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

FORM 20-F

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR 12(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

For the transition period from _____ to _____

OR

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

Date of event requiring this shell company report _____

Commission file number 0-30862

CERAGON NETWORKS LTD.

(Exact Name of Registrant as Specified in Its Charter)

Israel

(Jurisdiction of Incorporation or Organization)

3 Uri Ariav st., Bldg. A (7th Floor) PO Box 112, Rosh Ha'Ayin, Israel, 4810002

(Address of Principal Executive Offices)

Hadar Vismunski Weinberg (+972) 3-543-1369 (tel.), (+972) 3-543-1600 (fax), 3 Uri Ariav st., Bldg. A (7th Floor) PO Box 112, Rosh Ha'Ayin, Israel, 4810002

(Name, Telephone, E-mail and/or Facsimile Number and Address of Company Contact Person)

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

Title of Each Class

Ordinary Shares, Par Value NIS 0.01

Trading Symbol(s)

CRNT

Name of Each Exchange on Which Registered

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: 84,353,379 Ordinary Shares, NIS 0.01 par value.

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 every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (Section 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit 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 "large accelerated filer," "accelerated filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer
Emerging growth company

Accelerated filer

Non-accelerated filer

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 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and 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.

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 the 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 Financial 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

Definitions

In this annual report, unless the context otherwise requires:

- references to “Ceragon,” the “Company,” “us,” “we,” “our” and the “registrant” refer to Ceragon Networks Ltd., an Israeli company, and its consolidated subsidiaries;
- references to “ordinary shares,” “our shares” and similar expressions refer to our Ordinary Shares, NIS 0.01 nominal (par) value per share;
- references to “dollars,” “U.S. dollars,” “USD” and “\$” are to United States Dollars;
- references to “shekels” and “NIS” are to New Israeli Shekels, the Israeli currency;
- references to the “Companies Law” are to Israel’s Companies Law, 5759-1999;
- references to the “SEC” are to the United States Securities and Exchange Commission; and
- references to the “Nasdaq Rules” are to the rules of the Nasdaq Global Select Market.

Cautionary Statement Regarding Forward-Looking Statements

This annual report on Form 20-F includes “forward-looking statements” within the meaning of the Securities Act of 1933, as amended (the “Securities Act”), the Securities Exchange Act of 1934, as amended (the “Exchange Act”) and the safe-harbor provisions of the Private Securities Litigation Reform Act of 1995. We have based these forward-looking statements on our current expectations and projections about future events.

Forward-looking statements can be identified by the use of terminology such as “may,” “will,” “assume,” “expect,” “anticipate,” “estimate,” “continue,” “believe,” “potential,” “possible,” “intend” and similar expressions that are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These forward-looking statements discuss future expectations, plans and events, contain projections of results of operations or of financial condition or state other “forward-looking” information. They involve known and unknown risks and uncertainties that may cause the actual results, performance or achievements of Ceragon to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Factors that could cause our actual results to differ materially from those projected in the forward-looking statements include, without limitation, the risk factors set forth under “Item 3. Key Information Risk Factors,” the information about us set forth under Item 4. “INFORMATION ON THE COMPANY”, the information related to our financial condition under Item 5. “OPERATING AND FINANCIAL REVIEW AND PROSPECTS”, and information included in this annual report generally. Any forward-looking statements represent Ceragon’s views only as of the date hereof and should not be relied upon as representing its views as of any subsequent date. Ceragon does not assume any obligation to update any forward-looking statements unless required by applicable law.

PART I

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS

Not applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not applicable.

ITEM 3. KEY INFORMATION

A. Selected financial data

[Reserved]

B. Capitalization and indebtedness

Not applicable.

C. Reasons for the offer and use of proceeds

Not applicable.

D. Risk Factors

The following risk factors, among others, could affect our business, results of operations or financial condition and cause our actual results to differ materially from those expressed in forward-looking statements made by us. These forward-looking statements are based on current expectations and we assume no obligation to update this information. You should carefully consider the risks described below, in addition to the other information contained elsewhere in this annual report. The following risk factors are not the only risk factors that the Company faces, and as such, additional unknown risks and uncertainties that we currently deem immaterial may also affect our business. Our business, financial condition and results of operations could be seriously harmed if any of the events underlying any of these risks or uncertainties actually occur. In such an event, the market price for our ordinary shares could decline.

Below are some, but not all, of the main risks factors and challenges that we have been facing and may further face, which could have an adverse effect on our business, results of operations and financial condition (the list below is not exhaustive, and investors should read this "Risk factors" section in full):

- the effects of global economic trends, including recession, rising inflation, rising interest rates, commodity price increases and fluctuations, commodity shortages and exposure to economic slowdown, on our and our customers' business, financial condition and results of operations;
- the impact of delays in the transition to 5G technologies and in the 5G rollout on our revenues if such transition is developed differently than we anticipated, either in terms of technology, use-case, timeline or otherwise;
- the effect of the concentration of a major portion of our business on large mobile operators around the world from which we derive a significant portion of our ordering, that due to their significant weight compared to the overall ordering by other customers during the same time period, coupled with inconsistent ordering patterns and volume of business directed to us (which may deviate as a result of parameters such as buying decisions, price lists, roll-out strategy, local market conditions and regulatory environment), creates high volatility with respect to our financial results and results of operations, including our revenues, gross margin and cash flow;

- the effects of volatility in our revenues, margins and working capital needs and the incurrence of substantial losses and negative cash flows that we have experienced in recent years, which if continue, would adversely affect our business and financial condition and in such case we cannot assure that we will be able to maintain improving trends (such as the increase in our booking and backlog during 2021 and 2022) and convert our current backlog into profitability and positive operating cash flows;
- if we fail to effectively cope with the high volatility in the supply needs of our customers, we may be unable to timely fulfill our customer commitments (for example, delivery issues due to long lead time and availability of components and manufacturing power), and may be obligated to pay expediting fees to our contract manufacturers, penalties to our customers for delays, and may be subject to order cancellation, all of which would adversely affect our business and results of operations for a certain quarter;
- we may be exposed to inventory-related losses on inventory purchased by our contract manufacturers and other suppliers, or to increased expenses should unexpected production ramp up be required due to inaccurate forecasts or business changes. In addition, part of our inventory may be written off, which would increase our cost of revenues;
- we rely on third-party manufacturers, suppliers and service providers; such reliance may disrupt the proper and timely management of deliveries of our products, a risk that is intensified in the case of a single source supplier;
- the global supply of electronic components, including integrated circuits has experienced a sharp increase in demand in the past several years, coupled with a lack of sufficient production capacity, and effect the lead-time for our components and their prices;
- the expansion of our service offering to new areas, including managed services, software-based services (SaaS) and solutions for wireless communication networks design, might pose product development, marketing, sales, operation, implementation and support challenges that might result in significant losses and may adversely affect our financial results;
- risks related to the rapid change in the markets for our products and in related technologies and operational concepts development;
- risks related to our forward-looking forecasts, with respect to which there is no assurance that such forecasts will materialize as we predicted;
- competition from other wireless transport equipment providers and from other communication solutions that compete with our high-capacity point-to-point wireless solutions;
- the award of Design Wins may not assure or secure the materialization of an actual sale;
- sensitivity to changes in demand in the wireless communication market domain and market segment at which we have focused our business until recently, and related risks if this segment should experience a decline in demand, while our new offering that is aimed to include, among other things, also WISPs (wireless internet service providers), private networks, software based solutions and disaggregated cell-site routing, will take time to materialize and mature and they may not be accepted by the market and have a significant impact on our results that could compensate for the aforementioned risk;
- risks relating to the failure to attract or retain qualified and skilled “talents” and personnel and the intense competition for such “talents” and personnel;
- difficulties in predicting our gross margin as it is exposed to significant fluctuations as a result of potential changes in the various geographical locations where we generate revenues;
- our engagement in providing installation or rollout projects for our customers, which are long-term projects that are subject to inherent risks, including early delivery of our products with delayed payment terms, delays or failures in acceptance testing procedures, credit risks associated with our customers and their ability to manage the projects to a timely collection from their end customer, and potential significant collection risk from our customers all of which may result in substantial period-to-period fluctuations in our results of operations, cash flow and financial condition;

- the current effect of the COVID-19 pandemic (“COVID-19”) on the global markets, on the markets in which we operate and on our business and operations;
- changes in privacy and data protection laws and increased breaches of network or information technology security along with an increase in cyber-attack activities, which is enhanced, among other things, as a result of the application of remote operation mode (associated with COVID-19 and current labor market trends), could have an adverse effect on our business;
- the impact of complex and evolving regulatory requirements in which we operate, on our business, results of operations and financial condition;
- risks relating to macro and micro adverse effects on the global and European markets in which we operate due to the invasion of Ukraine by Russia, such as, among others, cancellation or suspension of orders placed by Russian customers or for Russian end-users, disruption of delivery of raw materials, oil and gas, goods, and supplies’ price increases, disruption to deliveries, shipping and transportation, imposition of sanctions, export control restrictions and embargoes, loss of business, cyber-attacks, commodity shortages and other effects that could have an adverse effect on us, our business, suppliers and customers;
- risks related to fluctuations in currency exchange rates and restrictions related to foreign currency exchange controls;
- the occurrence of international, political, regulatory or economic events in emerging economies in Latin America, India, Asia Pacific and Africa, where a majority of our sales are made;
- the effect of business practices in emerging markets on legal and business conduct-related regulatory risks to which we are exposed; and
- risks relating to attempts for a hostile takeover, or shareholder activism, which may, divert our management’s and Board’s attention and resources from our business and could give rise to perceived uncertainties as to our future direction, could result in the loss of potential business opportunities, limit our ability to raise funds and make it more difficult for us to attract and retain qualified personnel for positions in both management and Board levels.

These and other risk factors are further described and elaborated herein below. You should carefully read and consider the full description of the risk factors as described below, in addition to the other information contained elsewhere in this annual report:

Risks Relating to Our Business

Our global operation exposes us to the effects of global economic trends, including recession, rising inflation, rising interest rates, commodity price increases and fluctuations, commodity shortages and exposure to economic slowdown.

The global nature of our activity and our global presence and operation in different countries, regulatory, legal and financial regimes, exposes us to a wide spread of customers, suppliers, subcontractors and contractors, and, in turn, to global and local macro and micro developments. Such developments might have direct or indirect impacts on our business and results of operations, which are hard to predict, monitor or assess, causing uncertainties and high volatility with respect to our estimated or expected results of operations, and, could have an adverse effect on our business, results of operations and financial condition. Our business, and our customers’ businesses, are sensitive to macroeconomic conditions. Economic factors, such as interest rates, inflation, currency exchange rates, changes in monetary and related policies, market volatility, customer confidence, recession or recessionary indicators, supply chain issues, unemployment rates and real wages, are among the most significant factors that impact customer spending behavior. Recent increases in interest rates and weak economic conditions, has reduced, and may continue to reduce, the amount of disposable income customers have, which, in turn, reduces customer spending. This has had, and may continue to have, an adverse effect on our business, financial condition and results of operations.

The recent increase in inflation rates in the markets in which we operate may lead us to experience higher labor costs, energy costs, water costs, transportation costs, wafer costs and other costs associated with raw materials from suppliers. Our suppliers may raise their prices, and in the competitive markets in which we operate, we may not be able to make corresponding price increases to preserve our gross margins and profitability due to market conditions and competitive dynamics. Additionally, any such increase in prices, even if possible, may not be accepted by our customers. Further, recent increases in interest rates, and any additional increases in interest rates, lead us, and our customers, to experience higher financing costs, which may, in turn, negatively affect our business, financial condition and results of operations.

Delays in the transition to 5G technologies and in the 5G rollout may negatively impact our revenues, financial condition and results of operation.

We consider the wireless market transition from 4G to 5G technologies to be one of our main growth engines in the foreseeable future. Thus, the development roadmap of our products is designed to introduce to the market 5G-based products. Nonetheless, the pace of the transition to 5G technologies and 5G rollout is hard to predict, as it depends on numerous factors which are uncertain and beyond our control including, economic factors, financial conditions of operators and the development of 5G use cases. Further delays in 5G technologies deployment and rollout, could have an adverse effect on our future revenues, profitability and cash flow and cause our results to materially differ from our expectations.

In addition, the expected transition from 4G to 5G technologies could lead to an overall slowdown in procurement and capital investments in 4G infrastructure and equipment by our customers.

A major portion of our business concentrates on a limited number of large mobile operators. The significant weight of their ordering, compared to the overall ordering by other customers, coupled with inconsistent ordering patterns, could negatively affect our business, financial condition and results of operations.

A significant portion of our business is concentrated with certain customers. In 2022, approximately 31.3% of our total revenues were attributed to two customers. In 2021, approximately 28.3% of our total revenues were attributed to two customers and in 2020, approximately 19.7% of our total revenues were attributed to one customer. The loss of significant customers or any material reduction in orders from them, in the absence of gaining new significant customers to replace such lost business, has adversely affected, and in the future could adversely affect, various aspects of our results of operations and our financial condition.

In addition, we have difficulty in projecting future revenues from these customers, since (i) our sales are mostly generated from case-by-case purchase orders rather than long-term contracts, our customers are not obligated to purchase from us a fixed amount of products or services over any period of time, and may terminate or reduce their purchases from us at any time without prior notice or penalty; (ii) customers might not be bound by any minimum quota; (iii) the ordering pattern and volume of business directed to us by such customers may fluctuate as a result of numerous parameters, including changing spending policies, changes in prices, rollout strategy and local market conditions and (iv) the delivery schedule to such customers may be changed by them. Any credit crunch, distressed financial situation or insolvency on the part of such customers, may adversely affect our ability to collect the balance due from them and further expend the variation in our revenues and operating results. This risk is heightened in India, in which government actions relating to the rollout of cellular networks affect the demand for our products from customers and increase the difficulty to project future revenues.

Furthermore, since a significant portion of our business is derived from specific countries, our business could be negatively impacted should certain events occur in these countries, such as a slowdown in investments and expansion of communication networks due to the cyclical characteristic of the investment in this industry, as well as changes in local legislation, governmental controls and regulations (including those specifically related to the communication industry) and tariffs and taxes, as well as trade restrictions, a downturn in economic or financial conditions, or an outbreak of natural calamities. Also, an outbreak of hostilities, political or economic instability, as well as any other extraordinary events having an adverse effect on the economy or business environment in these countries, may harm the operations of our customers in these countries, and result in a significant decline of business coming from those countries.

Realization of any of these risks could result in a material reduction in orders and could adversely affect our results of operations, including gross margin and cash flow, and our financial condition. Although some of these risks derive inherently from the concentration of our business, certain risks may be attributed also to the geographical territories in which we operate as detailed under the risk *“Due to the volume of our sales in emerging markets, we are susceptible to a number of political, economic and regulatory risks that could have a material adverse effect on our business, reputation, financial condition and results of operations”*.

In recent years we experienced volatility in our revenues, margins and working capital needs, incurred substantial losses and generated negative cash flows. If these trends continue, our results of operations and cash flow may be significantly adversely impacted. Although we were able to increase our booking and backlog during 2021 and 2022, we cannot assure you that we will be able to maintain this improving trend and convert such backlog into profitability and positive operating cash flows.

In 2020, we incurred a net loss of \$17.1 million, in 2021 we incurred a net loss of \$14.8 million and in 2022 we incurred a net loss of \$19.7 million. We have also experienced positive cash flow from operations of \$17.2 million, in 2020 and negative cash flow from operations of \$15.0 million, and \$4.9 million in 2021 and 2022, respectively. Our losses resulted from, among other things, decreases in revenues, decreased gross margins, decline in procurement and capital expenses related to 4G products by our customers, slow ramp-up of 5G rollout and new ordering, health and economic implications of the COVID-19 pandemic, the significant expenses, costs and charges associated with the global semiconductors and electric components shortage and increase in price of such components, increase in logistical supply chains', shipment and delivery costs and an extension of delivery timelines, expediting fees and increased inventory expenditures, all as further detailed in this Annual Report on Form 20-F and in our Annual Reports on Form 20-F for the years 2020 and 2021.

While in 2022 we have taken measures to improve our gross profit, reduce our operating expenses, improve our working capital management and secure 5G design wins and booking, the implementation of such measures is lengthy, may be delayed as a result of the other risks and uncertainties detailed in this Annual Report on Form 20-F and there is no assurance that such measures will be sufficient or successful or that we will not continue to experience a decline in our revenues, incur substantial losses and generate negative cash flows or that such decline, losses and negative cash flow will not intensify. In the event that our revenues decline and that our losses and negative cash flow increase, our results of operations will be significantly adversely impacted. In such a case, we may need to take additional measures such as reduce costs, which may impact our ability to compete in the market and serve our working capital needs as planned. Furthermore, our working capital needs may require additional or alternate cash resources. If we are unable to obtain such resources nor generate an improved cash flow from our operations, our liquidity and ability to fund operations could be impaired.

We experience high volatility in the supply needs of our customers, which from time to time lead to delivery issues due to long lead time and availability of components and manufacturing power. If we fail to effectively cope with such volatility and short-noticed supply demands of our customers, we may be unable to timely fulfill our customer commitments which would adversely affect our business and results of operations for a certain quarter.

The delivery requirements of our customers are unevenly spread throughout the year. We may receive very large orders that were not forecasted, or that were expected with a different timing requirement. In addition, we offer our products to our customers in a wide variety of product variations and configurations, and our inability to forecast the quantities or mix of the delivery demands for our products may result in underestimating our material purchasing needs, as well as production capacity requirements. If we fail to effectively manage our deliveries to the customers in a timely manner, or otherwise fulfill our contractual obligations to them - for example if we are unable to synchronize our supply chain and production process in cases of rapidly increasing production needs - the cost of our material purchasing, manufacturing and logistics may increase and we may also be obligated to pay expediting fees to our contract manufacturers or penalties to our customers for delays, and may be subject to order cancellation, all of which would adversely affect our business, financial results and our relationship with our customers. This risk is heightened with the expansion of our service offering, which allows us to access new customers, whose business practices and supply needs we are not familiar with yet.

Due to inaccurate forecasts or business changes, we may be exposed to inventory-related losses on inventory purchased by our contract manufacturers and other suppliers, or to increased expenses should unexpected production ramp up be required. In addition, part of our inventory may be written off, which would increase our cost of revenues.

Our contract manufacturers and other suppliers are required to purchase inventory based on manufacturing projections we provide to them. If the actual orders from our customers are lower than projected, or the mix of products ordered changes, or if we decide to change our product line and/or our product support strategy, our contract manufacturers or other suppliers will have excess inventory of raw materials or finished products, which we would typically be required to purchase, thus incurring additional costs and our gross profit and results of operations could be adversely affected. For example, given the significant increase in components lead time (see below under “*The global supply of electronic components, including integrated circuits, has experienced, and may continue to experience, a sharp increase in demand, while production capacity remains limited, which had, and may continue to have, an adverse effect on the lead-time for our components and increase in their prices*”), and in order to minimize disruption to our business, we increased our forecast horizon to 12-18 months. As a result, our inventory level increased significantly and risk of inventory write-offs due to, among other factors, missing our forecast, has increased. Any such write-off may negatively impact our gross profit, working capital and cash flow.

Further, we require our contract manufacturers and other suppliers from time to time, to purchase more inventory than is immediately required and with respect to our contract manufacturers, to partially assemble components, in order to shorten our delivery time in case of an increase in demand for our products. In the absence of such increased demand, we may need to make advance payments, compensate our contract manufacturers or other suppliers, or even buy the redundant inventory, as needed. We also may purchase components or raw materials from time to time for use by our contract manufacturers in the manufacturing of our products. This may cause additional write offs and may have a negative impact on our results of operations and cash flow.

Alternatively, if we underestimate our requirements and our actual orders from customers are significantly larger than our planned forecast, we may be required to accelerate the production and purchase of supplies, which may result in additional costs of buying components at less attractive prices, paying expediting fees and excess shipment costs, overtime and other manufacturing expenses. As a result, our gross margins and results of operations could be adversely affected.

Inventory of raw materials, work in-process or finished products located either at our warehouses or our customers’ sites as part of the network build-up may accumulate in the future, and we may encounter losses due to a variety of factors, including:

- new generations of products replacing older ones, including changes in products because of technological advances and cost reduction measures; and
- the need of our contract manufacturers to order raw materials that have long lead times and our inability to estimate exact amounts and types of items thus needed, especially regarding the frequencies in which the final products ordered will operate.

Further, our inventory of finished products located either at our warehouse or our customers’ sites as part of a network build-up may accumulate if a customer were to cancel an order or refuse to physically accept delivery of our products, or in rollout projects, which include acceptance tests, refuse to accept the network. The rate of accumulation may increase in a period of economic downturn.

Relying on third-party manufacturers, suppliers and service providers may disrupt the proper and timely management of deliveries of our products, a risk that is intensified in the case of a single source supplier.

We outsource our manufacturing and the majority of our logistics operations and purchase ancillary equipment for our products from contract and other independent manufacturers. Although our policy is to maintain a second source for all of our products’ components, disruption in deliveries or in operations of these and other third-party suppliers or service providers, as a result of, for example, capacity constraints, production disruptions, price increases, regulatory restrictions, force majeure events, decreased availability of raw materials or commodities, as well as quality control problems related to components, may all cause such third parties not to comply with their contractual obligations to us. This could have an adverse effect on our ability to meet our commitments to customers and could increase our operating costs. Such risk is intensified when there is a sharp increase in demand for components throughout the electronic industry. For additional information see “*The global supply of electronic components has experienced, and may continue to experience, a sharp increase in demand, while production capacity remains limited, which had, and may continue to have, an adverse effect on the lead-time for our components and increased their prices*”.

Although we believe that our contract manufacturers and logistics service providers have sufficient economic incentive to perform our manufacturing and logistics services requirements, the resources devoted to these activities are not within our control. We cannot assure you that manufacturing, or logistics problems will not occur in the future due to insufficient resources devoted to our requirements by such manufacturers and logistics service providers, or due to insolvency or other circumstances that could have a material adverse effect on those manufacturers and logistics service providers' operations. In addition, we cannot assure that we will have the ability or be in the position to demand from our contract manufacturers to assume our obligations to our customers, apply the same terms back-to-back to our contract manufacturers and suppliers, a risk that is intensified in the case of a single source supplier.

In addition, some of our contract manufacturers currently obtain key components from a limited number of suppliers. Our contract manufacturers' dependence on a single or sole source supplier, or on a limited number of suppliers, subjects us to the following risks:

- The component suppliers may experience shortages in components and interrupt or delay their shipments to our contract manufacturers. Consequently, these shortages could delay the manufacture of our products and shipments to our customers.
- The component suppliers could discontinue the manufacture or supply of components used in our systems. In such an event, we or our contract manufacturers may be unable to develop alternative sources for the components necessary to manufacture our products, which could force us to redesign our products or buy a large stock of the component into inventory before it is discontinued. Any such redesign of our products would likely interrupt the manufacturing process and could cause delays in our product shipments. Moreover, a significant modification in our product design may increase our manufacturing costs and bring about lower gross margins. In addition, we may be exposed to excess inventory of such component, which we will have to write-down in case the demand is not as high as we anticipated at the time of buying these components.
- The component suppliers may significantly increase component prices at any time and particularly if demand for certain components increases dramatically in the global market which would have an adverse effect on the Company's business.
- The component suppliers may significantly increase the time to produce and deliver their components at any time resulting in an immediate effect, as evidenced recently with respect to the semiconductors foundry industry. These lead time increases would delay our products' delivery timetable and could expose us to shortage in supply or late supplies that may trigger penalties, orders cancellation and losing some of our customers.
- The component suppliers may refuse or be unable to further supply such component for various reasons, including, among other things, their prioritization, focus, regulations, force majeure events or financial situation.

The materialization of the risks detailed above could result in delays in deliveries of our products to our customers, which could subject us to penalties payable to our customers or cancellation of orders, increased warranty costs as well as increases in manufacturing and shipment expenses in the case of expedited deliveries, and damage to our reputation. If any of these problems occur, we may be required to seek alternate manufacturers or logistics service providers and we may not be able to secure such alternate manufacturers or logistics service providers that meet our needs and standards in a timely and cost-effective manner. Consequently, such occurrences, extra costs and penalties could significantly reduce our gross margins and profitability. The above-mentioned risks are exacerbated in the case of raw materials or component parts that are purchased from a single-source supplier.

The global supply of electronic components, including integrated circuits, has experienced, and may continue to experience, a sharp increase in demand, while production capacity remains limited, which has, and may continue to have, an adverse effect on the lead-time for our components and increase in their prices.

The global demand for electronic components, including digital components, chipsets and semiconductors, has experienced a sharp increase in the past several years, with a growing number of industries increasing their demand and consumption. This, together with the effect of COVID-19 and trade embargos, have led to longer lead-time of electronic components, with many cases of a lead time longer than a year. The lack of sufficient production facilities and capacity of the semiconductor foundry industry to meet such demand, which created a shortage in chipsets, electronic equipment and components, has already caused, and may continue to cause, price increases and extensions of delivery time. As a result of this situation, we may be unable to obtain essential components in a timely manner and at a reasonable cost that is necessary for us to remain competitive. During such times, supplier-specific or industry-wide lead times for delivery can be as long as twelve months or more. If we are unable to obtain components in a timely manner to fulfill our customers' demand, or at a reasonable cost, we may be unable to meet commitments under our contracts with customers, which could expose us to substantial liquidated damages and other claims and could materially and adversely affect our results of operations, financial condition, business and prospects. Additionally, the increase in lead time and the shortage in chipsets may result in delays in the delivery of our products and in meeting the timetables for the execution of our projects, which may trigger penalties, cancellation of orders and loss of some of our customers or market share. This has adversely affected, and may continue to adversely affect, our costs (including a significant increase in production costs) and to erode our gross margin. Furthermore, as our new Systems-on-Chip (SoC) commercialization and commencement of mass production is highly dependent on the timely delivery of the chipsets, these delays may also adversely affect the commercialization and mass production timetable, causing a delay in our ability to timely introduce the new SoC-based products to the market and safeguard and maintain our position and market share as leaders in the introduction of advanced 5G solution.

We are expanding our service and software offerings to new areas, including managed services, software-based services (SaaS) and solutions for wireless communication networks design, implementation, operation, monitoring and maintenance, either remotely or on premise, which pose product development, marketing, sales, operation, implementation and support challenges that might result in significant losses and may adversely affect our financial results.

We are expanding the services we offer to new areas including the introduction of managed services and software-based tools and services to support design, implementation, operation, monitoring and maintenance of wireless communication networks, either remotely or on-premise. Although we have deployed similar solutions for our own use for many years, the complexity of such solutions, the lack of customer-experience in such SaaS and similar solutions, us having to operate and support such activities vis-à-vis multiple third parties if demand increases rapidly without us having sufficient time to accommodate accordingly, all increase the risk of not meeting our performance obligations. Furthermore, the selling of software solutions includes inherent risks common for such type of activities, such as, among other things, cybersecurity vulnerability, unexpected integration challenges, debugging, upgrading and increased need for version releases and underpricing. In addition, new products and new versions of existing products or tools, are more prone to bugs, software failure and other problems which may, among other things, adversely affect our ability to ramp up this activity or meet our commitments to our customers, and may cause us to incur additional development, debugging and implementation costs. Moreover, the outcome following such projects' implementation may not be to the full satisfaction of the customer or aligned with their expectations (whether or not justified), who may in turn, impose penalties against us or exercise any other remedy available to it under agreement or law. Any of these risks, among others, may also cause the NRE (Non-Recurring Engineering) and cost of such projects to be higher than planned.

Our planning, shaping and development of these software-based solutions is based on our experience and understanding of the market needs and challenges, and forecasted evolution of market developments, such as market trends, future use cases, business concepts, technologies and future demand. However, there is no assurance that we have successfully forecasted or will continue to successfully forecast such trends and needs, that the markets will accept our solutions as we anticipate or that our service offering will satisfy future demand. A failure in any of the above, may result in significant losses and may adversely affect our financial results and reputation.

The markets for our products change rapidly. If we fail to timely develop, commercialize and market new products and solutions that keep pace with technological developments, the changing industry standards and our customers' needs, or if our competitors or new market entrants introduce their products before us, we may not be able to grow, may lose market share or may not be able to sustain our business.

The wireless transport equipment industry is characterized by rapid technological developments, changing customer needs that expect increase in product performance and evolving industry standards, as well as increasing pressure to produce more cost-effective products. These rapid technological developments could either render our products obsolete or require us to modify our products, necessitating significant investment, both in time and cost, in new technologies, products and solutions. Our success depends, among other things, on our ability to maintain an agile infrastructure that is capable of adapting to such changes in a timely manner, developing and marketing new products or enhancing our existing products in a timely manner in order to keep pace with developments in technology, customer requirements and competitive solutions offered by third parties, but we cannot assure you that any such development or production ramp-up will be completed in a timely or cost-effective manner, or how the market will receive or adopt our products compared to our competitors' products.

We are continuously seeking to develop new products and enhance our existing products. In 2020 we released our IP-50 products' family, which joined our line of point-to-point wireless transport products, designed to deliver premium wireless transport capabilities. The IP-50 products deliver solutions to various use cases, including 5G scenarios. In addition, we have achieved leadership in technology by innovating through design of state-of-the-art Systems-on-Chip (SoC), which we plan to integrate in the future in the products we provide. While we expect to productize our 5G SoC at the beginning of 2024, we cannot provide assurance that the final post silicon validation tests will pass successfully, which may further delay the productization process and may require additional significant investments. In addition, while we are seeing some relief, if the overloads and continuous delays in deliveries in the semiconductor market continue, this can cause delays in the mass production and productization of our SoC, and therefore, we cannot assure you that we will be able to successfully commercialize such sophisticated and technology-rich SoC by the time we expected. Also, delays in the production of our SoC may delay the launch of new products and consequently we may lose our competitive advantage. Moreover, we cannot provide any assurance that our new products will be accepted in the market or will result in profitable sales or that such products will not require additional quality assurance and defect-fixing processes. We also record perpetual usage rights of technologies of third parties, as well as part of our R&D investments, as assets on our balance sheet.

Furthermore, as noted above, we consider the wireless market transition from 4G to 5G technologies to be one of our main growth engines in the foreseeable future. If our competitors or new market entrants will develop products for this market that are, or are perceived to be, more advantageous to our customers from a technological and/or financial (i.e., cost-benefit) perspective, or if they introduce and market their products prior to us doing so, they may be able to better position themselves in the market and we may lose potential or existing market share, which could have a material adverse effect on our business, financial results and financial condition.

Our market is also characterized by a growing demand for more sophisticated and rich software-based capabilities within the network IP layer (layer 3 routing/MPLS), some of which may require us to utilize and embed additional components, either in hardware or software (including third-party software), in the solutions we provide. We cannot assure you that we will continue to be successful in providing these necessary software-based capabilities in a cost-effective manner, which could affect our business performance. Additionally, we have established technological cooperation with third parties to address some of these capabilities, but we cannot assure that such technological cooperation will be successful or achieve the expected results. If indeed such cooperation will not be successful, we shall have to consider other alternatives, and such investigation and entering into new cooperation in lieu of the failed ones, might cause a delay in the introduction of such capabilities.

In addition, new products and new versions of existing products are more prone to technical problems which may, among other things, adversely affect our ability to ramp up and to meet delivery commitments to our customers in a timely manner, and may cause us to incur additional manufacturing, development and repair costs. This may have a material adverse effect on our business and results of operation.

Last, we cannot assure you that we will successfully forecast technology trends or that we will anticipate innovations made by other companies and respond with our own innovation in a timely manner, which could affect our competitiveness in the market.

Our future operations are based on forward-looking forecasts, among other things, on market trends, future business concepts and use cases, and customers' needs and requirements, while there is no assurance that such forecasts will materialize as we predicted. If we fail to rightfully identify those needs and trends, we may experience a decline in the demand for our products and our business, financial condition and results of operations could be materially adversely affected.

We have based the future planning of our corporate, business, marketing and product strategies on the forecasted evolution of the market developments, such as market trends, future use cases, business concepts, technologies and future demand, and accordingly shape the development of our networks' architecture design, technological and operational solutions and service offering, so as to adapt to such estimated needs and changes. As an example, part of our solutions are focused on Open RAN and on disaggregated architecture model. We cannot assure you that the concept of our future planning and service offering (for example, Open RAN and disaggregation) will be accepted, or that we have successfully forecasted or will continue to successfully forecast such trends, that the markets will shape as we anticipated or that our service offering will indeed satisfy the future demand. A failure in any of the above, may result in significant losses and a decline in the demand for our products, and may adversely affect our financial results and reputation.

We face intense competition from other wireless transport equipment providers and from other communication solutions that compete with our point-to-point wireless products. If we fail to compete effectively, we may experience a decline in the demand for our products and our business, financial condition and results of operations could be materially adversely affected.

The market for wireless transport equipment is rapidly evolving, highly competitive and subject to rapid changes.

Our main competitors include companies such as Huawei Technologies Co., Ltd., L.M. Ericsson Telephone Company, NEC Corporation, Nokia Corporation and ZTE Corporation, commonly referred to as "generalists", each providing a vast wireless solutions portfolio, which includes a wireless transport solution within their portfolio. These generalists may also compete with us on "best-of-breed" projects, in which operators invest resources and efforts to select the best wireless transport solution. In addition to these primary competitors, a number of smaller wireless transport specialists, mainly including Aviat Networks Inc. ("Aviat") and SIAE Microelectronica S.P.A., offer, or are developing, competing products.

In addition, the industry generalists are substantially larger than us, have longer operating histories and possess greater financial, sales, service, marketing, distribution, technical, manufacturing and other resources. These generalists have greater name recognition, a larger customer base and may be able to respond more quickly to changes in customer requirements and evolving industry standards.

To our knowledge, many of these generalists also have well-established relationships with our current and potential customers and may have extensive knowledge of our target markets, which may give them additional competitive advantages. In addition, to our knowledge, these generalists focus more on selling services and bundling the entire network as a full-package service offering, and therefore some of our customers, which seek "best-of-breed" solutions like ours, may prefer to purchase "bundled" solutions from the generalists. Moreover, as these generalists are usually financially stronger than us, they may be able to offer customers more attractive pricing and payment terms, as well as customer credit programs, which may increase the appeal of their products in comparison to ours.

In addition, our products compete with other high-speed communications solutions, including fiber optic lines and other wireless technologies. Some of these technologies utilize existing installed infrastructure and have achieved significantly greater market acceptance and penetration than point-to-point wireless technologies. Moreover, as more and more data demands are imposed on existing network frameworks coupled with growing demand for additional bandwidth as a result of massive use of remote services and work from home modes of operation accelerated by the COVID-19 pandemic, and due to consolidation of fixed and mobile operators, operators may be more motivated to invest in more expensive high-speed fiber optic networks to meet current needs and remain competitive. Some of the principal disadvantages of point-to-point wireless technologies that may make other technologies more appealing include suboptimal operations in extreme weather conditions and limitations in connection with the need to establish line of sight between antennas and limitations in site acquisition for multiple links, or the perception that fiber-optic solutions are more "environmentally-friendly" predominantly in populated areas, favoring other technologies.

To the extent that these competing communications solutions reduce demand for our point-to-point wireless transmission products, there may be a material adverse effect on our business and results of operations.

Moreover, some of our competitors can benefit from currency fluctuations as their costs and expenses are primarily denominated in currencies other than the U.S. dollar. In case the U.S. dollar strengthens against these currencies these competitors might offer their products and services for a lower price and capture market share from us, which might adversely affect our business and negatively influence our results of operation and financial condition.

We expect to face continuing competitive pressures in the future. If we are unable to compete effectively, our business, financial condition and results of operations would be materially adversely affected. For more information on the “best-of-breed” market, please refer to Item 4. INFORMATION ON THE COMPANY; B. Business Overview – “Wireless Transport; Short-haul, Long-haul and Small Cells Transport”.

Design Wins may not assure or secure the materialization of an actual sale.

As part of the marketing and sales of our products, predominantly such that had been recently released and introduced to the market or to the specific customer, including new 5G technologies, our products and solutions undergo an evaluation stage and design into the customer’s systems or networks. The award of a Design Win does not necessarily mean that such customer shall eventually buy our products or that only our solution has been chosen for the design. Any such design and evaluation phase is subject to the risk of failure to meet the customer’s technological and operational requirements, specifications, delivery date or certain other parameters at any time before the design is frozen. Thus, being awarded a Design Win does not assure nor secure the materialization of actual sale and should not be relied upon by you as such.

Until recently, we sold products and services in one single market domain - the wireless communication market, and were focused on the “best-of-breed” market segment of the wireless transport market, which we believed to have the most profit potential. We are currently expanding our service offering, and until such new service offering will ramp-up, we continue selling mostly in a single market domain, which may result in sensitivity to the changes in demand for this market segment. If this segment should experience a decline in demand which is not replaced by our new offering, we will likely experience a negative effect on our business, financial condition and results of operations.

Until recently, we mainly attributed our leadership position in our target market to the focus on the “best-of-breed” market segment of the wireless transport market. Investment cycles in this market depend on technology cycles of mobile networks services (e.g., 4G to 5G technologies) and the network requirements for wireless transport of each technology. Hence, if this segment of the market or the service providers enter into a negative cycle, or our market share in the market shrinks, our sales and revenues may decline, and our results of operations and cash flow may be significantly and adversely affected. In such case, we may need to take cost reduction and other measures, which may adversely impact our research and development, operations, marketing and sales activities and our ability to effectively compete in the market.

Moreover, we used to develop and sell products mainly to one market domain of the wireless communication market, characterized as point-to-point licensed wireless connectivity - often referred to as “backhaul”, “midhaul”, “fronthaul” or simply wireless “transport” - into this “best-of-breed” market segment. As a result, we were, and still are, more likely to be adversely affected by a reduction in demand for point-to-point wireless transport products in comparison to companies that also sell multiple and diversified product lines and solutions in different market domains. If technologies or market conditions change, resulting in a decreased demand for our specific technology, and our new offering will not be mature or material enough to compensate for it, it could have a material adverse effect on our business, financial results and financial condition as we attempt to address these issues.

Although we have revisited and updated our strategy to include, among other things, focus on WISPs (wireless internet service providers), private networks and critical infrastructure market segments, as well as focus on offering of software based solutions, managed services and disaggregated cell-site routing, it will take time for our new offering and our focused market segments to materialize and mature and they may not be accepted by the market and have a significant impact on our results in a way that would mitigate and compensate for the aforementioned risks, and as such activities bear their own inherent risks, we currently might not be able to secure an alternative in order to avoid the implications of the realization of the risks detailed above.

If we fail to attract or retain qualified and skilled “talents” and personnel, our business, operations and product development efforts may be materially adversely affected.

Our products require sophisticated research and development, marketing and sales, and technical customer support. Our success depends on our ability to attract, train and retain qualified personnel in all these professional areas while also taking into consideration varying geographical needs and cultures. We compete with other companies for personnel in all of these areas, both in terms of profession and geography, and we may not be able to hire sufficient personnel to achieve our goals or support the anticipated growth in our business. The market for the highly trained personnel we require globally is competitive, due to the limited number of people available with the necessary technical skills and understanding of our products and technology. We experience immense competition, mostly in Israel, on talent, predominantly among R&D and technological personnel, or employees having experience or expertise in high-tech and traded companies, which was reflected, among other things, in an increase in salaries and retention challenges.

In the last two years, in addition to the shortage in skilled engineers and other computers science and technology professionals versus high market demand and competitive environment predominantly in Israel, where our laboratories are located, we have also experienced fierce competition driven from the effect of major fund raising and initial public offerings activities in the Israeli capital markets that had created sudden and high demand for professional manpower having skills, experience and expertise in the management and performance of professional functions at all levels within publicly traded companies, coupled with the means to place challenging highly competitive offers.

As the demand for qualified and highly skilled personal is on constant demand, our ability to retain existing "talents" and recruit new ones is becoming more challenging. Consequently, we may have to face with increasing employment costs for existing and new personnel in professions characterized with high demand, and might have to increase our equity-based long-term incentive programs, which in turn could result in the dilution of our shareholders due to the exercise of such rights. Loss of senior level "talents" may cause delays in our development efforts and operational challenges as well as shortage in knowhow and capabilities which cannot always immediately mitigated.

Despite recent signs for a slight slowdown in competition for skilled and qualified personnel, if we fail to attract and retain qualified personnel due to compensation or other factors, our business, operations and product development efforts would suffer.

It is difficult to predict our gross margin as it is exposed to significant fluctuations as a result of potential changes in the geographical mix of our revenues.

Our revenues are derived from multiple regions, each of which may consist of a number of countries. Gross margin percentages may vary significantly between different regions and even among different countries within the same region and even within different customers in the same country, dependent on the size and characteristic of specific deal terms. A significant change in the actual ratio of our revenues among the different regions/countries, whereby the actual ratio of revenues from a higher gross margin region/country exceeds our expectations, may cause our gross margin to significantly increase, while in case the actual ratio of revenues from a lower gross-margin region/country exceeds our expectations, our gross-margin may significantly decrease.

Our revenue and operating results are hard to predict and may vary significantly from quarter to quarter and from our expectations for any specific period.

Our quarterly results are difficult to predict and may vary significantly from quarter to quarter, or from our expectations and guidance for any specific period. Most importantly, delays in product delivery or completion of related services, delays in performing acceptance tests or delays in projects timetable on part of our customers or their other vendors, can cause our revenues, net income and operating cash flow to deviate significantly from anticipated levels, especially as a large portion of our revenues are traditionally generated towards the end of each quarter.

Additionally, as a significant portion of our business is concentrated with certain customers, who are not obligated to purchase from us a fixed amount of products or services over any period of time and may terminate or reduce their purchases from us at any time without prior notice or penalty, we have difficulty projecting future revenues from these customers, which highly affect our overall revenue, cash-flow and business. In addition to the inherent uncertainty associated with such business pattern, any credit crunch, distressed financial situation or insolvency on the part of such customers, may adversely affect our ability to collect the balance due from them and further expend the variation in our revenues and operating results.

Moreover, factors such as geographical mix, delivery terms and timeline(s), product mix, related services mix and other deal terms may differ significantly from our expectations, and thus impact our revenue recognition timing, gross margins, costs and expenses, as well as cash flow from operations. In addition, the spending decisions of our customers throughout the year may also create unpredictable fluctuations in the timing in which we receive orders and can recognize revenues, which may impact our quarterly results. Such unpredictable fluctuations could be material in cases where these spending decisions are made by our largest customers or regarding significant deals. Additionally, the aggregation of several revenue recognition requirements for each such transaction, results in difficulty and complexity in establishing a firm prediction as to the end-of-term results, and consequently, our actual revenue rates may significantly exceed or be less than our expectations.

We are engaged in providing installation or rollout projects for our customers, which are long-term projects that are subject to inherent risks, including early delivery of our products with delayed payment terms, which expose us to our customers' default, insolvency, or other adverse effects on our customers' ability to pay us, delays or failures in acceptance testing procedures and other items beyond our control, all of which could have a material adverse effect on our results of operations or financial condition.

Our offering includes long term projects such as the networks rollout, managed services, and related projects. Some of those projects are characterized by providing customers' credit and availing long payment terms, which exposes us to the risks of default, insolvency, or other adverse effect on the customer's ability to pay us. Although we hedge or insure some of those risks, the entire exposure cannot be covered. This may result in significant losses and may adversely affect our financial results.

In certain projects, we serve as an integrator and prime contractor of end-to-end rollout projects, which include installation and other services for our customers. In this context, we may act as the prime contractor and equipment supplier for network build-out projects, providing installation, supervision and commissioning services required for these projects, or we may provide such services and equipment (or part thereof) for projects handled by others, primarily system integrators.

These rollout projects often require us to deliver products and services representing an important portion of the contract price before receiving any significant payment from the customer, as significant amounts are to be paid by our customers over time, which expose us to our customers' default, insolvency, or other adverse effects on our customers' ability to pay us. In cases where we do not serve as prime contractors as aforesaid, and the full project is handled by others, even if we have delivered to our commitments, there is a risk that we will not be able to receive payments in a timely fashion due to failure or default on part of the prime contractor or other issues which are not related to the performance of our portion of the project, causing payment delays by the end customers. Therefore, rollout projects could cause us to experience significant collection issues and as a result substantial period-to-period fluctuations in our results of operations, cash flow and financial condition.

Once a purchase order has been executed, the timing and amount of revenue may remain difficult to predict. The completion of the installation and testing of the customer's networks and the completion of all other suppliers' network elements are subject to the customer's timing and efforts, and other factors outside our control, such as site readiness for installation or availability of power and access to sites, which may prevent us from making predictions of revenue with any certainty. Throughout the COVID-19 pandemic, for example, we have experienced difficulties in completion and testing of sites or in obtaining acceptance certificates due to travel limitations, lockouts restrictions and other disruption of our and our suppliers' activities or of our customers' operations, which impair our ability to recognize revenue.

Also, as we usually engage subcontractors, third party service providers and temporary employees to perform a significant part of the work (such as installation, supervision, on-site testing, commissioning, repair and replacement services), we are dependent on such service providers' and temporary employees' timely and quality performance, including with respect to the fulfillment of or default under their back-to-back obligations to those we may have undertaken vis-à-vis our customers, as well as pricing that may fluctuate significantly due to various factors. All these factors may affect our ability to accurately project our costs and profits in providing these services and may result in significant deviations from our projections, which may adversely affect our financial results. In addition, we may be subject to other risks that may apply to our subcontractors or associated with their businesses.

In some of these projects, we may need to provide bank guarantees to ensure successful completion of the rollout services, to secure an advance payment we have received, in case we fail to meet our obligations, or to secure our warranty obligations. As a result, in these projects we assume greater financial risk.

In addition, typically in rollout projects, we are dependent on the customer to issue acceptance certificates to generate and recognize revenue. In such projects, we bear the risks of loss and damage to our products until the customer has issued an acceptance certificate upon successful completion of acceptance tests. Moreover, we are not always the prime integrator in these projects and in such cases, the acceptance may be delayed even further since it depends on the acceptance of other network elements not in our control. The early deployment of our products during a long-term project reduces our cash flow, as we generally collect a significant portion of the contract price after successful completion of an acceptance test. If our products are damaged or stolen, if the network we install does not pass the acceptance tests or if the customer does not or will not issue an acceptance certificate, the end user or the system integrator could refuse to pay us any balance owed and we would incur substantial costs, including fees owed to our installation subcontractors, increased insurance premiums, transportation costs and expenses related to repairing or manufacturing the products. In such a case, we may not be able to repossess the equipment, thus suffering additional losses.

Our service offering includes full design and implementation of wireless communication networks, while also using technologies of third-party vendors. The complexity of such projects and the reliance on third parties' performance is increasing the risk of not meeting our performance obligations. As a result, the completion of such projects may be delayed, or the outcome may not be to the full satisfaction of the customer, who may in turn, impose penalties or exercise any other remedy available to customers in the service contract. In addition, the cost of such projects may be higher than planned. This may result in significant losses and may adversely affect our financial results.

The duration and the severity of the global outbreak of COVID-19 has impacted the global economy and us. Any future outbreak of additional waves of COVID-19, or another pandemic in similar magnitude, could adversely affect our business, financial condition and results of operations.

In recent years, the COVID-19 pandemic has resulted in authorities imposing, and businesses and individuals implementing, numerous measures to try to contain the virus, including the closure of workplaces, restricting travel, prohibiting assembling, closing international borders and quarantining populated areas. As our global operations require physical presence in many stages of our business activities, we were particularly vulnerable to the consequences of such measures, and we may be vulnerable to any restrictions that may be further imposed, in case of a renewed outbreak of COVID-19, or any other pandemic with similar effects.

The degree to which a renewed outbreak of COVID-19 (or another pandemic with similar effects) will impact our results will depend on future developments, which are highly uncertain and cannot be predicted, including, but not limited to, the duration and severity of the pandemic, the actions taken to contain the virus or treat its impact, other actions taken by governments, businesses, and individuals in response to the virus and resulting economic disruption, and how quickly and to what extent normal economic and operating conditions can resume. We are unable to predict the extent of the impact of such renewed or new outbreak of pandemic on our customers, suppliers, vendors, and other partners, and their financial conditions, but a material effect on these parties could also materially adversely affect us.

The impact of any renewed outbreak of COVID-19 or similar pandemic can also exacerbate other risks discussed herein, which could in turn have a material adverse effect on us. Developments related to such outbreaks have been unpredictable, and additional impacts and risks may arise that we are not aware of, or unable to respond to appropriately.

Increased breaches of network or information technology security along with changes in privacy and data protection laws could have an adverse effect on our business.

Cyber-attacks or other breaches of network or IT security may cause equipment failures or disrupt our systems and operations, expose us to ransom demands or sensitive data leaks. We might be subject to attempts to breach the security of our networks and IT infrastructure through cyber-attacks, malware, computer viruses and other means of unauthorized access. While we maintain insurance coverage for some of these events, we cannot be certain that our coverage will be adequate for liabilities actually incurred. While we take cybersecurity measures and maintain redundancy and disaster recovery practices for our critical services, we cannot assure you that our cybersecurity measures and technology will adequately protect us from these and other risks. Furthermore, our inability to operate our facilities as a result of such events, even for a limited period of time, may result in significant expenses or loss of market share to our competitors. We may expend significant resources or modify our products to try to protect against security incidents.

Maintaining the security of our products, computers and networks is a critical issue for us and our customers. Therefore, each year we invest additional resources and technologies to better protect our assets. However, security researchers, criminal hackers and other third parties regularly develop new techniques to penetrate computer and network security measures. In addition, hackers also develop and deploy viruses, worms, Trojan horses and other malicious software programs, some of which may be specifically designed to attack our products, systems, computers or networks. Moreover, due to current labor market trends, a significant number of our employees or employees of our vendors, suppliers and service providers, have moved to work from their homes and remotely access our or such vendors', suppliers' or service providers' IT networks. Such remote working mode creates the risk of attacking the end-point user stations, connection channels and gateways. We have seen a significant increase of cyberattacks on enterprises and individuals in recent years and we assume that we shall further be exposed to such threats going forward. In addition, our and our vendors', suppliers' and service providers' IT systems are increasingly being moved to cloud-based platforms such as IaaS (Infrastructure as a Service) and SaaS (Software as a Service) IT solutions. These cloud-based arena poses risks of attack on and from the end-point user stations, connection channels and gateways as well as the IaaS and SaaS infrastructures of our service providers. Additionally, external parties may attempt to fraudulently induce our employees or users of our products to disclose sensitive information in order to gain access to our data or our customers' data. These potential breaches of our security measures and the accidental loss, inadvertent disclosure or unauthorized dissemination of proprietary information or sensitive, personal or confidential data about us, our employees or our customers, including the potential loss or disclosure of such information or data as a result of hacking, fraud, trickery or other forms of deception, could expose us, our employees, our customers or the individuals affected, to a risk of loss or misuse of this information, result in litigation and potential liability or fines for us, damage to our brand and reputation or otherwise harm our business.

In addition, a failure to protect the privacy of customers' or employees' confidential and/or personal data against breaches of network or IT security could result in monetary liabilities and damage to our reputation. The regulatory framework for data and privacy protection issues is evolving worldwide, including the imposition of more comprehensive data protection requirements under the General Data Protection Regulation (GDPR), which imposes stricter obligations and provides for greater penalties for noncompliance. These laws and regulations constantly evolve and remain subject to significant change. In addition, the application and interpretation of these laws and regulations are often uncertain. New data protection and privacy laws and regulations add additional complexity, requirements, restrictions and potential legal risk, require additional investment in resources to compliance programs, and could result in increased compliance costs and/or changes in business practices and policies.

Unauthorized use or behavior on part of our vendors', suppliers' and service providers' employees or taking insufficient cybersecurity measures by them, could result with data leaks and penetration to our databases that are located or installed in their network. In addition, the shift to software solutions coupled with requirement to move data to cloud-based and open-source environments impose enhanced cybersecurity challenges that can make our vendors, suppliers and service providers more vulnerable to cyber-attacks.

Cyber-attacks on our customers' networks involving our products could have an adverse effect on our business.

Maintaining the security of our products (including newly introduced software products) which are installed with our customers is a critical issue for us, therefore each year we invest additional resources and technologies to better protect our assets. However, security researchers, criminal hackers and other third parties regularly develop new techniques to penetrate computer and network security measures. Cyber-attacks, or other breaches of security on our customers' networks, may be initiated at any network location or device including initiation through our products. Although we maintain high levels of cyber-security aware development processes, we cannot assure that such attacks, or other breaches of security through our products, will fail and therefore may negatively affect our customers' business. Moreover, criminal hackers or hackers associated with national governments, may target a customer of ours or even try to get access to a wider group of the communication network users while devoting immense resourced for long-term access to industry, economy or critical infrastructure users, gather intelligence and develop the means to disable their systems, which attacks are hard to detect, prevent and illuminate. Such attacks could be highly sophisticated, such as slipping malware and Trojan horses and warms into software updates or systematically search for vulnerabilities in our products or in the components we use even before it supplies to us. While we maintain insurance coverage for some of these events, we cannot be certain that our coverage will be adequate for liabilities actually incurred. In addition, these events could also result in damage to our reputation which will further negatively impact our business.

Unauthorized use or behavior on part of our customers' employees or taking insufficient cybersecurity measures by certain customers, could result with data leaks and penetration to our systems that are located or installed in its network. In addition, the shift to software solutions coupled with requirement to move data to cloud-based and open-source environments impose enhanced cybersecurity challenges that can make our products and services more vulnerable to cyber-attacks.

These potential breaches of our security measures could expose our customers to network failures or other related risks, result in litigation and potential liability or fines for us, damage to our brand and reputation or otherwise harm our business.

We are subject to complex and evolving regulatory requirements that may be difficult and expensive to comply with and that could adversely impact our business, results of operations and financial condition.

Our business and operations are subject to regulatory requirements in Israel and may be subject to additional regulatory requirements in other jurisdictions where we operate or where our subsidiaries' offices are located, including, among other things, with respect to government contracts, global trade compliance, export controls, trade sanctions, labor, tax, anti-bribery, anti-corruption, and data privacy and protection. Compliance with these regulatory requirements may be onerous, time-consuming, and expensive, especially where these requirements vary from jurisdiction to jurisdiction or where the jurisdictional reach of certain requirements is not clearly defined or seeks to reach across national borders. Regulatory requirements in one jurisdiction may make it difficult or impossible to do business in another jurisdiction. Moreover, the cross-border nature of our business operations may trigger not only a responsibility to comply with Israeli trade compliance and export control legislation but also a responsibility to comply with certain applicable foreign trade and export control regulations. Certain of such requirements may also vary from the jurisdiction in which we operate to jurisdictions in which our suppliers, customers or resellers are operating. If we or our suppliers fail to obtain any required export licenses, or where existing licenses are revoked or become subject to export restrictions, our ability to manufacture, market and sell our products and services could be adversely affected, all of which could have a material adverse effect on our results of operations or financial condition.

Additionally, we may be limited in our ability to transfer or outsource certain aspects of our business to certain jurisdictions, and may be limited in our ability to undertake research, development, or sales activities in certain jurisdictions, or we may be unsuccessful in obtaining permits, licenses or other authorizations required to operate our business, such as for the marketing, sale, import or export of products, solutions and services, which may adversely affect our business, operations and results. We rely on a global supply chain and on certain marketing channels that may be similarly affected by these regulatory requirements. We cannot assure you that despite our efforts we will be able to successfully or effectively assure that all of our suppliers, agent and resellers will adhere, or will succeed in making sure that their suppliers or customers adhere, to the regulatory requirements that flow down to them. Further, these regulatory requirements are subject to change and governments around the world are adopting a growing number of compliance and enforcement initiatives. In particular, the pace and scope of changes to global trade control regulations has increased dramatically over the past year, in multiple jurisdictions relevant to our business. These regulations may continue to increase and change at an unusually rapid pace. It has been and may continue to be increasingly difficult to keep up with the pace and scope of these changes. Violations of applicable laws or regulations, including by our officers, employees, contractors or agents, may harm our reputation and deter governments and governmental agencies and other existing or potential customers or partners from purchasing our solutions. Furthermore, non-compliance with applicable laws or regulations could result in fines, damages, civil penalties, or criminal penalties against us, our officers or our employees, restrictions on the conduct of our business, and damage to our reputation. While we make efforts to comply with such regulatory requirements, we cannot assure you that we will be fully successful in our efforts, or that that regulatory changes will not negatively affect our ability to develop, manufacture and sell the products, solutions and services we offer.

Our business is subject to numerous laws and regulations designed to protect the environment, including with respect to discharge management of hazardous substances. Although we believe that we comply with these requirements and that such compliance does not have a material adverse effect on our results of operations, financial condition or cash flows, the failure to comply with current or future environmental requirements could expose the Company to criminal, civil and administrative charges. Due to the nature of our business and environmental risks, we cannot provide assurance that any such material liability will not arise in the future.

Our wireless communications products emit electromagnetic radiation. While we are currently unaware of any negative effects associated with our products, there has been publicity regarding the potentially negative direct and indirect health and safety effects of electromagnetic emissions from wireless telephones and other wireless equipment sources, including allegations that these emissions may cause cancer. Health and safety issues related to our products may arise that could lead to litigation or other actions against us or to additional regulation of our products, and we may be required to modify our technology without the ability to do so. Even if these concerns prove to be baseless, the resulting negative publicity could affect our ability to market these products and, in turn, could harm our business and results of operations. Claims against other wireless equipment suppliers or wireless service providers could adversely affect the demand for our transport solutions.

As part of our business is located throughout Europe, we are exposed to the negative impacts of the invasion of Ukraine by Russia on the global economy and specifically the European markets in which we operate and on our operations.

The invasion of Ukraine by Russia is likely to have numerous adverse effects on the global and European markets in which we operate. Sanctions and export controls imposed by the U.S., U.K. and E.U. countries significantly limit trade with Russian entities and individuals, requiring us to apply for export licenses and approval for orders placed by Russian customers or that are to be delivered to Russian end-users. We have been recently denied certain license application we submitted to the U.S. Department of Commerce, Bureau of Industry Security, and there is no assurance that such licenses and permissions shall be awarded in the future. Due to the pace of changes, the complexity and the immediate effect of the new sanctions and export controls, they pose a risk of failure to timely respond, adjust, implement or comply therewith. These new regulatory measures may also lead to the cancellation or suspension of orders in the short term as well as a more long-term loss of market share to competitors who are unaffected or do not seek to comply with the new Russia-related trade limitation. Furthermore, as Russia is a global source of raw materials, oil and gas and additional goods and commodities, the ongoing war and hostility also disrupts the supply of these resources (in addition to the imposition of sanctions and embargoes), causes price increases, shortage, disruption to deliveries, shipping and transportation. These disruptions are reflected both in price increases and shortages impacting our contract manufacturers and suppliers, and adversely affect our production and supply chain costs and timelines. Furthermore, there is an increased risk of cyber-attacks and deliberate disruption to the routine activities in general and communication channels in particular. The above-described risks are continuously changing and developing at an unprecedented rate as the war continues. Those and other risks could have an adverse effect on us, our business, suppliers and customers.

Our international operations expose us to the risk of fluctuations in currency exchange rates and restrictions related to foreign currency exchange controls.

We are a global company that operates in a multi-currency environment. Although we derive a significant portion of our revenues in U.S. dollars, a portion of our revenues are derived from customers operating in local currencies other than the U.S. dollar. Therefore, devaluation in the local currencies of our customers relative to the U.S. dollar could cause our customers to cancel or decrease orders or to delay payment, which could have a negative impact on our revenues and results of operations. We are also subject to other foreign currency risks including repatriation restrictions in certain countries, particularly in Latin America, Asia Pacific and in Africa or significant costs in converting local currencies to U.S. dollars. See also the risk of “*Due to the volume of our sales in emerging markets, we are susceptible to a number of political, economic and regulatory risks that could have a material adverse effect on our business, reputation, financial condition and results of operations*”.

A substantial portion of our operating expenses are denominated in NIS, and to a lesser extent, other non-U.S. dollar currencies. Our NIS-denominated expenses consist principally of salaries and related costs as well as other related personnel expenses. In addition, our lease and Israeli facility-related expenses and certain engagements with other Israeli vendors are denominated in NIS as well. We anticipate that a portion of our expenses will continue to be denominated in NIS. Devaluation of the U.S. dollar against the NIS, could have a negative impact on our results of operations.

We used and may use in the future derivative financial instruments, such as foreign exchange forward contracts, to mitigate the risk of changes in foreign exchange rates on our balance sheet accounts in various currencies and also to hedge our forecasted NIS denominated cash flows. Each type of derivative instrument may have different effect on our financial statements as explained in notes 2.0 to our Consolidated Financial Statements. We do not use derivative financial instruments or other “hedging” techniques to cover all our potential exposure and may not purchase derivative instruments that adequately insulate us from foreign currency exchange risks. In some countries, we are unable to use “hedging” techniques to mitigate our risks because hedging options are not available for certain government restricted currencies. Moreover, derivative instruments are usually limited in time and as a result, cannot mitigate currency risks for the longer term. During 2022, we incurred losses in the amount of \$3.5 million as a result of exchange rate fluctuations that have not been fully offset by our hedging policy. The volatility in the foreign currency markets may make it challenging to hedge our foreign currency exposures effectively.

In some cases, we may face regulatory, tax, accounting or corporate restrictions on money transfer from the country from which consideration should have been paid to us (or to our respective selling subsidiary) or revenues could have accumulated and allocated to us, or could face general restriction on foreign currency transfer outside of such country. Inability to collect and receive amounts that are already due and payable, could have a negative impact on our results of operations.

Additional tax liabilities could materially adversely affect our results of operations and financial condition.

As a global corporation, we are subject to income and other taxes both in Israel and in various foreign jurisdictions including indirect as well as withholding taxes. Our domestic and international tax liabilities are subject to the allocation of revenues and expenses in different jurisdictions and differentiation in the timing of recognizing revenues and expenses. Our tax expense includes estimates or additional tax, which may be incurred for tax exposures and reflects various estimates and assumptions, including assessments of our future earnings that could impact the valuation or recognition of our deferred tax assets. From time to time, we are subject to income and other tax audits, the timing of which is unpredictable. Our future results of operations could be adversely affected by changes in our effective tax rate as a result of a change in the mix of earnings in countries with differing statutory tax rates, changes in our overall profitability, changes in tax legislation and rates, changes in tax treaties, changes in international tax guidelines (such as the OECD Base Erosions and Profit Shifting project – known as BEPS), changes in generally accepted accounting principles, changes in the valuation or recognition of deferred tax assets and liabilities, the results of audits and examinations of previously filed tax returns and continuing assessments of our tax exposures. While we believe we comply with applicable tax laws, there can be no assurance that a governing tax authority will not have a different interpretation of the law and impose additional taxes. Should we be assessed with additional taxes, there could be a material adverse effect on our results of operations and financial condition.

Due to the volume of our sales in emerging markets, we are susceptible to a number of political, economic and regulatory risks that could have a material adverse effect on our business, reputation, financial condition and results of operations.

A majority of our sales are made in emerging economies in Latin America, India, Asia Pacific and Africa. For each of the years ended December 31, 2022 and 2021, sales in these regions accounted for approximately 63% and 68% of our revenues, respectively. As a result, the occurrence of international, political, regulatory or economic events in these regions could adversely affect our business and result in significant revenue shortfalls and collection risk. Any such revenue shortfalls and/or collection risks could have material adverse effects on our business, financial condition and results of operations. 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.

Below are the main risks and challenges that we face as a result of operating in emerging markets:

- unexpected or inconsistent changes in regulatory requirements, including security regulations, licensing and allocation processes;
- unexpected changes in or imposition of tax, tariffs, customs levies or other barriers and restrictions;
- fluctuations in foreign currency exchange rates;
- restrictions on currency and cash repatriation;
- the burden of complying with a variety of foreign laws, including foreign import restrictions which may be applicable to our products;
- difficulties in protecting intellectual property;
- laws and business practices favoring local competitors;
- collection delays and uncertainties;

- business interruptions resulting from geopolitical actions, including war and acts of terrorism, or natural disasters, emergence of a pandemic, or other widespread health emergencies (or concerns over the possibility of such an emergency, including for example, the COVID-19 outbreak);
- requirements to do business in local currency;
- requirements to manufacture or purchase locally, including the possible transfer of knowhow and intellectual property licenses; and
- judicial systems that do not apply the principals of natural justice with regard to disputes with foreign nationals.

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

Business practices in emerging markets may expose us to legal and business conduct-related regulatory risks.

Local business practices in jurisdictions in which we operate, and particularly in emerging markets, may be inconsistent with international regulatory requirements, such as anti-corruption and anti-bribery laws and regulations, to which we are subject. It is possible that, notwithstanding our strict policies and in violation of our instructions, employees of ours, subcontractors, agents or business partners may violate such legal and regulatory requirements, which may expose us to criminal or civil enforcement actions. If we fail to comply with or effectively enforce such legal and regulatory requirements, our business and reputation may be harmed, and we might be exposed to civil and criminal penalties or sanctions.

An industry downturn, reduction in our customers' profitability due to increased regulation or new mobile services requirements, may cause operators' investments in networks to slow, be delayed or stop, which could harm our business.

We are exposed to changing network models that affect operator spending on infrastructure as well as trends in investment cycles of telecom operators and other service providers. The changes include: (i) further expansion of coverage; expansion out of metro, as well as other urban and suburban areas to rural areas; (ii) densification and optimization of the 4G networks to provide faster speeds; (iii) introduction of 5G services as well as expansion and densification of the 5G networks; and (iv) 2G and/or 3G networks shutdown, which is expected to take place within the next several years and designed to free spectrum for the delivery of 5G services.

The proliferation of strategic options for service providers, as outlined above, coupled with uncertain development path and clarity as to the future standards and mass-market use cases, may cause service providers to prolong evaluations of services and network strategies, resulting in slower and smaller budget spent in the next several years, which may negatively affect our business. In addition, the intensification of use of "over-the-top services" - which make use of the operators' network to deliver rich content to users but do not generate revenue to operators - is causing operators to lose a substantial portion of their potential revenues. In addition, changes in regulatory requirements in certain jurisdictions around the world are allowing smaller operators to enter the market, which may also reduce our customers' pricing to their end-users, further causing them to lose revenues. This has made operators more careful in their spending on infrastructure upgrades and buildouts.

As a result, operators are looking for more cost-efficient solutions and network architectures, which will allow them to break the linearity of cost, coverage, capacity and costs of service delivery through more efficient use of existing infrastructure and assets. If operators fail to monetize new services, fail to introduce new business models or experience a decline in operator revenues or profitability, their willingness or ability to invest further in their network systems may decrease, which will reduce their demand for our products and services and may have an adverse effect on our business, operating results and financial condition.

Consolidation within our customer base could harm our business.

The increasing trend towards mergers in the telecommunications industry, such as the merger of T-Mobile and Sprint in the United States, has resulted in the consolidation of our current and potential customer base. In situations where an existing customer consolidates with another industry participant, which uses a competitor's products or which already has an installed base covering the areas which are of interest to our customer, our sales to that existing customer could be reduced or eliminated completely to the extent that the consolidated entity decides to adopt the competing products or use the existing installed base. Furthermore, during the interim period commencing the announcement until the actual closing or failure to close under such transaction, the parties to the merger or any of them might suspend, delay or cancel new engagements with us or procurement of our products, even if the merger shall not be consummated. Further, consolidation of our customer base could result in purchasing decision delays as consolidating customers integrate their operations and could generally reduce our opportunities to win new customers, to the extent that the number of the existing or potential customers decreases. Moreover, some of our customers may agree to share networks, resulting in a decreased requirement for network equipment and associated services, and thus a decrease in the overall size of the market. Some network operators share parts of their network infrastructure through cooperation agreements rather than legal consolidations, which may adversely affect demand for network equipment and could harm our business and results of operations.

Our failure to establish and maintain effective internal control over financial reporting could result in material misstatements in our financial statements or a failure to meet our reporting obligations. This may expose us to fines and damages and cause investors to lose confidence in our reported financial information, which could result in the trading price of our shares to decline.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rule 13a-15(f) of the Exchange Act. Under the supervision and with the participation of our management, including the Chief Executive Officer (“CEO”) and the Chief Financial Officer (“CFO”), we carried out an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2022, using the criteria established in “Internal Control - Integrated Framework” set forth by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (COSO). Based on our assessment under that framework and the criteria established therein, our management concluded that the Company’s internal control over financial reporting was effective as of December 31, 2022 in providing reasonable assurance regarding the reliability of the Company’s financial reporting.

However, if we conclude in the future that our internal controls over financial reporting are not effective, we may fail to meet our future reporting obligations on a timely basis, our financial statements may contain material misstatements, our operating results may be negatively impacted, and we may be subject to litigation and regulatory actions, causing investor perceptions to be adversely affected and potentially resulting in a decline in the market price of our shares. Even if we conclude that our internal controls over financial reporting are adequate, any internal control or procedure, no matter how well designed and operated, can only provide reasonable assurance of achieving desired control objectives and cannot prevent all mistakes or intentional misconduct or fraud.

Our sales cycles in connection with competitive bids or to prospective customers are lengthy.

It typically takes from three to twelve months after we first begin discussions with a prospective customer, before we receive an order from that customer, if an order is received at all. In some instances, we participate in competitive bids, in tenders issued by our customers or prospective customers, and these tender processes can continue for many months before a decision is made by the customer. In addition, even after the initial decision is made, there may be a lengthy testing and integration phase or contract negotiation phase before a final decision to purchase is made. In some cases, even if we have signed a contract and our products were tested and approved for usage, it could take a significant amount of time until the customer places purchase orders, if at all. As a result, we are required to devote a substantial amount of time and resources to secure sales. In addition, the lengthy sales cycle results in greater uncertainty with respect to any particular sale, as events that impact customers’ decisions occur during such cycle and in turn, increase the difficulty of forecasting our results of operations and may cause an increase in inventory levels and our liability to our suppliers, and a risk for inventory write downs and write-offs.

If we fail to obtain regulatory approval for our products, or if sufficient radio frequency spectrum is not allocated for use by our products, our ability to market our products may be restricted.

Generally, our products must conform to a variety of regulatory requirements and international treaties established to avoid interference among users of transmission frequencies and to permit interconnection of telecommunications equipment. Any delays in compliance with respect to our future products could delay the introduction of those products. Also, these regulatory requirements may change from time to time, which could affect the design and marketing of our products as well as the competition we face from other suppliers’ products, which may not be affected as much from such changes. Delays in allocation of new spectrum for use with wireless transport communications, such as the E, V, D and W bands in various countries, at prices which are competitive for our customers, may also adversely affect the marketing and sales of our products.

In addition, in most jurisdictions in which we operate, users of our products are generally required to either have a license to operate and provide communications services in the applicable radio frequency or must acquire the right to do so from another license holder. Consequently, our ability to market our products is affected by the allocation of the radio frequency spectrum by governmental authorities, which may be by auction or other regulatory selection. These governmental authorities may not allocate sufficient radio frequency spectrum for use by our products. We may not be successful in obtaining regulatory approval for our products from these authorities and as we develop new products either our products or some of the regulations will need to change to take full advantage of the new product capabilities in some geographies. Historically, in many developed countries, the lack of available radio frequency spectrum has inhibited the growth of wireless telecommunications networks. If sufficient radio spectrum is not allocated for use by our products, our ability to market our products may be restricted, which would have a materially adverse effect on our business, financial condition and results of operations. Additionally, regulatory decisions allocating spectrum for use in wireless transport at frequencies used by our competitors' products, could increase the competition we face. In addition, the 5G rollout could be contingent upon the allocation of the radio frequency spectrum by governmental authorities which could cause a delay in the ramp up of those activities.

Other areas of regulation and governmental restrictions, including tariffs on imports and technology controls on exports or regulations related to licensing and allocation processes, could adversely affect our operations and financial results.

Our products are used in critical communications networks, which may subject us to significant liability claims.

Since our products are used in critical communications networks, we may be subject to significant liability claims if our products do not work properly. The terms of agreements with our customers do not always provide sufficient protection from liability claims. In addition, any insurance policies we have may not adequately cover our exposure with respect to such claims. We warrant to our current customers that our products will operate in accordance with our product specifications, but if our products fail to conform to these specifications, our customers could require us to remedy the failure or could assert claims for damages. Liability claims could require us to spend significant time and money in litigation or to pay significant damages. Any such claims, successful or not, would be costly and time-consuming to defend, and could divert management's attention and seriously damage our reputation and our business.

We could be adversely affected by our failure to comply with the covenants in our credit agreement or by the failure of any bank to provide us with credit under committed credit facilities.

We have a committed credit facility available for our use from a syndicate of several banks. Our credit agreement contains financial and other covenants. Any failure to comply with the covenants, including due to poor financial performance, may constitute a default under the credit facility, which may have a material adverse effect on our financial condition. In addition, the payment may be accelerated, and the credit facility may be cancelled upon an event, in which a current or future shareholder acquires control (as defined under the Israeli Securities Law) of us. For more information, please refer to Item 5: "OPERATING AND FINANCIAL REVIEW AND PROSPECTS; B. Liquidity and Capital Resources."

In addition, the credit facility is provided by the syndication with each bank agreeing severally (and not jointly) to make its agreed portion of the credit loans to us. If one or more of the banks providing the committed credit facility were to default on its obligation to fund its commitment, the portion of the committed facility provided by such defaulting bank would not be available to us.

In the event that the credit facility is terminated in accordance with its terms, including due to breach of covenants by us, or if it is not renewed and we are not able to secure alternative financing, we could experience a distressed cash flow challenges that could harm our business operations and prospects, results of operations, cash flow and financial position.

If we are unable to protect our intellectual property rights, our competitive position may be harmed.

Our ability to compete will depend, in part, on our ability to obtain and enforce intellectual property protection for our technology internationally. We currently rely upon a combination of trade secret, patent, trademark and copyright laws, as well as contractual rights, to protect our intellectual property. However, as our patent portfolio may not be as extensive as those of our competitors, we may have limited ability to assert any patent rights in negotiations with, or in counterclaims against, competitors who assert intellectual property rights against us.

We also enter into confidentiality, non-competition and invention assignment agreements with our employees and contractors engaged in our research and development activities, as well as non-disclosure agreements with our suppliers and certain customers so as to limit access to and disclosure of our proprietary information. We cannot assure you that any steps taken by us will be adequate to deter misappropriation or impede independent third-party development of similar technologies. Moreover, under current law, we may not be able to enforce the non-competition agreements with our employees to their fullest extent.

We cannot assure you that the protection provided for our intellectual property by the laws and courts of foreign nations will be substantially similar to the remedies available under U.S. law. Furthermore, we cannot assure you that third parties will not assert infringement claims against us based on foreign intellectual property rights and laws that are different from those established in the United States. Any such failure or inability to obtain or maintain adequate protection of our intellectual property rights, for any reason, could have a material adverse effect on our business, results of operations and financial condition.

Moreover, in an effort to further grow our business, we may also sell our innovative Systems-on-Chip (SoC), which we use within our products, to some of our larger competitors, with full or limited access to our technology capabilities, over which they may design products that more effectively compete with our own.

Defending against intellectual property infringement claims could be expensive and could disrupt our business.

The wireless equipment industry is characterized by vigorous protection and pursuit of intellectual property rights, which has resulted in often protracted and expensive litigation. We have been exposed to infringement allegations in the past, and we may in the future be notified that we or our vendors, allegedly infringed certain patent or other intellectual property rights of others. Any such litigation or claim could result in substantial costs and diversion of resources. In the event of an adverse result of any such litigation, we could be required to pay substantial damages (including potentially punitive damages and attorney's fees should a court find such infringement willful), or to cease the use and licensing of allegedly infringing technology and the sale of allegedly infringing products (including those we purchase from third parties). We may be forced to expend significant resources to develop non-infringing technology, obtain licenses for the infringing technology or replace infringing third party equipment. We cannot assure you that we would be successful in developing such non-infringing technology, that any license for the infringing technology would be available to us on commercially reasonable terms, if at all, or that we would be able to find a suitable substitute for infringing third party equipment.

We occasionally use Open Source codes during our development process and in our software products. An unintentional breach of Open Source licenses might compel us to publish certain confidential and proprietary codes, incur damages, and result with intellectual property infringement claims that could be expensive and could disrupt our business.

We occasionally use open source software component under open source licenses. As certain open source copyright licenses may be categorized as "copyleft licenses" that place certain requirements and restrictions on users, we maintain a process to assure the use of permissive licenses that guarantee the freedom to use, modify and redistribute, and creating proprietary derivative works, in order to avoid any limitations on our IPs and exposure of confidential proprietary software. Nonetheless, if we shall not correctly monitor and manage those licenses, fail to maintain their terms (for example, to provide adequate copyright notices, or avoid modifications) or otherwise fail in identifying limited open source codes, we might be subject to third party copyright and to reciprocity obligation requiring us to make our code open for use by others as well. Such claims may harm our development efforts and competitive advantage and expose us to copyright infringement claims that could be expensive and could disrupt our business.

Merger and acquisition activities expose us to risks and liabilities, which could also result in integration problems and adversely affect our business.

We continue to explore potential merger and acquisition opportunities within our wireless transport market or as a diversification effort in order to create a growth engine and implement a growth strategy. In addition, we also explore merger and acquisition opportunities aimed at obtaining technological improvement of our products, adding new technologies to our products and to diversify our business. However, we are unable to predict whether or when any prospective deals will be completed.

In addition, these strategic transactions involve numerous risks, which can jeopardize or even eliminate the benefits entailed in such transactions, such as:

- we may not be able to discover, or the target company may fail to provide us with, all relevant information and documents in relation to the transaction, which could lead to a failure to achieve the objectives of acquisition and to a substantial loss;
- we may fail to reveal that the due diligence materials and documents provided contain untrue statements of material facts or omit to state a material fact necessary to make the statements therein not misleading, hence fail to achieve the objectives of acquisition and suffer a substantial loss;
- we may fail to correctly assess the due diligence investigation findings, establish a correct investment thesis or establish a correct post-merger integration plan;
- the process of integrating an acquired business including, for example, the operations, systems, technologies, products, and personnel of the combined companies, particularly companies with large and widespread operations and/or complex products, may be prolonged due to unforeseen difficulties;
- the implementation of the transaction may distract and divert management's attention from the normal daily operations of our business;
- we may sustain and record significant expenditure and costs associated with outstanding transactions that either did not or will not materialize or would fail to achieve its objectives;
- there will be increased expenses associated with the transaction, and we may need to use a substantial portion of our cash resources or incur debt in order to cover such expenses; expenses which the combined merged companies may not be sufficient to offset;
- we may generate negative cash flow as a result of such transaction, which may require fund raising that may not be available for us;
- we may incur unexpected accounting and other expenses associated with the transaction, such as tax expenses, write offs, amortization expenses related to intangible assets, restructuring costs, litigation costs or such other costs derived from the acquisition;
- the transaction may harm our business as currently conducted (for example, there may be a temporary loss of revenues, we may experience loss of current key employees, customers, resellers, vendors and other business partners or companies with whom we engage today or which relate to any acquired company);
- we may be required to issue ordinary shares as part of the transaction, which would dilute our current shareholders;
- we may need to assume material liabilities of the merged entity;
- the failure to successfully complete the integration associated with the transaction (including integrating any acquired technology into our products), which may cause new markets we were aiming for not to materialize or in which competitors may have a stronger market position; or
- we may fail to effectively obtain the technological improvement.

Failure to manage and successfully complete a strategic transaction could materially harm our business operating results and cash flow. As a result, the anticipated benefits or cost savings of such mergers and acquisitions or other restructuring activities may not be fully realized, or at all, or may take longer to realize than expected. Acquisitions involve numerous risks, any of which could harm our business, results of operations cash flow and financial condition as well as the price of our ordinary shares.

Risks Relating to Our Ordinary Shares

Holders of our ordinary shares who are U.S. residents may be required to pay additional U.S. income taxes if we are classified as a passive foreign investment company ("PFIC") for U.S. federal income tax purposes.

There is a risk that we may be classified as a PFIC. Our treatment as a PFIC could result in a reduction in the after-tax return for U.S. holders of our ordinary shares and may cause a reduction in the value of our shares. For U.S. federal income tax purposes, we will generally be classified as a PFIC for any taxable year in which either: (1) 75% or more of our gross income is passive income, or (2) at least 50% of the average value (determined on a quarterly basis) of our total assets for the taxable year produce, or are held for the production of, passive income. Based on our analysis of our income, assets, activities and market capitalization, we do not believe that we were a PFIC for the taxable year ended December 31, 2022. However, there can be no assurance that the United States Internal Revenue Service ("IRS") will not challenge our analysis or our conclusion regarding our PFIC status. There is also a risk that we were a PFIC for one or more prior taxable years or that we will be a PFIC in future years, including 2023. If we were a PFIC during any prior years, U.S. shareholders who acquired or held our ordinary shares during such years will generally be subject to the PFIC rules. The tests for determining PFIC status are applied annually and it is difficult to make accurate predictions of our future income, assets, activities and market capitalization, which are relevant to this determination. If we were determined to be a PFIC for U.S. federal income tax purposes, highly complex rules would apply to U.S. holders owning our ordinary shares and such U.S. holders could suffer adverse U.S. tax consequences.

For more information, please see Item 10. ADDITIONAL INFORMATION – Taxation - "U.S. Federal Income Tax Considerations" – "Tax Consequences if We Are a Passive Foreign Investment Company."

The price and trading volume of our ordinary shares are subject to volatility. Such volatility could limit investors' ability to sell our shares at a profit, could limit our ability to successfully raise funds and may expose us to class actions against the Company and its senior executives.

The stock market in general, and the market price of our ordinary shares in particular, are subject to fluctuation. As a result, changes in our share price and trading volumes may be unrelated to our operating performance. The price of our ordinary shares and the trading volumes in our ordinary shares have experienced volatility in the past and may continue to do so in the future, which may make it difficult for investors to predict the value of their investment, to sell shares at a profit at any given time, or to plan purchases and sales in advance. In the two-year period ended December 31, 2022, the price of our ordinary shares has ranged from a high of \$6.90 per share to a low of \$1.53 per share. On December 31, 2022 and 2021, the closing prices of our ordinary shares were \$1.91 per share and \$2.58 per share, respectively. A variety of factors may affect the market price and trading volume of our ordinary shares, including:

- announcements of technological innovations or new commercial products by us or by our competitors;
- competitors' positions and other events related to our market;
- changes in the Company's estimations regarding forward looking statements and/or announcement of actual results that vary significantly from such estimations;
- the announcement of corporate transactions, merger and acquisition activities or other similar events by companies in our field or industry;
- changes and developments effecting our field or industry;
- period to period fluctuations in our results of operations;
- changes in financial estimates by securities analysts;
- our earnings releases and the earnings releases of our competitors;
- our ability to show and accurately predict revenues;
- our need to raise additional funds and the success or failure thereof;
- other announcements, whether by the Company or others, referring to the Company's financial condition, results of operations and changes in strategy;
- changes in senior management or the board of directors;
- the general state of the securities markets (with a particular emphasis on the technology and Israeli sectors thereof);

- the general state of the credit markets, the volatility of which could have an adverse effect on our investments;
- developments concerning material proprietary rights, including material patents;
- whether we or our competitors receive or are denied regulatory approvals; and
- global and local macroeconomic developments, components shortage, effects of the Russia-Ukraine war and other global occurrences, such as a renewed outbreak of COVID-19 or another pandemic with similar effect.

Many of these factors are beyond our control, and we believe that period-to-period comparisons of our financial results will not necessarily be indicative of our future performance.

All these factors and any corresponding price fluctuations may materially and adversely affect the market price of our ordinary shares and may result in substantial losses to our investors.

In addition to the volatility of the market price of our shares, the stock market in general and the market for technology companies in particular, has been highly volatile and at times thinly traded. These broad market and industry factors may seriously harm the market price of our ordinary shares, regardless of our operating performance. Investors may not be able to resell their shares following periods of volatility.

In addition, the volatility of the market price of our share, especially when market price is perceived to be very low, may stimulate hostile activities against us such as capital markets' "activists" trying to influence our operations and hostile takeover attempts by competitors (or other potential stakeholders), as we have recently experienced (see below under "*Attempts for a Hostile Takeover, or Shareholder Activism, may negatively affect our business*"). This may cause a significant distraction of management attention in executing against our plans and adversely impact our business and financial results.

Moreover, the market prices of equity securities of companies that have a significant presence in Israel may also be affected by changes in the Middle East, including political and economic changes, and particularly in Israel. As a result, these companies may experience volatility in their share prices and/or difficulties in raising additional funds required to effectively operate and grow their businesses. Thus, market and industry-wide fluctuations and political, economic and military conditions in the Middle East and Israel, may adversely affect the trading price of our ordinary shares, regardless of our actual operating performance. For further details see below under "*Conditions in the Middle East and in Israel may adversely affect our operations*".

Further, as a result of the volatility of our stock price, we could be subject, and are currently subject, to securities litigation, which could result in substantial costs and divert management's attention and Company resources from our business. On January 6, 2015, the Company was served with a motion to approve a purported class action, naming the Company, its CEO and its directors as defendants, which was filed with the District Court of Tel-Aviv, was based on Israeli law and alleges breaches of duties by making false and misleading statements in the Company's SEC filings and public statements during the period between July and October 2014. The plaintiff seeks specified compensatory damages in a sum of up to \$75,000,000, as well as attorneys' fees and costs. Interim proceedings were held with respect to the application of the US Securities Act of 1933 and the Securities Exchange Act of 1934, as amended, and the safe-harbor provisions of the Private Securities Litigation Reform Act of 1995, following a judgment issued by the Israeli Supreme Court stating that Israeli companies whose shares are dually traded in Israel and in certain foreign stock exchange, will be subject to the listing rules in the foreign jurisdiction. To date, after a rehearing proceedings it was ruled that U.S. law will apply also in our case, which was returned to the first judicial instance and will be adjudicated as a class claim under U.S. law. The Court further held that the Company's claims based upon the statute of limitations should also be adjudicated under U.S. law. On March 20, 2022, following the court's decision, the Plaintiff filed to the first judicial instance, an amended class action claim, based on provisions of US law, estimated at \$52,099,000. For more information see below in Item 8. "FINANCIAL INFORMATION – Legal Proceedings".

If we sell ordinary shares in future financings, shareholders may experience immediate dilution and, as a result, our share price may decline.

In order to raise additional capital, we may at any time offer additional ordinary shares or other securities convertible into or exchangeable for our ordinary shares at prices that may not be the same as the price paid for our ordinary shares by our shareholders. We have a shelf registration statement on Form F-3 on file with the SEC which allows us to offer and sell, from time to time, in one or more offerings, our ordinary shares, rights, warrants, debt securities and units comprising any combination of these securities with an aggregate offering price of up to U.S.\$150 million (the "Shelf Registration Statement"). The price per share at which we will sell additional ordinary shares, or securities convertible or exchangeable into ordinary shares, in future transactions, including under the Shelf Registration Statement, may be higher or lower than the price per share paid by our existing shareholders. If we issue ordinary shares or securities convertible into ordinary shares, our shareholders would experience additional dilution and, as a result, our share price may decline.

In addition, as opportunities present themselves, we may enter into financing or similar arrangements in the future, including the issuance of debt or equity securities with or without additional securities convertible or exchangeable into ordinary shares. Whether or not we issue additional shares at a discount, any issuance of ordinary shares will, and any issuance of other equity securities may, result in additional dilution of the percentage ownership of our shareholders and could cause our share price to decline. New investors could also gain rights, preference and privileges senior to those of our shareholders, which could cause the price of our ordinary shares to decline. Debt securities may also contain covenants that restrict our operational flexibility or impose liens or other restrictions on our assets, which could also cause the price of our ordinary shares to decline.

Attempts for a hostile takeover, or shareholder activism, may negatively affect our business.

In recent years, shareholder activists have become involved in numerous public companies. Shareholder activists could propose to involve themselves in the governance, strategic direction and operations of a company. While shareholders' activism might be, in certain cases, an efficient course of action taken by financial investors in order to enhance market efficiency and financial performance, other shareholders might have hostile intentions towards the company and may provoke actions which are intended to damage its business and reputation.

In the summer of 2022, our competitor Aviat launched a hostile takeover attempt against us, after purchasing more than 5% of our outstanding shares. In June 2022, immediately after becoming a 5% shareholder, Aviat sent us a letter (the "Letter"), demanding that we convene an extraordinary general meeting of shareholders for the purpose of presenting and voting on the following proposals made by Aviat: (i) to remove from office three of our directors at the time: Ms. Yael Langer, Mr. Ira Palti and Mr. David Ripstein, and to also remove from office any and all new directors appointed to the Board following the conclusion of our 2021 Annual General Meeting of Shareholders; and (ii) to appoint five of Aviat's director nominees to our Board (the "Proposals"). The purpose of the Proposals was for Aviat to gain control of our Board, and to be able to execute a business combination between the two companies, under terms which we considered as undervaluing the Company and to the detriment of our shareholders. As in accordance with the Companies Law, a 5% shareholder is entitled to demand the convening of such meeting, on August 23, 2022, we held an extraordinary general meeting of shareholders (the "Extraordinary Meeting"), in which the Proposals were rejected by our shareholders. Shareholder activism in general, and hostile takeover attempts in particular, including proxy contests, divert our management's and Board's attention and resources from our business, could give rise to perceived uncertainties as to our future direction, could result in the loss of potential business opportunities, limit our ability to raise funds and make it more difficult for us to attract and retain qualified personnel for positions in both management and Board levels. In addition, if nominees advanced by activist shareholders are elected or appointed to our Board with a specific agenda, it may adversely affect our ability to effectively and timely implement our strategic plans or to realize long-term value from our assets. Also, we may be required to incur significant expenses, including legal fees, related to hostile takeover, or shareholder activism matters. For example, total expenses associated with the Aviat hostile takeover attempt amounted to \$4.2 million for the year ended December 31, 2022. Further, our share price could be subject to significant fluctuations or otherwise be adversely affected by the events, risks and uncertainties associated with any shareholder activism in general, and hostile takeover attempts in particular.

Risks Relating to Operations in Israel

Conditions in the Middle East and in Israel may adversely affect our operations.

Our headquarters, a substantial part of our research and development facilities and some of our contract manufacturers' facilities are located in Israel. Accordingly, we are directly influenced by the political, economic and military conditions affecting Israel. Specifically, we could be adversely affected by:

- hostilities involving Israel;
- the interruption or curtailment of trade between Israel and its present trading partners;
- a downturn in the economic or financial condition of Israel; and
- a full or partial mobilization of the reserve forces of the Israeli army.

Since its establishment in 1948, Israel has been subject to a number of armed conflicts that have taken place between it and its Middle Eastern neighbors. While Israel has entered into peace agreements with Egypt, Jordan, UAE, Bahrain, Morocco and Sudan, it has no peace arrangements with any other neighboring or other Arab countries.

Further, all efforts to improve Israel's relationship with the Palestinians have failed to result in a peaceful solution, and there have been numerous periods of hostility, acts of terror against Israeli civilians, as experienced recently once again in Israel, as well as civil insurrection of Palestinians in the West Bank and the Gaza Strip.

Israel is engaged, from time to time, in armed conflicts with Hamas (a militia group and political party controlling the Gaza Strip). These conflicts have involved missile strikes against civilian targets in the south and center parts of Israel, most recently in August 2022.

Over the years, this state of hostility, varying from time to time in intensity and degree, has led to security and economic problems for Israel.

In addition, relations between Israel and Iran continue to be hostile, due to the fact that Iran is perceived by Israel as sponsor of Hamas and Hezbollah (a Shia Islamist political party and militant group based in Lebanon), maintains a military presence in Syria, and is viewed as a strategic threat to Israel in light of its nuclear program. Air bombing attacks on what is perceived to be Iranian facilities, assets and weapons supplies in Syria and the assassinations of certain Iran's senior generals which to Iran belief is associated to Israel, has contributed to the tension in the region and further intensified the hostility between Iran and Israel and between Israel and Hezbollah, which is positioned alongside Israel's northern border.

All of the above raise a concern as to the stability in the region, which may affect the political and security situation in Israel and therefore could adversely affect our business, financial condition and results of operations.

Furthermore, the continued conflict with the Palestinians is disrupting some of Israel's trading activities. Certain Muslim countries, as well as certain companies and organizations around the world, continue to participate in a boycott of Israeli brands and others doing business with Israel and Israeli companies. The boycott, restrictive laws, policies or practices directed towards Israel or Israeli businesses could, individually or in the aggregate, have a material adverse effect on our business in the future, for example by way of sales opportunities that we could not pursue or from which we will be precluded. In addition, should the BDS Movement, the movement for boycotting, divesting and sanctioning Israel and Israeli institutions (including universities) and products become increasingly influential in the United States and Europe, this may also adversely affect our business and financial condition. Further deterioration of Israel's relations with the Palestinians or countries in the Middle East could expand the disruption of international trading activities in Israel, may materially and negatively affect our business conditions, could harm our results of operations and adversely affect the Company's share price.

Our business may also be affected by the obligation of personnel to perform military service. Our employees who are Israeli citizens are generally subject to a periodical obligation to perform reserve military service, until they reach the age of 40 (or older, for reservists with certain occupations). During times of a military conflict, these employees may be called to active duty for longer periods of time. In response to the increase in violence and terrorist activity in the past years, there have been periods of significant call-ups for military reservists and it is possible that there will be further military reserve duty call-ups in the future. In case of further regional instability such employees, who may include one or more of our key employees, may be absent for extended periods of time which may materially adversely affect our business.

Furthermore, our Company's insurance does not cover loss arising out of events related to the security situation in the Middle East. While the Israeli government generally covers the reinstatement value of direct damages caused by acts of war or terror attacks, we cannot be certain that such coverage will be maintained.

Another risk for political, social and economic instability in Israel is associated with the extensive changes pursued in early 2023 by the current Israeli government with respect to Israel's judicial system. In response to such developments, individuals, organizations and financial 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 conduct business in Israel, as well as to increased currency fluctuations, downgrades in credit rating, increased interest rates, increased volatility in securities markets, and other changes in macroeconomic conditions. Such proposed changes may also adversely affect the labor market in Israel or lead to political instability or civil unrest. 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, and to attract or retain qualified and skilled "talents" and personnel.

We can give no assurance that the political, economic and security situation in Israel will not have a material adverse effect on our business in the future.

We received grants from the IIA that may require us to pay royalties and restrict our ability to transfer technologies or know-how outside of Israel.

In prior years we have received government grants from the Israel Innovation Authority (the "IIA") for the financing of a significant portion of our research and development expenditures in Israel. Unless otherwise agreed by IIA, we must nevertheless continue to comply with the requirements of the Israeli Law for the Encouragement of Industrial Research and Development, 1984 and regulations promulgated thereunder (the "R&D Law") with respect to technologies that were developed using such grants (the "Financed Know-How"), including an obligation to repay such grants from consideration received from sales of products which are based on the Financed Know-How, if and when such sales occur and if applicable in accordance with the grant plan or under the agreements entered into between the Company and IIA.

In accordance with certain grant plans, in addition to the obligation to pay royalties to the IIA, the R&D Law requires that products which incorporate Financed Know-How be manufactured in Israel, and prohibits the transfer of Financed Know-How and any right derived therefrom to third parties, unless otherwise approved in advance by the IIA. Such prior approval may be subject to payment of increased royalties. Although such restrictions do not apply to the export from Israel of the Company's products developed with such Financed Know-How, they may prevent us from engaging in transactions involving the sale, outsource or transfer of such Financed Know-How or of manufacturing activities with respect to any product or technology based on Financed Know-How, outside of Israel, which might otherwise be beneficial to us. Furthermore, the consideration available to our shareholders in a transaction involving the transfer outside of Israel of Financed Know-How (such as a merger or similar transaction) may be reduced by any amounts that we are required to pay to the IIA.

For more information regarding the restrictions imposed by the R&D Law and regarding grants received by us from the IIA, please see Item 4. "INFORMATION ON THE COMPANY- B. Business Overview - The Israel Innovation Authority."

The tax benefits to which we are currently entitled from our approved enterprise program, require us to satisfy specified conditions, which, if we fail to meet, would deny us from these benefits in the future. Further, if such tax benefits are reduced or eliminated in the future, we may be required to pay increased taxes.

The Company has certain capital investment programs that have been granted approved enterprise status by the Israeli government (the "Approved Programs"), pursuant to Israel's Law for the Encouragement of Capital Investments, 1959 (the "Encouragement Law"). When we begin to generate taxable income from these approved enterprise programs, the portion of our income derived from these programs will be tax exempt for a period of two years. The benefits available to an approved enterprise program are dependent upon the fulfillment of conditions stipulated under the Encouragement Law and in the certificates of approval or in rulings obtained from the Israeli Tax Authorities. If we fail to comply with these conditions, in whole or in part, we may be required to pay additional taxes for the period(s) in which we benefited from the tax exemption and would likely be denied these benefits in the future. The amount by which our taxes would increase will depend on the difference between the then-applicable corporate tax rate and the rate of tax, if any, that we would otherwise pay as an approved enterprise, and on the amount of any taxable income that we may earn in the future.

In addition, the Israeli government may reduce, or eliminate in the future, tax benefits available to approved enterprise programs. Our Approved Programs and the resulting tax benefits may not continue in the future at their current levels or at any level. The termination or reduction of these tax benefits would likely increase our tax liability. The amount, if any, by which our tax liability would increase will depend upon the rate of any tax increase, the amount of any tax rate benefit reduction, and the amount of any taxable income that we may earn in the future. For a description of legislation regarding "Preferred Enterprise" see Item 10. "ADDITIONAL INFORMATION".

Being a foreign private issuer exempts us from certain SEC requirements and Nasdaq Rules, which may result in less protection than is afforded to investors under rules applicable to domestic issuers.

We are a “foreign private issuer” within the meaning of rules promulgated by the SEC. As such, we are exempt from certain provisions under the Exchange Act applicable to U.S. public companies, including:

- the rules under the Exchange Act requiring the filing with the SEC of quarterly reports on Form 10-Q and current reports on Form 8-K;
- the sections of the Exchange Act regulating the solicitation of proxies, consents or authorizations in respect of securities registered under the Exchange Act, including extensive disclosure of compensation paid or payable to certain of our highly compensated executives as well as disclosure of the compensation determination process;
- the provisions of Regulation FD aimed at preventing issuers from making selective disclosures of material information; and
- the sections of the Exchange Act requiring insiders to file public reports of their stock ownership and trading activities and establishing insider liability for profit realized from any “short-swing” trading transaction (a purchase and sale, or sale and purchase, of the issuer’s equity securities within less than six months).

In addition, we are permitted to follow certain home country corporate governance practices and laws in lieu of certain Nasdaq Rules applicable to U.S. domestic issuers. For instance, we have relied on the foreign private issuer exemption with respect to shareholder approval requirements for equity-based incentive plans for our employees and the requirement to have a formal charter for our Compensation Committee. Following our home country governance practices rather than the Nasdaq Rules that would otherwise apply to a U.S. domestic issuer, may provide less protection to investors. For the list of the specific exemptions that we have chosen to adopt, please see Item 16G. “CORPORATE GOVERNANCE”.

We may lose our status as a foreign private issuer, which would increase our compliance costs and could negatively impact our operations results.

We may lose our foreign private issuer status if (a) a majority of our outstanding voting securities are either directly or indirectly owned of record by residents of the United States and (b) one or more of (i) a majority of our executive officers or directors are United States citizens or residents, (ii) more than 50% of our assets are located in the United States or (iii) our business is administered principally in the United States. In such case, we would be required to, among other things, file periodic reports and registration statements on U.S. domestic issuer forms with the SEC, which are more extensive than the forms available to a foreign private issuer, follow U.S. proxy disclosure requirements, including the requirement to disclose, under U.S. law, more detailed information about the compensation of our senior executive officers on an individual basis, modify certain of our policies to comply with accepted governance practices associated with U.S. domestic issuers and we would lose our ability to rely upon exemptions from certain corporate governance requirements on U.S. stock exchanges that are available to foreign private issuers, as described in the previous risk factor above. All of the above would cause us to incur substantial additional internal and external costs, including for outside legal and accounting support.

It may be difficult to enforce a U.S. judgment against us or our officers and directors, or to assert U.S. securities laws claims in Israel.

We are incorporated under the laws of the State of Israel. Service of process upon our directors and officers, almost all of whom reside outside the United States, may be difficult to obtain within the United States. Furthermore, because the majority of our assets and investments, and almost all of our directors and officers are located outside the United States, any judgment obtained in the United States against us or any of them may not be collectible within the United States.

Additionally, it may be difficult for an investor, to assert U.S. securities law claims in original actions instituted in Israel. Israeli courts may refuse to hear a claim based on an alleged violation of U.S. securities laws reasoning that Israel is not the most appropriate forum to bring such a claim. In addition, even if an Israeli court agrees to hear such a claim, it is not certain if Israeli law or U.S. law will be applicable to the claim. If U.S. law is found to be applicable, the content of applicable U.S. law must be proved as a fact by an expert witness, which can be a time-consuming and costly process. Certain matters of procedure will also be governed by Israeli law. There is little binding case law in Israel that addresses the matters described above.

Your rights and responsibilities as a shareholder will be governed by Israeli law which differs in some respects from the rights and responsibilities of shareholders of U.S. companies.

Since we are incorporated under Israeli law, the rights and responsibilities of our shareholders are governed by our Articles of Association as in effect from time to time (the "Articles of Association"), and Israeli law. These rights and responsibilities differ in some respects from the rights and responsibilities of shareholders in United States-based corporations. In particular, a shareholder of an Israeli company has a duty to act in good faith and in a customary manner in exercising its rights and performing its obligations towards the company and other shareholders and to refrain from abusing its power in the company, including, among other things, in voting at the general meeting of shareholders on certain matters, such as an amendment to a company's articles of association, an increase of a company's authorized share capital, a merger of a company and approval of interested party transactions that require shareholder approval. A shareholder also has a general duty to refrain from discriminating against other shareholders. In addition, a controlling shareholder or a shareholder who knows that it possesses the power to determine the outcome of a shareholders' vote or to appoint or prevent the appointment of an office holder in a company, or has another power with respect to a company, has a duty to act in fairness towards such company. Israeli law does not define the substance of this duty of fairness and there is limited case law available to assist us in understanding the nature of this duty or the implications of these provisions. These provisions may be interpreted to impose additional obligations and liabilities on our shareholders that are not typically imposed on shareholders of U.S. corporations.

Provisions of Israeli law may delay, prevent, or make undesirable an acquisition of all or significant portion of our shares or assets.

Israeli corporate law regulates mergers and acquisitions and requires that a tender offer be effected when certain thresholds of percentage ownership of voting power in a company are exceeded (subject to certain conditions), which may have the effect of delaying, preventing or making more difficult a merger with, or acquisition of, us. Further, Israeli tax considerations may make potential transactions undesirable to us, or to some of our shareholders, if the country of residence of such shareholder does not have a tax treaty with Israel (thus not granting relief from payment of Israeli taxes). With respect to mergers, Israeli tax law provides tax deferral in certain circumstances but makes the deferral contingent on the fulfillment of numerous conditions, including a holding period of two years from the date of the transaction, during which certain sales and dispositions of shares of the participating companies are restricted. Moreover, with respect to certain share swap transactions, the tax deferral is limited in time, and when such time expires, the tax becomes payable even if no actual disposition of the shares has occurred. See Exhibit 2.1 Item 10.B. – "Mergers and Acquisitions under Israeli Law".

In addition, in accordance with the Israeli Economic Competition Law, 1988 (the "Economic Competition Law"), and the R&D Law, to which we are subject due to our receipt of grants from the IIA, a change in control in the Company (such as a merger or similar transaction) may be subject to certain regulatory approvals in certain circumstances. For more information regarding such required approvals please see Item 4. "INFORMATION ON THE COMPANY - B. Business Overview - *The Israel Innovation Authority*".

In addition, as a corporation incorporated under the laws of the State of Israel, we are subject to the Economic Competition Law and the regulations promulgated thereunder, under which we may be required in certain circumstances to obtain the approval of the Israel Competition Authority in order to consummate a merger or a sale of all or substantially all of our assets.

These provisions of Israeli law could have the effect of delaying or preventing a change in control and may make it more difficult for a third party to acquire us, even if doing so would be beneficial to our shareholders, and may also adversely affect the price that investors may be willing to pay in the future for our ordinary shares.

ITEM 4. INFORMATION ON THE COMPANY

A. History and Development of the Company

We were incorporated under the laws of the State of Israel on July 23, 1996 as Gigamet Ltd. We changed our name to Ceragon Networks Ltd. on September 6, 2000. We operate under the Companies Law, our registered office is located at 3 Uri Ariav St., Bldg. A (7th Floor) PO Box 112, Rosh Ha'Ayin, Israel, 4810002, and our telephone number is +972-3-543-1000. The U.S. Securities and Exchange Commission (SEC) maintains a public internet site that contains Ceragon's filings with the SEC and reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC (<http://www.sec.gov>). Our web address is www.ceragon.com. Information contained on our website does not constitute a part of this annual report.

Our agent for service of process in the United States is Ceragon Networks, Inc., our wholly owned U.S. subsidiary and North American headquarters, located at 851 International Parkway, Suite 1340, Richardson, Tx 75081.

For information concerning the Company's principal capital expenditures currently in progress, refer to Item 5.B. "Liquidity and Capital Resources".

For information concerning the Aviat's hostile takeover attempt refer to Item 3.C. "KEY INFORMATION Risk factors - Risks Relating to Our Ordinary Shares - attempts for a hostile takeover, or shareholder activism, may negatively affect our business".

B. Business Overview

We are the leading wireless transport specialist company in terms of unit shipments and global distribution of our business, providing innovative high-capacity wireless connectivity solutions to global markets across various industries, mainly wireless (mobile) networks service providers.

Wireless transport is a means for connecting mobile network sites (e.g. cellular base stations in various architectures) to the rest of the network. It carries information to and from the cellular base stations. It is used as high-speed connectivity to telecom sites, typically when fiber optics wireline connectivity is not available and for its backup, or where and when rapid deployment is required. According to recent market research, about 45% of global telecom sites are connected to the rest of the network via wireless transport.

Ceragon's innovative technology related to the transition from Wireless SDH to Wireless IP, and the further transition to compact multi-core all-outdoor wireless backhaul solutions, assisted in positioning Ceragon as a leader in the global wireless transport market, and we expect that it would have potentially positioned us to benefit from new wireless generation transitions such as the current 5G evolution.

In preparation for the transition from 4G to 5G technologies, we have begun planning the roll-out of new 5G-supporting products. In 2019, we introduced the market-first "disaggregated wireless transport" architecture, which allows operators to significantly simplify 5G network deployment and maintenance, as well as reduce of capital and operating expenses. Currently, we are investing in a new chipset which incorporates multi-cores in a chipset to be incorporated in products expected to be introduced in 2024.

The term 'wireless transport' refers to various types of network connectivity signaling and network protocols which vary in speeds and include (i) backhaul - used in 4G, 5G and earlier generations of mobile networks to send data packets between the network and the base-stations and between the base-stations to other network elements, and (ii) fronthaul - used in 4G and 5G networks to send radio signal values between building blocks of the base station, which can be separated from another across geographic site locations to achieve network efficiencies in some network scenarios.

Wireless transport offers network operators a cost-efficient alternative to wire-line connectivity between network nodes at different sites, mainly fiber optics. Support for high broadband speeds and very large numbers of devices, means that all value-added services can be supported, while the high reliability of wireless systems provide for lower maintenance costs. Because they require no trenching, wireless transport links can also be set up much faster and at a fraction of the cost of fiber solutions. On the customer's side, this translates into an increase in operational efficiency and faster time-to-market, as well as a shorter timetable to achieving new revenue streams.

We provide wireless transport solutions and services that enable cellular operators, other service providers and private networks to build new networks and evolve networks towards 4G and 5G services. The services provided over these networks are: voice, mobile and fixed broadband, multimedia, Industrial/Machine-to-Machine (M2M), Internet of Things (IoT) connectivity, public safety and other mission critical services. We also provide our solutions for wireless transport to other vertical markets such as Internet service providers, public safety, utilities, oil and gas offshore drilling platforms, as well as maritime communications. Our wireless transport solutions use microwave and millimeter-wave radio technologies to transfer large amounts of telecommunication traffic between wireless 5G, 4G, 3G and other cellular base station technologies (distributed, or centralized with dispersed remote radio heads) and the core of the service provider's network. We are also a member of industry consortiums of companies, which attempt to better define future technologies in ICT (Information and Communication Technologies) markets, such as Open Networking Foundation (ONF), Metro Ethernet Forum (MEF), European Telecommunications Standards Institute (ETSI), Telecom Infra Project (TIP) and others.

In addition to providing our solutions, we also offer our customers a comprehensive set of turn-key services, including advanced network and radio planning, site survey, solutions development, network rollout, maintenance, wireless transport network audit and optimization, and training. To enable delivery of turn-key solutions to our customers, in addition to providing roll-out services, we have partnered with other third-party providers of technologies complementary to our own. Our offering includes technologies such as: Unlicensed Point-to-Point, Private Long-Term Evolution (LTE), Licensed/unlicensed Point-to-Multipoint, Internet Protocol/Multi-Protocol label Switching (IP/MPLS) SW and/or white boxes and others. This allows us to better cover our customers' end-to-end needs and increases the level of stickiness with these customers. Our services include powerful project management tools such as our "InSide Software" tool that streamline deployments of complex wireless networks, thereby reducing time and costs associated with network set-up and allowing a fast time-to-revenue. Our experienced teams can deploy hundreds of wireless transport links every week, and our rollout project track record includes hundreds of thousands of links already installed and operational with a variety of industry-leading operators.

Designed for any network scenario, including risk-free flexible migration from current and legacy network technologies and architectures to evolving standards and network transport scenarios, our solutions provide ultra-high-speed connectivity at any distance, be it a few kilometers or tens of kilometers, and even longer, over any available spectrum (or combinations of available spectrum bands) and in any site and network architecture. Our solutions support all wireless access technologies, including 5G-NR NSA, 5G-NR SALTE, HSPA, EV-DO, CDMA, W-CDMA, WIFI and GSM as well as Tetra, P.25 and LMR for critical communications. These solutions allow wireless service providers to cost-effectively and seamlessly evolve their networks from a monolithic base-station architecture to an open radio access network (RAN) architecture, utilizing vertical and horizontal disaggregation, allowing them extra flexibility, scalability and efficiency, thereby meeting the increasing demand of a growing number of connections of any type for consumers and enterprises with growing needs for mobile and other multimedia services, and a growing number of machines or IoT devices such as street surveillance devices or meters.

We also provide our solutions to other non-carrier vertical markets (private networks) such as oil and gas companies, public safety organizations, businesses and public institutions, broadcasters, energy utilities and others that operate their own private communications networks. Our solutions are deployed by more than 600 service providers of all sizes, as well as in more than 1,600 private networks, in more than approximately 130 countries.

Wireless Transport; Short-haul, Long-haul and Small Cells Transport

Today's cellular networks are predominantly based on 4G technologies. These networks constantly undergo expansion of coverage, densification with additional sites to cater to higher demands for speeds and to make more services available per given area. However, more than 200 service providers in all 5 continents have now launched 5G services. These investments in 5G radio network infrastructure, and consequently, associated wireless transport, are expected to gradually increase during the next several years. In order to allocate spectrum resources for 4G and 5G, some operators are shutting down their 2G and/or 3G network (a "network sunset") in order to re-allocate radio access network frequency bands to 4.5 and 5G services. These market dynamics of network expansion and densification have resulted in higher demand for wireless transport capacity, at increased density, accommodating sophisticated services over the network at far higher volume than available up to recent years. Such services include the many 5G use cases, which among others include enhanced mobile broadband, mission critical services, IoT & Industrial IoT (Industry 4.0, or "IIoT"), Gigabit broadband to homes, multi Gigabits services to enterprises and more.

The wireless transport market of service providers is divided into two main market segments. The first is a market segment in which operators invest resources and efforts to select the best wireless transport solution that will meet their wireless transport needs, in terms of the ability to improve their business operational efficiency, services reliability and their customers' (subscribers') quality of experience. This market segment is referred to as "best-of-breed". The other market segment is characterized by operators that do not select the wireless transport solution, since this decision is made by a network's solution provider retained by the operator. This network solution provider delivers a full end-to-end solution and the equipment required to operate the entire network, including the wireless transport equipment. Operators in this segment of the market rely on the network solution providers to choose wireless transport as part of the full end-to-end solution while often compromising on performance and optimization of the network and other resources, as seen in a solution which does not play a primary role within the end-to-end network rollout considerations. This segment of the market is referred to as "bundled-deals". Ceragon will also sometimes offer end-to-end solutions to private Networks, where usually there is no mobile network, utilizing its ecosystem of 3rd party vendors.

Ceragon serves the “best-of-breed” segment of the market and specializes in a range of solutions, which to the Company’s belief, provide high value for our customers including:

- Short-haul solutions, which typically provide a wireless link capacity of up to 2 Gbps per link for backhaul, and/or a link capacity of up to 20Gbps for fronthaul. These solutions are available for distances of several hundred feet to 10 miles. Short-haul links are deployed in access applications (macro cells and small cells and distributed cells) wirelessly connecting the individual base-stations or base-station element (i.e. a “central unit”, a “distributed unit” or a “radio unit”) towers to the core network. Short-haul solutions are also used in a range of non-carrier “vertical” applications such as state and local government, public safety, education and off-shore communication for oil and gas platforms.
- Long-haul solutions, which typically provide a capacity of up to 20 Gbps, are used in the “highways” of the telecommunication backbone network. These links are typically used to carry services at distances of 10 to 50 miles, and, using the right planning, configuration and equipment, can also bridge distances of 100 miles and more. Long-haul solutions are also used in a range of non-carrier “vertical” applications such as broadcast, state and local government, public safety, utilities and offshore communication for oil and gas platforms.

Ceragon has, on more than one occasion, been the first to introduce new products and features to the market, including the first solution for wireless transmission for evolving cellular networks, providing 155 Mbps at 38 GHz in 1996 and numerous microwave and millimeter-wave technology innovations thereafter. Since 2008, Ceragon has invested in pioneering the multicore™ technology focusing on addressing the multiple wireless transport challenges of 4G and 5G services. This technology is at the core of Ceragon’s in-house developed chipsets for wireless transport, now in their Fourth generation, which enable Ceragon to design and offer vertically integrated solutions. This vertical integration enables Ceragon to provide higher flexibility, better performance, and improved time-to-market. With the first products based on multicore™ technology introduced to the market in 2013, Ceragon has enabled dual-core radios and far advanced capabilities, such as Line-of-Sight Multiple Input Multiple Output (LoS MIMO), which allows efficient use of spectrum where congestion of frequencies exist, Advanced Frequency Reuse (AFR), which allows massive network densification and Advanced Space Diversity, which eliminates the use of multiple antennas in various network scenarios, thereby accelerating network deployment and reducing total cost of ownership.

In 2019, Ceragon introduced the market-first “disaggregated wireless transport” architecture, which allows operators to significantly simplify 5G network deployment and maintenance, as well as reduce capital and operating expenses.

Ceragon is currently investing in a new chipset which incorporates multi-cores in a chipset, expected to be available at the beginning of 2024, offering industry-leading performance and capacity.

Industry Background

The market demand for wireless transport is being generated primarily by cellular operators, wireless broadband service providers, businesses and public institutions that operate private networks. This market is fueled by the explosion in mobile data usage in developing and developed countries.

The main catalyst for the wireless transport evolution has been the huge increase in data and video consumption across the globe. This evolution generates higher capacity and cost-efficient architectures, based on IP/Ethernet technologies in a developing set of network scenarios and architectures.

- In 4G, the fronthaul transport network connects Remote Radio Heads (RRHs) to distant centralized/cloud Baseband Units (BBUs), while backhaul connects BBUs back to 4G Evolved Packet Core (EPC). In 5G, the New Radios (NR) are connected to the BBU, which can be disaggregated into a Central Unit (CU) and a Distributed Unit (DU). The new midhaul interconnects the CU to the DU via a new, standardized 3GPP interface.

- With help from organizations such as the operator-led O-RAN Alliance, 5G fronthaul and midhaul network interface specifications are open and defined in a structured format. This allows MNOs to purchase RUs, DUs, CUs, and the associated transport networks between them, from anyone. We believe that this presents new market opportunities for Ceragon's leading wireless transport solutions with our open network architecture.

Rapid subscriber and connections growth and the proliferation of advanced end devices, driven mainly by video content, have significantly increased the amount of traffic that must be carried over a cellular operator's transport infrastructure. The proliferation of industrial, security and metering devices through IoT technologies, and implementation of new 5G network architectures is also increasing the total capacity and coverage that is needed to be transported throughout networks and put additional strain on network capacity, requiring even higher capacity wireless backhaul and fronthaul connectivity.

With the growth in adoption of 4G and the accelerated pace of adoption of 5G, which require even higher network speeds and wireless transport capacity, in particular, cellular operators are seeking strategies, using new technologies, which will allow further business growth, to facilitate quick and cost-efficient enablement of new services for more connected subscribers (either human or machine). Among those are Software Defined Networks (SDN) and Network Function Virtualization (NFV) technologies, which are key for network slicing.

Network slicing is a network engineering model in which the physical network is providing resources to numerous virtual networks on top, whereas each virtual network delivers a specific set of performance characteristics for a specific service, or set of services, sharing common requirements. For example, a network slice that is tasked with delivering ultra-high bandwidth for mission critical multimedia services (voice and video) to law enforcement agencies, requires a different amount of network resources ensuring prioritized capacity and minimal delay variation, whereas a different network slice support video streaming service for mobile entertainment. SDN and NFV technologies are designed to support network slicing models and its implementation, for high quality subscriber experience, by simplifying service creation and orchestration through simple network traffic engineering rules and tools, as well as enable end-to-end network resources optimization across all network domains, including the wireless transport domain, for increased operational efficiency. Network resources optimization is expected to be achieved, in part, by the use of SDN technologies with wireless transport optimization applications, which will exploit network intelligence gathered by SDN controllers within the network.

The wireless transport domain of the network will require adaptation to these industry trends by enabling far higher capacities, with ultra-low latency for high service quality, simple service creation and optimization to cope with the influx of a thousand-fold increase in the number of services compared to 4G networks, and a high degree of wireless resources optimization (spectrum and other) that will be incorporated within the wireless transport network infrastructure.

Cellular Operators

In order to address the strain on backhaul and fronthaul capacity, cellular operators have a number of alternatives, including leasing existing fiber lines, laying new fiber optic networks or deploying wireless solutions. Leasing existing lines requires a significant increase in operating expenses and, in some cases, requires the wireless service provider to depend on a direct competitor. Laying new fiber-optic lines is capital and labor-intensive and these lines cannot be rapidly deployed. The deployment of high capacity and ultra-high capacity point-to-point wireless links represents a scalable, flexible and cost-effective alternative for expanding backhaul and fronthaul capacity. Supporting typical data rates of 2 Gbps (backhaul) and 20Gbps (fronthaul) over a single radio unit, wireless transport solutions enable cellular operators to add capacity only as required while significantly reducing upfront and ongoing backhaul and fronthaul costs.

The surge in mobile data usage, fueled by anticipation and adoption of advanced releases of 4G and 5G services, drives operators to accelerate and finalize the migration of their networks to a more flexible, feature-rich and cost optimized IP network architecture. Additionally, the surge in data usage in densely populated areas drives operators to explore new network architectures that utilize a variety of small-cell technologies requiring the deployment of dense wireless transport network in various microwave and millimeter-wave spectral bands. As operators intensify 4G services availability and transition to 5G services, all of which are IP-based wireless access technologies, they look for ways to benefit from IP technology in their transport network while maintaining support for their primary legacy services. The progression that is expected in 5G networks rollout over the next several years, will broaden cellular operators' assessment of the growing role the wireless backhaul and fronthaul may take in their network, as reaching the small cells with more fiber is expected to become a significant challenge, both physically and economically.

Wireless Broadband Service Providers

For wireless broadband service providers, which offer alternate high data access, high-capacity transport is essential for ensuring continuous delivery of rich media service across their high-speed data networks. If the transport network and its components do not satisfy the wireless broadband service providers' need for cost-effectiveness, resilience, scalability or ability to supply enough capacity, then the efficiency and productivity of the network may be seriously compromised. While both wireless and wire-line technologies can be used to build these transport systems, many broadband service providers opt for wireless point-to-point microwave solutions. This is due to a number of advantages of the technology including: rapid installation, support for high-capacity data traffic, scalability and lower cost-per-bit compared to wire-line alternatives.

Private Networks and Other Service Providers

Many large businesses and public institutions require private high bandwidth communication networks to connect multiple locations. These private networks are typically built using IP-based communications infrastructure. This market includes educational institutions, utility companies, oil and gas industry, broadcasters, state and local governments, public safety agencies, maritime customers, defense contractors and more. These customers continue to invest in their private communications networks for numerous reasons, including security concerns, the need to exercise control over network service quality and redundant network access requirements. As data traffic on these networks rises, we expect that businesses and public institutions will continue to invest in their communications infrastructure, including wireless transport equipment. Like wireless service providers, customers in this market demand a highly reliable, cost-effective transport solution that can be easily installed and scaled to their bandwidth requirements. Approximately 20% of our business is associated with private network.

Wireless vs. Fiber Transport

Though fiber-based networks can easily support the rapid growth in bandwidth demands, they carry high initial deployment costs and take longer to deploy than wireless. Certainly, where fiber is available within several hundred feet of the operator's point of presence, with ducts already in place, and when there are no regulatory issues that prohibit the connection – fiber can become the operator's preferred route. In other scenarios, high-capacity wireless connectivity using microwave and millimeter-wave technologies (wireless transport), is significantly more cost efficient. Wireless transport is taking a significant role in 4G network densification and is expected to take an even more significant role in the 5G rollout as a result of ease, cost and the speed of deployment. In fact, in most cases the return-on-investment from fiber installations can only be expected in the long term, making it hard for operators to achieve lower costs per bit and earn profits in a foreseeable future.

Wireless microwave and millimeter-wave transport solutions on the other hand are capable of delivering high bandwidth, carrier-grade network services. Our wireless transport solutions are suitable for all capacities, carrying multi Gbps of the operators' traffic over a single radio connection (or "link"). Unlike fiber, wireless solutions can be set up quickly and are more cost efficient on a per-bit basis from the outset. In many countries, microwave and millimeter-wave links are deployed as alternative routes to fiber, ensuring on-going communication in case of fiber-cuts and network failures.

Licensed vs. License-exempt Wireless Transport

Licensed wireless transport: Service providers select the optimal available transmission frequency based on the rainfall intensity in the transmission area and the desired transmission range. The regulated, or licensed, microwave bands (4-42GHz) and millimeter-wave bands (71-86GHz) are allocated by government licensing authorities for high-capacity wireless transmissions. The license grants the licensee the exclusive use of that spectrum for a specific use thereby eliminating any interference issues. A licensed microwave or millimeter-wave spectrum is typically the choice of leading operators around the world because it matches the bandwidth and interference protection they require. Our licensed spectrum products operate across the entire span of the licensed microwave and millimeter-wave spectrum described herein, from 4GHz microwave to 86GHz, delivering multi Gbps per link and are scalable and versatile to meet all radio access networks, small cells, private networks and long-haul radio transmission paths requirements.

License-exempt wireless transport: Service providers also select license-exempt spectrum in order to provide high speed connectivity to businesses, campuses (often regarded as a wireless backhaul) and serve cellular small cells with wireless backhaul connectivity, without regulatory approval for spectrum.

License exempt spectrum can be categorized into two main categories: 1) 57 – 66GHz millimeter-wave band, known as the v-band spectrum and operating at very wide channel bandwidths, up to 2,000MHz and capable of delivering 10Gbps bi-directional capacity (FDD). The use of v-band spectrum requires the existence of a line of sight between the sites, allows the achievement of high availability connectivity because of the narrow beam characteristics of the radio signal and provides the highest capacity when operating in a point-to-point communication mode. Additional V-band solutions include point-to-multipoint and mesh networks architectures which provide up to 4Gbps aggregate capacity and their primary use is for access services to end-users with limited capacity of backhaul operating within the access service spectrum (in-band backhaul); and 2) sub 6GHz license-exempt spectrum, operating at narrow channel bandwidths of up to 80MHz and delivering up to 500Mbps bi-directional capacity (FDD), typically in point-to-multipoint network architecture. The use of sub 6GHz spectrum allows for non, or near, line of sight connectivity between the sites and facilitates an economic and flexible rollout model, at the expense of achieving modest capacity, as specified above. License exempt V-band and sub 6GHz bands are more vulnerable to interference as a result of the uncoordinated use of the spectrum.

Industry Trends and Developments

- The widespread surge in network traffic in 2020 to 2022 emerging from the COVID-19 pandemic has significantly affected the way business and individuals access information for work and leisure. National lock-ins for large parts of the population and labor market trends brought many businesses to exercise company-wide work-from-home activities with massive use of video conferencing and cloud network communication. Entire families stay longer at home and extensively consume video streaming and online gaming, along with video chats with friends and relatives. The result is an increase in home broadband demand, while today's home broadband networks are not designed for such usage patterns. Some countries, even developed ones, lack broadband communication networks in rural areas. As a result, service providers are required to increase network investment to match the network capabilities to the surge in broadband demand. We anticipate that the increase in network traffic which service providers experienced amidst the pandemic will remain and may even increase, as companies and employees adapt to broader use of telecommuting, and families adopt higher use of video calls/chats as larger portions of the world population, young and elderly alike, use highly visual remote communication tools and high volume communication transactions.
- 5G enables operators to enhance their services portfolio with more use cases such as enhanced mobile broadband (eMBB) delivering gigabit broadband, as well as address new market segments such as IoT & IIoT and mission critical applications with URLLC (Ultra Reliable Low Latency Communications) and mMTC (Massive Machine Type Communications) services. Those services, combined with new network architectures require higher capacity, lower latency networks and in particular higher transport capacity, far denser macro cells and small/distributed cells grids and the implementation of network virtualization technologies and architectures, namely network slicing using SDN. Our wireless transport solutions resolve both higher capacity, lower latency and network densification requirements with advanced capabilities, based on our multicore™ technology for microwave narrowband spectrum (up to 224Mhz) and the use of wider bands in millimeter-wave spectrum, up to 2,000MHz. Network virtualization requirements are addressed with layer 3 capabilities and SDN support.
- *Software Defined Networking (SDN)* is an emerging concept aimed at simplifying network operations and allowing network engineers and administrators to quickly respond to a fast-changing business environment. SDN delivers network architectures that transition networks from a world of task-specific dedicated network devices, to a world of optimization of network performance through network intelligence incorporated within network controllers performing control functions and network devices, which perform traffic (data-plane) transport. Our wireless transport solutions are SDN-ready, built around a powerful software-defined engine and may be incorporated within the SDN network architecture. Our SDN architecture is envisioned to provide a set of applications that can achieve end-to-end wireless transport network optimization by intelligently making use of the scarce network resources, such as spectrum and power consumption.

- The emergence of *distributed cells* presents transport challenges that differ from those of traditional macro-cells. Distributed cells are used to provide connectivity and capacity in hot spots and underserved spots, as well as increase coordination between adjacent cells, leading to improved service level. They also significantly reduce the cost of cell-site equipment. This new architecture is forecasted to be present in a high percentage of advanced 5G network deployments. Our distributed-cells wireless transport portfolio includes a variety of compact all-outdoor solutions that provide operators with optimal flexibility in meeting their unique physical, capacity, networking, and regulatory requirements.
- The introduction of a *disaggregated model* for hardware and software. This model allows better scalability, simplicity and flexibility for network operators as it offers independent elements for hardware and software, allowing the use of commercial off-the-shelf hardware, to accelerate delivery of new solutions and innovations. Different domains in the network are being opened these days, such as the Radio Access Network - OpenRAN, the Routing in the cell-sites – DCSG (Disaggregated Cell Site Router), and the Disaggregated Wireless Transport.
- The *network sharing* business model is growing in popularity among mobile network operators (MNOs) who are faced with increasing competition from over-the-top players and an ever-growing capacity crunch. Network sharing can be particularly effective in the transport portion of mobile networks, especially as conventional macro cells evolve into super-sized macro sites that require exponentially more bandwidth for wireless transport. It has become abundantly clear that in these new scenarios, a new breed of wireless transport solutions with a significant investment is required. Our wireless transport solutions support network sharing concepts by addressing both the ultra-high capacities required for carrying multiple operator traffic, as well as the policing for ensuring that each operator's service level agreement is maintained.
- A growing market for non-mobile transport applications which includes: offshore communications for the oil and gas industry, as well as the shipping industry, which require a unique set of solutions for use on moving rigs and vessels; broadcast networks that require robust, highly reliable communication for the distribution of live video content either as a cost efficient alternative to fiber, or as a backup for fiber installations; and Smart Grid networks for utilities, as well as local and national governments that seek greater energy efficiency, reliability and scale.
- A growing demand for high capacity, IP-based long-haul solutions in emerging markets where telecom and broadband infrastructure, such as fiber, is lacking. This demand is driven by the need of service providers to connect more communities in order to bridge the digital divide, using 4G and eventually 5G services.
- *Subscriber growth* continues mainly in emerging markets such as India, Africa and Latin America, but is getting close to saturation.

Our Solutions

We offer a broad product portfolio of innovative, field-proven, high capacity wireless transport solutions, which incorporate our unique multicore™ technology. Our multicore™ technology is a key element in our differentiation within the wireless transport market, serving the "best-of-breed" market segment. Our multicore™ technology is comprised of a high order of digital signal carriers embedded in modems having multiple baseband cores, designed for microwave and millimeter-wave communications, and RF integrated circuits (RFIC), which support the entire available microwave and millimeter-wave spectrum. We integrate our multicore™ technology SoCs into sub-systems and complete wireless transport solutions that deliver high value for our customers. With our approach to solutions, from system-on-a-chip design, all the way to solutions design, we enable cellular operators, other wireless service providers, public safety organizations, utility companies and private network owners to effectively obtain a range of benefits:

- *Increase business operational efficiency by reducing network related expenses.* Our customers are able to obtain the required capacity with one-quarter of the spectrum needed otherwise, double network capacity without adding more equipment simply by remotely expanding wireless link capacity, significantly reduce energy related expenses by utilizing our energy efficient products, use smaller antennas thereby reducing telecommunication tower leasing costs, and improve their staff productivity with the use of a single wireless transport platform for their long-haul, short-haul and small/distributed cells transport needs. We offer a range of solutions for quick and simple modernization of wireless networks to 4G and 5G, which significantly contribute to our customers' ability to modernize and expand their services.

Our wireless transport solutions are offered across the widest range of frequencies - from 4GHz microwaves to 86GHz millimeter-waves. This provides our customer more flexibility in deploying its wireless transport infrastructure, as it enables the customer to select the spectrum available in the customer's market, from a wider range of frequencies. Any transport network topology is supported to enable high network availability and resiliency, including ring, mesh, tree and chain topologies.

- *Enhance service portfolio, quality of experience and reach.* Our multicore™ technology allows our customers to introduce new services (e.g. 5G use cases), to improve subscriber (user) quality of experience generated from the voice, data and multimedia services that they provide to their customers and to extend their network and services reach in order to address new markets. Our All-outdoor offering enables quicker installation and deployment, hence improving time-to-market of our customers' services to their subscribers.
- *Ensure peace of mind.* Our solutions utilize the latest in microwave and millimeter-wave technology, incorporated in-house developed System-on-Chips (baseband and RF integrated circuits), and use the latest advances in SMT (Surface-mount technologies) based manufacturing – allowing our customers to benefit from the highest service availability across their Ceragon-based wireless transport network.

We provide our customers with future solutions already built-in to their Ceragon-installed base. We invest a significant amount of effort in designing and providing solutions, which are not only backward compatible with our earlier product generations, but also allow our customers to reuse the radio units and antennas of their Ceragon links installed base, thereby replacing only the low labor-consuming indoor (sheltered) units - thus benefiting from the latest wireless transport performance of our latest technology across their Ceragon-installed base. Moreover, our solutions support multiple technologies within the same wireless transport equipment, providing our customers with high flexibility in network transition from legacy connectivity to 4G and 5G connectivity and architectures, at their desired pace of transition - while achieving long-term operational efficiency, high service quality and availability.

Design to Cost. We see increasing demand for smaller systems with low power consumption and a cost structure that fits today's business environment in the diverse markets, seeking wireless transport solutions. We believe that this complicated puzzle can only be solved through vertical integration from system to chip level. Our strategy to drive performance up while driving cost down is achieved through our investment in modem and RF (radio frequency) integrated circuit (IC) design. Our advanced chipsets, which are already in use in hundreds of thousands of units in the field, integrate all the radio functionality required for high-end microwave and millimeter-wave systems. By owning the technology and controlling the complete system design, we achieve a very high level of vertical integration and cost structure and control over the timing of introducing certain capabilities, which is not available to vendors relying on off-the-shelf chipsets. This, in turn, enables us to yield systems that have superior performance when compared with systems which use off-the-shelf chipsets component available from the other single source, due to our ability to closely integrate and fine-tune the performance of all the radio components. We have introduced automated testing that allows us to speed up production while lowering the costs for electronic manufacturing services manufacturers. Thus, we believe we are able to achieve one of the lowest per-system cost positions in the industry and can offer our customers further savings through compact, low power consumption designs – which is becoming a key parameter in the ability of operators to deploy their networks, while meeting operational efficiency targets, and at the same time promote a more “green” environment by reducing energy consumption and environmental pollution caused thereby.

Strategic Partnerships. Ceragon maintains strategic partnerships with third party solution vendors and network integrators. Through these relationships Ceragon develops interoperable ecosystems, enabling operators and private networks to profitably evolve networks by using complementary transport alternatives. In some cases, we have entered into a strategic alliance with a multinational technology company that nevertheless, choose our technology for its future products, acknowledging that we propose the “best-of-breed” cutting edge technology.

Our Products

Our portfolio of products utilizes microwave and millimeter-wave radio technologies that provide our customers with a wireless connectivity that dynamically adapts to weather conditions and optimizes range and efficiency for a given frequency channel bandwidth. Our products are typically sold as a complete system comprised of some or all of the following four components: an outdoor unit, an indoor unit, a compact high-performance antenna and a network management system. We offer all-packet microwave and millimeter-wave radio links, with optional migration from TDM to Ethernet. Our products include integrated networking functions for both TDM, Ethernet and IP/MPLS.

We offer our products in four configurations: All-outdoor, split-mount, all-indoor, and disaggregated transport.

- All-outdoor solutions combine the functionality of both the indoor and outdoor units in a single, compact device. This weather-proof enclosure is fastened to an antenna, eliminating the need for rack space or sheltering, as well as the need for air conditioning, and is more environmentally friendly due to its lower footprint and power consumption.
- Split-mount solutions consist of:
 - Indoor units which are used to process and manage information transmitted to and from the outdoor unit, aggregate multiple transmission signals and provide a physical interface to wire-line networks.
 - Outdoor units or Radio Frequency Units (RFU), which are used to control power transmission, and provide an interface between antennas and indoor units. They are contained in compact weather-proof enclosures fastened to antennas. Indoor units are connected to outdoor units by standard coaxial or Cat-5 baseband cables.
- All-indoor solutions refer to solutions in which the entire system (indoor unit and RFU) reside in a single rack inside a transmission equipment room. A waveguide connection transports the radio signals to the antenna mounted on a tower. All indoor equipment is typically used in long-haul applications.
- Disaggregated wireless transport solutions offer a single radio suitable for all-outdoor, a split-mount scenario, and a networking unit, which provides versatile and scalable hardware options based on merchant routing silicon and also provides routing capabilities (L3) that are radio technologies aware.
- Pointing accuracy solutions for high movement environments. These are advanced microwave radio systems for use on moving rigs/vessels where the antenna is stabilized in one or two axes, azimuth or azimuth/elevation.
- Antennas are used to transmit and receive microwave radio signals from one side of the wireless link to the other. These devices are mounted on poles typically placed on rooftops, towers or buildings. We rely on third party vendors to supply this component.
- End-to-End Network Management. Our network management system uses standard management protocol to monitor and control managed devices at both the element and network level and can be easily integrated into our customers' existing network management systems.

The **IP-20 Platform** provides a wide range of solutions for any configuration requirement and diverse networking scenarios. Composed of high-density multi-technology nodes and integrated radio units of multiple radio technologies ranging from 4GHz and up to 86GHz, it offers ultra-high capacity of multiple Gbps with flexibility in accommodating for every site providing high performance terminals for all-indoor, split-mount and all-outdoor configurations. The IP-20 platform supports carrier-ethernet services and is MEF 2.0 certified.

The **IP-50 Platform** provides disaggregated wireless transport using a single type of radio in microwave or millimeter-wave for all configuration and installation scenarios and IP/MPLS and segment routing capabilities over merchant silicon hardware options.

IP-20 All-outdoor solutions:

Product	Frequency range	Application	Networking & transport technologies
IP-20C	6-42GHz, dual-carrier	Shorthaul, small cells, enterprise	Carrier Ethernet
IP-20C-HP	4-11GHz, dual-carrier	Longhaul	Carrier Ethernet
IP-20S	6-42GHz	Shorthaul, enterprise	Carrier Ethernet
IP-20E	71-86GHz	Shorthaul, small cells, enterprise	Carrier Ethernet
IP-20V	57-66GHz	Shorthaul, small cells, enterprise	Carrier Ethernet

IP-20 Split-mount / all-indoor solutions:

Product	Frequency range	Application	Networking & transport technologies
IP-20N / IP-20A	4-86GHz	Shorthaul, Long-haul	Carrier Ethernet, TDM
IP-20F	4-86GHz	Shorthaul	Carrier Ethernet, TDM
IP-20G	6-42GHz	Shorthaul	Carrier Ethernet, TDM

IP-50 disaggregated solutions:

Product	Frequency range	Application	Networking & transport technologies
IP-50E	71-86GHz	Shorthaul, Fronthaul, Enterprise access	CE
IP-50C	6-42GHz, dual-carrier	Shorthaul	CE
IP-50FX	6-86GHz	Shorthaul, Long-haul, Routing	IP/MPLS, CE

As wireless transport capacity needs grow, the wireless transport network blueprint evolves to supporting more radio carriers in one box (2 carriers, instead of 1) as a basic configuration with the IP-20C product, or even 4+0 (a link utilizing 4-carriers in a carrier-aggregation configuration) in all-outdoor configuration with layer-1 carrier aggregation to support growing capacity needs at minimal foot print with the IP-50C product. Ceragon's multicore™ technology covers all network scenarios and site configurations wherever All-outdoor, Split-mount, or All-indoor. Various multicore™ radio units can be used with IP-20N/ IP-20A, IP-20F or IP-50FX products, such as RFU-D and the RFU-D-HP, or IP-50C and IP-50E in the disaggregated solution (i.e. can be used as a stand-alone, all-outdoor radio or in a split-mount configuration, connected to the IP-50FX). As part of the IP-50FX Disaggregated Cell Site Gateway (DCSG), we introduced a Radio Aware Open Networking (RAON) Software, designed to increase operational efficiency, simplify radio monitoring and management, and expect in the future to release a reduced energy consumption.

In addition to the IP-20 and the IP-50 Platforms, Ceragon provides the PointLink portfolio that offers a tailored solution for oil and gas and other maritime offshore applications.

Our network management system (NMS) can be used to monitor network element status, provide statistical and inventory reports, download software and configuration to elements in the network, and provide end-to-end service management across the network. Our NMS solutions support all our microwave and millimeter-wave products through a single user interface.

SDN (Software Defined Network) solution

As the mobile industry progresses towards the 5G era, SDN is becoming more important for operators. SDN concepts and protocols will allow the operators to have a complete, multi-technology, multi-vendor view of their network and apply optimization and predictive maintenance instructions in real time. The SDN concepts and values fit well the openness and disaggregation principles our customers are seeking. We offer our customers a wide variety of SDN supporting products and tools:

- *SDN Controller* – Ceragon's SDN Master is a complete controller supporting SDN protocols that can monitor and control Ceragon's products in an SDN environment. The SDN Master can work as a 'standalone' controller, or as part of an SDN solution managed by a higher level SDN controller offered by a third-party vendor (sometimes referred to as an SDN Orchestrator), allowing full flexibility to our customers.
- *SDN support in our wireless transport products* - all Ceragon IP-20 and IP-50 products support the needed SDN protocols allowing the operator to manage these products with Ceragon SDN controllers but also with third party SDN controllers, again, allowing full flexibility to our customers.

- *SDN applications* – Software (SW) tools with significant impact on our customers' TCO (total cost of ownership), network availability, and fast network rollout. These applications enable operators to increase their network efficiency and effectiveness with operational optimization and automatization capabilities. With the SDN technology, Ceragon SW solutions are entering into the cloud domain allowing multiple open and flexible deployment scenarios for our customers. Currently, Ceragon is developing and enhancing those and other SW tools in order to expand our offering also to stand-alone SW solutions and services either as on-premise, remote or SaaS services. Ceragon recently launched "Ceragon Insight", which is a unified network intelligence and management software suite for wireless transport network. It aims to provide NOC and Engineering teams with deep insight and analytics tools that save money by enabling highly effective operations, assuring quality of service, and speeding response to ongoing and upcoming issues.

IP-100 Platform

Ceragon is currently investing in a new chipset which incorporates multi-cores in a chipset which is expected to be available beginning 2024, offering industry-leading performance and capacity. We are already designing the first IP-100 products that will be using that chipset that will significantly increase our wireless transport products capabilities in terms of higher capacity, lower latency, lower physical size and power consumption and more. These capabilities will make the IP-100 platform the optimize choice for existing and new use cases in the 5G mobile market. The IP-100 platform is expected to expand Ceragon products coverage beyond the MW bands, V-Band and E-Band range (4-86 GHz) and include W-band (up to 110 GHz) and D-band (up to 170 GHz) products.

As telecommunication networks and services become more demanding, there is an increasing need to match the indoor units' advanced networking capabilities with powerful and efficient radio units. Our outdoor RFUs are designed with sturdiness, power, simplicity and compatibility in mind. As such, they provide high-power transmission for both short and long distances and can be assembled and installed quickly and easily. The RFUs can operate with different Ceragon indoor units, according to the desired configuration, addressing any network need be it cellular, backbone, rural or private transport networks.

Our Services

We offer complete solutions and services for the design and implementation of telecommunication networks, as well as the expansion or integration of existing ones. We have a global projects and services group that operates alongside our products groups. Under this group we offer our customers a comprehensive set of turn-key services including: advanced network and radio planning, site survey, solutions development, installation, network auditing and optimization, maintenance, training and more. Our services include utilization of powerful project management tools in order to streamline deployments of complex wireless networks, thereby reducing time and costs associated with network set-up, and allowing faster time to revenue. Our experienced teams can deploy hundreds of "wireless transport links" every week, and our rollout project track-record includes hundreds of thousands of links already installed and in operation with a variety of Tier 1 operators.

We are committed to providing high levels of service and implementation support to our customers. Our sales and network field engineering services personnel work closely with customers, system integrators and others to coordinate network design and ensure successful deployment of our solutions.

We support our products with documentation and training courses tailored to our customers' varied needs. We have the capability to remotely monitor the in-network performance of our products and to diagnose and address problems that may arise. We help our customers to integrate our network management system into their existing internal network operations control centers.

Currently, in the pursuit of our new strategy to diversify and expand our offering to include, among other things, solutions for WISPs (wireless internet services), private networks, software based solutions and disaggregated cell-site routing, we are developing and enhancing SW tools including those that have been used by us for networks planning, commissioning, monitoring, optimization and maintenance, to be included in our services offering as a stand-alone SW solutions and services either as on-premise, remote or SaaS.

Our Customers

We have sold our products, directly and through a variety of channels, to over 600 service providers and more than 1,600 private network customers in more than approximately 130 countries. Our principal customers are wireless service providers that use our products to expand transport network capacity, reduce transport costs and support the provision of advanced telecommunications services. In 2022, we continued to maintain our position as the number one wireless transport specialist, in terms of unit shipments and global distribution of our business. While most of our sales are direct, we do reach a number of these customers through OEM or distributor relationships. We also sell systems to large enterprises and public institutions that operate their own private communications networks through system integrators, resellers and distributors. Our customer base is diverse in terms of both size and geographic location.

In 2022, customers from the Europe region contributed 14% of total yearly revenue. Our sales in Latin America and Africa in 2022 were 18% and 7% of yearly revenue, respectively. Our sales in Asia Pacific (excluding India), North America and India in 2022 were 11%, 23% and 27%, respectively.

The following table summarizes the distribution of our revenues by region, stated as a percentage of total revenues for the years ended December 31, 2020, 2021 and 2022:

Region	Year Ended December 31,		
	2020	2021	2022
North America	14%	16%	23%
Europe	17%	16%	14%
Africa	9%	8%	7%
India	24%	30%	27%
APAC (excluding India)	18%	11%	11%
Latin America	18%	19%	18%

Sales and Marketing

We sell our products through a variety of channels, including direct sales, OEMs, resellers, distributors and system integrators. Our sales and marketing staff, including services and supporting functions, includes approximately 628 employees in many countries worldwide, who work together with local agents, distributors and OEMs to expand our business.

We are a supplier to various key OEMs which together accounted for approximately 5% of our revenues in 2022. System integrators, distributors and resellers accounted for approximately 16% of our revenues for 2022. We are focusing our efforts on direct sales, which accounted for approximately 79% of our revenues for 2022. We also plan to develop additional strategic relationships with equipment vendors, global and local system integrators, distributors, resellers, networking companies and other industry suppliers with the goal of gaining greater access to our target markets.

Marketing plays an important role in promoting Ceragon's products, solutions and services in creating lead generation to new and existing customers, and ultimately establishing its leadership and differentiation in the market. Ceragon's key marketing activities include the following:

- Proactively planning and executing marketing campaigns and developing content as well as communications material to promote the Ceragon products, solutions and services to customers and prospects over the entire course of the sales-cycle. Activities include advertising, e-mail, press releases, newsletters, marketing collateral (white papers, e-books, brochures, case studies, etc.), blogs, promotional videos and more. This content is produced and written with search engine optimization in mind to ensure Ceragon high ranking in customer organic search results.
- Organizing and running exhibitions, seminars and events. This goes far beyond the mere planning the logistics of the event, but customizing messaging for target audience, creating event materials, such as displays, presentations, animated videos, demos, and most importantly promoting the event to customers and prospects to ensure successful attendance and secure customer meetings.

Following the outbreak of the COVID-19 pandemic, we have developed remote marketing tools such as webinars, live-demos, remote seminars and enhanced the use of digital tools and remote marketing activities.

Although revenues may sometimes be lower in the first quarter of the year than in the rest of the year and may sometimes increase towards the end of a fiscal year, our revenue and operating results are hard to predict and may vary significantly from quarter to quarter and from our expectations for any specific period. The timing of revenue recognition is based on several factors. See Item 5. Operating and Financial Review and Prospects – General – Critical Accounting Policies and Estimates – Revenue Recognition.

Manufacturing and Assembly

Our manufacturing process consists of materials planning and procurement, assembly of indoor units and outdoor units, final product assurance testing, quality control and packaging and shipping. With the goal of streamlining all manufacturing and assembly processes, we have implemented an outsourced, just-in-time manufacturing strategy that relies on contract manufacturers to manufacture and assemble circuit boards and other components used in our products and to assemble and test indoor units and outdoor units for us. The use of advanced supply chain techniques has enabled us to increase our manufacturing capacity, reduce our manufacturing costs and improve our efficiency.

We comply with standards promulgated by the International Organization for Standardization and have received certification under the ISO 9001 (Quality), ISO 14001 (Environment), ISO 27001 (Information Security Management System) and ISO 45001 (Health and Safety) standards. These standards define the procedures required for the manufacture of products with predictable and stable performance and quality, as well as environmental guidelines for our operations and safety assurance.

We outsource most of our manufacturing operations to major contract manufacturers in Israel, Singapore and the Philippines. We are transitioning all of our Israeli based manufacturing activities to the Philippines and expect to complete this transition by the first half of 2023. In addition, we established an RMA center in India. Most of our warehouse operations are outsourced to subcontractors in Israel, the Netherlands, the United States, Philippines and Singapore. The raw materials (components) for our products come primarily from the United States, Europe and Asia Pacific.

Our activities in Europe require that we comply with European Union Directives with respect to product quality assurance standards and environmental standards including the “RoHS” (Restrictions of Hazardous Substances) Directive.

Additionally, we apply and maintain a conflict mineral policy with respect to the sourcing of metal parts containing tin, tungsten, tantalum and gold, also referred to as 3TG, in addition to other trade compliance policies.

Research and Development

We place considerable emphasis on research and development to improve and expand the capabilities of our existing products, to develop new products, with particular emphasis on equipment for increasing the transmitted capacity and effective bandwidth utilization, and to lower the cost of producing both existing and future products. We intend to continue to devote a significant portion of our personnel and financial resources to research and development. As part of our product development process, we maintain close relationships with our customers to identify market needs and to define appropriate product specifications. In addition, we intend to continue to comply with industry standards and we are full members of the European Telecommunications Standards Institute in order to participate in the formulation of European standards.

Our research and development activities are conducted mainly at our facilities in Rosh Ha'Ayin, Israel, but also at our subsidiaries in Greece and Romania. As of December 31, 2022, our research, development and engineering staff consisted of 234 employees globally. Our research and development team include highly specialized engineers and technicians with expertise in the fields of millimeter-wave design, modem and signal processing, data communications, system management and networking solutions.

Our research and development department provide us with the ability to design and develop most of the aspects of our proprietary solutions, from the chip-level, including both application specific integrated circuits, or ASICs and RFICs, to full system integration. Our research and development projects currently in process include extensions to our leading IP-based networking product lines and development of new technologies to support future product concepts. In addition, our engineers continually work to redesign our products with the goal of improving their manufacturability and testability while reducing costs.

To further expand global business footprint, Ceragon has entered into an agreement with a leading industry partner. The agreement calls for a development program, wherein the companies will leverage Ceragon's experience and unique capabilities in microwave and millimeter-wave communications, to develop baseband technologies, which will further accelerate innovation and deliver premium cutting-edge solutions for 5G wireless transport.

Intellectual Property

To safeguard our proprietary technology, we rely on a combination of patent, copyright, trademark and trade secret laws, confidentiality agreements and other contractual arrangements with our customers, third-party distributors, consultants and employees, each of which affords only limited protection. We have a policy which requires all of our employees to execute employment agreements which contain confidentiality provisions.

To date, we have 19 patents granted in the United States and other foreign jurisdictions including the EPO (European Patent Office) and 8 patent applications pending in the United States and other foreign jurisdictions including the EPO.

We have registered trademarks as follows:

- for the standard character mark Ceragon Networks in Canada;
- for the standard character mark CERAGON, national registrations in Morocco, Malaysia, Indonesia (under the name of Ceragon Networks AS), Japan, Israel, Mexico, the United States, South Africa, the Philippines, Argentina, Venezuela, Peru, Canada, Nigeria, Brazil and Colombia, United Kingdom and India, and International Registration (protection granted in Australia, Iceland, Bosnia & Herzegovina, Korea, Switzerland, Croatia, Norway, Russia, China, Ukraine, CTM (European Union), Turkey, Singapore, Macedonia, Egypt, Kenya and Vietnam);
- for our design mark for FibeAir in the United States, Israel, United Kingdom and the European Union;
- for the standard character mark FibeAir in the United States; and
- for the standard character mark CeraView in Israel, United Kingdom and the European Union.

Competition

The market for wireless equipment is rapidly evolving, fragmented, highly competitive and subject to rapid technological change. We expect competition, which may differ from region to region, to persist in the future - especially if rapid technological developments occur in the broadband wireless equipment industry or in other competing high-speed access technologies.

We compete with a number of wireless equipment providers worldwide that vary in size and in the types of products and solutions they offer. Our primary competitors include large wireless equipment manufacturers referred to as generalists, such as Huawei Technologies Co., Ltd., L.M. Ericsson Telephone Company, NEC Corporation, Nokia Corporation and ZTE Corporation. In addition to these primary competitors, a number of other smaller wireless transport equipment suppliers, including Aviat Networks Inc., SIAE Microelettronica S.p.A, and Intracom telecom, offer and develop products that compete with our products.

We also expect consolidation pressure to continue as the wireless equipment market continues to be highly competitive and, as a result, we face price pressures. We expect to continue to be a leader in the "best-of-breed" market segment of the wireless transport market in terms of market share, technology and innovation, providing significant value to our customers.

Further market dynamics may drive some operators, which seek "best-of-breed" solutions, to seek "bundled" network solutions from the generalists. This trend may put an additional strain on our competitiveness.

We believe we compete favorably based on:

- the diversification of our technologies and capabilities, which allows flexible vertical integration options, including the development of the core technology – RFIC and modems, including SoC (System on Chip);
- our focus and active involvement in shaping next generation standards and technologies, which deliver best customer value;
- our product performance, reliability and functionality, which assist our customers to achieve the highest value;
- the range and maturity of our product portfolio, including the ability to provide solutions in every widely available microwave and millimeter-wave licensed and license-exempt frequency, as well as our ability to provide both IP and circuit switch solutions and therefore to facilitate a migration path for circuit-switched to IP-based networks;
- our design to cost structure;
- our time-to-market advantage, due to having our own technology and our own chipsets;
- our focus on high-capacity, point-to-point microwave and millimeter-wave technologies, which allows us to quickly adapt to our customers' evolving needs;
- the range of rollout services offering for faster deployment of an entire network and reduced total cost of ownership;
- our support and technical service, experience and commitment to high quality customer service, and
- our ability to expand to other vertical markets such as oil and gas and public safety, by drawing upon the capabilities of our technologies and solutions.

The Israel Innovation Authority.

The government of Israel encourages research and development projects in Israel through the IIA, formerly known as the Israeli Office of Chief Scientist, pursuant to the provisions of the R&D Law and subject thereto. We received grants from the IIA for several projects and may receive additional grants in the future.

Under the terms of certain IIA plans, a company may be required to pay royalties ranging between 3% to 6% of the revenues generated from its products or services incorporating know-how developed with, or are a derivative of, funds received from the IIA ("IIA Products"), until 100% of the dollar value of the grant is repaid (plus LIBOR interest applicable to grants received on or after January 1, 1999).

The R&D Law requires that the manufacturing of IIA Products be carried out in Israel, unless the IIA provides its approval to the contrary. Such approval may only be granted under various conditions and entails repayment of increased royalties equal to up to 300% of the total grant amount, plus applicable interest, depending on the extent of the manufacturing that is to be conducted outside of Israel. In any case, IIA Products manufactured abroad carry an increase of 1% in the royalty rate.

The R&D Law also provides that know-how (and its derivatives) developed with, or that is a derivative of, funds received from the IIA and any right derived therefrom may not be transferred to third parties, unless such transfer was approved in accordance with the R&D Law. The research committee operating under the IIA may approve the transfer of know-how between Israeli entities, provided that the transferee undertakes all the obligations in connection with the R&D grant as prescribed under the R&D Law. In certain cases, such research committee may also approve a transfer of know-how outside of Israel, in both cases subject to the receipt of certain payments, calculated according to a formula set forth in the R&D Law, in amounts of up to six (6) times the total amount of the IIA grants, plus applicable interest (in case of transfer outside of Israel), and three (3) times of such total amount, plus applicable interest, (in case sufficient R&D activity related to the know how remains in Israel). Such approvals are not required for the sale or export of any products resulting from such R&D activity.

Further, the R&D Law imposes reporting requirements on certain companies with respect to changes in the ownership of a grant recipient. The grant recipient, its controlling shareholders, and foreign interested parties of such companies must notify the IIA of any change in control of the grant's recipient or the holdings of the "means of control" of the recipient that result in an Israeli or a non-Israeli becoming an interested party directly in the recipient. The R&D Law also requires the new interested party to undertake to comply with the R&D Law. For this purpose, "control" means the ability to direct the activities of a company (other than any ability arising solely from serving as an officer or director of the company), including the holding of 25% or more of the "means of control", if no other shareholder holds 50% or more of a such "means of control." "Means of control" refers to voting rights or the right to appoint directors or the chief executive officer. An "interested party" of a company includes a holder of 5% or more of its outstanding share capital or voting rights, its chief executive officer and directors, someone who has the right to appoint its chief executive officer or at least one director, and a company with respect to which any of the foregoing interested parties owns 25% or more of the outstanding share capital or voting rights or has the right to appoint 25% or more of the directors. Accordingly, in certain cases, any non-Israeli who acquires 5% or more of our ordinary shares may be required to notify the IIA that it has become an interested party and to sign an undertaking to comply with the R&D Law. In addition, the rules of the IIA may require additional information or representations with respect to such events.

In December 2006, we entered into an agreement with IIA (then the Office of the Chief Scientist at the Ministry of Economy) to conclude our research and development grant programs sponsored by the IIA. Under the agreement, we were obligated to repay the IIA approximately \$11.9 million in outstanding grants, in six semiannual installments from 2007 through 2009. During the second quarter of 2008, we paid the IIA approximately \$7.4 million to retire all the debt remaining from this agreement. Nevertheless, we continue to be subject to the obligations and restrictions under the R&D Law and the IIA regulations, including regarding transfer of know-how and manufacturing outside of Israel, in respect to these grants.

In each of 2013 and 2014 we received approval for a new R&D grant from the IIA in amounts of approximately \$0.7 million and \$0.9 million respectively, under a generic program (the "Generic Plan"). Additionally, and under such plan, in 2015 we received approval for new R&D grants in the amount of approximately \$0.6 million, and in 2016, 2017 and 2018 we received approval for grants in a total amount for the three years, of approximately \$1.4 million. In 2019 and 2020 we received approval for additional grants under the Generic Plan, in the frame of which we have received a total amount of approximately \$ 1.3 million. The Generic Plan has ended. The Generic Plan requires us to comply with the requirements of the R&D Law in the same manner applicable to previous grants, provided, however, that the obligation to pay royalties on sales of products based on technology or know how developed with the Generic Plan may apply, under certain conditions, to a recipient of the technology or knowhow developed with the Generic Plan, to the extent such is sold and/or transferred, while the Company's self-sales of its products without such transfer, do not bear royalty payment obligations. In addition, we may manufacture part of the products developed under the program outside of Israel, up to the percentages declared in our applications for such grants.

In March 2014, we participated in two Magnet Consortium Programs called "Hyper" and "Neptune" (the "Magnet Programs") sponsored by the IIA. Under these Magnet Programs, which are intended to support innovative generic industry-oriented technologies, we cooperated with additional companies and research institutes. In the years 2016, 2017 and 2018 we received an approval from the IIA for a sum of \$3.8 million in the aggregate, under these Magnet Programs. The R&D Law applies to Magnet Programs, including the restrictions on transfer of know how or manufacturing outside of Israel, as described above. In addition, certain restrictions resulting from Magnet Programs' internal agreements between the consortium members may apply.

In 2020, we joined as a member to an Industrial consortium called "WIN – Wireless Intelligent Networks Consortium" under a MAGNET consortium. In the framework of this project we (Ceragon only) received an approval for a grant of approximately \$0.6 million for the period from March 2020 until September 2021. In May 2021 we received, under the second stage of the plan, an additional amount of \$0.6 million (and, in the aggregate, grant of \$1.2 million) under the MAGNET consortium. This project ended at the end of February 2023 (we are expected to receive the remaining payments under this project during 2023).

In 2020, we signed with Ariel University a Research and License Agreement under a Magneton plan (the "Magneton Plan"). In the framework of this project the IIA approved to grant us an amount of \$0.3 million for the year 2020. In 2021 the IIA approved, under the second stage of the plan, an additional amount of \$0.3 million for the year 2021. This project ended at the end of November 2022 (we are expected to receive the remaining payments under this project during 2023).

In 2021, we submitted an application under the Promoting Applied Research in Academia (Nofar). Under this project, we support a development plan of Ariel University and fund 10% of this plan (the IIA grants the other 90%). Under this plan, we will not get any grant from the IIA.

In January 2023, we submitted an application under the Magneton Plan with the Technion, Haifa Institute of Technology (“Technion”), under which, if this application is approved, we are expected to receive an amount of approximately \$0.5 million for the project.

In January 2023, we entered as a member into the Magnet Consortium Program called “MM Production”. Under this project we are expected to receive an amount of approximately \$0.6 million by mid-2024 and an additional similar amount by the end of 2026. The R&D Law applies to the Magnet Consortium Programs, including the restrictions on transfer of know how or manufacturing outside of Israel, as described above. In addition, certain restrictions resulting from Magnet Consortium Programs’ internal agreements between the consortium members may apply.

In February 2023, we submitted an application under the Magneton Plan with Ben-Gurion University, under which, if this application is approved, we are expected to receive an amount of approximately \$0.5 million for the project.

In March 2023, we submitted an application under the Magneton Plan with Tel-Aviv University, under which, if this application is approved, we are expected to receive an amount of approximately \$0.5 million for the project.

The Magnet, Magneton and Nofar Plans do not bear royalty payment obligations to the IIA, but may be subject to certain commercial arrangements among the participants thereof.

The publication of the LIBOR is scheduled to cease throughout a period commencing December 31, 2021 and ending upon June 30, 2023. Consequently, throughout that term, alternative interests will be applied on, among other things, the grants that the Company received from the IIA. While the effect that the replacement of the LIBOR interest will have on the Company remains uncertain as of the date of this annual report on Form 20-F, as the IIA has not yet published the alternative interest that will be applied by it, the Company assesses that such change will not have a material effect on its operations and financial condition.

C. Organizational Structure

We are an Israeli company that commenced operations in 1996. The following is a list of our significant subsidiaries:

<u>Company</u>	<u>Place of Incorporation</u>	<u>Ownership Interest</u>
Ceragon Networks, Inc.	New Jersey	100%
Ceragon Networks (India) Private Limited	India	100%

D. Property, Plants and Equipment

Our corporate headquarters and principal administrative, finance, R&D and operations departments are located at Rosh Ha’Ain, Israel, at which we hold a leased facility of approximately 66,600 square feet of office space and approximately 5,800 square feet of warehouse space.

We also lease the following space at the following properties:

- in the United States, we lease approximately 8,200 square feet of office and warehouse space in Richardson, Texas, expiring March 2024.
- in India, we lease approximately 12,000 square feet of office space in New Delhi, expiring in December 2024.
- in Romania, we lease approximately 22,500 square feet of office and space in Bucharest, expiring in November 2023.

We also lease space for other local subsidiaries to conduct pre-sales and marketing activities in their respective regions.

ITEM 4A. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

The following discussion and analysis should be read in conjunction with our consolidated financial statements, the notes to those financial statements, and other financial data that appear elsewhere in this annual report. In addition to historical information, the following discussion contains forward-looking statements based on current expectations that involve risks and uncertainties. Actual results and the timing of certain events may differ significantly from those projected in such forward-looking statements due to a number of factors, including those set forth in “Risk Factors” and elsewhere in this annual report. Our consolidated financial statements are prepared in conformity with U.S. GAAP.

For a discussion of our results of operations for the year ended December 31, 2021, including a year-to-year comparison between 2020 and 2021, and a discussion of our liquidity and capital resources for the year ended December 31, 2021, refer to Item 5. “Operating and Financial Review and Prospects” in our Annual Report on Form 20-F for the year ended December 31, 2021 filed with the SEC on May 2, 2022.

A. Operating Results

Overview

We are the number one wireless transport specialist in terms of unit shipments and global distribution of our business. We provide wireless transport solutions that enable cellular operators and other wireless service providers to serve a broad range of use-cases, including mobile broadband, fixed broadband, Industrial and other IoT services. Our solutions use microwave and millimeter wave technology to transfer large amounts of telecommunication traffic between base stations and small/distributed-cells and the core of the service provider’s network.

We also provide our solutions to other non-carrier private networks such as oil and gas companies, public safety network operators, businesses and public institutions, broadcasters, energy utilities and others that operate their own private communications networks. Our solutions are deployed by more than 600 service providers, as well as more than 1,600 private network owners, in over approximately 130 countries.

Industry Trends

Market trends have placed, and will continue to place, pressure on our products. Our objective is to continue meeting the demand for our solutions while at the same time increasing our profitability. We seek to achieve this objective by constantly reviewing and improving our execution in, among others, development, manufacturing and sales and marketing. Set forth below is a more detailed discussion of the trends affecting our business:

- The widespread surge in network traffic in 2020 to 2022 emerging from the COVID-19 pandemic has significantly affected the way business and individuals access information for work and leisure. National lock-ins for large parts of the population and labor market trends brought many businesses to exercise company-wide work-from-home activities with massive use of video conferencing and cloud network communication. Entire families stay longer at home and extensively consume video streaming and online gaming, along with video chats with friends and relatives. The result is an increase in home broadband demand, while today’s home broadband networks are not designed for such usage patterns. Some countries, even developed ones, lack broadband communication networks in rural areas. As a result, service providers are required to increase network investment to match the network capabilities to the surge in broadband demand. We anticipate that the increase in network traffic which service providers experienced amidst the pandemic will remain and may even increase, as companies and employees adapt to broader use of telecommuting, and families adopt higher use of video calls/chats as larger portions of the world population, young and elderly alike, use highly visual remote communication tools and high volume communication transactions.

- 5G enables operators to enhance their services portfolio with more use cases such as enhanced mobile broadband (eMBB) delivering gigabit broadband, as well as address new market segments such as IoT & IIoT and mission critical applications with URLLC (Ultra Reliable Low Latency Communications) and mMTC (Massive Machine Type Communications) services. Those services, combined with new network architectures require higher capacity, lower latency networks and in particular higher transport capacity, far denser macro cells and small/distributed cells grids and the implementation of network virtualization technologies and architectures, namely network slicing using SDN. Our wireless transport solutions resolve both higher capacity, lower latency and network densification requirements with advanced capabilities, based on our multicore™ technology for microwave narrowband spectrum (up to 224MHz) and the use of wider bands in millimeter-wave spectrum, up to 2,000MHz. Network virtualization requirements are addressed with layer 3 capabilities and SDN support.
- OPEN RAN transforms Radio Access Network (RAN) technology from design to operation of the network. OPEN RAN creates the possibility of an open RAN environment, with interoperability between different vendors over defined interfaces. In a legacy mobile network ecosystem, RAN is proprietary where a single vendor provides proprietary radio hardware, software, and interface to enable the mobile network to function.
- RAN ecosystem is evolving towards proving the competitive landscape of RAN supplier ecosystem and network operators embracing the transformation. Opening up RAN horizontally brings in a new range of low-cost radio players, and it gives mobile operators a choice to optimize deployment options for specific performance requirements at a much better cost. This trend is expected to increase the size of Best-of-Breed segment (on the account of the end-to-end market segment) that Ceragon is focusing on.
- *Software Defined Networking (SDN)* is an emerging concept aimed at simplifying network operations and allowing network engineers and administrators to quickly respond to a fast-changing business environment. SDN delivers network architectures that transition networks from a world of task-specific dedicated network devices, to a world of optimization of network performance through network intelligence incorporated within network controllers performing control functions and network devices, which perform traffic (data-plane) transport. Our wireless transport solutions are SDN-ready, built around a powerful software-defined engine and can be incorporated within the SDN network architecture. Our SDN architecture is envisioned to provide a set of applications that can achieve end-to-end wireless transport network optimization by intelligently making use of the scarce network resources, such as spectrum and power consumption.
- The emergence of *distributed cells* presents transport challenges that differ from those of traditional macro-cells. Distributed cells are used to provide connectivity and capacity in hot spots and underserved spots, as well as increase coordination between adjacent cells, leading to improved service level. They also significantly reduce the cost of cell-site equipment. This new architecture is forecasted to be present in a high percentage of advanced 5G network deployments. Our distributed-cells wireless transport portfolio includes a variety of compact all-outdoor solutions that provide operators with optimal flexibility in meeting their unique physical, capacity, networking, and regulatory requirements.
- The introduction of a *disaggregated model* for hardware and software. This model allows better scalability, simplicity and flexibility for network operators as it offers independent elements for hardware and software, allowing the use of commercial off-the-shelf hardware, to accelerate delivery of new solutions and innovations.
- The *network sharing* business model is growing in popularity among mobile network operators (MNOs) who are faced with increasing competition from over-the-top players and an ever-growing capacity crunch. Network sharing can be particularly effective in the transport portion of mobile networks, especially as conventional macro cells evolve into super-sized macro sites that require exponentially more bandwidth for wireless transport. It has become abundantly clear that in these new scenarios, a new breed of wireless transport solutions with a significant investment is required. Our wireless transport solutions support network sharing concepts by addressing both the ultra-high capacities required for carrying multiple operator traffic, as well as the policing for ensuring that each operator's service level agreement is maintained.

- While green-field deployments tend to be all IP-based, the overwhelming portion of network infrastructure investments goes into upgrading, or “*modernizing*” existing cell-sites to fit new services with a lower total cost of ownership. Modernizing is more than a simple replacement of network equipment. It helps operators build up a network with enhanced performance, capacity and service support. For example, Ceragon offers a variety of innovative mediation devices that eliminate the need to replace costly antennas, which are already deployed. In doing so, we help our customers to reduce the time and the costs associated with network upgrades. The result: a smoother upgrade cycle, short network down-time during upgrades and faster time to revenue.
- A growing market for non-mobile transport applications which includes: offshore communications for the oil and gas industry, as well as the shipping industry, which require a unique set of solutions for use on moving rigs and vessels; broadcast networks that require robust, highly reliable communication for the distribution of live video content either as a cost efficient alternative to fiber, or as a backup for fiber installations; and Smart Grid networks for utilities, as well as local and national governments that seek greater energy efficiency, reliability and scale.
- A growing demand for high capacity, IP-based long-haul solutions in emerging markets where telecom and broadband infrastructure, such as fiber, is lacking. This demand is driven by the need of service providers to connect more communities in order to bridge the digital divide, using 4G and even 5G services.
- *Subscriber growth* continues mainly in emerging markets such as India, Africa and Latin America, but is getting close to saturation.

We are also experiencing pressure on our sale prices as a result of several factors:

- Increased competition. Our target market is characterized by vigorous, worldwide competition for market share and rapid technological development. These factors have resulted in aggressive pricing practices and downward pricing pressures and growing competition.
- Regional pricing pressures. A significant portion of our sales derives from India, in response to the rapid build-out of cellular networks in that country. For the years ended December 31, 2021 and 2022, 29.6% and 27.4%, respectively, of our revenues were earned in India. Sales of our products in these markets are generally at lower gross margins in comparison to other regions. Recently, network operators have started to share parts of their network infrastructure through cooperation agreements, which may adversely affect demand for network equipment.
- Transaction size. Competition for larger equipment orders is increasingly intensifying due to the fact that the number of large equipment orders in any year is limited. Consequently, we generally experience greater pricing pressure when we compete for larger orders as a result of this increased competition and demand from purchasers for greater volume discounts. As an increasing portion of our revenues is derived from large orders, we believe that our business will be more susceptible to these pressures.

As we continue to focus on operational improvements, these price pressures may have a negative impact on our gross margins.

As part of our business, we are engaged in supplying installation and other services for our customers, often in emerging markets. In this context, we may act as the prime contractor and equipment supplier for network build-out projects, providing installation, supervision and commissioning services required for these projects, or we may provide such services and equipment for projects handled by system integrators. In such cases, we typically bear the risks of loss and damage to our products until the customer has issued an acceptance certificate upon successful completion of acceptance tests. If our products are damaged or stolen, or if the network we install does not pass the acceptance tests, the end user or the system integrator, as the case may be, could delay payment to us and we would incur substantial costs, including fees owed to our installation subcontractors, increased insurance premiums, transportation costs and expenses related to repairing or manufacturing the products. Moreover, in such a case, we may not be able to repossess the equipment, thus suffering additional losses. Also, these projects are rollout projects, which involve fixed-price contracts. We assume greater financial risks on fixed-price projects, which routinely involve the provision of installation and other services, versus short-term projects, which do not similarly require us to provide services or require customer acceptance certificates in order for us to recognize revenue. In addition, as most of our deliveries occur before we are able to collect the consideration for such projects, it poses further financial and customer credit risk, as well as collection and liquidity risks of such customers.

While in 2020, revenues decreased as compared with 2019 (except for India and Europe) mainly due to the adverse impact of the COVID-19 pandemic on our business, in 2021, revenues increased all over the world, except for Asia-Pacific, which experienced major decrease in revenues and to a lesser extent in Africa. The increase in revenues in 2021 was mainly in India, North America and Latin America and in lesser extent in Europe.

In 2022, revenues slightly increased. The increase was mainly in North America, as part of our increased focus on this region and to a lesser extent in Asia-Pacific offset by decreases in all other regions, mainly in India. 2022 growth was adversely affected by supply chain challenges and component shortages which affected our ability to fulfill strong bookings.

Over the years 2020 - 2022, the COVID-19 pandemic has significantly affected our business. On one hand COVID-19 had positive impact on the demand for broadband connectivity, derived from a shift to work from home, increased consumption of video, gaming and other applications and governments focus on rural broadband connectivity. On the other hand, COVID-19 had adverse effects including macro-economic uncertainty and disruption in the business and financial markets. Many countries around the world, including Israel, have been taking measures designated to limit the spread of the COVID-19, including the closure of workplaces, restricting travel, prohibiting assembling, closing international borders and quarantining populated areas. Such measures dramatically affect our ability and the ability of other vendors, suppliers, operators and industries in this market to conduct their business effectively, including, but not limited to adverse effect on employees health, increase in lead times and shipping costs, a slowdown of manufacturing, commerce, delivery, work, travel, collect payments and other activities which are essential and critical for maintaining on-going business activities. In 2022, the related supply chain challenges and component shortages negatively impact our ability to further grow our revenues and gross profits. Although the impact of COVID-19 has declined towards the end of 2022, there is still some uncertainty around the spread of new variants of COVID-19 and volatility in the pandemic dispersion, which could disrupt our operations, and might adversely affect our business.

Results of Operations

Revenues. We generate revenues primarily from the sale of our products, and, to a lesser extent, services. The final price to the customer may largely vary based on various factors, including but not limited to the size of a given transaction, the geographic location of the customer, the specific application for which products are sold, the channel through which products are sold, the competitive environment and the results of negotiation.

Cost of Revenues. Our cost of revenues consists primarily of the prices we pay contract manufacturers for the products they manufacture for us, the costs of off the shelf parts, accessories and antennas, the costs of our manufacturing and operations facilities, estimated and actual warranty costs, costs related to management of our manufacturers' activity and procurement of our proprietary and other product parts, supply chain and shipping, as well as inventory write-off costs and amortization of intangible assets. In addition, we pay salaries and related costs to our employees and fees to subcontractors relating to installation, maintenance, and other professional services.

Significant Expenses

Research and Development Expenses, net. Our research and development expenses, net of government grants, consist primarily of salaries and related costs for research and development personnel, subcontractors' costs, costs of materials, costs of R&D facilities and depreciation of equipment. All of our research and development costs are expensed as incurred, except for development expenses, which are capitalized in accordance with ASC 985-20 and ASC 350-40. We believe that continued investment in research and development is essential to attaining our strategic objectives.

Sales and Marketing Expenses. Our sales and marketing expenses consist primarily of compensation and related costs for sales and marketing personnel, trade show and exhibit expenses, travel expenses, commissions and promotional materials.

General and Administrative Expenses. Our general and administrative expenses consist primarily of compensation and related costs for executive, finance, information system and human resources personnel, professional fees (including legal and accounting fees), insurance, provisions for credit loss (doubtful debts) and other general corporate expenses.

Financial expenses and others, net. Our financial expenses and others, net, consists primarily of gains and losses arising from the re-measurement of transactions and balances denominated in non-dollar currencies into dollars, gains and losses from our currency hedging activity, interest paid on bank loans and factoring activities, other fees and commissions paid to banks, actuarial losses and other expenses.

Taxes. Our taxes on income (benefit) consist of current corporate tax expenses in various locations and changes in tax deferred assets and liabilities, as well as reserves for uncertain tax positions.

Critical Accounting Policies and Estimates

Our consolidated financial statements are prepared in accordance with generally accepted accounting principles in the U.S. ("U.S. GAAP"). These accounting principles require management to make certain estimates, judgments and assumptions based upon information available at the time they are made, historical experience and various other factors that are believed to be reasonable under the circumstances. These estimates, judgments and assumptions can affect the reported amounts of assets and liabilities as of the date of the financial statements, as well as the reported amounts of revenues and expenses during the periods presented.

Our management believes the accounting policies that affect its more significant judgments and estimates used in the preparation of its consolidated financial statements and which are the most critical to aid in fully understanding and evaluating our reported financial results include the following:

- Revenue recognition;
- Inventory valuation; and
- Provision for credit loss (doubtful debts).

Revenue recognition We generate revenues from selling products and services to end users, distributors, system integrators and original equipment manufacturers ("OEM"). The Company recognizes revenue when (or as) it satisfies performance obligations by transferring promised products or services to its customers in an amount that reflects the consideration the Company expects to receive. The Company applies the following five steps: (1) identify the contract with a customer, (2) identify the performance obligations in the contract, (3) determine the transaction price, (4) allocate the transaction price to the performance obligations in the contract, and (5) recognize revenue when a performance obligation is satisfied.

The Company considers customer purchase orders, which in some cases are governed by master sales agreements, to be the contracts with a customer. For each contract, the Company considers the promise to transfer tangible products, software products and licenses, network roll-out, professional services and customer support, each of which are distinct, to be the identified performance obligations. In determining the transaction price, the Company evaluates whether the price is subject to any variable consideration, to determine the net consideration which the Company expects to receive. As the Company's standard payment terms are less than one year, the contracts have no significant financing component. The Company allocates the transaction price to each distinct performance obligation, based on their relative standalone selling price. Revenue from tangible products is recognized when control of the product is transferred to the customer (i.e., when the Company's performance obligation is satisfied).

The revenues from customer support and extended warranty is recognized ratably over the contract period and the costs associated with these contracts are recognized as incurred. Revenues from network roll-out and professional services are recognized when the Company's performance obligation is satisfied, usually upon customer acceptance.

The Company accounts for rebates and stock rotations provided to customers as variable consideration, based on historical analysis of credit memo data, rebate plans and stock rotation arrangements, as a deduction from revenue in the period in which the revenue is recognized.

Inventory valuation. Our inventories are stated at the lower of cost or realizable net value. Cost is determined by using the moving average cost method. At each balance sheet date, we evaluate our inventory balance for excess quantities and obsolescence. This evaluation includes an analysis of slow-moving items and sales levels by product and projections of future demand. If needed, we write off inventories that are considered obsolete or excessive. If future demand or market conditions are less favorable than our projections, additional inventory write-offs may be required and would be reflected in cost of revenues in the period the revision is made.

Provision for credit loss. We are exposed to credit losses primarily through sales to customers. Our provision for credit loss methodology is developed using historical collection experience, current and future economic and market conditions and a review of the current balances status. The estimate of amount of trade receivable that may not be collected is based on the geographic location of the trade receivable balances, aging of the trade receivable balances, the financial condition of customers and the Company's historical experience with customers in similar geographies. Additionally, a specific provision is recorded for customers that have a higher probability of default.

Impact of recently adopted accounting standards

The Company has reviewed recent accounting pronouncements and concluded that they are either not applicable to its business or that no material effect is expected on the consolidated financial statements as a result of their future adoption.

Comparison of Period to Period Results of Operations

The following table presents consolidated statement of operations data for the periods indicated as a percentage of total revenues.

	Year Ended December 31	
	2021	2022
Revenues	100%	100%
Cost of revenues	69.6	68.5
Gross profit	30.4	31.5
Operating expenses:		
Research and development, net	10.1	10.1
Sales and marketing	11.5	12.1
General and administrative	7.1	11.6
Other operating expenses	-	1.4
Total operating expenses	28.7	35.2
Operating income	1.7	3.7
Financial expenses and others, net	3.0	2.1
Taxes on income	3.8	0.8
Net loss	(5.1)	(6.7)

Year ended December 31, 2021 compared to year ended December 31, 2022 -

Revenues. Revenues totaled \$295.2 million in 2022 as compared to \$290.8 million in 2021, an increase of \$4.4 million, or 1.5%. Revenues in North America increased to \$67.1 million in 2022, from \$47.5 million in 2021. Revenues in APAC increased to \$33.0 million in 2022, from \$32.0 million in 2021. Revenues in India decreased to \$81.0 million in 2022, from \$86.1 million in 2021. Revenues in Europe decreased to \$42.9 million in 2022, from \$47.4 million in 2021. Revenues in Africa decreased to \$19.3 million in 2022, from \$23.2 million in 2021. Revenues in Latin America decreased to \$51.9 million in 2022 from \$54.6 million in 2021.

Cost of Revenues. Cost of revenues totaled \$202.1 million in 2022 as compared to \$202.4 million in 2021, a decrease of \$0.3 million, or 0.1%, attributed mainly due to:

- Decrease of \$4.2 million in services costs primarily due to a reduction in subcontractors costs.
- Decrease of \$1.5 million relates to a reduction in material costs.
- Increase of \$3.8 million due to employees and payroll related costs salaries.
- Increase of \$1.5 million due to higher shipping and storage costs.

Gross Profit. Gross profit increased to \$93.1 million or 31.5% as a percentage of revenues in 2022 from \$88.4 million or 30.4% in 2021. This increase is mainly attributed to increased revenues coupled with improved margins derived mainly from higher mixture of revenues from North America.

Research and Development Expenses, Net. Our net research and development expenses totaled \$29.7 million in 2022 as compared to \$29.5 million in 2021, resulting in an increase of \$0.2 million, or 0.7%. The increase was primarily due to an increase of \$2.0 million in salaries and related expenses, a reduction of \$0.2 million in IIA (Israel Innovation Authority) grants and increase of \$0.1 million in travel, offset by a decrease of \$1.8 million in subcontractors cost and, a decrease of \$0.4 million in depreciation and others.

Our research and development efforts are a key element of our strategy and are essential to our success. We intend to maintain or slightly increase our commitment to research and development, and an increase or a decrease in our total revenue would not necessarily result in a proportional increase or decrease in the levels of our research and development expenditures. As a percentage of revenues, research and development expenses represents 10.1% in 2022 and 2021.

Sales and Marketing Expenses. Sales and marketing expenses totaled \$35.8 million in 2022 as compared to \$33.5 million in 2021, an increase of \$2.3 million, or 6.8%. This increase was primarily attributed to an increase of \$1.8 million in salary and related expenses, an increase of \$0.8 million in travel costs, an increase of \$0.7 million in employee stock options expenses and increase of \$0.4 in PR, trade shows and other marketing expenses offset by a decrease of \$0.3 in sales commissions, a decrease of \$0.5 million in consultancy expenses and decrease of \$0.5 million in other sales and marketing expenses. As a percentage of revenues, sales and marketing expenses were 12.1% in 2022 compared to 11.5% in 2021.

General and Administrative Expenses. General and administrative expenses totaled \$34.3 million in 2022 as compared to \$20.6 million in 2021, an increase of \$13.7 million, or 66.7%. The increase was primarily due to an increase of \$14.3 million related to credit losses expenses mainly from a single customer Following several attempts to collect the debt from this customer, including an attempt to settle on debt payment terms with the customer, and as a result of recent change in the interaction with the customer, which became contentious, and additional difficulties in other measures taken by the Company to collect the debt, the probabilities to effectively collect the outstanding debt in the near term or in full, have reduced. The Company has been taking vigorous measures towards collecting the debt; however, we cannot assure that such efforts will be successful. Also, there was an increase of \$0.6 million in salaries and related expenses, an increase of \$0.1 million in travel and related expenses and an increase of \$0.1 million in software and hardware maintenance offset by a decrease of \$0.8 million in expenses for retired CEO compensation and a decrease of \$0.6 million in other general and administrative expenses. As a percentage of revenues, general and administrative expenses were 7.5% in 2022, compare to 7.1% in 2021.

Other operating expenses. Other operating expenses totaled \$4.2 million in 2022 as compared to \$0 million in 2021. Other operating expenses relate to the hostile takeover attempt against the Company by Aviat.

Financial expenses and others, Net. Financial expenses and others, net totaled \$6.3 million in 2022 as compared to \$8.6 million in 2021, a decrease of \$2.3 million, or 26.7%. This decrease was mainly attributable to a decrease of \$2.5 million related to exchange rate differences and a decrease of \$1.8 million of bank commissions offset by an increase of \$2.2 million in interest expenses. As a percentage of revenues, financial expenses and others, net, were 2.1% in 2022 compared to 3.0% in 2021.

Taxes on income. Tax expenses were \$2.4 million in 2022 as compared to tax expenses of \$11.0 million in 2021, resulting in a decrease of \$8.6 million. This decrease was mainly attributable to a decrease of \$8.8 million due to recognition of full valuation allowance for deferred tax assets in 2021.

Net loss. In 2022, the Company had \$19.7 million in net loss as compared to net loss of \$14.8 million in 2021. As a percentage of revenues, net loss was 6.7% in 2022 compared to net loss of 5.1% in 2021. The increase was attributable primarily to costs related to the 2022 extraordinary shareholder meeting held in connection with a shareholder proxy contest related costs and increased sales and marketing and general and administrative expenses as discussed above. Partially offset by higher revenues and higher gross profit, lower financial expenses and lower taxes on income.

Impact of Currency Fluctuations

The majority of our revenues are denominated in U.S. dollars, and to a lesser extent, in INR (Indian Rupee), Euro, and in other currencies. Our cost of revenues is primarily denominated in U.S. dollars as well, while a major part of our operating expenses are in New Israeli Shekel (NIS), and to a lesser extent, in Indian INR (Indian Rupee), Euro, NOK (Norwegian Kroner), BRL (Brazilian Real) and other currencies. We anticipate that a material portion of our operating expenses will continue to be in NIS.

Fluctuation in the exchange rates between any of these currencies (other than U.S. dollars) and the U.S. dollar could significantly impact our results of operations as well as the comparability of these results in different periods. Even in cases where our revenues or our expenses in a certain currency are relatively modest, high volatility of the exchange rates with the U.S. dollar can still have a significant impact on our results of operations. For example, in recent years we have suffered a significant adverse impact on our financial results due to fluctuation in the exchange rates of the U.S. dollar compared to the VEB (Venezuelan Bolivar), NGN (Nigerian Naira) and the ARS (Argentine Peso). We partially reduce this currency exposure by entering into hedging transactions. The effects of foreign currency re-measurements are reported in our consolidated statements of operations. For a discussion of our hedging transactions, please see Item 11. "QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK".

The influence on the U.S. dollar cost of our operations in Israel relates primarily to the cost of salaries in Israel, which are paid in NIS and constitute a substantial portion of our expenses in NIS. In 2022, the U.S. dollar appreciated in relation to the NIS at a rate of 13.2%, from NIS 3.11 per \$1 on December 31, 2021 to NIS 3.519 per \$1 on December 31, 2022. In 2021, the U.S. dollar depreciated in relation to the NIS at a rate of 3.3%, from NIS 3.215 per \$1 on December 31, 2020 to NIS 3.11 per \$1 on December 31, 2021.

The annual rate of inflation in Israel was 5.3% in 2022 and 2.8% in 2021.

Transactions and balances in currencies other than U.S. dollars are re-measured into U.S. dollars according to the principles in ASC Topic 830, "Foreign Currency Matters." Gains and losses arising from re-measurement are recorded as financial income or expense, as applicable.

Effects of Government Regulations and Location on the Company's Business

For a discussion of the effects of governmental regulation and our location in Israel on our business, see Item 3. "KEY INFORMATION" – Risk Factors – "Risks Relating to Operations in Israel".

Additionally, due to the nature of our global presence and operations, we are subject to the law and jurisdiction in the countries where our branches or subsidiaries are located or in which we conduct our operations. For a discussion of the effects of governmental regulation and our global spread and operation of our business, see Item 3. "KEY INFORMATION" – Risk Factors – "We are subject to complex and evolving regulatory requirements that may be difficult and expensive to comply with and that could adversely impact our business, results of operations and financial condition", "As part of our business are located throughout Europe, we are exposed to the negative impact of invasion of Ukraine by Russia on the European markets in which we operate and on our operations", "Our international operations expose us to the risk of fluctuations in currency exchange rates and restrictions related to foreign currency exchange controls" and "Due to the volume of our sales in emerging markets, we are susceptible to a number of political, economic and regulatory risks that could have a material adverse effect on our business, reputation, financial condition and results of operations".

B. Liquidity and Capital Resources

Since our initial public offering in August 2000, we have financed our operations primarily through the proceeds of that initial public offering, follow-on offerings and grants from the IIA.

In March 2013, the Company was provided with the revolving Credit Facility (as defined in Exhibit 4.1 of ITEM 19) by four financial institutions.

The Credit Facility was renewed and amended several times during the past years according to Company's needs and financial position.

On June 2022, the Credit Facility was amended to extend the term of the Credit Facility for one year, until June 30, 2023. This amendment also included: (i) an increase of \$12,200 to \$62,200 to the loans credit facility and a decrease of same amount to the bank guarantees credit facility to \$57,800, such that the total credit facilities for bank guarantees and for loans remained unchanged, (ii) an undertaking by the Company that at least once every quarter, its utilizations of the loan credit facility, with respect to each lender, shall not exceed the loan credit limit commitment by such lender as was in effect prior to the amendment and (iii) certain undertakings with respect to insurance arrangements related to the account receivables of the Company. Furthermore, an amendment signed earlier in 2022 updated the definitions of interest in the agreement to reflect changes related to the adoption of the new Secured Overnight Financing Rate (SOFR) interest. As of December 31, 2022, the Company has utilized \$37,500 of the \$ 62,200 available under the Credit Facility for short term loans. As of December 31, 2022, the Company has not utilized the \$5,000 available credit facility from other financial institution. During 2022, the credit lines carried interest rates in the range of 2.1% and 8.0%.

The Credit Facility is secured by a floating charge over all of our assets as well as several customary fixed charges on specific assets.

Repayment under the Credit Facility can be accelerated by the financial institutions in certain events of default including insolvency events, failure to comply with financial covenants or an event in which a current or future shareholder acquires control (as defined under the Israel Securities Law) of the Company.

The Credit Facility contains financial and other covenants requiring that the Company maintains, among other things, minimum shareholders' equity value and financial assets, a certain ratio between its shareholders' equity (excluding total intangible assets) and the total value of its assets (excluding total intangible assets) on its balance sheet, a certain ratio between its net financial debt to each of our working capital and accounts receivable. As of December 31, 2022 and 2021, we met all of our covenants.

As of December 31, 2022, we had approximately \$22.9 million in cash and cash equivalents.

In 2022, our \$4.9 million in cash used in operating activities was affected by the following principal factors:

- our net loss of \$19.7 million;
- \$6.2 million decrease in trade payables, other accounts payable and accrued expenses;
- \$11.2 million increase in inventories;
- \$5.9 million decrease in operating lease liability; and
- \$0.4 million accrued severance pay and pensions, net.

These factors were offset mainly by:

- \$11.0 million of depreciation and amortization expenses;
- \$18.1 million decrease in trade and other accounts receivable and prepaid expenses;
- \$3.6 million decrease in operating lease right-of-use assets;
- \$3.6 million share-based compensation expenses; and
- \$2.2 million increase in deferred revenues paid in advance.

In 2021, our \$15.0 million in cash used by operating activities was affected by the following principal factors:

- our net loss of \$14.8 million
- \$18.1 million increase in trade and other accounts receivable and prepaid expenses;
- \$11.9 million increase in inventories;

- \$4.6 million decrease in operating lease liability; and
- \$0.4 million accrued severance pay and pensions, net.

These factors were offset mainly by:

- \$12.2 million of depreciation and amortization expenses;
- \$8.3 million increase in deferred tax assets, net;
- \$5.7 million decrease in operating lease right-of-use assets;
- \$4.3 million increase in trade payables, other accounts payable and accrued expenses;
- \$2.6 million share-based compensation expenses;
- \$1.7 million increase in deferred revenues paid in advance; and
- \$0.1 million loss from sale of property and equipment, net.

Net cash used in investing activities was approximately \$12.4 million for the year ended December 31, 2022, as compared to net cash used in investing activities of approximately \$9.4 million for the year ended December 31, 2021. In the year ended December 31, 2022, our purchase of property and equipment amounted to \$10.5 million in addition to purchase of intangible assets of \$2.0 million. In the year ended December 31, 2021, our purchase of property and equipment amounted to \$9.4 million in addition to purchase of intangible assets of \$0.2 million offset by proceeds from sale of property and equipment \$0.2 million.

Net cash provided by financing activities was approximately \$23.1 million for the year ended December 31, 2022, as compared to approximately \$14.5 million net cash provided by financing activities for the year ended December 31, 2021. In the year ended December 31, 2022, our net cash provided by financing activities was primarily due to proceeds of a bank loan of \$22.7 million and proceeds from share options exercise of \$0.4 million. In the year ended December 31, 2021, our net cash provided by financing activities was primarily due to proceeds of a bank loan of \$9.8 million and proceeds from share options exercise of \$4.7 million.

Our material cash requirements as of December 31, 2022, and any subsequent interim period, primarily include our capital expenditures, lease obligations and purchase obligations.

Our capital expenditures primarily consist of purchases of manufacturing equipment, computers and peripheral equipment, office furniture and equipment. Our capital expenditures were \$6.1 million in 2020, \$9.4 million in 2021 and \$10.5 million in 2022. We will continue to make capital expenditures to meet the expected growth of our business.

Our lease obligations consist of the commitments under the lease agreements for offices and warehouses for our facilities worldwide, as well as car leases. Our facilities are leased under several lease agreements with various expiration dates. Our leasing expenses were \$5.5 million in 2020, \$5.0 million in 2021 and \$4.5 million in 2022.

Our purchase obligations consist primarily of commitments for our operating activities and working capital needs. Our operating expenses were \$83.2 million in 2020, \$83.6 million in 2021 and \$91.7 million in 2022. As of December 31, 2022, the Company has an outstanding inventory purchase orders with its suppliers in the amount of \$ 18,162.

Our capital requirements are dependent on many factors, including working capital requirements to finance the business activity of the Company, and the allocation of resources to research and development, marketing and sales activities. We plan on continuing to raise capital as we may require, subject to changes in our business activities.

We believe that current working capital, cash and cash equivalent balances together with the Credit Facility available with the four financial institutions, will be sufficient for our expected requirements through at least the next 12 months.

C. Research and Development

We place considerable emphasis on research and development to improve and expand the capabilities of our existing products, to develop new products (with particular emphasis on equipment for emerging IP-based networks) and to lower the cost of producing both existing and future products. We intend to continue to devote a significant portion of our personnel and financial resources to research and development. As part of our product development process, we maintain close relationships with our customers to identify market needs and to define appropriate product specifications. In addition, we intend to continue to comply with industry standards and, in order to participate in the formulation of European standards, we are full members of the European Telecommunications Standards Institute.

Our research and development activities are conducted mainly at our facilities in Rosh Ha'Ayin, Israel, and also at our subsidiaries in Greece and Romania. As of December 31, 2022, our research, development and engineering staff consisted of 234 employees globally. Our research and development team include highly specialized engineers and technicians with expertise in the fields of millimeter-wave design, modem and signal processing, data communications, system management and networking solutions.

The IIA sometimes participate in our R&D funding for our Israel-based company. For more information regarding the restrictions imposed by the R&D Law and regarding grants received by us from the IIA, please see Item 4. "INFORMATION ON THE COMPANY- B. Business Overview - *The Israel Innovation Authority*."

Our research and development department provide us with the ability to design and develop most of the aspects of our proprietary solutions, from the chip-level, including both ASICs and RFICs, to full system integration. Our research and development projects currently in process include extensions to our leading IP-based networking product lines and development of new technologies to support future product concepts. In addition, our engineers continually work to redesign our products with the goal of improving their manufacturability and testability while reducing costs.

Intellectual Property

For a description of our intellectual property see Item 4. "INFORMATION ON THE COMPANY – B. Business Overview - Intellectual Property".

D. Trend Information

For a description of the trend information relevant to us see discussions in Parts A and B of Item 5. "OPERATING AND FINANCIAL REVIEW AND PROSPECTS".

E. **Critical Accounting Estimates** – see Item 5 "Critical Accounting Policies and Estimates" above.

Effect of Recent Accounting Pronouncements

See Note 2, Significant Accounting Policies, in Notes to the Consolidated Financial Statements in Item 8 of Part II of this Report, for a full description of recent accounting pronouncements, including the expected dates of adoption and estimated effects on financial condition and results of operations, which is incorporated herein by reference.

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

A. Directors and Senior Management

The following table lists the name, age and position of each of our current directors and executive officers:

Name	Age	Position
Zohar Zisapel	74	Chairman of the Board of Directors
Shlomo Liran (1)	72	Director
Efrat Makov (1)	55	Director
Rami Hadar (1)	59	Director
Ilan Rosen (1)	66	Director
David (Dudi) Ripstein (1)	56	Director
Ira Palti	65	Director
Doron Arazi	59	Chief Executive Officer
Ronen Stein	55	Chief Financial Officer
Oz Zimmerman	59	Executive Vice President, Marketing & Corporate Development
Hadar Vismunski Weinberg	49	Executive Vice President, General Counsel & Corporate Secretary
Michal Goldstein	51	Executive Vice President, Global Human Resources
Ulik Broida	55	Executive Vice President Products
Alon Klomek	53	Executive Vice President, Chief Revenues Officer
Dima Friedman	54	Executive Vice President, Chief Operating Officer

(1) Independent Director.

Set forth below is a biographical summary of each of the above-named directors and members of senior management.

Zohar Zisapel has served as the Chairman of our Board of Directors since we were incorporated in July 1996. Mr. Zisapel also serves as a director of RADCOM Ltd., a public company traded on Nasdaq. Mr. Zisapel founded or invested in many companies in the fields of Communications, Cyber Security and Automotive and serves as chairman or director of many private companies. Mr. Zisapel received a B.Sc. and a M.Sc. in electrical engineering from the Technion, Haifa Institute of Technology ("Technion") and an M.B.A. from the Tel Aviv University.

Shlomo Liran has served as our director since August 2015, after gaining experience in senior management positions, including in the telecommunication industry. In October 2016 Mr. Liran was appointed as the CEO of Spuntech Industries Ltd. From July 2014 until January 2015, Mr. Liran served as the Chief Executive Officer of Hadera Paper Ltd. From 2010 to 2013, Mr. Liran served as the Chief Executive Officer of Avgol Nonwovens Ltd. During the years 2008 and 2009 Mr. Liran served as the Chief Executive Officer of Ericsson Israel Ltd., and from 2004 to 2007 he served as Chief Executive Officer of TRE (Scandinavian cellular network) in Sweden and in Denmark. From 2000 to 2003, he served as Chief Executive Officer of YES Satellite Multi-Channel TV. Prior to that, Mr. Liran spent thirteen years in Strauss as CEO (1995-2000), General Manager of the Dairy Division (1991-1995) and VP Operations (1987-1991). Mr. Liran holds a B.Sc. in Industrial Engineering from the Technion, an M. Eng. System Analysis from University of Toronto, Canada and an AMP-ISMP advanced management program from the Harvard Business School. Mr. Liran is one of our independent directors and is considered a "financial expert" for the purposes of the Nasdaq Rules.

Efrat Makov has served as our director since October 2022. Ms. Makov has extensive telecom and public company director experience. Ms. Makov is currently serving as a director of Allot Ltd., iSPAC 1 Ltd. and B Communications Ltd. Ms. Makov previously served as a director of BioLight Life Sciences Ltd., Kamada Ltd. and Anchiano Therapeutics Ltd. Previously, she served as the CFO of Alvarion, an Israeli-based global provider of autonomous wi-fi networks, and as the CFO of Aladdin Knowledge Systems. Formerly, she served as Vice President of Finance at Check Point Software Technologies. Between 1993 and 2000 Ms. Makov worked in public accounting for Arthur Andersen LLP in its New York, London and Tel Aviv offices. Ms. Makov holds a B.A. degree in accounting and economics from Tel Aviv University and is a Certified Public Accountant in Israel and the United States.

Rami Hadar has served as our director since July 2021. Mr. Hadar serves as a Managing Partner in Claridge Israel, as well as serves on the board of its portfolio companies: AlgoSec, Gigaspaces, Cloudify, Shopic and D-Fend. In the years 2006 to 2014, Mr. Hadar served as CEO and board member of Allot Communications. Early in his career Mr. Hadar co-founded and served as the CEO of CTP Systems (micro cellular networks) until its acquisition by DSP Communications. Mr. Hadar continued with DSP's executive management team for two years, and subsequently the company was acquired by Intel. Thereafter, Mr. Hadar co-founded Ensemble Communications, a pioneer in the broadband wireless space and the WiMax standard, where he served as Executive Vice President, Sales and Marketing. Following that, Mr. Hadar served as CEO of Native Networks where he was instrumental in orchestrating the company's ultimate acquisition by Alcatel. Hadar holds a B.Sc. in Electrical Engineering from the Technion

Ilan Rosen has served as our director since July 2021. Mr. Rosen currently serves as Managing Director in HarbourVest Partners LLC, a global private equity firm with more than 700 employees, that manages about \$75B worth of investments in various private equity strategies around the globe. Mr. Rosen additionally serves as a board member of the "Nazareth District Water and Sewage municipal authority LTD" since 2019. From 1997-2012 Mr. Rosen served as Chairman of the Board of Tdsoft LTD which later merged into VocalTec. In the years 1996-2003 Mr. Rosen served as VP of Investments at Teledata Communications, where he was an active Chairman of various Teledata Subsidiaries. From 1993-1996 he served as the CEO of Adsha Development Ltd. From 1989-1993 Mr. Rosen worked as a Senior Investment Manager at the Bank Hapoalim Investment Company. In the years 1985-1989 he worked as an economic consultant at A. Twerski Economic Consulting. Mr. Rosen holds a B.Sc. (cum laude) in Mechanical Engineering from Tel Aviv University in 1979 and an MBA from Tel Aviv University in 1986.

David Ripstein has served as our director since July 2021. Mr. Ripstein has three decades of experience in senior management positions in Israel's telecommunications industry and Israel Defense Force technology and intelligence units. Since 2017, Mr. Ripstein is serving as the President and Chief Executive Officer of GreenRoad Technologies Ltd., a global leader in fleet safety telematics. In 2016 Mr. Ripstein served the CEO of Spoption Technologies a fintech software provider. From 2000-2015, Mr. Ripstein served in various positions in RADCOM, a Nasdaq-traded (RDCM) provider of service assurance solutions, first for six years as a General Manger and then for nine years as its President & Chief Executive Officer. Prior to Radcom, Mr. Ripstein co-founded two technology startups and served for 10 years as the head of a large R&D engineering group within the Israel Defense Forces- Intelligence Unit. Mr. Ripstein holds a B.Sc. in Electrical Engineering from the Technion.

Ira Palti has served as a Director since June 2018 and served as President and Chief Executive Officer from August 2005 to July 2021. From January 2003 to August 2005, Mr. Palti was Chief Executive Officer of Seabridge Ltd., a Siemens company that is a global leader in the area of broadband services and networks. Prior to joining Seabridge, he was the Chief Operating Officer of VocalTec Communications Ltd., responsible for sales, marketing, customer support and product development. Among the positions he held before joining VocalTec was founder of Rosh Intelligent Systems, a company providing software maintenance and AI diagnostic solutions and one of the first startups in Israel. Mr. Palti received a B.Sc. in mathematics and computer science (magna cum laude) from the Tel Aviv University.

Doron Arazi has served as our Chief Executive Officer since July 2021. He rejoined Ceragon after taking a year and a half break where he served as CFO of privately held software companies in the Cyber and Telecom spaces. Mr. Arazi originally joined the company in 2014 as Executive Vice President and Chief Financial Officer, and in 2016 was appointed Deputy CEO, while continuing to carry the role of Chief Financial Officer. Prior to joining Ceragon, Mr. Arazi managed the business relationship with a U.S. Tier 1 mobile operator in Amdocs and was responsible for hundreds of employees. Prior to Amdocs, Mr. Arazi looked after the financial and growth activities of other high-tech companies in the telecommunications sector, including serving as CFO of Allot Communications and VP of Finance at Verint. Mr. Arazi is a CPA and holds a B.A. degree in Economics and Accounting as well as an MBA degree focusing on Finance and Insurance, both from the Tel Aviv University.

Ronen Stein has served as our Chief Financial Officer since September 2022. Mr. Stein brings more than twenty years of experience as chief financial officer and leadership roles in both private and U.S. listed public companies. From 2021 to 2022 Mr. Stein served as the CFO of Siklu, an Israel based company in the telecommunications sector. Prior to that, Mr. Stein served as the CFO of 10bis from 2017 to 2021, Enercon technologies Ltd. from January 2015 to December 2015, Knock N'Lock from 2008 to 2014 and Pointer Telocation (NASDAQ:PNTR), from 2002 to 2007. Mr. Stein is a Certified Public Accountant in Israel and holds an M.B.A, as well as a B.A. degree in economics and accounting, both from Tel Aviv University.

Oz Zimerman joined Ceragon in March 2013 and currently serves as our Executive Vice President Marketing & Corporate Development. Oz brings with him over 25 years of global executive business experience in marketing, business development and strategy. From 2008 to 2012, Mr. Zimerman was Corporate Vice President Marketing and Business Development at DSP Group, where he penetrated world leading consumer electronic customers, acquired new technology which became the main growth engine of the company, and managed relations with top executive decision makers at world leading service providers. Prior to joining DSP Group, Oz was VP Channels Sales, Business Development and Strategic Marketing at ECI Telecom, where he defined and implemented exceptional and innovative pricing approach generating sharp sales increase. Prior to his work at ECI, he was Engagement Manager at Shaldor, a leading management consulting firm. Mr. Zimerman holds a B.Sc. in Industrial Engineering & Management from NYU University (summa cum laude) and a Master's degree in Business Administration & Industrial Engineering from Columbia University.

Guy Toibin has served as our Chief Information Officer since 2017. Mr. Toibin joined Ceragon after four years with Swiss-based "Eden Springs Group", where he held the role of Group CIO and Corporate Project Management Officer (PMO). Mr. Toibin led the successful integration of Eden Springs and Nestle Waters Direct Inc. which made the Eden Group the leading water and coffee company in Europe. Prior to his tenure at Eden Springs, Mr. Toibin established Information Technology Organizations that became enablers for Business Units to meet and exceed their goals in high-tech companies such as Retalix (NCR), Verint Systems Inc., and Converse Technology. Mr. Toibin is a Certified Public Accountant (CPA), holds a B.A. in Economics and Accounting and a Masters of Law (LLM) from Bar-Ilan University.

Muki Bourla has served as our Executive Vice-President, Global Delivery since January 2020. In this role, Mr. Bourla is responsible for lifecycle delivery execution, from production through turn-key deployment, customer support and additional value-added services. Commencing in 2022, Mr. Bourla also assumed responsibilities in engineering and quality assurance, while bridging the way from R&D to designed-to-cost mass production. Mr. Bourla brings more than 20 years of operational and business leadership, including vast international and cross-cultural experience, working with diverse customer base. Between 2009 and 2014, as part of his 15-year career at Ericsson, Mr. Bourla was based in Europe where he successfully led large scale multidisciplinary turnkey projects, system integration programs, services business development and complicated transformations, with an innovative, result oriented and proactive approach to targets, opportunities and challenges. Mr. Bourla holds a B.Sc. in Industrial and Management Engineering and an MBA in Business Management from Ben-Gurion University.

Ms. Hadar Vismunski-Weinberg joined Ceragon in April 2023 and serves as Executive Vice-President General Counsel and Corporate Secretary. Ms. Vismunski-Weinberg has extensive global leadership experience. Prior to Ceragon, she served as the Bank Corporate Secretary of Bank Leumi Ltd. (2021-2022), as Vice President, Chief General Counsel and Corporate Secretary at Partner Communications Company Ltd. (2017-2021) and held various legal leadership positions at Teva Pharmaceutical Industries Ltd., including VP Legal (2007-2017). In her earlier career, Ms. Vismunski-Weinberg was a partner in an Israeli law firm specializing in commercial and corporate law. Ms. Vismunski-Weinberg holds a Bachelor of Law from The Hebrew University of Jerusalem, and is a member of the Israeli Bar Association since 1999.

Michal Goldstein has served as our Executive Vice-President, Human Resources since March 2020. Previous to this appointment, Ms. Goldstein served as the Chief Human Resources Officer of Contentsquare, a privately held global software company. Prior to Contentsquare, Ms. Goldstein was Vice President of Human Resources Centers of Excellence at NICE Systems (Nasdaq), as well as served in various Human Resources Business Partner positions at Amdocs, where she spent twelve years, including three years in the company's Silicon Valley office. Ms. Goldstein has a background in organizational development and consulting and holds a B.A in Psychology from the University of Haifa, Israel, an M.Sc. in Organizational Psychology from the University of Nottingham, UK, and a Doctor of Management Degree from the University of Hertfordshire, UK, specializing in organizational complexity.

Ullik Broida has served as our Vice President of Products since January 2019 and in April 2021 joined Ceragon's executive management team as Executive Vice President Solutions Management. In February 2022, Mr. Broida also assumed the role of Executive Vice President Products. Mr. Broida is responsible for product strategy, innovation and product management, and leads the company's Product Management and Global Sales Engineering teams to ultimately support global sales in delivering value to service providers and mission critical private networks worldwide. Mr. Commencing in February 2022, Mr. Broida also leads the products research and development from inception and design using innovative, cutting-edge technologies, all the way to high volume production. Mr. Broida brings over 21 years of experience in strategic marketing and product strategy in the Telecom and IIOT industry. Prior to joining Ceragon, Mr. Broida served as the VP Marketing at mPrest, where he was responsible for product management, marketing, and business development. He served as Vice President of Marketing and Business Development at RAD from 2013 to 2016 and held numerous additional VP product management roles in Wavion (2010-2013), NICE (2006-2010), Alvarion (2000-2006). Mr. Broida holds a B.Sc in electrical engineering from the Technion, Israel's Institute of Technology, and a Master's degree in Business Administration from the Tel Aviv University.

Alon Klomek has served as our Executive Vice President, Chief Revenues Officer since January 1, 2023. Before joining Ceragon, Mr. Klomek spent ten years at Cellebrite, where he successfully led the company's transformation from selling hardware to services, and spearheaded the company's business growth, initially in its international business group and later as Chief Business Officer. Prior to that, Mr. Klomek led a technology start-up, as CEO, and spent ten years at NICE systems where he relocated to the US with his family for multiple years. Mr. Klomek brings a fresh dynamic leadership style, long term vision, and business excellence. Mr. Klomek holds a BA in Economics and Management, an MBA from the Tel-Aviv College of Management, and an MBA from NYU.

Dima Friedman has served as our Executive Vice President, Chief Operating Officer since January 22, 2023. Prior to joining Ceragon, Mr. Friedman served as a Corporate Vice President of Operations (2010-2022) at DSP Group Inc., publicly traded global leader in wireless communication and voice processing chipsets and algorithms. Mr. Friedman served also in a number of capacities including responsibilities for manufacturing engineering, production test engineering, foundry and assembly technology, configuration and lifecycle management, supplier management, product quality and reliability, as well as other business functions. Mr. Friedman holds a BSc in Electrical Engineering and graduation of the Director and Senior Executive Program from Tel Aviv University.

Arrangements Involving Directors and Senior Management

There are no arrangements or understandings of which we are aware relating to the election of our current directors or the appointment of current executive officers in our Company. In addition, there are no family relationships among any of the individuals listed in this Section A (Directors and Senior Management).

B. Compensation

a) Aggregate Executive Compensation

During 2022, the aggregate compensation paid by us or accrued on behalf of all persons listed in Section A above (Directors and Senior Management), and other directors and executive officers who served as such during the year 2022, including Ms. Yael Langer who ceased to serve in her position on October 3, 2022, Mr. Adrian Hipkiss who ceased to serve in his position on December 31, 2022, Mr. Ran Vered, who ceased to serve in his position on May 18, 2022, Mr. Zvi Maayan, who ceased to serve in his position on December 3, 2022, Mr. Ariel Milstein, who ceased to serve in his position on April 14, 2023, Mr. Erez Schwartz who ceased to serve in his position on February January 23, 2022, and our Regional Presidents Mario Querner, Ram Prakash Tripathi, Ronen Rotstein and Carlos Alvarez who due to a change in the company's management structure no longer report to our CEO beginning January 1, 2023, consisted of approximately \$4.0 million in salary, fees, bonuses, commissions and directors' fees and approximately \$0.6 million in amounts set aside or accrued to provide pension, retirement or similar benefits, but excluding amounts expended for automobiles made available to our officers, expenses (including business travel, professional and business association dues and expenses) reimbursed to our officers and other fringe benefits commonly reimbursed under local practices or paid by companies in Israel (all the amounts were translated to USD based on exchange rate as of December 31, 2022).

We have a performance-based bonus plan, which includes our executive officers. The plan is based on our overall performance, the particular unit performance, and individual performance. A non-material portion of the performance objectives of our executive officers are qualitative. The measurable performance objectives can change year over year, and are a combination of financial parameters, such as revenues, booking, gross profit, regional operating profit, operating income, net income and collection. The plan of our executive officers is reviewed and approved by our Compensation Committee and Board of Directors annually (and with respect to our CEO, also by our shareholders), as are any bonus payments to our executive officers made under such plan.

Cash Compensation Our directors are compensated in accordance with regulations promulgated under the Companies Law concerning the remuneration of external directors (the “**Remuneration Regulations**”), as amended by the Israeli Companies Regulations (Relief for Companies with Shares Registered for Trade in a Stock Exchange Outside of Israel) - 2000 (the “**Foreign Listed Regulations**”). Each of them is entitled to a cash compensation in accordance with the “fixed” amounts of the annual and participation fees, as set forth in the Remuneration Regulations, based on the classification of the Company according to the amount of its capital, and to reimbursement of travel expenses for participation in a meeting, which is held outside of the director’s place of residence; currently – the sum of NIS 68,982 (approximately \$19,215) (based on the NIS/USD exchange ratio as published by the Bank of Israel on March 10, 2023 (the “**Exchange Ratio**”) as an annual fee, the sum of NIS 2,568 (approximately \$ 715, based on the Exchange Ratio) as an in-person participation fee, NIS 1,541 (approximately \$ 429, based on the Exchange Ratio) for conference call participation and NIS 1,284 (approximately \$ 120, based on the Exchange Ratio) for written resolutions. As the above-mentioned amounts are within the range between the fixed amounts set forth in the Remuneration Regulations and the maximum amounts set forth in the Foreign Listed Regulations, they are exempt from shareholder approval, in accordance with the Israeli Companies Regulations (Relief from Related Party Transactions) – 2000 (the “**Relief Regulations**”). These cash amounts are subject to an annual adjustment for changes in the Israeli consumer price index and to an annual adjustment in accordance with the classification of the Company according to the size of its capital. The above-mentioned cash compensation is in line with the Company’s compensation policy, which was most recently revised and adopted by our shareholders on July 20, 2020 (the “**Compensation Policy**”), according to which each of the Company’s non-executive directors is entitled to receive cash fees which include annual and participation fees. For more information, please see “*Remuneration of Directors*” and “*The Stock Option Plan*” below and Note 14 to our consolidated financial statements included as Item 18 in this annual report.

Equity Compensation. In addition to the cash fees, as remuneration for their contribution and efforts as directors of the Company, and in line with the limitations set forth in our Compensation Policy with respect to equity-based compensation for non-executive directors, our directors, other than Mr. Palti, receive annual equity grants with respect to their three-year terms of service as directors, which was last approved to them by our shareholders on July 19, 2021, the date of the Company’s 2021 adjourned Annual General Meeting of Shareholders (which was originally scheduled for July 12, 2021 and was postponed to July 19, 2021 for lack of quorum) (the “**2021 AGM**”), and with respect to Efrat Makov, on October 3, 2022, the date of the Company’s 2022 Annual General Meeting of Shareholders (the “**2022 AGM**”), as follows:

(i) Zohar Zisapel, our Chairman of the Board of Directors, received 150,000 options to purchase 150,000 Ordinary Shares, 50,000 of which were granted on the date of the 2021 AGM, an additional 50,000 were granted upon the first anniversary of the 2021 AGM (i.e., on July 19, 2022), and the remaining 50,000 will be granted upon the second anniversary of the 2021 AGM (i.e., on July 19, 2023);

(ii) each of Shlomo Liran, Yael Langer, Ilan Rosen, Rami Hadar and David Ripstein, directors of the Company, received options to purchase 50,000 Ordinary Shares, one-third of which (16,667 options) were granted on the date of the 2021 AGM, an additional one third (16,667 options) were granted upon the first anniversary of the 2021 AGM (i.e., on July 19, 2022), and the remaining 16,666 options will be granted on the second anniversary of the 2021 AGM (i.e., on July 19, 2023), provided each is still a director of the Company at the time of such grant (As Yael Langer ceased to serve as a director in the 2022 AGM, she will not be entitled to the remaining 16,666 options);

(iii) Efrat Makov, director of the Company, received options to purchase 33,333 Ordinary Shares, half of which (16,667 options) were granted on the date of the 2022 AGM, and an additional half (16,666 options) will be granted to her upon the first anniversary of the 2022 AGM (i.e., on October 3, 2023), provided she still serves as a director of the Company at the time of such grant; and

(iv) Ira Palti, who served as a Director since June 2018 and as President and Chief Executive Officer from August 2005 to July 2021, has received under his retirement agreement as approved by our Compensation Committee, Board of Directors and shareholders at the 2021 AGM (the “**Retirement Agreement**”), options to purchase 70,000 Ordinary Shares, under the following terms: the options were granted on the date of the 2021 AGM (the “**Grant Date**”) with an exercise price equal to the average closing price of the Company’s Ordinary Shares on the Nasdaq Global Select Market for the thirty (30) consecutive trading days immediately preceding the Grant Date. The Options became fully vested on July 3, 2022.

Other than the options granted to Mr. Palti under his Retirement Agreement, which are subject to different terms as set forth above, the options granted each year vested on the date of grant and their exercise price is equal to the average closing price of the Company's shares on the Nasdaq Global Select Market for the period equal to 30 consecutive trading days immediately preceding the date of grant. These options will expire 6 years after their date of grant, and were granted under the Company's Amended and Restated Share Option and RSU Plan and under the Capital Gains Route of Section 102(b)(2) of the Israeli Income Tax Ordinance (the "Ordinance"), except for the options granted to Zohar Zisapel, Chairman of the Board of Directors, which were granted under the Regular Employment Income Route of Section 3(i) of the Ordinance.

During his tenure as the Company's President and CEO, the Company did not pay Mr. Ira Palti any compensation, in cash or equity, in connection with his service as a director of the Company. Further, under Mr. Palti's Retirement Agreement, among other things, Mr. Palti was also not entitled to receive such compensation or remuneration, in cash or equity, at least until the first anniversary of the 2021 AGM, i.e. until July 2022. In March 2023, our Compensation Committee and Board of Directors approved to pay Mr. Palti cash compensation in the same amounts and terms as paid to all our non-executive directors commencing at the end of the notice period under Mr. Palti's Retirement Agreement, i.e. July 1, 2022.

During 2022, we granted to our directors and members of our senior management detailed in Section 6.A and other directors and executive officers who served as such during the year 2022, including Ms. Yael Langer who ceased to serve in her position on October 3, 2022, Mr. Adrian Hipkiss who ceased to serve in his position on December 31, 2022, Mr. Ran Vered, who ceased to serve in his position on May 18, 2022, Mr. Zvi Maayan, who ceased to serve in his position on December 3, 2022, Mr. Ariel Milstein, who ceased to serve in his position on April 14, 2023, Mr. Erez Schwartz who ceased to serve in his position on February 23, 2022, and our Regional Presidents Mario Querner, Ram Prakash Tripathi, Ronen Rotstein and Carlos Alvarez who due to a change in the company's management structure no longer reported to our CEO beginning January 1, 2022, in the aggregate, options to purchase 989,695 ordinary shares, with an exercise price that ranges from \$1.80 to \$2.47 per share. During 2022, we granted to our directors and members of our senior management detailed in Section 6.A, in the aggregate, 418,991 restricted share units ("RSUs"). As of December 31, 2022, there were a total of 3,113,569 outstanding options to purchase ordinary shares and 383,111 RSUs that were held by our directors and senior management detailed in Section 6.A.

b) Individual Compensation of Office Holders

The following information describes the compensation of our five most highly compensated "officer holders" (as such term is defined in the Companies Law) with respect to the year ended December 31, 2022. The five individuals for whom disclosure is provided are referred to herein as "Covered Office Holders." All amounts specified below are in terms of cost to the Company, translated to USD based on exchange rate as of December 31, 2022, and are based on the following components:

- **Salary Costs.** Salary Costs include gross salary, benefits and perquisites, including those mandated by applicable law which may include, to the extent applicable to each Covered Office Holder, payments, contributions and/or allocations for pension, severance, car or car allowance, medical insurance and risk insurance (e.g., life, disability, accidents), phone, convalescence pay, relocation, payments for social security, and other benefits consistent with the Company's guidelines.
- **Performance Bonus Costs.** Performance Bonus Costs represent bonuses granted to the Covered Office Holder with respect to the year ended December 31, 2022, paid in accordance with the Covered Office Holder's performance of targets as set forth in his bonus plan, and approved by the Company's Compensation Committee and Board of Directors.
- **Equity Costs** represent the expense recorded in our financial statements for the year ended December 31, 2022, with respect to equity-based compensation granted in 2022 and in previous years. For assumptions and key variables used in the calculation of such amounts see Note 2s of our audited consolidated financial statements.
 - *Doron Arazi – CEO- Salary Costs - \$367,561; Performance Bonus Costs - \$0; Equity Costs - \$386,570.*
 - *Adrian Hipkiss – Regional President of Europe and Oil & Gas until December 2022. Salary Costs - \$320,546; Performance Bonus Costs - \$84,604; Equity Costs - \$3,235.*

- *Ronen Rotstein* - Regional President, North America - Salary Costs - \$295,210; Performance Bonus Costs - \$94,500 Equity Costs - \$79,274.
- *Carlos Alvarez* - Regional President, Latin America. *Salary Costs* - \$286,357; *Performance Bonus Costs* - \$28,642; *Equity Costs* - \$83,342.
- *Ulik Broida* - Executive Vice President Solutions Management. *Salary Costs* - \$244,378; *Performance Bonus Costs* - \$0; *Equity Costs* - \$102,652.

Compensation Policy

Under the Companies Law, we are required to adopt a compensation policy, which sets forth company policy regarding the terms of office and employment of office holders, including compensation, equity awards, severance and other benefits, exemption from liability and indemnification. Such compensation policy should take into account, among other things, providing proper incentives to office holders, management of risks by the Company, the office holder's contribution to achieving corporate objectives and increasing profits, and the function of the office holder.

Our Compensation Policy is designed to balance between the importance of incentivizing office holders to reach personal targets and the need to assure that the overall compensation meets our Company's long-term strategic performance and financial objectives. The Compensation Policy provides our Compensation Committee and Board of Directors with adequate measures and flexibility to tailor each of our office holder's compensation package based, among other matters, on geography, tasks, role, seniority and capability. Moreover, the Policy is intended to motivate our office holders to achieve ongoing targeted results in addition to high-level business performance in the long term, without encouraging excessive risk taking.

The Compensation Policy and any amendments thereto must be approved by the board of directors, after considering the recommendations of the compensation committee, and by a special majority of our shareholders which should include (i) at least a majority of the shareholders who are not controlling shareholders and who do not have a personal interest in the matter, present and voting (abstentions are disregarded), or (ii) the non-controlling shareholders and shareholders who do not have a personal interest in the matter who were present and voted against the matter hold two percent or less of the aggregate voting power in the company ("**Special Majority**"). The Compensation Policy must be reviewed from time to time by the board and must be re-approved or amended by the board of directors and the shareholders no less than every three years. If the Compensation Policy is not approved by the shareholders, the compensation committee and the board of directors may nonetheless approve the policy, following further discussion of the matter and for detailed reasons.

Our Compensation Policy was originally approved by our shareholders in 2012 and was revised and adopted by our shareholders at the Company's annual general meeting for the year 2020, which was held on July 20, 2020.

C. Board Practices

Corporate Governance Practices

We are incorporated in Israel and therefore are generally subject to various corporate governance practices under the Companies Law, relating to matters such as external directors, audit committee, compensation committee, internal auditor and approvals of interested parties' transactions. These matters are in addition to the ongoing listing conditions under the Nasdaq Rules and other relevant provisions of U.S. securities laws. Under applicable Nasdaq Rules, a foreign private issuer (such as the Company) may generally follow its home country rules of corporate governance in lieu of the comparable Nasdaq Rules, except for certain matters such as composition and responsibilities of the audit committee and the independence of its members. See Item 3. "KEY INFORMATION – Risk Factors – Risks Relating to Operation in Israel - *Being a foreign private issuer exempts us from certain SEC requirements and Nasdaq Rules, which may result in less protection than is afforded to investors under rules applicable to domestic issuers.*" For information regarding home country rules followed by us see Item 16G. "CORPORATE GOVERNANCE".

General Board Practices

Under the Company's Articles of Association, the Board of Directors is to consist of not less than five (5) and not more than nine (9) directors, unless otherwise determined by a resolution of the Company's shareholders. Our Board of Directors presently consists of seven (7) members. The Board of Directors retains all the powers in managing our Company that are not specifically granted to the shareholders. For example, for whatever purposes it deems fit, the Board may decide to borrow money or may set aside reserves out of our profits.

The Board of Directors may pass a resolution when a quorum is present, and by a vote of at least a majority of the directors present when the resolution is put to vote. A quorum is defined as at least a majority of the directors then in office who are lawfully entitled to participate in the meeting but not less than two directors. The Chairman of the Board is elected and removed by the board members. Minutes of the Board meetings are recorded and kept at our offices.

The Board of Directors may, subject to the provisions of the Companies Law, appoint a committee of the Board and delegate to such committee all or any of the powers of the Board, as it deems appropriate. Notwithstanding the foregoing and subject to the provisions of the Companies Law, the Board may, at any time, amend, restate or cancel the delegation of any of its powers to any of its committees. Our Board of Directors has appointed a Corporate Audit Committee under the Companies Law, a Financial Audit Committee under Nasdaq Rules, a Compensation Committee and a Nomination Committee.

Our Articles of Association provide that any director may appoint as an alternate director, by written notice to us, any individual who is qualified to serve as director and who is not then serving as a director or alternate director for any other director. An alternate director has all of the rights and obligations of a director, excluding the right to appoint an alternate for himself. Currently no alternate directors serve on our Board.

Terms and Skills of Directors

Our directors are generally elected at the annual general meeting of shareholders for a term ending on the date of the third annual general meeting following the general meeting at which they were elected, unless earlier terminated in the event of such director's death, resignation, bankruptcy, incapacity or removal. At the 2021 AGM, Messrs. Rami Hadar, Ilan Rosen and David Ripstein were elected to serve as directors. At the 2022 AGM, Ms. Efat Makov was elected to serve as director in order to fill the vacancy created by the resignation of Ms. Yael Langer, which became effective on the date of such meeting. Information regarding the period during which each of our directors has served in that office can be found above under the heading "Directors and Senior Management".

According to the Companies Law, a person who does not possess the skills required and the ability to devote the appropriate time to the performance of the office of director in a company, taking into consideration, among other things, the special requirements and size of that company, shall neither be appointed as a director nor serve as a director in a public company. A public company shall not convene a general meeting the agenda of which includes the appointment of a director, and a director shall not be appointed, unless the candidate has submitted a declaration that he or she possesses the skills required and the ability to devote the appropriate time to the performance of the office of director in the company, that sets forth the aforementioned skills and further states that the limitations set forth in the Companies Law regarding the appointment of a director do not apply in respect of such candidate.

A director who ceases to possess any qualification required under the Companies Law for holding the office of director or who becomes subject to any ground for termination of his/her office must inform the company immediately and his/her office shall terminate upon such notice.

Independent Directors

Under the Nasdaq Rules, the majority of our directors are required to be independent. The independence criteria under the Nasdaq Rules excludes, among others, any person who is: (i) a current or former (at any time during the past three years) employee of the company or its affiliates; or (ii) an immediate family member of an executive officer (at any time during the past three years) of the company or its affiliates.

In addition, under the Companies Law, an "independent director" is either an external director or a director appointed or classified as such who meets the same non-affiliation criteria as an external director, as determined by the company's audit committee, and who has not served as a director of the company for more than nine consecutive years. For these purposes, ceasing to serve as a director for a period of two years or less would not be deemed to sever the consecutive nature of such director's service. However, as our shares are listed on the Nasdaq Global Select Market, we may also, in accordance with the Foreign Listed Regulations, classify directors who qualify as independent directors under the relevant non-Israeli rules, as "independent directors" under the Companies Law. In addition, the Foreign Listed Regulations provide that "independent directors" may be elected for additional terms that do not exceed three years each, beyond the nine consecutive years, permitted under the Companies Law, provided that, if the director is being re-elected for an additional term or terms beyond the nine consecutive years (i) the audit committee and board of directors must determine that, in light of the director's expertise and special contribution to the board of directors and its committees, the re-election for an additional term is to the company's benefit; (ii) the director must be re-elected by the required majority of shareholders and subject to the terms specified in the Companies Law.

Currently, five of our serving directors – Ms. Makov and Messrs. Liran, Rosen, Hadar and Ripstein – qualify and serve as independent directors under the Nasdaq Rules.

External Directors

Under the Companies Law, Israeli public companies are generally required to appoint at least two external directors. Each committee of a company's board of directors, which is authorized to exercise the board of directors' authorities, is required to include at least one external director, and the corporate audit and compensation committees must include all of the external directors. The Foreign Listed Regulations allow us, as a company whose shares are traded on Nasdaq, and does not have a controlling shareholder (within the meaning of the Companies Law) to exempt ourselves from the requirement to have external directors on our Board of Directors and from related requirements imposed by the Companies Law concerning the composition of the audit and compensation committees, provided that we continue to comply with the relevant U.S. securities laws and Nasdaq Rules applicable to U.S. domestic issuers, regarding the independence of the Board and the composition of the audit and compensation committee.

An external director who was elected to serve as such prior to the date on which the company opted to comply with the applicable U.S. securities laws and Nasdaq Rules governing the appointment of independent directors and the composition of the audit and compensation committees, as set forth above, may continue to serve out his/her term as a non-external director on the company's board of directors until the earlier of (i) the end of his/her three year term, or (ii) the second annual general meeting following the company's decision to comply with the said applicable rules, without any further action on the part of the company or its shareholders. Such director may be elected to the board of directors by the company's shareholders, but he/she would now be elected as a "regular" director (not an external director) and his/her election would be no different than the election of any other director.

On August 12, 2019, our Board of Directors resolved that commencing on the day following the date of the 2019 Annual General Meeting of Shareholders, the Company would follow the exemption from the requirement to have external directors on our Board, provided that it continues to meet the requisite requirements for said relief and unless the Board of Directors determines otherwise.

Financial and Accounting Expertise. Pursuant to the Companies Law and regulations promulgated thereunder, the board of directors of a publicly traded company is required to make a determination as to the minimum number of directors who must have financial and accounting expertise based, among other things, on the type of company, its size, the volume and complexity of the company's activities and the number of directors. A director with "accounting and financial expertise" is a director whose education, experience and skills qualify him or her to be highly proficient in understanding business and accounting matters, thoroughly understand the Company's financial statements and stimulating discussion regarding the manner in which financial data is presented.

Currently, each of Mr. Shlomo Liran, who chairs the Financial Audit Committee, and Ms. Efrat Makov, both independent directors, is considered a "financial expert" for the purposes of the Nasdaq Rules. Each of Ms. Efrat Makov and Messrs. Shlomo Liran, Zohar Zisapel, Ilan Rosen, Rami Hadar and David Ripstein, satisfy the qualifications set forth for "accounting and financial expertise" as defined under the Companies Law.

Remuneration of Directors

Directors' remuneration is generally consistent with our compensation policy for office holders (see below) and generally requires the approval of the Compensation Committee, the Board of Directors and the shareholders (in that order).

Notwithstanding the above, under special circumstances, the compensation committee and the board of directors may approve an arrangement that deviates from our compensation policy, provided that such arrangement is approved by a Special Majority.

According to the Remuneration Regulations, directors who are being compensated in accordance with such regulations are generally entitled to an annual fee, a participation fee for board or committee meetings and reimbursement of travel expenses for participation in a meeting which is held outside of the director's place of residence. The minimum, fixed and maximum amounts of the annual and participation fees are set forth in the Remuneration Regulations, and are based on the classification of the Company according to the size of its capital. Remuneration of a director who is compensated in accordance with the Remuneration Regulations, in an amount which is less than the fixed annual fee or the fixed participation fee, requires the approval of the Compensation Committee, the Board of Directors and the shareholders (in that order). A company may compensate a director (who is compensated in accordance with the Remuneration Regulations) in shares or rights to purchase shares, other than convertible debentures which may be converted into shares, in addition to the annual and the participation fees, and the reimbursement of expenses, subject to certain limitations set forth in the Remuneration Regulations.

Additionally, according to the Relief Regulations, shareholders' approval for directors' compensation and employment arrangements is not required if both the compensation committee and the board of directors resolve that either (i) the directors' compensation and employment arrangements are solely for the benefit of the company or (ii) the remuneration to be paid to any such director does not exceed the maximum amounts set forth in the Foreign Listed Regulations. Further, according to the Relief Regulations, shareholders' approval for directors' compensation and employment arrangements is not required if (i) both the compensation committee and the board of directors resolve that such terms are not more beneficial than the former terms, or are essentially the same in their effect, and are in line with the company's compensation policy; and (ii) such terms are brought for shareholder approval at the next general meeting of shareholders.

Neither we nor any of our subsidiaries have entered into a service contract with any of our current directors that provides for benefits upon termination of their service as directors.

For a full discussion of the remuneration paid to our directors see above in "B. Compensation a) Aggregate Executive Compensation".

Committees of the Board of Directors

Financial Audit Committee

In accordance with the rules of the SEC under the Exchange Act and under Nasdaq Rules, we are required to have an audit committee consisting of at least three directors, each of whom (i) is independent; (ii) does not receive any compensation from the Company (other than directors' fees); (iii) is not an affiliated person of the Company or any of its subsidiaries; (iv) has not participated in the preparation of the Company's (or subsidiary's) financial statements during the past three years; and (v) is financially literate and one of whom has been determined by the board to be a financial expert. The duties and responsibilities of the Financial Audit Committee include: (i) recommending the appointment of the Company's independent auditor to the Board of Directors, determining its compensation and overseeing the work performed by it; (ii) pre-approving all services of the independent auditor; (iii) overseeing our accounting and financial reporting processes and the audits of our financial statements; and (iv) handling complaints relating to accounting, internal controls and auditing matters. Nonetheless, under the Companies Law, the appointment of the Company's independent auditor requires the approval of the shareholders and its compensation requires the approval of our Board of Directors.

As of the date hereof, Messrs. Shlomo Liran, Ilan Rosen and David Ripstein and Efrat Makov serve on our Financial Audit Committee, each of whom has been determined by the Board to meet the Nasdaq Rules and SEC standards described above, and with Mr. Liran serving as chairman of such committee and as its financial expert. See Item 16A. "AUDIT COMMITTEE FINANCIAL EXPERT" below. We have adopted an Audit Committee charter as required under the Nasdaq Rules.

Corporate Audit Committee

We maintain a Corporate Audit Committee which is our audit committee for the purposes of the Companies Law; the duties and responsibilities of our Corporate Audit Committee include: (i) identifying of irregularities and deficiencies in the management of our business, in consultation with the internal auditor and our independent auditor, and suggesting appropriate courses of action to amend such irregularities; (ii) reviewing and approving certain transactions and actions of the Company, including the approval of related party transactions that require approval by the audit committee under the Companies Law; defining whether certain acts and transactions that involve conflicts of interest are material or not and whether transactions that involve interested parties are extraordinary or not, and to approve such transactions; (iii) establishing procedures to be followed with respect to related party transactions with a "controlling shareholder" (where such are not extraordinary transactions), which may include, where applicable, the establishment of a competitive process for such transaction, under the supervision of the audit committee, or individual, or other committee or body selected by the audit committee, in accordance with criteria determined by the audit committee; (iv) determining procedures for approving certain related party transactions with a "controlling shareholder", which were determined by the audit committee not to be extraordinary transactions, but which were also determined by the audit committee not to be negligible transactions; (v) recommending the appointment of the internal auditor and its compensation to the Board of Directors; (vi) examining the performance of our internal auditor and whether it is provided with the required resources and tools necessary for him to fulfill its role, considering, *inter alia*, the Company's size and special needs; (vii) examining the independent auditor's scope of work as well as his fees and providing its recommendations to the appropriate corporate organ; (viii) overseeing the accounting and financial reporting processes of the Company; (ix) setting procedures for handling complaints made by the Company's employees in connection with management deficiencies and the protection to be provided to such employees; and (x) performing such other duties that are or will be designated solely to the audit committee in accordance with the Companies Law and the Company's Articles of Association.

The Corporate Audit Committee composition requirements referred to under Section 115 of the Companies Law are not applicable to the Company as the Board of Directors, as part of its decision to opt out of the requirement to appoint external directors, as provided for under the Foreign Listed Regulations, also adopted relief from such composition requirements on the basis that the Company complies, and will continue to comply, with the relevant U.S. securities laws and Nasdaq Rules applicable to U.S. domestic issuers, regarding the independence of the Board and the composition of the audit and compensation committees.

As of the date hereof, Messrs. David Ripstein, Shlomo Liran, Efrat Makov and Ilan Rosen serve on our Corporate Audit Committee, each of whom has been determined by the Board to meet the Nasdaq Rules and SEC standards described under the Financial Audit Committee section above, and Mr. Ripstein serves as its chairman.

Compensation Committee

Under the Nasdaq Rules, the compensation payable to our executive officers must be determined or recommended to the board for determination either by a majority of the independent directors on the board, in a vote in which only independent directors participate, or by a compensation committee consisting of at least two independent directors (as defined under the Nasdaq Rules). Each compensation committee member must also be deemed by our Board of Directors to meet the enhanced independence requirements for members of the compensation committee under the Nasdaq Rules, which requires, among other things, that our Board of Directors consider the source of each such committee member's compensation in considering whether he or she is independent. According to the Companies Law, the compensation committee shall include all the external directors, which shall consist of the majority of its members. As indicated above, we opted out of the external director rules in accordance with the exemption provided under the Foreign Listed Regulations. Nonetheless, as our Board has decided to opt out of the requirement to elect external directors and to adopted relief from the audit and compensation composition requirements under the Companies Law, we are subject to the relevant U.S. securities laws and Nasdaq Rules applicable to U.S. domestic issuers regarding the independence of the Board and the composition of the audit and compensation committees.

According to the Companies Law, the board of directors of any Israeli public company must appoint a compensation committee, which is responsible for: (i) making recommendations to the Board of Directors with respect to the approval of the compensation policy (see below) and any extensions thereto; (ii) periodically reviewing the implementation of the compensation policy and providing the Board of Directors with recommendations with respect to any amendments or updates thereto; (iii) reviewing and resolving whether or not to approve arrangements with respect to the terms of office and employment of office holders; and (iv) determining whether or not to exempt under certain circumstances a transaction with a candidate for CEO, who is not affiliated with the Company or its controlling shareholders, from shareholder approval, and provided that the terms approved are consistent with the compensation policy. Under the Companies Law, the Compensation Committee may need to seek the approval of the Board of Directors and the shareholders for certain compensation-related decisions. See "Item 6 - Directors, Senior Management and Employees – B. Compensation".

In addition, our Compensation Committee administers our Amended and Restated Share Option and RSU Plan. The Board has delegated to the Compensation Committee the authority to grant options and RSUs under this plan and to act as the share incentive committee pursuant to this plan, provided that such grants are within the framework determined by the Board, and that the grant of equity compensation to our office holders is also approved by our board.

The Compensation Committee composition requirements referred to under Section 118A of the Companies Law are not applicable to the Company as the Board of Directors, as part of its decision to opt out of the requirement to appoint external directors, as provided for under the Foreign Listed Regulations, also adopted relief from such composition requirements on the basis that the Company complies, and will continue to comply, with the relevant U.S. securities laws and Nasdaq Rules applicable to U.S. domestic issuers, regarding the independence of the Board and the composition of the audit and compensation committees.

Messrs. Ilan Rosen, Shlomo Liran and Rami Hadar serve on our Compensation Committee, each of whom meets the above-mentioned qualification requirements set forth under the Nasdaq Rules, and Mr. Rosen serves as its chairman.

Nomination Committee

The Nasdaq Rules require that director nominees be selected or recommended for the board's selection either by a nomination committee composed solely of independent directors, or by a majority of independent directors, in a vote in which only independent directors participate, subject to certain exceptions. Currently, Messrs. Shlomo Liran, Ilan Rosen, Rami Hadar and David Ripstein, all independent directors, serve as members of our Nomination Committee, which recommends director nominees for our Board's approval.

Approval of Office Holders Terms of Employment

The terms of office and employment of office holders (other than directors and the CEO) require the approval of the compensation committee and then of the board of directors, provided such terms are in accordance with the company's compensation policy. If terms of employment of such office holder are not in accordance with the compensation policy, then shareholder approval is also required following the approval of the compensation committee and board of directors after having taken into account the various policy considerations and mandatory requirements set forth in the Companies Law with respect to office holders' compensation. However, in special circumstances the compensation committee and then the board of directors may nonetheless approve such terms of office and employment, even if they were not approved by the shareholders, following a further discussion and for detailed reasoning. In addition, the Relief Regulations provide that non-material changes to the terms of office of office holders who are subordinated to the company's CEO will require only CEO approval, provided that the company's compensation policy includes a reasonable range for such non-material changes.

The terms of office and employment of a CEO, regardless of whether such terms conform to the company's compensation policy, must be approved by the compensation committee, the board of directors and then by a Special Majority.

Notwithstanding the above, in special circumstances the compensation committee and then the board of directors may nonetheless approve compensation for the CEO, even if such compensation was not approved by the shareholders, following a further discussion and for detailed reasoning. In addition, under certain circumstances, a company's compensation committee may exempt the terms of office and employment of a candidate for the position of CEO from shareholders' approval, provided that the candidate is not a director and that the terms of office are compliant with the company's compensation policy.

Amendment of existing terms of office and employment of office holders who are not directors, including chief executive officers, require the approval of the compensation committee only, if the compensation committee determines that the amendment is not material.

The terms of office and employment of directors, regardless of whether such terms conform to the company's compensation policy, must be approved by the compensation committee, the board of directors and then by the shareholders, and, in case that such terms are inconsistent with the company's compensation policy, such shareholders' approval must be obtained by the Special Majority with respect to the CEO.

However, and as referred to above with respect to remuneration of directors, according to the Relief Regulations, a company's compensation committee and board of directors are permitted to approve terms of office and employment of a CEO or of a director, without convening a general meeting of shareholders, provided however, that such terms: (i) are not more beneficial than the former terms, or are essentially the same in their effect; (ii) are in line with the company's compensation policy; and (iii) are brought for shareholder approval at the next general meeting of shareholders. In addition, a company's compensation committee and board of directors are permitted to approve the terms of office of a director, without convening a general meeting of shareholders, provided that such terms are only beneficial to the company or that such terms are in compliance with the terms set forth in the Remuneration Regulations.

Approval of Certain Transactions with Related Parties

The Companies Law requires the approval of the corporate audit committee or the compensation committee, thereafter, the approval of the board of directors and in certain cases the approval of the shareholders, in order to effect specified actions and extraordinary transactions such as the following:

- transactions with office holders and third parties, where an office holder has a personal interest in the transaction;
- employment terms of office holders; and
- extraordinary transactions with controlling parties, and extraordinary transactions with a third party where a controlling party has a personal interest in the transaction, or any transaction with the controlling shareholder or his relative regarding terms of service provided directly or indirectly (including through a company controlled by the controlling shareholder) and terms of employment (for a controlling shareholder who is not an office holder). A "relative" is defined in the Companies Law as spouse, sibling, parent, grandparent, descendant, spouse's descendant, sibling or parent and the spouse of any of the foregoing.

Further, such extraordinary transactions with controlling shareholders require the approval of the corporate audit committee or the compensation committee, the board of directors and the majority of the voting power of the shareholders present and voting at the general meeting of the company (not including abstentions), provided that either:

- the majority of the shares of shareholders who have no personal interest in the transaction and who are present and voting, not taking into account any abstentions, vote in favor; or
- shareholders who have no personal interest in the transaction who vote against the transaction do not represent more than two percent of the aggregate voting rights in the company.

The Companies Law extends the disclosure requirements applicable to an office holder (as detailed below) to a controlling shareholder in a public company. Any shareholder participating in the vote on approval of an extraordinary transaction with a controlling shareholder must inform the company prior to the voting whether or not he or she has a personal interest in the approval of the transaction, and if he or she fails to do so, his or her vote will be disregarded.

Further, such extraordinary transactions as well as any transactions with a controlling shareholder or his relative concerning terms of service or employment need to be re-approved once every three years, provided however that with respect to certain such extraordinary transactions the corporate audit committee may determine that a longer duration is reasonable given the circumstances related thereto and such extended period has been approved by the shareholders.

In accordance with the Relief Regulations, certain defined types of extraordinary transactions between a public company and its controlling shareholder(s) are exempt from the shareholder approval requirements.

The approval of the corporate audit committee, followed by the approval of the board of directors and the shareholders, is required to effect a private placement of securities, in which either: (i) 20% or more of the company's outstanding share capital prior to the placement is offered, and the payment for which (in whole or in part) is not in cash, in tradable securities registered in a stock exchange or not under market terms, and which will result in: (a) an increase of the holdings of a shareholder that holds 5% or more of the company's outstanding share capital or voting rights; or (b) will cause any person to become, as a result of the issuance, a holder of more than 5% of the company's outstanding share capital or voting rights; or (ii) a person will become a controlling shareholder of the company.

A “controlling party” is defined in the Israeli Securities Law and in the Companies Law, for purposes of the provisions governing related party transactions, as a person with the ability to direct the actions of a company but excluding a person whose power derives solely from his or her position as a director of the company or any other position with the company, and with respect to approval of transactions with related parties also a person who holds 25% or more of the voting power in a public company if no other shareholder owns more than 50% of the voting power in the company, and provided that two or more persons holding voting rights in the company, who each have a personal interest in the approval of the same transaction, shall be deemed to be one holder for the purpose of evaluating their holdings with respect to approvals of transactions with related parties.

Compensation committee approval is also required (and thereafter, the approval of the board of directors and in certain cases – the approval of the shareholders) to approve the grant of an exemption from the responsibility for a breach of the duty of care towards the company, for the provision of insurance and for an undertaking to indemnify any office holder of the company; see below under “*Exemption, Insurance and Indemnification of Directors and Officers*”.

The Company has adopted a Related Parties Transactions Policy which was last reviewed and ratified by the Corporate Audit Committee and the Board of Directors on February 8, 2023, that, among other things, reflects the approval procedures as required under law and sets criteria for the classification of proposed transactions as Extraordinary Transaction (or Exceptional Transaction), Ordinary Transactions and Ordinary Transactions that are insignificant ones.

Duties of Office Holders and Shareholders

Duties of Office Holders

Fiduciary Duties. The Companies Law imposes a duty of care and a duty of loyalty on all office holders of a company, including directors. The duty of care requires an office holder to act with the level of care with which a reasonable office holder in the same position would have acted under the same circumstances, and requires office holders to use reasonable means to obtain (i) information regarding the business advisability of a given action brought for the office holders’ approval or performed by the office holders by virtue of their position, and (ii) all other information of importance pertaining to the aforesaid actions. The duty of loyalty includes avoiding any conflict of interest between the office holder’s position in the company and his personal affairs, avoiding any competition with the company, avoiding the exploitation of any business opportunity of the company in order to receive personal advantage for himself or others, and revealing to the company any information or documents relating to the company’s affairs which the office holder has received due to his position as an office holder.

The company may approve an action by an office holder from which the office holder would otherwise have to refrain due to its violation of the office holder’s duty of loyalty if: (i) the office holder acts in good faith and the act or its approval is not to the detriment of the company, and (ii) the office holder discloses the nature of his or her interest in the transaction to the company a reasonable time prior to the company’s approval.

Each person listed in the table above under “Directors and Senior Management” is considered an office holder under the Companies Law.

Disclosure of Personal Interests of an Office Holder. The Companies Law requires that an office holder of a company promptly disclose any personal interest that he or she may have, and all related material information and documents known to him or her relating to any existing or proposed transaction by the company. If the transaction is an extraordinary transaction, the office holder must also disclose any personal interest held by the office holder’s spouse, siblings, parents, grandparents, descendants, spouse’s siblings, parents and descendants and the spouses of any of these people, or any corporation in which the office holder: (i) holds at least 5% of the company’s outstanding share capital or voting rights; (ii) is a director or chief executive officer; or (iii) has the right to appoint at least one director or the chief executive officer. An extraordinary transaction is defined as a transaction that is either: (i) not in the ordinary course of business; (ii) not on market terms; or (iii) likely to have a material impact on the company’s profitability, assets or liabilities.

In the case of a transaction which is not an extraordinary transaction, after the office holder complies with the above disclosure requirements, only board approval is required unless the articles of association of the company provide otherwise. The transaction must not be adverse to the company’s interest. If a transaction is an extraordinary transaction, or concerns the terms of office and employment, then, in addition to any approval stipulated by the articles of association, it must also be approved by the company’s audit committee (or with respect to terms of office and employment, by the compensation committee) and then by the board of directors, and, under certain circumstances, by shareholders of the company.

A person with a personal interest in any matter may not generally be present at any audit committee, compensation committee or board of directors meeting where such matter is being considered, and if he or she is a member of the committee or a director, he or she may not generally vote on such matter at the applicable meeting.

Duties of Shareholders

Under the Companies Law, a shareholder has a duty to: (i) act in good faith toward the company and other shareholders; and (ii) refrain from abusing his or her power in the company, including, among other things, voting in a general meeting of shareholders with respect to the following matters: (a) any amendment to the articles of association; (b) an increase of the company's authorized share capital; (c) a merger; or (d) approval of interested party transactions which require shareholders' approval.

In addition, any controlling shareholder, or any shareholder who knows that it possesses power to determine the outcome of a shareholder vote and any shareholder who, pursuant to the provisions of a company's articles of association, has the power to appoint or prevent the appointment of an office holder in the company, is under a duty to act with fairness towards the company. The Companies Law does not describe the substance of this duty but states that the remedies generally available upon a breach of contract, will also apply in the event of a breach of the duty of fairness, taking into account such shareholder's position.

Exemption, Insurance and Indemnification of Directors and Officers

The Companies Law provides that companies like ours may indemnify their officers and directors and purchase an insurance policy to cover certain liabilities, if provisions for that purpose are included in their articles of association.

Our Articles of Association allow us to indemnify and insure our office holders to the fullest extent permitted by law.

Office Holders' Exemption

Under the Companies Law, an Israeli company may not exempt an office holder from liability for a breach of his or her duty of loyalty, but may exempt in advance an office holder from his or her liability to the company, in whole or in part, for a breach of his or her duty of care (except in connection with distributions), provided that the articles of association allow it to do so. Our Articles of Association allow us to exempt our office holders to the fullest extent permitted by law.

Office Holders' Insurance

Our Articles of Association provide that, subject to the provisions of the Companies Law, we may enter into a contract for the insurance of all or part of the liability imposed on our office holder in respect of an act or omission performed by him or her in his or her capacity as an office holder, regarding each of the following:

- a breach of his or her duty of care to us or to another person;
- a breach of his or her duty of loyalty to us, provided that the office holder acted in good faith and had reasonable cause to assume that his or her act would not prejudice our interests;
- monetary liabilities or obligations imposed upon him or her in favor of another person; and/or
- any other event, occurrence or circumstance in respect of which we may lawfully insure an office holder.

Without derogating from the aforementioned, subject to the provisions of the Companies Law and the Israeli Securities Law, we may also enter into a contract to insure an office holder, in respect of expenses, including reasonable litigation expenses and legal fees, incurred by an office holder in relation to an administrative proceeding instituted against such office holder or payment required to be made to an injured party, pursuant to certain provisions of the Israeli Securities Law.

Office Holder's Indemnification

Our Articles of Association provide that, subject to the provisions of the Companies Law and the Israeli Securities Law, we may indemnify any of our office holders for an obligation or expense specified below, imposed on or incurred by the office holder in respect of an act or omission performed in his or her capacity as an office holder, as follows:

- a financial liability imposed on him or her in favor of another person by any judgment, including a settlement or an arbitration award approved by a court.
- reasonable litigation expenses, including attorney's fees, incurred by the office holder as a result of an investigation or proceeding instituted against him by a competent authority which concluded without the filing of an indictment against him and without the imposition of any financial liability in lieu of criminal proceedings, or which concluded without the filing of an indictment against him but with the imposition of a financial liability in lieu of criminal proceedings concerning a criminal offense that does not require proof of criminal intent or in connection with a financial sanction (the phrases "proceeding concluded without the filing of an indictment" and "financial liability in lieu of criminal proceeding" shall have the meaning ascribed to such phrases in section 260(a)(1a) of the Companies Law);
- reasonable litigation expenses, including attorneys' fees, expended by an office holder or charged to the office holder by a court, in a proceeding instituted against the office holder by the Company or on its behalf or by another person, or in a criminal charge from which the office holder was acquitted, or in a criminal proceeding in which the office holder was convicted of an offense that does not require proof of criminal intent;
- expenses, including reasonable litigation expenses and legal fees, incurred by an office holder in relation to an administrative proceeding instituted against such office holder, or payment required to be made to an injured party, pursuant to certain provisions of the Securities Law; and/or
- any other event, occurrence or circumstance in respect of which we may lawfully indemnify an office holder.

The Company may undertake to indemnify an office holder as aforesaid: (a) prospectively, provided that, in respect of the first act (financial liability) the undertaking is limited to events which in the opinion of the Board of Directors are foreseeable in light of the Company's actual operations when the undertaking to indemnify is given, and to an amount or criteria set by the Board of Directors as reasonable under the circumstances, and further provided that such events and amount or criteria are set forth in the indemnification undertaking; and (b) retroactively.

Limitations on Insurance and Indemnification

The Companies Law provides that a company may not exempt or indemnify an office holder nor enter into an insurance contract which would provide coverage for any monetary liability incurred as a result of any of the following:

- a breach by the office holder of his or her duty of loyalty, except that the company may enter into an insurance contract or indemnify an office holder if the office holder acted in good faith and had a reasonable basis to believe that the act would not prejudice the company;
- a breach by the office holder of his or her duty of care, if such breach was intentional or reckless, but unless such breach was solely negligent;
- any act or omission intended to derive an illegal personal benefit; or
- any fine, civil fine, financial sanction or monetary settlement in lieu of criminal proceedings imposed on such office holder.

In addition, under the Companies Law, exemption and indemnification of, and procurement of insurance coverage for, our office holders must be approved by our Compensation Committee and our Board of Directors and, with respect to an office holder who is CEO or a director, also by our shareholders. However, according to the Relief Regulations, shareholders' and Board approvals for the procurement of such insurance coverage are not required if the insurance policy is approved by our Compensation Committee and: (i) the terms of such policy are within the framework for insurance coverage as approved by our shareholders and set forth in our Compensation Policy; (ii) the premium paid under the insurance policy is at fair market value; and (iii) the insurance policy does not and may not have a substantial effect on the Company's profitability, assets or obligations.

Our Insurance and Indemnification

Indemnification letters, covering indemnification and insurance of those liabilities imposed under the Companies Law and the Israeli Securities Law, as discussed above, were granted to each of our present office holders and were approved for any future office holders.

In addition, in accordance with the Compensation Policy, we are currently entitled to hold directors' and officers' liability insurance policy for the benefit of our office holders, with insurance coverage of up to \$45 million and with an annual premium of up to \$2,000,000, plus an additional annual premium of up to \$300,000 for claims associated with M&A transactions.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons, we have been advised that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

Administrative Enforcement

As detailed above, under the Israeli Securities Law, a company cannot obtain insurance against or indemnify a third party (including its officers and/or employees) for any administrative procedure and/or monetary fine (other than for payment of damages to an injured party). The Israeli Securities Law permits insurance and/or indemnification for expenses related to an administrative procedure, such as reasonable legal fees, provided that it is permitted under the company's articles of association.

We have adopted and implemented an internal enforcement plan to reduce our exposure to potential breaches of sections in the Companies Law and in the Israeli Securities Law applicable to us. Our Articles of Association and letters of indemnification permit, among others, insurance and/or indemnification as contemplated under the Israeli Securities Law (see "*Exemption, Insurance and Indemnification of Directors and Officers*" above).

Internal Auditor

Under the Companies Law, the board of directors of a public company must appoint an internal auditor proposed by the corporate audit committee (see under "*Committees of the Board of Directors*" – "*Corporate Audit Committee*", above). The internal auditor may be an employee of the company but may not be an interested party, an office holder or a relative of the foregoing, nor may the internal auditor be the company's independent accountant or its representative. The role of the internal auditor is to examine, among other things, whether the company's actions comply with applicable law, integrity and orderly business procedure. The internal auditor has the right to request that the chairman of the corporate audit committee convene a corporate audit committee meeting, and the internal auditor may participate in all corporate audit committee meetings. The internal auditor's tenure cannot be terminated without his or her consent, nor can he or she be suspended from such position unless the board of directors has so resolved after hearing the opinion of the corporate audit committee and after providing the internal auditor with the opportunity to present his or her position to the board of directors and to the corporate audit committee.

We have appointed the firm of Chaikin, Cohen, Rubin & Co., Certified Public Accountants (Isr.) as our internal auditor. Our internal auditor meets the independence requirements of the Companies Law, as detailed above.

D. Employees

As of December 31, 2022, we had 988 employees worldwide. Among our employees, 234 were employed in research, development and engineering, 628 in sales and marketing including services and supporting functions, 26 in management and administration and 100 in operations. Out of our employees, 297 were based in Israel, 46 were based in the United States, 254 were based in EMEA (not including Israel), 180 were based in Latin America and 211 were based in Asia Pacific (including India).

In addition, as of December 31, 2022 we employed 420 Services Contractors, mainly supporting the projects we have won in the regions. Most of the costs of these employees were included in the cost of revenues in our financial statement.

We and our Israeli employees are not parties to any collective bargaining agreements. However, with respect to such employees, we are subject to Israeli labor laws, regulations and extension orders signed by the Israeli Ministry of Labor, Social Affairs and Social Services, as are in effect from time to time. Generally, we provide our employees with benefits and working conditions above the legally required minimums.

Israeli applicable law requires severance pay upon the dismissal, retirement or death of an employee or termination without due cause. In addition, applicable extension orders require every employee in Israel (except for specific circumstances) has a pension insurance policy, which includes, *inter alia*, death and disability insurance coverage. The amounts contributed by us to the severance component in the employees' pension insurance are in lieu of the severance pay due to them. Israeli applicable law requires us and our employees to make payments to the National Insurance Institute, which is similar to the U.S. Social Security Administration. Such amounts also include payments by the employee for mandatory health insurance.

Substantially all our employment agreements include employees' undertakings with respect to non-competition, assignment to us of intellectual property rights developed in the course of employment and confidentiality. However, it should be noted that the enforceability of non-competition undertakings is rather limited under the local laws in certain jurisdictions, including Israel.

To date, we have not experienced labor-related work stoppages and believe that our relations with our employees are good.

The employees of our other subsidiaries are subject to local labor laws and regulations that vary from country to country. In certain locations such as Brazil and Norway we are a party to collective bargaining agreements.

E. Share Ownership

The following table sets forth certain information regarding the ordinary shares owned, and stock options held, by our directors and senior management as of May 1, 2023. The percentage of outstanding ordinary shares is based on 84,356,307 ordinary shares outstanding as of April 23, 2023 that consists, for the purpose of the below calculation and presentation, ordinary shares and options to purchase ordinary shares which are vested or shall become vested within 60 days of May 1, 2023.

Name	Number of Ordinary Shares ⁽¹⁾	Percentage of Outstanding Ordinary Shares	Number of Stock Options Held ⁽²⁾	Exercise price of Options	Number of RSUs Held ⁽²⁾
Zohar Zisapel ⁽³⁾	7,167,174	8.47	250,000	\$ 2.22 – 3.70	-
Ira Palti	520,000	0.61	520,000	\$ 2.48 – 3.70	-
All directors and senior management as a group consisting of 23 people ⁽⁴⁾	8,548,189	9.94	1,631,015	\$ 1.80 – 4.22	449,311

(1) Consists of ordinary shares and options to purchase ordinary shares which are vested or shall become vested within 60 days of May 1, 2023.

(2) Each stock option is exercisable into one ordinary share and expires between 6 and 10 years from the date of its grant. Of the number of stock options listed, 250,000, 520,000 and 1,631,015 options, are vested or shall become vested within 60 days of May 1, 2023 for Mr. Zisapel, Mr. Palti and all directors and senior management as a group, respectively. No RSUs are expected to vest within 60 days of March 15, 2023.

- (3) The number of ordinary shares held by Zohar Zisapel includes (i) 3,694,986 ordinary shares held by Zohar Zisapel; (ii) 250,000 ordinary shares issuable upon the exercise of options granted to Mr. Zisapel, exercisable as of May 1, 2023 or within 60 days thereafter; (iii) 1,101,245 ordinary shares are held of record by Lomsha Ltd., an Israeli company controlled by Mr. Zisapel; (iv) 18,717 ordinary shares are held by RAD Data Communications Ltd., an Israeli company of which Mr. Zisapel is a principal shareholder and a director; and (v) 2,102,226 Ordinary Shares are held by Michael and Klil Holdings (93) Ltd., an Israeli company controlled by Mr. Zisapel.
- (4) Each of the directors and senior management other than Messrs. Zohar Zisapel and Ira Palti, beneficially owns less than 1% of the outstanding ordinary shares as of May 1, 2023 (including options held by each such person and which are vested or shall become vested within 60 days of May 1, 2023) and have therefore not been separately listed.

Stock Option Plan

The Amended and Restated Share Option and RSU Plan

In September 2003, our shareholders approved and adopted our 2003 Share Option Plan for a term of ten years, which was extended for an additional ten-year period by our Board of Directors in December 2012, and further extended by our Board of Directors in November 2022 until December 31, 2023 (the “**Amended and Restated Share Option and RSU Plan**”). The Amended and Restated Share Option and RSU Plan has been approved by the Israeli Tax Authority as required by applicable law but not as an Incentive Stock Option “qualified plan” as defined by U.S. tax law. The Amended and Restated Share Option and RSU Plan is designed to grant options to our employees, directors, consultants and contractors, in Israel and worldwide, and is administered by our Compensation Committee. Generally, options granted under the Amended and Restated Share Option and RSU Plan expire between six to ten years from the date of grant. In addition, our Board of Directors has sole discretion to determine, in the event of a transaction with another corporation, as defined in the Amended and Restated Share Option and RSU Plan, that each option shall either: (i) be substituted for an option to purchase securities of the other corporation; (ii) be assumed by the other corporation; or (iii) automatically vest in full. In the event that all or substantially all of the issued and outstanding share capital of the Company shall be sold, each option holder shall be obligated to participate in the sale and to sell his/her options at the price equal to that of any other share sold. As of September 2010, the Amended and Restated Share Option and RSU Plan also enables the grant of RSUs (see below under “*Amendment of the Amended and Restated Share Option and RSU Plan*”).

Amendment of the Amended and Restated Share Option and RSU Plan

Subject to applicable law, our Board of Directors may amend the Amended and Restated Share Option and RSU Plan, provided that any action by our Board of Directors which will alter or impair the rights or obligations of an option or RSU holder requires the prior consent of that option/RSU holder. In December 2009, our shareholders approved an amendment to the Amended and Restated Share Option and RSU Plan, by adding a new subsection intended to extend the exercise period for fully vested and unexpired options to directors who have ceased to serve, from 6 months to 18 months. In September 2010, our Board of Directors amended the Amended and Restated Share Option and RSU Plan so as to enable the grant of RSUs. Our Board further amended the Amended and Restated Share Option and RSU Plan in August 2014 to extend the authority originally granted to our Compensation Committee to provide grantees, in their notice of grant, with a “Double Trigger” acceleration mechanism upon the occurrence of certain events. “Double Trigger” under the Amended and Restated Share Option and RSU Plan means that following a Corporate Transaction and during a one (1) year period starting from completion of the Corporate Transaction (i) the Grantee’s employment with the Company (or the surviving entity following merger) is terminated not for Cause or for Serious Cause; or (ii) there is a change in the Grantee’s position in the Company (or the surviving entity following merger) and the Grantee is not offered to continue to be employed in a comparable or more senior position and/or on comparable or more favorable terms. The terms “Corporate Transaction”, “Grantee”, “Cause” and “Serious Cause”, have the meanings ascribed to them in the Amended and Restated Share Option and RSU Plan.

The following tables present information regarding option and RSU grants under the Amended and Restated Share Option and RSU Plan, plus additional options and RSUs from former plans that have not yet expired as of December 31, 2022.

Cumulative Ordinary Shares Reserved for Option and RSU Grants	Remaining Reserved Shares Available for Option and RSU Grants	Options and RSUs Outstanding	Weighted Average Exercise Price
35,593,199 ⁽¹⁾	11,046,657 ⁽²⁾	7,414,071 ⁽³⁾	\$ 2.95 ⁽⁴⁾

- (1) Total of 4,784,600 relates to RSU grants and 30,808,599 relates to all options grants under all the Company's Share Option and RSU plans commencing in 2003.
- (2) Total under all grants approved by the Board under all Company's Share Option and RSU plans commencing in 2003.
- (3) Total of 2,108,339 relates to RSUs outstanding and 5,305,732 relates to options outstanding, under all the Company's Share Option and RSU plans commencing in 2003.
- (4) Weighted average price refers only to options (option plans before 2012 have already expired).

The following table presents certain option and RSU grant information concerning the distribution of options and RSUs (granted under all Company's Share Option and RSU plans commencing in 2003 and under the Amended and Restated Share Option and RSU Plan) among directors and employees of the Company as of December 31, 2022:

	Options and RSUs Outstanding	Unvested Options and RSUs
Directors and senior management	3,101,654	1,590,994
All other grantees	4,312,417	3,087,743

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

Major Shareholders

The following table sets forth stock ownership information as of May 1, 2023 (unless otherwise noted below) with respect to each person who is known by us to be the beneficial owner of more than 5% of our outstanding ordinary shares, based on information provided to us by the holders or disclosed in public filings with the SEC.

Except where otherwise indicated, and except pursuant to community property laws, we believe, based on information furnished by such owners, that the beneficial owners of the ordinary shares listed below have sole investment and voting power with respect to such shares. The shareholders listed below do not have any different voting rights from any of our other shareholders. We know of no arrangements which would, at a subsequent date, result in a change in control of our company.

Total shares beneficially owned in the table below include shares that may be acquired upon the exercise of options that are exercisable within 60 days. The shares that may be issued under these options are treated as outstanding only for purposes of determining the percent owned by the person or group holding the options but not for the purpose of determining the percentage ownership of any other person or group. Each of our directors and officers who is also a director or officer of an entity listed in the table below disclaims ownership of our ordinary shares owned by such entity.

Name	Number of Ordinary Shares⁽²⁾	Percentage of Outstanding Ordinary Shares⁽¹⁾
Zohar Zisapel ⁽³⁾	7,167,174	8.47%
Joseph D. Samberg ⁽⁴⁾	8,280,000	9.82%

(1) Based on 84,356,307 ordinary shares outstanding as of May 11, 2023, excluding options to purchase ordinary shares which are vested or shall become vested within 60 days of May 1, 2023.

(2) Consists of ordinary shares and options to purchase ordinary shares, which are vested or shall become vested within 60 days as of May 1, 2023.

(3) (i) 3,694,986 ordinary shares held by Zohar Zisapel; (ii) 250,000 ordinary shares issuable upon the exercise of options granted to Mr. Zisapel exercisable as of May 1, 2023 or within 60 days thereafter; (iii) 1,101,245 ordinary shares are held of record by Lomsha Ltd., an Israeli company controlled by Mr. Zisapel; (iv) 18,717 ordinary shares are held by RAD Data Communications Ltd., an Israeli company of which Mr. Zisapel is a principal shareholder and a director. Mr. Zisapel and his brother, Mr. Yehuda Zisapel, and Ms. Nava Zisapel, have shared voting and dispositive power with respect to the ordinary shares held by RAD Data Communications Ltd.; and (v) 2,102,226 Ordinary Shares are held by Michael and Klil Holdings (93) Ltd., an Israeli company controlled by Mr. Zisapel. The number of ordinary shares beneficially held by Zohar Zisapel is based on a Schedule 13D/A filed by Mr. Zisapel with the SEC on February 16, 2021.

(4) Joseph D. Samberg's address is 1091 Boston Post Road, Rye, NY 10580.

As of April 24, 2023, approximately 97% of our ordinary shares were registered for trade and held in the United States and there were 29 record holders with addresses in the United States. These numbers are not representative of the number of beneficial holders of our shares nor are they representative of where such beneficial holders reside due to the fact that many of these ordinary shares were held of record by brokers or other nominees (including one U.S. nominee company, CEDE & Co., which held approximately 97% of our outstanding ordinary shares as of said date).

Related Party Transactions

Zohar Zisapel, the Chairman of our Board of Directors and a principal shareholder of our company, beneficially owns 8.50% of our ordinary shares as of December 31, 2022. However, Zohar and Yehuda Zisapel, and Ms. Nava Zisapel, have shared voting and dispositive power with respect to the ordinary shares held by RAD Data Communications Ltd.

Zohar Zisapel is the Chairman of the board of, in a few of which he holds shares in, RADWIN Ltd., RADIFLOW Ltd., Hailo Technologies Ltd., Zohar Properties, Klil and Michael Properties (1992) Ltd, RUN Rad Unlimited Networking Ltd., Tupai Ltd., Carteav Ltd. and Hi Auto Ltd. He also serves as a director in the following companies, in a few of which he holds shares: RADCOM Ltd., NUANCE HEARING Ltd., RAD Data Communications Ltd., Packetlight Networks Ltd., CyberInt Technologies Ltd., DriveU Tech Ltd., and Cylus Ltd., Cloud Cyber Security Ltd. (d/b/a Talon Cyber Security) and several other private holdings and real estate. Zohar Zisapel also holds more than 5% of the shares of the following companies: Nucleix Ltd., Vascular Grafts Solutions Ltd., Vectorious Ltd., and Sanoculis Ltd. The above list does not constitute a complete list of Zohar Zisapel's holdings.

Some of the companies referred to above are known as the "RAD-BYNET Group", a group of independent companies. Members of the RAD-BYNET Group sometimes share expenses with us, on an as-needed basis, for information systems infrastructure, administrative services and medical insurance, as well as in connection with logistics services, such as transportation - all by arm's length transactions. In addition, the Company purchases certain equipment, other services, software and licenses from members of the RAD-BYNET Group. The aggregate amount of such purchases and shared expenses in 2022 was approximately \$1.6 million.

We, as well as other companies of the RAD-BYNET Group, may market through the same distribution channels. In addition, the Company markets and sells some products of other members of the RAD-BYNET Group, which are complementary to our products, while some members of the RAD-BYNET Group market and sell part of our products, which are complimentary to their products. Certain products of members of the RAD-BYNET Group may be used in place of (and thus may be deemed to be competitive with) our products.

Ms. Yael Langer, who served on our Board of Directors until the 2022 AGM, acts as general counsel for several RAD-BYNET Group companies and serves as a director in RADWARE Ltd.

We generally ascertain the market prices for goods and services that can be obtained at arms' length from unaffiliated third parties before entering into any transaction with a related party. In addition, all of our related-party transactions with members of the RAD-BYNET Group are approved in accordance with the Company's Related Party Policy and applicable law. Such policy provides, among other things, that the board of directors may, from time to time, set criteria for routine/insignificant transactions which are not an extraordinary transaction. A proposed transaction that shall satisfy the criteria for routine/insignificant transactions, shall be deemed as classified as an ordinary transaction by the corporate audit committee and as pre-approved by the board. As a result, we believe that the terms of the transactions in which we have engaged, and are currently engaged with other members of the RAD-BYNET Group are beneficial to us and no less favorable to us than terms, which might be available to us from unaffiliated third parties. Any future transaction and arrangement with entities in which our office holders may have a personal interest will require approval by our Corporate Audit Committee, our Board of Directors and, if applicable, our shareholders.

Supply Arrangement

We purchase products from certain RAD-BYNET Group companies, which we integrate into our products or product offerings. The aggregate purchase price of these components in 2022 was approximately \$0.2 million.

Sales Arrangement

We sell products through RAD-BYNET Group companies, which they integrate into their products or product offerings. The aggregate selling price of these components in 2022 was approximately \$0.1 million.

Registration Rights

In connection with the private placement of preferred shares before our initial public offering in August 2000, several of our shareholders were granted registration rights with respect to ordinary shares that were converted from preferred shares immediately prior to the completion of our initial public offering. The registration rights were granted to each of:

- the holders of the ordinary shares resulting from the conversion of such preferred shares; and
- Yehuda Zisapel and Zohar Zisapel.

Under the registration rights agreement, each of these shareholders has the right to have its ordinary shares included in certain of our registration statements.

ITEM 8. FINANCIAL INFORMATION

Consolidated Statements and Other Financial Information

The annual financial statements required by this Item are found at the end of this annual report, beginning on Page F-1.

Export Sales

In 2022, our sales to end users located outside of Israel amounted to \$292.3 million, or 99.0% of our \$295.2 million revenues for this year.

Legal Proceedings

Class Action Claim (District Court of Tel Aviv - Economic Department)

On January 6, 2015 the Company was served with a motion to approve a purported class action, naming the Company, its Chief Executive Officer and its directors as defendants (the “**Defendants**”). The motion was filed with the District Court of Tel-Aviv (the “**Court**”). The purported class action alleges breaches of duties by making false and misleading statements in the Company's SEC filings and public statements. The class action claimed amount is approximately \$75,000,000

On June 21, 2015, the Defendants filed their response to the motion, arguing that the motion should be dismissed.

On May 27, 2021, following a lengthy procedure that included filing of various pleadings and affidavits, evidentiary hearings, and submission of summaries, the Court ruled to certify the motion as a class action, while applying the Israeli Law (the “**Ruling**”). According to the Ruling, the class action shall include several causes of action according to the Israeli Securities Act and the Israeli Torts Ordinance, concerning the alleged misleading statements in the Company's SEC filings.

On June 9, 2021, the Court issued a decision suggesting that the parties refer the case to a mediation procedure.

The Company believes that the Ruling is erroneous and that the Defendants have strong defense arguments, and therefore, on September 12, 2021, filed a motion for a rehearing on behalf of the Defendants in order to revert the Ruling (the "**Rehearing Motion**").

On October 20, 2021, the Plaintiff submitted his response to the Rehearing Motion and the Defendants submitted their reply to the Plaintiff's response on November 23, 2021.

In light of the fact that the Ruling applied and was based upon Israeli Law (instead of the relevant foreign law), the Tel Aviv Stock Exchange filed a motion requesting the Court to allow it to join the proceedings as Amicus Curiae, in order to express its principle opinion that the applicable law, in so far as dual listed companies are concerned, is the foreign law, as well as regarding the negative implications of the Court's application of Israeli law on dual listed companies.

Without delaying or derogating from the Rehearing Motion, the Company agreed to the Court's suggestion that the parties refer the case to a mediation procedure and designated the retired Judge B. Arnon as a mediator. After several mediation meetings were held, the mediation process ended without reaching a settlement.

On January 3, 2022 a hearing was held in Court in the Rehearing Motion before the Honorable Justices K. Kabub, R. Ronen and T. Avrahami. Following the hearing, on January 25, 2022, the Attorney General joined the proceedings of the Rehearing Motion and submitted his position in collaboration with the Securities Authority. The Attorney General's principle position as outlined, was that the applicable law in so far as dual listed companies are concerned is the foreign law, and in our case – U.S. law.

On January 27, 2022, a judgment was rendered in the Rehearing Motion. The Court ruled that the Ruling was erroneous as it applied Israeli Law, instead of foreign law, and held accordingly that the law that will apply is U.S. law. The Court further held that the case will be returned to the first judicial instance and will be adjudicated as a class claim under U.S. law. The Court commented that the Company's claims based upon the Statute of Limitations should prima facie also be adjudicated under U.S. law.

On March 20, 2022, following the Court's decision, the Plaintiff filed to the first judicial instance, an amended class action claim, based on provisions of U.S. law. The Plaintiff estimated the amended claim amount at \$52,099,000.

On June 28, 2022, following a joint application filed by the parties in order to approve certain procedural matters, the Court issued a decision suggesting that the parties should consider initiating another mediation procedure. On July 5, 2022, following the Court's decision, the parties filed a notice, informing the Court that they believe that the time to consider initiating another mediation procedure, will be only after the parties submit their pleadings.

On November 3, 2022, the Defendants submitted their Statement of Defense, based on U.S. law. On February 5, 2023, the Plaintiff submitted his response to the Defendants' Statement of Defense. The parties are currently conducting preliminary procedures, including discovery and questionnaires. A preliminary hearing is scheduled for June 19, 2023.

As was held in the judgement rendered in the Rehearing Motion, U.S. law presents a higher bar for Plaintiffs in comparison to Israeli law in proving claims regarding misleading representations to investors. However, given that the class action is being adjudicated under U.S. law and that the Court has yet to address the parties' pleadings, the Company's attorneys cannot assess, at this preliminary stage, the chances of acceptance of the class action.

Claim against Station Enterprises Ltd. regarding breach of the Lease Agreement

A dispute has arisen between the Company and Station Enterprises Ltd, with respect to the lease agreement signed between the parties on April 11, 2019 (the "Lease Agreement"), under which the Company leases its offices and labs in Rosh Haayin.

The Company, the lessee, claims that Station Enterprises was late in delivering the possession to the lessee and has not fulfilled its maintenance and management obligations. Therefore, the Company claims that Station Enterprises breached its contractual obligations, causing the Company damages and expenses.

Due to such alleged breaches, the Company has set-off the rent and management fees against outstanding debts of Station Enterprises towards the Company and provided Station Enterprises with a set-off notice.

On February 8, 2022, Station Enterprises provided notice to the Company of the termination of the Lease Agreement, and also on the exercise of the bank guarantees provided to it in connection with the Lease Agreement, in the amount of approximately \$682,000. The Company rejected the alleged termination notice, which was provided with no legal grounds, and further required Station Enterprises not to exercise the bank guarantees. This demand was disregarded, and the bank guarantees were exercised in full.

The Company instructed its legal counsel to file a claim against Station Enterprises, in the framework of which the court will be asked to issue a Declarative Order, declaring that the notice of termination was invalid and that Lease Agreement is valid and in force; to order Station Enterprises to reimburse the Company for the amount of the exercised bank guarantees; to order Station Enterprises to uphold and fulfil its contractual obligation and undertakings under the Lease Agreement and the management agreement; and to compensate the Company for the damages caused to it in an amount of approximately \$328,000.

The Statement of Claim was filed on May 31, 2022. A Statement of Defense was filed on October 23, 2022, and a Statement of Response was filed on November 23, 2022.

On October 13, 2022, Station Enterprises Ltd. submitted a new claim against the Company, for its eviction from the leased premises. The Statement of Defense was filed on February 12, 2023.

Since both lawsuits deal with the same issues, on December 25, 2022, the Company submitted a request to consolidate the lawsuits.

On January 12, 2023, the judge determined that he would make a final decision on the request when submitting the statement of defense, which, as mentioned, was filed on February 12, 2023. On March 27, 2023 the judge ordered the consolidation of the hearings in the two lawsuits.

The parties agreed to refer the dispute in both claims to mediation to be first held on May 8, 2023.

A date for the first pre-trial hearing was set for June 21, 2023.

Despite the preliminary stage of the process, the Company's attorneys advised the Company that based on the agreement between the parties, the Company has strong claims against Station Enterprises Ltd.

We are not a party to any other material legal proceedings.

Dividends

We have never declared or paid any dividend on our ordinary shares except for the share dividend that was paid as a result of a 250-for-1 share recapitalization that took place immediately prior to our initial public offering. To date, we do not anticipate paying any dividends on our ordinary shares in the future. We currently intend to retain all future earnings to finance our operations and to expand our business. Under our Credit Facility, we undertook not to distribute dividends (unless certain terms are met) without the lenders' prior written consent.

Significant Changes

See Item 5. "OPERATING AND FINANCIAL REVIEW AND PROSPECTS - B. Liquidity and Capital Resources" for a description of the January and June 2022 amendments to the credit facility.

ITEM 9. THE OFFER AND LISTING

Offer and Listing Details

Our ordinary shares are listed on the Nasdaq Global Select Market under the symbol "CRNT".

ITEM 10. ADDITIONAL INFORMATION

Memorandum and Articles of Association – General

A description of our Memorandum and Articles of Association was previously provided in our registration statement on Form F-1 (Registration Statement 333-12312) filed with the SEC on August 3, 2000, and is incorporated herein by reference. The Memorandum and Articles of Association - as amended in October 2007, September 2011, December 2012, July 2014 and September 2016 - were previously provided in our annual reports on Form 20-F for the years 2007, 2011, 2012, 2014 and 2016, respectively, and are incorporated herein by reference.

In July 2014, we revoked our Memorandum pursuant to procedures provided by Israeli law; a detailed description of such procedure was previously provided in our annual report on Form 20-F for the year 2014 and is incorporated herein by reference.

Articles of Association

Our registration number with the Israeli Registrar of Companies is 51-235244-4. Our purpose as set forth in article 1 to our Articles of Association is to engage, directly or indirectly, in any lawful undertaking or business whatsoever. A copy of our Articles of Association is attached as Exhibit 1.1 to the Company's Annual Report on Form 20-F for the year ended December 31, 2016. The information called for by this Item is set forth in Exhibit 2.1 to this Annual Report on Form 20-F and is incorporated by reference into this Annual Report on Form 20-F. Exhibit 2.1 sets forth a description of our ordinary shares and certain provisions of our Articles of Association which are summaries and are qualified in their entirety by reference to the full text of our Articles of Association.

Material Contracts

For a description pertaining of our Credit Facility dated as of March 14, 2013 and signed by and between the Company and Bank Hapoalim B.M., HSBC Bank Plc, Bank Leumi Le-Israel Ltd. and First International Bank of Israel Ltd., as amended from time to time, see Item 5 "OPERATING AND FINANCIAL REVIEW AND PROSPECTS - B. Liquidity and Capital Resources". The summary provided is not complete and is qualified in its entirety by reference to the English summary of the material terms of such agreement including its amendments, which are filed as exhibits to this annual report and incorporated herein by reference.

Except as otherwise disclosed in this annual report (including its exhibits), we are not currently, and have not been in the last two years, party to any material contract, other than contracts entered into in the ordinary course of business.

Exchange Controls

There are currently no Israeli currency control restrictions on payments of dividends or other distributions with respect to our ordinary shares or the proceeds from the sale of the shares, except for the obligation of Israeli residents to file reports with the Bank of Israel regarding certain transactions. However, legislation remains in effect pursuant to which currency controls can be imposed by administrative action at any time.

The ownership or voting of our ordinary shares by non-residents of Israel, except with respect to citizens of countries which are in a state of war with Israel, is not restricted in any way by our Memorandum or Articles of Association or by the laws of the State of Israel.

Taxation

The following is a short summary of the tax environment to which shareholders may be subject. The following is not intended, and should not be construed, as legal or professional tax advice and is not exhaustive of all possible tax considerations. Each shareholder should consult his or her own tax or legal advisor.

This summary is based on the current provisions of tax law and, except for the foregoing, does not anticipate any possible changes in law, whether by legislative, regulatory, administrative or judicial action. Holders of our ordinary shares should consult their own tax advisors as to the United States, Israeli or other tax consequences of the purchase, ownership and disposition of ordinary shares.

General Corporate Tax Structure in Israel

The corporate tax rate in 2022 was 23%.

However, the effective tax rate payable by a company that derives income from an approved enterprise, or preferred enterprise as discussed further below, may be considerably lower. See “The Law for the Encouragement of Capital Investments, 1959” (the “Investment Law”) below.

The Law for the Encouragement of Capital Investments, 1959

In general, the Investment Law is intended to provide tax benefits to Industrial Enterprises who undertake significant export activities leading to the economic competitiveness of the country. The Investment Law underwent several amendments in recent years as will be detailed below, however, benefits which were granted under prior versions of the law remain intact and may be applied to the extent the company who obtained such benefits continues to comply with the respective requirements and has not waived such benefits.

Tax Benefits before the 2005 amendment

The Investment Center has granted approved enterprise status to three investment programs at our former facility in Tel Aviv and we have derived and expect to continue to derive a substantial portion of our income from these programs. We have elected the alternative track of benefits under these approved enterprise programs. The portion of our income derived from these approved enterprise programs will be exempt from tax for a period of two years commencing in the first year in which there is taxable income. The period of tax benefits for our approved enterprise programs has not yet commenced, because we have yet to realize approved taxable income.

The benefit period starts with the first year the enterprise earns taxable income, provided that 14 years have not passed since the approval was granted and 12 years have not passed since the enterprise began operating. As of January 1st, 2021, the 14 years period have passed for the three approved programs. The respective benefit period has not yet begun, as no taxable income was generated.

As of December 31, 2021 the tax benefits under the amendment expired and the Company is no longer entitled to these tax benefits.

Tax Benefits under the 2017 Amendment

The 2017 Amendment was enacted as part of the Economic Efficiency Law that was published on December 29, 2016 and is effective as of 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 2017 Amendment provides that a technology company satisfying certain conditions will qualify as a “Preferred Technology Enterprise” and will thereby enjoy a reduced corporate tax rate of 12% on 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 Zone A.

Dividends distributed by a Preferred Technology Enterprise paid out of Preferred Technology Income, are generally subject to withholding tax at source at the rate of 20% or such lower rate as may be provided in an applicable tax treaty (subject to the receipt in advance of a valid certificate from the Israel Tax Authority (“ITA”) allowing such for reduced tax rate). 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 (holding at least 90% of the share capital) and other conditions are met, the withholding tax rate will be 4%.

The Company did not apply the 2017 Amendment. The Company may change its position in the future.

Tax Benefits and Grants for Research and Development

Israeli tax law allows, under specific conditions, a tax deduction in the year incurred for expenditures, including capital expenditures, relating to scientific research and development projects, for the year in which they are incurred if:

- the expenditures are approved by the relevant Israeli government ministry, determined by the field of research;
- the research and development is for the promotion or development of the company; and
- the research and development is carried out by or on behalf of the company seeking the deduction.

However, the amount of such deductible expenses shall be reduced by the sum of any funds received through government grants for the finance of such scientific research and development projects. Expenditures not so approved are deductible over a three-year period if the R&D is for the promotion or development of the company.

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

According to the Law for the Encouragement of Industry (Taxes), 1969, generally referred to as the Industry Encouragement Law, an industrial company is a company incorporated and resident in Israel, at least 90% of the income of which, in a given tax year, determined in Israeli currency exclusive of income from specified government loans, capital gains, interest and dividends, is derived from an industrial enterprise owned by it. An industrial enterprise is defined as an enterprise whose major activity in a given tax year is industrial production activity.

Under the Industry Encouragement Law, industrial companies are entitled to the following preferred corporate tax benefits, among others:

- deduction of purchases of know-how, patents and the right to use a patent over an eight-year period for tax purposes;
- deduction over a three-year period of specified expenses incurred with the issuance and listing of shares on the Tel Aviv Stock Exchange or on a recognized stock exchange outside of Israel (including Nasdaq);
- the right to elect, under specified conditions, to file a consolidated tax return with additional related Israeli industrial companies; and
- accelerated depreciation rates on equipment and buildings.

Eligibility for benefits under the Industry Encouragement Law is not subject to receipt of prior approval from any governmental authority.

We believe that we currently qualify as an industrial company within the definition of the Industry Encouragement Law. We cannot assure you that we will continue to qualify as an industrial company or that the benefits described above will be available to us in the future.

Israeli Capital Gains Tax on Sales of Shares

Israeli law imposes a capital gains tax on the sale of any capital assets by residents of Israel, as defined for Israeli tax purposes, and on the sale of assets located in Israel, including shares of Israeli resident companies, by non-residents of Israel, unless a specific exemption is available or unless a tax treaty between Israel and the shareholder's country of residence provides otherwise (and subject to the receipt in advance of a valid certificate from the ITA allowing such exemption). The law distinguishes between real gain and inflationary surplus. The inflationary surplus is a portion of the total capital gain that is equivalent to the increase of the relevant asset's purchase price which is attributable to the increase in the Israeli consumer price index or, in certain circumstances, a foreign currency exchange rate, between the date of purchase and the date of sale. The real gain is the excess of the total capital gain over the inflationary surplus.

Generally, the tax rate applicable to capital gains derived from the sale of securities, listed on a stock market, is 25% for Israeli individuals. Additionally, if such individual shareholder is considered a "significant shareholder" at any time during the 12-month period preceding such sale (i.e. such shareholder holds directly or indirectly, including jointly with others, at least 10% of any "means of control" in the company. "means of control" - including, among other things, the right to receive profits of the Company, voting rights, the right to receive the Company's liquidation proceeds and the right to appoint a director) the tax rate is increased to 30%. Israeli companies are subject to the regular corporate tax rate (currently, 23%) on capital gains derived from the sale of securities.

Furthermore, beginning on January 1, 2013, an additional tax liability at the rate of 2% was added to the applicable tax rate on the annual taxable income of the individuals (whether any such individual is an Israeli resident or non-Israeli resident) exceeding NIS 803,520 (in 2016) (hereinafter: "Added Tax"). Effective January 1, 2017 the Added Tax rate has increased to 3% and the taxable income threshold was reduced to NIS 640,000 (amount is linked to the annual change in the Israeli consumer price index and was NIS 663,240 in 2022).

Generally, non-Israeli residents are exempt from Israeli capital gains tax on any gains derived from the sale of shares publicly traded on a recognized stock market in Israel or outside of Israel (including Nasdaq) subject to meeting certain conditions. However, non-Israeli corporations will not be entitled to such exemption if an Israeli resident (i) has a controlling interest of 25% or more in such non-Israeli corporation, or (ii) is the beneficiary of or is entitled to 25% or more of the revenues or profits of such non-Israeli corporation, whether directly or indirectly. Such exemption is not applicable to a person whose gains from selling or otherwise disposing of the shares are deemed to be business income.

Persons paying consideration for shares, including purchasers of shares, Israeli securities dealers effecting a transaction, or a financial institution through which securities being sold are held, are required, to withhold tax upon the sale of publicly traded securities at a rate of 25% for individuals and at the corporate tax rate (currently, 23%) for corporations. However, the sale of shares may be exempt from Israeli capital gain tax under the provisions of the Israeli Income Tax Ordinance or the provisions of an applicable tax treaty, subject to the receipt in advance of a valid certificate from ITA allowing for such exemption no tax will be withheld.

Under the convention between the United States and Israel concerning taxes on income, as amended (the "U.S.-Israel Tax Treaty"), generally, Israeli capital gains tax will not apply to the sale, exchange or disposition of ordinary shares by a person who:

- holds the ordinary shares as a capital asset;
- qualifies as a resident of the United States within the meaning of the U.S.-Israel tax treaty; and
- is entitled to claim the benefits available to the person by the U.S.-Israel tax treaty.

However, this exemption will not apply, among other cases, if (i) the treaty U.S. resident holds, directly or indirectly, shares representing 10% or more of our voting power during any part of the 12-month period preceding the sale, exchange or disposition, subject to specified conditions, (ii) the capital gains from such sale, exchange or disposition can be allocated to a permanent establishment in Israel or (iii) such person is an individual and was present in Israel for a period or periods of 183 days or more in the aggregate during the relevant tax year. In this case, the sale, exchange or disposition would be subject to Israeli tax, to the extent applicable. However, under the U.S.-Israel tax treaty, the treaty U.S. resident would be permitted to claim a credit for the taxes against the U.S. federal income tax imposed on the sale, exchange or disposition, subject to the limitations in U.S. laws applicable to foreign tax credits.

Israeli Taxation of Dividends Distributed to Non-Resident Holders of Our Shares

Non-residents of Israel are subject to income tax on income accrued or derived from sources in Israel. These sources of income include passive income, including dividends, royalties and interest, as well as non-passive income from services provided in Israel. On distributions of dividends income tax is withheld at source at the following rates: 25%, increased to 30% for a shareholder that is considered a significant shareholder, as defined above, at the time of the distribution or at any time during the 12-month period preceding such distribution. However, if such shares are registered with a nominee company (as such term is used in the Israeli Securities Law, 5728-1968). Such dividends will be subject to Israeli withholding tax at a rate of 25% whether the recipient is a substantial shareholder or not. The distribution of dividends to non-Israeli residents (either individuals or corporations) from income derived from an Approved Enterprises or Benefited Enterprises or a Preferred Enterprise, in each case during the applicable benefits period is subject to withholding tax at a rate of 20%; unless a lower rate is provided in a treaty between Israel and the shareholder's country of residence (subject to the receipt in advance of a valid tax certificate from the ITA allowing for a reduced tax rate). According to the U.S.-Israel Tax Treaty, the tax withholding rate on dividends distributed by an Israeli corporation to a U.S. individual and a U.S. corporation is 25%. If the U.S. company holds 10% or more of the voting power of the Israeli company during the part of the tax year which precedes the date of payment of the dividend and during the whole of the preceding tax year and certain other conditions are met, the tax withholding rate is reduced to 12.5%. Dividends received by such U.S. company distributed from income generated by an Approved Enterprise, a Benefited Enterprise, or a Preferred Enterprise, are subject to withholding tax at a rate of 15%. However, these provisions do not apply if the company generates certain amounts of passive income. The aforementioned rates under the U.S.-Israel Treaty will not apply if the dividend income was derived through a permanent establishment of the U.S. resident in Israel.

Israeli Transfer Pricing Regulations

On November 29, 2006, Income Tax Regulations (Determination of Market Terms), 2006, promulgated under Section 85A of the Israeli Income Tax Ordinance, came into effect (the "TP Regs"). Section 85A of the Tax Ordinance and the TP Regulations generally requires that all cross-border transactions carried out between related parties be conducted on an arm's length principle basis and will be taxed accordingly. The TP Regulations have not had a material effect on the Company.

U.S. Federal Income Tax Considerations

Subject to the limitations described below, the following discussion summarizes certain U.S. federal income tax consequences of the purchase, ownership and disposition of our ordinary shares to a U.S. holder that owns our ordinary shares as a capital asset (generally, for investment). A U.S. holder is a holder of our ordinary shares that is for U.S. federal income tax purposes:

- an individual citizen or resident of the United States;
- a corporation (or other entity taxable as a corporation for U.S. federal income tax purposes) created or organized in the United States or under the laws of the United States, any political subdivision thereof or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust (i) if a court within the United States 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 (ii) that has in effect a valid election under applicable U.S. Treasury Regulations to be treated as a U.S. person.

If a partnership (or any other entity treated as a partnership for U.S. federal income tax purposes) holds our ordinary shares, the tax treatment of the entity and an equity owner in such entity will generally depend on the status of the equity owner and the activities of the entity. Such an equity owner or entity should consult its own tax advisor as to its tax consequences.

Certain aspects of U.S. federal income taxes relevant to a holder of our ordinary shares (other than a partnership) that is not a U.S. holder (a "Non-U.S. holder") are also discussed below.

This discussion is based on current provisions of the Internal Revenue Code of 1986, as amended (the "Code"), current and proposed Treasury Regulations, and administrative and judicial decisions as of the date of this annual report, all of which are subject to change, possibly on a retroactive basis. This discussion does not address all aspects of U.S. federal income taxation that may be relevant to any particular U.S. holder in light of such holder's individual circumstances. In particular, this discussion does not address the potential application of the U.S. federal income tax consequences to U.S. holders that are subject to special treatment, including U.S. holders that:

- are broker-dealers or insurance companies;
- have elected mark-to-market accounting;
- are tax-exempt organizations or retirement plans;
- are grantor trusts;
- are S corporations;
- are certain former citizens or long-term residents of the United States;
- are financial institutions;
- hold ordinary shares as part of a straddle, hedge or conversion transaction with other investments;

- acquired their ordinary shares upon the exercise of employee stock options or otherwise as compensation;
- are real estate investment trusts or regulated investment companies;
- own directly, indirectly or by attribution at least 10% of our shares (by vote or value); or
- have a functional currency that is not the U.S. dollar.

This discussion is not a comprehensive description of all the tax considerations that may be relevant to each person's decision to purchase our ordinary shares. For example, this discussion does not address any aspect of state, local or non-U.S. tax laws, the possible application of the alternative minimum tax or United States federal gift or estate taxes.

Each holder of our ordinary shares is advised to consult his or her own tax advisor with respect to the specific tax consequences to him or her of purchasing, owning or disposing of our ordinary shares, including the applicability and effect of federal, state, local and foreign income and other tax laws to his or her particular circumstances.

Taxation of Distributions Paid on Ordinary Shares

Subject to the discussion below under "Tax Consequences if We Are a Passive Foreign Investment Company," a U.S. holder will be required to include in gross income as dividend income the amount of any distribution paid on our ordinary shares, including any non-U.S. taxes withheld from the amount paid, to the extent the distribution is paid out of our current or accumulated earnings and profits as determined for U.S. federal income tax purposes. Distributions in excess of earnings and profits will be applied against and will reduce the U.S. holder's tax basis in its ordinary shares and, to the extent in excess of that basis, will be treated as gain from the sale or exchange of ordinary shares. The dividend portion of such distribution generally will not qualify for the dividends received deduction otherwise available to corporations.

Dividends that are received by U.S. holders that are individuals, estates or trusts will be taxed at the rate applicable to long-term capital gains (currently a maximum rate of 20%), provided that such dividends meet the requirements of "qualified dividend income." Subject to the holding period and risk-of-loss requirements discussed below generally, dividends paid by a non-U.S. corporation that is not a PFIC (as discussed below) will generally be qualified dividend income if either the stock with respect to which the dividend is paid is readily tradable on an established securities market in the United States (such as the Nasdaq Global Select Market) or such corporation is eligible for the benefits of an income tax treaty with the IRS determines is satisfactory and which includes an exchange of information program. The IRS has determined that the U.S.-Israel income tax treaty is satisfactory for this purpose and includes an exchange of information program. Dividends that fail to meet such requirements, and dividends received by corporate U.S. holders, are taxed at ordinary income tax rates. No dividend received by a U.S. holder will be a qualified dividend if (1) the U.S. holder held the ordinary share with respect to which the dividend was paid for less than 61 days during the 121-day period beginning on the date that is 60 days before the ex-dividend date with respect to such dividend, excluding for this purpose, under the rules of Code Section 246(c), any period during which the U.S. holder has an option to sell, is under a contractual obligation to sell, has made and not closed a short sale of, is the grantor of a deep-in-the-money or otherwise nonqualified option to buy, or has otherwise diminished its risk of loss by holding other positions with respect to, such ordinary share (or substantially identical securities) or (2) the U.S. holder is under an obligation (pursuant to a short sale or otherwise) to make related payments with respect to positions in property substantially similar or related to the ordinary share with respect to which the dividend is paid. If we were to be PFIC (as such term is defined in the Code) for any year, dividends paid on our ordinary shares in such year or in the following year would not be qualified dividends. In addition, a non-corporate U.S. holder will be able to take a qualified dividend into account in determining its deductible investment interest (which is generally limited to its net investment income) only if it elects to do so; in such case the dividend will be taxed at ordinary income tax rates.

Distributions of current or accumulated earnings and profits paid in foreign currency to a U.S. holder (including any non-U.S. taxes withheld from the distributions) will generally be includable in the income of a U.S. holder in a dollar amount calculated by reference to the exchange rate on the date of the distribution. A U.S. holder that receives a foreign currency distribution and converts the foreign currency into dollars after the date of distribution may have foreign exchange gain or loss based on any appreciation or depreciation in the value of the foreign currency against the dollar, which will generally be U.S. source ordinary income or loss.

U.S. holders generally will have the option of claiming the amount of any non-U.S. income taxes withheld at source either as a deduction from gross income or as a dollar-for-dollar credit against their U.S. federal income tax liability. Individuals who do not claim itemized deductions, but instead utilize the standard deduction, may not claim a deduction for the amount of the non-U.S. income taxes withheld, but the amount may be claimed as a credit against the individual's U.S. federal income tax liability. The amount of non-U.S. income taxes that may be claimed as a credit in any year is subject to complex limitations and restrictions, which must be determined on an individual basis by each holder. These limitations include rules which limit foreign tax credits allowable for specific classes of income to the U.S. federal income taxes otherwise payable on each such class of income. The total amount of allowable foreign tax credits in any year generally cannot exceed the pre-credit U.S. tax liability for the year attributable to non-U.S. source taxable income. Distributions of our current or accumulated earnings and profits generally will be non-U.S. source passive income for U.S. foreign tax credit purposes.

A U.S. holder will be denied a foreign tax credit for non-U.S. income taxes withheld from a dividend received on the ordinary shares (1) if the U.S. holder has not held the ordinary shares for at least 16 days of the 31-day period beginning on the date which is 15 days before the ex-dividend date with respect to such dividend or (2) to the extent the U.S. holder is under an obligation to make related payments with respect to positions in substantially similar or related property. Any days during which a U.S. holder has substantially diminished its risk of loss on the ordinary shares are not counted toward meeting the required 16-day holding period.

Taxation of the Disposition of Ordinary Shares

Subject to the discussion below under "Tax Consequences if We Are a Passive Foreign Investment Company," upon the sale, exchange or other disposition of our ordinary shares (other than in certain non-recognition transactions), a U.S. holder will recognize capital gain or loss in an amount equal to the difference between the U.S. holder's basis in the ordinary shares, which is usually the cost to the U.S. holder of the ordinary shares, and the amount realized on the disposition. Capital gain from the sale, exchange or other disposition of ordinary shares held more than one year will be long-term capital gain and may, in the case of non-corporate U.S. holders, be subject to a reduced rate of taxation (long-term capital gains are currently taxable at a maximum rate of 20% for U.S. holders that are individuals, estates or trusts). Gain or loss recognized by a U.S. holder on a sale, exchange or other disposition of ordinary shares will generally be treated as U.S. source income for U.S. foreign tax credit purposes. The deductibility of a capital loss recognized on the sale, exchange or other disposition of ordinary shares may be subject to limitations.

A U.S. holder that uses the cash method of accounting calculates the dollar value of the proceeds received on the sale as of the date that the sale settles. However, a U.S. holder that uses the accrual method of accounting is required to calculate the value of the proceeds of the sale as of the trade date and may therefore realize foreign currency gain or loss. An accrual method U.S. holder may avoid realizing such foreign currency gain or loss by electing to use the settlement date to determine the proceeds of sale for purposes of calculating the foreign currency gain or loss. In addition, a U.S. holder that receives foreign currency upon disposition of ordinary shares and converts the foreign currency into dollars after the settlement date or trade date (whichever date the U.S. holder is required to use to calculate the value of the proceeds of sale) may have foreign exchange gain or loss based on any appreciation or depreciation in the value of the foreign currency against the dollar, which will generally be U.S. source ordinary income or loss.

Net Investment Income Tax

Certain non-corporate U.S. holders may also be subject to an additional 3.8% tax on all or a portion of their "net investment income," which may include dividends on, or capital gains recognized from the disposition of, our ordinary shares, subject to certain limitations and exceptions. U.S. holders are urged to consult their own tax advisors regarding the implications of the Net Investment income tax on their investment in our ordinary shares.

Tax Consequences if We Are a Passive Foreign Investment Company

For U.S. federal income tax purposes, we will be classified as a passive foreign investment company, or PFIC, for any taxable year in which, after applying certain look-through rules, either (i) 75% or more of our gross income is passive income or (ii) at least 50% of the average value of our total assets (determined on a quarterly basis) for the taxable year produce, or are held for the production of, passive income. For this purpose, cash is considered to be an asset which produces passive income. Passive income includes dividends, interest, royalties, rents, annuities and the excess of gains over losses from the disposition of certain assets which produce passive income.

Based on our income, assets, activities and market capitalization, we do not believe that we were a PFIC for the taxable year ended December 31, 2022. However, there can be no assurances that the IRS will not challenge this conclusion. If we were not a PFIC for 2022, U.S. holders who acquired our ordinary shares in 2022 will not be subject to the PFIC rules described below (regardless of whether we were a PFIC in any prior year) unless we are classified as a PFIC in future years. The tests for determining PFIC status are applied annually and it is difficult to make accurate predictions of our future income, assets, activities and market capitalization, including fluctuations in the price of our ordinary shares, which are relevant to this determination.

If we are a PFIC, a U.S. holder of our ordinary shares could be subject to increased tax liability upon the sale or other disposition (including gain deemed recognized if the ordinary shares are used as security for a loan) of its ordinary shares or upon the receipt of distributions that are treated as “excess distributions”, which could result in a reduction in the after-tax return to such U.S. holder. In general, an excess distribution is the amount of distributions received during a taxable year that exceed 125% of the average amount of distributions received by a U.S. holder in respect of the ordinary shares during the preceding three taxable years, or if shorter, during the U.S. holder’s holding period prior to the taxable year of the distribution. Under these rules, the distributions that are excess distributions and any gain on the disposition of ordinary shares would be allocated ratably over the U.S. holder’s holding period for the ordinary shares. The amount allocated to the current taxable year and any taxable year prior to the first taxable year in which we were a PFIC would be taxed as ordinary income. The amount allocated to each of the other taxable years would be subject to tax at the highest marginal rate in effect for the applicable class of taxpayer for that taxable year, and an interest charge for the deemed deferral benefit would be imposed on the resulting tax allocated to such other taxable years. The tax liability with respect to the amount allocated to taxable years prior to the year of the disposition or distribution cannot be offset by net operating losses. In addition, holders of stock in a PFIC may not receive a “step-up” in basis on shares acquired from a decedent. Furthermore, if we are a PFIC, each U.S. holder generally will be required to file an annual report with the IRS.

As an alternative to the tax treatment described above, a U.S. holder could elect to treat us as a “qualified electing fund” (“QEF”), in which case the U.S. holder would be required to include in income, for each taxable year that we are a PFIC, its pro rata share of our ordinary earnings as ordinary income and its pro rata share of our net capital gains as capital gain, subject to a separate election to defer payment of taxes where such deferral is subject to an interest charge. We may supply U.S. holders that make a request in writing with the information needed to report income and gain under a QEF election, if we are a PFIC. Any income inclusion will be required whether or not such U.S. holder owns our ordinary shares for an entire taxable year or at the end of our taxable year. The amount so includible will be determined without regard to our prior year losses or the amount of cash distributions, if any, received from us. Special rules apply if a U.S. holder makes a QEF election after the first year in its holding period in which we are a PFIC. A U.S. holder’s basis in its ordinary shares will increase by any amount included in income and decrease by any amounts distributed to the extent such amounts were previously taxed under the QEF rules. So long as a U.S. holder’s QEF election is in effect beginning with the first taxable year in its holding period in which we are a PFIC, any gain or loss realized by such holder on the disposition of its ordinary shares held as a capital asset ordinarily would be capital gain or loss. Such capital gain or loss ordinarily would be long-term if such U.S. holder had held such ordinary shares for more than one year at the time of the disposition. The QEF election is made on a shareholder-by-shareholder basis, applies to all ordinary shares held or subsequently acquired by an electing U.S. holder and can be revoked only with the consent of the IRS.

As an alternative to making a QEF election, a U.S. holder of PFIC stock which is “marketable stock” (e.g., “regularly traded” on the Nasdaq Global Select Market) may in certain circumstances avoid certain of the tax consequences generally applicable to holders of stock in a PFIC by electing to mark the stock to market as of the beginning of such U.S. holder’s holding period for the ordinary shares. As a result of such election, in any taxable year that we are a PFIC, a U.S. holder generally would be required to report gain or loss to the extent of the difference between the fair market value of the ordinary shares at the end of the taxable year and such U.S. holder’s tax basis in its ordinary shares at that time. Any gain under this computation, and any gain on an actual disposition of the ordinary shares in a year in which we are a PFIC, would be treated as ordinary income. Any loss under this computation, and any loss on an actual disposition of the ordinary shares in a year in which we are a PFIC, generally would be treated as ordinary loss to the extent of the cumulative net-mark-to-market gain previously included. Any remaining loss from marking ordinary shares to market will not be allowed, and any remaining loss from an actual disposition of ordinary shares generally would be capital loss. A U.S. holder’s tax basis in its ordinary shares is adjusted annually for any gain or loss recognized under the mark-to-market election. There can be no assurances that there will be sufficient trading volume with respect to the ordinary shares in order for the ordinary shares to be considered “regularly traded” or that our ordinary shares will continue to trade on the Nasdaq Global Select Market. Accordingly, there are no assurances that the ordinary shares will be marketable stock for these purposes. As with a QEF election, a mark-to-market election is made on a shareholder-by-shareholder basis, applies to all ordinary shares held or subsequently acquired by an electing U.S. holder and can only be revoked with consent of the IRS (except to the extent the ordinary shares no longer constitute “marketable stock”).

The U.S. federal income tax consequences to a U.S. holder if we were to be classified as a PFIC in 2022 or any previous taxable year are complex. A U.S. holder should consult with his or her own advisor regarding those consequences, as well as regarding whether he or she should make either of the elections described above.

Tax Consequences for Non-U.S. Holders of Ordinary Shares

Except as described in "Information Reporting and Back-up Withholding" below, a non-U.S. holder of our ordinary shares will not be subject to U.S. federal income or withholding tax on the payment of dividends on, and the proceeds from the disposition of, our ordinary shares, unless, in the case of U.S. federal income taxes:

- the item is effectively connected with the conduct by the non-U.S. holder of a trade or business in the United States and, in the case of a resident of a country which has a treaty with the United States, the item is attributable to a permanent establishment, or in the case of an individual, the item is attributable to a fixed place of business in the United States; or
- the non-U.S. holder is an individual who holds the ordinary shares as a capital asset and is present in the United States for 183 days or more in the taxable year of the disposition, and certain other conditions are met.

Information Reporting and Back-up Withholding

U.S. holders generally are subject to information reporting requirements with respect to dividends on, or proceeds from the disposition of, our ordinary shares. In addition, a U.S. holder may be subject, under certain circumstances, to backup withholding with respect to dividends paid on, or proceeds from the disposition of, our ordinary shares unless the U.S. holder provides proof of an applicable exemption or correct taxpayer identification number, and otherwise complies with the applicable requirements of the backup withholding rules. A U.S. holder of our ordinary shares who provides an incorrect taxpayer identification number may be subject to penalties imposed by the IRS. Amounts withheld under the backup withholding rules are not an additional tax and may be refunded or credited against the U.S. holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

Non-U.S. holders generally are not subject to information reporting or back-up withholding with respect to dividends paid in the United States on, or proceeds from the disposition of, our ordinary shares, provided that the non-U.S. holder provides a taxpayer identification number, certifies to its foreign status, or establishes another exemption from the information reporting or back-up withholding requirements.

Certain U.S. holders (and to the extent provided in IRS guidance, certain non-U.S. holders) who hold interests in "specified foreign financial assets" (as defined in Section 6038D of the Code) are generally required to file an IRS Form 8938 as part of their U.S. federal income tax returns to report their ownership of such specified foreign financial assets, which may include our ordinary shares, if the total value of those assets exceed certain thresholds. Substantial penalties may apply to any failure to timely file IRS Form 8938. In addition, in the event a holder that is required to file IRS Form 8938 does not file such form, the statute of limitations on the assessment and collection of U.S. federal income taxes of such holder for the related tax year may not close until three years after the date that the required information is filed. Holders should consult their own tax advisors regarding their tax reporting obligations.

Documents on Display

We are subject to the informational requirements of the Exchange Act applicable to foreign private issuers and fulfill these requirements by filing reports with the SEC. These reports include certain financial and statistical information about us, and may be accompanied by exhibits.

The SEC maintains an Internet website at <http://www.sec.gov> that contains reports, proxy statements, information statements and other information regarding issuers that file electronically with the SEC filed through the SEC's Electronic Data Gathering, Analysis and Retrieval (EDGAR) system.

You may also visit us on the Internet at www.ceragon.com. However, information contained on our website does not constitute a part of this annual report.

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

We do not use derivative financial instruments for trading purposes. Accordingly, we have concluded that there is no material market risk exposure of the type contemplated by Item 11, and that no quantitative tabular disclosures are required. We are exposed to certain other types of market risks, as described below.

Foreign Currency Risk

As the majority of our revenues and cost of revenues, as well as a significant portion of our operating expenses, are in U.S. dollars, we have determined that our functional currency is the U.S. dollar. However, a significant portion of our revenues, costs of revenue as well as a major portion of our operating expenses are denominated in other currencies, mainly in NIS, INR, EUR, BRL, ARS and NOK. As our financial results are reported in U.S. dollars, fluctuations in the exchange rates between the U.S. dollar and applicable non-dollar currencies may have an effect on our results of operations. In order to reduce such effect, we hedge a portion of certain cash flow transactions denominated in non-dollar currencies as well as a portion of certain monetary items in the balance sheet, such as trade receivables and trade payables, denominated in non-dollar currencies. The following sensitivity analysis illustrates the impact on our non-dollar net monetary assets assuming an instantaneous 10% change in foreign currency exchange rates from year-end levels, with all other variables held constant. At December 31, 2022, a 10% strengthening of the U.S. dollar versus other currencies would have resulted in a decrease of approximately \$2.4 million in our net monetary assets position, while a 10% weakening of the dollar versus all other currencies would have resulted in an increase of approximately \$3.0 million in our net monetary assets position.

The counter-parties to our hedging transactions are major financial institutions with high credit ratings. As of December 31, 2022, we had outstanding forward like contracts in the amount of \$73.8 million for a period of up to twelve months.

We do not invest in interest rate derivative financial instruments.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES.

Not applicable.

PART II

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES.

None.

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS.

None

ITEM 15. CONTROLS AND PROCEDURES

(a) Disclosure Controls and Procedures

The Company performed an evaluation of the effectiveness of its disclosure controls and procedures that are designed to provide reasonable assurance that the material financial and non-financial information required to be disclosed to the SEC is recorded, processed, summarized and reported timely. Based on the Company's evaluation, the Company's management, including the CEO and CFO, has concluded that the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act) as of the end of December 31, 2022 are effective in reaching such reasonable assurance. Notwithstanding the foregoing, there can be no assurance that the Company's disclosure controls and procedures will detect or uncover all failures of persons within the Company to disclose material information otherwise required to be set forth in the Company's reports.

(b) Management's Annual Report on Internal Control Over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company.

The Company performed an evaluation of the effectiveness of its internal control over financial reporting that is designed by, or under the supervision of, the Company's principal executive and principal financial officers, and effected by the Company's Board of Directors, management and other personnel, 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 and includes those policies and procedures that:

- (i) Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company;
- (ii) 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
- (iii) 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.

Under the supervision and with the participation of our management, including our CEO and CFO, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2022 based on the framework for Internal Control - Integrated Framework set forth by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (COSO). Based on our assessment under that framework and the criteria established therein, our management concluded that the Company's internal control over financial reporting was effective as of December 31, 2022 in providing reasonable assurance regarding the reliability of the Company's financial reporting. Notwithstanding the foregoing, there can be no assurance that the Company's financial reporting controls and procedures will detect or uncover all failures of persons within the Company to do all the required activities properly, which may impact the fair presentation of the financial statements of the Company otherwise required to be set forth in the financial reports.

(c) Attestation Report of Independent Registered Public Accounting Firm

Kost, Forer, Gabbay & Kasierer, a Member of Ernst & Young Global, our independent registered public accounting firm, has issued an attestation report on the effectiveness of our internal control over financial reporting, appearing under Item 18: "FINANCIAL STATEMENTS" on pages F-3 - F-4, and such report is incorporated herein by reference.

(d) Changes in Internal Controls Over Financial Reporting

There were no changes in the Company's internal control over financial reporting that occurred during the year ended December 31, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT

The Company's Board of Directors has determined that each of Ms. Efrat Makov and Messers. Shlomo Liran, Rami Hadar, Ilan Rosen David Ripstein qualifies as an audit committee financial expert and is an independent director under the Nasdaq Rules and regulations of the SEC.

ITEM 16B. CODE OF ETHICS

In November 2003, the Company's Board of Directors adopted a Code of Ethics that applies to the CEO, chief financial officer and controller. In October 2008, we amended our Code of Ethics in order to update it and expand its applicability to additional senior officers. In December 2009, we combined the Code of Ethics together with certain Standards of Business Conduct to strengthen the Company's Ethics and Compliance Program. In October 2014, and again in December 2016, we amended and expanded the Company's Ethics and Compliance Program, in order to strengthen certain provisions thereunder. In July 2020, we updated the reference to the Company's Chairman of the Corporate Audit Committee due to the replacement of Mr. Berger by Mr. Ripstein. A copy of the Company's updated Code of Ethics may be obtained, without charge, upon a written request addressed to the Company's investor relations department, 3 Uri Ariav st., Bldg. A (7th Floor) PO Box 112, Rosh Ha' Ayin, Israel, 4810002 (Telephone no. +972-3-543-1000) (e-mail: ir@ceragon.com). In addition, it is also available on the Internet at www.ceragon.com. However, information contained on our website does not constitute a part of this Annual Report.

ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Fees Paid to Independent Auditors

The following table sets forth, for each of the years indicated, the fees billed by Kost, Forer, Gabbay & Kasierer, a member firm of Ernst & Young Global, our auditors, and the percentage of each of the fees out of the total amount billed by them.

Services Rendered	Year Ended December 31,			
	2021		2022	
	Fees	Percentages	Fees	Percentages
Audit Fees (1)	\$ 678,000	93%	\$ 706,142	91%
Audit related fees (2)	\$ 8,500	1%	\$ 5,000	1%
Tax Fees (3)	\$ 45,000	6%	\$ 59,644	8%
Total	\$ 731,500	100%	\$ 770,786	100%

(1) Audit fees consist of services that would normally be provided in connection with statutory and regulatory filings or engagements, including services that generally only the independent accountant can reasonably provide.

(2) Audit related fees principally relates to assistance with audit services and consultation

(3) Tax fees relate to tax compliance, planning and advice

Policies and Procedures

Our Financial Audit Committee is in charge of a policy and procedures for approval of audit and non-audit services rendered by our independent auditors. The policy requires the Financial Audit Committee's approval of the scope of the engagement of our independent auditor. The policy prohibits retention of the independent auditors to perform the prohibited non-audit functions defined in Section 201 of the Sarbanes-Oxley Act of 2002 or the rules of the SEC, and also considers whether proposed services are compatible with the independence of the public auditors.

All of the fees listed in the table above were approved by our Board of Directors, at the recommendation of our Financial Audit Committee.

ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES

None.

ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS

There were no purchases of our ordinary shares by affiliates during the year ended December 31, 2022.

ITEM 16F. CHANGE IN REGISTRANT'S CERTIFYING ACCOUNTANT

Not applicable.

ITEM 16G. CORPORATE GOVERNANCE

The Nasdaq Rules provide that foreign private issuers may follow home country practice in lieu of certain Nasdaq Rules, subject to certain exceptions and except to the extent that such exemptions would not be contrary to U.S. federal securities laws, so long as the foreign private issuer: (i) provides a written statement from an independent counsel in its home country certifying that the company's practices are not prohibited by the home country law; and (ii) discloses that it does not follow such listing requirement and describes the home country practice followed in its reports filed with the SEC. The practices we currently follow in lieu of Nasdaq Rules are described below::

- Compensation Committee Charter: We have opted out of the requirement to adopt and file a compensation committee charter as set forth in Nasdaq Rule 5605(d)(1). Instead, our Compensation Committee conducts itself in accordance with provisions governing the establishment (but not the composition) and the responsibilities of a compensation committee as set forth in the Companies Law and as further stipulated in our Compensation Policy.
- Shareholder Approval: We have opted out of the requirement for shareholder approval of stock option plans and other equity-based compensation arrangements as set forth in Nasdaq Rule 5635. Nevertheless, as required under the Companies Law, shareholder voting procedures are followed for the approval of equity-based compensation of certain office holders or employees, such as our CEO and members of our Board of Directors. Equity based compensation arrangements with other office holders are approved by our Compensation Committee and our Board of Directors, provided they are consistent with our Compensation Policy, and in special circumstances in deviation therefrom, taking into account certain considerations as set forth in the Companies Law.
- Annual General Meetings of Shareholders: We have opted out of the requirement for conducting annual meetings as set forth in Nasdaq Rule 5620(a), which requires Ceragon to hold its annual meetings of shareholders within twelve months of the end of its fiscal year end. Instead, Ceragon is following home country practice and law in this respect. The Companies Law requires that an annual meeting of shareholders be held every year, and not later than 15 months following the last annual meeting (see in Item 10.B above –"Additional Information –Voting, Shareholders' Meetings and Resolutions").
- Quorum at General Meetings of Shareholders: We have opted out of the requirement set under Rule 5620(c) of the Nasdaq Rules, which requires the presence of two or more shareholders holding at least 33 1/3%, and in lieu follow our home country practice and Israeli law, according to which the quorum for any shareholders meeting will be the presence (in person or by Proxy) of two or more shareholders holding at least 25% of the voting rights in the aggregate - within half an hour from the time set for opening the meeting.
- Distribution of Annual Reports: We have chosen to follow our home country practice in lieu of the requirements of Nasdaq Rule 5250(d)(1), relating to an issuer's furnishing of its annual report to shareholders. Specifically, we file annual reports on Form 20-F, which contain financial statements audited by an independent accounting firm, electronically with the SEC, and also post a copy on our website.

ITEM 16H. MINE SAFETY DISCLOSURE

Not Applicable.

ITEM 16. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not Applicable.

PART III

ITEM 17. FINANCIAL STATEMENTS

Not applicable.

ITEM 18. FINANCIAL STATEMENTS

The Consolidated Financial Statements and related notes thereto required by this item are contained on pages F-2 through F-47 hereof.

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ITEM 19. EXHIBITS

1.1	Articles of Association, as amended September 20, 2016 ⁽¹⁾
2.1	Description of Company's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934
4.1	Credit facility, dated as of March 14, 2013 ("Credit Facility") by and among the Company and Bank Hapoalim B.M., HSBC Bank Plc, Bank Leumi Le-Israel Ltd. and First International Bank of Israel Ltd. (English summary of the material terms) ⁽²⁾
4.2	Amendment, effective as of October 1, 2013, to the Credit Facility (English summary of the material terms) ⁽³⁾
4.3	Amendment No. 2, effective as of April 29, 2014, to the Credit Facility (English summary of the material terms) ⁽⁴⁾
4.4	Amendment No. 3, effective as of March 31, 2015, to the Credit Facility (English summary of the material terms) ⁽⁴⁾
4.5	Amendment No. 4, effective as of March 10, 2016, to the Credit Facility (English summary of the material terms) ⁽⁵⁾
4.6	Amendment No. 5, executed in December 2016, to the Credit Facility (English summary of the material terms) ⁽⁶⁾
4.7	Amendment No. 6, effective as of March 30, 2017, to the Credit Facility (English summary of the material terms) ⁽⁷⁾
4.8	Amendment No. 7, executed on February 12, 2018, to the Credit Facility (English summary of the material terms) ⁽⁸⁾
4.9	Amendment No. 8, executed on March 26, 2018, to the Credit Facility (English summary of the material terms) ⁽⁸⁾
4.10	Amendment No. 9, executed on March 29, 2020, to the Credit Facility (English summary of the material terms) ⁽⁹⁾
4.11	Amendment No. 10, executed on June 25, 2020, to the Credit Facility (English summary of the material terms) ⁽¹⁰⁾
4.12	Amendment No. 11, executed on May 3, 2021, to the Credit Facility (English summary of the material terms) ⁽¹¹⁾
4.13	Amendment No. 12, executed on June 30, 2021, to the Credit Facility (English summary of the material terms) ⁽¹²⁾
4.14	Amendment No. 13, executed on January 2, 2022, to the Credit Facility (English summary of the material terms) ⁽¹³⁾
4.15	Amendment No. 14, executed on June 26, 2022, to the Credit Facility (English summary of the material terms)
4.16	Amendment No. 15, executed on June 30, 2022, to the Credit Facility (English summary of the material terms)
4.17	Amended and Restated Share Option and RSU Plan, as amended August 10, 2014 ⁽⁴⁾
4.18	Lease agreement New Facilities at Rosh Ha'Ain, including its amendments ⁽¹⁴⁾
8.1	List of Significant Subsidiaries ⁽¹⁵⁾
12.1	Certification by Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
12.2	Certification by Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
13.1	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
15.1	Consent of Independent Registered Public Accounting Firm
101	Inline XBRL Instance Document
101	SCH Inline XBRL Taxonomy Extension Schema Document
101	CAL Inline XBRL Taxonomy Extension Calculation Linkbase Document
101	DEF Inline XBRL Taxonomy Extension Definition Linkbase Document
101	LAB Inline XBRL Taxonomy Extension Labels Linkbase Document
101	PRE Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)

(1) Previously filed as exhibit 1.2 to the Company's Annual Report on Form 20-F for the year ended December 31, 2016 and incorporated herein by reference.

(2) Previously filed as exhibit 4.4 to the Company's Annual Report on Form 20-F for the year ended December 31, 2012 and incorporated herein by reference.

(3) Previously furnished as exhibit 99.3 in a Report on Form 6-K which exhibit was incorporated by reference into the Company's Registration Statement on Form F-3 (No. 333-183316), and incorporated herein by reference.

(4) Previously filed as exhibits 4.6, 4.7 and 4.8 to the Company's Annual Report on Form 20-F for the year ended December 31, 2014 and incorporated herein by reference.

(5) Previously filed as exhibits 4.9 to the Company's Annual Report on Form 20-F for the year ended December 31, 2015 and incorporated herein by reference.

(6) Previously filed as exhibit 4.10 to the Company's Annual Report on Form 20-F for the year ended December 31, 2016 and incorporated herein by reference.

(7) Previously filed as exhibit 4.11 to the Company's Annual Report on Form 20-F for the year ended December 31, 2016 and incorporated herein by reference.

(8) Previously filed as exhibits 4.12 and 4.13 to the Company's Annual Report on Form 20-F for the year ended December 31, 2017 and incorporated herein by reference.

(9) Previously filed as exhibit 4.13 to the Company's Annual Report on Form 20-F for the year ended December 31, 2019 and incorporated herein by reference.

(10) Previously filed as exhibit 4.12 to the Company's Annual Report on Form 20-F for the year ended December 31, 2020 and incorporated herein by reference.

(11) Previously filed as exhibit 4.12 to the Company's Annual Report on Form 20-F for the year ended December 31, 2021 and incorporated herein by reference;

(12) Previously filed as exhibit 4.13 to the Company's Annual Report on Form 20-F for the year ended December 31, 2021 and incorporated herein by reference;

(13) Previously filed as exhibit 4.14 to the Company's Annual Report on Form 20-F for the year ended December 31, 2021 and incorporated herein by reference;

(14) Previously filed as exhibit 4.13 to the Company's Annual Report on Form 20-F for the year ended December 31, 2020 and incorporated herein by reference.

(15) Previously filed as exhibit 8.1 to the Company's Annual Report on Form 20-F for the year ended December 31, 2020 and incorporated herein by reference.

SIGNATURE

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

CERAGON NETWORKS LTD.

By: /s/ Doron Arazi

Name: Doron Arazi

Title: President and Chief Executive Officer

Date: May 1, 2023

CERAGON NETWORKS LTD. AND SUBSIDIARIES

CONSOLIDATED FINANCIAL STATEMENTS

AS OF DECEMBER 31, 2022

IN U.S. DOLLARS

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Ceragon Networks Ltd.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Ceragon Networks Ltd. and subsidiaries (the "Company") as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive loss, 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 May 1, 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 Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of the critical audit matter 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 matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Inventory valuation

Description of the Matter The Company's inventories totaled \$72.0 million as of December 31, 2022. As explained in Note 2 to the consolidated financial statements, the Company assesses the value of all inventories, including raw materials, finished goods and spare parts, in each reporting period. Reserves for potentially obsolete inventory are made based on management's analysis of inventory aging, future sales forecasts, and market conditions.

Auditing the valuation of obsolete inventory reserves involved subjective auditor judgment because management's estimate relies on significant assumptions such as the future salability of the inventory, the assessment by inventory age, 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 obsolete inventory reserve process. This included management's assessment of the assumptions and data underlying the obsolete inventory valuation.

Our substantive audit procedures included, among others, evaluating the significant assumptions stated above and the accuracy and completeness of the underlying data that management used to value obsolete inventory. We performed inquiries of appropriate non-financial personnel including operational employees, regarding obsolete inventory items and other factors to corroborate management's assertions regarding qualitative judgments about obsolete inventories. We also compared the cost of on-hand inventories to customer demand forecasts and 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 estimates by comparing the forecasted sales to actual utilization of inventory.

KOST FORER GABBAY & KASIERER
A Member of EY Global

We have served as the Company's auditor since 2002
Tel-Aviv, Israel
May 1, 2023

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Ceragon Networks Ltd.

Opinion on Internal Control over Financial Reporting

We have audited Ceragon Networks Ltd. and subsidiaries' 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, Ceragon Networks Ltd. and subsidiaries' (the "Company") maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on the COSO criteria.

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 loss, 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 May 1, 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.

KOST FORER GABBAY & KASIERER
A Member of EY Global

Tel-Aviv, Israel
May 1, 2023

CONSOLIDATED BALANCE SHEETS

U.S. dollars in thousands

	Note	December 31,	
		2021	2022
ASSETS			
CURRENT ASSETS:			
Cash and cash equivalents		\$ 17,079	\$ 22,948
Trade receivables (net of allowance for credit losses of \$ 7,470 and \$ 22,410 at December 31, 2021 and 2022, respectively)	10	107,826	100,034
Other accounts receivable and prepaid expenses	3	17,179	15,756
Inventories	4	61,398	72,009
Total current assets		203,482	210,747
NON-CURRENT ASSETS:			
Trade receivables (net of allowance for credit losses of \$1,117 and \$0 at December 31, 2021 and 2022, respectively)	10	10,484	-
Severance pay and pension fund		5,648	4,633
Property and equipment, net	5	29,383	29,456
Intangible assets, net	6	6,274	8,208
Operating lease right-of-use assets	13	20,233	17,962
Other non-current assets		17,059	18,312
Total long-term assets		89,081	78,571
Total assets		\$ 292,563	\$ 289,318

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

CONSOLIDATED BALANCE SHEETS

U.S. dollars in thousands (except share and per share data)

	Note	December 31,	
		2021	2022
LIABILITIES AND SHAREHOLDERS' EQUITY			
CURRENT LIABILITIES:			
Trade payables		\$ 69,436	\$ 67,384
Deferred revenues	16	3,384	3,343
Short-term loans	8	14,800	37,500
Operating lease liabilities	13	4,359	3,745
Other accounts payable and accrued expenses	7	23,704	20,864
Total current liabilities		115,683	132,836
LONG-TERM LIABILITIES:			
Accrued severance pay and pensions		10,799	9,314
Deferred revenues	16	9,275	11,545
Operating lease liabilities	13	17,210	13,187
Other long-term payables		2,445	2,653
Total long-term liabilities		39,729	36,699
COMMITMENTS AND CONTINGENT LIABILITIES	12		
SHAREHOLDERS' EQUITY:			
Share capital -	14		
Ordinary shares of NIS 0.01 par value -			
Authorized: 120,000,000 shares at December 31, 2021 and 2022; Issued: 87,413,119 and 87,834,902 shares at December 31, 2021 and 2022, respectively; Outstanding: 83,931,596 and 84,353,379 shares at December 31, 2021 and 2022, respectively		224	224
Additional paid-in capital		428,244	432,214
Treasury shares at cost – 3,481,523 ordinary shares at December 31, 2021 and 2022		(20,091)	(20,091)
Accumulated other comprehensive loss		(9,507)	(11,156)
Accumulated deficit		(261,719)	(281,408)
Total shareholders' equity		137,151	119,783
Total liabilities and shareholders' equity		\$ 292,563	\$ 289,318

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

CONSOLIDATED STATEMENTS OF OPERATIONS

U.S. dollars in thousands (except share and per share data)

	Note	Year ended December 31,		
		2020	2021	2022
Revenues	17	\$ 262,881	\$ 290,766	\$ 295,173
Cost of revenues		187,236	202,389	202,110
Gross profit		75,645	88,377	93,063
Operating expenses:				
Research and development, net		30,997	29,473	29,690
Sales and marketing		33,021	33,509	35,795
General and administrative		19,199	20,589	34,295
Other operating expenses	1b	-	-	4,220
Total operating expenses		83,217	83,571	104,000
Operating income (loss)		(7,572)	4,806	(10,937)
Financial expenses and others, net	18	5,923	8,625	6,306
Loss before taxes on income		(13,495)	(3,819)	(17,243)
Taxes on income	15c	2,618	11,009	2,446
Equity loss in affiliates		979	-	-
Net loss		\$ (17,092)	\$ (14,828)	\$ (19,689)
Net loss per share:				
Basic and diluted net loss per share		\$ (0.21)	\$ (0.18)	\$ (0.23)
Weighted average number of ordinary shares used in computing basic and diluted net loss per share		81,149,687	83,414,831	84,132,982

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

CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS

U.S. dollars in thousands

	Year ended December 31,		
	2020	2021	2022
Net loss	\$ (17,092)	\$ (14,828)	\$ (19,689)
Other comprehensive income (loss):			
Change in foreign currency translation adjustment	(929)	(325)	353
Cash flow hedges:			
Change in net unrealized gains	1,752	346	(4,057)
Amounts reclassified into net loss	(225)	(1,460)	2,055
Net change	1,527	(1,114)	(2,002)
Other comprehensive income (loss), net	598	(1,439)	(1,649)
Total of comprehensive loss	\$ (16,494)	\$ (16,267)	\$ (21,338)

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

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

U.S. dollars in thousands (except share and per share data)

	Ordinary shares	Share capital	Additional paid-in capital	Treasury shares at cost	Accumulated other comprehensive loss	Accumulated deficit	Total shareholders' equity
Balance as of January 1, 2020	80,662,805	215	418,062	(20,091)	(8,666)	(229,099)	160,421
Cumulative effect of adoption of ASU Topic 326	-	-	-	-	-	(700)	(700)
Exercise of options and vesting of RSU's	1,040,561	3	1,234	-	-	-	1,237
Share-based compensation expense	-	-	1,662	-	-	-	1,662
Other comprehensive income, net	-	-	-	-	598	-	598
Net loss	-	-	-	-	-	(17,092)	(17,092)
Balance as of December 31, 2020	81,703,366	218	420,958	(20,091)	(8,068)	(246,891)	146,126
Exercise of options and vesting of RSU's	2,228,230	6	4,724	-	-	-	4,730
Share-based compensation expense	-	-	2,562	-	-	-	2,562
Other comprehensive loss, net	-	-	-	-	(1,439)	-	(1,439)
Net loss	-	-	-	-	-	(14,828)	(14,828)
Exercise of options and vesting of RSU's	83,931,596	\$ 224	\$ 428,244	\$ (20,091)	\$ (9,507)	\$ (261,719)	\$ 137,151
Balance as of December 31, 2021							
Exercise of options and vesting of RSU's	422,085	*)	410	-	-	-	410
Share-based compensation expense	-	-	3,560	-	-	-	3,560
Other comprehensive loss, net	-	-	-	-	(1,649)	-	(1,649)
Net loss	-	-	-	-	-	(19,689)	(19,689)
Balance as of December 31, 2022	84,353,681	\$ 224	\$ 432,214	\$ (20,091)	\$ (11,156)	\$ (281,408)	\$ 119,783

*) Represent an amount lower than \$1

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

CONSOLIDATED STATEMENTS OF CASH FLOWS

U.S. dollars in thousands

	Year ended December 31,		
	2020	2021	2022
Cash flows from operating activities:			
Net loss	\$ (17,092)	\$ (14,828)	\$ (19,689)
Adjustments required to reconcile net loss to net cash provided by (used in) operating activities:			
Depreciation and amortization	12,861	12,246	11,040
Loss from sale of property and equipment, net	-	82	20
Share-based compensation expense	1,662	2,562	3,560
Increase (decrease) in accrued severance pay and pensions, net	488	(418)	(445)
Decrease (increase) in trade receivables, net	9,345	(11,150)	18,428
Increase in other accounts receivable and prepaid expenses (including other long-term assets)	(6,661)	(6,976)	(345)
Decrease (increase) in inventories	9,919	(11,908)	(11,155)
Decrease in operating lease right-of-use assets	5,121	5,713	3,571
Increase (decrease) in trade payables	1,953	5,883	(2,018)
Increase in deferred revenues	2,988	1,672	2,229
Decrease (increase) in deferred tax assets, net	(173)	8,279	-
Decrease in operating lease liability	(5,112)	(4,620)	(5,937)
Increase (decrease) in other accounts payable and accrued expenses (including other long-term liabilities)	1,946	(1,556)	(4,154)
Net cash provided by (used in) operating activities	<u>17,245</u>	<u>(15,019)</u>	<u>(4,895)</u>
Cash flows from investing activities:			
Purchase of property and equipment	(6,077)	(9,383)	(10,464)
Proceeds from sale of property and equipment	-	200	-
Purchase of intangible assets	(412)	(212)	(1,957)
Net cash used in investing activities	<u>(6,489)</u>	<u>(9,395)</u>	<u>(12,421)</u>

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

CONSOLIDATED STATEMENTS OF CASH FLOWS

U.S. dollars in thousands

	Year ended December 31,		
	2020	2021	2022
Cash flows from financing activities:			
Proceeds from (repayment of) bank credits and loans, net	(8,621)	9,800	22,700
Proceeds from exercise of stock options	1,237	4,730	410
Net cash provided by (used in) financing activities	(7,384)	14,530	23,110
Translation adjustments on cash and cash equivalents	(210)	(138)	75
Increase (decrease) in cash and cash equivalents	3,162	(10,022)	5,869
Cash and cash equivalents at the beginning of the year	23,939	27,101	17,079
Cash and cash equivalents at the end of the year	<u>\$ 27,101</u>	<u>\$ 17,079</u>	<u>\$ 22,948</u>
Supplemental disclosure of cash flow information:			
Cash paid for income taxes	<u>\$ 3,003</u>	<u>\$ 1,995</u>	<u>\$ 1,871</u>
Cash paid for interest on bank loans and factoring fees	<u>\$ 1,137</u>	<u>\$ 1,280</u>	<u>\$ 3,456</u>

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 1- GENERAL

- a. Ceragon Networks Ltd. ("the Company") is a global innovator and leading solutions provider of wireless transport. The Company helps operators and other service providers worldwide increase operational efficiency and enhance end customers' quality of experience with innovative wireless backhaul and fronthaul solutions. The Company's unique multicore technology and disaggregated approach to wireless transport provides highly reliable, fast to deploy, high-capacity wireless transport for 5G and 4G networks with minimal use of spectrum, power, real estate, and labor resources. It enables increased productivity, as well as simple and quick network modernization. The Company delivers a complete portfolio of turnkey end-to-end AI-based managed and professional services that ensure efficient network rollout and optimization to achieve the highest value for its customers.

The Company sells its products through a direct sales force, systems integrators, distributors and original equipment manufacturers.

The Company's wholly owned subsidiaries provide research and development, marketing, manufacturing, distribution, sales and technical support to the Company's customers worldwide.

As to principal markets and major customers, see notes 17b and 17c.

- b. In the summer of 2022, Aviat Networks Inc. ("Aviat"), a competitor of the Company has launched a hostile takeover attempt against the Company, after purchasing more than 5% of the Company outstanding shares. Total expenses associated with the hostile takeover amounted to \$4,220 for the year ended December 31, 2022 and presented as part of the other operating expenses in the Company's consolidated financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 2- SIGNIFICANT ACCOUNTING POLICIES

a. Basis of presentation:

The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the U.S. ("U.S. GAAP").

b. Use of estimates:

The preparation of the consolidated financial statements in conformity with U.S. GAAP requires management to make estimates, judgments and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the period. The Company's management believes that the estimates, judgments and assumptions used are reasonable based upon information available at the time they are made. Actual results could differ from those estimates.

On an ongoing basis, the Company's management evaluates estimates, including those related to intangible assets, tax assets and liabilities, fair values of share-based awards, inventory write-offs, warranty provision and allowance for credit loss. Such estimates are based on historical experience and on various other assumptions that are believed to be reasonable, the results of which form the basis for making judgments about the carrying values of assets and liabilities.

c. Financial statements in U.S. dollars:

A majority of the revenues of the Company and certain of its subsidiaries are generated in U.S. dollars ("dollars"). In addition, a substantial portion of the Company's and certain of its subsidiaries' costs is incurred in dollars. Since management believes that the dollar is the currency of the primary economic environment in which the Company and its subsidiaries operate and considers the non-U.S. subsidiaries to be a direct, integral extension of the parent company's operations, the dollar is its functional and reporting currency.

Accordingly, amounts in currencies other than U.S. dollars have been re-measured in accordance with ASC topic 830, "Foreign Currency Matters" ("ASC 830") as follows:

Monetary balances - at the exchange rate in effect on the balance sheet date. Consolidated statements of operations items - average exchange rates prevailing during the year.

All exchange gains and losses from the re-measurement mentioned above are reflected in the statement of operations in financial expenses and others, net.

The financial statements of the Company's Brazilian subsidiary, whose functional currency is not the dollar, have been re-measured and translated into dollars. All amounts on the balance sheets have been translated into the dollar using the exchange rates in effect on the relevant balance sheet dates. All amounts in the statements of operations have been translated into the dollar using the average exchange rate for the relevant periods. The resulting translation adjustments are reported as a component of accumulated other comprehensive income (loss) in shareholders' equity.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

d. Principles of consolidation:

The consolidated financial statements include the accounts of the Company and its subsidiaries ("the Group"). Intercompany balances and transactions including profits from intercompany sales not yet realized outside the Group, have been eliminated upon consolidation.

e. Cash equivalents:

Cash equivalents include short-term unrestricted, highly liquid investments that are readily convertible to cash and with original maturities of three months or less, at acquisition.

f. Inventories:

Inventories are stated at the lower of cost or net realizable value. Inventory write-offs 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) and the age of the inventory. At the point of the loss recognition, a new lower cost basis for that inventory is established. In addition, if required, the Company records a liability for firm non-cancelable and unconditional purchase commitments with contract manufacturers for quantities in excess of the Company's future demands forecast consistent with its valuation of excess and obsolete inventory.

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

Cost is determined for all types of inventory using the moving average cost method plus indirect costs.

g. Long-term trade receivables

Long-term trade receivables, with payment terms in excess of one year that are considered collectible, are recorded at their estimated present values.

h. Property and equipment:

Property and equipment are stated at cost, net of accumulated depreciation. Depreciation is calculated by the straight-line method over the estimated useful lives of the assets, at the following annual rates:

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

	%
Computers, manufacturing and peripheral equipment	6 – 33
Office, furniture and equipment	Mainly 15
Leasehold improvements	Over the shorter of the term of the lease or useful life of the asset

i. Intangible assets, net:

Intangible assets consist of technology and incurred software development costs capitalized in accordance with ASC 985-20, "Software - Costs of Software to be Sold, Leased, or Marketed".

Intangible assets that are considered to have definite useful life are amortized using the straight-line basis over their estimated useful lives.

j. Impairment of long-lived assets:

The Company's long-lived assets are reviewed for impairment in accordance with ASC topic 360, "Property Plant and Equipment", ("ASC 360"), whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to the future undiscounted cash flows expected to be generated by the asset. If an asset is considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the asset exceeds its fair value. During the years 2020, 2021 and 2022, no impairment losses have been recognized.

k. Income taxes:

The Company account for income taxes in accordance with ASC topic 740, "Income Taxes", ("ASC 740"). This Statement prescribes the use of the liability method whereby deferred tax asset and liability account balances are determined based on differences between the financial reporting and tax bases of assets and liabilities and for carry forward losses deferred taxes are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse. The Company and its subsidiaries provide a valuation allowance, if necessary, to reduce deferred tax assets to their estimated realizable value if it is more likely than not that some portion or all of the deferred tax asset will not be realized.

ASC 740 contains a two-step approach to recognizing and measuring uncertain tax positions accounted for in accordance with ASC 740. The first step is to evaluate the tax position taken or expected to be taken in a tax return by determining if the weight of available evidence indicates that it is more likely than not that, on an evaluation of the technical merits, the tax position will be sustained on audit, including resolution of any related appeals or litigation processes.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

The second step is to measure the tax benefit as the largest amount that is more than 50% likely to be realized upon ultimate settlement. The Company elected to classify interest expenses and penalties recognized in the financial statements as income taxes.

I. Revenue recognition:

The Company recognizes revenue when (or as) it satisfies performance obligations by transferring promised products or services to its customers in an amount that reflects the consideration the Company expects to receive. The Company applies the following five steps: (1) identify the contract with a customer, (2) identify the performance obligations in the contract, (3) determine the transaction price, (4) allocate the transaction price to the performance obligations in the contract, and (5) recognize revenue when a performance obligation is satisfied.

The Company considers customer purchase orders, which in some cases are governed by master sales agreements, to be the contracts with a customer. For each contract, the Company considers the promise to transfer tangible products, network roll-out, professional services and customer support, each of which are distinct, to be the identified performance obligations. In determining the transaction price, the Company evaluates whether the price is subject to rebates and adjustments to determine the net consideration to which the Company expects to receive. As the Company's standard payment terms are less than one year, the contracts have no significant financing component. The Company allocates the transaction price to each distinct performance obligation based on their relative standalone selling price. Revenue from tangible products is recognized at a point in time when control of the product is transferred to the customer (i.e., when the Company's performance obligation is satisfied).

The revenues from customer support and extended warranty is recognized ratably over the contract period and the costs associated with these contracts are recognized as incurred. Revenues from network roll-out and professional services are recognized when the Company's performance obligation is satisfied, usually upon customer acceptance.

The Company accounts for rebates and stock rotations provided to customers as variable consideration, based on historical analysis of credit memo data, rebate plans and stock rotation arrangements, as a deduction from revenue in the period in which the revenue is recognized.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

m. Research and development expenses, net:

Research and development expenses, net of government grants, are charged to the statement of operations as incurred, except for development expenses which were capitalized in accordance with ASC 985-20 "Software – Costs of Software to be Sold, Leased, or Marketed" (see i above).

n. Warranty costs:

The Company generally offers a standard limited warranty, including parts and labor for an average period of 1-3 years for its products. The Company estimates the costs that may be incurred under its basic limited warranty and records a liability in the amount of such costs at the time product revenue is recognized. Factors that affect the Company's warranty liability include the number of installed units, historical and anticipated rates of warranty claims, and cost per claim. The Company periodically assesses the adequacy of its recorded warranty liability and adjusts the amounts as necessary.

The Company recorded income (expenses) from decrease (increase) of warranty provision for the years ended December 31, 2020, 2021 and 2022 in the amount of \$178, \$(417) and \$290 respectively. As of December 31, 2021 and 2022, the warranty provision was \$1,691 and \$1,401 respectively.

o. Derivative instruments:

The Company has instituted a foreign currency cash flow hedging program using foreign currency forward and option contracts ("derivative instruments") in order to hedge the exposure to variability in expected future cash flows resulting from changes in related foreign currency exchange rates. These transactions are designated as cash flow hedges, as defined under ASC topic 815, "Derivatives and Hedging".

ASC 815 requires companies to recognize all of their derivative instruments as either assets or liabilities in the financial statements at fair value. The Company measured the fair value of the contracts in accordance with ASC topic 820, "Fair value Measurement and Disclosures" at Level 2 (see also note 2t). The accounting for changes in the fair value (i.e., gains or losses) of a derivative instrument depends on whether it has been designated and qualifies as part of a hedging relationship and further, on the type of hedging relationship.

For those derivative instruments that are designated and qualify as hedging instruments, a company must designate the hedging instrument, based upon the exposure being hedged, as a fair value hedge or a cash flow hedge.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

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 (loss) and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. For derivative instruments that don't meet the definition of a hedge, the changes in the fair value are included immediately in earnings in "Financial expenses and others, net", in each reporting period.

The Company's cash flow hedging program is to hedge against the risk of overall changes in cash flows resulting from forecasted foreign currency of salary and rent payments during the year. The Company hedges portions of its forecasted expenses denominated in NIS with forward exchange contracts.

p. Concentrations of credit risk:

Financial instruments that potentially subject the Company and its subsidiaries to concentrations of credit risk consist principally of cash and cash equivalents, and trade receivables.

The majority of the Company's cash and cash equivalents are maintained in U.S. dollar. Generally, these cash and cash equivalents may be redeemed upon demand. Management believes that the financial institutions that hold the Company's and its subsidiaries' cash and cash equivalents are institutions with high credit standing, and accordingly, minimal credit risk exists with respect to these assets.

The Company's trade receivables are geographically diversified and derived from sales to customers all over the world. The Company and its subsidiaries generally do not require collateral; however, in certain circumstances, the Company and its subsidiaries may require letters of credit, additional guarantees or advance payments.

The Company and its subsidiaries perform ongoing credit evaluations of their customers and insure certain trade receivables under credit insurance policies.

q. Transfers of financial assets:

ASC 860 "Transfers and Servicing", ("ASC 860"), establishes a standard for determining when a transfer of financial assets should be accounted for as a sale. The Company's arrangements are such that the underlying conditions are met for the transfer of financial assets to qualify for accounting as a sale. The transfers of financial assets are typically performed by the factoring of receivables to four financial institutions.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

As of December 31, 2021, and 2022, the Company sold trade receivables to several different financial institutions in a total net amount of \$ 36,047 and \$ 29,070, respectively. Control and risk of those trade receivables were fully transferred in accordance with ASC 860.

During the years ended on December 31, 2020, 2021 and 2022, the Company recorded amounts of \$ 575, \$ 905 and \$ 1,262, respectively, as financial expense related to its factoring arrangements.

r. Severance pay:

The Company's severance pay liability for its Israeli employees is calculated pursuant to Israel's Severance Pay Law based on the most recent salary of the employees multiplied by the number of years of employment, as of the balance sheet date. Employees are entitled to one month's salary for each year of employment or a portion thereof. The Company's liability for all of its employees in Israel is covered by monthly deposits with pension funds, insurance policies and an accrual. The value of the funds deposited into pension funds and insurance policies is recorded as an asset - severance pay fund - in the Company's balance sheet.

The severance pay fund includes the deposited funds and accumulated adjustments to the Israeli Consumer Price Index 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 or labor agreements. The value of the deposited funds in insurance policies, is based on the cash surrendered value of these policies and includes profits / losses.

Starting April 2009, the Company's agreements with new employees in Israel are under section 14 of the Severance Pay Law -1963. The Company's contributions for severance pay shall replace its severance obligation, no additional calculations shall be conducted between the parties regarding the matter of severance pay and no additional payments shall be made by the Company to the employee. Further, the related obligation and amounts deposited on behalf of such obligation are not stated on the balance sheet, as the Company is legally released from obligation to employees once the deposit amounts have been paid.

As of December 2021 and 2022, accrued severance pay amounted to \$8,453 and \$7,284 respectively. Severance expense for the years ended December 31, 2020, 2021 and 2022, amounted to approximately \$2,538, \$1,906 and \$2,859, respectively.

The Company accounts for its obligations for pension and other postretirement benefits in accordance with ASC 715, "Compensation - Retirement Benefits". For more information refer to note 11.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

s. Accounting for stock-based compensation:

ASC topic 718, "Compensation - Stock Compensation", ("ASC 718"), requires companies to estimate the fair value of equity-based payment awards on the date of grant using an option-pricing model. The value of the portion of the award that is ultimately expected to vest is recognized as an expense over the requisite service periods in the Company's consolidated statements of operations.

The Company estimates the fair value of stock options granted under ASC 718 using the binomial model with the following assumptions for 2020, 2021 and 2022:

	December 31,		
	2020	2021	2022
Dividend yield	0%	0%	0%
Volatility	60% - 85%	66% - 87%	47% - 73%
Risk free interest	0.1% - 1.0%	0.1% - 1.3%	2.1% - 4.1%
Early exercise multiple	1.5 - 1.6	1.55	2.20

Risk-free interest rates are based on the yield from U.S. Treasury zero-coupon bonds with a term equivalent to the contractual life of the options; volatility of price of the Company's shares based upon actual historical stock price movements. The Early exercise factor is representing the value of the underlying stock as a multiple of the exercise price of the option which, if achieved, results in exercise of the option.

Early exercise multiple is based on actual historical exercise activity. The expected term of the options granted is derived from output of the option valuation model and represents the period of time that options granted are expected to be outstanding.

The Company recognizes compensation expense using the accelerated method for all awards ultimately expected to vest. Estimated forfeitures are based on historical pre-vesting forfeitures and on management's estimates. ASC topic 718 requires forfeitures to be estimated and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates.

t. Fair value of financial instruments:

The Company applies ASC 820, "Fair Value Measurements and Disclosures". Under this standard, fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (i.e., the "exit price") in an orderly transaction between market participants at the measurement date.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

In determining 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 the asset or liability developed based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's assumptions about the assumptions market participants would use in pricing the asset or liability developed based on the best information available in the circumstances.

The hierarchy is broken down into three levels based on the inputs as follows:

- Level 1 - Valuations based on quoted prices in active markets for identical assets that the Company has the ability to access. Valuation adjustments and block discounts are not applied to Level 1 instruments. Since valuations are based on quoted prices that are readily and regularly available in an active market, valuation of these products does not entail a significant degree of judgment.
- Level 2 - Valuations based on one or more quoted prices in markets that are not active or for which all significant inputs are observable, either directly or indirectly.
- Level 3 - Valuations based on inputs that are unobservable and significant to the overall fair value measurement.

The availability of observable inputs can vary from investment to investment and is affected by a wide variety of factors, including, for example, the type of investment, the liquidity of markets and other characteristics particular to the transaction. To the extent that valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment and the investments are categorized as Level 3.

The following methods and assumptions were used by the Company and its subsidiaries in estimating their fair value disclosures for financial instruments.

The carrying amounts of cash and cash equivalents, trade receivables, other accounts receivable, trade payables, and other accounts payable and accrued expenses approximate their fair values due to the short-term maturities of such instruments.

The derivative instruments are classified within Level 2 as the valuation inputs are based on quoted prices and market observable data of similar instruments.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

u. Comprehensive income:

The Company accounts for comprehensive income in accordance with ASC topic 220, "Comprehensive Income". This statement establishes standards for the reporting and display of comprehensive income and its components in a full set of general purpose financial statements. Comprehensive income generally represents all changes in shareholders' equity during the period except those resulting from investments by, or distributions to, shareholders.

The components of accumulated other comprehensive income - ("AOCI") were as follows:

	Unrealized Gains (Losses) on Cash Flow Hedges	Foreign Currency Translation Adjustments	Total
Balance as of January 1, 2022	\$ 731	\$ (10,238)	\$ (9,507)
Other comprehensive income (loss) before reclassifications	(4,057)	353	(3,704)
Amounts reclassified from AOCI	2,055	-	2,055
Other comprehensive income (loss)	(2,002)	353	(1,649)
Balance as of December 31, 2022	<u>\$ (1,271)</u>	<u>\$ (9,885)</u>	<u>\$ (11,156)</u>

The effects on net loss of amounts reclassified from AOCI for the year ended December 31, 2022 derive from realized losses on cash flow hedges, included in cost of sales and operating expenses.

v. Treasury shares:

The Company repurchased its ordinary shares on the open-market and holds such shares as Treasury shares. The Company presents the cost of repurchased treasury shares as a reduction of shareholders' equity.

w. Basic and diluted net earnings per share:

Basic net earnings per share are computed based on the weighted average number of ordinary shares outstanding during each year. Diluted net earnings per share is computed based on the weighted average number of ordinary shares outstanding during each year, plus dilutive potential ordinary shares considered outstanding during the year, in accordance with ASC topic 260, "Earnings Per Share" ("ASC 260").

The total weighted average number of shares related to the outstanding options and RSU's excluded from the calculations of diluted net earnings per share due to their anti-dilutive effect was 4,204,381, 1,695,149 and 5,599,666 for the years ended December 31, 2020, 2021 and 2022, respectively.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

x. Equity method investment

Investments in companies that are not controlled but over which the Company can exercise significant influence are presented using the equity method of accounting.

y. Impact of recently issued Accounting Standards:

The Company has reviewed recent accounting pronouncements and concluded that they are either not applicable to its business or that no material effect is expected on the consolidated financial statements as a result of their future adoption.

NOTE 3:- OTHER ACCOUNTS RECEIVABLE AND PREPAID EXPENSES

	December 31,	
	2021	2022
Government authorities	\$ 9,022	\$ 7,867
Deferred charges and prepaid expenses	6,214	6,087
Deposits receivable	279	473
Advances to suppliers	256	405
Hedging asset	852	8
Other	556	916
	<u>\$ 17,179</u>	<u>\$ 15,756</u>

NOTE 4:- INVENTORIES

	December 31,	
	2021	2022
Raw materials	\$ 22,581	\$ 35,111
Work in progress	423	143
Finished products	38,394	36,755
	<u>\$ 61,398</u>	<u>\$ 72,009</u>

During the years ended December 31, 2020, 2021 and 2022, the Company recorded inventory write-offs for excess inventory and slow-moving inventory in a total amount of \$2,919 \$ 1,907 and \$1,980, respectively that have been included in cost of revenues.

As of December 31, 2022, the Company has an outstanding inventory purchase orders with its suppliers in the amount of \$18,162. The commitments are due primarily within one year.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 5- PROPERTY AND EQUIPMENT, NET

	December 31,	
	2021	2022
Cost:		
Computers, manufacturing, peripheral equipment	\$ 133,465	\$ 143,522
Office furniture and equipment	2,341	2,372
Leasehold improvements	1,460	1,694
	<u>137,266</u>	<u>147,588</u>
Accumulated depreciation:		
Computers, manufacturing, peripheral equipment	105,300	115,260
Office furniture and equipment	1,578	1,724
Leasehold improvements	1,005	1,148
	<u>107,883</u>	<u>118,132</u>
Depreciated cost	<u>\$ 29,383</u>	<u>\$ 29,456</u>

Depreciation expenses for the years ended December 31, 2020, 2021 and 2022 were \$10,668, \$11,845 and \$10,620 respectively.

Changes of property and equipment not resulted in cash outflows as of December 31, 2020, 2021 and 2022 amounted to \$1,562, \$1,058 and \$ 586, respectively.

NOTE 6- INTANGIBLE ASSETS, NET

Intangible assets:

The following table sets forth the components of intangible assets:

	December 31,	
	2021	2022
Original amounts:		
Technology	\$ 4,325	\$ 6,679
Software development costs	2,879	2,879
	<u>7,204</u>	<u>9,558</u>
Accumulated amortization:		
Technology	-	17
Software development costs	930	1,333
	<u>930</u>	<u>1,350</u>
Net amounts:		
Technology	4,325	6,662
Software development costs	1,949	1,546
Intangible assets, net	<u>\$ 6,274</u>	<u>\$ 8,208</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 6-- INTANGIBLE ASSETS, NET (Cont.)

Technology includes mainly perpetual software licenses to be used in the Company's research and development activities. During 2022, the Company purchased \$2,353 technology, out of which \$551 was not resulted in cash flow outflows as of December 31, 2022. Some of the software license agreements provide a commitment of the Company for royalties payments upon future sales of the related developed products. Software development costs are amortized over 7 years and Technology costs are amortized over 5 to 10 years. Amortization expenses for the years ended December 31, 2020, 2021 and 2022 amounted to \$393, \$401 and \$420 respectively.

The following table represents the expected amortization in future periods, as of December 31, 2022:

2023	587
2024	617
2025	1,389
2026	1,320
2027	969
2028 and thereafter	3,326
Total expected amortization	<u>8,208</u>

NOTE 7-- OTHER ACCOUNTS PAYABLE AND ACCRUED EXPENSES

	December 31,	
	2021	2022
Employees and payroll accruals	\$ 11,799	\$ 10,047
Provision for warranty costs	1,691	1,401
Government authorities	2,223	1,815
Accrued expenses	2,403	2,376
Advanced payments from customers	5,044	3,604
Hedging Liability	313	1,423
Other	231	198
	<u>\$ 23,704</u>	<u>\$ 20,864</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 8:- CREDIT LINES

In March 2013, the Company was provided with a revolving Credit Facility by four financial institutions. The Credit Facility was renewed and amended several times during the past years according to Company's needs and financial position.

In June 2022, the Company signed the latest amendment to the agreement in the frame of which the Credit Facility was extended by additional 1 year, till June 30, 2023. This amendment also included an increase of \$12,200 to \$62,200 to the Credit Facility for loans and a decrease of same amount to the bank guarantees credit lines to \$57,800 in a way that the total credit facilities for bank guarantees and for loans remains unchanged. Furthermore, an amendment signed earlier in 2022 updated the definitions of interest in the agreement to reflect changes related to the adoption of the new Secured Overnight Financing Rate ("SOFR") interest.

As of December 31, 2022, the Company has utilized \$37,500 of the \$62,200 available under the Credit Facility for short term loans. As of December 31, 2022, the Company has not utilized the \$5,000 available credit facility from other financial institution. During 2022, the credit lines carried interest rates in the range of 2.1% and 8.0%.

The Credit Facility is secured by a floating charge over all Company assets as well as several customary fixed charges on specific assets.

Repayment could be accelerated by the financial institutions in certain events of default including in insolvency events, failure to comply with financial covenants or an event in which a current or future shareholder acquires control (as defined under the Israel Securities Law) of the Company.

The credit agreement contains financial and other covenants requiring that the Company maintains, among other things, minimum shareholders' equity value and financial assets, a certain ratio between its shareholders' equity (excluding total intangible assets) and the total value of its assets (excluding total intangible assets) on its balance sheet, a certain ratio between its net financial debt to each of its working capital and accounts receivable. As of December 31, 2021 and 2022, the Company met all of its covenants.

NOTE 9:- DERIVATIVE INSTRUMENTS

The Company enters into foreign currency forward and option contracts with financial institutions to protect against the exposure to changes in exchange rates of several foreign currencies that are associated with forecasted cash flows and existing assets and liabilities. The Company accounts for its derivative instruments as either assets or liabilities and carries them at fair value. The accounting for changes in the fair value of a derivative depends on the intended use of the derivative and the resulting designation.

Foreign currency derivative contracts are classified within Level 2 as the valuation inputs are based on quoted prices and market observable data of similar instruments.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 9:- DERIVATIVE INSTRUMENTS (Cont.)

The fair value of derivative contracts in the consolidated balance sheets at December 31, 2021 and December 31, 2022 were as follows:

	Other accounts receivable and prepaid expenses	Other accounts payable and accrued expenses
	<u>December 31, 2021</u>	
Derivatives designated as hedging instruments:		
Currency forward contracts	\$ 743	\$ (12)
Derivatives not designated as hedging instruments:		
Currency forward and option contracts	<u>109</u>	<u>(301)</u>
Total derivatives	<u>\$ 852</u>	<u>\$ (313)</u>
	Other accounts receivable and prepaid expenses	Other accounts payable and accrued expenses
	<u>December 31, 2022</u>	
Derivatives designated as hedging instruments:		
Currency forward contracts	\$ -	\$ (1,271)
Derivatives not designated as hedging instruments:		
Currency forward and option contracts	<u>8</u>	<u>(152)</u>
Total derivatives	<u>\$ 8</u>	<u>\$ (1,423)</u>

The notional amounts for derivatives contracts were as follows:

	<u>December 31,</u>	
	<u>2021</u>	<u>2022</u>
Derivatives designated as hedging instruments:		
Currency forward contracts	\$ 41,832	\$ 42,848
Derivatives not designated as hedging instruments:		
Currency forward and option contracts	\$ 34,304	\$ 16,082

The maximum length of time over which the Company is hedging its exposure to the variability in future cash flows for forecasted transactions is up to 12 months.

The effect of derivative contracts on the consolidated statements of operations for the years ended December 31, 2020, 2021 and 2022 was as follows:

	<u>Year ended December 31,</u>		
	<u>2020</u>	<u>2021</u>	<u>2022</u>
Operating income (expense)	<u>\$ 225</u>	<u>\$ 1,460</u>	<u>\$ (2,055)</u>
Financial income (expenses)	<u>\$ (894)</u>	<u>\$ 304</u>	<u>\$ (170)</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 10:- CREDIT LOSSES

The Company is exposed to credit losses primarily through sales to customers. The Company's expected loss allowance methodology for trade receivable is developed using historical collection experience, current and future economic and market conditions and a review of the current status.

The estimate of amount of trade receivable that may not be collected is based on the geographic location of the trade receivable balances, aging of the trade receivable balances, the financial condition of customers and the Company's historical experience with customers in similar geographies.

Additionally, specific allowance amounts are established to record the appropriate provision for customers that have a higher probability of default.

The following table provides a roll-forward of the allowance for credit losses that is deducted from the amortized cost basis of trade receivables to present the net amount expected to be collected:

	<u>December 31,</u>	
	<u>2021</u>	<u>2022</u>
Balance, at beginning of Period	\$ 6,198	\$ 8,587
Provision for expected credit losses	3,087	14,489
Amounts written off charged against the allowance and others	<u>(698)</u>	<u>(666)</u>
Balance, at end of period	<u>\$ 8,587</u>	<u>\$ 22,410</u>

NOTE 11:- PENSION LIABILITIES, NET

The Norwegian subsidiary Ceragon Networks AS (formerly "Nera Networks AS") has defined contribution schemes and four unfunded pension plans.

Under the defined contributions scheme Ceragon Networks AS makes a payment to the insurance company who administer the fund on behalf of the employee. Ceragon Networks AS has no liabilities relating to such schemes after the payment to the insurance company. As of December 31, 2022, all active employees are in this scheme. The contribution and the corresponding social security taxes are recognized as payroll expenses in the period to which the employee's services are rendered. The defined pension contribution schemes meet the requirements of the law on compulsory occupational pension.

Defined benefit scheme was stopped for admission from December 1, 2007, and persons that were employed after that date were automatically entered into the defined contribution scheme. The schemes give right to defined future benefits. These are mainly dependent on the number of qualifying employment years, salary level at pension age, and the amount of benefits from the national insurance scheme. The commitment related to the pension scheme is covered through an insurance company.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 11:- PENSION LIABILITIES, NET (Cont.)

AFP-scheme - in force from 1 January 2011, the AFP-scheme is a defined benefit multi-enterprise scheme, but is recognized in the accounts as a defined contribution scheme until reliable and sufficient information is available for the group to recognize its proportional share of pension cost, pension liability and pension funds in the scheme. Ceragon Networks AS's liabilities are therefore not recognized as liability in the balance sheet.

The liabilities in respect of Ceragon Networks AS's unfunded pension plans together represent 100% of the PBO (Projected Benefit Obligation) of the entire group.

The following tables provide a reconciliation of the changes in the plans' benefits obligation for the year ended December 31, 2021 and 2022, and the statement of funds status as of December 31, 2021 and 2022:

	December 31,	
	2021	2022
Change in projected benefit obligation		
Projected benefit obligation at beginning of year	2,510	2,512
Interest cost	38	37
Expenses paid	(170)	(153)
Exchange rates differences	(85)	(252)
Actuarial loss	219	26
Projected benefit obligation at end of year	<u>\$ 2,512</u>	<u>\$ 2,170</u>

The assumptions used in the measurement of the Company' benefits obligations as of December 31, 2021 and 2022 are as follows:

	December 31,	
	2021	2022
Weighted-average assumptions		
Discount rate	1.90%	3.00%
Rate of compensation increase	2.75%	3.50%

The amounts reported for net periodic pension costs and the respective benefit obligation amounts are dependent upon the actuarial assumptions used. The Company reviews historical trends, future expectations, current market conditions and external data to determine the assumptions. The discount rate is the covered bond. For purposes of calculating the 2022 net periodic benefit cost and the 2022 benefit obligation, the Company has used a discount rate of 3.00%. The rate of compensation increase is determined by the Company, based upon its long-term plans for such increases.

The following table provides the components of net periodic benefits cost for the years ended December 31, 2020, 2021 and 2022:

	December 31,		
	2020	2021	2022
Components of net periodic benefit cost			
Service cost	\$ -	\$ -	\$ -
Interest cost	52	38	37
Net periodic benefit cost	<u>\$ 52</u>	<u>\$ 38</u>	<u>\$ 37</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 11:- PENSION LIABILITIES, NET (Cont.)

Benefit payments are expected to be paid as follows:

	<u>December 31,</u> <u>2022</u>
2023	140
2024	134
2025	137
2026	147
2027 and thereafter	<u>1,612</u>
	<u>\$ 2,170</u>

Regarding the policy for amortizing actuarial gains or losses for pension and post-employment plans, the Company has chosen to charge the actuarial gains or losses to statement of operations.

Interest cost and actuarial gain or losses are presented in financial expenses and others, net.

For the years ended December 31, 2020, 2021 and 2022, an actuarial loss of \$241, \$219 and \$26 respectively, was recognized in "finance expenses and others, net".

NOTE 12:- COMMITMENTS AND CONTINGENT LIABILITIES

a. Leases

See Note 13 "Leases" for lease related commitments as of December 31, 2022.

b. During 2020, 2021 and 2022, the Company received several grants from the Israeli Innovation Authority ("IIA"). The grants require the Company to comply with the requirements of the Research and Development Law, however, the Company is not obligated to pay royalties on sales of products based on technology or know how developed from the grants. In a case involving the transfer of technology or know how developed from the grants outside of Israel, the Company may be required to pay royalties related to past sales of products based on the technology or the developed know how. The Company recorded income from IIA grants for the years ended December 31, 2020, 2021 and 2022 in the amount of \$996, \$691 and \$460, respectively.

c. Charges and guarantees:

As of December 31, 2021 and 2022, the Company provided guarantees in an aggregate amount of \$37,236 and \$28,737 (including bank guarantee disclosed in Note 12d), respectively, with respect to tender offer guarantees, financial guarantees, warranty guarantees and performance guarantees to its customers.

d. Litigations

The Company is currently 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 accrues a liability for the estimated loss.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 12:- COMMITMENTS AND CONTINGENT LIABILITIES (Cont.)

1) Class action claim (District Court of Tel Aviv - Economic Department)

On January 6, 2015 the Company was served with a motion to approve a purported class action, naming the Company, its Chief Executive Officer and its directors as defendants (the "Defendants"). The motion was filed with the District Court of Tel-Aviv (the "Court"). The purported class action alleges breaches of duties by making false and misleading statements in the Company's SEC filings and public statements. The class action claimed amount is \$75,000.

On June 21, 2015, the Defendants filed their response to the motion, arguing that the motion should be dismissed.

On May 27, 2021, following a lengthy procedure that included filing of various pleadings and affidavits, evidentiary hearings, and submission of summaries, the Court ruled to certify the Motion as a class action, while applying the Israeli Law ("the Ruling"). According to the Ruling, the class action shall include several causes of action according to the Israeli Securities Act and the Israeli Torts Ordinance, concerning the alleged misleading statements in the Company's SEC filings. According to the Ruling, it is possible that the Company included misleading statements in the Company's SEC filings.

On June 9, 2021 the Court issued a decision suggesting that the parties will refer the case to a mediation procedure.

The Company believes that the Ruling is erroneous and that the Defendants has strong defense arguments, and therefore, on September 12, 2021, filed a motion for a rehearing on behalf of the Defendants in order to revert the Ruling (the "Rehearing Motion").

On October 20, 2021, the Plaintiff submitted his response to the Rehearing Motion and the Defendants submitted their reply to the Plaintiff's response on November 23, 2021.

In light of the fact that the Ruling applied and was based upon Israeli Law (instead of the relevant foreign law), the Tel Aviv Stock Exchange filed a motion requesting the Court to allow it to join the proceedings as Amicus Curiae, in order to express its principle opinion that the applicable law, in so far as dual listed companies are concerned, is the foreign law, as well as regarding the negative implications of the Court's application of Israeli law on dual listed companies.

Meanwhile, and without delaying or derogating from the Rehearing Motion, the Company agreed to the Court's suggestion that the parties will refer the case to a mediation procedure, and designated the retired Judge B. Arnon as a mediator. After several mediation meetings were held, the mediation process ended without reaching a settlement.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 12:- COMMITMENTS AND CONTINGENT LIABILITIES (Cont.)

On January 3, 2022 a hearing was held in Court in the Rehearing Motion before the Honorable Justices K. Kabub, R. Ronen and T. Avrahami. Following the hearing, on January 25, 2022, the Attorney General joined the proceedings of the Rehearing Motion and submitted his position in collaboration with the Securities Authority. The Attorney General's principle position as outlined, was that the applicable law in so far as dual listed companies are concerned is the foreign law, and in our case - US law.

On January 27, 2022, a judgment was rendered in the Rehearing Motion. The Court ruled that the Ruling was erroneous as it applied Israeli Law, instead of foreign law, and held accordingly that the law that will apply is US law. The Court further held that the case will be returned to the first judicial instance and will be adjudicated as a class claim under the US law. The Court commented that the Company's claims based upon the Statute of Limitations should prima facie also be adjudicated under the US law.

On March 20, 2022, following the Court's decision, the Plaintiff filed to the first judicial instance, an amended class action claim, based on provisions of US law. The Plaintiff estimated the amended claim amount at \$ 52,099.

On June 28, 2022, following a joint application filed by the parties in order to approve certain procedural matters, the Court issued a decision suggesting that the parties should consider initiating another mediation procedure. On July 5, 2022, following the Court's decision, the parties filed a notice, informing the Court that they believe that the time to consider initiating another mediation procedure, will be only after the parties submit their pleadings.

On November 3, 2022, the Defendants submitted their Statement of Defense, based on U.S law.

On February 5, 2023, the Plaintiff submitted his response to the Defendants' Statement of Defense.

A preliminary hearing is scheduled for June 19, 2023.

As was held in the judgement rendered in the Rehearing Motion, U.S law presents a higher bar for Plaintiffs in comparison to Israeli law in proving claims regarding misleading representations to investors. However, given that the class action is being adjudicated under U.S law and that the Court has yet to address the parties' pleadings, the Company's attorneys cannot assess, at this preliminary stage, the chances of the class action to be accepted.

2) Claim against Station Enterprises Ltd. regarding breach of the Lease Agreement

A dispute has arisen between the Company and Station Enterprises Ltd, with respect to the lease agreement signed between the parties on April 11, 2019 (the "Lease Agreement"), under which the Company leases its offices and labs in Rosh Haayin.

The Company, the lessee, claims that Station Enterprises was late in delivering the possession to the lessee and has not fulfilled its maintenance and management obligations. Therefore, the Company claims that Station Enterprises breached its contractual obligations, causing the Company damages and expenses.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 13:- LEASES

The Company's leases include offices and warehouses for its facilities worldwide, as well as car leases, which are all classified as operating leases. Certain leases include renewal options that are under the Company's sole discretion. The renewal options were included in the right of use ("ROU") and liability calculation if it was reasonably certain that the Company will exercise the option.

The components of lease expense and supplemental cash flow information related to leases for the years ended December 31, 2021 and 2022 were as follows:

	Year ended December 31,		
	2020	2021	2022
Components of lease expense			
Operating lease cost	\$ 5,484	\$ 4,869	\$ 4,428
Short-term lease	\$ 43	\$ 100	\$ 52
Total lease expenses	<u>\$ 5,527</u>	<u>\$ 4,969</u>	<u>\$ 4,480</u>

	Year ended December 31,		
	2020	2021	2022
Supplemental cash flow information			
Cash paid for amounts included in the measurement of lease liabilities	<u>\$ 5,489</u>	<u>\$ 4,843</u>	<u>\$ 4,497</u>
Supplemental non-cash information related to lease liabilities arising from obtaining ROU assets	<u>\$ 1,773</u>	<u>\$ 19,166</u>	<u>\$ 1,300</u>

For the year ended December 31, 2022, the weighted average remaining lease term is approximately seven years, and the weighted average discount rate is 5 percent. The discount rate was determined based on the estimated collateralized borrowing rate of the Company, adjusted to the specific lease term and location of each lease.

Maturities of lease liabilities as of December 31, 2022 were as follows:

2023	3,799
2024	2,774
2025	2,290
2026	2,101
2027 and thereafter	8,819
Total operating lease payments	19,783
Less: imputed interest	2,851
Present value of lease liability	<u>16,932</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 14:- SHAREHOLDERS' EQUITY

The ordinary shares of the Company are traded on the Nasdaq Global Select Market, under the symbol "CRNT".

a. General:

The ordinary shares entitle their holders to receive notice to participate and vote in general meetings of the Company, the right to share in distributions upon liquidation of the Company, and to receive dividends, if declared.

b. Stock options plans:

- In 2003, the Company adopted a share option plan which has been extended or replaced from time to time. To date, the plan that is currently in effect is the Amended and Restated Share Option and RSU Plan as amended August 10, 2014 (the "Plan"). Under the Plan, options and RSUs may be granted to officers, directors, employees and consultants of the Company or its subsidiaries. The options vest primarily over four years, subject to certain exceptions. The options expire between six to ten years from the date of grant. The Plan expires in December 2023. The Company needs to reserve, and the Board of Directors has reserved, sufficient authorized but unissued Shares for purposes of the Plan subject to adjustments as provided in the Plan. Since the last amendment in 2014, the Company has reserved 14,957,511 units under the Plan. As of December 31, 2022, an aggregate of 1,043,964 ordinary shares were available for future grants under the plan.
- The following table summarizes the activities for the Company's stock options for the year ended December 31, 2022:

	Year ended December 31, 2022			
	Number of options	Weighted average exercise price	Weighted average remaining contractual term (in years)	Aggregate intrinsic value
Outstanding at beginning of year	5,186,446	\$ 3.40	4.01	\$ 534
Granted	1,478,696	2.33		
Exercised	(226,116)	1.81		
Forfeited or expired	(1,133,294)	4.42		
Outstanding at end of the year	<u>5,305,732</u>	<u>\$ 2.95</u>	<u>3.83</u>	<u>\$ 19</u>
Options exercisable at end of the year	<u>2,735,334</u>	<u>\$ 2.99</u>	<u>2.86</u>	<u>\$ 3</u>
Vested and expected to vest	<u>4,052,658</u>	<u>\$ 2.96</u>	<u>3.50</u>	<u>\$ 10</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 14:- SHAREHOLDERS' EQUITY (Cont.)

The weighted average fair value of options granted during 2020, 2021 and 2022 was \$1.06, \$2.25 and \$1.32, respectively.

The intrinsic value of options exercised during the years ended December 31, 2020, 2021 and 2022 was \$770, \$5,519 and \$117, respectively.

The following table summarizes the activities for the Company's RSUs for the year ended December 31, 2022:

	Year ended December 31, 2022	
	Number of RSUs	Aggregate intrinsic value
Unvested at beginning of year	699,679	\$ 1,805
Granted	1,805,163	
Vested	(195,969)	
Forfeited	(200,534)	
Unvested at end of the year	<u>2,108,339</u>	<u>\$ 4,027</u>
Vested and expected to vest	<u>1,564,025</u>	<u>\$ 2,987</u>

The weighted average fair value at grant date of RSUs granted during 2020, 2021 and 2022 was \$2.11, \$4.07 and \$2.56, respectively.

As of December 31, 2022, the total unrecognized estimated compensation cost related to non-vested stock options and RSU's granted prior to that date was \$5,490, which is expected to be recognized over a weighted average period of approximately one year.

The total equity-based compensation expense related to all of the Company's equity-based awards, recognized for the years ended December 31, 2020, 2021 and 2022, was comprised as follows:

	Year ended December 31,		
	2020	2021	2022
Cost of revenues	\$ 110	\$ 289	\$ 587
Research and development, net	243	236	405
Sales and marketing	545	700	1,355
General and administrative	764	1,337	1,213
Total share-based compensation expenses	<u>\$ 1,662</u>	<u>\$ 2,562</u>	<u>\$ 3,560</u>

c. Dividends:

In the event that cash dividends are declared in the future, such dividends will be paid in NIS or in foreign currency subject to any statutory limitations. The Company does not intend to pay cash dividends in the foreseeable future.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 15:- TAXES ON INCOME

a. Israeli taxation:

1. Measurement of taxable income:

The Company has elected to file its tax return under the Israeli Income Tax Regulations 1986 (Principles Regarding the Management of Books of Account of Foreign Invested Companies and Certain Partnerships and the Determination of Their Taxable Income). Accordingly, starting tax year 2003, results of operations in Israel are measured in terms of earnings in U.S. dollars.

2. Tax benefits under the Law for the Encouragement of Capital Investments, 1959 (the "Law"):

According to the Law, the Company is entitled to various tax benefits by virtue of the "Approved Enterprise" status granted to part of their enterprises, as implied by this Law. The principal benefits by virtue of the Law are:

According to the provisions of the Law, the Company has chosen to enjoy the "Alternative" track. Under this track, the Company is tax exempt in the first two years of the benefit period and subject to tax at the reduced rate of 10%-25% for the remaining benefit period. The benefit period under Approved Enterprise starts with the first year the benefited enterprise earns taxable income, provided that 14 years have not passed since the approval was granted and 12 years have not passed since the enterprise began operating.

Generally, a company that is Abundant in Foreign Investment is entitled to an extension of the benefits period by an additional five years.

The tax benefits under the Approved Enterprise are conditional upon the fulfillment of the conditions stipulated by the Law, regulations published and the letters of approval for the investments in the approved enterprises. Non-compliance with the conditions may cancel all or part of the benefits and refund of the amount of the benefits, including interest.

The Company has three capital investment programs that have been granted Approved Enterprise status, under the Law.

As of December 31, 2022, the 14 years have passed for the three Approved Enterprise programs.

Income from sources other than the "Approved Enterprise" during the benefit period will be subject to the tax at the regular tax rate.

The Company believes it will continue to enjoy its current tax benefits in accordance with the provisions of the Investment Law prior to the 2005 Amendment.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 15:- TAXES ON INCOME (Cont.)

In December 2016, the Knesset passed an additional amendment to the Law which provides for additional benefits to Preferred Technological Enterprises by reducing the tax rate on preferred Technological Enterprise income (as such is defined in Amendment 73) to 12% (the "Amendment"). This Amendment came into effect in May 2017 when the Minister of Finance promulgated the regulations for its implementation. The Company has evaluated the effect of the adoption of the Amendment on its financial statements, and as of the date of the approval of the financial statements, the Company did not apply the Amendment. The Company may change its position in the future.

3. Tax benefits under the Law for the Encouragement of Industry (Taxes), 1969:

The Encouragement Law provides several tax benefits for industrial companies. An industrial company is defined as a company resident and located in Israel, at least 90% of the income of which in a given tax year exclusive of income from specified Government loans, capital gains, interest and dividends, is derived from an industrial enterprise owned by it. An industrial enterprise is defined as an enterprise whose major activity in a given tax year is industrial production activity.

Management believes that the Company is currently qualified as an "industrial company" under the Encouragement Law and, as such, enjoys tax benefits, including: (1) deduction of purchase of know-how and patents and/or right to use a patent over an eight-year period; (2) the right to elect, under specified conditions, to file a consolidated tax return with additional related Israeli industrial companies and an industrial holding company; (3) accelerated depreciation rates on equipment and buildings; and (4) expenses related to a public offering on the Tel-Aviv Stock Exchange and on recognized stock markets outside of Israel, are deductible in equal amounts over three years.

Eligibility for benefits under the Encouragement Law is not subject to receipt of prior approval from any Governmental authority. No assurance can be given that the Israeli tax authorities will agree that the Company qualifies, or, if the Company qualifies, that the Company will continue to qualify as an industrial company or that the benefits described above will be available to the Company in the future.

4. Tax rates:

Taxable income of Israeli companies was subject to tax at the rate - 23% in the years 2020, 2021 and 2022.

The effective tax rate payable by a company which is taxed under the Investment Law may be considerably lower (see also note 15.a2 above). Israeli corporations are generally taxed at the corporate income tax rate on their capital gains.

The Company's tax assessments through 2016 tax year are considered final.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 15:- TAXES ON INCOME (Cont.)

- b. Income taxes for non-Israeli subsidiaries:

Non-Israeli subsidiaries are taxed according to the tax laws in their respective counties of residence.

- c. The income tax expense for the years ended December 31, 2020, 2021 and 2022 consisted of the following:

	Year ended December 31,		
	2020	2021	2022
Current	\$ 2,641	\$ 2,181	\$ 1,140
Deferred	(23)	8,828	1,306
	<u>\$ 2,618</u>	<u>\$ 11,009</u>	<u>\$ 2,446</u>
Domestic (Israel)	\$ 839	\$ 8,844	\$ 664
Foreign	<u>1,779</u>	<u>2,165</u>	<u>1,782</u>
	<u>\$ 2,618</u>	<u>\$ 11,009</u>	<u>\$ 2,446</u>

- d. Deferred income 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.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 15:- TAXES ON INCOME (Cont.)

Significant components of the Company's deferred tax assets and liabilities are as follows:

	December 31,	
	2021	2022
Deferred tax assets:		
Net operating loss carry forward	\$ 64,353	\$ 65,148
Temporary differences:		
Allowance for credit loss	13,595	17,087
Research and development	6,003	6,092
Lease liabilities	4,975	3,891
Unrealized foreign exchange gains/losses	1,197	2,285
Vacation	539	591
Severance	1,012	1,090
Other	-	1,652
Deferred tax assets before valuation allowance	91,674	97,836
Valuation allowance	(86,191)	(93,529)
Deferred tax assets	5,483	4,307
Deferred tax liabilities:		
Property and equipment, net	(315)	(145)
Right-of-use lease assets	(4,609)	(4,140)
Unrealized foreign exchange gains/losses	(303)	-
Other	(256)	(22)
Deferred tax asset, net	\$ -	\$ -

In assessing the realization of deferred tax assets, management considers whether it is more likely than not that all or some portion of the deferred tax assets will not be realized in each tax jurisdiction. The ultimate realization of the deferred tax assets is dependent upon the generation of future taxable income during the periods in which temporary differences are deductible and net operating losses are utilized. Based on consideration of these factors, the Company recorded valuation allowance amounting \$86,191 and \$93,529 as of December 31, 2021 and 2022 respectively.

e. Net operating loss carry forward and capital loss:

As of December 31, 2022, the Company has accumulated net operating losses and capital loss for Israeli income tax purposes in the amount of approximately \$195,722 and \$8,130, respectively. The net operating losses and capital loss may be carried forward and offset against taxable income in the future for an indefinite period.

As of December 31, 2022, the Company's Norwegian subsidiary had a net operating loss carry forward of approximately \$16,023 that can be carried forward. The net operating losses may be carried forward and offset against taxable income in the future for an indefinite period.

As of December 31, 2022, the Company's Brazilian subsidiary had a net operating loss carryforward of approximately \$31,775 that can be carried forward. The net operating losses may be carried forward and offset against taxable income in the future for an indefinite period. The offset is limited to a maximum 30% of the annual taxable income.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 15:- TAXES ON INCOME (Cont.)

f. Income (Loss) before taxes is comprised as follows:

	Year ended December 31,		
	2020	2021	2022
Domestic	\$ (24,192)	\$ (5,430)	\$ (20,850)
Foreign	10,697	1,611	3,607
	<u>\$ (13,495)</u>	<u>\$ (3,819)</u>	<u>\$ (17,243)</u>

g. Reconciliation of the theoretical tax expense to the actual tax expense:

Reconciliation between the theoretical tax expense, assuming all income is taxed at the statutory tax rate applicable to income of the Company and the actual tax expense as reported in the statements of operations is as follows:

	Year ended December 31,		
	2020	2021	2022
Income (loss) before taxes as reported in the consolidated statements of operations	<u>\$ (13,495)</u>	<u>\$ (3,819)</u>	<u>\$ (17,243)</u>
Statutory tax rate	23%	23%	23%
Theoretical tax expenses (income) on the above amount at the Israeli statutory tax rate	\$ (3,104)	\$ (878)	\$ (3,966)
Non-deductible expenses and other permanent differences	(111)	(1,602)	265
Non-deductible expenses related to employee stock options	383	590	819
Deferred tax assets on losses and other temporary differences for which valuation allowance was provided, net	5,318	12,326	5,378
Other	132	573	(50)
Actual tax expense (benefit)	<u>\$ 2,618</u>	<u>\$ 11,009</u>	<u>\$ 2,446</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 15:- TAXES ON INCOME (Cont.)

h. A reconciliation of the beginning and ending balances of unrecognized tax benefits related to uncertain tax positions is as follows:

	December 31,	
	2021	2022
Beginning balance	\$ 2,421	\$ 2,367
Decreases in tax positions for prior years	(538)	(537)
Increases related to tax positions taken during prior years	59	132
Increase related to tax positions taken during the current year	425	330
Ending balance	<u>\$ 2,367</u>	<u>\$ 2,291</u>

The Company has further accrued \$349 due to interest and penalty related to uncertain tax positions as of December 31, 2022.

NOTE 16:- REVENUES

The Company recognizes contract liabilities, or deferred revenues, when it receives advance payments from customers before performance obligations have been performed. The balance of deferred revenues approximates the aggregate amount of the transaction price allocated to the unsatisfied performance obligations at the end of reporting period.

The following table presents the significant changes in the deferred revenue balance during the year ended December 31, 2022:

	Year ended December 31, 2021	Year ended December 31, 2022
Balance, beginning of the period	\$ 10,987	\$ 12,659
New performance obligations	6,329	6,458
Reclassification to revenue as a result of satisfying performance obligations	(4,657)	(4,229)
Balance, end of the period	<u>12,659</u>	<u>14,888</u>
Less: long-term portion of deferred revenue	9,275	11,545
Current portion, end of period	<u>\$ 3,384</u>	<u>\$ 3,343</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 16:- REVENUES (Cont.)

Remaining performance obligations represent contracted revenues that have not yet been recognized, which includes deferred revenues and non-cancelable contracts that will be recognized as revenue in future periods. The following table represents the remaining performance obligations as of December 31, 2022, which are expected to be satisfied and recognized in future periods:

	<u>2024</u>	<u>2025 and thereafter</u>
Unsatisfied performance obligations	670	10,875

The Company elected to apply the optional exemption under ASC 606 paragraph 10-50-14(a) not to disclose the remaining performance obligations that relate to contracts with an original expected duration of one year or less.

NOTE 17:- SEGMENTS, CUSTOMERS AND GEOGRAPHIC INFORMATION

- a. The Company applies ASC topic 280, "Segment Reporting", ("ASC 820"). The Company operates in one reportable segment (see Note 1 for a brief description of the Company's business). The total revenues are attributed to geographic areas based on the location of the end customer.
- b. The following tables present total revenues for the years ended December 31, 2020, 2021 and 2022 and long-lived assets as of December 31, 2021 and 2022:

	<u>Year ended</u> <u>December 31,</u>		
	<u>2020</u>	<u>2021</u>	<u>2022</u>
Revenues:			
North America (*)	\$ 38,165	\$ 47,505	\$ 67,108
Europe	44,832	47,382	42,909
Africa	23,497	23,165	19,324
Asia-Pacific and Middle East	47,677	32,008	32,970
India	62,047	86,088	80,957
Latin America	46,663	54,618	51,905
	<u>\$ 262,881</u>	<u>\$ 290,766</u>	<u>\$ 295,173</u>

(*) As of December 31, 2022, 2021 and 2020 87%, 72% and 79% represents revenues in the United States.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 17:- SEGMENTS, CUSTOMERS AND GEOGRAPHIC INFORMATION (Cont.)

Long-lived assets, net:	December 31,	
	2021	2022
Israel	\$ 42,192	\$ 41,076
Others	7,424	6,342
Total long-lived assets, net (*)	\$ 49,616	\$ 47,418

(*) Long-lived assets are comprised of property and equipment, net and operating lease right-of-use assets

c. Major customer data as a percentage of total revenues:

In 2022, the company had revenues from two customers that represent two groups of affiliated companies equaling 22.77% and 12.39%, and a single customer that accounted for approximately 12.44% total revenues. In 2021, the Company had revenues from two customers that represent two groups of affiliated companies equaling 18.77% and a single customer equaling 11.37% of total revenues. In 2020, the company had revenues from a single customer that represents group of affiliated companies equaling 22.1% of total revenues.

NOTE 18:- SELECTED STATEMENTS OF OPERATIONS DATA

a. Financial expenses and others, net:

	Year ended		
	December 31,		
	2020	2021	2022
Financial income:			
Interest on deposits	\$ 79	\$ 160	\$ 107
Foreign currency translation differences and derivatives	1,330	571	3,054
Others	807	-	-
	<u>2,216</u>	<u>731</u>	<u>3,161</u>
Financial expenses:			
Bank charges and interest on loans	(4,130)	(4,650)	(5,016)
Foreign currency translation differences and derivatives	(3,716)	(4,449)	(4,451)
Others	(293)	(257)	-
	<u>(8,139)</u>	<u>(9,356)</u>	<u>(9,467)</u>
	<u>\$ (5,923)</u>	<u>\$ (8,625)</u>	<u>\$ (6,306)</u>

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 18:- SELECTED STATEMENTS OF OPERATIONS DATA (Cont.)

- b. Net loss per share:

The following table sets forth the computation of basic and diluted net earnings per share:

	Year ended December 31,		
	2020	2021	2022
Numerator:			
Numerator for basic and diluted net loss per share - loss available to shareholders of Ordinary shares	\$ (17,092)	\$ (14,828)	\$ (19,689)
Denominator:			
Denominator for basic and diluted net loss per share – adjusted weighted average number of Ordinary shares	81,149,687	83,414,831	84,132,982

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 19:- RELATED PARTY BALANCES AND TRANSACTIONS

Related party balances and transactions are with related companies and principal shareholder. Yehuda Zisapel is a shareholder of the Company. Zohar Zisapel is the Chairman of the Board of Directors of the Company and also a principal shareholder of the Company. Yehuda and Zohar Zisapel are brothers who do not have a voting agreement between them. Jointly or severally, they are also founders, directors and principal shareholders of several other companies that are known as the RAD-BYNET group.

Members of the RAD-BYNET group provide the Company on an as-needed basis with information systems infrastructure, administrative services, medical insurance, as well as in connection with logistics services, the Company reimburses each company for its costs in providing these services. The aggregate amount of these expenses was approximately \$1,801, \$2,677 and \$1,662 in 2020, 2021 and 2022, respectively.

The Company leased its offices in Israel from real estate holding companies controlled by Yehuda and Zohar Zisapel. The leases were expired by the end of 2021.

The aggregate amount of rent and maintenance expenses related to these properties were approximately \$2,099, \$894 and \$0 in 2020, 2021 and 2022, respectively.

The Company has an OEM arrangement with RADWIN, a member of RAD-BYNET group, according to which the Company purchases RADWIN products that are then resold to the Company's customers. In addition, the Company purchases certain inventory components from other members of the RAD-BYNET group, which are integrated into its products. The aggregate purchase price of these components was approximately \$83, \$305 and \$122 for the years ended December 31, 2020, 2021 and 2022, respectively.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

U.S. dollars in thousands (except share data)

NOTE 19:- RELATED PARTY BALANCES AND TRANSACTIONS (Cont.)

The Company purchases certain property and equipment from members of the RAD-BYNET group, the aggregate purchase price of these assets was approximately \$274, \$175 and \$180 for the years ended December 31 2020, 2021 and 2022, respectively.

As part of the operating agreements with Orocom for the Pronatel project in Peru, the Company had two seats in Orocom's board of directors out of four seats, as well as other protective rights in Orocom. As a result, Orocom and its shareholders were defined as "related companies" of Ceragon. As of December 31, 2021, the Company has no seats in Orocom's board of directors and following the return of the guarantees in the beginning of 2020, the Company's protective rights in Orocom were revoked. As a result of the above Orocom and its shareholders are not defined as "related companies" of Ceragon.

Transactions with related parties:

	Year ended December 31,		
	2020	2021	2022
Revenues	\$ 5,843	\$ 394	\$ 47
Cost of revenues	\$ 4,715	\$ 1,125	\$ 345
Research and development expenses	\$ 1,245	\$ 608	\$ 115
Sales and marketing expenses	\$ 731	\$ 617	\$ 284
General and administrative expenses	\$ 913	\$ 1,527	\$ 1,040
Purchase of property and equipment	\$ 274	\$ 175	\$ 180

Balances with related parties:

	December 31,	
	2021	2022
Trade payables, other accounts payable and accrued expenses	\$ 376	\$ 380
Trade Receivables	\$ 78	\$ -

**DESCRIPTION OF CERAGON NETWORKS LTD.
SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE
SECURITIES EXCHANGE ACT OF 1934**

At December 31, 2022, Ceragon Networks Ltd. (“Ceragon,” “we” or the “Company”) had one class of securities registered pursuant to Section 12 of the Securities Exchange Act of 1934, as amended: ordinary shares, par value NIS 0.01 each. Under our Articles of Association, 120,000,000 of our ordinary shares are authorized, of which 84,353,379 of such ordinary shares were issued and outstanding as of December 31, 2022. The ordinary shares are registered for trading on the NASDAQ Global Select Market under the trading symbol CRNT.

Capitalized terms used but not defined herein shall have the meanings given to them in the annual report on Form 20-F.

This Exhibit sets forth a description of our ordinary shares and certain provisions of our Articles of Association which are summaries and are qualified in their entirety by reference to the full text of our Articles of Association, which was previously filed as Exhibit 1.2 to the Company’s Annual Report on Form 20-F for the year ended December 31, 2016 (referred to hereafter as our “Articles of Association”).

Objects and purposes.

Our registration number with the Israeli Registrar of Companies is 51-235244-4. Our purpose as set forth in article 1 to our Articles of Association is to engage, directly or indirectly, in any lawful undertaking or business whatsoever.

Meetings of Shareholders, Quorum and Voting Rights.

According to the Companies Law and our Articles of Association, an annual general meeting of our shareholders shall be held once every calendar year, provided it is within a period of not more than fifteen (15) months after the preceding annual general meeting. Our Board of Directors may, whenever it deems fit, convene a special general meeting at such time and place as may be determined by the board, and, pursuant to the Companies Law, must convene a meeting upon the demand of: (a) two directors or one quarter of the directors in office; or (b) the holder or holders of: (i) 5% or more of the Company’s issued share capital and one percent 1% or more of its voting rights; or (ii) 5% or more of the Company’s voting rights. If the Board of Directors does not convene a meeting upon a valid demand of any of the above then the persons who made the demand, and in the case of shareholders, part of such demanding shareholders holding at least half of the voting rights of such demanding shareholders, may convene a meeting of the shareholders to be held within three months of the demand. Alternatively, upon petition by the individuals making the demand, a court may order that a meeting be convened.

The Chairman of the Board of Directors, or any other director or office holder of the Company who may be designated for this purpose by the Board of Directors, shall preside as Chairman at every general meeting of the Company. If there is no such Chairman, or if at any meeting such Chairman is not present within fifteen (15) minutes after the time fixed for holding the meeting or is unwilling to act as Chairman, the members present shall choose someone of their number to be Chairman. The office of Chairman shall not, by itself, entitle the holder thereof to vote at any general meeting nor shall it entitle such holder to a second or casting vote (without derogating, however, from the rights of such Chairman to vote as a shareholder or proxy of a shareholder if, in fact, he is also a shareholder or such proxy).

Pursuant to the Companies Law and the regulations promulgated pursuant to the Companies Law and governing the terms of notice and publication of shareholder meetings of public companies, shareholder meetings generally require prior notice of not less than 21 days, and not less than 35 days in certain cases. Pursuant to the Articles of Association, we are not required to deliver or serve notice of a general meeting or of any adjournments thereof to any shareholder. However, subject to applicable law and stock exchange rules and regulations, we will publicize the convening of a general meeting in any manner reasonably determined by us, and any such publication shall be deemed duly made, given and delivered to all shareholders on the date on which it is first made, posted, filed or published in the manner so determined by us in our sole discretion.

The function of the general meeting is to elect directors, receive and consider the profit and loss account, the balance sheet and the ordinary reports and accounts of the directors and auditors, appoint auditors, approve certain interested party transactions requiring general meeting approval as provided in the Companies Law, approve the Company's merger, exercise of the powers of the Board of Directors if the Board of Directors is unable to exercise its powers and the exercise of any of its powers is vital for our proper management, approve amendments of our Articles of Association and transact any other business which under our Articles of Association or applicable law may be transacted by the shareholders of the Company in a general meeting.

Under our Articles of Association, the quorum required for a meeting of shareholders consists the presence, in person or by proxy, of at least two shareholders holding shares conferring in the aggregate twenty five percent (25%) or more of the voting power of the Company. If within half an hour from the time appointed for the meeting a quorum is not present, the meeting, if convened by the Board of Directors upon the demand of shareholders or upon the demand of less than 50% of the directors then in office or directly by such shareholders or directors, shall be cancelled. If a meeting is otherwise called and no quorum is present within half an hour from the time appointed for such meeting it shall stand adjourned to the same day in the following week at the same time and place or to such other day, time and place as the Chairman of the meeting may determine with the consent of the holders of a majority of the voting power represented at the meeting in person or by proxy and voting on the question of adjournment. At the adjourned meeting, the required quorum consists of any two shareholders.

Subject to the provisions of the Articles of Association, holders of fully paid ordinary shares have one vote for each ordinary share held by such shareholder of record, on all matters submitted to a vote of shareholders. Shareholders may vote in person, by proxy or by proxy card. These voting rights may be affected by the grant of any special voting rights to the holders of a class of shares with preferential rights that may be authorized in the future. As our ordinary shares do not have cumulative voting rights in the election of directors, the holders of the majority of the shares present and voting at a shareholders meeting generally have the power to elect all of our directors, except the external directors whose election requires a Special Majority.

Unless otherwise prescribed in our Articles of Association and/or under the Companies Law, shareholders resolutions are deemed adopted if approved by the holders of a majority of the voting power represented at the meeting in person, by proxy or by proxy card, and voting on the matter.

Share Ownership Restrictions

The ownership or voting of ordinary shares by non-residents of Israel is not restricted in any way by the Articles of Association or the laws of the State of Israel, except that citizens of countries that are in a state of war with Israel may not be recognized as owners of ordinary shares.

Transfer of Shares

Our ordinary shares which have been fully paid-up are transferable by submission of a proper instrument of transfer together with the certificate of the shares to be transferred and such other evidence of title, as the Board of Directors may require, unless such transfer is prohibited by another instrument or by applicable securities laws.

Modification of Class Rights

Pursuant to our Articles of Association, if at any time the share capital is divided into different classes of shares, the rights attached to any class, unless otherwise provided by our Articles of Association, may be modified or abrogated by the Company, by shareholders resolution, subject to the requirement that such resolution is also approved by a majority of the holders of the shares of such applicable class, who are present and voting at a separate general meeting of the holders of the shares of such class.

Dividends

Under the Companies law, dividends may be distributed only out of profits available for dividends as determined by the Companies Law, provided that there is no reasonable concern that the distribution will prevent the Company from being able to meet its existing and anticipated obligations when they become due. If the company does not meet the profit requirement, a court may nevertheless allow the company to distribute a dividend, as long as the court is convinced that there is no reasonable concern that such distribution will prevent the company from being able to meet its existing and anticipated obligations when they become due. Pursuant to our Articles of Association, no dividend shall be paid otherwise than out of the profits of the Company. Generally, under the Companies Law, the decision to distribute dividends and the amount to be distributed is made by a company's board of directors.

Our Articles of Association provide that our Board of Directors, may, subject to the Companies Law, from time to time, declare and cause the Company to pay such dividends as may appear to the Board of Directors to be justified by the profits of our Company. Subject to the rights of the holders of shares with preferential, special or deferred rights that may be authorized in the future, our profits which shall be declared as dividends shall be distributed according to the proportion of the nominal (par) value paid up or credited as paid up on account of the shares held at the date so appointed by the Company and in respect of which such dividend is being paid, without regard to the premium paid in excess of the nominal (par) value, if any. The declaration of dividends does not require Shareholders' approval.

To date, we have not declared or distributed any dividend and we currently do not intend to pay cash dividends on our ordinary shares in the foreseeable future.

Liquidation Rights

In the event of our winding up or liquidation or dissolution, subject to applicable law, our assets available for distribution among the shareholders shall be distributed to the holders of ordinary shares in proportion to the amount paid up or credited as paid up on account of the nominal value of the shares held by them respectively and in respect of which such distribution is being made, without regard to any premium paid in excess of the nominal value, if any. This liquidation right may be affected by the grant of limited or preferential rights as to liquidation to the holders of a class of shares that may be authorized in the future.

Mergers and Acquisitions under Israeli Law

In general, a merger of a company, that was incorporated before the enactment of the Companies Law, requires the approval of the holders of a majority of 75% of the voting power represented at the annual or special general meeting in person or by proxy or by a written ballot, as shall be permitted, and voting thereon in accordance with the provisions of the Companies Law. However, in accordance with our Articles of Association, a shareholder resolution approving a merger (as defined in the Companies law) of the Company shall be deemed adopted if approved by the holders of a majority of the voting power represented at the meeting in person or by proxy and voting thereon. Upon the request of a creditor of either party of the proposed merger, the court may delay or prevent the merger if it concludes that there exists a reasonable concern that as a result of the merger, the surviving company will be unable to satisfy the obligations of any of the parties to the merger. In addition, a merger may not be completed unless at least: (i) 50 days have passed from the time that the requisite proposal for the merger has been filed by each party with the Israeli Registrar of Companies; and (ii) 30 days have passed since the merger was approved by the shareholders of each party.

The Companies Law also provides that, an acquisition of shares in a public company must be made by means of a tender offer: (a) if there is no existing shareholder, or a group of shareholders holding shares together, in the company holding shares conferring 25% or more of the voting rights at the general meeting (a "control block"), and as a result of the acquisition the purchaser would become a holder of a control block; or (b) if there is no existing shareholder, or a group of shareholders holding shares together, in the company holding shares conferring 45% or more of the voting rights at the general meeting and as a result of the acquisition the purchaser would become a holder of 45% or more of the voting rights at the general meeting. Notwithstanding, the abovementioned requirements do not apply if the acquisition was: (1) made by way of a private placement that received shareholders' approval (which includes an explicit approval that the purchaser will become, as a result of such acquisition, a holder of a "control block," or of 45% or more of the voting power in the company, and unless there is already a holder of a "control block" or of 45% or more of the voting power in the company, respectively); (2) was from a holder of a "control block" in the company and resulted in the acquirer becoming a holder of a "control block"; or (3) was from a holder of 45% or more of the voting power in the company and resulted in the acquirer becoming a holder of 45% or more of the voting power in the company. The tender offer must be extended to all shareholders, but the offeror is not required to purchase more than 5% of the company's outstanding shares, regardless of how many shares are tendered by shareholders. The tender offer may be consummated only if: (i) at least 5% of the company's outstanding shares will be acquired by the offeror; and (ii) the number of shares acquired in the offer exceeds the number of shares whose holders objected to the offer.

Under the Companies Law, a person may not acquire shares in a public company if, after the acquisition, the acquirer will hold more than 90% of the shares or more than 90% of any class of shares of that company, unless a tender offer is made to purchase all of the shares or all of the shares of the particular class. The Companies Law also generally provides that as long as a shareholder in a public company holds more than 90% of the company's shares or of a class of shares, that shareholder shall be precluded from purchasing any additional shares. The full tender offer shall be accepted and all the shares that the acquirer offered to purchase (i.e. all of the shares not owned by the acquirer) will be transferred to it if (i) the shareholders who declined or do not respond to the tender offer hold less than 5% of the company's outstanding share capital or of the relevant class of shares and the majority of offerees who do not have a personal interest in accepting the tender offer accepted the offer, or (ii) the shareholders who declined or do not respond to the tender offer hold less than 2% of the company's outstanding share capital or of the relevant class of shares. The Companies Law provides that a shareholder that had his or her shares so transferred, whether he or she accepted the tender offer or not, has the right, within six months from the date of acceptance of the tender offer, to petition the court to determine that the tender offer was for less than fair value and that the fair value should be paid as determined by the court. However, the acquirer may provide in its offer that shareholders who accept the tender offer will not be entitled to such rights. If as a result of a full tender offer the acquirer would own 95% or less of the outstanding shares, then the acquirer may not acquire shares that will cause his shareholding to exceed 90% of the outstanding shares.

Furthermore, certain provisions of other Israeli laws may have the effect of delaying, preventing or making more difficult an acquisition of or merger with us; see Item 3. "KEY INFORMATION" - Risk Factors - "Risks Relating to Operations in Israel" - *Provisions of Israeli law may delay, prevent or make undesirable an acquisition of all or significant portion of our shares or assets*"

Duties of Office Holders and Shareholders

Duties of Office Holders

Fiduciary Duties. The Companies Law imposes a duty of care and a duty of loyalty on all office holders of a company, including directors. The duty of care requires an office holder to act with the level of care with which a reasonable office holder in the same position would have acted under the same circumstances, and requires office holders to use reasonable means to obtain (i) information regarding the business advisability of a given action brought for the office holders' approval or performed by the office holders by virtue of their position, and (ii) all other information of importance pertaining to the aforesaid actions. The duty of loyalty includes avoiding any conflict of interest between the office holder's position in the company and his personal affairs, avoiding any competition with the company, avoiding the exploitation of any business opportunity of the company in order to receive personal advantage for himself or others, and revealing to the company any information or documents relating to the company's affairs which the office holder has received due to his position as an office holder.

The company may approve an action by an office holder from which the office holder would otherwise have to refrain due to its violation of the office holder's duty of loyalty if: (i) the office holder acts in good faith and the act or its approval is not to the detriment of the company, and (ii) the office holder discloses the nature of his or her interest in the transaction to the company a reasonable time prior to the company's approval.

Each person listed in the table included in "Item 6.A. – Directors and Senior Management" of the annual report on Form 20-F is considered an office holder under the Companies Law.

Disclosure of Personal Interests of an Office Holder. The Companies Law requires that an office holder of a company promptly disclose any personal interest that he or she may have, and all related material information and documents known to him or her relating to any existing or proposed transaction by the company. If the transaction is an extraordinary transaction, the office holder must also disclose any personal interest held by the office holder's spouse, siblings, parents, grandparents, descendants, spouse's siblings, parents and descendants and the spouses of any of these people, or any corporation in which the office holder: (i) holds at least 5% of the company's outstanding share capital or voting rights; (ii) is a director or chief executive officer; or (iii) has the right to appoint at least one director or the chief executive officer. An extraordinary transaction is defined as a transaction that is either: (i) not in the ordinary course of business; (ii) not on market terms; or (iii) likely to have a material impact on the company's profitability, assets or liabilities.

In the case of a transaction which is not an extraordinary transaction, after the office holder complies with the above disclosure requirements, only board approval is required unless the articles of association of the company provide otherwise. The transaction must not be adverse to of the company's interest. If a transaction is an extraordinary transaction, or concerns the terms of office and employment, then, in addition to any approval stipulated by the articles of association, it must also be approved by the company's audit committee (or with respect to terms of office and employment, by the compensation committee) and then by the board of directors, and, under certain circumstances, by shareholders of the company. Additionally, the board of directors may, from time to time, set criteria for routine/insignificant transactions which are not an extraordinary transaction. A proposed transaction that shall satisfy the criteria for routine/insignificant transactions, shall be deemed as classified as an ordinary transaction by the corporate audit committee and as pre-approved by the board. A proposed transaction that shall satisfy the criteria for routine/insignificant transactions, is deemed to be classified as an ordinary transaction by the corporate audit committee and as pre-approved by the board.

A person with a personal interest in any matter may not generally be present at any audit committee, compensation committee or board of directors meeting where such matter is being considered, and if he or she is a member of the committee or a director, he or she may not generally vote on such matter at the applicable meeting.

Duties of Shareholders

Under the Companies Law, a shareholder has a duty to: (i) act in good faith toward the company and other shareholders; and (ii) refrain from abusing his or her power in the company, including, among other things, voting in a general meeting of shareholders with respect to the following matters: (a) any amendment to the articles of association; (b) an increase of the company's authorized share capital; (c) a merger; or (d) approval of interested party transactions which require shareholders' approval.

In addition, any controlling shareholder, or any shareholder who knows that it possesses power to determine the outcome of a shareholder vote and any shareholder who, pursuant to the provisions of a company's articles of association, has the power to appoint or prevent the appointment of an office holder in the company, is under a duty to act with fairness towards the company. The Companies Law does not describe the substance of this duty but states that the remedies generally available upon a breach of contract, will also apply in the event of a breach of the duty of fairness, taking into account such shareholder's position.

Amendment Document Number 14 to the Credit Agreement of March 14, 2013

Made and entered into in Tel Aviv on the 26th day of June 2022

By and between: The entities enumerated in Appendix 1 of the Credit Agreement
in their function as Lenders (the "Lenders") **of the first part**

And: Bank Hapoalim Ltd.
in its function as Credit Manager
and in its function as Security Trustee
(**"Bank Hapoalim"**) **of the second part**

And: Ceragon Networks Ltd.
Company no. 51-235244-4
of 24 Raoul Wallenberg Street, Tel Aviv, 6971920
(the **"Borrower"**) **of the third part**

(each of the Lenders, the Credit Manager, the Security Trustee and the Borrower are hereinafter, the **"Party"** and jointly, the **"Parties"**).

Whereas: on March 14, 2013 the Borrower entered into a credit agreement with the Lenders, inclusive of its appendices and attachments, as amended and as shall be amended from time to time (the **"Credit Agreement"**) in and under which, *inter alia*, the Borrower was provided with the "credit"; and

Whereas: at the beginning of 2022 the global financial system is expected to reduce the use of the LIBOR interest rate; and

Whereas: the Parties decided that the interest to replace the LIBOR interest rate in the Credit Agreement would be the SOFR interest rate, as defined below in this Amendment Document; and

Whereas: in reliance on the correctness of the declarations and representations of the Borrower in the Credit Agreement and in this Amendment Document, as set forth below, and performance of all its undertakings as set forth in the Credit Agreement as amended in this Amendment Document, it was agreed to make amendment in Credit Agreement, all subject and pursuant to the terms and conditions of the Credit Agreement and this Amendment Document.

Now therefore the Parties hereto agree as follows:

1. **General**

- 1.1 The preamble to this Amendment Document constitutes an integral part hereof. All terms mentioned heretofore and hereinafter in this Amendment Document shall have the meaning given to them in the Credit Agreement, unless explicitly stated otherwise.
 - 1.2 For the avoidance of doubt, it is agreed that this Amendment Document constitutes part of the Credit Documents, as defined in section 2 of the Credit Agreement.
 - 1.3 In addition to any declaration, representation or undertaking of the Borrower in the "Credit Documents" (as this term is defined in the Credit Agreement) or in any other agreement or document delivered or to be delivered to the Lenders in connection with the credit or in connection with the security, and without prejudicing or derogating from any of the foregoing (except as required from this Amendment Document), the Borrower declares, confirms and undertakes to the Lenders and office holders as follows:
 - 1.3.1 the Borrower fully and accurately performed and is continuing to perform all the provisions of the Credit Agreement;
 - 1.3.2 all the Borrower's representations set forth in the Credit Agreement (with the exception of those set forth in sections 15.1.2, 15.1.3(a), 15.1.5, 15.1.6, 15.1.10, 15.1.11, 15.1.12 and 15.1.16 and also with the exception of the representation in section 15.1.1 only with respect to the fact that the Borrower's shares are listed for trading on the Tel Aviv Stock Exchange Ltd.) remain in effect and are correct and complete as of the date of signature of this Amendment Document;
 - 1.3.3 (a) the Borrower obtained all the decisions, agreements, authorizations, permits and approvals required under its documents of incorporation, under the provisions of any law and at the instruction of any authority whatsoever in connection with making this Amendment Document or in connection with the Credit Agreement and its appendices; (b) there is no need to adopt decisions or provide any additional consents or approvals; (c) all measures and acts required were taken to lawfully approve its entering into this Amendment Document; (d) all the Borrower's undertakings under, within or in connection with this Amendment Document or the Credit Agreement or the other Credit Documents are lawful, in existence, valid, binding and enforceable against it according to their terms.
-

2. Amendment of Credit Agreement

Effective from the date of signature of this Amendment Document:

- 2.1 Updating the definition of the LIBOR. Section 2 of the Credit Agreement shall be amended so that the definition of the term "LIBOR" shall be deleted and in its place shall be added the following definition:

"SOFR" – Secured Overnight Financing Rate	Variable interest at the Daily Simple SOFR reference rate and/or at the Term SOFR reference rate, all pursuant to the provisions of section 3.7.5 below.
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- 2.2 Anywhere in the Credit Agreement where the word "LIBOR" appears shall be replaced by the word: "SOFR".
- 2.3 The Credit Agreement shall be amended so that after section 3.7.4 of the Credit Agreement, the following section shall be inserted:
- "3.7.5 Anywhere in this Agreement where the word "SOFR" appears, the following provisions shall apply:
- 3.7.5.1 The decision whether to provide credit at the Daily Simple SOFR reference rate and/or at the Term SOFR reference rate shall be at the sole discretion of each individual Lender.
- 3.7.5.2 The definition of the Daily Simple SOFR rate and/or the Term SOFR rate (including, but without derogating – the method of determination of interest, the identity of the publishing entity, the date of publication of the interest, etc.) **is not** uniform between the various Lenders, and therefore any provision of credit on the basis of SOFR shall be according to the accepted methodology and definitions at each individual Lender, at the sole discretion of such Lender.
- 3.7.5.3 At the time of provision of credit on the basis of SOFR, the Borrower shall sign all the accepted credit documents at each individual Lender referring, *inter alia*, to the definition of the Daily Simple SOFR rate and/or the Term SOFR rate."
- 2.4 Replacement of Appendix 3.6.1.1 of the Credit Agreement. Appendix 3.6.1.1 of the Credit Agreement shall be replaced by the Appendix 3.6.1.1 of this Amendment Document.
- 2.5 Section 16.16 of the Credit Agreement shall be amended in such manner that the last sentence in the section shall be deleted (the sentence commencing with the word "Furthermore" and ending with the word "secured") and it shall be replaced by the following sentence:
-

“Furthermore, it is agreed that if, as a result of a Smart transaction, the Borrower shall owe any of the Lenders any amounts, this debt shall be deemed part of the “credit” and the “secured amounts”.”

3. **Miscellaneous**

- 3.1 Unless explicitly determined otherwise in this Amendment Document, the conditions and undertakings set forth in this Amendment Document do not derogate or prejudice or alter any other undertaking of the Borrower to the Lenders or the validity of any security whatsoever provided in favor of the Security Trustee for the Lenders according to and under the Credit Agreement or the other Credit Documents or any other document or agreement delivered or to be delivered to the Lenders or any office holder in connection with the credit, and they shall continue to remain in full and binding effect, including any provisions relating to the rights of the Lenders to make the credit immediately payable, all pursuant and subject to the terms and conditions of the Credit Documents.
- 3.2 This Amendment Document, unless explicitly stated herein otherwise, is in addition to and shall not derogate from, alter or prejudice the provisions of the Credit Agreement and the Amendment Documents, and except as explicitly stated in this Amendment Document, all rights of the Lenders and the Borrower under the Credit Agreement, the Amendment Documents and under the provisions of any law, are saved absolutely.
- 3.3 This Amendment Document may be signed by the Parties to it in one copy or several separate copies by any of the Parties, which shall jointly constitute one document.

[signature page follows]

In witness whereof, the Parties hereto affix their signature:

Ceragon Networks Ltd.

Bank Hapoalim Ltd.
(as Lender, in its position as Credit Manager and in its position as Security Trustee)

First International Bank of Israel Ltd.
(as Lender)

HSBC Bank PLC
(as Lender)

Bank Leumi Le-Israel B.M.
(as Lender)

Attorney certification

I, the undersigned, _____, Adv., serving as legal advisor to Ceragon Networks Ltd. (the "**Borrower**"), hereby certify that this Amendment Document was duly signed by the Borrower, by means of _____, I.D. no. _____ and _____, I.D. no. _____, according to a resolution of the Borrower which was duly adopted, and in accordance with the Borrower's updated documents of incorporation. Likewise, I hereby certify that this agreement was signed by those persons with authority to bind the Borrower, whose signature on this agreement binds the Borrower for all intents and purposes.

Date

Attorney signature and stamp

Date: _____

To: _____ (hereinafter, the "Lender")

Dear Sir/Madam,

Re: Ceragon Networks Ltd. – Withdrawal Application!
Pursuant to the Provisions of the Credit Agreement of March 14, 2013

Pursuant to the provisions of section 3.6 of the credit agreement signed on March 14, 2013 between us and the Lenders specified in Appendix 1 of the aforesaid credit agreement and Bank Hapoalim Ltd., in its capacity as Credit Manager and Security Trustee, including its appendices and/or any amendment and/or addendum and/or modification thereto (hereinafter, the "Credit Agreement"), and subject to the provisions of the Credit Agreement, we hereby write to you as follows:

4. We hereby request that you provide us, on _____ / by no later than _____ (hereinafter, the "Withdrawal Date") with a loan in the amount of _____ (_____ US Dollars² (hereinafter, the "Withdrawal Amount")³ for a period of ⁴ month / two months / three months / four months / five months / six months / another period of⁵: _____ (hereinafter, the "Loan Period"), which shall bear variable interest at the Daily Simple SOFR reference rate at the Daily Simple SOFR rate (for a period of _____) with an additional rate of _____ % per annum and/or at the Term SOFR reference rate (for a period of _____) with an additional rate of _____ % per annum ⁶ (subject only to your having provided us with the Withdrawal Amount in our account at your bank on the requested Withdrawal Date constituting your approval of the aforesaid interest rate⁷) with an Interest Period of:⁸ month / three months / six months / another period of: _____ (hereinafter, the "Interest Period").

¹ The Withdrawal Application must be delivered to the Lender by registered mail, fax or in any other manner to be agreed with the Lender. If on the date of submission of the Application an original copy of the Application is not delivered, the Lender must be furnished with an original copy of the Withdrawal Application by registered mail by no later than 7 (seven) business days after the date of this Withdrawal Application.

² In the event it is agreed in advance and in writing with the relevant Lender that the loan will be provided in New Israeli Shekels or in foreign currency which is not US dollars, the currency name shall be altered.

³ Please specify an amount of not less than 200,000 (Two Hundred Thousand) US dollars.

⁴ Please choose the relevant loan period.

⁵ Another loan period may be chosen, if the prior written consent of the relevant Lender is granted, provided that the period is shorter than six months.

⁶ In the event it is agreed in advance and in writing with the relevant Lender that the loan will be provided in New Israeli Shekels, the "SOFR" shall be replaced by the quoted basic interest rate - "Prime".

⁷ It is hereby clarified, for the avoidance of doubt only, that nothing in this Withdrawal Application shall derogate from the provisions of the Credit Agreement in relation to withdrawal of loans.

⁸ The Interest Period in relation to a loan shall be one month; however, (a) in relation to loans for a period of three months an Interest Period of three months may be chosen, (b) in relation to loans for a period of six months, an Interest Period of three months or six months may be chosen, (c) in relation to loans for a period longer than one month but shorter than three months (not including three months) and in relation for a period longer than three months but shorter than six months (not including six months), different Interest Period may be chosen, if the Lender's prior written consent was given.

5. The nominal annual interest rate as of _____ is __%.
6. The adjusted annual interest rate as of _____ is __%.
7. The nominal annual default interest rate as of _____ is __%.
8. The adjusted annual default interest rate as of _____ is __%.
9. We hereby declare and undertake the following:
 - 9.1 The Withdrawal Date is a business day during the availability period;
 - 9.2 The Withdrawal Amount requested does not exceed the unutilized balance of the line of credit of the loans at the Lender;
 - 9.3 The Loan Period does not terminate after the final date of payment;
 - 9.4 No Event of Default occurred (without taking into account cure and/or waiting periods, if any are granted under the provisions of the Credit Agreement), which was not remedied by the date of this Withdrawal Application and no Event of Default shall occur (without taking into account cure and/or waiting periods, if any are granted under the provisions of the Credit Agreement) in consequence of extending of the loan under this Withdrawal Application;
 - 9.5 All the representations set forth in section 15 of the Credit Agreement, with the exception of those set forth in sections: 15.1.1 (only with respect to the fact that the Borrower's shares are listed for trading on the Tel Aviv Stock Exchange Ltd.), 15.1.2, 15.1.3(a), 15.1.5, 15.1.6, 15.1.10, 15.1.11, 15.1.16, 15.1.25, and 15.1.28 to 15.1.30 of the Credit Agreement are true and accurate, as of the Withdrawal Date.
10. Any term not defined in this Withdrawal Application shall have the meaning ascribed to it in the Credit Agreement.
11. Our application is being submitted pursuant to the provisions of the Credit Agreement and constitutes a Credit Document, as this agreement term is defined in the Credit Agreement.

Sincerely,

Ceragon Networks Ltd.

Amendment Document Number 15 to the Credit Agreement of March 14, 2013

Made and entered into in Tel Aviv on the 30th day of June 2022

By and between: The entities enumerated in Appendix 1 of the Credit Agreement
in their function as lenders (the "Lenders") **of the first part**

And: Bank Hapoalim Ltd.
in its function as Credit Manager
and in its function as Security Trustee
(**"Bank Hapoalim"**) **of the second part**

And: Ceragon Networks Ltd.
Company no. 51-235244-4
of 24 Raoul Wallenberg Street, Tel Aviv, 6971920
(the **"Borrower"**) **of the third part**

(each of the Lenders, the Credit Manager, the Security Trustee and the Borrower are hereinafter, the "Party" and jointly, the "Parties").

Whereas: on March 14, 2013 the Borrower entered into a credit agreement with the Lenders, inclusive of its appendices and attachments, as amended and as shall be amended from time to time (the "Credit Agreement") in and under which, *inter alia*, the Borrower was provided with the "credit"; and

Whereas: the Borrower approached the Lenders and requested to draw up various amendments to the Credit Agreement, as set forth below in this Amendment Document; and

Whereas: in reliance on the correctness of the declarations and representations of the Borrower in the Credit Agreement and in this Amendment Document, as set forth below, and performance of all its undertakings as set forth in the Credit Agreement as amended in this Amendment Document, the Lenders accepted the Borrower's request, all subject and pursuant to the terms and conditions of the Credit Agreement and this Amendment Document.

Now therefore the Parties hereto agree as follows:

1. **General**

1.1 The preamble to this Amendment Document constitutes an integral part hereof. All terms mentioned heretofore and hereinafter in this Amendment Document shall have the meaning given to them in the Credit Agreement, unless explicitly stated otherwise.

- 1.2 For the avoidance of doubt, it is agreed that this Amendment Document constitutes part of the Credit Documents, as defined in section 2 of the Credit Agreement.
- 1.3 In addition to any declaration, representation or undertaking of the Borrower in the "Credit Documents" (as this term is defined in the Credit Agreement) or in any other agreement or document delivered or to be delivered to the Lenders in connection with the credit or in connection with the securities, and without prejudicing or derogating from any of the foregoing (except as required from this Amendment Document), the Borrower declares, confirms and undertakes to the Lenders and office holders as follows:
- 1.3.1 the Borrower fully and accurately performed and is continuing to perform all the provisions of the Credit Agreement;
- 1.3.2 all the Borrower's representations set forth in the Credit Agreement (with the exception of those set forth in sections 15.1.2, 15.1.3(a), 15.1.5, 15.1.6, 15.1.10, 15.1.11, 15.1.12 and 15.1.16 and also with the exception of the representation in section 15.1.1 only with respect to the representation that the Borrower's shares are listed for trading on the Tel Aviv Stock Exchange Ltd.) remain in effect and are true and complete as of the date of signature of this Amendment Document;
- 1.3.3 (a) the Borrower obtained all the decisions, agreements, authorizations, permits and approvals required under its documents of incorporation, under the provisions of any law and at the instruction of any authority whatsoever in connection with making this Amendment Document or in connection with the Credit Agreement and its appendices; (b) there is no need to adopt decisions or provide any additional consents or approvals; (c) all measures and acts required were taken to lawfully approve its entering into this Amendment Document; (d) all the Borrower's undertakings under, within or in connection with this Amendment Document or the Credit Agreement or the other Credit Documents are lawful, in existence, valid, binding and enforceable against it according to their terms.

2. **Extension of Final Repayment Date**

- 2.1 Commencing on the date of signature of this Amendment Document, section 2 of the Credit Agreement shall be amended so that the existing definition "Final Repayment Date" therein shall be deleted and the following shall be inserted in its place:

""Final Repayment Date" means June 30, 2023".

3. **Increasing the Loans Limits and Decreasing the Bank Guarantees Limit**

3.1 Without derogating from the provisions of sections 18.8 and 18.9 of the Credit Agreement, commencing on the date of signature of this Amendment Document:

- (a) The loans limits amount set forth in Appendix 1 of the Credit Agreement shall be amended so that the total loans limits allocated by all the Lenders jointly shall increase and reach the sum of USD 62,200,000 (Sixty Two Million Two Hundred Thousand), and the portion of each of the Lenders in the loans limits shall be as set forth in Appendix 1 of the Credit Agreement (as shall be amended in this Amendment Document).
- (b) The bank guarantees limits amount set forth in Appendix 1 of the Credit Agreement shall be amended so that the total bank guarantees limits to be allocated by all the Lenders jointly shall be reduced to the sum of USD 57,800,000 (Fifty Seven Million Eight Hundred Thousand), as follows, and the portion of each of the Lenders in the bank guarantees limits shall be as set forth in Appendix 1 of the Credit Agreement (as shall be amended in this Amendment Document).
- (c) If, following the reduction in the bank guarantees limits as stated in subsection (b) above, the amount of the utilized bank guarantees limit allocated by a specific Lender ("**Utilization Amount**") was greater than the bank guarantees limit amount allocated by the Lender in question (the "**Limit Amount**") – the difference between the Utilization Amount and the Limit Amount shall be deemed the amount utilized from the loans limit allocated by the Lender in question and not as the amount utilized from the bank guarantees limit.

For example only: if, before the amendment under this Amendment Document, the loans limit amount allocated by a Lender was NIS 50 million, from which NIS 40 million was utilized, whereas the bank guarantees limit that was allocated by the Lender in question was NIS 30 million, from which NIS 25 was utilized, and following the amendment under this Amendment Document the loans limit amount increased to NIS 60 million and the bank guarantees limit amount was reduced to NIS 20 million, then the Utilization Amount of the guarantees limit shall be NIS 20 million and the Utilization Amount of the loans limit shall be NIS 45 million.

3.2 Commencing on the date of signature of this Amendment Document, Appendix 1 of the Credit Agreement shall be replaced by the **Appendix 1** attached to this Amendment Document, according to the amendments set forth in section 3.1 above.

3.3 Commencing on the date of signature of this Amendment Document, section 16.28.5 of the Credit Agreement shall be amended so that Appendix 16.28.5 of the Credit Agreement shall be replaced by the **Appendix 16.28.5** attached to this Amendment Document.

3.4 The Borrower undertakes that commencing on the date of signature of this Amendment Document, at least once every quarter, the amount utilized by the Borrower from the loans limit in relation to each Lender, shall not exceed the loans Limit Amount allotted by the Lender in question, according to the portion of each Lender in the loans limit, as set forth in Appendix 1 of the Credit Agreement in the version in effect immediately prior to the entry into effect of this Amendment document (this version of Appendix 1 is attached herewith as **Appendix 3.4** of this Document).

4. **Customer Portfolio Insurance**

4.1 The Credit Agreement shall be amended so that after section 16.30 of the Credit Agreement, the following sections shall be inserted:

“16A.30 that the Borrower entered and/or shall enter into an agreement with insurance companies under insurance arrangements in favor of the Borrower, that were intended to insure the Borrower’s customer portfolio and guarantee payment of compensation to the Borrower in the event the customer fails to fulfill its obligations to the Borrower pursuant to the agreement between the customer and the Borrower and that within the scope of these insurance arrangements in circumstances in which it is determined according to the conditions determined in the insurance arrangement that the Borrower is entitled to compensation from the customer, the insurance company shall compensate the Borrower and it may recourse to the relevant customer and obligate it to payment of the amounts paid by the insurance company.

16B.30 The Borrower undertakes to furnish the Lenders, upon the end of each calendar quarter, with a certificate signed by the CFO of the Borrower approving the existence of the insurance arrangements as stated in section 16A.30 above.”

5. **Payments**

5.1 The Borrower undertakes to pay: (a) Bank Hapoalim, in its position as Credit Manager, and also (b) each Lender, via the Credit Manager, a special one-time agreed payment in connection with the amendment of the Credit Agreement, all as set forth in the cover letter to be signed concurrently with the signature of this Amendment Document by the Borrower.

5.2 Any payment as set forth above shall be deemed final and absolute, and shall not be returned to the Borrower for any reason whatsoever.

6. **Miscellaneous**

6.1 Unless explicitly determined otherwise in this Amendment Document, the conditions and undertakings set forth in this Amendment Document do not derogate or prejudice or alter any other undertaking of the Borrower to the Lenders or the validity of any security whatsoever provided in favor of the Security Trustee for the Lenders according to and under the Credit Agreement or the other Credit Documents or any other document or agreement delivered or to be delivered to the Lenders or any office holder in connection with the credit, and they shall continue to remain in full and binding effect, including any provisions relating to the rights of the Lenders to make the credit immediately payable, all pursuant and subject to the terms and conditions of the Credit Documents.

- 6.2 This Amendment Document, unless explicitly stated herein otherwise, is in addition to and shall not derogate from, alter or prejudice the provisions of the Credit Agreement and the Amendment Documents, and except as explicitly stated in this Amendment Document, all rights of the Lenders and the Borrower under the Credit Agreement, the Amendment Documents and under the provisions of any law, are saved absolutely.
- 6.3 This Amendment Document may be signed by the Parties to it in one copy or several separate copies by any of the Parties, which shall jointly constitute one document.

[signature page follows]

In witness whereof, the Parties hereto affix their signature:

Ceragon Networks Ltd.

Bank Hapoalim Ltd.
(as Lender, in its position as Credit Manager and in its position as Security Trustee)

First International Bank of Israel Ltd.
(as Lender)

HSBC Bank PLC
(as Lender)

Bank Leumi Le-Israel B.M.
(as Lender)

Attorney certification

I, the undersigned, _____, Adv., serving as legal advisor to Ceragon Networks Ltd. (the "**Borrower**"), hereby certify that this Amendment Document was duly signed by the Borrower, by means of _____, I.D. no. _____ and _____, I.D. no. _____, according to a resolution of the Borrower which was duly adopted, and in accordance with the Borrower's updated documents of incorporation. Likewise, I hereby certify that this agreement was signed by those persons with authority to bind the Borrower, whose signature on this agreement binds the Borrower for all intents and purposes.

Date

Attorney signature and stamp

List of Lenders and Details of Credit Commitments and Permitted Risk Limits of each Lender

1. Each of the terms in this Appendix shall have the meaning ascribed to them in the Credit Agreement.
2. The list of lenders is as set forth in this Appendix.

			Loans Limit Amount Allocated by Lender	Bank Guarantees Limit Amount Allocated by Lender	Permitted Risk Limit Amount
1.	Bank Hapoalim Ltd.	<p><u>Name:</u> Ms. Yael Nasatzky</p> <p><u>Address:</u> Business Division in the Business Department, Head Office, Bank Hapoalim Ltd., 23 Menachem Begin Road, Tel Aviv-Jaffa</p> <p><u>Telephone:</u> 03-5674300; <u>fax:</u> 03-6014926</p> <p><u>email:</u> yael.nasatzky-shapiro@poalim.co.il</p>	USD 31,100,000 (Thirty-One Million One Hundred Thousand)	USD 34,900,000 (Thirty-Four Million Nine Hundred Thousand)	USD 5,427,586 (Five Million Four Hundred Twenty-Seven Thousand Five Hundred Eighty-Six)
2.	Bank Leumi Le-Israel B.M.	<p><u>Name:</u> Mr. Danny Shapira</p> <p><u>Address:</u> Hi-Tech Division, Business Department, Bank Leumi, 34 Yehuda Halevy Street, Tel Aviv-Jaffa 65136</p> <p><u>Telephone:</u> 076-885-9184; <u>fax:</u> 077-8959184</p> <p><u>email:</u> Danny.Shapira@BankLeumi.co.il</p>	USD 12,300,000 (Twelve Million Three Hundred Thousand)	USD 11,900,000 (Eleven Million Nine Hundred Thousand)	USD 1,000,000 (One Million)

3.	First International Bank of Israel Ltd.	<p>Name: Ms. Naama Magid Telephone: 03-5196239; fax: 03-5196944 email: magid.n@fibi.co.il</p> <p>Name: Hezi Cupryk Telephone: 03-619599; fax: 03-5196944 email: Cupryk.H@fibi.co.il</p> <p>Address: Energy, Chemical and Technology Sector, in the Business Department, The First International Bank of Israel Ltd., 42 Rothschild Street, Tel Aviv-Jaffa</p>	USD 10,000,000 (Ten Million)	USD 7,000,000 (Seven Million)	USD 3,982,759 (Three Million Nine Hundred Eighty-Two Thousand Seven Hundred Fifty-Nine)
4.	HSBC BANK PLC (Tel Aviv Branch)	<p>Name: Ms. Rina Klier Address: 2 Jabotinsky Street, Ramat Gan, Amot Atrium Building, 30th floor, 5250501 Telephone: 03-7101244; fax: 03-7101144 email: rinaklier@hsbc.com</p>	USD 8,800,000 (Eight Million Eight Hundred Thousand)	USD 4,000,000 (Four Million)	USD 400,000 (Four Hundred Thousand)
Total			USD 62,200,000 (Sixty-Two Million Two Hundred Thousand)	USD 57,800,000 (Fifty-Seven Million Eight Hundred Thousand)	USD 10,810,345 (Ten Million Eight Hundred Ten Thousand Three Hundred Forty-Five)

Periodic Report in Relation to Utilization of Loans Limits and Bank Guarantees Limits

1. Each of the terms in this Appendix shall have the meaning ascribed to them in the Credit Agreement.
2. The utilization amounts set forth in this Appendix 16.28.5 below are correct as of the ___ day of _____, _____ (in relation to calendar quarter no. ___ for the year _____).

	Loans Limit Amount	Amount Utilized by the Borrower from the Loans Limit¹	Bank Guarantees Limit	Amount Utilized by the Borrower from the Bank Guarantees Limit
Total	USD 62,200,000 (Sixty-Two Million Two Hundred Thousand)	USD _____ (_____)	USD 57,800,000 (Fifty-Seven Million Eight Hundred Thousand)	USD _____ (_____)

¹ The utilization amount from the loans limit, including also the credit cards limits amount provided by the Lenders (whether or not the credit cards limits were utilized wholly or partially).

CERTIFICATION

I, Doron Arazi, certify that:

1. I have reviewed this annual report on Form 20-F of Ceragon Networks 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 the 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 the company's board of directors (or persons performing the equivalent functions):
 - (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: May 1, 2023

CERAGON NETWORKS LTD.

By: /s/ Doron Arazi

Name: Doron Arazi

Title: Chief Executive Officer

CERTIFICATION

I, Ronen Stein, certify that:

1. I have reviewed this annual report on Form 20-F of Ceragon Networks 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 the 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 the company's board of directors (or persons performing the equivalent functions):
 - (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: May 1, 2023

CERAGON NETWORKS LTD.

By: /s/ Ronen Stein
Name: Ronen Stein
Title: Chief Financial Officer

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 20-F of Ceragon Networks Ltd. (the "Company") for the year ended December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned hereby certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 that to the best of our knowledge:

1. The Report fully complies with the requirements of Section 13(a) 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: May 1, 2023

By: /s/ Doron Arazi
Name: Doron Arazi
Title: Chief Executive Officer

By: /s/ Ronen Stein
Name: Ronen Stein
Title: Chief Financial Officer

A signed copy of this written statement required by Section 906 has been provided to Ceragon Networks Ltd. and will be retained by Ceragon Networks Ltd. and furnished to the Securities and Exchange Commission or its staff upon request.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following Registration Statements:

- (1) Registration Statement (Form F-3 No. 333-237809) of Ceragon Networks Ltd. and
- (2) Registration Statements (Form S-8 No. 333-117849, 333-136633, 333-158983, 333-164064, 333-173480, 333-187953, 333-204090, 333-231529, 333-237509, 333-259877 and 333-268602) pertaining to securities to be offered to employees in employee benefit plans of Ceragon Networks Ltd. of our reports dated May 1, 2023, with respect to the consolidated financial statements of Ceragon Networks Ltd. and the effectiveness of internal control over financial reporting of Ceragon Networks Ltd. included in this Annual Report (Form 20-F) of Ceragon Networks Ltd. for the year ended December 31, 2022.

Tel-Aviv
May 1, 2023

/s/ KOST FORER GABBAY & KASIERER
KOST FORER GABBAY & KASIERER
A Member of EY Global
