021	2020
Loss (gain) on derivative instruments	1,813	453	796

NOTE 18 - FINANCIAL INCOME (EXPENSE), NET

	Year ended December 31,		
	2022	2021	2020
Interest income	6,478	2,194	4,057
Financial expense related to the Convertible Senior Notes (Note 11)	(1,282)	(4,229)	(868)
Exchange rate gain (loss), net	3,469	(948)	(2,172)
Bank charges	(187)	(150)	(91)
Total	8,478	(3,133)	926

EXHIBIT INDEX

Number	Description
1.1	Amended and Restated Articles of Association (incorporated by reference to Exhibit 1.1 to the Company’s Annual Report on Form 20-F filed with the Securities and Exchange Commission on March 1, 2022)
2.1	Description of Securities (incorporated by reference to Exhibit 2.1 to the Company’s Annual Report on Form 20-F filed with the Securities and Exchange Commission on March 1, 2022)
4.2	2007 Incentive Plan, as amended (incorporated by reference to Exhibit 4.2 to the Company’s Annual Report on Form 20-F filed with the Securities and Exchange Commission on February 25, 2015)
4.3	2017 Share Incentive Plan (incorporated by reference to Exhibit 99.1 to the Company’s Registration Statement on Form S-8 filed with the Securities and Exchange Commission on August 25, 2017 (File No. 333-220158)
4.4	Form of Indemnification Agreement between the Company and its present and future directors and officers (filed herewith)
4.5	Share Purchase Agreement dated November 16, 2021 by and among Nova Ltd., Nova Measuring Instruments GmbH, ancosys GmbH, and the Representative (named therein) (incorporated by reference to Exhibit 4.5 to the Company’s Annual Report on Form 20-F filed with the Securities and Exchange Commission on March 1, 2022) Portions of this exhibit have been redacted in compliance with SEC regulations
4.6	Summary of lease agreement dated May 28, 2000, as amended and supplemented (incorporated by reference to Exhibit 4.4 to the Company’s Annual Report on Form 20-F filed with the Securities and Exchange Commission on March 3, 2017)
4.7	Compensation Policy for Executive Officers and Directors (filed herewith)
4.8	Summary of lease agreement dated May 3, 2018, by and between the Company and Bayside Land Corporation Ltd. (incorporated by reference to Exhibit 4.7 to the Company’s Annual Report on Form 20-F filed with the Securities and Exchange Commission on February 28, 2019).
8.1	List of Subsidiaries (filed herewith).
12.1	Certification required by Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended (filed herewith).
12.2	Certification required by Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended (filed herewith).
13.1	Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith).
13.2	Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith).
15.1	Consent of Kost Forer Gabbay & Kasierer (filed herewith).
101.INS	Inline XBRL Instance Document—the instance document does not appear in the Interactive Data File as its XBRL tags are embedded within the Inline XBRL document
101.SCH	Inline XBRL Taxonomy Extension Schema
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase
104	Cover page formatted as Inline XBRL and contained in Exhibit 101

SIGNATURES

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and has duly caused and authorized the undersigned to sign this Annual Report on its behalf.

NOVA LTD.

By: */s/ Eitan Oppenheim*

Eitan Oppenheim

President and Chief Executive Officer

Date: February 28, 2023



Date:

Ms.\Mr.

I.D:

Letter of Indemnification

1. The Company hereby undertakes to indemnify you for any obligation imposed on you or expense spent by you as a result of your capacity as an Officer of the Company, as defined under the Israeli Companies Law 5759-1999 (the "Companies Law") (hereinafter: the "Officer"), subject to the applicable law, the Company's Amended and Restated Articles of Association and as follows:
 - 1.1. A monetary obligation imposed on you or incurred by you in favor of another person pursuant to a judgment, including a judgment given in settlement or a court approved settlement or arbitrator's award, subject to Section 1.6 below.
 - 1.2. Reasonable litigation expenses, including attorney's fees, incurred by you in consequence of an investigation or proceeding conducted or filed against you by an authority that is authorized to conduct such investigation or proceeding, provided that such investigation or proceeding: (i) concludes without the filing of an indictment against you and without imposition of a monetary liability in lieu of criminal proceedings; (ii) concludes with the imposition of a monetary payment on you in lieu of criminal proceedings, but the criminal offense in question does not require the proof of criminal intent; or (iii) in connection with a monetary sanction.
 - 1.3. Reasonable litigation expenses, including attorney's fees, incurred by you or which you were obligated to pay by a court, in proceedings filed against you by the Company or on its behalf or by another person, or in a criminal charge of which you were acquitted, or in a criminal charge of which you were convicted of an offense that does not require proof of criminal intent.
 - 1.4. Any monetary obligation imposed on you in favor of all the injured parties by a breach in an Administrative Procedure, as stated in Section 52(54)(a)(1)(a) to the Securities Law, 5728-1968 (the "Securities Law"). The term "Administrative Procedure" shall have the following meaning: a procedure according to Chapter 8C (Financial Sanctions), 8D (Administrative Enforcement Measures Imposition by the Administrative Enforcement Committee) or 9A (Arrangement for Avoidance from or Cessation of Procedures) to the Securities Law, as amended from time to time.
 - 1.5. Expenses expended by you with respect to an Administrative Procedure (as defined in Section 1.4 above) relating to you, including reasonable litigation expenses, which include attorneys' fees.
 - 1.6. With regards to Section 1.1, this obligation to indemnify is limited to the events detailed in Annex A which according to the Board of Directors' opinion, are foreseen in light of the Company's actual activities, and which shall not exceed the Maximum Indemnification Amount, as detailed below in Section 1.7. The Board of Directors has determined that such amounts and criteria set by the Board of Directors are reasonable under the circumstances.
 - 1.7. The aggregate indemnification amount that the Company will pay to all of its Officers, whether in advance or post factum, under all the indemnification letters that shall be issued by the Company pursuant to this Letter of Indemnification, shall not exceed the greater of (a) twenty-five percent (25%) of the Company's total shareholders' equity according to the Company's most recent financial statements as of the time of the actual payment of indemnification; (b) US\$200 million; (c) ten percent (10%) of the Company Total Market Cap (which shall mean the average closing price of the Company's ordinary shares over the 30 trading days prior to the actual payment of indemnification multiplied by the total number of issued and outstanding shares of the Company as of the date of actual payment); and (d) in connection with or arising out of a public offering of the Company's securities, the aggregate amount of proceeds from the sale by the Company and/or any shareholder of Company's securities in such offering (hereinafter the "Maximum Indemnification Amount").

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- 1.8. In the event the indemnification amount the Company is required to pay its Officers, as set forth above, exceeds the Maximum Indemnification Amount or its remaining balance (as existing at that time), the Maximum Indemnification Amount or its remaining balance will be divided among the Officers entitled to indemnification, so that the amount of indemnification each of them will actually receive will be calculated in accordance with the ratio between the amount for which each individual may be indemnified and the aggregate amount for which all the relevant Officers may be indemnified.
- 1.9. **For the avoidance of doubt, it is hereby clarified that nothing contained in this Letter of Indemnification or in the above resolutions derogate from the Company's right, subject to Board of Directors approval, to indemnify you post factum for any amounts which you may be obligated to pay as set forth in Section 1 above without the limitations set forth in Section 1.7 above. The aforesaid shall however not be construed as an obligation of the Company to indemnify you after the fact.**
2. The Company shall act according to this Letter of Indemnification as detailed above in regards to any other company controlled, directly or indirectly, by the Company (a "Subsidiary") with respect to the periods such other company is a Subsidiary or in your capacity as a director, or observer at board of director meetings, of a company not controlled by the Company but where your appointment as a director or observer results from the Company's holdings in such company ("Affiliate").
3. Notwithstanding the above, in no event will the Company indemnify you for the following events:
- 3.1. a breach of fiduciary duty, except for a breach of a fiduciary duty to the Company, a Subsidiary or an Affiliate while acting in good faith and having reasonable cause to assume that such act would not harm the Company's interests;
- 3.2. a reckless or intentional breach of duty of care that was not done negligently;
- 3.3. an action taken with the intent of making personal gain unlawfully;
- 3.4. a fine, civil fine, a monetary sanction or forfeit imposed upon you for an offense;
- 3.5. a counterclaim made by the Company or in its name in connection with a claim against the Company filed by you.
4. The Company will make available all amounts needed in accordance with Section 1 above on the date on which such amounts are first payable by you.
5. The Company shall advance to you all expenses incurred by you in connection with a claim on the date on which such amounts are first payable, but has no duty to advance payments within less than fourteen (14) days following delivery of a written request therefor. The foregoing shall not apply in circumstances where the Company shall take upon itself to manage the proceedings as provided herein below.
6. As part of the aforementioned undertaking and subject to Sections 1.1 – 1.5 above, the Company will make available to you any security or guarantee that you may be required to post in accordance with an interim decision given by a court or an arbitrator, including for the purpose of substituting liens imposed on your assets.
7. The Company will indemnify you, in accordance with this Letter of Indemnification, even if at the relevant time of indebtedness you are no longer an Officer of the Company or of a Subsidiary or a director or board observer of an Affiliate, provided that the obligations are in respect of actions taken by you while you were an Officer and/or board observer, as aforesaid, and in such capacity, including if taken prior to the above resolutions.
8. No payment hereunder shall be made to you in connection with any event for which payment is actually paid to you under a valid and collectible insurance policy or under a valid and enforceable indemnity clause or agreement (excluding this Letter of Indemnification), except in respect of any excess beyond the payment under such insurance, clause or agreement.

9. Additionally, it is emphasized that this Letter of Indemnification is not to be construed as an agreement for the benefit of any third party, including any insured party, and it is not transferable, and no insurer will have the right to request that the Company participate in any payment for which the insurer is obligated under any insurance agreement to which it is a party, other than a deductible that is specified in such agreement.
10. Subject to this Letter of Indemnification, the indemnification will, in each case, cover all sums of money (100%) that you will be obligated to pay, in those circumstances for which indemnification is permitted under law and under this Letter of Indemnification.
11. The Company will be entitled to any amount collected from a third party in connection with liabilities indemnified hereunder.
12. Indemnification by the Company as detailed in this Letter of Indemnification will also be subject to fulfilling the following procedures:
 - 12.1. You will inform the Company of every legal or administrative proceeding that may be brought against you in connection with any event that may entitle you to indemnification, and of every warning made to you in writing, regarding legal or administrative proceedings that may be commenced against you, and this will be done in a timely manner, immediately after you first become aware of such, and you will provide to the Company or to whom the Company will instruct you, all documents in connection with such proceedings.

Similarly, you must advise the Company on an ongoing and current basis concerning all events which you suspect may give rise to the initiation of legal or administrative proceedings against you.
 - 12.2. The Company will, within a reasonable period of time (or within a shorter period of time if the matter requires filing a statement of defense or a response to a proceeding), take upon itself the handling of your defense in the legal proceeding and/or entrust such handling to any prominent attorney the Company may select at its discretion for this purpose, subject to the fulfillment of all the following conditions: (a) you have informed the Company as provided in Section 12.1 above; and (b) the legal proceedings against you solely involves a claim for monetary damages. The Company and/or the above-mentioned attorney will be entitled to act within their exclusive discretion to bring the proceeding to a close; the appointed attorney will owe his/her duty of loyalty to the Company and to you. In the event that a conflict of interests arises between you and the Company, the attorney will so inform the Company of any such conflict and you, subject to the Company's approval, which approval not to be unreasonably withheld, will have the right to appoint an attorney on your behalf, and the provisions of this Letter of Indemnification will apply to expenses you may incur as a result of such appointment. If the Company decides to settle or arbitrate a monetary obligation, the Company will be entitled to do so, as long as the lawsuit or the threat of a lawsuit against you will be fully withdrawn. At the request of the Company you will sign any document that will empower the Company and/or attorney as mentioned above, to act on your behalf with regard to your defense in the above-mentioned proceedings and to represent you in all matters relating to these proceedings, as set forth above. Without derogating from the above provision with respect to a conflict of interests, in any event where, on reasonable grounds, the attorney chosen by the Company is unacceptable to you, you shall be entitled to appoint your own attorney and the provisions of this Letter of Indemnification will apply to expenses you may incur as a result, provided, however, that the proposed appointment of such attorney including the identity and terms of engagement of such attorney be brought immediately to the attention of the Company for its *prior* written approval, which approval not to be unreasonably withheld.
 - 12.3. You will cooperate with the Company and/or with any attorneys as set forth above in every reasonable manner required of you by any of them in connection with the handling of such legal proceedings, all subject to this Letter of Indemnification.

- 12.4. Whether or not the Company acts as specified in Section 12.2 above, the Company will cover all other expenditures and payments that are mentioned in this Letter of Indemnification, so that you will not be required to pay or to finance them yourself.
- 12.5. Your indemnification in connection with any legal proceeding against you, as set forth in this Letter of Indemnification, will not be enforceable in connection with amounts you may be required to pay as a result of a settlement or arbitration unless the Company agrees in writing to the settlement or to the entering into the arbitration proceeding, as the case may be.
- If required by law, the Company's authorized organs will consider the request for indemnification and the amount thereof and will determine if you are entitled to indemnification and the amount thereof.
- 12.6. If, for any reason, the Company has decided not to appoint an attorney, as detailed in Section 12.2 above, you will have the right to appoint an attorney of your choice, provided that the proposed appointment of such attorney including the identity and terms of engagement of such attorney be brought immediately to the attention of the Company for its prior written approval, which approval not to be unreasonably withheld. If you do not inform the Company regarding your choice of attorney in compliance with the above, the Company will have the right in its discretion to appoint an attorney on your behalf.
13. This Letter of Indemnification is issued after receipt by the Company of all required approvals under law and the Amended and Restated Articles of Association of the Company. Should any additional approval be required, the Company will exert its best effort to obtain such approval.
14. If the Company pays to you, or on your behalf, any amount in connection with a legal proceeding as provided in this Letter of Indemnification, and thereafter it is determined that you are not entitled to such indemnification from the Company as detailed in this Letter of Indemnification, the sums paid by the Company will be considered a loan that was extended to you by the Company, which will be linked to the Consumer Price Index plus interest at the rate established in the Income Tax Regulations (Establishment of Interest Rates) – 1985, as may be in effect from time to time, and you will be required to repay these sums to the Company when requested to do so in writing by the Company and in accordance with a payment schedule that the Company determines.
15. In order to remove any doubt, in the event of death, this Letter of Indemnification will apply to your heirs.
16. Subject to the provisions of the Companies Law, the Company hereby releases you, in advance, from liability for any damage that arises from the breach of your duty of care (within the meaning of such terms under Sections 252 and 253 of the Companies Law), other than breach of the duty of care towards the Company in a distribution (as such term is defined in the Companies Law).
17. No waiver, omission or grant of extension by the Company or by you will be interpreted in any manner as a waiver of rights pursuant to this Letter of Indemnification or under applicable law, and will not prevent either party from taking all legal and other measures in order to enforce such rights.
18. If any undertaking included in this Letter of Indemnification is held invalid or unenforceable, such invalidity or unenforceability will not affect any of the other undertakings which will remain in full force and effect. Furthermore, if such invalid or unenforceable undertaking may be modified or amended so as to be valid and enforceable as a matter of law, such undertakings will be deemed to have been modified or amended, and any competent court or arbitrator are hereby authorized to modify or amend such undertaking, so as to be valid and enforceable to the maximum extent permitted by law. Notwithstanding the above, if this Letter of Indemnification shall be declared or found void for any reason whatsoever then any previous undertaking of the Company for indemnification towards you, which this Letter of Indemnification is intended to replace, shall remain in full force and effect.
19. The terms contained in this Letter of Indemnification will be construed in accordance with the Companies Law, and in the absence of any definition in the Companies Law, pursuant to the Securities Law.

Annex A

Subject to any provision of law, the events are as follows:

1. The issuance of securities including, but not limited to the public according to a prospectus, a private offering, sales offering, the issuance of bonus shares, issuance of securities and/or any other manner of security offering and also tender offers for securities, the Company's purchase of its own and its subsidiaries' securities, as well as any action relating to any of the above.
2. A "Transaction" or "Activity" as defined in Article 1 of the Companies Law, including among others a negotiation regarding such Transaction and/or Activity, transfer, sale and/or purchase of assets and/or liabilities, including securities and/or the granting and/or receiving of any right in any of the above, including among others, the acquisition, sale or merger of entities and/or any action connected directly or indirectly with such a Transaction.
3. The filing of a report and/or announcement required by the Companies Law and/or Securities Law, or U.S. Securities Laws, including the regulations pertaining to these laws, and/or according to rules and/or regulations adopted by the Tel-Aviv Stock Exchange Ltd. or The Nasdaq or any other stock exchange and/or any law of any other country pertaining to these issues and/or the failure to file such a report and/or announcement.
4. Any decision regarding a Distribution, as defined in the Companies Law including a Distribution pursuant to a court order.
5. Preparation of financial statements of the Company and its Subsidiaries and approval of such financials.
6. A change in the Company's structure and/or a reorganization of the Company, including any arrangement between the Company and its shareholders and/or creditors according to the Companies Law, and/or any decision relating to these issues including, but not limited to, a merger, a demerger, a change in the Company's capital, the establishment of subsidiaries and/or their liquidation or sale, and/or all allotments or distributions.
7. Expressions, announcements, statements, including a position taken, and/or an opinion made in good faith by an Officer in the course of and/or in connection with his/her duties, including during negotiations and contracting with suppliers, consultants and consumers and/or during a meeting of the Company's management, Board of Directors and/or one of its committees.
8. An action made in good faith in contradiction to the Memorandum of Incorporation and/or the Amended and Restated Articles of Association.
9. An Action and/or decision relating to employer-employee relations including employment agreements, negotiations regarding employment agreements, salary and/or other employee benefits, including employee stock option plans and/or option distributions to employees.
10. An action and/or decision relating to work safety and/or working conditions and/or employee activities and/or any event relating thereto.
11. An action or decision relating to insurance matters and/or risk management of the Company.
12. Actions relating to the Company's commercial relations, including with employees, outside contractors, customers, suppliers, and service providers.
13. Preparation of work plans, including pricing, marketing, distribution, and instructions to employees, to customers and to suppliers and to cooperative arrangements, including with competitors.
14. Actions relating to product development, to the conduct of product testing, approvals, sales, distribution of licensing in their regard.
15. Decisions and/or actions relating to environmental compliance, including pollution, contamination, and hazardous materials.
16. Granting of liens on Company assets and granting guarantees on behalf of the Company.

17. Compliance with various governmental requirements in Israel and outside Israel, including a Ministry of Defense, Antitrust Authority, Securities Authority, Environmental Compliance Agency and Tax Authorities.
18. Investigations conducted against you by any governmental or quasi-governmental authority.
19. Establishment and management of financial policy, including credit policies, hedging against changes in currency exchange rates and utilization of cash reserves.
20. Actions taken (or alleged omissions) pursuant to or in accordance with the policies and procedures of the Company, its subsidiaries and/or its affiliates, whether such policies and procedures are published or not.
21. Causing damages, including bodily injury and property damage, partial or comprehensive loss, loss of use or disability, during any action or omission relating to the Company, or relating to its employees, agents or others who act or are purported to act on behalf of the Company.
22. An event resulting from the Company being a publicly traded company or due to its shares being issued to the public.
23. Transfer of information required or permitted to be transferred under applicable law to an interested party of the Company.
24. An act that may be considered as an infringement of the intellectual property rights of a third party, or an act relating to the Company's intellectual property, *inter alia*, by taking action and filing lawsuits.
25. Any of the above specified events relating to an activity of an entity controlled by the Company or an entity affiliated with the Company or pursuant to the Officer's position in an affiliated entity and/or in an entity controlled by the Company.
26. Any other actions which can be anticipated for companies of the type of the Company, and which the Board of Directors may deem appropriate.
27. Any indemnifiable event and/or action pursuant to the Efficiency of Enforcement Procedures in the Securities Authority Law (Legislation Amendments), 2011.
28. Any of the above specified events, whether occurring in Israel or occurring outside of Israel.

COMPENSATION POLICY

NOVA LTD.

Compensation Policy for Executive Officers and Directors

(As Adopted by the Shareholders on June 23, 2022)

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A. Overview and Objectives

1. Introduction

This document sets forth the Compensation Policy for Executive Officers and Directors (this “**Compensation Policy**” or “**Policy**”) of Nova Ltd. (“**Nova**” or the “**Company**”), in accordance with the requirements of the Companies Law, 5759-1999 (the “**Companies Law**”).

Compensation is a key component of Nova’s overall human capital strategy to attract, retain, reward, and motivate highly skilled individuals that will enhance Nova’s value and otherwise assist Nova to reach its business and financial long-term goals. Accordingly, the structure of this Policy is established to tie the compensation of each officer to Nova’s goals and performance.

For purposes of this Policy, “Executive Officers” shall mean “Office Holders” as such term is defined in Section 1 of the Companies Law, excluding, unless otherwise expressly indicated herein, Nova’s directors.

This policy is subject to applicable law and is not intended, and should not be interpreted as limiting or derogating from, provisions of applicable law to the extent not permitted.

This Policy shall apply to compensation agreements and arrangements which will be approved after the date on which this Policy is adopted and shall serve as Nova’s Compensation Policy for three (3) years, commencing as of its adoption.

The Compensation Committee and the Board of Directors of Nova (the “**Compensation Committee**” and the “**Board**”, respectively) shall review and reassess the adequacy of this Policy from time to time, as required by the Companies Law.

2. Objectives

Nova’s objectives and goals in setting this Policy are to attract, motivate and retain highly experienced leaders who will contribute to Nova’s success and enhance shareholder value, while demonstrating professionalism in a highly achievement-oriented culture that is based on merit and rewards excellent performance in the long term, and embedding Nova’s core values as part of a motivated behavior. To that end, this Policy is designed, among others:

- 2.1. To closely align the interests of the Executive Officers with those of Nova’s shareholders in order to enhance shareholder value;
- 2.2. To align a significant portion of the Executive Officers’ compensation with Nova’s short and long-term goals and performance;
- 2.3. To provide the Executive Officers with a structured compensation package, including competitive salaries, performance-motivating cash and equity incentive programs and benefits, and to be able to present to each Executive Officer an opportunity to advance in a growing organization;
- 2.4. To strengthen the retention and the motivation of Executive Officers in the long term;
- 2.5. To provide appropriate awards in order to incentivize superior individual excellency and corporate performance; and
- 2.6. To maintain consistency in the way Executive Officers are compensated.

3. Compensation Instruments

Compensation instruments under this Policy may include the following:

- 3.1. Base salary;
- 3.2. Benefits;
- 3.3. Cash bonuses;
- 3.4. Equity based compensation; and
- 3.5. Retirement and termination terms.

4. Overall Compensation - Ratio Between Fixed and Variable Compensation

- 4.1. This Policy aims to balance the mix of “Fixed Compensation” (comprised of base salary and benefits) and “Variable Compensation” (comprised of cash bonuses and equity-based compensation) in order to, among other things, appropriately incentivize Executive Officers to meet Nova’s short- and long-term goals while taking into consideration the Company’s need to manage a variety of business risks.
- 4.2. The total annual bonus and equity-based compensation of each Executive Officer shall not exceed 90% of the total compensation package of such Executive Officer on an annual basis.

5. Inter-Company Compensation Ratio

- 5.1. In the process of drafting and updating this Policy, Nova’s Board and Compensation Committee have examined the ratio between employer cost associated with the engagement of the Executive Officers, including directors, and the average and median employer cost associated with the engagement of Nova’s other employees (including contractor employees as defined in the Companies Law) (the “Ratio”).
- 5.2. The possible ramifications of the Ratio on the daily working environment in Nova were examined and will continue to be examined by Nova from time to time in order to ensure that levels of executive compensation, as compared to the overall workforce will not have a negative impact on work relations in Nova.

B. Base Salary and Benefits

6. Base Salary

- 6.1. A base salary provides stable compensation to Executive Officers and allows Nova to attract and retain competent executive talent and maintain a stable management team. The base salary varies among Executive Officers, and is individually determined according to the educational background, prior vocational experience, qualifications, company’s role, business responsibilities and the past performance of each Executive Officer.
- 6.2. Since a competitive base salary is essential to Nova’s ability to attract and retain highly skilled professionals, Nova will seek to establish a base salary that is competitive with base salaries paid to Executive Officers in a peer group of other companies operating in technology sectors which are similar in their characteristics to Nova’s, as much as possible, while considering, among others, such companies’ size and characteristics including their revenues, profitability rate, number of employees and operating arena (in Israel or globally), the list of which shall be reviewed and approved by the Compensation Committee at least every two years. To that end, Nova shall utilize as a reference, comparative market data and practices, which will include a compensation survey that compares and analyses the level of the overall compensation package offered to an Executive Officer of the Company with compensation packages in similar positions to that of the relevant officer) in such companies. Such compensation survey may be conducted internally or through an external independent consultant. Information on such compensation survey shall be included in the proxy statement published in connection with the annual general meeting of Nova’s shareholders.
- 6.3. The Compensation Committee and the Board may periodically consider and approve base salary adjustments for Executive Officers. The main considerations for salary adjustment are similar to those used in initially determining the base salary, but may also include change of role or responsibilities, recognition for professional achievements, regulatory or contractual requirements, budgetary constraints or market trends. The Compensation Committee and the Board will also consider the previous and existing compensation arrangements of the Executive Officer whose base salary is being considered for adjustment.

7. Benefits

- 7.1. The following benefits may be granted to the Executive Officers in order, among other things, to comply with legal requirements:
 - 7.1.1. Vacation days in accordance with market practice;
 - 7.1.2. Sick days in accordance with market practice;
 - 7.1.3. Convalescence pay according to applicable law;
 - 7.1.4. Monthly remuneration for a study fund, as allowed by applicable law and with reference to Nova's practice and the practice in peer group companies;
 - 7.1.5. Nova shall contribute on behalf of the Executive Officer to an insurance policy or a pension fund, as allowed by applicable law and with reference to Nova's policies and procedures and the practice in peer group companies; and
 - 7.1.6. Nova shall contribute on behalf of the Executive Officer towards work disability insurance, as allowed by applicable law and with reference to Nova's policies and procedures and to the practice in peer group companies.
 - 7.2. Non-Israeli Executive Officers may receive other similar, comparable or customary benefits as applicable in the relevant jurisdiction in which they are employed. Such customary benefits shall be determined based on the methods described in Section 6.2 of this Policy (with the necessary changes).
 - 7.3. In the event of relocation of an Executive Officer to another geography, such Executive Officer may receive other similar, comparable or customary benefits as applicable in the relevant jurisdiction in which he or she is employed or additional payments to reflect adjustments in cost of living. Such benefits shall include reimbursement for out of pocket one-time payments and other ongoing expenses, such as housing allowance, car allowance, and home leave visit, etc.
 - 7.4. Nova may offer additional benefits to its Executive Officers, which will be comparable to customary market practices, such as, but not limited to: cellular and land line phone benefits, company car and travel benefits, reimbursement of business travel including a daily stipend when traveling and other business related expenses, insurances, other benefits (such as newspaper subscriptions, academic and professional studies), etc., provided, however, that such additional benefits shall be determined in accordance with Nova's policies and procedures.
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C. Cash Bonuses

8. Annual Cash Bonuses - The Objective

- 8.1. Compensation in the form of an annual cash bonus is an important element in aligning the Executive Officers' compensation with Nova's objectives and business goals. Therefore, a pay-for-performance element, as payout eligibility and levels are determined based on actual financial and operational results, as well as individual performance.
- 8.2. An annual cash bonus may be awarded to Executive Officers upon the attainment of pre-set periodical objectives and individual targets determined by the Compensation Committee (and, if required by law, by the Board) at the beginning of each calendar year, or upon engagement, in case of newly hired Executive Officers, taking into account Nova's short and long-term goals, as well as its compliance and risk management policies. The Compensation Committee and the Board shall also determine applicable minimum thresholds (based on annual budget revenue and/or positive non-GAAP operating income) that must be met for entitlement to the annual cash bonus (all or any portion thereof) and the formula for calculating any annual cash bonus payout, with respect to each calendar year, for each Executive Officer. In special circumstances, as determined by the Compensation Committee and the Board (e.g., regulatory changes, significant changes in Nova's business environment, a significant organizational change and a significant merger and acquisition events), the Compensation Committee and the Board may modify the objectives and/or their relative weights during the calendar year.
- 8.3. The total annual cash bonuses awarded to all of Nova's Executive Officers shall not exceed 10% of Nova's non-GAAP operating income.
- 8.4. In the event the employment of an Executive Officer is terminated prior to the end of a fiscal year, the Company may pay such Executive Officer a full annual cash bonus or a prorated one. Such bonus will become due on the same scheduled date for annual cash bonus payments by the Company.
- 8.5. The actual annual cash bonus to be awarded to Executive Officers shall be approved by the Compensation Committee and the Board.

9. Annual Cash Bonuses - The Formula

Executive Officers other than the CEO

- 9.1. The annual cash bonus of Nova's Executive Officers, other than the chief executive officer (the "CEO"), will be based on performance objectives and a discretionary evaluation of the Executive Officer's overall performance by the CEO and subject to minimum thresholds. The performance objectives will be approved by Nova's CEO at the commencement of each calendar year (or upon engagement, in case of newly hired Executive Officers or in special circumstances as indicated in Section 8.2 above) on the basis of, but not limited to, company, division and individual objectives. The performance measurable objectives, which include the objectives and the weight to be assigned to each achievement in the overall evaluation, will be based on:
 - 9.1.1. Overall company performance measures, which are based on actual financial and operational results, such as revenues, sales, operating income and cash flow. At least 30% of the annual cash bonus of Nova's Executive Officers will be based on overall company performance measures; and
 - 9.1.2. Divisional objectives which may include operational objectives, such as market share, initiation of new markets and products and operational efficiency, customer focus objectives, such as system availability requirements and customer satisfaction, project milestones objectives, such as product implementation in production, product acceptance and new product penetration, and investment in human capital objectives, such as employee satisfaction, employee retention and employee training and leadership programs.
 - 9.2. Information on the CEO's performance measurable objectives shall be included in the proxy statement published in connection with the annual general meeting of Nova's shareholders.
 - 9.3. The target annual cash bonus that an Executive Officer, other than the CEO, will be entitled to receive for any given calendar year, will not exceed 100% of such Executive Officer's annual base salary.
 - 9.4. The maximum annual cash bonus including for overachievement performance that an Executive Officer, other than the CEO, will be entitled to receive for any given calendar year, will not exceed 150% of such Executive Officer's annual base salary.
-

CEO

- 9.5. The annual cash bonus of Nova's CEO will be mainly based on performance measurable objectives and subject to minimum thresholds as provided in Section 8.2 above. Such performance measurable objectives will be determined annually by Nova's Compensation Committee (and, if required by law, by Nova's Board) at the commencement of each calendar year (or upon engagement, in case of newly hired CEO or in special circumstances as indicated in Section 8.2 above) on the basis of, but not limited to, company and personal objectives. These performance measurable objectives, which include the objectives and the weight to be assigned to each achievement in the overall evaluation, will be categorized as described below:
- 9.5.1. Between 40%-60% will be based on overall company performance measures, which are based on actual financial and operational results, such as revenues, sales, operating income and cash flow; and
- 9.5.2. Between 20%-50% will be based on goals set forth in the Company's annual operating plan and long-term plan, such as expansion of the Company's organic growth engines and achieving strategic technology objectives.
- 9.6. The less significant part of the annual cash bonus granted to Nova's CEO, and in any event not more than 30% of the annual cash bonus, may be based on a discretionary evaluation of the CEO's overall performance by the Compensation Committee and the Board based on quantitative and qualitative criteria.
- 9.7. The target annual cash bonus that the CEO will be entitled to receive for any given calendar year, will not exceed 150% of his or her annual base salary.
- 9.8. The maximum annual cash bonus including for overachievement performance that the CEO will be entitled to receive for any given calendar year, will not exceed 200% of his or her annual base salary.

10. **Other Bonuses**

- 10.1. Special Bonus. Nova may grant its Executive Officers a special bonus as an award for special achievements (such as in connection with mergers and acquisitions, offerings, achieving target budget or business plan under exceptional circumstances or special recognition in case of retirement) at the CEO's discretion (and in the CEO's case, at the Board's discretion), subject to any additional approval as may be required by the Companies Law (the "**Special Bonus**"). The Special Bonus will not exceed 30% of the Executive Officer's total compensation package on an annual basis.
- 10.2. Signing Bonus. Nova may grant a newly recruited Executive Officer a signing bonus at the CEO's discretion (and in the CEO's case, at the Board's discretion), subject to any additional approval as may be required by the Companies Law (the "**Signing Bonus**"). The Signing Bonus will not exceed twelve (12) monthly entry base salaries of the Executive Officer.
- 10.3. Relocation Bonus. Nova may grant its Executive Officers a special bonus in the event of relocation of an Executive Officer to another geography (the "**Relocation Bonus**"). The Relocation bonus will include customary benefits associated with such relocation and its monetary value will not exceed 30% of the Executive Officer's annual base salary.

11. Compensation Recovery (“Clawback”)

- 11.1. In the event of an accounting restatement, Nova shall be entitled to recover from its Executive Officers the bonus compensation or performance-based equity compensation in the amount in which such compensation exceeded what would have been paid under the financial statements, as restated, provided that a claim is made by Nova prior to the second anniversary of fiscal year end of the restated financial statements.
- 11.2. Notwithstanding the aforesaid, the compensation recovery will not be triggered in the following events:
 - 11.2.1. The financial restatement is required due to changes in the applicable financial reporting standards; or
 - 11.2.2. The Compensation Committee has determined that Clawback proceedings in the specific case would be impossible, impractical or not commercially or legally efficient.
- 11.3. Nothing in this Section 11 derogates from any other “Clawback” or similar provisions regarding disgorging of profits imposed on Executive Officers by virtue of applicable securities laws.

D. Equity Based Compensation

12. The Objective

- 12.1. The equity-based compensation for Nova’s Executive Officers is designed in a manner consistent with the underlying objectives in determining the base salary and the annual cash bonus, with its main objectives being to enhance the alignment between the Executive Officers’ interests with the long-term interests of Nova and its shareholders, and to strengthen the retention and the motivation of Executive Officers in the long term. In addition, since equity-based awards are structured to vest over several years, their incentive value to recipients is aligned with longer-term strategic plans.
- 12.2. The equity-based compensation offered by Nova is intended to be in a form of share options and/or other equity based awards, such as RSUs, in accordance with the Company’s equity incentive plan in place as may be updated from time to time.
- 12.3. Equity-based compensation awarded by the Company to employees, Executive Officers or directors shall not be, in the aggregate, in excess of 10% of the Company’s share capital on a fully diluted basis at the date of the grant.
- 12.4. All equity-based incentives granted to Executive Officers shall be subject to vesting periods in order to promote long-term retention of the awarded Executive Officers. Unless determined otherwise in a specific award agreement approved by the Compensation Committee and the Board, grants to Executive Officers other than directors shall vest gradually over a period of between three (3) to five (5) years or based on performance. The exercise price of options shall be determined in accordance with Nova’s Equity-Based Compensation Policy, the main terms of which shall be disclosed in the annual report of Nova.
- 12.5. All other terms of the equity awards shall be in accordance with Nova’s incentive plans and other related practices and policies. Accordingly, the Board may, following approval by the Compensation Committee, extend the period of time for which an award is to remain exercisable and make provisions with respect to the acceleration of the vesting period of any Executive Officer’s awards, including, without limitation, in connection with a corporate transaction involving a change of control, subject to any additional approval as may be required by the Companies Law.

13. General Guidelines for the Grant of Awards

- 13.1. The equity-based compensation shall be granted from time to time and be individually determined and awarded according to the performance, educational background, prior business experience, qualifications, role and the personal responsibilities of the Executive Officer.
- 13.2. In determining the equity-based compensation granted to each Executive Officer, the Compensation Committee and Board shall consider the factors specified in Section 13.1 above, and in any event the total fair market value of an annual equity-based compensation at the time of grant shall not exceed: (i) with respect to the CEO – the lower of 650% of the CEO's annual base salary or 0.2% of the market capitalization of the Company; and (ii) with respect to each of the other Executive Officers - 300% of such Executive Officer's annual base salary.
- 13.3. The fair market value of the equity-based compensation for the Executive Officers will be determined according to acceptable valuation practices at the time of grant.

E. Retirement and Termination of Service Arrangements

14. Advanced Notice Period

Nova may provide an Executive Officer, other than the CEO, according to his/her seniority in the Company, his/her contribution to the Company's goals and achievements and the circumstances of retirement a prior notice of termination of up to six (6) months, during which the Executive Officer may be entitled to all of the compensation elements, and to the continuation of vesting of his/her options.

Nova may provide the CEO a prior notice of termination of up to twelve (12) months, during which the Executive Officer may be entitled to all of the compensation elements, and to the continuation of vesting of his/her options.

15. Adjustment Period

Nova may provide an additional adjustment period of up to nine (9) months to an Executive Officer, other than the CEO, according to his/her seniority in the Company, his/her contribution to the Company's goals and achievements and the circumstances of retirement and to the CEO, during which the Executive Officer may be entitled to all of the compensation elements, and to the continuation of vesting of his/her options.

16. Additional Retirement and Termination Benefits

Nova may provide additional retirement and terminations benefits and payments as may be required by applicable law (e.g., mandatory severance pay under Israeli labor laws), or which will be comparable to customary market practices.

17. Non-Compete Grant

Upon termination of employment and subject to applicable law, Nova may grant to its Executive Officers a non-compete grant as an incentive to refrain from competing with Nova for a defined period of time. The terms and conditions of the non-compete grant shall be decided by the Board and shall not exceed such Executive Officer's monthly base salary multiplied by twelve (12).

18. Limitation Retirement and Termination of Service Arrangements

The total non-statutory payments under Section 14-17 above shall not exceed the Executive Officer's monthly base salary multiplied by twenty-four (24).

F. Exculpation, Indemnification and Insurance

19. Exculpation

Nova may exempt its directors and Executive Officers in advance for all or any of his/her liability for damage in consequence of a breach of the duty of care vis-a-vis Nova, to the fullest extent permitted by applicable law.

20. Insurance and Indemnification

- 20.1. Nova may indemnify its directors and Executive Officers to the fullest extent permitted by applicable law, for any liability and expense that may be imposed on the director or the Executive Officer, as provided in the indemnity agreement between such individuals and Nova, all subject to applicable law and the Company's articles of association.
- 20.2. Nova will provide directors' and officers' liability insurance (the "**Insurance Policy**") for its directors and Executive Officers as follows:
- 20.2.1. The limit of liability of the insurer shall not exceed the greater of \$50 million or 30% of the Company's shareholders equity based on the most recent financial statements of the Company at the time of approval by the Compensation Committee; and
- 20.2.2. The Insurance Policy, as well as the limit of liability and the premium for each extension or renewal shall be approved by the Compensation Committee (and, if required by law, by the Board) which shall determine that the sums are reasonable considering Nova's exposures, the scope of coverage and the market conditions and that the Insurance Policy reflects the current market conditions, and it shall not materially affect the Company's profitability, assets or liabilities.
- 20.3. Upon circumstances to be approved by the Compensation Committee (and, if required by law, by the Board), Nova shall be entitled to enter into a "run off" Insurance Policy of up to seven (7) years, with the same insurer or any other insurance, as follows:
- 20.3.1. The limit of liability of the insurer shall not exceed the greater of \$50 million or 30% of the Company's shareholders equity based on the most recent financial statements of the Company at the time of approval by the Compensation Committee; and
- 20.3.2. The Insurance Policy, as well as the limit of liability and the premium for each extension or renewal shall be approved by the Compensation Committee (and, if required by law, by the Board) which shall determine that the sums are reasonable considering the Company's exposures covered under such policy, the scope of cover and the market conditions, and that the Insurance Policy reflects the current market conditions and that it shall not materially affect the Company's profitability, assets or liabilities.
- 20.4. Nova may extend the Insurance Policy in place to include cover for liability pursuant to a future public offering of securities. The Insurance Policy, as well as the additional premium shall be approved by the Compensation Committee (and if required by law, by the Board) which shall determine that the sums are reasonable considering the exposures pursuant to such public offering of securities, the scope of cover and the market conditions and that the Insurance Policy reflects the current market conditions, and it does not materially affect the Company's profitability, assets or liabilities.

G. Arrangements upon Change of Control

21. The following benefits may be granted to the Executive Officers in addition to the benefits applicable in the case of any retirement or termination of service upon a “Change of Control”:
 - 21.1. Vesting acceleration of outstanding options or other equity-based awards;
 - 21.2. Extension of the exercising period of options for Nova’s Executive Officer for a period of up to one (1) year in case of an Executive Officer other than the CEO and two (2) years in case of the CEO, following the date of employment termination; and
 - 21.3. Up to an additional six (6) months of continued base salary and benefits following the date of employment termination (the “**Additional Adjustment Period**”). For avoidance of doubt, such additional Adjustment Period shall be in addition to the advance notice and adjustment periods pursuant to Sections 14 and 15 of this Policy, but subject to the limitation set forth in Section 18 of this Policy.
 - 21.4. A cash bonus not to exceed 150% of the Executive Officer’s annual base salary in case of an Executive Officer other than the CEO and 200% in case of the CEO.

H. Board of Directors Compensation

22. All Nova’s non-employee Board members may be entitled to an annual cash fee retainer of up to NIS 210,000 (and up to NIS 360,000 for the chairperson of Nova’s Board), an annual committee membership fee retainer of up to NIS 42,000, and an annual committee chairperson cash fee retainer of up to NIS 63,000 (it is being clarified that the payment for the chairpersons would be in lieu of (and not in addition) to the payments referenced above for committee membership).
- 23.1.
24. The compensation of the Company’s external directors, if elected, shall be in accordance with the Companies Regulations (Rules Regarding the Compensation and Expenses of an External Director), 5760-2000, as amended by the Companies Regulations (Relief for Public Companies Traded in Stock Exchange Outside of Israel), 5760-2000, as such regulations may be amended from time to time.
25. Notwithstanding the provisions of Section 22 above, in special circumstances, such as in the case of a professional director, an expert director or a director who makes a unique contribution to the Company, such director’s compensation may be different than the compensation of all other directors and maybe greater than the maximal amount allowed under Section 22.
26. Each non-employee member of Nova’s Board (excluding the chairperson of the Board) may be granted annually equity-based awards with a total fair market value of up to US\$170,000. The equity-based awards shall vest annually over a period of between three (3) to four (4) years. Each non-employee member of Nova’s Board (excluding the chairperson of the Board) may be granted a welcome equity-based award with a total fair market value of up to US\$170,000.
27. The chairperson of the Board may be granted annually equity-based awards with a total fair market value of up to US\$600,000. The equity-based awards shall vest annually over a period of between three (3) to four (4) years.
28. In addition, members of Nova’s Board may be entitled to reimbursement of expenses when traveling abroad on behalf of Nova.
29. It is hereby clarified that the compensation stated under Section H will not apply to directors who serve as Executive Officers.

I. Miscellaneous

30. Nothing in this Policy shall be deemed to grant any of Nova's Executive Officers or employees or any third party any right or privilege in connection with their employment by the Company. Such rights and privileges shall be governed by the respective personal employment agreements. The Board may determine that none or only part of the payments, benefits and perquisites detailed in this Policy shall be granted, and is authorized to cancel or suspend a compensation package or part of it.
31. An Immaterial Change in the Terms of Employment of an Executive Officer other than the CEO may be approved by the CEO, provided that the amended terms of employment are in accordance with this Policy. An "Immaterial Change in the Terms of Employment" means a change in the terms of employment of an Executive Officer with an annual total cost to the Company not exceeding an amount equal to two (2) monthly base salaries of such employee.
32. In the event that new regulations or law amendment in connection with Executive Officers and directors compensation will be enacted following the adoption of this Policy, Nova may follow such new regulations or law amendments, even if such new regulations are in contradiction to the compensation terms set forth herein.

This Policy is designed solely for the benefit of Nova and none of the provisions thereof are intended to provide any rights or remedies to any person other than Nova.

LIST OF SUBSIDIARIES

As of the end of 2022:	
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 Korea Ltd.	Korea
Nova Measuring Instruments GmbH	Germany
Nova Measuring Instruments (Shanghai) Co., Ltd	China
ancosys GmbH*	Germany

* Wholly owned by Nova Measuring Instruments GmbH.

CERTIFICATION

I, Eitan Oppenheim, certify that:

1. I have reviewed this Annual Report of Nova Ltd.
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of company's board of directors (or persons performing the equivalent function):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: February 28, 2023

/s/ Eitan Oppenheim

Eitan Oppenheim

President and Chief Executive Officer

CERTIFICATION

I, Dror David, certify that:

1. I have reviewed this Annual Report of Nova Ltd.
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the company as of, and for, the periods presented in this report;
4. The company's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the company and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the company's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the company's internal control over financial reporting; and
5. The company's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the company's auditors and the audit committee of company's board of directors (or persons performing the equivalent function):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the company's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the company's internal control over financial reporting.

Date: February 28, 2023

/s/ Dror David

Dror David

Chief Financial Officer

CERTIFICATION PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

I, Eitan Oppenheim, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to my knowledge, that:

1. This Annual Report on Form 20-F of Nova Ltd. (the “Company”) for the period ended December 31, 2022 (the “Report”) fully complies with the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 28, 2023

/s/ Eitan Oppenheim
Eitan Oppenheim
President and Chief Executive Officer

CERTIFICATION PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

I, Dror David, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, to my knowledge, that:

1. This Annual Report on Form 20-F of Nova Ltd. (the “Company”) for the period ended December 31, 2022 (the “Report”) fully complies with the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: February 28, 2023

/s/ Dror David
Dror David
Chief Financial Officer

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement (Forms S-8 Nos. 333-147140, 333-184585, 333-202550 and 333-220158) pertaining to the 2007 Incentive Plan and 2017 Share Incentive Plan of Nova Ltd. of our reports dated February 28, 2023, with respect to the consolidated financial statements of Nova Ltd. and the effectiveness of internal control over financial reporting of Nova Ltd., included in this Annual Report (Form 20-F) for the year ended December 31, 2022.

/s/ Kost Forer Gabbay & Kasierer

Kost Forer Gabbay & Kasierer

A member of Ernst & Young Global

Tel Aviv, Israel

February 28, 2023
