

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

FORM 10-K

☒ 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 _____

Commission File Number: **000-56004**

ONDAS HOLDINGS INC.

(Exact name of registrant as specified in its charter)

Nevada

47-2615102

(State or other jurisdiction of incorporation or organization)

(I.R.S. Employer Identification No.)

411 Waverley Oaks Road, Suite 114, Waltham, MA 02452

(Address of principal executive offices) (Zip Code)

Registrant's telephone number **(888) 350-9994**

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock par value \$0.0001	ONDS	The Nasdaq Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. 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 (\$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, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

If an emerging growth company, 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 whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

The aggregate market value of the common stock held by non-affiliates of the registrant as of June 30, 2022 (the last business day of the registrant's most recently completed second fiscal quarter) was approximately \$187,729,280. For purposes of this computation, all officers, directors, and 10% beneficial owners of the registrant are deemed to be affiliates. Such determination should not be deemed to be an admission that such officers, directors, or 10% beneficial owners are, in fact, affiliates of the registrant.

The number of shares outstanding of the issuer's common stock as of March 10, 2023 was 49,062,030.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

From time to time we make statements concerning our expectations, beliefs, plans, objectives, goals, strategies, future events or performance and underlying assumptions and other statements that are not historical facts. These statements are “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those expressed or implied by these statements. Forward-looking statements may appear throughout this report, including without limitation, the following sections: Item 1 “Business,” Item 1A “Risk Factors,” and Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” “Forward-looking statements generally can be identified by words such as “anticipates,” “believes,” “estimates,” “expects,” “intends,” “predicts,” “projects,” “will be,” “will continue,” “will likely result,” and similar expressions. These forward-looking statements are based on current expectations and assumptions that are subject to risks and uncertainties, which could cause our actual results to differ materially from those reflected in the forward-looking statements. Factors that could cause or contribute to such differences include those discussed in this Annual Report on Form 10-K, and in particular, the risks discussed under the caption “Risk Factors” in Item 1A and those discussed in other documents we file with the Securities and Exchange Commission (“SEC”). We undertake no obligation to revise or publicly release the results of any revision to these forward-looking statements, except as required by law. Given these risks and uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements.

We caution you that assumptions, beliefs, expectations, intentions, and projections about future events may and often do vary materially from actual results. Therefore, we cannot assure you that actual results will not differ materially from those expressed or implied by our forward-looking statements. A summary of some of the factors that could cause actual results to differ from those expressed or implied by our forward-looking statements, including forward-looking statements contained in this Annual Report on Form 10-K, is provided below under “Risk Factor Summary.” These factors should not be construed as exhaustive and should be read in conjunction with the other cautionary statements that are included in this Annual Report on Form 10-K and our other filings with the SEC. Should one or more of these risks or uncertainties materialize, or should any of our assumptions prove incorrect, our actual results may vary in material respects from those projected in these forward-looking statements. Factors or events that could cause our actual results to differ may emerge from time to time, and it is not possible for us to predict all of them. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures, investments, or other strategic transactions we may make. You should not place undue reliance on our forward-looking statements.

Each forward-looking statement speaks only as of the date of the particular statement, and we undertake no obligation to update or revise any forward-looking statements whether as a result of new information, future developments or otherwise, except as required by law.

Risk Factor Summary

Our business is subject to a number of risks and uncertainties, including those highlighted in the section titled “Item 1A. Risk Factors” in this Annual Report on Form 10-K. Some of these principal risks include the following:

Risks Related to Our Business and Industry

- We have incurred significant operating losses since inception and cannot assure you that we will ever achieve or sustain profitability.
- The Company operates in evolving markets, which makes it difficult to evaluate the Company’s business and future prospects.
- Failure to manage our planned growth could place a significant strain on our resources.
- If we fail to retain our existing customers or do not acquire new customers in a cost-effective manner, our revenue may decrease and our business, financial condition or results of operations may be harmed.
- Our contractors may fail to satisfy their obligations to us or other parties, or we may be unable to maintain these relationships, either of which may have a material adverse effect on our business, financial condition and results of operations.
- Material delays or defaults in customer payments could leave us unable to cover expenditures related to such customer’s projects, including the payment of our subcontractors.
- Warranty claims resulting from our services could have a material adverse effect on our business, financial condition or results of operations.
- Our marketing efforts depend significantly on our ability to receive positive references from our existing customers.
- Our technology, products and services have only been developed in the last several years and we have had only limited opportunities to deploy and assess their performance in the field at full scale.
- We expect to incur substantial research and development costs and devote significant resources to identifying and commercializing new products and services, which could significantly reduce our profitability and may never result in revenue to us.
- If our products do not interoperate with our customers’ other systems, the purchase or deployment of our products and services may be delayed or cancelled.
- Cyberattacks through security vulnerabilities could lead to disruption of business, reduced revenue, increased costs, liability claims, or harm to our reputation or competitive position.
- If the Company is required to write down goodwill and other intangible assets, the Company’s financial condition and results could be negatively affected.
- We may not be able to secure adequate insurance policies, or secure insurance policies at reasonable prices.
- Litigation may adversely affect our business, financial condition, and results of operations.
- Our products have inherent safety risks, as they often operate in hazardous industrial environments and are relied on by our customers to operate in a safe manner. If the reliability of our products fails to meet expected levels during commercial operation, this could result in property damage, injury, death, financial harm to the business, and/or brand harm to the business.

Risks Related to Regulatory Requirements

- We and our customers operate in a highly regulated business environment and changes in regulation could impose costs on us or make our products less economical.
- Failure to obtain necessary regulatory approvals from the FAA or other governmental agencies, or limitations put on the use of small UAS in response to public privacy and other concerns, may prevent us from expanding the sales of our drone solutions to industrial and government customers in the United States.
- Substantially all our current products depend on the availability and are subject to the use of licensed radio frequencies regulated by the FCC in the United States.
- As a manufacturer of commercial UAS, we are subject to various government regulations, restrictions and requirements, and may be subject to additional regulations in the future, violation of which could subject us to sanctions or otherwise harm, restrict or add costs to our business.

Risks Related to our Intellectual Property

- Our ability to protect our intellectual property and proprietary technology is uncertain.
- Our business may suffer if it is alleged or found that our products infringe the intellectual property rights of others.
- Intellectual property rights do not necessarily address all potential threats to our competitive advantage.

Risks Related to our Financial Results

- We will need to generate significant sales to achieve profitable operations.
- Our future profitability may be dependent upon achieving cost reductions and projected economies of scale from increasing manufacturing quantities of our products. Failing to achieve such reductions in manufacturing costs and projected economies of scale could materially adversely affect our business.
- We previously identified a material weakness in our internal control over financial reporting associated with the inadequate review of stock-based compensation issued in connection with the acquisition of American Robotics, which has since been remediated, and we may identify material weaknesses in the future.

- Following the completion of the acquisition of Airobotics, our exposure to fluctuations in foreign currency exchange rates has increased.

Risks Related to the Airobotics Transaction

- Our business relationships, those of Airobotics or the combined company may be subject to disruption due to uncertainty associated with the acquisition of Airobotics (the “Airobotics Transaction”).
- Ondas may experience difficulties integrating Airobotics’ business.
- The combined company may not fully realize the anticipated benefits of the Airobotics Transaction within the timing anticipated or at all.
- The Airobotics Robotics Transaction involved substantial costs.

Risks Related to our Common Stock

- Concentration of ownership of our common stock among our existing executive officers, directors and principal stockholders may prevent new investors from influencing significant corporate decisions.
- We may issue more shares to raise additional capital, which may result in substantial dilution.

Item 1. Business.

This business description should be read in conjunction with our audited consolidated financial statements and accompanying notes thereto appearing elsewhere in this Annual Report on Form 10-K for the year ended December 31, 2022 (the “Form 10-K”), which are incorporated herein by this reference.

The use of the words “we,” “our,” the “Company” and “Ondas Holdings” in this Form 10-K refer to Ondas Holdings Inc. and its subsidiaries.

Corporate Overview

Ondas Holdings Inc. is a leading provider of private wireless, drone, and automated data solutions through its wholly owned subsidiaries Ondas Networks Inc. (“Ondas Networks”), American Robotics, Inc. (“American Robotics” or “AR”) and Airobotics, Ltd. (“Airobotics”).

Ondas Holdings acquired American Robotics, a leading developer of highly automated commercial drone systems on August 5, 2021.

Ondas Holdings acquired Airobotics, an Israeli-based developer of autonomous drone systems on January 23, 2023.

American Robotics and Airobotics are operated together, under a separate business unit called Ondas Autonomous Systems. Ondas Networks and Ondas Autonomous Systems together provide users in rail, energy, mining, agriculture, public safety and critical infrastructure and government markets with improved connectivity, data collection capabilities, and data collection and information processing capabilities. We operate Ondas Networks and Ondas Autonomous Systems as separate business segments. See Note 1 and Note 2 of the accompanying Consolidated Financial Statements for further information regarding our segments.

Ondas Networks

Ondas Networks provides wireless connectivity solutions enabling mission-critical Industrial Internet applications and services. We refer to these applications as the Mission-Critical Internet of Things (“MC-IoT”). Our wireless networking products are applicable to a wide range of MC-IoT applications, which are most often located at the very edge of large industrial networks. These applications require secure, real-time connectivity with the ability to process large amounts of data at the edge of large industrial networks. Such applications are required in all of the major critical infrastructure markets, including rail, electric grids, drones, oil and gas, and public safety, homeland security and government, where secure, reliable and fast operational decisions are required in order to improve efficiency and ensure a high degree of safety and security.

We design, develop, manufacture, sell and support FullMAX, our patented, Software Defined Radio (“SDR”) platform for secure, licensed, private, wide-area broadband networks. Our customers install FullMAX systems in order to upgrade and expand their legacy wide-area network infrastructure. Our MC-IoT intellectual property has been adopted by the Institute of Electrical and Electronics Engineers (“IEEE”), the leading worldwide standards body in data networking protocols, and forms the core of the IEEE 802.16s standard. Because standards-based communications solutions are preferred by our mission-critical customers and ecosystem partners, we have taken a leadership position in IEEE as it relates to wireless networking for industrial markets. As such, management believes this standards-based approach supports the adoption of our technology across a burgeoning ecosystem of global partners and end markets.

Our software-based FullMAX platform is an important and timely upgrade solution for privately-owned and operated wireless wide-area networks, leveraging Internet Protocol-based communications to provide more reliability and data capacity for our mission-critical infrastructure customers. We believe industrial and critical infrastructure markets throughout the globe have reached an inflection point where legacy serial and analog based protocols and network transport systems no longer meet industry needs. In addition to offering enhanced data throughput, FullMAX is an intelligent networking platform enabling the adoption of sophisticated operating systems and equipment supporting next-generation MC-IoT applications over wide field areas. These new MC-IoT applications and related equipment require more processing power at the edge of large industrial networks and the efficient utilization of network capacity and scarce bandwidth resources which can be supported by the “Fog-computing” capability integrated in our end-to-end network platform. Fog-computing utilizes management software to enable edge compute processing and data and application prioritization in the field enabling our customers more reliable, real-time operating control of these new, intelligent MC-IoT equipment and applications at the edge.

Ondas Autonomous Systems

Our Ondas Autonomous Systems business unit designs, develops, and markets commercial drone solutions via the Optimus System™ and Scout System™ (the “Autonomous Drone Platforms”).

The Autonomous Drone Platforms are highly automated, AI-powered drone systems capable of continuous, remote operation and are marketed as “drone-in-a-box” turnkey data solution services. They are deployed for critical industrial and government applications where data and information collection and processing are required. These use cases include public safety, security and smart city deployments where routine, high-resolution automated emergency response, mapping, surveying, and inspection services are highly valued, in addition to industrial markets such as oil & gas, rail and ports which emphasize security and inspection solutions. The Autonomous Drone Platforms are typically provided to customers under a Data-as-a-Service (DaaS) business model, while some customers will choose to purchase and own and operate an Optimus Systems™.

American Robotics and Airobotics have industry leading regulatory successes which include having the first drone system approved by the Federal Aviation Administration (“FAA”) for automated operation beyond-visual-line-of-sight (BVLOS) without a human operator on-site.

In addition to the Autonomous Drone Platforms, we also offer a counter-drone system called the Raider™. The Raider was developed by Iron Drone and is deployed by government and enterprise customers to provide security and protect critical infrastructure, assets and people from the threat of hostile drones. Ondas Holdings acquired Iron Drone on March 6, 2023.

Autonomous Drone Platforms

We design, develop and manufacture autonomous drone systems, providing high-fidelity, ultra-high-resolution aerial data to enterprise and government customers. We currently prioritize the marketing of our Optimus System™ which provides customers with a turnkey data and information solution and the ability to continuously digitize, analyze, and monitor their assets and field operations in real-time or near real-time. We believe the market opportunity for our Scout System™ remains significant. As we drive market adoption with the Optimus platform, we anticipate re-introducing the Scout platform including newly enhanced versions to help segment the market for different use cases and price points.

The Optimus System™ has been designed from the ground up as an end-to-end product capable of continuous unattended operations in the real world. Powered by innovations in robotics automation, machine vision, edge computing, and AI. Once installed in the field at customer locations, a fleet of connected Optimus Systems™, which are often deployed as networked drone infrastructure, which we refer to as Urban Drone Infrastructure, remains indefinitely positioned in an area of operation, automatically collecting and seamlessly delivering data and information regularly and reliably.

We market the Optimus System™ under a DaaS business model, whereby our drone platform aggregates customer data and provides the data analytics meeting customer requirements in return for an annual subscription fee. Some customers purchase Optimus Systems™ to own and operate themselves. We also engage distributors to assist in the sales and marketing of our Optimus System™ in geographic markets where it's more cost effective to identify and service potential customers by engaging local third parties. These distribution agreements can include joint ventures, where Ondas Autonomous Systems will provide technical expertise to support the joint venture partner in the provision of aerial data services to customers.

The Optimus System™ consists of (i) Optimus™, a highly automated, AI-powered drone with advanced imaging payloads, (ii) the Airbase™, a ruggedized weatherproof base station for housing, battery swapping, battery charging, payload swapping, data processing, and cloud transfer, and (iii) Insightful™, a secure web portal and API which enables remote interaction with the system, data, and resulting analytics anywhere in the world. These major subsystems are connected via a host of supporting technologies. Airbase™ has internal robotic systems that enable the automated swapping of batteries and payloads. Automated battery swapping allows for 24/7 operation of Optimus as the Optimus drone can immediately be redeployed after returning to the dock for a battery swap. Similarly, the ability to autonomously swap sensors and advanced payloads without human intervention allows for the Optimus System™ to provide multiple applications and use cases from a single location.

American Robotics and Airobotics have industry leading regulatory successes which include having the first drone system approved by the FAA for automated operation BVLOS without a human operator or visual observer on-site. American Robotics' FAA approvals were enabled by integrating a suite of proprietary technologies, including Detect-and-Avoid ("DAA") and other proprietary intelligent safety systems into its autonomous drone platform, which we plan to integrate into the Optimus System™. Airobotics is in the advanced stages of receiving approval for Type Certification ("TC") from the FAA for the Optimus UAV. TC approval will enable expanded operation for the Optimus System™ in the United States including flight operations in populated areas.

The Raider™

The Raider™ is a counter-drone system, which was designed and developed by Iron Drone, that we are marketing to government and enterprise customers who can utilize the system for security and the protection of critical infrastructure, assets and people from the threat of hostile drones. A typical Raider™ deployment location would include sensitive locations such as borders, stadiums or schools, or near critical assets such as power plants and military bases, and for high profile locations such as amusement parks or where public events are held.

The Raider™ is designed to detect, track and intercept unauthorized, or hostile unmanned aircraft and is most often sold with three small UAVs that are housed in a docking station. The Raider UAV has live video capability and a payload containing a net that can be deployed to intercept a hostile drone. Upon detection of an unauthorized drone, one or more Raider™ UAVs can be autonomously deployed at high speeds to track the unauthorized aircraft. If the unauthorized aircraft is deemed hostile, the Raider™ UAV can deploy the netting to physically intercept the aircraft. A parachute integrated with the netting allows the intercepted drone to safely fall to the ground for collection by our customer.

Partnership with Siemens

In April 2020, Ondas Networks entered into a strategic partnership with Siemens Mobility ("Siemens"), a worldwide leader in seamless, sustainable, reliable and secure transportation solutions for more than 160 years, to both market our FullMAX-based networking technology and services and to jointly develop wireless communications products for the North American Rail Industry based on Siemens' Advanced Train Control System ("ATCS") protocol and our FullMAX MC-IoT platform.

We believe Siemens has both the sales and marketing reach and support to drive our technology to wide scale acceptance across the global rail market beginning with the North American Class I Railroad market. In the third quarter of 2021 we completed the development of our first jointly-developed product with Siemens – the dual-mode ATCS/MC-IoT radio systems. Siemens is now marketing and selling these proprietary systems under the brand name *Airlink* to our railroad customers. The dual-mode ATCS radio systems support Siemens' extensive installed base of ATCS radios as well as offer Siemens' customers the ability to support a host of new advanced rail applications utilizing our MC-IoT wireless system. These new applications, including Advanced Grade Crossing Activation and Monitoring, Wayside Inspection, Railcar Monitoring and next generation signaling and train control systems, are designed to increase railroad productivity, reduce costs and improve safety. In addition, Siemens markets and sells Ondas Networks' standalone MC-IoT 802.16 products under the Siemens *Airlink* brand.

Our relationship with Siemens has expanded significantly since entering into the partnership both with (i) the wider marketing of our wireless technology platform and (ii) multiple additional joint-product programs. Siemens has expanded its marketing reach of Ondas Networks products with identified opportunities in North American Transit Rail as well as in European and Asian Rail markets. We believe our technology has broad potential in these large, newly targeted markets.

In November 2021, Siemens secured its first commercial 900 MHz rail order for a major Class I Railroad in the United States which was delivered in December 2021. In August 2022, we announced that we had secured an initial volume order from Siemens for the Class I Rail 900 MHz Network consisting of both ATCS compatible products along with Ondas' catalog products. In September 2022, we received government authorization to sell ATCS radios in Canada.

Our Strategy

Our goal is to be a global leader in providing turnkey data solutions for industrial, public safety and government markets by offering i) secure wireless connectivity solutions enabling high-bandwidth, mission-critical Industrial Internet applications and services through Ondas Networks and ii) automated commercial drone services through Ondas Autonomous Systems.

The acquisition of Airobotics was a transformative event for Ondas. Our strategy will emphasize realizing the financial and strategic benefits of combining American Robotics and Airobotics under the Ondas Autonomous Systems business unit. We believe this combination will allow us to accelerate revenue generation and allow us to operate more cost efficiently. The revenue benefits come via expanded global sales and marketing which is significantly enhanced by introducing the Optimus System™ to the US market via our American Robotics customer and field operations staff. Cost efficiencies can be realized via these global sales efforts, elimination of redundant R&D efforts, and through the integration of our product development and engineering teams focused on a single product roadmap.

The key elements of our growth strategy include the following:

- *Deliver multiple North American Class I Railroad network opportunities through our FullMAX platform.* Our marketing and business development efforts combined with our exclusive strategic partnership with Siemens has generated the potential for significant sales in our targeted end markets. We expect large-scale commercial adoption of our network technology by the North American Class 1 Railroad operators in the newly awarded 900 MHz frequency band. We received an initial volume purchase for commercial deployment in August 2022 from Siemens. Ondas and Siemens together are working with our railroad customers on commercial deployment strategies which we expect will significantly increase purchase orders for equipment and services in the North American Class I Rail markets with expansion plans into passenger and transit markets. In addition, together with Siemens, we are marketing our FullMAX platform as an upgrade for both the 450 MHz HOT network and the legacy 160 MHz voice-centric networks owned and operated by the North American Class 1 Railroad operators.
- *Expand fleet deployments of our Optimus System™ as Urban Drone Infrastructure.* We have developed a strong customer pipeline with planned commercial deployments of our Optimus System™ for public safety and smart city applications. We plan to focus on delivering our current backlog to existing customers, expanding the revenue collected per unit with additional users, and securing additional orders for denser, Urban Drone Infrastructure deployment with these customers. In addition, we plan to secure additional customers and distribution partners for our Optimus System™ globally including in the United States.

- *Continue to enhance the value of our Optimus System™ for customers.*
 - We plan to continue development of the Optimus System™ to improve functionality and value for customers. Optimus enhancements include the planned integration of technologies and intellectual property inherent in the Scout System™. We believe continuous enhancements to our Optimus System™ which will include increased diversity of payloads and more robust analytics capability will serve to increase the value of our drone-driven data solutions to customers and lead to larger and faster deployments with customers.
 - We plan to execute programs to lower unit manufacturing costs for the Optimus drone and Airbase. These programs will incorporate a variety of strategies, including design for manufacturing, replacement component sources, supply chain optimization, and economies of scale. Lower unit costs will result in improved profitability and allow for expansion into other end markets and system applications.
- *Expand our MC-IoT capabilities via partnerships, joint ventures, or acquisitions.* In addition to internal investment and development, we will continue to actively pursue external opportunities to enhance our product offerings and solutions for our critical infrastructure customers via joint ventures, partnerships, and acquisitions. We intend to focus on companies with complementary technologies or product offerings or synergistic distribution strategies.

Our Business Model

Ondas Networks

We sell our FullMAX MC-IoT wireless products and services globally through a direct sales force and value-added sales partners to industrial and critical infrastructure providers including major rail operators, commercial and industrial drone operators, electric and gas utilities, water and wastewater utilities, oil and gas producers and pipeline operators, and for other critical infrastructure applications in areas such as public safety, homeland security and defense, and transportation. We continue to develop our value-added reseller relationships which today include a strategic partnership with Siemens for the development of new types of wireless connectivity for the North American Rail market as well as selected global markets in both Europe and Asia. We believe our Siemens' partnership is indicative of the potential for additional Tier 1 partnerships in our other vertical markets including securing reseller relationships with major suppliers to the worldwide government and homeland security markets. To that end, in 2022, we expanded our relationship with Israel Aerospace Industries' (IAI) Elta division to deliver wireless solutions for the Integrated Coastal Surveillance markets in the Caribbean and India.

In executing our go-to-market strategy, we intend to monetize our software-based intellectual property and grow revenue and cash flow with embedded FullMAX software sales, Software-as-a-Service ("SaaS") arrangements, IP royalties based on Ondas Networks software and through additional services provided to customers and ecosystem partners. Customers deploy our connectivity and Fog-computing platform in private networks that are designed for lifetimes of 10 – 15 years or even longer. Our FullMAX platform is software-defined and offers customers flexibility to expand capacity and evolve network utilization. Similarly, our ecosystem partners often integrate our FullMAX software and wireless capability into their own long-lived equipment and systems which their customers purchase and deploy. As such, we believe our software solutions provide ongoing revenue opportunities related to both connectivity value and edge computing capability. Customers and ecosystem partners will require ongoing FullMAX system and security enhancements and for us to design additional features which create opportunities for additional, recurring revenue and profit streams. Our monetization strategies include:

Systems sales: Our FullMAX deployments are typically large, mission-critical wide-area networks deployed and privately operated by our industrial and government customers. These end-to-end system deployments involve sales consisting of both base stations and edge radio end points with embedded FullMAX software and network management software and tools.

Software and hardware maintenance agreements: Our customers contract with us for extended software and hardware maintenance which provide them with critical ongoing support for their installed network. These SaaS contracts provide revenue to us in the year following an initial installation. Software maintenance licenses entitle the customer to ongoing software and security upgrades as well as enabling the provision of additional system features. Similarly, hardware maintenance programs provide customers extended equipment warranty terms for an installed network. These SaaS maintenance arrangements allow our customers to continue to maintain a modern, flexible and upgradeable network over a long period of time. These agreements may extend for multiple years given the long average life of the installed and growing network.

Licensing / Royalties: In certain system deployments, our ecosystem partners will choose to embed FullMAX software into their own hardware and software platforms providing us with an ongoing per device multi-year revenue stream. Licensing is an effective way for an ecosystem partner to jumpstart customer activity. Alternatively, a partner may choose to develop software based on our intellectual property generating royalty revenue.

Other Services: We provide ancillary services directly related to the sale of our wireless communications products which include wireless network design, systems engineering, radio frequency planning, software configuration, product training, installation, and onsite support. Furthermore, we also provide engineering and product development services to ecosystem partners who are interested in integrating their intelligent equipment with our FullMAX SDR platform and need our expertise to do so.

Ondas Autonomous Systems

Ondas Autonomous Systems markets its Optimus System™ drone platform via a direct sales force to enterprise and government customers. We focus on identifying and qualifying large, sophisticated customers with active drone programs who have the ability and intent to expand those programs and eventually deploy fleets of automated drones across their portfolio of assets. After initial customer qualification, contracting and the receipt of a purchase order, we ship and install the Optimus System™ on the customer premises. Our field service personnel remain on location for a short period of time to ensure the programmed automated drone operations are meeting customer requirements.

Our Optimus System™ and the services provided via the autonomous drone platform can typically be acquired by customers under several arrangements ranging from Data-as-a-Service (“DaaS”) agreements to a full, outright sale of an Optimus System™.

- Under a DaaS agreement where we bundle hardware, software, operations, and maintenance into one annual subscription fee. We install an Optimus System on premises and one or multiple customers can procure services. For example, on a construction site, Airobotics can provide aerial data services via an Optimus System™ for security and safety applications, in addition to monitoring and inspection use cases. In many instances, multiple customers will subscribe for each unique service. The DaaS model is the most typical agreement we have with customers.
- Our Optimus System™ and services can also be provided to end customers via partnerships or joint ventures with third party drone services providers. Under these arrangements, Airobotics sells an Optimus System™ to the drone services provider for an upfront payment. Airobotics and the drone services provider then enter into an agreement to share in the revenues that the system generates via the provision of aerial data services to end customers.
- Customers can also purchase an Optimus System™ whereby they would own and operate the system. Purchases of Optimus typically come with ongoing services for maintenance. System purchases can be preferred by certain public safety and homeland security customers.

Airobotics is in the advanced stages of receiving approval for Type Certification (“TC”) from the FAA for the Optimus UAV. TC approval will enable expanded operation for the Optimus System™ in the United States including flight operations in populated areas. The significance of TC approval was highlighted by the FAA decision in April 21, 2021, to amend Part 107 rules which defined new conditions for Drone flights above people and enables night flight. The new regulations define four categories of Drones and clarify that small UAS (“sUAS”) such as the Optimus drone which are below a certain weight will be permitted to conduct flights above populated areas without receiving a specific certificate of Part 107 waiver for systems that have TC designations.

We also market The Raider™, the counter-drone system designed and developed by Iron Drone, a unit within Ondas Autonomous Systems. The Raider™ is targeted towards government and enterprise customers who can utilize the system for security and the protection of critical infrastructure, assets and people from the threat of hostile drones. The Raider™ was formally launched and available to customers in March 2022. We offer this product directly to customers and we intend to broaden the sales & marketing of the Raider™ with distribution through value-added resellers and partners in the future.

Our Products and Services

Ondas Networks

Ondas Networks has developed a next-generation radio platform specifically to meet the evolving data needs of large industrial and government customers and markets. These markets are differentiated from consumer markets in that the customers assets are dispersed over very wide and remote geographies with specific challenges to installation, maintenance, and upgrades. These challenges led us to design a new type of software-based radio platform capable of supporting a long useful life to the network hardware. Instead of using low cost, off the shelf, dedicated communications chipsets (“ASICs”), we selected powerful programmable embedded general-purpose processors, DSPs, and FPGAs, all of which are software upgradable. Our software defined radio (“SDR”) architecture, with more than 12 years in development and supported by a team of over 50 software engineers, allows us to customize almost any aspect of the air interface protocol, the key components of which are patented and have been incorporated into new IEEE wireless standards. The ability to constantly improve customer networks and hosted software applications with flexible, over-the-air software upgrade helps create customer loyalty and creates high switching costs.

Our FullMAX SDR platform is designed to enable highly secure and reliable industrial-grade connectivity for truly mission-critical applications. An end-to-end FullMAX network consists of connected wireless base stations, fixed and mobile edge radios and supporting technology all enabled by critical software developed and owned by Ondas Networks. The Fog-computing capability integrated in our end-to-end FullMAX SDR platform is valued by our customers and ecosystem partners as they seek to leverage the value of MC-IoT applications for improved safety, efficiency, and profitability. Our IEEE 802.16s compliant equipment is designed to optimize the performance of unused or underutilized low frequency licensed radio spectrum and narrower channels. We do this through various patented software algorithms including via “spectrum harvesting” techniques which aggregate narrowband channels to create increased broadband network capacity. Our channel aggregation algorithms include the ability to aggregate hard to utilize, non-contiguous narrowband channels and are a hallmark feature of a FullMAX broadband system.

The critical software algorithms powering our end-to-end FullMAX wireless SDR platform and related Fog-computing architecture have been developed by and are owned by Ondas Networks. FullMAX is an intelligent networking system which integrates core network management systems with edge computing resources including computing hardware and MC-IoT software applications. In the MC-IoT Fog enabled by FullMAX, base stations are enabled with a highly configurable Quality of Service algorithms which coordinate the data traffic within the Fog for both the edge radio and the resident MC-IoT applications. The intelligent base stations control and manage all network resources including our edge remotes; dynamically allocating bandwidth, prioritizing data packets and managing edge applications. The intelligent software-managed base stations determine whether to process data at the edge, distribute data traffic across the Fog to other edge remote radios or to transport information to the corporate Cloud. Our Edge remotes have embedded compute capability and are able to host MC-IoT applications including those from third party vendors via virtualized software systems managed in docker / container architectures and can also manage data from intelligent equipment or sensor networks that interface with the edge remotes in the field. Our software-managed edge remotes offer security via authentication, multi-layer encryption and virtual software firewalls which are requirements for mission-critical data networks.

We are dedicated to promoting standards-based wireless connectivity solutions for our customers. Our FullMAX platform is compliant with the mission critical wireless Industrial Internet IEEE 802.16s. The specifications in the IEEE 802.16s standard are primarily based on our FullMAX technology, and many of our customers and industrial partners actively supported our technology during the IEEE standards-making process. In January 2020, a new working group was launched by the IEEE to establish IEEE 802.16t, a further evolution of this wireless standard. The IEEE 802.16t working group includes industry-leading trade organizations such as the Association of American Railroads (“AAR”), MxV Rail (“MxV Rail”), the Utilities Technology Council (UTC) and the Electric Power Research Institute (EPRI), as well as representation from world-leading transportation and oil and gas companies. We expect our technology to remain a prominent feature of this evolving standard.

Ondas Autonomous Systems

We provide our customers with turnkey data and information solutions designed to meet their unique requirements in the field. We do this via our internally developed Optimus System™, a highly automated commercial drone platform which provides customers with the ability to continuously digitize, analyze, and monitor their assets and field operations in real-time or near real-time.

The Optimus System™ has been designed from the ground up as an end-to-end product capable of continuous unattended operations in the real world. The Optimus System™ consists of (i) Optimus™, a highly automated, AI-powered drone with advanced imaging payloads (ii) the Airbase™, a ruggedized weatherproof base station for housing, data processing, and cloud transfer, and (iii) Insightful™, a secure web portal and API which enables remote interaction with the system, data, and resulting analytics anywhere in the world. These major subsystems are connected via a host of supporting technologies. Using advanced robotic techniques, the Airbase™ has functionality that enables the automated swapping of batteries and payloads. Automated battery swapping allows for 24/7 operation of Optimus™ as the Optimus drone can immediately be redeployed after returning to the dock for a battery swap. Similarly, the ability to autonomously swap sensors and advanced payloads without human intervention allows for the Optimus System™ to provide multiple applications and use cases from a single location.

When deployed in smart city applications, the Optimus System™ is designed to operate as a network of smart drones linked to an urban control center and will function as a municipal infrastructure providing a variety of automated data solutions. The primary function of the deployed Urban Drone Infrastructure is to shorten response times of security and rescue forces to emergency situations, supporting law enforcement and homeland security activities, and streamlining diverse services provided by the municipality for the public's benefit. The Company is also examining drone parcel delivery and other smart city applications to be provided by the infrastructure.

In these deployments, customers establish permanent infrastructure which rely on fleets of automated drones that do not require on the ground human intervention to operate. The drones are able to operate as a task force that can simultaneously collect and provide critical information for a variety of customer requirements. The Airobotics drone infrastructure is specifically designed for urban environments and strategic facilities that require immediate security, monitoring and emergency response. Each system within the infrastructure framework includes a smart Airbase enabling automated battery changes enabling 24/7 operations, along with the automated loading and installation of sensors appropriate for each specified mission. Each system covers a perimeter up to 80 square kilometers surrounding an Airbase. Drone flights can be tasked to carry specific sensors, enabling every drone in the system to execute diverse tasks. The drones can be activated for complex longer-term operations. Flights are overseen by remote operators in a command-and-control center.

In certain geographic markets we will partner with a distributor to support the marketing and provision of aerial data services provided by an Optimus System™. These distributors typically have unique local knowledge and can more cost effectively target customers for Urban Drone Infrastructure deployment. In some instances, we will form joint ventures with distributors to provide aerial data services to government and enterprise customers. These joint ventures typically include agreements to purchase Optimus Systems™ and are arranged so that Ondas Autonomous Systems and our partner can share in the revenue and profitability in the provision of aerial data services.

The Raider™ is a counter-drone system, which was designed and developed by Iron Drone, that we are marketing to government and enterprise customers who can utilize the system for security and the protection of critical infrastructure, assets and people from the threat of hostile drones. A typical Raider™ deployment location would include sensitive locations such as borders, stadiums or schools, or near critical assets such as power plants and military bases, and for high profile locations such as amusement parks or where public events are held.

The Raider™ is designed to detect, track and intercept unauthorized, or hostile unmanned aircraft and is most often sold with three small UAVs that are housed in a docking station. The Raider UAV has live video capability and a payload containing a net that can be deployed to intercept a hostile drone. Upon detection of an unauthorized drone, one or more Raider™ UAVs can be autonomously deployed at high speeds to track the unauthorized aircraft. If the unauthorized aircraft is deemed hostile, the Raider™ UAV can deploy the netting to physically intercept the aircraft. A parachute integrated with the netting allows the intercepted drone to safely fall to the ground for collection by our customer.

The Market for Our Products and Services

We have targeted the North American freight rail operators for the initial adoption of our FullMAX platform. These rail operators currently operate legacy communications systems utilizing serial-based narrowband wireless technologies for voice and data communications. These legacy wireless networks have limited data capacity and are unable to support the adoption of new, intelligent train control and management systems. In addition to data capacity challenges, rail operators need to reliably cover the vast and often remotely located rail track and related infrastructure which extends nationwide. The rail operators require a next-generation, robust broadband system with significantly increased data throughput capacity and flexibility to adopt new applications. We believe a transition to integrated Fog-computing wireless communications systems will enable the rail operators to drive more intelligence to the edge of their operating environments enabling real time automation and better operator control of many critical operating systems related to train control, crossing safety, train and track integrity and drone operations. This upgrade cycle is being driven by a recent key event which occurred in August 2020 in which the Class 1 rail systems in the U.S. were awarded new nationwide “greenfield” wideband radio spectrum by the Federal Communications Committee (“FCC”). As part of the award, the rail operators are required by 2025, to vacate a series of legacy narrowband channels. The completion of this multiyear negotiation between the FCC and other licensed users is projected to generate a major network upgrade cycle for the rail industry which will support enhanced safety and improved efficiency and profitability of train operations.

The North American Rail Network is vast in scale, consisting of 140,000 miles of track, 25,000 locomotives, and 1.6 million railcars. Within this large footprint, we believe there are 200,000 highway crossings, with at least 65,000 of the crossings equipped with electronic systems today, a number which is expected to increase in the coming years. The Class I railroads currently operate four separate private wireless networks in support of train operations. Those networks are deployed using spectrum in the 160 MHz, 220 MHz, 450 MHz and 900 MHz bands. We believe a significant portion of the communications infrastructure has been in operation for more than 20 years and now requires a technological upgrade to support new applications and increased capacity requirements. Our FullMAX MC-IoT platform offers an excellent migration path for these applications. The Class I Railroads value the ability of our frequency agnostic SDR architecture to enable a substantial data capacity increase utilizing the railroad’s existing wireless infrastructure and dedicated FCC licensed radio frequencies, as well as the flexibility to adapt to and take advantage of future changes in spectrum availability, as well as future business and operational requirements. Based upon management estimates, we believe the addressable market for the four private North American Railroad networks is approximately \$1.3 billion. We believe the 900 MHz network will be the first network upgrade to adopt our FullMAX technology and we estimate that the market size for the 900 MHz network is approximately \$450 million.

Additional Critical Markets

We have launched additional initiatives to take our MC-IoT connectivity and ecosystem partnering strategy into other critical infrastructure markets. In June 2022, we announced the first successful installation of our technology into an Integrated Coastal Surveillance System (ICSS) in the Caribbean with a global defense contractor. In the fourth quarter of 2022, we received and delivered on a new ICSS order for the defense contractor to be deployed in India. We expect additional orders from this defense vendor for the ICSS application in 2023. We believe our FullMAX technology’s licensed frequency flexibility, reliability, and long communications range over ocean surfaces, is broadening the scale of our technology in this emerging market for homeland security.

Ondas Autonomous Systems

The total addressable market (“TAM”) for commercial drone applications is also large – measuring over \$100 billion in size, according to management estimates and independent third-party research. For the vast majority of commercial drone applications, full automation is required to make economic sense. The time and cost requirements of human pilots are too high for the demanding and monotonous routines that must be performed to extract value. Ondas Autonomous Systems’ drone platforms target the majority of “drone-in-a-box”-applicable commercial, public safety and defense markets.

Based upon management estimates, we believe the market size for the Smart City applications for the Optimus System™ to be over \$15 billion.

- *Smart City Market (\$15.1 billion TAM)*: the Smart City market consists of a range of sub-markets, including police, fire, medical, logistics, construction, utilities, infrastructure, ports, airports, and environmental surveys. For these markets, the Optimus System™ is used for routine, high-resolution automated emergency response, mapping, surveying, and inspection. These automated operations reduce the response time to emergency situations, increase safety and security, and reduce the cost of city services.

According to a report by GrandView Research published in 2020, Counter-UAS markets are estimated to have a market size of over \$10 billion in size.

- *Counter-UAS Market (\$10.8 billion TAM)*: the Counter-UAS market consists of a range of sub-markets, including homeland security, defense, stadiums and public events, energy sites, airports, and cities. For these markets, autonomous drone technology is used for automated immediate response to potential drone threats and disabling of hostile drones if required.

A report from PWC in 2016 stated that the market size for the commercial drone sector was in excess of \$125 billion. PWC segmented the commercial market into three primary categories, Industrial, Agricultural, and Defense. We estimate the collective TAM for the Optimus System™ and anticipated derivative products within these three target markets to be \$114 billion. For each market, the core automation technology is similar, but the product is optimized for that set of use cases. Primary differences include payload as well as the user interface (“UI”) and user experience (“UX”) and analytics packages within Insightful™.

- *Industrial Market (\$68.1 billion TAM)*: the Industrial market consists of a range of sub-markets, including those within the Energy, Infrastructure, and Security sectors. For these markets, the Optimus System™ is used for routine, high-resolution automated monitoring of assets, such as well pads, pipelines, solar panels, rail track, stockpile yards, and electrical substations. This automated monitoring helps reduce customer operations and maintenance costs, increase uptime of assets, increase safety and security, and improve regulatory compliance.
- *Agricultural Market (\$25.6 billion TAM)*: the Agricultural market consists of a range of sub-markets, including those within the Row Crop, Specialty Crop, and Research & Development sectors. For these markets, the Optimus System™ is used for routine, high-resolution automated monitoring of crops, such as corn, soybeans, vineyards, and orchards. This automated monitoring helps reduce labor costs, reduce input costs such as water, pesticides, and fertilizer, and increase yields.
- *Defense Market (20.2 billion TAM)*: the Defense market consists of a range of sub-markets, each relating to increased Information, Surveillance, and Reconnaissance (“ISR”) capabilities for Border, Site, and Vehicle assets. For these markets, the Optimus System™ is used for automated immediate response ISR, providing high-resolution, real-time situational awareness for multiple applications including warfighters on the battlefield.

Customer Activity

Ondas Networks

The majority of Ondas Networks customer activity has been with the Class 1 freight railroad operators and Siemens in North America. There are seven Class I railroads in North America, all of which run multiple, frequency-specific networks for different applications. Our FullMAX platform has the flexibility to operate in all these frequency bands and will allow these customers the opportunity to better utilize their radio spectrum and add more high-value, data-intensive applications to their operations. Ondas Networks has completed multiple, ongoing testing and pilot programs with BNSF Railway and CSX Corporation, two North American Class I freight railroad operators in connection with the system validation performed on behalf of the Association of American Railroads’ (AAR) Wireless Communications Committee (WCC). Our initial focus with these rail customers has been for train control applications and related safety systems in the 900 MHz frequency band where the FCC has recently awarded our railroad customers new radio spectrum.

In August 2022, we received our first commercial volume order for the 900 MHz network from Siemens. We also delivered a Rail Lab (the “dot16 Rail Lab”) to MxV Rail, a subsidiary of the AAR, in September 2022. The dot16 Rail Lab is hosting multiple Class 1 freight rail operators where they will perform on-going network design and configuration related to optimizing the performance of our IEEE 802.16 compliant systems in connection with wide-scale field deployment. We expect the commercial rollout of the 900 MHz to accelerate with the Class 1 freight rail operators throughout 2023 with multiple rail customers providing purchase orders and deploying our software-defined network. We expect a 900 MHz network upgrade cycle across all Class 1 railroad systems over the next few years in order to comply with FCC license requirements and meet business needs related to safety and profitability.

As of December 31, 2022, Ondas Networks was active with six of the Class 1 Rails in North America and with one of the largest railroads in the world, Indian Railways, for a multi-year delivery program of locomotive radios for on-board telemetry applications. Also in 2022, we received our first order for 160 MHz radios, a bridge to the next major rail network in North America, which we believe will be upgraded to our FullMAX™ platform.

Ondas Autonomous Systems

Our Optimus System™ addresses a wide number of applications and use cases across enterprise, industrial, and government end markets. The platform has been extensively tested both internally and externally with customers for reliability, safety, and performance. We received purchase orders from two customers in the UAE in December 2022, which represented our initial orders for commercial deployment as Urban Drone Infrastructure fleets. The initial purchase order was received for a UAE government entity with plans to primarily use the system for public safety and homeland security applications. We also announced a purchase order from Abu Dhabi-based SkyGo Transport of Goods L.L.C. (“SkyGo”). Airobotics and SkyGo have also signed a Term Sheet agreeing to enter into a joint venture (the “SkyGo JV”) to provide aerial drone services to municipal and government customers focused on Smart City use cases.

Customer interest in our aerial data services has grown significantly since receiving these initial fleet orders and that is reflected in a growing customer pipeline. The initial two customers have indicated plans to deploy approximately 50 systems in the UAE by 2025 and we believe demand could grow further. In addition, moving customers from proof-of-concept deployments to Urban Drone Infrastructure fleet deployments has validated the performance and value of our Optimus System™, which has helped both accelerate our marketing activity with existing customers and generated new customer interest to help expand the pipeline. We expect interest in our Optimus System™ to grow significantly as awareness builds which will expand our customer pipeline.

We expect to expand customer activity in the United States as American Robotics introduces Optimus to its existing customers and expands marketing to new customers. In the United States, we are qualifying our oil and gas customers for marketing programs, and we plan to expand marketing to other industrial and government markets.

We launched our Raider™ counter-drone system in March 2023 and began seeking customer orders at the same time. We have seen significant interest in the Raider™. For potential customers and partners and on March 10, 2023 we announced that the Dubai Police has signed an MOU which expressed their intent to purchase a certain number of units of the Raider™. We expect to receive additional orders as we expand marketing channels in 2023.

Manufacturing, Availability and Dependence upon Suppliers

Ondas Networks and Ondas Autonomous Systems utilize outsourced manufacturing partners in the building of product to fulfill customer orders. Utilizing contract manufacturers allows us to focus on designing, developing and selling our products. Furthermore, outsourced manufacturing allows us to leverage the economies of scale and expertise of specialized outsourced manufacturers, reduce manufacturing and supply chain risk and distribution costs.

Ondas Networks designs the printed circuit boards and enclosures for our radios and maintains the bill of materials for all of the products we manufacturer. A Bill of Materials (“BOM”) is a list of the raw materials, sub-assemblies, intermediate assemblies, sub-components, parts and the quantities of each needed to manufacture the end product. The physical manufacturing of FullMAX circuit boards is outsourced to best-in-class industrial contract manufacturers. The contract manufacturer is responsible for sourcing the majority of components in the BOM, assembling the components onto the printed circuit boards and then delivering the final boards to us. Once at our facility, the boards are tested, then placed into enclosures and programmed with the appropriate software. The radios are then configured according to the requirement of the network and run through system level tests before being packaged and shipped to the customer. Ondas Networks maintains multiple contract manufacturers, both domestically and internationally, to ensure competitive pricing and to reduce the risk from a single manufacturer.

Ondas Autonomous Systems designs the Optimus System™ and specifies all components of the BOM including the raw materials, sub-assemblies, intermediate assemblies, sub-components, parts and the quantities of each needed to manufacture the end product. These assemblies incorporate a combination of custom-developed components and COTS components. The building of an Optimus System™ is outsourced to best-in-class contract manufacturers for fabrication and assembly. We utilize different contract manufacturers for the Optimus™ drone and Airbase™. Once complete, the contract manufacturers deliver the finished products to our facility where software is loaded, and system-level quality assurance is performed before being packaged and shipped to the customer location for installation. Ondas Autonomous Systems works with a select group of contract manufacturers and has access to a large number of other comparable contract manufacturers.

Research & Development

Our ability to develop state-of-the-art and cost-effective solutions relative to our competitors can only be achieved through our continued research and development efforts.

Ondas Networks research and development activities are headed by Menashe Shahar, our Chief Technology Officer, based in our Sunnyvale, California headquarters. Mr. Shahar is a co-founder of Ondas Networks and has over 30 years of telecommunications system development experience, including the design and implementation of broadband wireless data systems for top tier system integrators and service providers including WorldCom, Nortel and ADC. Mr. Shahar has been awarded multiple patents in the data communications industry and has been an active participant in major wireless standardization activities including IEEE 802.16. In addition to internal research and development efforts, we also engage third party consultants to assist us in our research and development activities.

Ondas Autonomous Systems research and development activities are headed by Meir Kliner, President of Ondas Autonomous Systems and CEO and Founder of Airobotics who is based in Petah Tikva, Israel. Mr. Kliner has led the development of the Optimus System™ since 2014 and has expertise that represents a synthesis of years of managerial experience combined with command of drone product design. Mr. Kliner's background includes key roles in developing diverse aerial systems, ranging from recreational to military applications and has founded several businesses, including Light and Strong, a premier manufacturer of composites for aerial platforms in the drone industry. Mr. Kliner is supported by a development team based in both Petah Tikva, Israel and Waltham, Massachusetts.

Ondas Holdings development activities are guided by Vijay Somandepalli, VP of Technical Strategy at Ondas Holdings and the Chief Technology Officer of American Robotics, based in our Waltham, Massachusetts headquarters. Dr. Somandepalli is a co-founder of American Robotics and has extensive experience in the fields of robotics, drones, energy storage, and aerospace engineering. Prior to founding American Robotics, Dr. Somandepalli was a Managing Engineer and senior consultant for over a decade at Exponent, a large national engineering and scientific consulting firm, where he advised in many industries, including oil & gas, solar, hydroelectric, coal, infrastructure, automotive, aviation, and telecom. Dr. Somandepalli holds a Ph.D. and Master's in Mechanical Engineering from Stanford University, a B.Tech in Aerospace Engineering from the Indian Institute of Technology, Madras, and is a Licensed Professional Engineer (PE).

Our research and development team works closely with our customer support team and incorporates feedback from our customers into our product development plans to improve our products and address emerging market requirements.

Our research and development expenses were approximately \$24,044,000 and approximately \$5,801,000 for the years ended December 31, 2022 and 2021, respectively.

Intellectual Property

We rely primarily on patent, trademark and trade secret laws to protect our proprietary technologies and intellectual property. As of this filing, the Ondas Networks segment held a total of seven issued patents in the U.S., two international issued patents, four pending patent applications in the U.S., and eleven international pending patent application. The Ondas Networks segment's patents expire between 2028 and 2040, subject to any patent extensions that may be available for such patents. Our intellectual property centers around creating and maintaining robust, private, highly secure, broadband industrial wireless networks using our FullMAX radio technology for our mission critical customers' networks. We view the Ondas Networks segment's patents as a key strategic advantage as the markets for industrial wireless connectivity grows and as these industries move to standardized solutions and will enable us to earn licensing fees and/or royalties for the use of our patents.

The Ondas Autonomous Systems segment relies primarily on patent, trademark and trade secret laws to protect our proprietary technologies and intellectual property. As of this filing, the Ondas Autonomous Systems segment held a total of six issued patents in the U.S., ten international issued patents, six pending patent applications in the U.S., and eleven international pending patent application. The Ondas Autonomous Systems segment's patents expire between 2036 and 2042, subject to any patent extensions that may be available for such patents. The Ondas Autonomous Systems segment's intellectual property incorporates internally developed software and hardware design incorporating machine and computer vision and was developed with artificial intelligence and machine learning techniques. This intellectual property is critical to the development of end-to-end systems which reliably enable the automated operation of drones in real-world environments.

We have a policy of requiring our officers, employees, contractors and other service providers and parties with which we do business to enter into confidentiality, non-disclosure ("NDAs") and assignment of invention agreements before disclosure of any of our confidential or proprietary information.

Seasonality

We do not believe that the industry in which Ondas Networks and Ondas Autonomous Systems competes is subject to seasonal sales fluctuation.

Dependence on a Single Customer

Because we have only recently invested in our customer service and support organization, a small number of customers have accounted for a substantial amount of our revenue. During the year ended December 31, 2022, one customer accounted for approximately \$1,893,000 of our revenue, or approximately 89%. During the year ended December 31, 2021, two customers accounted for approximately \$1,204,000 and \$1,599,000 of our revenue, or approximately 41% and 55%, respectively.

Competition

Ondas Networks

We compete with alternatives to wireless technology, public cellular data networks and private wireless networking products from other manufacturers. We believe that each of these competing solutions has core weaknesses when compared to FullMAX, as described below.

Public cellular data networks:

- Public networks are more vulnerable to cyber security attacks from anywhere in the world including denial of service attacks; private networks can operate independent of the public internet.
- Public networks are more susceptible to prolonged outages during man-made and natural disasters (e.g. 9/11, Hurricane Sandy, etc.), exactly when utilities and mission critical entities require the greatest reliability.
- Public networks are typically designed for population coverage rather than the geographic areas required by critical infrastructure providers, which often include remote locations.
- Public networks are by definition oversubscribed, shared networks without the necessary prioritization service to support mission critical applications.
- Public networks typically use shared infrastructure including tower sites and long-haul fiber connections resulting in vulnerabilities at many points.
- Public networks are designed to support high capacity downloading and streaming applications with limited upload bandwidth available. Industrial networks typically require the reverse traffic flow, often uploading data from a large number of remote locations.

Other private wireless products:

- Unlicensed Point to Multipoint Wireless (e.g., Wi-Fi) — This equipment is very inexpensive to purchase but is subject to interference, has many security vulnerabilities, uses a contention-based protocol and transmits only over short range. Deploying Wi-Fi over wide areas is cost prohibitive.
- Private Licensed Narrowband Wireless Radios — These networks can provide good coverage and range but are typically too slow and lack sufficient bandwidth to support new applications and the increased number of data connections required.

Alternate technologies:

- Satellite Technologies — These technologies provide good coverage, but throughput is limited, and latency is too high to support mission-critical applications for our customers. These technologies can be very costly as compared to our products and systems.
- Low-Power Wide Area Networks (LP-WANs) — LP-WAN solutions such as LoRa and NB-IoT are architected with lower power, the purpose of which is to make these typically sensor-based networks lower-cost solutions. The low powered equipment means these systems have lower throughput and higher latency and are not reliable for mission-critical applications that require both monitoring and control functions.

Ondas Autonomous Systems

We compete with other drone OEMs providing a variety of solutions for inspection, security, asset tracking and other applications. We compete on many dimensions with system performance being differentiated by the level of autonomous operation, ease of use, reliability, safety, and government regulations. Further, leading automated data solution providers must provide diverse payload capabilities for data collection, along with robust, advanced analytics programs that are specific for each industry served.

Governmental Regulations

Our operations are subject to various federal, state and local laws and regulations including: (i) authorization from the FCC for operation in various licensed frequency bands; (ii) FAA regulations and approvals unique to the operation of commercial or industrial drones; (iii) customers' licenses from the FCC; (iv) licensing, permitting and inspection requirements applicable to contractors, electricians and engineers; (v) regulations relating to worker safety and environmental protection; (vi) permitting and inspection requirements applicable to construction projects; (vii) wage and hour regulations; (viii) regulations relating to transportation of equipment and materials, including licensing and permitting requirements; (ix) building and electrical codes; and (x) special bidding, procurement and other requirements on government projects.

We believe we have the licenses materially required to conduct our operations, and we are in substantial compliance with applicable regulatory requirements. The operation of our manufactured products by our customers (network providers and service providers) in the U.S. or in foreign jurisdictions in a manner not in compliance with local law could result in fines, business disruption, or harm to our reputation. The changes to regulatory and technological requirements may also alter our product offerings, impacting our market share and business. Failure to comply with applicable regulations could result in substantial fines or revocation of our operating licenses or could give rise to termination or cancellation rights under our contracts or disqualify us from future bidding opportunities.

Environmental Regulation

Our operations are subject to extensive, and frequently changing, federal, state and local environmental laws and substantial related regulation by government agencies, including the Environmental Protection Agency. Among other matters, these regulatory authorities impose requirements that regulate the operation, handling, transportation and disposal of hazardous materials; protect the health and safety of workers; and require us to obtain and maintain licenses and permits in connection with our operations. This extensive regulatory framework imposes significant compliance burdens and risks on us. Notwithstanding these burdens, we believe that we are in material compliance with all federal, state and local environmental laws and regulations governing our operations.

There has been no material adverse effect to our consolidated financial statements nor competitive positions as a result of these environmental regulations.

Employees

As of March 10, 2023, we have 116 full-time employees, including 40 in the Ondas Networks segment and 76 in the Ondas Autonomous Systems segment. In addition, we have consulting agreements with 17 consultants for manufacturing, supply chain, documentation, engineering, regulatory, IT, and business development support. Additionally, from time to time, we may hire temporary employees. We also utilize contractors to manufacture components, for certain research and development and for system deployment functions. None of our employees are covered by a collective bargaining agreement and we are unaware of any union organizing efforts. We consider our relationship with our employees to be good.

Corporate Information

Ondas Holdings Inc. was originally incorporated in Nevada on December 22, 2014, under the name Zev Ventures Incorporated. On September 28, 2018, we acquired Ondas Networks Inc., a Delaware corporation, changed our name to Ondas Holdings Inc., and discontinued the prior business of Zev Ventures Incorporated. On August 5, 2021, Ondas Holdings Inc. acquired American Robotics, Inc., a Delaware Corporation. See Note 5 – Goodwill and Business Acquisitions of the accompanying Consolidated Financial Statements for further information regarding the American Robotics acquisition. On January 23, 2023, Ondas Holdings Inc. acquired Airobotics Ltd., an Israeli corporation. See Note 16 - Subsequent Events of the accompanying Consolidated Financial Statements for further information regarding the Airobotics acquisition. On February 14, 2023, the Company formed Ondas Autonomous Systems, a new business unit to manage the combined drone operations of American Robotics and Airobotics.

As a result of the acquisitions described above, Ondas Networks, American Robotics and Airobotics became our wholly owned subsidiaries. Also, we had one wholly owned subsidiary, FS Partners (Cayman) Limited, a Cayman Islands limited liability company, and one majority owned subsidiary, Full Spectrum Holding Limited, a Cayman Islands limited liability company. Both FS Partners (Cayman) Limited and Full Spectrum Holding Limited have been dissolved as of January 4, 2023.

Ondas Holdings' corporate headquarters are located in Waltham, Massachusetts. Ondas Networks has offices and facilities in Sunnyvale, California, American Robotics' offices and facilities are located in Waltham, Massachusetts and Marlborough, Massachusetts, and Airobotics' offices and facilities are located in Petah Tikva, Israel.

Available Information

Our Internet website is www.ondas.com. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to reports filed or furnished pursuant to Sections 13(a) and 15(d) of the Securities and Exchange Act of 1934, as amended (the "Exchange Act") are available, free of charge, under the Investors tab of our website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Additionally, the SEC maintains a website located at www.sec.gov that contains the information we file or furnish electronically with the SEC.

Item 1A. Risk Factors

Investing in our common stock involves a high degree of risk. Before you invest in our common stock, you should carefully consider the following risks, as well as general economic and business risks, and all of the other information contained in this Form 10-K. Any of the following risks could harm our business, operating results and financial condition and cause the trading price of our common stock to decline, which would cause you to lose all or part of your investment. When determining whether to invest, you should also refer to the other information contained in this Form 10-K including our financial statements and the related notes thereto.

Risks Related to Our Business and Industry

We have incurred significant operating losses since inception and cannot assure you that we will ever achieve or sustain profitability.

Since our inception, we have incurred significant net losses. As of December 31, 2022 and December 31, 2021, we had an accumulated deficit of approximately \$154 million and \$80 million, respectively. To date, we have financed our operations primarily through sales of our equity securities and debt financing.

We expect our operating expenses to increase significantly as we pursue our growth strategy, including expending substantial resources for research, development and marketing. The extent of our future operating losses and the timing of profitability are highly uncertain, and we expect to continue incurring significant expenses and operating losses over the next several years. Any additional operating losses may have an adverse effect on our stockholders' equity and the price of our common stock, and we cannot assure you that we will ever be able to achieve profitability.

Even if we achieve profitability, we may not be able to sustain or increase such profitability. Additionally, our costs may increase in future periods and we may expend substantial financial and other resources on, among things, sales and marketing, the hiring of additional officers, employees, contractors and other service providers, and general administration, which may include a significant increase in legal and accounting expenses related to public company compliance, continued compliance and various regulations applicable to our business or arising from the growth and maturity of our company. Our failure to become and remain profitable would depress the value of our company and could impair our ability to raise capital, expand our business, maintain our development efforts, obtain regulatory approvals, diversify our product and service offerings or continue our operations, and may cause the price of our common stock to decline.

The adoption of the IEEE 802.16s wireless broadband standard by customers in our target critical infrastructure sectors is uncertain.

The IEEE 802.16s wireless broadband standard was published in October 2017. In addition, we are currently the only manufacturer of IEEE 802.16s compliant equipment. The benefit of the standard to buyers of our equipment are greater when there exists a large, deep market in terms of the number of customers. A large market benefits from the scale provided such that many vendors can compete on service, price and quality of solution driving improved value for customers. If a large end market does not develop and customers do not see the related benefits from the standard, we may not be able to grow our business.

Our growth depends in part on the success of our strategic partnerships with third parties such as Siemens Mobility, who are also customers, as well as on our ability to establish a broad range of additional ecosystem partner and customer relationships with leading global industrial vendors.

In order to grow our business, we depend on partnerships with market leading technology and industrial companies such as Siemens Mobility, who are also customers of Ondas Networks in order to accelerate the adoption of our wireless technology. If we are unsuccessful in maintaining our partnership and customer relationships with third parties, including Siemens Mobility, or if our partnerships do not provide us the anticipated benefits, our ability to compete in the marketplace or to grow our revenue could be impaired and our operating results may suffer. In addition, adoption of our FullMAX wireless platform and Optimus System™ requires us to establish additional ecosystem relationships with leading global industrial vendors and customers. Even if we are successful in executing these partnerships and integrating with additional ecosystem vendors, we cannot assure you that these partnerships and relationships will result in increased adoption of our technology or increased revenue.

If the commercial UAS markets do not experience significant growth, if we cannot expand our customer base or if our products and services do not achieve broad acceptance, then we may not be able to achieve our anticipated level of growth.

We cannot accurately predict the future growth rates or sizes of the markets for our products and services. Demand for our products and services may not increase, or may decrease, either generally or in specific markets, for particular types of products and services or during particular time periods. We believe the market for commercial UAS is nascent and the expansion of the market for our products and services in particular, depends on a number of factors, including the following:

- customer satisfaction with these types of systems as solutions;
- the cost, performance and reliability of our products and products offered by our competitors;
- customer perceptions regarding the effectiveness and value of these types of systems;
- obtaining timely regulatory approvals for new customer deployments; and
- marketing efforts and publicity regarding these types of systems and services.

Even if commercial UAS gain wide market acceptance, our products and services may not adequately address market requirements and may not continue to gain market acceptance. If these types of systems generally, or our products and services specifically, do not gain wide market acceptance, then we may not be able to achieve our anticipated level of growth and our revenue and results of operations would decline.

Negative customer perception regarding the commercial UAS industry or the Company's automated data solutions could have a material adverse effect on the demand for the Company's products and the business, results of operations, financial condition and cash flows of the Company.

The Company believes the commercial UAS industry is highly dependent upon customer perception regarding the safety, efficacy, and quality of the commercial UAS system deployed. Customer perception of these products can be significantly influenced by scientific research or findings, regulatory investigations, litigation, media attention, and other publicity. There can be no assurance that future scientific research, findings, regulatory proceedings, litigation, media attention, or other research findings or publicity will be favorable to the UAS market. Future research reports, findings, regulatory proceedings, litigation, media attention or other publicity that are perceived as less favorable than, or that question, earlier research reports, findings or publicity could have a material adverse effect on the demand for the Company's products and the business, results of operations, financial condition and cash flows of the Company. The dependence upon customer perceptions means that adverse scientific research reports, findings, regulatory proceedings, litigation, media attention or other publicity, whether or not accurate or with merit, could have a material adverse effect on the Company, the demand for the Company's products, and the business, results of operations, financial condition and cash flows of the Company.

Failure to manage our planned growth could place a significant strain on our resources.

Our ability to successfully implement our business plan requires an effective plan for managing our future growth. We plan to increase the scope of our operations. Current and future expansion efforts will be expensive and may significantly strain our managerial and other resources and ability to manage working capital. To manage future growth effectively, we must manage expanded operations, integrate new personnel and maintain and enhance our financial and accounting systems and controls. If we do not manage growth properly, it could harm our business, financial condition or results of operations and make it difficult for us to satisfy our debt obligations.

We may be unsuccessful in achieving our organic growth strategies, which could limit our revenue growth or financial performance. Our ability to generate organic growth will be affected by our ability to, among other things:

- attract new customers;
- increase the number of products purchased from customers;
- maintain profitable gross margins in the sale and maintenance of our products;
- increase the number of projects performed for existing customers;
- achieve the estimated revenue we announced from new customer contracts;
- hire and retain qualified employees;
- expand the range of our products and services we offer to customers to address their evolving network needs;
- expand geographically, including internationally; and
- address the challenges presented by difficult and unpredictable global and regional economic or market conditions that may affect us or our customers.

Many of the factors affecting our ability to generate organic growth may be beyond our control, and we cannot be certain that our strategies for achieving internal growth will be attempted, realized or successful.

If we fail to retain our existing customers or do not acquire new customers in a cost-effective manner, our revenue may decrease and our business, financial condition or results of operations may be harmed.

We believe that our success is dependent on our ability to continue identifying and anticipating the needs of our customers, to retain our existing customers and to add new customers. For example, our business plan is designed to penetrate large, critical infrastructure end markets with our wireless and UAS driven data solutions and have expanded our dedicated sales resources and field personnel to broaden our marketing and field support efforts into new industries and sectors. As a result, we have significantly increased customer engagement in the transportation, security and UAS end markets with Ondas Networks and in the industrial, public safety and government markets with Ondas Autonomous Systems. We expect that our qualified customer pipeline will increase in other additional strategic end markets. However, as we become larger through organic growth, the growth rates for customer engagement, project volume and average spend per customer may slow, even if we continue to add customers on an absolute basis. In addition, the costs associated with customer retention may be substantially lower than costs associated with the acquisition of new customers. Therefore, our failure to retain existing customers, even if such losses are offset by an increase in revenue resulting from the acquisition of new customers, could have an adverse effect on our business, financial condition or results of operations.

Additionally, while a key part of our business strategy is to add customers in our existing geographic markets, we expect to expand our operations into new geographic markets. In doing so, we may incur losses or otherwise fail to enter new markets successfully. Our expansion into new markets may place us in unfamiliar and competitive environments and involve various risks, including the need to invest significant resources and the possibility that returns on such investments will not be achieved for several years or at all.

The Company faces uncertainty and adverse changes in the economy.

Adverse changes in the economy could negatively impact the Company's business. Future economic distress may result in a decrease in demand for the Company's products, which could have a material adverse impact on the Company's operating results and financial condition. Uncertainty and adverse changes in the economy could also increase costs associated with developing and publishing products, increase the cost and decrease the availability of sources of financing, and increase the Company's exposure to material losses from bad debts, any of which could have a material adverse impact on the financial condition and operating results of the Company.

Any outbreak or worsening of an outbreak of contagious diseases, or other adverse public health developments, could have a material and adverse effect on our business operations, financial condition and results of operations.

Any outbreak or worsening of an outbreak of contagious diseases, or other adverse public health developments, could have a material and adverse effect on our business operations, financial condition and results of operations. For example, in December 2019, a novel strain of coronavirus ("COVID-19") was identified in Wuhan, China, and has subsequently spread to other regions of the world, and has resulted in increased travel restrictions, business disruptions and emergency quarantine measures across the world including the United States. The Company's business, financial condition and results of operations were impacted from the COVID-19 pandemic during the year ended December 31, 2022 and 2021 as follows:

- sales and marketing efforts were disrupted as our business development team was unable to travel to visit customers and customers were unable to receive visitors for on-location meetings;
- field activity for testing and deploying our wireless systems was delayed due to the inability for our field service team to install and test equipment for our customers;
- supply chain disruptions led to component shortages and inefficiencies in and delays in producing and delivering equipment for certain purchase orders; and
- delays in fulfilling purchase orders reduced our cash flow from operations.

The Company expects its business, financial condition and results of operations will be impacted from the COVID-19 pandemic during 2023, primarily due to supply chain disruptions due to pandemic-related plant and port shutdowns, transportation delays, government actions and other factors, which may be beyond our control. The global shortage of certain components such as semiconductor chips, strains on production or extraction of raw materials, cost inflation, and labor and equipment shortages, could escalate in future quarters. Labor shortages have led and may continue to lead to difficult conditions for hiring and retention of employees, and increased labor costs. Further, the COVID-19 pandemic is ongoing and remains an unknown risk for the foreseeable future. The extent to which the coronavirus may impact our business will depend on future developments, which are highly uncertain and cannot be predicted, including new information which may emerge concerning the severity of the coronavirus. As a result, the Company is unable to reasonably estimate the full extent of the impact from the COVID-19 pandemic on its future business, financial condition and results of operations. In addition, if the Company were to experience any new impact to its operations or incur additional unanticipated costs and expenses as a result of the COVID-19 pandemic, such operational delays and unanticipated costs and expenses there could be a further adverse impact on the Company's business, financial condition and results of operations during 2023.

We have significant dependence on a small number of customers, and the loss of such customers or a decrease in business conducted with such customers could materially harm our business, financial condition or results of operations.

Because we have only recently invested in our customer service and support organization, a small number of customers have accounted for a substantial amount of our revenue. During the year ended December 31, 2022, one customer accounted for approximately \$1,893,000 of our revenue, or approximately 89%. During the year ended December 31, 2021, two customers accounted for approximately \$1,204,000 and \$1,599,000 of our revenue, or approximately 41% and 55%, respectively. The loss of the 2022 customer or a decrease in the business conducted with such customers could have a material adverse impact on our business, financial condition or results of operations.

Project performance delays or difficulties, including those caused by third parties, or certain contractual obligations may result in additional costs to us, reductions in revenues or the payment of liquidated damages.

Many projects involve challenging engineering, construction or installation phases that may occur over extended time periods. We may encounter difficulties as a result of delays or changes in designs, engineering information or materials provided by our customer or a third party, delays or difficulties in equipment and material delivery, schedule changes, delays from our customer's failure to timely obtain permits or meet other regulatory requirements including the securing of necessary FCC certifications or FAA approvals, weather-related delays and other factors, many of which are beyond our control, that impact our ability to complete the project in accordance with the original delivery schedule. In addition, we contract with third-party subcontractors to assist us with the completion of contracts. Any delay or failure by suppliers or by subcontractors in the completion of their portion of the project may be beyond our control and may result in delays in the overall progress of the project or may cause us to incur additional costs, or both. Delays and additional costs may be substantial, and, in some cases, we may be required to compensate the customer for such delays. Delays may also disrupt the final completion of our contracts as well as the corresponding recognition of revenues and expenses therefrom. In certain circumstances, we guarantee project completion by a scheduled acceptance date or achievement of certain acceptance and performance testing levels; failure to meet any of our guarantees, schedules or performance requirements could also result in additional costs or penalties to us, including obligations to pay liquidated damages, and such amounts could exceed expected project profit. In extreme cases, the above-mentioned factors could cause project cancellations, and we may be unable to replace such projects with similar projects or at all. Such delays or cancellations may impact our reputation, brand or relationships with customers, adversely affecting our ability to secure new contracts.

Our contractors may fail to satisfy their obligations to us or other parties, or we may be unable to maintain these relationships, either of which may have a material adverse effect on our business, financial condition and results of operations.

We depend on third party contractors to complete manufacturing, certain research and development and deployment functions. There is a risk that we may have disputes with contractors arising from, among other things, the quality and timeliness of work performed by the contractor, customer concerns about the contractor or our failure to extend existing task orders or issue new task orders. In addition, if any of our contractors fail to deliver on a timely basis the agreed-upon supplies and/or perform the agreed-upon services, then our ability to fulfill our obligations may be jeopardized. In addition, the absence of qualified contractors with whom we have a satisfactory relationship could adversely affect the quality of our service and our ability to perform under some of our contracts. Any of these factors may have a material adverse effect on our business, financial condition or results of operations.

Material delays or defaults in customer payments could leave us unable to cover expenditures related to such customer's projects, including the payment of our subcontractors.

Because of the nature of most of our contracts, we commit resources to projects prior to receiving payments from our customers in amounts sufficient to cover expenditures as they are incurred. In certain cases, these expenditures include paying our contractors and purchasing parts. If a customer defaults in making its payments on a project or projects to which we have devoted significant resources, it could have a material adverse effect on our business, financial condition or results of operations.

Certain of our officers, employees, contractors and other service providers may work on projects that are inherently dangerous, and a failure to maintain a safe worksite could result in significant losses.

Certain of our project sites can place our officers, employees, contractors and other service providers and others, including third parties, in difficult or dangerous environments, and may involve difficult and hard to reach terrain, high elevation, or locations near large or complex equipment, moving vehicles, high voltage or other safety hazards or dangerous processes. Safety is a primary focus of our business and maintaining a good reputation for safety is critical to our business. Many of our customers require that we meet certain safety criteria to be eligible to bid on contracts. We maintain programs with the primary purpose of implementing effective health, safety and environmental procedures throughout our company. Maintaining such programs involves variable costs which may increase as governmental, regulatory and industry safety standards evolve, and any increase in such costs may materially affect our business, financial condition or results of operations. Further, if we fail to implement appropriate safety procedures or if our procedures fail, our officers, employees, contractors and other service providers, including third parties, may suffer injuries. Failure to comply with such procedures, client contracts or applicable regulations, or the occurrence of such injuries, could subject us to material losses and liability and may adversely impact our ability to obtain projects in the future or to hire and retain talented officers, employees, contractors and other services providers, therefore materially adversely affecting our business, financial condition or results of operations.

Warranty claims resulting from our services could have a material adverse effect on our business, financial condition or results of operations.

We generally warrant our manufactured products, including hardware and software, for a period of one year from the date of receipt of the product by the customer. After the first year, the customer can pay for extended hardware warranty and software maintenance and upgrades on an annual basis in advance. While costs that we have incurred historically under our warranty obligations have not been material, the costs associated with such warranties, including any warranty related legal proceedings, are variable and could have a material adverse effect on our business, financial condition or results of operations.

Our products are subject to a lengthy sales cycle and our customers may cancel or change their product plans after we have expended substantial time and resources in the design of their products.

Many of our customers are conservative in their decision-making process. Sales cycles for new customers can vary from one to three years depending on the complexity of the customer's network, whether the customer is subject to state regulations, and annual budget cycles. During this lengthy sales cycle, our potential customers may cancel or change their product plans. Customers may also discontinue products incorporating our devices at any time or they may choose to replace our products with lower cost semiconductors. In addition, we are working with leading customers in our target markets to define our future products. If customers cancel, reduce or delay product orders from us, or choose not to release products that incorporate our devices after we have spent substantial time and resources developing products or assisting customers with their product design, our revenue levels may be less than anticipated and our business, results of operations and financial condition may be materially adversely affected.

Our marketing efforts depend significantly on our ability to receive positive references from our existing customers.

Our marketing efforts depend significantly on our ability to call on our current and past customers to provide positive references to new, potential customers. A material portion of our current pipeline activity is concentrated in the transportation and aviation sectors as well as in the United Arab Emirates (UAE). Given our limited number of customers, the loss or dissatisfaction of any customer could substantially harm our brand and reputation, inhibit the market acceptance of our products and services, and impair our ability to attract new customers and maintain existing customers. Further, as we expand into new vertical and geographic end markets, references from existing customers could be similarly important. Any of these consequences could have a material adverse effect on our business, financial condition and results of operations.

If our products contain defects or otherwise fail to perform as expected, we could be liable for damages and incur unanticipated warranty, recall and other related expenses, our reputation could be damaged, we could lose market share and, as a result, our financial condition or results of operations could suffer.

Our products rely on complex avionics, sensors, user-friendly interfaces and tightly integrated, electromechanical designs to accomplish their missions. Our products may contain defects or experience failures due to any number of issues in design, materials, manufacture, deployment and/or use. If any of our products contain a defect, compatibility or interoperability issue or other error, we may have to devote significant time and resources to find and correct the issue. Such efforts could divert the attention of our management team and other relevant personnel from other important tasks. A product recall or a significant number of product returns could (i) be expensive; (ii) damage our reputation and relationships with utilities and other third-party vendors; (iii) result in the loss of business to competitors; and (iv) result in litigation against us. Costs associated with field replacement labor, hardware replacement, re-integration with third-party products, handling charges, correcting defects, errors and bugs, or other issues could be significant and could materially harm our financial results.

As a manufacturer of UAV products, and with aircraft and aviation sector companies under increased scrutiny, claims could be brought against us if use or misuse of one of our UAV products causes, or merely appears to have caused, personal injury or death. In addition, defects in our products may lead to other potential life, health and property risks. Any claims against us, regardless of their merit, could severely harm our financial condition, strain our management and other resources.

The existence of any defects, errors, or failures in our products or the misuse of our products could also lead to product liability claims or lawsuits against us. A defect, error or failure in one of our products could result in injury, death or property damage and significantly damage our reputation and support for our products in general. We anticipate this risk will grow as our products begin to be used in U.S. domestic airspace and urban areas.

Although we maintain insurance policies, we cannot provide assurance that this insurance will be adequate to protect us from all material judgments and expenses related to potential future claims or that these levels of insurance will be available in the future at economical prices or at all. A successful product liability claim could result in substantial cost to us. Even if we are fully insured as it relates to a claim, the claim could nevertheless diminish our brand and divert management's attention and resources, which could have a negative impact on our business, financial condition and results of operations.

Estimated future product warranty claims are based on the expected number of field failures over the warranty commitment period, the term of the product warranty period, and the costs for repair, replacement and other associated costs. Our warranty obligations are affected by product failure rates, claims levels, material usage and product re-integration and handling costs.

Because our products are relatively new and we do not yet have the benefit of long-term experience observing products' performance in the field, our estimates of a product's lifespan and incidence of claims may be inaccurate. Should actual product failure rates, claims levels, material usage, product re-integration and handling costs, defects, errors, bugs or other issues differ from the original estimates, we could end up incurring materially higher warranty or recall expenses than we anticipate.

Our Optimus System™ makes use of lithium-ion battery cells, which, if not appropriately managed and controlled, have occasionally been observed to catch fire or vent smoke and flames. If such events occur with our products, we could face liability associated with our warranty, for damage or injury, adverse publicity and a potential safety recall, any of which would adversely affect our business, prospects, financial condition and operating results.

The battery packs in our Optimus™ drone use lithium-ion cells, which have been used for years in laptop computers and cell phones. On occasion, if not appropriately managed and controlled, lithium-ion cells can rapidly release the energy they contain by venting smoke and flames in a manner that can ignite nearby materials. Highly publicized incidents of laptop computers and cell phones bursting into flames have focused consumer attention on the safety of these cells. These events also have raised questions about the suitability of these lithium-ion cells for automotive applications. There can be no assurance that a field failure of our battery packs will not occur, which would damage the vehicle or lead to personal injury or death and may subject us to lawsuits. Furthermore, there is some risk of electrocution if individuals who attempt to repair battery packs on our vehicles do not follow applicable maintenance and repair protocols. Any such damage or injury would likely lead to adverse publicity and potentially a safety recall. Any such adverse publicity could adversely affect our business, prospects, financial condition and operating results.

Due to the volatile and flammable nature of certain components of our products and equipment, fires or explosions may disrupt our business or cause significant injuries, which could adversely affect our financial results.

The development and manufacture of certain of our products involves the handling of a variety of explosive and flammable materials as well as high power equipment. From time to time, these activities may result in incidents that could cause us to temporarily shut down or otherwise disrupt some manufacturing processes, causing production delays and resulting in liability for workplace injuries and/or fatalities. We have safety and loss prevention programs that require detailed reviews of process changes and new operations, along with routine safety audits of operations involving explosive materials, to mitigate such incidents, as well as a variety of insurance policies, however our insurance coverage may be inadequate to cover all claims and losses related to such incidents. We may experience such incidents in the future, which could result in production delays or otherwise have a material adverse effect on our business and financial condition.

Our technology, products and services have only been developed in the last several years and we have had only limited opportunities to deploy and assess their performance in the field at full scale.

The current generation of our FullMAX and Optimus System™ technology platforms have only been developed in the last several years and will continue to evolve. Deploying and operating our technology is complex and, until recently, had been done primarily by a small number of customers. As the size, complexity and scope of our deployments grow we have been able to test product performance at a greater scale and in a variety of new geographic settings and environmental conditions. As the number, size and complexity of our deployments grow and we deploy our technology platforms for new applications in new critical infrastructure industries, we may encounter unforeseen operational, technical and other challenges, some of which could cause significant delays, trigger contractual penalties, result in unanticipated expenses, and/or damage to our reputation, each of which could materially and adversely affect our business, financial condition and results of operations.

If we fail to respond to evolving technological changes, our products and services could become obsolete or less competitive.

We operate in highly competitive industries characterized by new and rapidly evolving technologies, standards, regulations, customer requirements, as well as frequent product introductions and revisions. Accordingly, our operating results depend upon our ability to develop and introduce new products and services, our ability to reduce production costs of our existing products. The process of developing new technologies and products is complex, and if we are unable to develop enhancements to, and new features for, our existing products and services or acceptable new products and services that keep pace with technological developments or industry standards, our products may become obsolete, less marketable and less competitive and our business, financial condition or results of operations could be significantly harmed.

We depend on our ability to develop new products and to enhance and sustain the quality of existing products.

Our growth and future success will depend, in part, on our ability to continue to design and manufacture new competitive products and to enhance and sustain the quality and marketability of our existing products. As such, we have made, and expect to continue to make, substantial investments in technology development. In the future, we may not have the necessary capital, or access to capital on acceptable terms, to fund necessary levels of research and development. Even with adequate capital resources, we may nonetheless experience unforeseen problems in the development or performance of our technologies or products. In addition, we may not meet our product development schedules and, even if we do, we may not develop new products fast enough to provide sufficient differentiation from our competitors' products, which may be more successful.

We expect to incur substantial research and development costs and devote significant resources to identifying and commercializing new products and services, which could significantly reduce our profitability and may never result in revenue to us.

Our future growth depends on penetrating new markets, adapting existing products to new applications and new environments, and introducing new products and services that achieve market acceptance. We plan to incur substantial research and development costs as part of our efforts to design, develop and commercialize new products and services and enhance existing products. For example, we will incur research and development costs to improve the functionality of our acoustic DAA solution configuration in certain environments, in addition to integrating new payloads to broaden the functionality of our Optimus System™. Further, our research and development programs may not produce successful results, and our new products and services may not achieve market acceptance, create additional revenue or become profitable, which could materially harm our business, prospects, financial results and liquidity.

If our products do not interoperate with our customers' other systems, the purchase or deployment of our products and services may be delayed or cancelled.

Our products are designed to interface with our customers' other systems, each of which may have different specifications and utilize multiple protocol standards and products from other vendors. Our products will be required to interoperate with many or all of these products as well as future products in order to meet our customers' requirements. If we find errors in the existing software or defects in the hardware used in our customers' systems, we may need to modify our products or services to fix or overcome these errors so that our products will interoperate with the existing software and hardware, which could be costly and negatively affect our business, financial condition, and results of operations. In addition, if our products and services do not interoperate with our customers' systems, customers may seek to hold us liable, demand for our products could be adversely affected or orders for our products could be delayed or cancelled. This could hurt our operating results, damage our reputation or brand, and seriously harm our prospects, business, financial condition or results of operations.

The Company operates in a competitive market.

The Company faces competition and new competitors will continue to emerge throughout the world. Services offered by the Company's competitors may take a larger share of customer spending than anticipated, which could cause revenue generated from the Company's products and services to fall below expectations. It is expected that competition in these markets will intensify. If competitors of the Company develop and market more successful products or services, offer competitive products or services at lower price points, or if the Company does not produce consistently high-quality and well-received products and services, revenues, margins, and profitability of the Company will decline.

The Company's ability to compete effectively will depend on, among other things, the Company's pricing of services and equipment, quality of customer service and field support, development of new and enhanced products and services in response to customer demands and changing technology, reach and quality of sales and distribution channels and capital resources. Competition could lead to a reduction in the rate at which the Company adds new customers, a decrease in the size of the Company's market share and a decline in its customers.

We rely on our management team and need additional personnel to grow our business, and the loss of one or more key officers, employees, contractors and other service providers or our inability to attract and retain qualified personnel could harm our business, financial condition or results of operations.

We depend, in part, on the performance of Eric Brock, our Chief Executive Officer, Derek Reisfield, our Chief Financial Officer, Treasurer and Secretary, Reese Mozer, our President, Stewart Kantor and Menashe Shahar, the President and Chief Technology Officer of Ondas Networks, respectively, and Meir Kliner and Yishay Curelaru, the President and Chief Financial Officer of Ondas Autonomous Systems, respectively, to operate and grow our business. The loss of any of Messrs. Brock, Reisfield, Mozer, Kantor, Shahar, Kliner or Curelaru could negatively impact our ability to execute our business strategies. Although we have entered into employment agreements with Messrs. Brock, Reisfield, Mozer, Kantor and Shahar, we may be unable to retain them or replace any of them if we lose their services for any reason.

Our future success will also depend on our ability to attract, retain and motivate highly skilled management, product development, operations, sales, technical and other personnel in the United States and abroad. Even in today's economic climate, competition for these types of personnel is intense, particularly in Silicon Valley. All of our employees, contractors and other service providers in the United States work for us on an at-will basis. Given the lengthy sales cycles with utilities and deployment periods of our networking platform and solutions, the loss of key personnel at any time could adversely affect our business, financial condition or results of operations.

Cyberattacks through security vulnerabilities could lead to disruption of business, reduced revenue, increased costs, liability claims, or harm to our reputation or competitive position.

Security vulnerabilities may arise from our hardware, software, employees, contractors or policies we have deployed, which may result in external parties gaining access to our networks, datacenters, cloud datacenters, corporate computers, manufacturing systems, and or access to accounts we have at our suppliers, vendors, and customers. They may gain access to our data or our users' or customers' data or attack the networks causing denial of service or attempt to hold our data or systems in ransom. The vulnerability could be caused by inadequate account security practices such as failure to timely remove employee access when terminated. To mitigate these security issues, we have implemented measures throughout our organization, including firewalls, backups, encryption, employee information technology policies and user account policies. However, there can be no assurance these measures will be sufficient to avoid cyberattacks. If any of these types of security breaches were to occur and we were unable to protect sensitive data, our relationships with our business partners and customers could be materially damaged, our reputation could be materially harmed, and we could be exposed to a risk of litigation and possible significant liability.

Further, if we fail to adequately maintain our infrastructure, we may have outages and data loss. Excessive outages may affect our ability to timely and efficiently deliver products to customers or develop new products and solutions. Such disruptions and data loss may adversely impact our ability to fulfill orders, patent our intellectual property or protect our source code, and interrupt other processes. Delayed sales or lost customers resulting from these disruptions could adversely affect our financial results, stock price and reputation.

Unauthorized use or disclosure of, or access to, any personal information maintained by us or on our behalf, whether through breach of our systems, breach of the systems of our suppliers or vendors by an unauthorized party, or through employee or contractor error, theft or misuse, or otherwise, could harm our business. If any such unauthorized use or disclosure of, or access to, such personal information was to occur, our operations could be seriously disrupted, and we could be subject to demands, claims and litigation by private parties, and investigations, related actions, and penalties by regulatory authorities. In addition, we could incur significant costs in notifying affected persons and entities and otherwise complying with the multitude of foreign, federal, state and local laws and regulations relating to the unauthorized access to, or use or disclosure of, personal information. Finally, any perceived or actual unauthorized access to, or use or disclosure of, such information could harm our reputation, substantially impair our ability to attract and retain customers and have an adverse impact on our business, financial condition and results of operations.

We do not control certain aspects of the manufacturing process.

Our reliance on a small number of manufacturers reduces our control over the manufacturing process, exposing us to risks, including reduced control over quality assurance, product costs and product supply including delays in transportation and delivery. Any manufacturing disruption by our usual manufacturers could impair our ability to fulfill orders. We may be unable to manage our relationships with our usual manufacturers effectively as they may experience delays, disruptions, capacity constraints or quality control problems in their manufacturing operations or otherwise fail to meet our future requirements for timely delivery. Similarly, to the extent that our usual manufacturers procure materials on our behalf, we may not benefit from any warranties received by our usual manufacturers from the suppliers or otherwise have recourse against the original supplier of the materials or even the manufacturer. In such circumstances, if the original supplier were to provide us or our usual manufacturers with faulty materials, we might not be able to recover the costs of such materials or be compensated for any damages that arise as a result of the inclusion of the faulty components in our products.

One or more of our usual manufacturers may suffer an interruption in its business, or experience delays, disruptions or quality control problems in its manufacturing operations, or seek to terminate its relationship with us, or we may choose to change or add additional manufacturers for other reasons. Additionally, we do not have long-term supply agreements with our usual manufacturers. As a result, we may be unable to renew or extend our agreement on terms favorable to us, if at all. Although the manufacturing services required to manufacture and assemble our products may be readily available from a number of established manufacturers, it may be risky, time consuming and costly to qualify and implement new manufacturer relationships.

Any of these risks could have a material adverse effect on our business, financial condition and results of operations.

If critical components or raw materials used to manufacture our products or used in our development programs become scarce or unavailable, then we may incur delays in manufacturing and delivery of our products and in completing our development programs, which could damage our business.

In order to produce our Optimus System™ and related safety systems, we obtain certain hardware components, as well as subsystems and systems from a limited group of suppliers, some of which are sole source suppliers. We do not have long-term agreements with any of these suppliers that obligate them to continue to sell components, subsystems, systems or products to us. Our reliance on these suppliers involves significant risks and uncertainties, including whether our suppliers will provide an adequate supply of required components, subsystems, or systems of sufficient quality, will increase prices for the components, subsystems or systems and will perform their obligations on a timely basis.

In addition, certain raw materials and components used in the manufacture of our products and in our development programs, are periodically subject to supply shortages, and our business is subject to the risk of price increases and periodic delays in delivery. Particularly, the market for electronic components is experiencing increased demand and a global shortage of semiconductors, creating substantial uncertainty regarding our suppliers' continued production of key components for our products. If any additional shortages occur and we are unable to obtain components from third party suppliers in the quantities and of the quality that we require, on a timely basis and at acceptable prices, then we may not be able to timely complete development programs or deliver our products on a timely or cost effective basis to our customers, which could cause customers to terminate their contracts with us, increase our costs and seriously harm our business, results of operations and financial condition. Moreover, if any of our suppliers become financially unstable, or otherwise unable or unwilling to provide us with raw materials or components, then we may have to find new suppliers. It may take several months to locate alternative suppliers, if required, or to redesign our products to accommodate components from different suppliers. We may experience significant delays in manufacturing and shipping our products to customers and incur additional development, manufacturing and other costs to establish alternative sources of supply if we lose any of these sources or are required to redesign our products. We cannot predict if we will be able to obtain replacement components within the time frames that we require at an affordable cost, if at all. In particular, governmental measures responsive to the global COVID-19 pandemic have disrupted manufacturing and some supply chains, including our supply chain, which has had, and is expected to continue to have, a significant impact, both direct and indirect, on businesses and commerce worldwide. Although we have not yet seen significant delays from our suppliers and we keep stock of all our raw materials and other product components with long lead times to assist in the event that our supply chain is disrupted, if the COVID-19 outbreak continues and results in a prolonged period of commercial and/or governmental restrictions, this may impact our ability to obtain certain raw materials and certain components used in the manufacture of our products and in our development programs.

We currently do not have long-term supply contracts with guaranteed pricing which exposes us to fluctuations in component, materials and equipment prices. Substantial increases in these prices would increase our operating costs and could adversely affect our business, prospects, financial condition and operating results.

Because we currently do not have long-term supply contracts with guaranteed pricing, we are subject to fluctuations in the prices of the raw materials, parts and components and equipment we use in the production of our Optimus System™. Substantial increases in the prices for such raw materials, components and equipment would increase our operating costs and could reduce our margins if we cannot recoup the increased costs through increased prices. Any attempts to increase prices of our automated data solutions in response to increased costs could be viewed negatively by our customers and could adversely affect our business, prospects, financial condition and operating results.

We may pursue additional strategic transactions in the future, which could be difficult to implement, disrupt our business or change our business profile significantly.

We intend to consider additional potential strategic transactions, which could involve acquisitions of businesses or assets, joint ventures or investments in businesses, products or technologies that expand, complement or otherwise relate to our current or future business. We may also consider, from time to time, opportunities to engage in joint ventures or other business collaborations with third parties to address particular market segments. Should our relationships fail to materialize into significant agreements, or should we fail to work efficiently with these companies, we may lose sales and marketing opportunities and our business, results of operations and financial condition could be adversely affected.

These activities, if successful, create risks such as, among others: (i) the need to integrate and manage the businesses and products acquired with our own business and products; (ii) additional demands on our resources, systems, procedures and controls; (iii) disruption of our ongoing business; (iv) potential unknown or unquantifiable liabilities associated with the target company; and (v) diversion of management's attention from other business concerns. Moreover, these transactions could involve: (a) substantial investment of funds or financings by issuance of debt or equity securities; (b) substantial investment with respect to technology transfers and operational integration; and (c) the acquisition or disposition of product lines or businesses. Also, such activities could result in one-time charges and expenses and have the potential to either dilute the interests of our existing shareholders or result in the issuance of, or assumption of debt. Such acquisitions, investments, joint ventures or other business collaborations may involve significant commitments of financial and other resources. Any such activities may not be successful in generating revenue, income or other returns, and any resources we committed to such activities will not be available to us for other purposes. Moreover, if we are unable to access the capital markets on acceptable terms or at all, we may not be able to consummate acquisitions, or may have to do so on the basis of a less than optimal capital structure. Our inability to take advantage of growth opportunities or address risks associated with acquisitions or investments in businesses may negatively affect our operating results.

Additionally, any impairment of goodwill or other intangible assets acquired in an acquisition or in an investment, or charges to earnings associated with any acquisition or investment activity, may materially reduce our earnings. Future acquisitions or joint ventures may not result in their anticipated benefits, and we may not be able to properly integrate acquired products, technologies or businesses with our existing products and operations or successfully combine personnel and cultures. Failure to do so could deprive us of the intended benefits of those acquisitions.

If the Company is required to write down goodwill and other intangible assets, the Company's financial condition and results could be negatively affected.

Goodwill impairment arises when there is deterioration in the capabilities of acquired assets to generate cash flows, and the fair value of the goodwill dips below its book value. The Company is required to review its goodwill for impairment at least annually. Events that may trigger goodwill impairment include deterioration in economic conditions, increased competition, loss of key personnel, and regulatory action. Should any of these occur, an impairment of goodwill could have a negative effect on the assets of the Company.

For the year ended December 31, 2022, the Company engaged a third-party service provider to carry out a valuation of the American Robotics entity. Using a discounted cash flow analysis and revised forecasts for revenue and cash flows that are lower than the previous valuation, it was determined that the fair value of the entity was lower than the carrying value as of December 31, 2022, and an impairment of \$19,419,600 was recognized in operating expenses in the Consolidated Statements of Operations for the year ending December 31, 2022. See Note 5 – Goodwill and Business Acquisition of the accompanying Consolidated Financial Statements for further information regarding the impairment of goodwill.

War, terrorism, and other acts of violence may affect the markets in which we operate, our clients and our product and service delivery.

Our business may be adversely affected by regional or global instability, disruption or destruction, regardless of cause, including war, terrorism, riot, civil insurrection or social unrest. For example, the significant military action against Ukraine launched by Russia may affect the markets in which we operate. Such events may cause clients to delay their decisions on spending for the products and services provided by us and give rise to sudden significant changes in regional and global economic conditions and cycles. These events pose risks which could materially adversely affect our financial results.

We may not be able to secure adequate insurance policies, or secure insurance policies at reasonable prices.

We maintain general liability insurance, aviation flight testing insurance, aircraft liability coverage, directors and officers insurance, and other insurance policies and we believe our level of coverage is customary in the industry and adequate to protect against claims. However, there can be no assurance that it will be sufficient to cover potential claims or that present levels of coverage will be available in the future at reasonable cost. Further, we expect our insurance needs and costs to increase as we grow our commercial operations and expand into new markets and its uncertain if such insurance will be available on commercially reasonable terms.

The Company will be affected by operational risks and may not be adequately insured for certain risks.

The Company will be affected by a number of operational risks and the Company may not be adequately insured for certain risks, including: labor disputes; catastrophic accidents; fires; blockades or other acts of social activism; changes in the regulatory environment; impact of non-compliance with laws and regulations; natural phenomena, such as inclement weather conditions, floods, earthquakes and ground movements. There is no assurance that the foregoing risks and hazards will not result in damage to, or destruction of, the Company's technologies, personal injury or death, environmental damage, adverse impacts on the Company's operation, costs, monetary losses, potential legal liability and adverse governmental action, any of which could have an adverse impact on the Company's future cash flows, earnings and financial condition. Furthermore, the unmanned aerial systems industry lacks a formative insurance market. As a result, the Company may be subject to or affected by liability or sustain loss for certain risks and hazards against which the Company cannot insure or which the Company may elect not to insure because of the cost. This lack of insurance coverage could have an adverse impact on the Company's future cash flows, earnings, results of operations and financial condition.

Litigation may adversely affect our business, financial condition, and results of operations.

From time to time in the normal course of our business operations, we may become subject to litigation that may result in liability material to our financial condition as a whole or may negatively affect our operating results if changes to our business operations are required. The cost to defend such litigation may be significant and may require a significant diversion of our resources, and there is no guarantee that we will be able to successfully defend against any such litigation regardless of particular merits. There also may be adverse publicity associated with litigation that could negatively affect customer perception of our business, regardless of whether the allegations are valid or whether we are ultimately found liable. Insurance may not be available on favorable terms, at all, or in sufficient amounts to cover any liabilities with respect to these or other matters. A judgment or other liability in excess of our insurance coverage for any claims could adversely affect our business, financial condition and the results of our operations.

Our cash could be adversely affected if the financial institutions in which we hold our cash fail.

The Company maintains domestic cash deposits in Federal Deposit Insurance Corporation (“FDIC”) insured banks. The domestic bank deposit balances may exceed the FDIC insurance limits. Also, in the foreign markets we serve, we also maintain cash deposits in foreign banks, some of which are not insured or partially insured by the FDIC or other similar agency. These balances could be impacted if one or more of the financial institutions in which we deposit monies fails or is subject to other adverse conditions in the financial or credit markets. For example, on March 10, 2023, Silicon Valley Bank failed and was taken into receivership by the FDIC. The Company held \$361,813 in excess of federally insured limits with Silicon Valley Bank as of March 10, 2023. However, on March 12, 2023, the federal government announced they will back all customer deposits at Silicon Valley Bank.

Risks Related to Regulatory Requirements

We and our customers operate in a highly regulated business environment and changes in regulation could impose costs on us or make our products less economical.

Our products and services and our utility customers are subject to federal, state, local and foreign laws and regulations. Laws and regulations applicable to us and our products govern, among other things, the manner in which our products communicate, and the environmental impact and electrical reliability of our products. Additionally, our critical infrastructure customers are often regulated by national, state and/or local bodies, including public utility commissions, the Department of Energy, the Federal Energy Regulatory Commission, Federal Aviation Administration, the FCC, Federal Rail Association, Israeli Defense Export Controls Agency of the Ministry of Defense and other bodies. Prospective customers may be required to gain approval from any or all of these organizations prior to implementing our products and services, including specific permissions related to the cost recovery of these systems. Regulatory agencies may impose special requirements for implementation and operation of our products, which may result in unforeseen delays. We may incur material costs or liabilities in complying with government regulations applicable to us or our utility customers. In addition, potentially significant expenditures could be required in order to comply with evolving regulations and requirements that may be adopted or imposed on us or our utility customers in the future. Such costs could make our products less economical and could impact our utility customers’ willingness to adopt our products, which could materially and adversely affect our revenue, results of operations and financial condition.

Furthermore, changes in the underlying regulatory conditions that affect critical infrastructure industries could have a potentially adverse effect on our customers’ interest or ability to implement our technologies. Many regulatory jurisdictions have implemented rules that provide financial incentives for the implementation of energy efficiency and demand response technologies, often by providing rebates or through the restructuring of utility rates. If these programs were to cease, or if they were restructured in a manner inconsistent with the capabilities enabled by our products and services, our business, financial condition and results of operations could be significantly harmed.

Failure to obtain necessary regulatory approvals from the FAA or other governmental agencies, or limitations put on the use of small UAS in response to public privacy and other concerns, may prevent us from expanding the sales of our drone solutions to industrial and government customers in the United States.

The regulation of small UAS for commercial use in the United States is undergoing substantial change and the ultimate treatment is uncertain.

On February 14, 2012, the FAA Modernization and Reform Act of 2012 was enacted, establishing various deadlines for the FAA to allow expanded use of small UAS for both public and commercial applications. On June 21, 2016, the FAA released its final rules regarding the routine use of certain small UAS (under 55 pounds) in the U.S. National Airspace System pursuant to the act (the “Part 107 Rules”). The Part 107 Rules, which became effective in August 2016, provided safety regulations for small UAS conducting non-recreational operations and contain various limitations and restrictions for such operations, including a requirement that operators keep UAS within visual-line-of-sight and prohibiting flights over unprotected people on the ground who are not directly participating in the operation of the UAS. On December 28, 2020, the FAA announced final rules requiring remote identification of drones and allowing operators of small drones to fly over people and at night under certain conditions. On June 8, 2021, the FAA announced the formation of an Aviation Rulemaking Committee (“ARC”) to develop new rules to further define regulations for the operations of UAS Beyond Visual Line-of-Site (“BVLOS”). The timing of additional rulemaking is uncertain as is the outcome of the still developing regulatory environment related to the operation of small UAS.

We cannot assure you that any final rules enacted in furtherance of the FAA’s announced proposals will result in the expanded use of our drones and drone solutions by commercial and industrial entities. In addition, there exists public concern regarding the privacy and other implications of U.S. commercial use of small UAS. This concern has included calls to develop explicit written policies and procedures establishing usage limitations. We cannot assure you that the response from regulatory agencies, customers and privacy advocates to these concerns will not delay or restrict the adoption of small UAS by the commercial use markets.

Substantially all our current products depend on the availability and are subject to the use of licensed radio frequencies regulated by the FCC in the United States.

Substantially all of our current wireless networking products are designed to communicate wirelessly via licensed radio frequencies and therefore depend on the availability of adequate radio spectrum in order to operate. It is possible that the FCC or the U.S. Congress could adopt additional regulations or policies which are or may change or modify current regulations or policies so that they are, harmful to our business or incompatible with our current or future product offerings, as well as products currently installed in the field. Additional regulations or policies or changes or modifications to current regulations or policies may require modification or replacement of our products, including products currently installed in the field, at significant, or even prohibitive, cost to us, and may require changes or modifications to, or termination of, ongoing or planned projects. Any of these developments could materially and adversely impact our business, financial condition or results of operations.

As a manufacturer of commercial UAS, we are subject to various government regulations, restrictions and requirements, and may be subject to additional regulations in the future, violation of which could subject us to sanctions or otherwise harm, restrict or add costs to our business.

As a manufacturer of consumer products, we are subject to significant government regulations, restrictions and requirements, including, in the United States, those issued under the Consumer Products Safety Act, as well as those issued under product safety and consumer protection statutes in our international markets. Failure to comply with any applicable product safety or consumer protection regulation could result in sanctions that could have a negative impact on our business, financial condition and results of operations.

Governments and regulatory agencies in the markets where we manufacture and sell products may enact additional regulations relating to product safety and consumer protection in the future and may also increase the penalties for failure to comply with product safety and consumer protection regulations. In addition, one or more of our customers might require changes in our products, such as the non-use of certain materials, in the future. Complying with any such additional regulations or requirements could impose increased costs on our business. Similarly, increased penalties for non-compliance could subject us to greater expenses in the event any of our products were found to not comply with such regulations. Such increased costs or penalties could harm our business.

Our business is subject to federal, state and international laws regarding data protection, privacy, and information security, as well as confidentiality obligations under various agreements, and our actual or perceived failure to comply with such obligations could damage our reputation, expose us to litigation risk and adversely affect our business and operating results.

In connection with our business, we receive, collect, process and retain certain sensitive and confidential customer information. As a result, we are subject to increasingly rigorous federal, state and international laws regarding privacy and data protection. Personal privacy, data protection and information security are significant issues in the United States and the other jurisdictions where we offer our products and services. The regulatory framework for privacy and security issues worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. Our handling of data is subject to a variety of laws and regulations, including regulation by various government agencies, including the United States Federal Trade Commission (“FTC”) and various state, local and foreign bodies and agencies. We also execute confidentiality agreements with various parties under which we are required to protect their confidential information.

The United States federal and various state and foreign governments have adopted or proposed limitations on the collection, distribution, use and storage of personal information of individuals, including end-customers and employees. In the United States, the FTC and many state attorneys general are applying federal and state consumer protection laws to the online collection, use and dissemination of data. Additionally, many foreign countries and governmental bodies, and other jurisdictions in which we operate or conduct our business, have laws and regulations concerning the collection and use of personal information obtained from their residents or by businesses operating within their jurisdiction. These laws and regulations often are more restrictive than those in the United States. Such laws and regulations may require companies to implement new privacy and security policies, permit individuals to access, correct and delete personal information stored or maintained by such companies, inform individuals of security breaches that affect their personal information, and, in some cases, obtain individuals’ consent to use personal information for certain purposes.

We also expect that there will continue to be new proposed laws, regulations and industry standards concerning privacy, data protection and information security in the United States, the European Union and other jurisdictions, and we cannot yet determine the impact of such future laws, regulations and standards may have on our business. For example, the California Consumer Privacy Act, which became effective in 2020, provides new data privacy rights for consumers and new operational requirements for companies. Additionally, we expect that existing laws, regulations and standards may be interpreted differently in the future. There remains significant uncertainty surrounding the regulatory framework for the future of personal data transfers from the European Union to the United States with regulations such as the recently adopted General Data Protection Regulation (“GDPR”), which imposes more stringent E.U. data protection requirements, provides an enforcement authority, and imposes large penalties for noncompliance. Future laws, regulations, standards and other obligations, including the adoption of the GDPR, as well as changes in the interpretation of existing laws, regulations, standards and other obligations could impair our ability to collect, use or disclose information relating to individuals, which could decrease demand for our products, require us to restrict our business operations, increase our costs and impair our ability to maintain and grow our customer base and increase our revenue.

Although we are working to comply with those federal, state and foreign laws and regulations, industry standards, contractual obligations and other legal obligations that apply to us, such laws, regulations, standards and obligations are evolving and may be modified, interpreted and applied in an inconsistent manner from one jurisdiction to another, and may conflict with one another, other requirements or legal obligations, our practices or the features of our products. As such, we cannot assure ongoing compliance with all such laws or regulations, industry standards, contractual obligations and other legal obligations, and our efforts to do so may cause us to incur significant costs or require changes to our business practices, which could adversely affect our business and operating results. Any failure or perceived failure by us to comply with federal, state or foreign laws or regulations, industry standards, contractual obligations or other legal obligations, or any actual or suspected security incident, whether or not resulting in unauthorized access to, or acquisition, release or transfer of personal information or other data, may result in governmental enforcement actions and prosecutions, private litigation, fines and penalties or adverse publicity and could cause our customers to lose trust in us, which could have an adverse effect on our reputation and business. Any inability to adequately address privacy and security concerns, even if unfounded, or comply with applicable laws, regulations, policies, industry standards, contractual obligations or other legal obligations could result in additional cost and liability to us, damage our reputation, inhibit sales, and adversely affect our business and operating results.

We are subject to numerous legal and regulatory regimes, and we could be harmed by changes to, or the interpretation or the application of, the laws and regulations of each of the jurisdictions in which it operates.

In addition to the United States, Airobotics operates in Israel, Singapore and the United Arab Emirates. The international scope of Airobotics' business requires us to comply with a wide range of national and local laws and regulations, which may in certain cases diverge from or even conflict with each other.

With the geographic expansion of our business, and that of our subsidiaries, into new markets, we have become subject to additional and changing legal, regulatory, tax, licensing, and compliance requirements and industry standards.

In countries where we operate, legislators and regulatory authorities may introduce new interpretations of existing laws and regulations or introduce new legislation or regulations concerning our business. Changes in government regulation of or successful challenges to the business model used by us in certain markets may require us to change our existing business models and operations. Any additional regulatory scrutiny or changes in legal requirements may impose significant compliance costs and make it uneconomical for us to continue to operate in all of the current markets or to expand in accordance with our strategy, particularly if regulations or their interpretations vary greatly or conflict between different operating countries. This may negatively impact our revenue and profitability by preventing our business from reaching sufficient scale in particular markets or having to change our business model or incur additional costs, which would adversely impact business. Our inability, or perceived inability, to comply with existing or new compliance obligations, could lead to regulatory scrutiny, which could result in administrative or enforcement action, such as fines, penalties, and/or enforceable undertakings and adversely affect our business.

We may become subject to increasing global trade laws and regulations.

We may become subject to increasing global trade laws and regulations, including economic sanctions, export controls, and import laws. Failure to comply with global trade laws and regulations can result in penalties and reputational harm. Our international sales efforts expose us to increased risk under these laws and regulations, and increasing and evolving global trade laws could impact our business.

We are subject to Israeli regulations, restrictions and requirements which could adversely affect our business and operating results.

Restrictions imposed on us by the Government of Israel, as a result of strategic ties and treaties with foreign countries, limit our activities and access to certain countries, in a manner that may restrict and even prevent in certain situations our operations in certain countries and affect its results.

Risks Related to our Intellectual Property

Our ability to protect our intellectual property and proprietary technology is uncertain.

We rely primarily on patent, trademark and trade secret laws, as well as confidentiality and non-disclosure agreements, to protect our proprietary technologies and intellectual property. As of this filing, the Ondas Networks segment held a total of seven issued patents in the U.S., two issued international patents, four patent pending applications in the U.S., and eleven international pending patent application. The Ondas Networks segment patents expire between 2028 and 2040, subject to any patent extensions that may be available for such patents. As of this filing, the Ondas Autonomous Systems segment held a total of six issued patents in the U.S., ten issued international patents, six patent pending applications in the U.S., and eleven international pending patent applications. The Ondas Autonomous Systems segment patents expire between 2036 and 2042, subject to any patent extensions that may be available for such patents. Our intellectual property incorporates internally developed software and hardware design incorporating machine and computer vision and was developed with artificial intelligence and machine learning techniques. This intellectual property is critical to the development of end-to-end systems which reliably enable the automated operation of drones in real-world environments.

We have applied for patent protection relating to certain existing and proposed products and processes. Currently, several of our issued U.S. patents as well as various pending U.S. and foreign patent applications relate to our FullMAX systems and are therefore important to the functionality of our products. If we fail to timely file a patent application in any jurisdiction, we may be precluded from doing so at a later date. Furthermore, we cannot assure you that any of our patent applications will be approved in a timely manner or at all. The rights granted to us under our patents, and the rights we are seeking to have granted in our pending patent applications, may not be meaningful or provide us with any commercial advantage. In addition, those rights could be opposed, contested or circumvented by our competitors, or be declared invalid or unenforceable in judicial or administrative proceedings. The failure of our patents to adequately protect our technology might make it easier or cheaper for our competitors to offer the same or similar products or technologies. Even if we are successful in receiving patent protection for certain products and processes, our competitors may be able to design around our patents or develop products that provide outcomes which are comparable or superior to ours without infringing on our intellectual property rights. Due to differences between foreign and U.S. patent laws, our patented intellectual property rights may not receive the same degree of protection in foreign countries as they would in the United States. Even if patents are granted outside the U.S., effective enforcement in those countries may not be available without significant cost and time expense or at all.

We rely on our trademarks and trade names to distinguish our products from the products of our competitors. Third parties may challenge our use of the trademarks. In the event that our trademarks are successfully challenged, we could be forced to rebrand our products, which could result in loss of brand recognition, and could require us to devote additional resources to marketing new brands. Further, we cannot assure you that competitors will not infringe upon our trademarks, or that we will have adequate resources to enforce our trademarks.

We also rely on trade secrets, know-how and technology, which are not protectable by patents, to maintain our competitive position. We try to protect this information by entering into confidentiality agreements and intellectual property assignment agreements with our officers, employees, contractors and other service providers regarding our intellectual property and proprietary technology. In the event of unauthorized use or disclosure or other breaches of those agreements, we may not be provided with meaningful protection for our trade secrets or other proprietary information. In addition, our trade secrets may otherwise become known or be independently discovered by competitors. To the extent that our commercial partners, collaborators, officers, employees, contractors and other service providers use intellectual property owned by others in their work for us, disputes may arise as to the rights in the related or resulting know-how and inventions. If any of our trade secrets, know-how or other technologies not protected by a patent were to be disclosed to or independently developed by a competitor, our business, financial condition and results of operations could be materially adversely affected.

If a competitor infringes upon one of our patents, trademarks or other intellectual property rights, enforcing those patents, trademarks and other rights may be costly, difficult and time consuming. Patent law relating to the scope of claims in the industry in which we operate is subject to rapid change and constant evolution and, consequently, patent positions in our industry can be uncertain. Even if successful, litigation to defend our patents and trademarks against challenges or to enforce our intellectual property rights could be expensive and time consuming and could divert management's attention from managing our business. Moreover, we may not have sufficient resources or desire to defend our patents or trademarks against challenges or to enforce our intellectual property rights. Litigation also puts our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing. Additionally, we may provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially valuable. The occurrence of any of these events may harm our business, financial condition and operating results.

Our business may suffer if it is alleged or found that our products infringe the intellectual property rights of others.

Our industries are characterized by the existence of a large number of patents and by litigation based on allegations of infringement or other violations of intellectual property rights. Moreover, in recent years, individuals and groups have purchased patents and other intellectual property assets for the purpose of making claims of infringement in order to extract settlements from companies like ours. To date we have received no claims with respect to our infringement of intellectual property or patents but, in the future, third parties may claim that we are infringing upon their patents or other intellectual property rights. In addition, we may be or may become contractually obligated to indemnify our utility customers or other third parties that use or resell our products in the event our products are alleged to infringe a third-party's intellectual property rights. Responding to such claims, regardless of their merit, can be time consuming, costly to defend in litigation, divert management's attention and resources, damage our reputation and brand, and cause us to incur significant expenses. Even if we are indemnified against such costs, the indemnifying party may be unable to uphold its contractual obligations. Further, claims of intellectual property infringement might require us to redesign affected products, delay affected product offerings, enter into costly settlement or license agreements or pay costly damage awards or face a temporary or permanent injunction prohibiting us from marketing, selling or distributing the affected products. If we cannot or do not license the alleged infringed technology on reasonable terms or at all, or substitute similar technology from another source, our revenue and earnings could be adversely impacted. Additionally, our utility customers may not purchase our products if they are concerned that our products infringe third-party intellectual property rights. This could reduce the market opportunity for the sale of our products and services. The occurrence of any of these events may have a material adverse effect on our business, financial condition and results of operations.

If we are unable to protect the confidentiality of our proprietary information, the value of our technology and products could be adversely affected.

In addition to patented technology, we rely on our unpatented technology, trade secrets and know-how. We generally seek to protect this information by confidentiality, non-disclosure and assignment of invention agreements with our officers, employees, contractors and other service providers and with parties with which we do business. These agreements may be breached, which breach may result in the misappropriation of such information, and we may not have adequate remedies for any such breach. We cannot be certain that the steps we have taken will prevent unauthorized use or reverse engineering of our technology.

Moreover, our trade secrets may be disclosed to or otherwise become known or be independently developed by competitors. To the extent that our officers, employees, contractors, other service providers, or other third parties with whom we do business use intellectual property owned by others in their work for us, disputes may arise as to the rights in related or resulting know-how and inventions. If, for any of the above reasons, our intellectual property is disclosed or misappropriated, it would harm our ability to protect our rights and have a material adverse effect on our business, financial condition, and results of operations.

We use open-source software in our products and services that may subject our products and services to general release or require us to re-engineer our products and services, which may cause harm to our business.

We use open-source software in connection with our products and services. From time to time, companies that incorporate open-source software into their products have faced claims challenging the ownership of open-source software and/or compliance with open source license terms. Therefore, we could be subject to suits by parties claiming ownership of what we believe to be open-source software or noncompliance with open-source licensing terms. Some open-source software licenses require users who distribute open-source software as part of their software to publicly disclose all or part of the source code to such software and/or make available any derivative works of the open-source code on unfavorable terms or at no cost. While we monitor the use of open source software in our products and services and try to ensure that none is used in a manner that would require us to disclose the source code to the related product or that would otherwise breach the terms of an open source agreement, such use could inadvertently occur and we may be required to release our proprietary source code, pay damages for breach of contract, re-engineer our products, discontinue the sale of our products in the event re-engineering cannot be accomplished on a timely basis or take other remedial action that may divert resources away from our development efforts, any of which could adversely affect our business, operating results and financial condition.

Intellectual property rights do not necessarily address all potential threats to our competitive advantage.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations, and may not adequately protect our business, or permit us to maintain our competitive advantage. The following examples are illustrative:

- others may be able to make devices that are the same as or similar to our remote radios but that are not covered by the claims of the patents that we own;
- we or any collaborators might not have been the first to make the inventions covered by the issued patents or pending patent applications that we own;
- we might not have been the first to file patent applications covering certain of our inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our intellectual property rights;
- it is possible that our pending patent applications will not lead to issued patents;
- issued patents that we own may not provide us with any competitive advantages, or may be held invalid or unenforceable as a result of legal challenges;
- our competitors might conduct research and development activities in the U.S. and other countries that provide a safe harbor from patent infringement claims for certain research and development activities, as well as in countries where we do not have patent rights, and then use the information learned from such activities to develop competitive products for sale in our major commercial markets; and
- we may not develop additional proprietary technologies that are patentable.

Risks Related to our Financial Results

We will need to generate significant sales to achieve profitable operations.

We intend to increase our operating expenses substantially in connection with the planned expansion of our business, establishment of our sales and marketing infrastructure, our ongoing research and development activities, and the commensurate development of our management and administrative functions, but there is no guarantee that we will succeed in these endeavors. We will need to generate significant sales to achieve profitability, and we might not be able to do so. Even if we do generate significant sales, we might not be able to achieve, sustain or increase profitability on a quarterly or annual basis in the future. If our sales grow more slowly than we expect, or if our operating expenses exceed our expectations, our business, financial condition and results of operations may be adversely affected.

Our future profitability may be dependent upon achieving cost reductions and projected economies of scale from increasing manufacturing quantities of our products. Failing to achieve such reductions in manufacturing costs and projected economies of scale could materially adversely affect our business.

We do not know whether or when we will be able to develop efficient, low-cost manufacturing capabilities and processes that will enable us to manufacture (or contract for the manufacture of) these products in commercial quantities while meeting the volume, speed, quality, price, engineering, design and production standards required to successfully market our products. Our failure to develop such manufacturing processes and capabilities in locations that can efficiently service our markets could have a material adverse effect on our business, financial condition, results of operations and prospects. Our future profitability is, in part, dependent upon achieving increased savings from volume purchases of raw materials and component parts, achieving acceptable manufacturing yield and capitalizing on machinery efficiencies. We expect our suppliers to experience a sharp increase in demand for their products. As a result, we may not have reliable access to supplies that we require or be able to purchase such materials or components at cost effective prices. There is no assurance that we will ever be in a position to realize any material, labor and machinery cost reductions associated with higher purchasing power and higher production levels. Failure to achieve these cost reductions could adversely impact our business and financial results.

If business growth falls short of expectations, we may need to obtain additional capital to fund our growth, operations, and obligations.

We may require additional capital to fund our growth, operations, and obligations if our growth plan falls short or takes more time than we anticipate. As our business has grown, we have managed periods of tight liquidity by accessing capital from our stockholders and their affiliates. Our capital requirements will depend on several factors, including:

- our ability to enter into new agreements with customers or to extend the terms of our existing agreements with customers, and the terms of such agreements;
- the success of our sales efforts;
- our working capital requirements related to the costs of inventory and accounts receivable;
- costs of recruiting and retaining qualified personnel;
- expenditures and investments to implement our business strategy; and
- the identification and successful completion of acquisitions.

We may seek additional funds through equity or debt offerings and/or borrowings under additional notes payable, lines of credit or other sources. We do not know whether additional financing will be available on commercially acceptable terms or at all, when needed. For example, increases in interest rates could negatively impact the costs of seeking additional funds through debt offerings and/or borrowings. If adequate funds are not available or are not available on commercially acceptable terms, our ability to fund our operations, support the growth of our business or otherwise respond to competitive pressures could be significantly delayed or limited, which could materially adversely affect our business, financial condition or results of operations.

Our revenue is not predictable and recognition of a significant portion of it will be deferred into future periods.

Once a customer decides to move forward with a large-scale deployment of our products and services, the timing of and our ability to recognize related revenue will depend on several factors, some of which may not be under our control. These factors include shipment schedules that may be delayed or subject to modification, the rate at which our utility customers choose to deploy our products in their network, customer acceptance of all or any part of our products and services, our contractual commitments to provide new or enhanced functionality at some point in the future, other contractual provisions such as liquidated damages, our suppliers' ability to provide an adequate supply of components, the requirement to obtain regulatory approval, and our ability to deliver quality products according to expected schedules. In light of these factors, the application of complex revenue recognition rules to our products and services has required us to defer, and in the future will likely continue to require us to defer, a significant amount of revenue until undetermined future periods. It may be difficult to predict the amount of revenue that we will recognize in any given period and amounts recognized may fluctuate significantly from one period to the next.

Following the completion of the acquisition of Airobotics, our exposure to fluctuations in foreign currency exchange rates has increased.

Airobotics conducts a significant portion of its operations outside of the United States, which also operate in their respective local currencies, the most significant of which are currently the Israeli New Shekel, the Singapore Dollar and the Emirati Dirham. Therefore, following the completion of the acquisition of Airobotics, our international operations accounts for a more significant portion of our overall operations than they previously did and our exposure to fluctuations in foreign currency exchange rates has increased. Because our financial statements continue to be presented in U.S. dollars, the local currencies of Airobotics will be translated into U.S. dollars at the applicable exchange rates for inclusion in our consolidated financial statements, thereby increasing the foreign exchange translation risk.

We previously identified a material weakness in our internal control over financial reporting associated with the inadequate review of stock-based compensation issued in connection with the acquisition of American Robotics, which has since been remediated, and we may identify material weaknesses in the future.

We previously reported a material weakness in our internal control over financial reporting for the year ended December 31, 2021, associated with the inadequate review of stock-based compensation issued in connection with the acquisition of American Robotics. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

As discussed in section entitled "Controls and Procedures," we took a number of measures to remediate the material weakness described above, and based on these measures, management has tested the internal control activities and found them to be effective and has concluded that the material weakness described above has been remediated as of December 31, 2022. However, if additional material weaknesses or significant deficiencies in our internal control occur in the future, it may adversely affect our ability to report our financial condition and results of operations in a timely and accurate manner. Although we continually review and evaluate internal control systems to allow management to report on the sufficiency of our internal control over financial reporting, we cannot assure you that we will not discover additional weaknesses in our internal control over financial reporting. If we identify one or more new material weaknesses, we may not assert that our internal controls are effective. If we cannot assert that our internal control over financial reporting is effective, investors could lose confidence in the accuracy and completeness of our financial reports, which could have a material adverse effect on the price of our common stock and possibly impact our ability to obtain future financing on acceptable terms. Additionally, our management's attention has been, and may further be, diverted from the operation of our business as a result of the time and attention required to address the remediation of any material weakness in our internal controls.

Risks Related to the Airobotics Transaction

Our business relationships, those of Airobotics or the combined company may be subject to disruption due to uncertainty associated with the acquisition of Airobotics (the “Airobotics Transaction”).

Parties with which we or Airobotics do business may experience uncertainty associated with the Airobotics Transaction, including with respect to current or future business relationships with us, Airobotics, or the combined company. Our and Airobotics’ business relationships may be subject to disruption, as customers, distributors, suppliers, vendors, and others may seek to receive confirmation that their existing business relationships with us or Airobotics, as the case may be, will not be adversely impacted as a result of the Airobotics Transaction or attempt to negotiate changes in existing business relationships or consider entering into business relationships with parties other than us, Airobotics, or the combined company as a result of the Airobotics Transaction. Any of these other disruptions could have a material adverse effect on our or Airobotics’ business, financial condition, or results of operations or on the business, financial condition, or results of operations of the combined company and could also have an adverse effect on our ability to realize the anticipated benefits of the Airobotics Transaction.

If we are unable to implement and maintain effective internal control over financial reporting following completion of the Airobotics Transaction, we may fail to prevent or detect material misstatements in our financial statements, in which case investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our securities may decline.

We and Airobotics historically maintained separate internal control over financial reporting with different financial reporting processes and different process control software. We are in the process of integrating our internal control over financial reporting with that of Airobotics. We may encounter difficulties and unanticipated issues in combining our respective accounting systems due to the complexity of the financial reporting processes. We may also identify errors or misstatements that could require audit adjustments. If we are unable to implement and maintain effective internal control over financial reporting following completion of the Airobotics Transaction, we may fail to prevent or detect material misstatements in our financial statements, in which case investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our securities may decline.

Airobotics may have liabilities that are not known, probable or estimable at this time.

After the Airobotics Transaction, Airobotics is subject to certain past, current, and future liabilities. There could be unasserted claims or assessments against or affecting Airobotics, including the failure to comply with applicable laws and regulations. In addition, there may be liabilities of Airobotics that are neither probable nor estimable at this time that may become probable or estimable in the future, including indemnification requests received from customers of Airobotics relating to claims of infringement or misappropriation of third party intellectual property or other proprietary rights, tax liabilities arising in connection with ongoing or future tax audits and liabilities in connection with other past, current and future legal claims and litigation. Any such liabilities, individually or in the aggregate, could have a material adverse effect on our financial results. We may learn additional information about Airobotics that adversely affects us, such as unknown, unasserted, or contingent liabilities and issues relating to compliance with applicable laws or infringement or misappropriation of third-party intellectual property or other proprietary rights.

Ondas may experience difficulties integrating Airobotics’ business.

Achieving the anticipated benefits of the Airobotics Transaction will depend in significant part upon whether Ondas and successfully integrates Airobotics and American Robotics in the Ondas Autonomous Systems in an efficient and effective manner. The actual integration and operations of the Ondas Autonomous Systems may result in additional and unforeseen expenses, and the anticipated benefits of the integration plan may not be realized. The companies may not be able to accomplish the integration process smoothly, successfully or on a timely basis. The necessity of coordinating geographically separated organizations, systems of controls, and facilities and addressing possible differences in business backgrounds, corporate cultures and management philosophies may increase the difficulties of integration. The companies operate numerous systems and controls, including those involving management information, purchasing, accounting and finance, sales, billing, employee benefits, payroll, and regulatory compliance. The integration of operations following the Airobotics Transaction will require the dedication of significant management and external resources, which may temporarily distract management’s attention from the day-to-day business of the combined company and be costly. Employee uncertainty and lack of focus during the integration process may also disrupt the business of the combined company. Any inability of management to successfully and timely integrate the operations of the two companies could have a material adverse effect on the business and results of operations of the combined company.

The combined company may not fully realize the anticipated benefits of the Airobotics Transaction within the timing anticipated or at all.

Ondas and Airobotics entered into the Agreement of Merger, dated August 4, 2022, because each company believes that the Airobotics Transaction will be beneficial to each of Ondas and Airobotics primarily as a result of the anticipated benefits resulting from the combined company's operations. The companies may not be able to achieve the anticipated long-term strategic benefits of the Airobotics Transaction. An inability to realize the full extent of, or any of, the anticipated benefits of the Airobotics Transaction, as well as any delays that may be encountered in the integration process, which may delay the timing of such benefits, could have an adverse effect on the business and results of operations of the combined company, and may affect the value of Ondas common stock after the completion of the Airobotics Transaction.

The Airobotics Transaction involved substantial costs.

We have incurred, and expect to continue to incur, a number of non-recurring costs associated with the Airobotics Transaction. The substantial majority of the non-recurring expenses will consist of transaction and regulatory costs related to the Airobotics Transaction. We will also incur transaction fees and costs related to formulating and implementing integration plans, including system consolidation costs and employment-related costs. We continue to assess the magnitude of these costs, and additional unanticipated costs may be incurred from the Airobotics Transaction and integration. Although we anticipate that the elimination of duplicative costs and the realization of other efficiencies and synergies related to the integration should allow us to offset integration-related costs over time, this net benefit may not be achieved in the near term, or at all.

Risks Related to our Common Stock

We have limited trading activity and as a result, the price of our common stock might fluctuate significantly, and you could lose all or part of your investment.

The limited trading activity and resulting volatility in the market price of our common stock may prevent you from being able to sell your shares of our common stock at or above the price you paid for your shares. The trading price of our common stock may be volatile and subject to wide price fluctuations in response to various factors, including, but not limited to:

- actual or anticipated fluctuations in our financial and operating results;
- adverse results from delays in our product development;
- legal, political, governmental or other regulatory developments, decisions or interpretations;
- publication of research reports or coverage about us or our industry or positive or negative recommendations;
- perceptions about the market acceptance of our products and services, and the recognition of our brand;
- adverse publicity about our products and services, operating or financial results or industry in general;
- overall performance of the equity markets;
- introduction or discontinuation of products or services, or announcements of significant contracts, licenses or acquisitions, by us or our competitors;
- additions or departures of key personnel;
- threatened or actual litigation and government or regulatory investigations;
- sale of shares of our common stock by us or members of our management or our stockholders; and
- general economic conditions, both global and regional.

Our common stock is listed on Nasdaq and the Tel Aviv Stock Exchange (“TASE”) under the symbol “ONDS.” The first trading day of the Company’s shares on TASE was January 26, 2023. There can be no assurance that trading of our common stock on such market will be sustained. In the event that our common stock is not listed on Nasdaq or TASE, or if we do not sustain such listing, our common stock could be quoted only on the OTC Markets. Under such circumstances, you may find it significantly more difficult to trade, or to obtain accurate quotations for our common stock and our common stock may become substantially less attractive to certain purchasers, such as financial institutions, hedge funds, and other similar investors.

These and other factors might cause the market price of our common stock to fluctuate unpredictably and substantially, which may negatively affect the liquidity of our common stock. In addition, in recent years, the stock market has experienced significant price and volume fluctuations. This volatility has had a significant impact on the market price of securities issued by many companies across many industries, including our industry. The changes frequently appear to occur without regard to the operating performance of the affected companies. Accordingly, the price of our common stock could fluctuate based upon factors that have little or nothing to do with our company, and these fluctuations could materially reduce our stock price.

Securities class action litigation has often been instituted against companies following periods of volatility in the overall market and in the market price of a company’s securities. This litigation, if instituted against us, could result in substantial costs, divert our management’s attention and resources, and harm our business, operating results and financial condition.

Concentration of ownership of our common stock among our existing executive officers, directors and principal stockholders may prevent new investors from influencing significant corporate decisions.

Our executive officers, directors and current beneficial owners of 5% or more of our common stock and their respective affiliates, in the aggregate, beneficially own approximately 15.6% of our outstanding common stock as of March 10, 2023, and as of the date of this filing. As a result, these persons, acting together, would be able to significantly influence all matters requiring stockholder approval, including the election and removal of directors, any merger, consolidation, sale of all or substantially all of our assets, or other significant corporate transactions.

Some of these persons or entities may have interests different than yours. For example, they may be more interested in selling our company to an acquirer than other investors, or they may want us to pursue strategies that deviate from the interests of other stockholders.

We may issue more shares to raise additional capital, which may result in substantial dilution.

Our Amended and Restated Articles of Incorporation authorize the issuance of a maximum of 116,666,667 shares of common stock. Any additional financings effected by us may result in the issuance of additional securities without stockholder approval and the substantial dilution in the percentage of common stock held by our then existing stockholders. In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may be higher or lower than the price per share in this offering, and investors purchasing shares or other securities in the future could have rights superior to purchases in this offering or other existing stockholders. Also, we have reserved 6,000,000 shares of common stock for issuance pursuant to future awards under the 2021 Stock Incentive Plan. As of December 31, 2022, the number of securities remaining available for future issuance under the 2021 Stock Incentive Plan is 3,927,140 shares of common stock. The issuance of such additional shares of common stock, or securities convertible or exchangeable into common stock, may cause the price of our common stock to decline. Additionally, if all or a substantial portion of these shares are resold into the public markets then the trading price of our common stock may decline.

Our Board may issue and fix the terms of shares of our preferred stock without stockholder approval, which could adversely affect the voting power of holders of our common stock or any change in control of our Company.

Our Amended and Restated Articles of Incorporation authorize the issuance of up to 5,000,000 shares of “blank check” preferred stock, \$0.0001 par value per share, with such designation rights and preferences as may be determined from time to time by our Board. Our Board is empowered, without the need to obtain stockholder approval, to issue shares of preferred stock with dividend, liquidation, conversion, voting or other rights which could adversely affect the voting power or other rights of the holders of our common stock. In the event of such issuances, the preferred stock could be used, under certain circumstances, as a method of discouraging, delaying or preventing a change in control of our company.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, our stock price and trading volume could decline.

The trading market for our common stock will depend in part on the research and reports that securities or industry analysts publish about us or our business, which research and reports are not and would not be subject to our control. We currently do not have and may never obtain research coverage by securities analysts, and industry analysts that currently cover us may cease to do so. If no securities analysts commence coverage of our company, or if industry analysts cease coverage of our company, the trading price for our stock could be materially and adversely impacted. In the event we obtain securities analyst coverage, if one or more of the analysts who cover us downgrade our stock or publish inaccurate or unfavorable research about our business, our stock price may be materially and adversely impacted. If one or more of these analysts cease coverage of our company or fail to publish reports on us regularly, demand for our stock could decrease, which might cause our stock price and trading volume to decline.

We do not intend to pay dividends for the foreseeable future.

We have never declared or paid cash dividends on our capital stock nor are we under any obligation to declare or pay such cash dividends. We currently intend to retain any future earnings to fund our operations and the development and growth of our business, and we do not expect to declare or pay any dividends in the foreseeable future. Our future ability to pay cash dividends on our capital stock may be limited by any future debt instruments or preferred securities. As a result, you may only receive a return on your investment in our common stock if the market price of our common stock increases to a price above the price you paid for them and you sell such shares.

Our shares of common stock are subject to the penny stock rules.

The SEC has adopted rules that regulate broker-dealer practices in connection with transactions in penny stocks. Penny stocks are generally equity securities with a price of less than \$5.00, other than securities registered on certain national securities exchanges or authorized for quotation on certain automated quotation systems, provided that current price and volume information with respect to transactions in such securities is provided by the exchange or system. If the price per share of our common stock continues to be less than \$5.00, our common stock will continue to be deemed a penny stock. The penny stock rules require a broker-dealer, before a transaction in a penny stock not otherwise exempt from those rules, to deliver a standardized risk disclosure document containing specified information. In addition, the penny stock rules require that before effecting any transaction in a penny stock not otherwise exempt from those rules, a broker-dealer must make a special written determination that the penny stock is a suitable investment for the purchaser and receive (i) the purchaser's written acknowledgment of the receipt of a risk disclosure statement; (ii) a written agreement to transactions involving penny stocks; and (iii) a signed and dated copy of a written suitability statement. These disclosure requirements may have the effect of reducing the trading activity in the secondary market for our common stock, and therefore stockholders may have difficulty selling their shares.

Certain provisions of our Amended and Restated Articles of Incorporation and Bylaws and Nevada law make it more difficult for a third-party to acquire us and make a takeover more difficult to complete, even if such a transaction were in the stockholders' best interest.

Certain provisions of our Amended and Restated Articles of Incorporation and Bylaws and Nevada law make it more difficult for a third-party to acquire us and make a takeover more difficult to complete, even if such a transaction were in the stockholders' interest. For example, Nevada law provides that approval of two-thirds of the stockholders is required to remove a director, which may make it more difficult for a third-party to gain control of the Company. This concentration of ownership limits the power to exercise control by our minority stockholders.

Our bylaws designate the Eighth Judicial District Court of Clark County of the State of Nevada as the sole and exclusive forum for certain actions, which could limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with the Company and its directors, officers, or other employees and may discourage lawsuits with respect to such claims.

Unless we consent in writing to the selection of an alternative forum, the Eighth Judicial District Court of Clark County of the State of Nevada (the "Court") shall be the sole and exclusive forum for any stockholder (including a beneficial owner) to bring (i) any derivative action or proceeding brought on behalf of the Company, (ii) any action asserting a claim of breach of a fiduciary duty owed by any Director, officer or other employee of the Company to the Company or the Company's stockholders, (iii) any action asserting a claim against the Company, any director or the Company's officers or employees arising pursuant to any provision of the NRS, Chapters 78 or 92A of the NRS or our Amended and Restated Articles of Incorporation or our Bylaws, or (iv) any action asserting a claim against the Company, any director or the Company's officers or employees governed by the internal affairs doctrine. However, each of these clauses (i) through (iv) will not apply to any claim (x) as to which the Court determines that there is an indispensable party not subject to the jurisdiction of the Court (and the indispensable party does not consent to the personal jurisdiction of the Court within ten (10) days following such determination), (y) for which the Court does not have subject matter jurisdiction, or (z) which is vested in the exclusive jurisdiction of a court or forum other than the Court, including pursuant to Section 27 of the Exchange Act, which provides for exclusive federal jurisdiction over suits brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder. Furthermore, Section 22 of the Securities Act of 1933, as amended (the "Securities Act"), provides for concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder, and as such the exclusive jurisdiction clauses set forth above would not apply to such suits.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Our corporate headquarters for Ondas Holdings is located at 411 Waverley Oaks Road, Suite 114, Waltham, MA 02452.

Our offices and facilities for Ondas Networks are located at 165 Gibraltar Court in Sunnyvale, CA (the Property"). On October 30, 2018, we entered into a sublease for the sublet of the Property, representing approximately 21,982 square feet. The sublease expired on February 28, 2021 and was extended to March 31, 2021 under the same terms which included a base rent of approximately \$28,577 per month plus additional monthly fees to cover operating expenses, certain legal fees, and personal property taxes associated with the premises. Upon execution of the sublease, we delivered a security deposit to be held in trust equal to one month's base rent, which was applied to the balance of our sublease obligation in March 2021. On January 22, 2021, we entered into a 24-month lease with the owner and landlord of the Property (the "2021 Lease"), wherein the base rate is \$45,000 per month and including a security deposit in the amount of \$90,000. The 2021 Lease is effective April 1, 2021 through March 31, 2023. The Company is in the process of renewing this lease.

Our offices and facilities for American Robotics are located at 53 Brigham St, Unit 4, Marlborough, MA, representing approximately 10,450 square feet (the "Marlborough Lease"). On August 5, 2021, the Company acquired American Robotics and the Marlborough Lease, wherein the base rate is \$15,469 per month, with an annual increase of 3% through January 2024, with a security deposit of \$24,166. On August 19, 2021, American Robotics amended their lease to reduce their space. The Amendment reduced their annual base rent to \$8,802 per month, with an annual increase of 3% through January 2024.

On October 8, 2021, American Robotics entered into an 86-month operating lease for space at 411 Waverley Oaks Road, Suite 114, Waltham, MA, representing approximately 18,000 square feet. The lease commenced on March 1, 2022 and terminates on April 30, 2029, wherein the base rate is \$39,375 per month, increasing 3% annually, with a security deposit in the amount of \$104,040. In conjunction with this new lease, American Robotics leased a short-term temporary space at 411 Waverley Oaks Road, Suite 118, Waltham, MA, representing approximately 6,000 square feet at \$8,500 per month, until their primary space was available on June 1, 2022.

Our offices and facilities for Airobotics are located at 8 Modi'in St, Petah Tikva, Israel, representing approximately 13,240 square feet and an adjacent yard with an area of approximately 9,690 square feet which Airobotics leases according to three different lease agreements. Each agreement is with respect to different sections of the entire leased area and are in effect through December 31, 2023, February 28, 2024, and November 30, 2024 wherein the base rate of the entire leased area is approximately \$20,500 per month.

We believe that our offices and facilities are sufficient for our current needs.

Item 3. Legal Proceedings.

From time to time, we may become involved in various lawsuits and legal proceedings that arise in the ordinary course of business. Litigation is subject to inherent uncertainties and an adverse result in these, or other matters may arise from time to time that may harm our business. We are not currently involved in any legal proceeding or investigation by a governmental agency that we believe will have a material adverse effect on our business, financial condition, or operating results.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

Our common stock originally traded on OTC Markets, the OTC Pink (Current Information) tier of OTC Markets Group, Inc. under the trading symbol “ZVVT” on a very limited basis. On October 5, 2018, the trading symbol changed to “ONDS.” On December 19, 2018, our common stock was uplisted to the OTCQB under the symbol “ONDS”. On December 4, 2020, our common stock was uplisted to the Nasdaq Capital Market (“Nasdaq”) under the symbol “ONDS” where it continues to trade on a very limited basis. On January 26, 2023, our common stock began trading on the Tel Aviv Stock Exchange (“TASE”) and was dual listed on both Nasdaq and TASE.

Stockholders

As of March 7, 2023, there were 98 stockholders of record.

Dividends

We have never declared nor paid any cash dividends to stockholders. We do not intend to pay cash dividends on our common stock for the foreseeable future, and currently intend to retain any future earnings to fund our operations and the development and growth of our business. The declaration of any future cash dividend, if any, would be at the discretion of our Board (subject to limitations imposed under applicable Nevada law) and would depend upon our earnings, if any, our capital requirements and financial position, our general economic conditions, and other pertinent conditions.

Unregistered Sales of Securities

None during the year ended December 31, 2022

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None during the quarter ended December 31, 2022.

Item 6. [Reserved]

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

General

You should read the following discussion and analysis in conjunction with our consolidated financial statements and the notes to those financial statements included elsewhere in this Annual Report. This discussion contains forward-looking statements based upon current expectations that involve risks and uncertainties. See “Cautionary Note Regarding Forward-Looking Statements.” Our actual results may differ materially from those contained in or implied by any forward-looking statements.

Overview

Ondas Holdings is a leading provider of private wireless, drone, and automated data solutions through its wholly owned subsidiaries Ondas Networks Inc. (“Ondas Networks”), American Robotics, Inc. (“American Robotics” or “AR”) and Airobotics, Ltd. (“Airobotics”). American Robotics and Airobotics are operated together, under a separate business unit called Ondas Autonomous Systems. Ondas Holdings acquired American Robotics, a leading developer of highly automated commercial drone systems on August 5, 2021. Ondas Holdings acquired Airobotics, an Israeli-based developer of autonomous drone systems on January 23, 2023. American Robotics and Airobotics are operated together, under a separate business unit called Ondas Autonomous Systems. Ondas Networks and Ondas Autonomous Systems together provide users in rail, energy, mining, agriculture, public safety and critical infrastructure and government markets with improved connectivity, data collection capabilities, and data collection and information processing capabilities. We operate Ondas Networks and Ondas Autonomous Systems as separate business segments, and the following is a discussion of each segment. See Note 1 and Note 2 of the accompanying Consolidated Financial Statements for further information regarding our segments.

Ondas Networks Segment

Ondas Networks provides wireless connectivity solutions enabling mission-critical Industrial Internet applications and services. We refer to these applications as the Mission-Critical Internet of Things (“MC-IoT”). Our wireless networking products are applicable to a wide range of MC-IoT applications, which are most often located at the very edge of large industrial networks. These applications require secure, real-time connectivity with the ability to process large amounts of data at the edge of large industrial networks. Such applications are required in all of the major critical infrastructure markets, including rail, electric grids, drones, oil and gas, and public safety, homeland security and government, where secure, reliable and fast operational decisions are required in order to improve efficiency and ensure a high degree of safety and security.

We design, develop, manufacture, sell and support FullMAX, our patented, Software Defined Radio (“SDR”) platform for secure, licensed, private, wide-area broadband networks. Our customers install FullMAX systems in order to upgrade and expand their legacy wide-area network infrastructure. Our MC-IoT intellectual property has been adopted by the Institute of Electrical and Electronics Engineers (“IEEE”), the leading worldwide standards body in data networking protocols, and forms the core of the IEEE 802.16s standard. Because standards-based communications solutions are preferred by our mission-critical customers and ecosystem partners, we have taken a leadership position in IEEE as it relates to wireless networking for industrial markets. As such, management believes this standards-based approach supports the adoption of our technology across a burgeoning ecosystem of global partners and end markets.

Our software-based FullMAX platform is an important and timely upgrade solution for privately-owned and operated wireless wide-area networks, leveraging Internet Protocol-based communications to provide more reliability and data capacity for our mission-critical infrastructure customers. We believe industrial and critical infrastructure markets throughout the globe have reached an inflection point where legacy serial and analog based protocols and network transport systems no longer meet industry needs. In addition to offering enhanced data throughput, FullMAX is an intelligent networking platform enabling the adoption of sophisticated operating systems and equipment supporting next-generation MC-IoT applications over wide field areas. These new MC-IoT applications and related equipment require more processing power at the edge of large industrial networks and the efficient utilization of network capacity and scarce bandwidth resources which can be supported by the “Fog-computing” capability integrated in our end-to-end network platform. Fog-computing utilizes management software to enable edge compute processing and data and application prioritization in the field enabling our customers more reliable, real-time operating control of these new, intelligent MC-IoT equipment and applications at the edge.

Our Partnership with Siemens Mobility

In April 2020, Ondas Networks entered into a strategic partnership with Siemens Mobility (“Siemens”), a worldwide leader in seamless, sustainable, reliable and secure transportation solutions for more than 160 years, to both market our FullMAX-based networking technology and services and to jointly develop wireless communications products for the North American Rail Industry based on Siemens’ Advanced Train Control System (“ATCS”) protocol and our FullMAX MC-IoT platform.

We believe Siemens has both the sales and marketing reach and support to drive our technology to wide scale acceptance across the global rail market beginning with the North American Class I Railroad market. In the third quarter of 2021 we completed the development of our first jointly-developed product with Siemens – the dual-mode ATCS/MC-IoT radio systems. Siemens is now marketing and selling these proprietary systems under the brand name *Airlink* to our railroad customers. The dual-mode ATCS radio systems support Siemens’ extensive installed base of ATCS radios as well as offer Siemens’ customers the ability to support a host of new advanced rail applications utilizing our MC-IoT wireless system. These new applications, including Advanced Grade Crossing Activation and Monitoring, Wayside Inspection, Railcar Monitoring and next generation signaling and train control systems, are designed to increase railroad productivity, reduce costs and improve safety. In addition, Siemens markets and sells Ondas Networks’ standalone MC-IoT 802.16 products under the Siemens *Airlink* brand.

Our relationship with Siemens has expanded significantly since entering into the partnership both with (i) the wider marketing of our wireless technology platform and (ii) multiple additional joint-product programs. Siemens has expanded its marketing reach of Ondas Networks products with identified opportunities in North American Transit Rail as well as in European and Asian Rail markets. We believe our technology has broad potential in these large, newly targeted markets.

In November 2021, Siemens secured its first commercial 900 MHz rail order for a major Class I Railroad in the United States which was delivered in December 2021. In August 2022, we announced that we had secured an initial volume order from Siemens for the Class I Rail 900 MHz Network consisting of both ATCS compatible products along with Ondas’ catalog products. In September 2022, we received government authorization to sell ATCS radios in Canada.

Additional Critical Markets

We have launched additional initiatives to take our MC-IoT connectivity and ecosystem partnering strategy into other critical infrastructure markets. In June 2022, we announced the first successful installation of our technology into an Integrated Coastal Surveillance System (ICSS) in the Caribbean with a global defense contractor. In the fourth quarter of 2022, we received and delivered on a new ICSS order for the defense contractor to be deployed in India. We expect additional orders from this defense vendor for the ICSS application in 2023. We believe our FullMAX technology's licensed frequency flexibility, reliability, and long communications range over ocean surfaces, is broadening the scale of our technology in this emerging market for homeland security.

Ondas Autonomous Systems Segment

Our Ondas Autonomous Systems business unit designs, develops, and markets commercial drone solutions via the Optimus System™ and Scout System™ (the "Autonomous Drone Platforms").

The Autonomous Drone Platforms are highly automated, AI-powered drone systems capable of continuous, remote operation and are marketed as "drone-in-a-box" turnkey data solution services. They are deployed for critical industrial and government applications where data and information collection and processing are required. These use cases include public safety, security and smart city deployments where routine, high-resolution automated emergency response, mapping, surveying, and inspection services are highly valued, in addition to industrial markets such as oil & gas, rail and ports which emphasize security and inspection solutions. The Autonomous Drone Platforms are typically provided to customers under a Data-as-a-Service (DaaS) business model, while some customers will choose to purchase and own and operate an Optimus Systems™.

American Robotics and Airobotics have industry leading regulatory successes which include having the first drone system approved by the Federal Aviation Administration ("FAA") for automated operation beyond-visual-line-of-sight (BVLOS) without a human operator on-site.

In addition to the Autonomous Drone Platforms, we also offer a counter-drone system called the Raider™. The Raider™ was developed by Iron Drone and is deployed by government and enterprise customers to provide security and protect critical infrastructure, assets and people from the threat of hostile drones. Ondas Holdings acquired Iron Drone on March 6, 2023.

Autonomous Drone Platforms

We design, develop and manufacture autonomous drone systems, providing high-fidelity, ultra-high-resolution aerial data to enterprise and government customers. We currently prioritize the marketing of our Optimus System™ which provides customers with a turnkey data and information solution and the ability to continuously digitize, analyze, and monitor their assets and field operations in real-time or near real-time. We believe the market opportunity for our Scout System™ remains significant. As we drive market adoption with the Optimus platform, we anticipate re-introducing the Scout platform including newly enhanced versions to help segment the market for different use cases and price points.

The Optimus System™ has been designed from the ground up as an end-to-end product capable of continuous unattended operations in the real world. Powered by innovations in robotics automation, machine vision, edge computing, and AI. Once installed in the field at customer locations, a fleet of connected Optimus Systems™, which are often deployed as networked drone infrastructure, which we refer to as Urban Drone Infrastructure, remains indefinitely positioned in an area of operation, automatically collecting and seamlessly delivering data and information regularly and reliably.

We market the Optimus System™ under a DaaS business model, whereby our drone platform aggregates customer data and provides the data analytics meeting customer requirements in return for an annual subscription fee. Some customers purchase Optimus Systems™ to own and operate themselves. We also engage distributors to assist in the sales and marketing of our Optimus System™ in geographic markets where it's more cost effective to identify and service potential customers by engaging local third parties. These distribution agreements can include joint ventures, where Ondas Autonomous Systems will provide technical expertise to support the joint venture partner in the provision of aerial data services to customers.

The Optimus System™ consists of (i) Optimus™, a highly automated, AI-powered drone with advanced imaging payloads, (ii) the Airbase™, a ruggedized weatherproof base station for housing, battery swapping, battery charging, payload swapping, data processing, and cloud transfer, and (iii) Insightful™, a secure web portal and API which enables remote interaction with the system, data, and resulting analytics anywhere in the world. These major subsystems are connected via a host of supporting technologies. Airbase™ has internal robotic systems that enable the automated swapping of batteries and payloads. Automated battery swapping allows for 24/7 operation of Optimus as the Optimus drone can immediately be redeployed after returning to the dock for a battery swap. Similarly, the ability to autonomously swap sensors and advanced payloads without human intervention allows for the Optimus System to provide multiple applications and use cases from a single location.

American Robotics and Airobotics have industry leading regulatory successes which include having the first drone system approved by the FAA for automated operation BVLOS without a human operator or visual observer on-site. American Robotics' FAA approvals were enabled by integrating a suite of proprietary technologies, including Detect-and-Avoid ("DAA") and other proprietary intelligent safety systems into its autonomous drone platform, which we plan to integrate into the Optimus System™. Airobotics is in the advanced stages of receiving approval for Type Certification ("TC") from the FAA for the Optimus UAV. TC approval will enable expanded operation for the Optimus System™ in the United States including flight operations in populated areas.

The Raider™

The Raider™ is a counter-drone system, which was designed and developed by Iron Drone, that we are marketing to government and enterprise customers who can utilize the system for security and the protection of critical infrastructure, assets and people from the threat of hostile drones. A typical Raider™ deployment location would include sensitive locations such as borders, stadiums or schools, or near critical assets such as power plants and military bases, and for high profile locations such as amusement parks or where public events are held.

The Raider™ is designed to detect, track and intercept unauthorized, or hostile unmanned aircraft and is most often sold with three small UAVs that are housed in a docking station. The Raider UAV has live video capability and a payload containing a net that can be deployed to intercept a hostile drone. Upon detection of an unauthorized drone, one or more Raider™ UAVs can be autonomously deployed at high speeds to track the unauthorized aircraft. If the unauthorized aircraft is deemed hostile, the Raider™ UAV can deploy the netting to physically intercept the aircraft. A parachute integrated with the netting allows the intercepted drone to safely fall to the ground for collection by our customer.

COVID-19

In December 2019, a novel strain of coronavirus ("COVID-19") was identified and has resulted in increased travel restrictions, business disruptions and emergency quarantine measures across the world including the United States.

The Company's business, financial condition and results of operations were impacted from the COVID-19 pandemic for the years ended December 31, 2022 and 2021 as follows:

- sales and marketing efforts were disrupted as our business development team was unable to travel to visit customers and customers were unable to receive visitors for on-location meetings;
- field activity for testing and deploying our wireless systems was delayed due to the inability for our field service team to install and test equipment for our customers;
- supply chain disruptions led to component shortages and inefficiencies in and delays in producing and delivering equipment for certain purchase orders; and
- delays in fulfilling purchase orders reduced our cash flow from operations.

The Company expects its business, financial condition and results of operations will be impacted from the COVID-19 pandemic during 2023, primarily due to supply chain disruptions due to pandemic-related plant and port shutdowns, transportation delays, government actions and other factors, which may be beyond our control. The global shortage of certain components such as semiconductor chips, strains on production or extraction of raw materials, cost inflation, and labor and equipment shortages, could escalate in future quarters. Labor shortages have led and may continue to lead to difficult conditions for hiring and retention of employees, and increased labor costs. Further, the COVID-19 pandemic is ongoing and remains an unknown risk for the foreseeable future. The extent to which the coronavirus may impact our business will depend on future developments, which are highly uncertain and cannot be predicted, including new information which may emerge concerning the severity of the coronavirus. As a result, the Company is unable to reasonably estimate the full extent of the impact from the COVID-19 pandemic on its future business, financial condition and results of operations. In addition, if the Company were to experience any new impact to its operations or incur additional unanticipated costs and expenses as a result of the COVID-19 pandemic, such operational delays and unanticipated costs and expenses there could be a further adverse impact on the Company's business, financial condition and results of operations during the year ended December 31, 2023.

Inflation Reduction Act of 2022 and Tax Cuts and Jobs Act of 2017

On August 16, 2022, the Inflation Reduction Act of 2022 (“IRA”) was signed into law. The IRA includes a 15% Corporate Alternative Minimum Tax (“Corporate AMT”) for tax years beginning after December 31, 2022. We do not expect the Corporate AMT to have a material impact on our consolidated financial statements. Additionally, the IRA imposes a 1% excise tax on net repurchases of stock by certain publicly traded corporations. The excise tax is imposed on the value of the net stock repurchased or treated as repurchased. The new law will apply to stock repurchases occurring after December 31, 2022.

Under the Tax Cuts and Jobs Act of 2017, we are required to capitalize R&D expenses for tax purposes and amortize over five years for domestic based expenses and fifteen years for foreign expenses. Given our tax net operating loss carryforward position we do not expect this change to have a material impact on our financial statements.

American Robotics Acquisition

Merger Agreement

On May 17, 2021, the Company entered into an Agreement and Plan of Merger (the “AR Agreement”) with Drone Merger Sub I Inc., a Delaware corporation and a direct wholly owned subsidiary of the Company (“Merger Sub I”), Drone Merger Sub II Inc., a Delaware corporation and a direct wholly owned subsidiary of the Company (“Merger Sub II”), American Robotics, and Reese Mozer, solely in his capacity as the representative of American Robotics’ Stockholders (as defined in the AR Agreement). American Robotics is a company focused on designing, developing, and marketing industrial drone solutions for rugged, real-world environments. AR’s Scout System™ is a highly automated, AI-powered drone system capable of continuous, remote operation and is marketed as a “drone-in-a-box” turnkey data solution service under a Robot-as-a-Service (RAAS) business model. The Scout System™ is the first drone system approved by the FAA for automated operation beyond-visual-line-of-sight (BVLOS) without a human operator on-site.

On August 5, 2021 (the “AR Closing Date”), the Company’s stockholders approved the issuance of shares of the Company’s common stock, including shares of common stock underlying Warrants (as defined below), in connection with the acquisition of American Robotics.

On the AR Closing Date, American Robotics merged with and into Merger Sub I, with American Robotics continuing as the surviving entity, and American Robotics then subsequently and immediately merged with and into Merger Sub II (“Merger II”), with Merger Sub II continuing as the surviving entity and as a direct wholly owned subsidiary of the Company. Simultaneously with Merger II, Merger Sub II was renamed American Robotics, Inc.

Pursuant to the AR Agreement, American Robotics stockholders and certain service providers received (i) cash consideration in an amount equal to \$7,500,000, less certain indebtedness, transaction expenses and other expense amounts as described in the AR Agreement; (ii) 6,750,000 shares of the Company’s common stock (inclusive of 26 fractional shares paid in cash as set forth in the AR Agreement); (iii) warrants exercisable for 1,875,000 shares of the Company’s common stock (the “Warrants”) (inclusive of 24 fractional shares paid in cash and the equivalent of Warrants for 309,320 shares representing the value of options exercisable for 211,038 shares issued under the Company’s incentive stock plan and reducing the aggregate amount of Warrants as set forth in the AR Agreement); and (iv) the cash release from the PPP Loan Escrow Amount (as defined in the AR Agreement). Each of the Warrants entitle the holder to purchase a number of shares of the Company’s common stock at an exercise price of \$7.89. Each of the Warrants shall be exercisable in three equal annual installments commencing on the one-year anniversary of the AR Closing Date and shall have a term of ten years. 59,544 of the stock options were issued fully vested to employees who did not exercise their American Robotics options prior to the AR Closing Date and had no ongoing service requirements and were included in the purchase consideration. The remaining 151,494 stock options issued vest over four years and are contingent on ongoing employment by the Company and are recorded as compensation expense over the service period.

Also on the AR Closing Date, the Company entered into employment agreements and issued 1,375,000 restricted stock units (“RSUs) under the Company’s incentive stock plan to key members of American Robotics’ management. These RSUs vest in equal installments on the next three anniversaries of the AR Closing Date and vesting is contingent on the individuals remaining employed by the Company. These RSUs are not included in purchase consideration and are expensed ratably over the service period. They were valued at the closing market price on the AR Closing Date.

The Company’s Consolidated Financial Statements for the year ended December 31, 2022 include results of operations of American Robotics for the period from the AR Closing Date to December 31, 2022.

See Note 5 – Goodwill and Business Acquisition to the accompanying Consolidated Financial Statements for further information regarding the American Robotics acquisition.

Airobotics Transaction

On January 23, 2023, the Company acquired Airobotics, Ltd. See Note 16 - Subsequent Events to the accompanying Consolidated Financial Statements for further information regarding the Airobotics acquisition.

Results of Operations

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

Revenues

	Year Ended December 31,		
	2022	2021	Increase (Decrease)
Revenue, net			
Ondas Networks	\$ 1,931,677	\$ 2,840,154	\$ (908,477)
American Robotics	194,140	66,617	127,523
Total	\$ 2,125,817	\$ 2,906,771	\$ (780,954)

Revenue decreased to \$2,125,817 for the year ended December 31, 2022 from \$2,906,771 for the year ended December 31, 2021. Revenues during the year ended December 31, 2022 included \$872,660 for products, \$319,140 for maintenance, service, support, and subscriptions, and \$934,017 for development agreements with Siemens Mobility. Revenues during the same period in 2021 included \$405,569 for products, \$96,934 for maintenance service, support, and subscriptions, \$2,401,474 for development agreements with Siemens Mobility and AURA Networks, and \$2,794 for other revenues.

Cost of goods sold

	Year Ended December 31,		
	2022	2021	Increase (Decrease)
Cost of goods sold			
Ondas Networks	\$ 914,612	\$ 1,783,033	\$ (868,421)
American Robotics	102,042	27,909	74,133
Total	\$ 1,016,654	\$ 1,810,942	\$ (794,288)

Cost of goods sold decreased to \$1,016,654 for the year ended December 31, 2022 from \$1,810,942 for the year ended December 31, 2021. The decrease in cost of goods sold was the result of less development costs being allocated to development agreements in line with the decreased revenue.

Gross profit

	Year Ended December 31,		
			Increase (Decrease)
	2022	2021	
Gross Profit			
Ondas Networks	\$ 1,017,065	\$ 1,057,121	\$ (40,056)
American Robotics	92,098	38,708	53,390
Total	\$ 1,109,163	\$ 1,095,829	\$ 13,334

Our gross profit increased by \$13,334 for the year ended December 31, 2022 compared to the year ended December 31, 2021 based on the changes in revenues and costs of sales as discussed above. Gross margin for the periods in 2022 and 2021 was 52% and 38%, respectively. This increase in gross margin percentage is due to a higher mix of higher margin product, support and subscription sales as compared to the prior year period, which had a higher mix of development projects with lower margins.

Operating Expenses

	Year Ended December 31,		
			Increase (Decrease)
	2022	2021	
Operating expenses:			
General and administrative	\$ 23,618,823	\$ 11,781,503	\$ 11,837,320
Sales and marketing	3,456,257	1,487,394	1,968,456
Research and development	24,044,005	5,800,549	18,243,533
Goodwill impairment	19,419,600	-	19,419,600
Total	\$ 70,538,685	\$ 19,069,446	\$ 51,469,329

Our principal operating costs include the following items as a percentage of total expense.

	Year Ended December 31,		
			Increase (Decrease)
	2022	2021	
Human resource costs, including benefits			28% 36%
Travel and entertainment			2% 1%
Other general and administration costs:			
Professional fees and consulting expenses			12% 30%
Facilities and other expenses			9% 15%
Depreciation and amortization			6% 7%
Other research and deployment costs, excluding human resources and travel and entertainment			15% 10%
Other sales and marketing costs, excluding human resources and travel and entertainment			-% 1%
Goodwill impairment			28% -%

Operating expenses for the year ended December 31, 2022 increased by \$51,469,329 as a result of the following items:

Human resource costs, including benefits	\$ 12,910,965
Travel and entertainment	1,004,877
Other general and administration costs:	
Professional fees and consulting costs	2,974,047
Facilities and other expenses	3,609,599
Depreciation and amortization	2,448,538
Goodwill impairment	19,419,600
Other research and deployment costs, excluding human resources and travel and entertainment	8,883,674
Other sales and marketing costs, excluding human resources and travel and entertainment	217,939
	\$ 51,469,239

The increase in operating expenses was primarily due to an increase of approximately \$2,974,000 in professional fees, of which approximately \$2,100,000 related to the Airobotics acquisition; an increase of \$3,609,000 in facilities and other expenses including insurance due to increased operations at American Robotics; an increase of approximately \$2,448,000 in depreciation and amortization expense due to amortization of American Robotics intangible assets and new lease and leasehold improvements in Waltham; and an increase of approximately \$8,884,000 in R&D development expenses for the year ended December 31, 2022 to improve and expand the product offerings at American Robotics and Ondas Networks. Travel and entertainment expenses increased by approximately \$1,005,000, compared to 2021, due to new offsite operating locations for American Robotics and Ondas Networks, as well as travel related to the Airobotics acquisition. Human resource costs increased by approximately \$12,911,000 in 2022 compared to 2021 due to increased headcount at both American Robotics and Ondas Networks, combined with an increase of approximately \$2,604,000 in stock-based compensation. In 2022, there was an impairment of Goodwill from the American Robotics acquisition of approximately \$19,420,000.

Operating Loss

	Year Ended December 31,		
	2022	2021	Increase
Operating loss	\$ (69,429,522)	\$ (17,973,617)	\$ 51,455,905

As a result of the foregoing, our operating loss increased by \$51,455,905 to \$69,429,522 for the year ended December 31, 2022, compared with \$17,973,617 for the year ended December 31, 2021. The operating loss increased primarily as a result of an increase in operating expenses of approximately \$32,036,000 primarily associated with increased operations at American Robotics and impairment of Goodwill of approximately \$19,420,000, as described above.

Other Income (Expense), net

	Year Ended December 31,		
	2022	2021	Increase (Decrease)
Other income (expense), net	\$ (3,812,283)	\$ 27,793	\$ 3,840,076

Other income (expense), net, increased by \$3,840,076 to other expense, net of \$3,812,283 for the year ended December 31, 2022, compared to other income, net of \$27,793 for the year ended December 31, 2021. During the year ended December 31, 2022, we reported an increase in interest expense of approximately \$176,000, amortization of debt discount of approximately \$2,359,000, and amortization debt issuance costs of approximately \$1,187,000 for the 2022 Convertible Promissory Notes, offset by approximately \$536,000 due to the payoff of the Steward Capital note payable in the second quarter of 2021. Other income decreased by approximately \$668,000 to other expense of \$76,127 during the year ended December 31, 2022, compared to the year ended December 31, 2021, primarily due to the PPP loan forgiveness of \$666,091 in 2021.

Net Loss

	Year Ended December 31,		Increase (Decrease)
	2022	2021	
Net Loss	\$ (73,241,805)	\$ (15,023,842)	\$ 58,217,963

As a result of the net effects of the foregoing, partially offset by the provision for income tax benefit reported in the amount of \$0 and \$2,921,982 for the year ending December 31, 2022 and 2021, respectively, net loss increased by \$58,217,963 to \$73,241,805 for the year ended December 31, 2022, compared with \$15,023,842 for the year ended December 31, 2021. Net loss per share of common stock, basic and diluted, was \$(1.73) for the year ended December 31, 2022, compared with approximately \$(0.44) for the year ended December 31, 2021. The income tax benefit in 2021 resulted from the release of valuation allowance against Ondas net operating loss carryforwards to offset the deferred liability acquired as part of the American Robotics acquisition.

Summary of (Uses) and Sources of Cash

	Year Ended December 31,	
	2022	2021
Net cash used in operating activities	\$ (37,963,076)	\$ (16,895,416)
Net cash used in investing activities	(6,934,568)	(10,210,631)
Net cash provided by financing activities	33,857,617	41,860,437
(Decrease) Increase in cash and cash equivalents	(11,040,027)	14,754,390
Cash and cash equivalents, beginning of period	40,815,123	26,060,733
Cash and cash equivalents, end of period	\$ 29,775,096	\$ 40,815,123

The principal use of cash in operating activities for the year ended December 31, 2022, was to fund the Company's expenses primarily related to both sales and marketing and research and development activities necessary to allow us to service and support customers, and expenses for professional fees related to the acquisition of Airobotics.

The increase in cash flows used in operating activities of approximately \$21,068,000 was primarily due to the increase in net loss of \$58,218,000, of which approximately \$32,271,000 related to non-cash and credits, including goodwill impairment, amortization of debt discount, stock-based compensation, amortization of intangibles assets, depreciation, retirement of assets and amortization of right of use asset, deferred income taxes and PPP Loan forgiveness. This resulted in cash used of approximately \$25,947,000. This was partially offset by changes operating assets and liabilities resulting in a cash inflow of \$4,879,000 primarily from changes in accounts receivable and accrued expenses.

Cash flows used in investing activities decreased by approximately \$3,276,000. The year ended December 31, 2021, included the purchase of American Robotics, net of cash acquired of \$6,517,338 as well as a loan to American Robotics of \$2,000,000 with no corresponding amounts in the current year. Investing activities in 2022 included an increased investment in Dynam A.I., asset purchase of two companies, and the purchase of leasehold improvements and other equipment at American Robotics.

The decrease in cash provided by financing activities of approximately \$8,003,000 was due to cash proceeds from the 2022 Convertible Promissory Notes, which provided approximately \$27,702,000, and the ATM Offering, which raised approximately \$6,090,000, compared to the 2021 Public Offering which raised approximately \$47,524,000, and approximately \$1,461,000 of proceeds from the exercise of stock options and warrants in 2021, partially offset by repayment of the Steward Capital Loan in 2021 of approximately \$7,124,000.

Liquidity and Capital Resources

We have incurred losses since inception and have funded our operations primarily through debt and the sale of capital stock. On December 31, 2022, we had stockholders' equity of approximately \$58,223,000. On December 31, 2022, we had net long-term borrowings outstanding of approximately \$15,147,000 and short-term borrowings outstanding of approximately \$14,901,000, net of debt discount and issuance costs of approximately \$3,252,000. On December 31, 2022, we had cash of approximately \$29,775,000 and working capital of approximately \$14,200,000.

In June 2021, the Company completed a registered public offering of its common stock, generating net proceeds of approximately \$47,524,000. In October 2022, the Company entered into a convertible debt agreement, which provided cash proceeds of approximately \$27,660,000. Also in 2022, the Company raised approximately \$6,090,000 through the ATM Offering. We believe the funds raised in 2021 and 2022, the remaining fund availability under the ATM Offering and 2022 Convertible Promissory Notes, in addition to growth in revenue expected as the Company executes its business plan, will fund its operations for at least the next twelve months from the issuance date of the accompanying financial statements.

Our future capital requirements will depend upon many factors, including progress with developing, manufacturing and marketing our technologies, the time and costs involved in preparing, filing, prosecuting, maintaining and enforcing patent claims and other proprietary rights, our ability to establish collaborative arrangements, marketing activities and competing technological and market developments, including regulatory changes and overall economic conditions in our target markets. Our ability to generate revenue and achieve profitability requires us to successfully market and secure purchase orders for our products and services from customers currently identified in our sales pipeline as well as new customers. We also will be required to efficiently manufacture and deliver equipment on those purchase orders. These activities, including our planned research and development efforts, will require significant uses of working capital. There can be no assurance that we will generate revenue and cash as expected in our current business plan. We may seek additional funds through equity or debt offerings and/or borrowings under additional notes payable, lines of credit or other sources. We do not know whether additional financing will be available on commercially acceptable terms or at all, when needed. If adequate funds are not available or are not available on commercially acceptable terms, our ability to fund our operations, support the growth of our business or otherwise respond to competitive pressures could be significantly delayed or limited, which could materially adversely affect our business, financial conditions, or results of operations.

Off-Balance Sheet Arrangements

As of December 31, 2022, we had no off-balance sheet arrangements.

Critical Accounting Estimates

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America ("GAAP") requires management to make estimates and assumptions that affect reported amounts and related disclosures in the financial statements. Management considers an accounting estimate to be critical if:

- requires assumptions to be made that were uncertain at the time the estimate was made, and
- changes in the estimate or different estimates that could have been selected could have a material impact on our results of operations or financial condition.

We base our estimates and judgments on our experience, our current knowledge, our beliefs of what could occur in the future, our observation of trends in the industry, information provided by our customers and information available from other sources. Actual results may differ from these estimates under different assumptions or conditions. We have identified the following accounting policies and estimates as those that we believe are most critical to our financial condition and results of operations and that require management's most subjective and complex judgments in estimating the effect of inherent uncertainties: share-based compensation expense, income taxes, complex derivative financial instruments and impairment of long-lived assets including intangible assets acquired in business combinations.

Share-Based Compensation Expense. We calculate share-based compensation expense for option awards ("Share-based Award(s)") based on the estimated grant/issue date fair value using the Black-Scholes-Merton option pricing model ("Black-Scholes Model") and recognize the expense on a straight-line basis over the vesting period. We account for forfeitures as they occur. The Black-Scholes Model requires the use of a number of assumptions including volatility of the stock price, the weighted average risk-free interest rate, and the vesting period of the Share-based Award in determining the fair value of Share-based Awards. The expected term is based on the "simplified method." Under this method, the term is estimated using the weighted average of the service vesting period and contractual term of the option award. As the Company does not yet have sufficient history of its own volatility, the Company has identified several public entities of similar complexities and industry and calculates historical volatility based on the volatilities of these companies. Although we believe our assumptions used to calculate share-based compensation expense are reasonable, these assumptions can involve complex judgments about future events, which are open to interpretation and inherent uncertainty. In addition, significant changes to our assumptions could significantly impact the amount of expense recorded in a given period.

We recognize restricted stock unit expense over the period of vesting or period that services will be provided. Compensation associated with shares of Common Stock issued or to be issued to consultants and other non-employees is recognized over the expected service period beginning on the measurement date, which is generally the time the Company and the service provider enter into a commitment whereby the Company agrees to grant shares in exchange for the services to be provided.

Income Taxes. As part of the process of preparing our consolidated financial statements, we are required to estimate income taxes in each of the jurisdictions in which we operate. Our provision for income taxes is determined using the asset and liability approach to account for income taxes. A current liability is recorded for the estimated taxes payable for the current year. Deferred tax assets and liabilities are recorded for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using the enacted tax rates in effect for the year in which the timing differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of changes in tax rates or tax laws are recognized in the provision for income taxes in the period that includes the enactment date. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amount more-likely-than-not to be realized. Changes in valuation allowances will flow through the statement of operations unless related to deferred tax assets that expire unutilized or are modified through translation, in which case both the deferred tax asset and related valuation allowance are similarly adjusted. Where a valuation allowance was established through purchase accounting for acquired deferred tax assets, any future change will be credited or charged to income tax expense. See Note 13 - Income Taxes in the accompanying Consolidated Financial Statements for discussion related to Tax Reform.

The determination of our provision for income taxes requires significant judgment, the use of estimates, and the interpretation and application of complex tax laws. In the ordinary course of our business, there are transactions and calculations for which the ultimate tax determination is uncertain. In spite of our belief that we have appropriate support for all the positions taken on our tax returns, we acknowledge that certain positions may be successfully challenged by the taxing authorities. We determine the tax benefits more likely than not to be recognized with respect to uncertain tax positions. Although we believe our recorded tax assets and liabilities are reasonable, tax laws and regulations are subject to interpretation and inherent uncertainty; therefore, our assessments can involve both a series of complex judgments about future events and rely on estimates and assumptions. Although we believe these estimates and assumptions are reasonable, the final determination could be materially different than that which is reflected in our provision for income taxes and recorded tax assets and liabilities.

Complex Derivative Financial Instruments. From time to time, we sell common stock, and we issue convertible debt, both with common stock purchase warrants, which may include terms requiring conversion price or exercise price adjustments based on subsequent issuance of securities at prices lower than those in the agreements of such securities. In these situations, the instruments may be accounted for as liabilities and recorded at fair value each reporting period. Due to the complexity of the agreement, we use an outside expert to assist in providing the mark to market fair valuation of the liabilities over the reporting periods in which the original agreement was in effect. It was determined that a Binomial Lattice option pricing model using a Monte Carlo simulation would provide the most accuracy given all the potential variables encompassing a future dilutive event. This model incorporated transaction assumptions such as our stock price, contractual terms, maturity, risk free rates, as well as estimates about future financings, volatility, and holder behavior. Although we believe our estimates and assumptions used to calculate the fair valuation liabilities and related expense were reasonable, these assumptions involved complex judgments about future events, which are open to interpretation and inherent uncertainty. In addition, significant changes to our assumptions could significantly impact the amount of expense recorded in a given period.

Impairment of Long-Lived Assets. Carrying values of property and equipment and finite-lived intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that their carrying values may not be recoverable. If impairment indicators are present, we determine whether an impairment loss should be recognized by testing the applicable asset or asset group's carrying value for recoverability. This assessment requires the exercise of judgment in assessing the future use of and projected value to be derived from the eventual disposal of the assets to be held and used. Assessments also consider changes in asset utilization, including the temporary idling of capacity and the expected timing for placing this capacity back into production. If the carrying value of the assets are not recoverable, then a loss is recorded for the difference between the assets' fair value and respective carrying value. The fair value of the assets is determined using an "income approach" based upon a forecast of all the expected discounted future net cash flows associated with the subject assets. Some of the more significant estimates and assumptions include: market size and growth, market share, projected selling prices, manufacturing cost and discount rate. Our estimates are based upon historical experience, commercial relationships, market conditions and available external information about future trends.

Recently Adopted Accounting Pronouncements

In May 2021, the Financial Accounting Standards Board ("FASB") issued accounting standards update ("ASU") 2021-04—Earnings Per Share (Topic 260), Debt—Modifications and Extinguishments (Subtopic 470-50), Compensation—Stock Compensation (Topic 718), and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40): Issuer's Accounting for Certain Modifications or Exchanges of Freestanding Equity-Classified Written Call Options, to clarify and reduce diversity in an issuer's accounting for modifications or exchanges of freestanding equity-classified written call options (for example, warrants) that remain equity classified after modification or exchange. The amendments in this ASU are effective for public and nonpublic entities for fiscal years beginning after December 15, 2021, and interim periods with fiscal years beginning after December 15, 2021. Early adoption was permitted, including adoption in an interim period. The adoption of this pronouncement during the year ended December 31, 2022 had no impact on our accompanying consolidated financial statements.

In August 2020, the FASB issued ASU No. 2020-06, Accounting for Convertible Instruments and Contracts in an Entity's Own Equity ("ASU 2020-06"), which simplifies an issuer's accounting for convertible instruments by reducing the number of accounting models that require separate accounting for embedded conversion features. ASU 2020-06 also simplifies the settlement assessment that entities are required to perform to determine whether a contract qualifies for equity classification and makes targeted improvements to the disclosures for convertible instruments and earnings-per-share (EPS) guidance. This update will be effective for the Company's fiscal years beginning after December 15, 2023, and interim periods within those fiscal years. Early adoption is permitted, but no earlier than fiscal years beginning after December 15, 2020, and interim periods within those fiscal years. Entities can elect to adopt the new guidance through either a modified retrospective method of transition or a fully retrospective method of transition. The Company has elected to adopt the standard early using the modified retrospective method of transition with effect from January 1, 2022. At the time of adoption this did not have a material impact on the consolidated financial statements. However, ASU 2020-06 precluded the Company from having to record a derivative liability for convertible notes entered into during the year ended December 31, 2022.

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes, which removes certain exceptions for recognizing deferred taxes for investments, performing intra-period tax allocation and calculating income taxes in interim periods. ASU 2019-12 is applicable to all entities subject to income taxes. ASU 2019-12 provides guidance to minimize complexity in certain areas by introducing a policy election to not allocate consolidated income taxes when a member of a consolidated tax return is not subject to income tax and guides whether to relate a step-up tax basis to a business combination or separate transaction. ASU 2019-12 changes the current guidance of making an intraperiod allocation, determining when a tax liability is recognized after a foreign entity investor transition to or from equity method of accounting, accounting for tax law changes and year-to-date losses in interim periods, and determining how to apply income tax guidance to franchise taxes. The amendments from ASU 2019-12 are effective for all public business entities for fiscal years beginning after December 15, 2020 and include interim periods. The guidance is effective for all other entities for fiscal years beginning after December 15, 2021 and for interim periods beginning after December 15, 2022. Early adoption was permitted. The adoption of this pronouncement during the year ended December 31, 2021 had no impact on our accompanying consolidated financial statements.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk.

We are a smaller reporting company as defined by Rule 229.10(f)(1) and are not required to provide information under this item.

Item 8. Financial Statements and Supplementary Data.

Financial statements begin on page F-1 following this Report.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and
Stockholders of Ondas Holdings Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Ondas Holdings Inc. (the "Company") as of December 31, 2022 and 2021, and the related statements of operations, stockholders' equity, and cash flows for each of the years in the two-year period ended December 31, 2022, and the related notes (collectively referred to as the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the years in the two-year period ended December 31, 2022, in conformity with accounting principles generally accepted in the United States of America.

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 Public Company Accounting Oversight Board (United States) (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. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

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

Goodwill Impairment Evaluation

As discussed in Notes 2 and 5 to the financial statements, management conducts a goodwill impairment assessment annually at December 31, and when events or changes in circumstances indicate that the carrying value of a reporting unit exceeds its fair value. The fair value of a reporting unit is determined through the use of the income approach using estimates of future cash flows attributable to the respective reporting units. As a result of the annual impairment assessment, the Company recognized \$19.4 million of goodwill impairment related to the American Robotics reporting unit.

We identified the impairment of goodwill as a critical audit matter because of significant judgments required by management to estimate the fair value of its Autonomous Solutions reporting unit, including forecasted cash flows, revenue growth rates and discount rate. This required a high degree of auditor judgment and an increased extent of effort when performing audit procedures to evaluate the reasonableness of management's cash flow estimates and the selection of cash flow multiples used in the market approach.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the forecasts of management's estimates of future cash flows, the selection of cash flow multiples for the Company's reporting units, and the evaluation of the discount rate included the following, among others:

- We obtained an understanding and evaluated the design of the controls over the assessment of goodwill impairment, including those over the determination of fair value of the reporting unit.
- Tested the mathematical accuracy of the calculations and evaluated significant assumptions and the underlying data used by the Company by performing procedures to test the projected revenues, projected direct costs, projected operating expenses, and projected capital expenditures by comparing them with the historical forecasted results of the respective reporting unit and assessing the impacts of internal and/or external economic factors. We also evaluated this information by comparing the projections to information included in analyst reports, as well as industry outlook information.
- We involved valuation professionals with specialized skills and knowledge, who assisted in the evaluation of the discount rates used in the valuations.

/s/ Rosenberg Rich Baker Berman, P.A.

We have served as the Company's auditor since 2017.

Somerset, New Jersey

March 14, 2023

ONDAS HOLDINGS INC.
CONSOLIDATED BALANCE SHEETS

	December 31,	
	2022	2021
ASSETS		
Current Assets:		
Cash	\$ 29,775,096	\$ 40,815,123
Accounts receivable, net	104,276	1,213,195
Inventory, net	2,173,017	1,178,345
Note receivable	2,000,000	-
Other current assets	1,749,613	1,449,610
Total current assets	35,802,002	44,656,273
Property and equipment, net	3,099,887	1,031,999
Other Assets:		
Goodwill	25,606,983	45,026,583
Intangible assets, net	28,787,171	25,169,489
Long-term equity investment	1,500,000	500,000
Lease deposits	218,206	218,206
Operating lease right of use assets	2,930,996	836,025
Total other assets	59,043,356	71,750,303
Total assets	\$ 97,945,245	\$ 117,438,575
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities:		
Accounts payable	\$ 2,965,829	\$ 2,411,085
Operating lease liabilities	580,593	550,525
Accrued expenses and other current liabilities	3,092,364	1,149,907
Convertible note payable, net of debt discount and issuance cost of \$3,251,865 and \$0, respectively	14,901,244	-
Deferred revenue	61,508	512,397
Total current liabilities	21,601,538	4,623,914
Long-Term Liabilities:		
Notes payable	300,000	300,000
Convertible notes payable, net of current	15,146,891	-
Accrued interest	217,594	40,152
Operating lease liabilities, net of current	2,456,315	241,677
Total long-term liabilities	18,120,800	581,829
Total liabilities	39,722,338	5,205,743
Commitments and Contingencies (Note 14)		
Stockholders' Equity		
Preferred stock - par value \$0.0001; 5,000,000 shares authorized at December 31, 2022 and December 31, 2021, respectively, and none issued or outstanding at December 31, 2022 and December 31, 2021, respectively	-	-
Preferred stock, Series A - par value \$0.0001; 5,000,000 shares authorized at December 31, 2022 and December 31, 2021, respectively, and none issued or outstanding at December 31, 2022 and December 31, 2021, respectively	-	-
Common stock - par value \$0.0001; 116,666,667 shares authorized; 44,108,661 and 40,990,604 issued and outstanding, respectively December 31, 2022 and December 31, 2021, respectively	4,411	4,099
Additional paid in capital	211,733,690	192,502,122
Accumulated deficit	(153,515,194)	(80,273,389)
Total stockholders' equity	58,222,907	112,232,832
Total liabilities and stockholders' equity	\$ 97,945,245	\$ 117,438,575

The accompanying footnotes are an integral part of these consolidated financial statements.

ONDAS HOLDINGS INC.
CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended December 31,	
	2022	2021
Revenues, net	\$ 2,125,817	\$ 2,906,771
Cost of goods sold	1,016,654	1,810,942
Gross profit	<u>1,109,163</u>	<u>1,095,829</u>
Operating expenses:		
General and administration	23,618,823	11,781,503
Sales and marketing	3,456,257	1,487,394
Research and development	24,044,005	5,800,549
Goodwill impairment	19,419,600	-
Total operating expenses	<u>70,538,685</u>	<u>19,069,446</u>
Operating loss	<u>(69,429,522)</u>	<u>(17,973,617)</u>
Other income (expense), net		
Other income (expense), net	(76,127)	591,900
Interest income	25,542	11,578
Interest expense	(3,761,698)	(575,685)
Total other income (expense), net	<u>(3,812,283)</u>	<u>27,793</u>
Loss before benefit from income taxes	<u>(73,241,805)</u>	<u>(17,945,824)</u>
Benefit from income taxes	-	2,921,982
Net loss	<u>\$ (73,241,805)</u>	<u>(15,023,842)</u>
Net loss per share - basic and diluted	<u>\$ (1.73)</u>	<u>\$ (0.44)</u>
Weighted average number of common shares outstanding, basic and diluted	<u>42,242,525</u>	<u>34,180,897</u>

The accompanying footnotes are an integral part of these consolidated financial statements.

ONDAS HOLDINGS INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

	Common Stock		Additional Paid in Capital		Accumulated Deficit		Total
	Shares	Amount					
Balance, January 1, 2021	26,540,769	\$ 2,654	\$ 80,330,488	\$ (65,249,547)	\$ 15,083,595		
Stock-based compensation	-	-	3,253,590	-	3,253,590		
Issuance of shares from 2021 Public Offering, net of costs	7,360,000	736	47,522,833	-	47,523,569		
Issuance of shares in connection with acquisition of American Robotics, Inc.	6,749,974	675	52,514,123	-	52,514,798		
Issuance of warrants in connection with acquisition of American Robotics, Inc.	-	-	6,904,543	-	6,904,543		
Issuance of vested stock options in connection with acquisition of American Robotics, Inc.	-	-	380,330	-	380,330		
Restricted stock units issued	152,410	15	(15)	-	-		
Shares issued in exercise of options	47,846	5	99,993	-	99,998		
Shares issued in exercise of warrants	139,605	14	1,361,134	-	1,361,148		
Forgiveness of accrued officer's salary	-	-	135,103	-	135,103		
Net loss	-	-	-	(15,023,842)	(15,023,842)		
Balance, December 31, 2021	40,990,604	\$ 4,099	\$ 192,502,122	\$ (80,273,389)	\$ 112,232,832		
Balance, December 31, 2021	40,990,604	\$ 4,099	\$ 192,502,122	\$ (80,273,389)	\$ 112,232,832		
Stock-based compensation	-	-	5,857,435	-	5,857,435		
Issuance of shares in connection with acquisition of Ardenna, Inc.	780,000	78	5,943,522	-	5,943,600		
Issuance of shares per ATM agreement (net of offering costs)	864,674	86	6,090,330	-	6,090,416		
Issuance of shares in connection with acquisition of asset from Field of View LLC	16,000	2	75,518	-	75,520		
Issuance of shares for payment on convertible debt	415,161	42	1,199,958	-	1,200,000		
Delivery of shares for restricted stock units	1,011,165	101	(101)	-	-		
Shares issued in exercise of options	31,057	3	64,906	-	64,909		
Net loss	-	-	-	\$ (73,241,805)	(73,241,805)		
Balance, December 31, 2022	44,108,661	\$ 4,411	\$ 211,733,690	\$ (153,515,194)	\$ 58,222,907		

The accompanying footnotes are an integral part of these consolidated financial statements.

ONDAS HOLDINGS INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended December 31,	
	2022	2021
CASH FLOWS FROM OPERATING ACTIVITIES		
Net loss	\$ (73,241,805)	\$ (15,023,842)
Adjustments to reconcile net loss to net cash flows used in operating activities:		
Depreciation	449,458	116,231
Amortization of debt discount and issuance cost	3,545,843	120,712
Provision for obsolete inventory	-	100,254
PPP Loan forgiveness	-	(666,091)
Amortization of intangible assets	3,570,090	1,396,364
Deferred income taxes, release of valuation allowance	-	(2,921,982)
Amortization of right of use asset	833,940	302,931
Retirement of assets	382,060	-
Impairment of goodwill	19,419,600	-
Loss on Intellectual Property	12,343	97,789
Stock-based compensation	5,857,435	3,253,590
Changes in operating assets and liabilities:		
Accounts receivable	1,108,919	(1,153,315)
Inventory	(994,672)	(126,494)
Other current assets	(300,003)	(696,280)
Accounts payable	554,744	(86,658)
Deferred revenue	(450,889)	314,370
Operating lease liability	(684,205)	(336,432)
Accrued expenses and other current liabilities	1,974,066	(1,586,563)
Net cash flows used in operating activities	<u>(37,963,076)</u>	<u>(16,895,416)</u>
CASH FLOWS FROM INVESTING ACTIVITIES		
Patent costs	(49,501)	(104,112)
Purchase of equipment	(2,880,900)	(923,718)
Cash paid for Ardenna Inc. asset acquisition	(900,000)	-
Purchase of American Robotics, Inc., net of cash acquired	-	(6,517,338)
Investment in Dynam A.I.	(1,000,000)	(500,000)
Cash paid for Field of View LLC asset acquisition	(104,167)	-
Security deposit	-	(165,463)
Cash disbursement on note receivable	(2,000,000)	(2,000,000)
Net cash flows used in investing activities	<u>(6,934,568)</u>	<u>(10,210,631)</u>
CASH FLOWS FROM FINANCING ACTIVITIES		
Proceeds from sale of common stock, net of costs	-	47,523,569
Proceeds from exercise of stock options and warrants	64,909	1,461,146
Proceeds from convertible notes payable, net of issuance costs	27,702,292	-
Payments on loan payable	-	(7,124,278)
Proceeds from sale of shares under ATM agreement	6,090,416	-
Net cash flows provided by financing activities	<u>33,857,617</u>	<u>41,860,437</u>
Increase (Decrease) in cash and cash equivalents	(11,040,027)	14,754,390
Cash and cash equivalents, beginning of period	40,815,123	26,060,733
Cash and cash equivalents, end of period	<u>\$ 29,775,096</u>	<u>\$ 40,815,123</u>
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:		
Cash paid for interest	\$ 14,187	\$ 1,042,737
Cash paid for income taxes	<u>\$ -</u>	<u>\$ -</u>
SUPPLEMENTAL SCHEDULE OF NON-CASH FINANCING ACTIVITIES:		
Forgiveness of accrued officer's salary	\$ -	\$ 135,103
Debt exchanged for common stock	<u>\$ 1,200,000</u>	<u>\$ -</u>
Common stock, warrants and forgiveness of note receivable in relation to acquisition of American Robotics	<u>\$ -</u>	<u>\$ 61,811,179</u>
Non-cash consideration for purchase of intangible assets	<u>\$ 6,019,120</u>	<u>\$ -</u>
Operating leases right-of-use assets obtained in exchange of lease liabilities	<u>\$ 2,928,911</u>	<u>\$ 937,245</u>

The accompanying footnotes are an integral part of these consolidated financial statements.

ONDAS HOLDINGS INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1 – DESCRIPTION OF BUSINESS AND BASIS OF PRESENTATION

The Company

Ondas Holdings Inc. (“Ondas Holdings”, “Ondas”, the “Company,” “we,” or “our”) was originally incorporated in Nevada on December 22, 2014, under the name of Zev Ventures Incorporated. On September 28, 2018, we acquired Ondas Networks Inc., a Delaware corporation (“Ondas Networks”), and changed our name to Ondas Holdings Inc. On August 5, 2021, we acquired American Robotics, Inc. (“American Robotics” or “AR”), a Delaware corporation. On January 23, 2023, we acquired Airobotics, Ltd. (“Airobotics”), an Israeli-based developer of autonomous drone systems. See Note 16 – Subsequent Events.

As a result of these acquisitions, Ondas Networks, American Robotics and Airobotics became our wholly owned subsidiaries. These three wholly owned subsidiaries are now Ondas’ primary focus. Ondas’ corporate headquarters are located in Waltham, Massachusetts. Ondas Networks has offices and facilities in Sunnyvale, California, American Robotics’ offices and facilities are located in Waltham, Massachusetts and Marlborough, Massachusetts, and Airobotics’ offices and facilities are located in Petah Tikva, Israel.

Ondas has a fourth wholly owned subsidiary, FS Partners (Cayman) Limited, a Cayman Islands limited liability company (“FS Partners”), and one majority owned subsidiary, Full Spectrum Holding Limited, a Cayman Islands limited liability company (“FS Holding”). FS Partners and FS Holding were both formed for the purpose of operating in China. As of December 31, 2019, we revised our business strategy, and discontinued all operations in China. Both FS Partners and FS Holding had no operations for the years ended December 31, 2022 and 2021, and these entities have been dissolved as of January 4, 2023.

Business Activity

Ondas is a leading provider of private wireless, drone, and automated data solutions through its wholly owned subsidiaries Ondas Networks and American Robotics and Airobotics.

On February 14, 2023, the Company announced the formation of Ondas Autonomous Systems, a new business unit to manage the combined drone operations of wholly owned subsidiaries American Robotics and Airobotics. Ondas Networks and Ondas Autonomous Systems together provide users in rail, energy, mining, agriculture, public safety and critical infrastructure and government markets with improved connectivity, data collection capabilities, and data collection and information processing capabilities. We operate Ondas Networks and Ondas Autonomous Systems as separate business segments.

Ondas Networks

Ondas Networks provides wireless connectivity solutions enabling mission-critical Industrial Internet applications and services. We refer to these applications as the Mission-Critical Internet of Things (“MC-IoT”). Our wireless networking products are applicable to a wide range of MC-IoT applications, which are most often located at the very edge of large industrial networks. These applications require secure, real-time connectivity with the ability to process large amounts of data at the edge of large industrial networks. Such applications are required in all of the major critical infrastructure markets, including rail, electric grids, drones, oil and gas, and public safety, homeland security and government, where secure, reliable and fast operational decisions are required in order to improve efficiency and ensure a high degree of safety and security.

We design, develop, manufacture, sell and support FullMAX, our patented, Software Defined Radio (“SDR”) platform for secure, licensed, private, wide-area broadband networks. Our customers install FullMAX systems in order to upgrade and expand their legacy wide-area network infrastructure. Our MC-IoT intellectual property has been adopted by the Institute of Electrical and Electronics Engineers (“IEEE”), the leading worldwide standards body in data networking protocols, and forms the core of the IEEE 802.16s standard. Because standards-based communications solutions are preferred by our mission-critical customers and ecosystem partners, we have taken a leadership position in IEEE as it relates to wireless networking for industrial markets. As such, management believes this standards-based approach supports the adoption of our technology across a burgeoning ecosystem of global partners and end markets.

Our software-based FullMAX platform is an important and timely upgrade solution for privately-owned and operated wireless wide-area networks, leveraging Internet Protocol-based communications to provide more reliability and data capacity for our mission-critical infrastructure customers. We believe industrial and critical infrastructure markets throughout the globe have reached an inflection point where legacy serial and analog based protocols and network transport systems no longer meet industry needs. In addition to offering enhanced data throughput, FullMAX is an intelligent networking platform enabling the adoption of sophisticated operating systems and equipment supporting next-generation MC-IoT applications over wide field areas. These new MC-IoT applications and related equipment require more processing power at the edge of large industrial networks and the efficient utilization of network capacity and scarce bandwidth resources which can be supported by the “Fog-computing” capability integrated in our end-to-end network platform. Fog-computing utilizes management software to enable edge compute processing and data and application prioritization in the field enabling our customers more reliable, real-time operating control of these new, intelligent MC-IoT equipment and applications at the edge.

Ondas Autonomous Systems

Our Ondas Autonomous Systems business unit designs, develops, and markets commercial drone solutions via the Optimus System™ and Scout System™ (the “Autonomous Drone Platforms”).

The Autonomous Drone Platforms are highly automated, AI-powered drone systems capable of continuous, remote operation and are marketed as “drone-in-a-box” turnkey data solution services. They are deployed for critical industrial and government applications where data and information collection and processing are required. These use cases include public safety, security and smart city deployments where routine, high-resolution automated emergency response, mapping, surveying, and inspection services are highly valued, in addition to industrial markets such as oil & gas, rail and ports which emphasize security and inspection solutions. The Autonomous Drone Platforms are typically provided to customers under a Data-as-a-Service (DaaS) business model, while some customers will choose to purchase and own and operate an Optimus Systems™.

American Robotics and Airobotics have industry leading regulatory successes which include having the first drone system approved by the Federal Aviation Administration (“FAA”) for automated operation beyond-visual-line-of-sight (BVLOS) without a human operator on-site.

In addition to the Autonomous Drone Platforms, Ondas Autonomous Systems offers a counter-drone system called the Raider™. The Raider™ was developed by Iron Drone and is deployed by government and enterprise customers to provide security and protect critical infrastructure, assets and people from the threat of hostile drones. Airobotics acquired the assets of Iron Drone on March 6, 2023.

Autonomous Drone Platforms

We design, develop and manufacture autonomous drone systems, providing high-fidelity, ultra-high-resolution aerial data to enterprise and government customers. We currently prioritize the marketing of our Optimus System™ which provides customers with a turnkey data and information solution and the ability to continuously digitize, analyze, and monitor their assets and field operations in real-time or near real-time. We believe the market opportunity for our Scout System™ remains significant. As we drive market adoption with the Optimus platform, we anticipate re-introducing the Scout platform including newly enhanced versions to help segment the market for different use cases and price points.

The Optimus System™ has been designed from the ground up as an end-to-end product capable of continuous unattended operations in the real world. Powered by innovations in robotics automation, machine vision, edge computing, and AI, the Optimus System™ provides efficiencies as a drone solution for commercial use. Once installed in the field at customer locations, a fleet of connected Optimus Systems™, which are often deployed as networked drone infrastructure, which we refer to as Urban Drone Infrastructure, remains indefinitely in an area of operation, automatically collecting and seamlessly delivering data and information regularly and reliably.

We market the Optimus System™ under a DaaS business model, whereby our drone platform aggregates customer data and provides the data analytics meeting customer requirements in return for an annual subscription fee. Some customers purchase Optimus Systems™ to own and operate themselves. We also engage distributors to assist in the sales and marketing of our Optimus System™ in geographic markets where it's more cost effective to identify and service potential customers by engaging local third parties. These distribution agreements can include joint ventures, where Ondas Autonomous Systems will provide technical expertise to support the joint venture partner in the provision of aerial data services to customers.

The Optimus System™ consists of (i) Optimus™, a highly automated, AI-powered drone with advanced imaging payloads (ii) the Airbase™, a ruggedized weatherproof base station for housing, battery swapping, battery charging, payload swapping, data processing, and cloud transfer, and (iii) Insightful™, a secure web portal and API which enables remote interaction with the system, data, and resulting analytics anywhere in the world. These major subsystems are connected via a host of supporting technologies. Airbase™ has internal robotic systems that enable the automated swapping of batteries and payloads. Automated battery swapping allows for 24/7 operation of the Optimus as the Optimus drone can immediately be redeployed after returning to the dock for a battery swap. Similarly, the ability to autonomously swap sensors and advanced payloads without human intervention allows for the Optimus System™ to provide multiple applications and use cases from a single location.

American Robotics and Airobotics have industry leading regulatory successes which include having the first drone system approved by the FAA for automated operation BVLOS without a human operator or visual observer on-site. American Robotics' FAA approvals were enabled by integrating a suite of proprietary technologies, including Detect-and-Avoid ("DAA") and other proprietary intelligent safety systems into its autonomous drone platform, which we plan to integrate into the Optimus System™. Airobotics is in the advanced stages of receiving approval for Type Certification ("TC") from the FAA for the Optimus UAV. TC approval will enable expanded operation for the Optimus System™ in the United States including flight operations in populated areas.

The Raider™

The Raider™ is a counter-drone system, which was designed and developed by Iron Drone, that we are marketing to government and enterprise customers who can utilize the system for security and the protection of critical infrastructure, assets and people from the threat of hostile drones. A typical Raider™ deployment location would include sensitive locations such as borders, stadiums or schools, or near critical assets such as power plants and military bases, and for high profile locations such as amusement parks or where public events are held.

The Raider™ is designed to detect, track and intercept unauthorized, or hostile unmanned aircraft and is most often sold with three small UAVs that are housed in a docking station. The Raider UAV has live video capability and a payload containing a net that can be deployed to intercept a hostile drone. Upon detection of an unauthorized drone, one or more Raider™ UAVs can be autonomously deployed at high speeds to track the unauthorized aircraft. If the unauthorized aircraft is deemed hostile, the Raider™ UAV can deploy the netting to physically intercept the aircraft. A parachute integrated with the netting allows the intercepted drone to safely fall to the ground for collection by our customer.

Liquidity

We have incurred losses since inception and have funded our operations primarily through debt and the sale of capital stock. On December 31, 2022, we had stockholders' equity of approximately \$58,223,000. On December 31, 2022, we had net long-term borrowings outstanding of approximately \$15,147,000 and short-term borrowings outstanding of approximately \$14,901,000, net of debt discount and issuance costs of approximately \$3,252,000. On December 31, 2022, we had cash of approximately \$29,775,000 and working capital of approximately \$14,200,000.

In June 2021, the Company completed a registered public offering of its common stock, generating net proceeds of approximately \$47,524,000. In October 2022, the Company entered into a convertible debt agreement, which provided cash proceeds of approximately \$27,660,000. Also in 2022, the Company raised approximately \$6,090,000 through the ATM Offering. We believe the funds raised in 2021 and 2022, the remaining fund availability under the ATM Offering and 2022 Convertible Promissory Notes, in addition to growth in revenue expected as the Company executes its business plan, will fund its operations for at least the next twelve months from the issuance date of the accompanying financial statements.

Our future capital requirements will depend upon many factors, including progress with developing, manufacturing and marketing our technologies, the time and costs involved in preparing, filing, prosecuting, maintaining and enforcing patent claims and other proprietary rights, our ability to establish collaborative arrangements, marketing activities and competing technological and market developments, including regulatory changes and overall economic conditions in our target markets. Our ability to generate revenue and achieve profitability requires us to successfully market and secure purchase orders for our products and services from customers currently identified in our sales pipeline as well as new customers. We also will be required to efficiently manufacture and deliver equipment on those purchase orders. These activities, including our planned research and development efforts, will require significant uses of working capital. There can be no assurance that we will generate revenue and cash as expected in our current business plan. We may seek additional funds through equity or debt offerings and/or borrowings under additional notes payable, lines of credit or other sources. We do not know whether additional financing will be available on commercially acceptable terms or at all, when needed. If adequate funds are not available or are not available on commercially acceptable terms, our ability to fund our operations, support the growth of our business or otherwise respond to competitive pressures could be significantly delayed or limited, which could materially adversely affect our business, financial conditions, or results of operations.

COVID-19

In December 2019, a novel strain of coronavirus (“COVID-19”) was identified and has resulted in increased travel restrictions, business disruptions and emergency quarantine measures across the world including the United States.

The Company’s business, financial condition and results of operations were impacted from the COVID-19 pandemic for the years ended December 31, 2022 and 2021 as follows:

- sales and marketing efforts were disrupted as our business development team was unable to travel to visit customers and customers were unable to receive visitors for on-location meetings;
- field activity for testing and deploying our wireless systems was delayed due to the inability for our field service team to install and test equipment for our customers;
- supply chain disruptions led to component shortages and inefficiencies in and delays in producing and delivering equipment for certain purchase orders; and
- delays in fulfilling purchase orders reduced our cash flow from operations.

The Company expects its business, financial condition and results of operations will be impacted from the COVID-19 pandemic during 2023, primarily due to supply chain disruptions due to pandemic-related plant and port shutdowns, transportation delays, government actions and other factors, which may be beyond our control. The global shortage of certain components such as semiconductor chips, strains on production or extraction of raw materials, cost inflation, and labor and equipment shortages, could escalate in future quarters. Labor shortages have led and may continue to lead to difficult conditions for hiring and retention of employees, and increased labor costs. Further, the COVID-19 pandemic is ongoing and remains an unknown risk for the foreseeable future. The extent to which the coronavirus may impact our business will depend on future developments, which are highly uncertain and cannot be predicted, including new information which may emerge concerning the severity of the coronavirus. As a result, the Company is unable to reasonably estimate the full extent of the impact from the COVID-19 pandemic on its future business, financial condition and results of operations. In addition, if the Company were to experience any new impact to its operations or incur additional unanticipated costs and expenses as a result of the COVID-19 pandemic, such operational delays and unanticipated costs and expenses there could be a further adverse impact on the Company’s business, financial condition and results of operations during the year ended December 31, 2023.

Inflation Reduction Act of 2022 and Tax Cuts and Jobs Act of 2017

On August 16, 2022, the Inflation Reduction Act of 2022 (“IRA”) was signed into law. The IRA includes a 15% Corporate Alternative Minimum Tax (“Corporate AMT”) for tax years beginning after December 31, 2022. We do not expect the Corporate AMT to have a material impact on our consolidated financial statements. Additionally, the IRA imposes a 1% excise tax on net repurchases of stock by certain publicly traded corporations. The excise tax is imposed on the value of the net stock repurchased or treated as repurchased. The new law will apply to stock repurchases occurring after December 31, 2022.

Under the Tax Cuts and Jobs Act of 2017, we are required to capitalize R&D expenses for tax purposes and amortize over five years for domestic based expenses and fifteen years for foreign expenses. Given our tax net operating loss carryforward position we do not expect this change to have a material impact on our financial statements.

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNT POLICIES

Basis of Presentation

The consolidated financial statements include the accounts of the Company and our wholly owned subsidiaries, Ondas Networks, American Robotics, and FS Partners, and our majority owned subsidiary, FS Holding. All inter-company accounts and transactions between these entities have been eliminated in these consolidated financial statements.

Business Combinations

We utilize the purchase method of accounting for business combinations. This method requires, among other things, that results of operations of acquired companies are included in Ondas' results of operations beginning on the respective acquisition dates and that assets acquired, and liabilities assumed are recognized at fair value as of the acquisition date. Any excess of the fair value of consideration transferred over the fair values of the net assets acquired is recognized as goodwill. Contingent consideration liabilities are recognized at the estimated fair value on the acquisition date; these are recorded in either other accruals within current liabilities (for expected payments in less than a year) or other non-current liabilities (for expected payments in greater than a year), both on our consolidated balance sheets. Subsequent changes to the fair value of contingent consideration liabilities are recognized in other income (expense) in the Consolidated Statements of Operations. Contingent consideration payments made soon after the acquisition date are classified as investing activities in the consolidated statements of cash flows. Contingent consideration payments not made soon after the acquisition date that are related to the acquisition date fair value are reported as financing activities in the consolidated statements of cash flows, and amounts paid in excess of the original acquisition date fair value are reported as operating activities in the consolidated statements of cash flows. The fair value of assets acquired, and liabilities assumed in certain cases, may be subject to revision based on the final determination of fair value during a period of time not to exceed 12 months from the acquisition date. Legal costs, due diligence costs, business valuation costs and all other business acquisition costs are expensed when incurred.

Goodwill and Intangible Assets

Goodwill represents the excess of the purchase price over the fair values of the underlying net assets of an acquired business. The Company tests goodwill for impairment on an annual basis during the fourth quarter of its fiscal year, or immediately if conditions indicate that such impairment could exist. The Company evaluates qualitative factors to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying value and whether it is necessary to perform goodwill impairment process. The impairment of Goodwill was \$19,419,600 and \$0 for the years ended December 31, 2022 and 2021, respectively, see Note 5 – Goodwill and Business Acquisition, for further details.

Intangible assets represent patents, licenses, and allocation of purchase price to identifiable intangible assets of an acquired business. The Company estimates the fair value of its reporting units using the fair market value measurement requirement. Intangible assets are evaluated for impairment when events or changes in business circumstances indicate that the carrying amount of the assets may not be fully recoverable.

We amortize our intangible assets with a finite life on a straight-line basis, over 10 years for patents; 10 years for developed technology, 10 years for licenses, trademarks, and the FAA waiver; 5 years for customer relationships; and 1 year for non-compete agreements.

Segment Information

Operating segments are defined as components of an entity for which discrete financial information is available and is regularly reviewed by the Chief Operating Decision Maker ("CODM") in making decisions regarding resource allocation and performance assessment. The Company's CODM is its Chief Executive Officer. The Company determined it has two reportable segments: Ondas Networks and Ondas Autonomous Systems as the CODM reviews financial information for these two businesses separately. The Company has no inter-segment sales.

Use of Estimates

The process of preparing financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of assets and liabilities at the date of the financial statements. Such management estimates include those relating to allocation of consideration for business combinations to identifiable tangible and intangible assets, revenue recognition, inventory write-downs to reflect net realizable value, assumptions used in the valuation of stock-based awards and valuation allowances against deferred tax assets. Actual results could differ from those estimates.

Cash and Cash Equivalents

The Company considers all highly liquid instruments purchased with an original maturity of three months or less to be cash equivalents. On December 31, 2022 and 2021, we had no cash equivalents. The Company periodically monitors its positions with, and the credit quality of the financial institutions with which it invests. Periodically, throughout the year, and as of December 31, 2022, the Company has maintained balances in excess of federally insured limits. As of December 31, 2022, the Company was approximately \$29,268,000 in excess of federally insured limits.

Accounts Receivable

Accounts receivable are stated at a gross invoice amount less an allowance for credit losses. We estimate allowance for credit losses by evaluating specific accounts where information indicates our customers may have an inability to meet financial obligations, such as customer payment history, credit worthiness and receivable amounts outstanding for an extended period beyond contractual terms. We use assumptions and judgment, based on the best available facts and circumstances, to record an allowance to reduce the receivable to the amount expected to be collected. These allowances are evaluated and adjusted as additional information is received. We had no allowance for credit losses as of December 31, 2022 and 2021.

Inventory

Inventories, which consist solely of raw materials, work in process and finished goods, are stated at the lower of cost (first-in, first-out) or net realizable value, net of reserves for obsolete inventory. We continually analyze our slow-moving and excess inventories. Based on historical and projected sales volumes and anticipated selling prices, we established reserves. Inventory that is in excess of current and projected use is reduced by an allowance to a level that approximates its estimate of future demand. Products that are determined to be obsolete are written down to net realizable value. On December 31, 2022 and 2021, such reserves were \$100,254.

Inventory consists of the following:

	December 31, 2022	December 31, 2021
Raw Material	\$ 2,041,776	\$ 1,153,254
Work in Process	89,080	65,192
Finished Goods	142,415	60,153
Less Inventory Reserves	<u>(100,254)</u>	<u>(100,254)</u>
Total Inventory, Net	<u>\$ 2,173,017</u>	<u>\$ 1,178,345</u>

Property and Equipment

All additions, including improvements to existing facilities, are recorded at cost. Maintenance and repairs are charged to expense as incurred. Depreciation of property and equipment is principally recorded using the straight-line method over the estimated useful lives of the assets. The estimated useful lives typically are (i) three to seven years for computer equipment and software, (ii) five years for vehicles and base stations, (iii) five to seven years for furniture and fixtures, and (iv) two years for drones. Leasehold improvements are amortized on a straight-line basis over the shorter of the lease term or the estimated useful life of the asset. Upon the disposal of property, the asset and related accumulated depreciation accounts are relieved of the amounts recorded therein for such items, and any resulting gain or loss is recorded in operating expenses in the year of disposition.

Software

Costs incurred internally in researching and developing a software product are charged to expense until technological feasibility has been established for the product. Once technological feasibility is established, all software costs are capitalized until the product is available for general release to customers. Judgment is required in determining when technological feasibility of a product is established. We have determined that technological feasibility for our software products is reached after all high-risk development issues have been resolved through coding and testing. Generally, this occurs shortly before the products are released to production. The amortization of these costs is included in cost of revenue over the estimated life of the products. As of December 31, 2022 and 2021, the Company had no internally developed software.

Impairment of Long-Lived Assets

Long-lived assets are evaluated whenever events or changes in circumstances indicate that the carrying amount may not be recoverable or the useful life has changed. Such indicators include significant technological changes, adverse changes in market conditions and/or poor operating results. The carrying value of a long-lived asset group is considered impaired when the projected undiscounted future cash flows are less than its carrying value. The amount of impairment loss recognized is the difference between the estimated fair value and the carrying value of the asset or asset group. Fair market value is determined primarily using the projected future undiscounted cash flows.

Research and Development

Costs for research and development are expensed as incurred. Research and development expenses consist primarily of salaries, salary related expenses and costs of contractors and materials.

Fair Value of Financial Instruments

Our financial instruments consist primarily of receivables, accounts payable, accrued expenses and short- and long-term debt. The carrying amount of receivables, accounts payable and accrued expenses approximates our fair value because of the short-term maturity of such instruments.

We have categorized our assets and liabilities that are valued at fair value on a recurring basis into a three-level fair value hierarchy in accordance with U.S. GAAP. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets and liabilities (Level 1) and lowest priority to unobservable inputs (Level 3).

Assets and liabilities recorded in the balance sheets at fair value are categorized based on a hierarchy of inputs, as follows:

Level 1 -- Unadjusted quoted prices in active markets for identical assets or liabilities.

Level 2 -- Quoted prices for similar assets or liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument.

Level 3 -- Unobservable inputs for the asset or liability.

The Company had no financial instruments that are required to be valued at fair value as of December 31, 2022 and 2021.

Deferred Offering Costs

The Company capitalizes within other assets, certain legal, accounting and other third-party fees that are directly related to the Company's in-process equity financings. After consummation of the equity financing, these costs are recorded as a reduction of the proceeds received as a result of the offering. Should a planned equity financing be abandoned, terminated or significantly delayed, the deferred offering costs are immediately written off to operating expenses. For the years ended December 31, 2022 and 2021, the Company recorded reduction in proceeds received of \$35,841 and \$390,032, respectively, related to the ATM Offering and 2021 Public Offering, respectively. See Note 11 – Stockholders' Equity. For the years ended December 31, 2022 and 2021, the Company expensed offering costs of \$45,283 and \$0, respectively. The deferred offering costs outstanding as on December 31, 2022 and 2021, was \$145,293 and \$0, respectively.

Deferred Financing Costs

The Company capitalizes certain legal, professional accounting and other third-party fees that are directly associated with the issuance of notes payable, elsewhere referred to as issuance costs. These issuance costs are amortized on a straight-line basis over the term of the related note payable, which approximates the amortization we would have recorded under the effective interest method. See Note 10 – Long-Term Notes Payable.

Income Taxes

The Company files a consolidated tax return for federal purposes. Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which the related temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized when the rate change is enacted. Valuation allowances are recorded to reduce deferred tax assets to the amount that will more likely than not be realized. In accordance with GAAP, we recognize the effect of uncertain income tax positions only if the positions are more likely than not of being sustained in an audit, based on the technical merits of the position. Recognized uncertain income tax positions are measured at the largest amount that is greater than 50% likely of being realized. Changes in recognition or measurement are reflected in the period in which those changes in judgment occur. We recognize both interest and penalties related to uncertain tax positions as part of the income tax provision.

Share-Based Compensation

We calculate share-based compensation expense for option awards (“Share-based Award(s)”) based on the estimated grant/issue date fair value using the Black-Scholes-Merton option pricing model (“Black-Scholes Model”) and recognize the expense on a straight-line basis over the vesting period. We account for forfeitures as they occur. The Black-Scholes Model requires the use of a number of assumptions including volatility of the stock price, the weighted average risk-free interest rate, and the vesting period in determining the fair value of Share-based Awards. The expected term is based on the “simplified method”, due to the Company’s limited option exercise history. Under this method, the term is estimated using the weighted average of the service vesting period and contractual term of the option award. As the Company does not yet have sufficient history of its own volatility, the Company has identified several public entities of similar size, complexities and industry and calculates historical volatility based on the volatilities of these companies. Although we believe our assumptions used to calculate share-based compensation expense are reasonable, these assumptions can involve complex judgments about future events, which are open to interpretation and inherent uncertainty. In addition, significant changes to our assumptions could significantly impact the amount of expense recorded in a given period.

We recognize restricted stock unit expense over the period of vesting or period that services will be provided. Compensation associated with shares of Common Stock issued or to be issued to consultants and other non-employees is recognized over the expected service period beginning on the measurement date, which is generally the time the Company and the service provider enter into a commitment whereby the Company agrees to grant shares in exchange for the services to be provided.

Shipping and Handling

We expense all shipping and handling costs as incurred. These costs are included in Cost of goods sold on the accompanying Consolidated Statements of Operations.

Advertising and Promotional Expenses

We expense advertising and promotional costs as incurred. We recognized expense of \$80,934 and \$28,142 for the years ended December 31, 2022, and 2021, respectively. These costs are included in Sales and marketing on the accompanying Consolidated Statements of Operations.

Post-Retirement Benefits:

We have one 401(k) Savings Plan that qualifies as a deferred salary arrangement under Section 401(k) of the Internal Revenue Code. Under this 401(k) Plan, matching contributions are based upon the amount of the employees’ contributions subject to certain limitations. We recognized expense of \$351,837 and \$84,303 for the years ended December 31, 2022, and 2021, respectively.

Revenue Recognition

Ondas has two business segments that generate revenue: Ondas Networks and Ondas Autonomous Systems. Ondas Networks generates revenue from product sales, services, and development projects. American Robotics, as part of the Ondas Autonomous Systems segment, generates revenue through data subscription services.

Ondas Networks is engaged in the development, marketing, and sale of wireless radio systems for secure, wide area mission-critical, business-to-business networks. Ondas Networks generates revenue primarily from the sale of our FullMAX System and the delivery of related services, along with non-recurring engineering (“NRE”) development projects with certain customers.

American Robotics generates revenue by selling a data subscription service to its customers based on the information collected by their autonomous systems. The customer pays for a monthly, annual, or multi-annual subscription service to remotely access the data collected by their autonomous systems.

Revenue for development projects is typically recognized over time using a percentage of completion input method, whereby revenues are recorded on the basis of the Company’s estimates of satisfaction of the performance obligation based on the ratio of actual costs incurred to total estimated costs. The input method is utilized because management considers it to be the best available measure of progress as the performance obligations are completed.

Revenue and cost estimates are regularly monitored and revised based on changes in circumstances. Impacts from changes in estimates of revenue and cost of revenue are recognized on a cumulative catch-up basis, which recognizes in the current period the cumulative effect of the changes on current and prior periods base in the performance completed to date.

Subscription revenue is recognized on straight line basis over the length of the customer subscription agreement. If a subscription payment is received prior to installation and operation of their autonomous systems, it is held in deferred revenue and recognized after operation commences over the length of the subscription service.

Collaboration Arrangements within the Scope of ASC 808, Collaborative Arrangements

The Company’s development revenue includes contracts where the Company and the customer work cooperatively to develop software and hardware applications. The Company analyzes these contracts to assess whether such arrangements involve joint operating activities performed by parties that are both active participants in the activities and exposed to significant risks and rewards dependent on the commercial success of such activities and are therefore within the scope of ASC Topic 808, Collaborative Arrangements (“ASC 808”). This assessment is performed throughout the life of the arrangement based on changes in the responsibilities of all parties in the arrangement. For collaboration arrangements that are deemed to be within the scope of ASC 808, the Company first determines which elements of the collaboration are deemed to be within the scope of ASC 808 and those that are more reflective of a vendor-customer relationship and therefore within the scope of ASC 606, Revenue from Contracts with Customers (“ASC 606”). The Company’s policy is generally to recognize amounts received from collaborators in connection with joint operating activities that are within the scope of ASC 808 as a reduction in research and development expense. As of December 31, 2022 and 2021, the Company has not identified any contracts with its customers that meet the criteria of ASC 808.

Arrangements within the Scope of ASC 606, Revenue from Contracts with Customers

Under ASC 606, the Company recognizes revenue when the customer obtains control of promised products or services, in an amount that reflects the consideration which is expected to be received in exchange for those products or services. The Company recognizes revenue following the five-step model prescribed under ASC 606: (i) identify contract(s) with a customer; (ii) identify the performance obligation(s) in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligation(s) in the contract; and (v) recognize revenue when (or as) the Company satisfies a performance obligation. The Company only applies the five-step model to contracts when it is probable that the entity will collect the consideration it is entitled to in exchange for the products or services it transfers to the customer.

At contract inception, once the contract is determined to be within the scope of ASC 606, the Company assesses the products or services promised within each contract and determines those that are performance obligations and assesses whether each promised product or service is distinct. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied. To the extent the transaction price includes variable consideration, we estimate the amount of variable consideration that should be included in the transaction price utilizing the expected value method. Variable consideration is included in the transaction price if, in our judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur. Estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of our anticipated performance and all information (historical, current, and forecasted) that is reasonably available. Sales and other taxes collected on behalf of third parties are excluded from revenue. For the years ended December 31, 2022 and 2021, none of our contracts with customers included variable consideration.

Contracts that are modified to account for changes in contract specifications and requirements are assessed to determine if the modification either creates new or changes the existing enforceable rights and obligations. Generally, contract modifications are for products or services that are not distinct from the existing contract due to the inability to use, consume or sell the products or services on their own to generate economic benefits and are accounted for as if they were part of that existing contract. The effect of a contract modification on the transaction price and measure of progress for the performance obligation to which it relates, is recognized as an adjustment to revenue (either as an increase in or a reduction of revenue) on a cumulative catch-up basis. For the years ended December 31, 2022 and 2021, there were no modifications to contract specifications.

Product revenue is comprised of sales of the Ondas Networks' software defined base station and remote radios, its network management and monitoring system, and accessories. Ondas Networks' software and hardware is sold with a limited one-year basic warranty included in the price. The limited one-year basic warranty is an assurance-type warranty, is not a separate performance obligation, and thus no transaction price is allocated to it. The nature of tasks under the limited one-year basic warranty only provides for remedying defective product(s) covered by the warranty. Product revenue is generally recognized when the customer obtains control of our product, which occurs at a point in time, and may be upon shipment or upon delivery based on the contractual shipping terms of a contract, or upon installation when the combined performance obligation is not distinct within the context of the contract.

Service revenue is comprised of separately priced extended warranty sales, network support and maintenance, remote monitoring, as well as ancillary services directly related to the sale of the Ondas Networks' wireless communications products including wireless network design, systems engineering, radio frequency planning, software configuration, product training, installation, and onsite support. The extended warranty Ondas Networks sells provides a level of assurance beyond the coverage for defects that existed at the time of a sale or against certain types of covered damage. The extended warranty includes 1) factory hardware repair or replacement of the base station and remote radios, at our election, 2) software upgrades, bug fixes and new features of the radio software and network management systems ("NMS"), 3) deployment and network architecture support, and 4) technical support by phone and email. Ancillary service revenues are recognized at the point in time when those services have been provided to the customer and the performance obligation has been satisfied. The Company allocates the transaction price to the service and extended warranty based on the stand-alone selling prices of these performance obligations, which are stated in our contracts. Revenue for the extended warranty is recognized overtime.

Development revenue is comprised primarily of non-recurring engineering service contracts to develop software and hardware applications for various customers. For Ondas Networks, in 2022, a significant portion of this revenue is generated from one parent customer whereby Ondas Networks is to develop such applications to interoperate within the customers infrastructure. For these contracts, Ondas Networks and the customers work cooperatively, whereby the customers' involvement is to provide technical specifications for the product design, as well as, to review and approve the project progress at various markers based on predetermined milestones. The products developed are not able to be sold to any other customer and are based in part upon existing Ondas Networks and customer technology. Development revenue is either recognized at the point in time when those services have been provided to the customer and the performance obligation has been satisfied recognized, or as services are provided over the life of the contract as Ondas Networks has an enforceable right to payment for services completed to date and there is no alternative use of the product, depending on the contract.

If the customer contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. We enter into certain contracts within our service revenues that have multiple performance obligations, one or more of which may be delivered subsequent to the delivery of other performance obligations. We allocate the transaction price based on the estimated relative standalone selling prices of the promised products or services underlying each performance obligation. We determine standalone selling prices based on the price at which the performance obligation is sold separately. If the standalone selling price is not observable through past transactions, we estimate the standalone selling price considering available information such as market conditions and internally approved pricing guidelines related to the performance obligations. Revenue is then allocated to the performance obligations using the relative selling prices of each of the performance obligations in the contract.

Ondas Networks' payment terms vary and range from Net 15 to Net 30 days from the date of the invoices for product and services related revenue. Ondas Networks' payment terms for the majority of their development related revenue carry milestone related payment obligations which span the contract life. For milestone-based contracts, the customer reviews the completed milestone and once approved, makes payment pursuant to the applicable contract.

American Robotics generates revenue by selling a data subscription service to its customers based on the information collected by their autonomous systems. The customer pays for a monthly, annual, or multi-annual subscription service to remotely access the data collected by their autonomous systems. American Robotics' payment terms vary and range from Net 30 to Net 60 days from the date of the invoices for product and services related revenue.

Disaggregation of Revenue

The following tables present our disaggregated revenues by Type of Revenue and Timing of Revenue.

Type of Revenue	Years Ended December 31,	
	2022	2021
Product revenue	\$ 872,660	\$ 405,570
Service and subscription revenue	319,140	96,933
Development revenue	934,017	2,401,474
Other revenue	-	2,794
Total revenue	\$ 2,125,817	\$ 2,906,771

Of the service and subscription revenue above, \$194,140 and \$66,617 represents American Robotics subscription revenue for the years ended December 31, 2022 and 2021, respectively.

Timing of Revenue	Years Ended December 31,	
	2022	2021
Revenue recognized point in time	\$ 872,660	\$ 438,413
Revenue recognized over time	1,253,157	2,468,358
Total revenue	\$ 2,125,817	\$ 2,906,771

Of the revenue recognized over time above, \$194,140 and \$66,617 represents American Robotics subscription revenue for the years ended December 31, 2022 and 2021, respectively.

Contract Assets and Liabilities

We recognize a receivable or contract asset when we perform a service or transfer a good in advance of receiving consideration. A receivable is recorded when our right to consideration is unconditional and only the passage of time is required before payment of that consideration is due. A contract asset is recorded when our right to consideration in exchange for goods or services that we have transferred or provided to a customer is conditional on something other than the passage of time. We did not have any contract assets recorded on December 31, 2022 and 2021.

We recognize a contract liability when we receive consideration, or if we have the unconditional right to receive consideration, in advance of satisfying the performance obligation. A contract liability is our obligation to transfer goods or services to a customer for which we have received consideration, or an amount of consideration is due from the customer. The table below details the activity in our contract liabilities during the years ended December 31, 2022 and 2021, and the balance at the end of each year is reported as deferred revenue in the Company's consolidated balance sheet.

	Years Ended December 31,	
	2022	2021
Balance, beginning of year	\$ 512,397	\$ 165,035
Additions	527,268	2,238,137
Transfer to revenue	(978,157)	(1,890,775)
Balance, end of year	<u>\$ 61,508</u>	<u>\$ 512,397</u>

Warranty Reserve

For our software and hardware products, we provide a limited one-year assurance-type warranty and for our development service, we provide no warranties. The assurance-type warranty covers defects in material and workmanship only. If a software or hardware component is determined to be defective after being tested by the Company within the one-year, the Company will repair, replace or refund the price of the covered hardware and/or software to the customer (not including any shipping, handling, delivery or installation charges). We estimate, based upon a review of historical warranty claim experience, the costs that may be incurred under our warranties and record a liability in the amount of such estimate at the time a product is sold. Factors that affect our warranty liability include the number of units sold, historical and anticipated rates of warranty claims, and cost per claim. We periodically assess the adequacy of our recorded warranty liability and adjust the accrual as claims data and historical experience warrants. The Company has assessed the costs of fulfilling its existing assurance-type warranties and has determined that the estimated outstanding warranty obligations on December 31, 2022 and 2021 are immaterial to the Company's financial statements.

Leases

Under Topic 842, operating lease expense is generally recognized evenly over the term of the lease. During the year ended December 31, 2022, the Company's operating leases consisted of office space in Sunnyvale, CA (the "Gibraltar Lease"), Marlborough, MA (the "American Robotics Lease"), and Waltham, MA (the "Waltham Lease"). For the year ended December 31, 2021, the Company's operating leases consisted of office space in Sunnyvale, CA (the "Gibraltar Lease") and Marlborough, MA (the "American Robotics Lease").

On January 22, 2021, we entered into a 24-month lease (effective April 1, 2021) with the owner and landlord (the "2021 Gibraltar Lease"), wherein the base rate is \$45,000 per month, with a security deposit in the amount of \$90,000.

On August 5, 2021, the Company acquired American Robotics and the American Robotics Lease, wherein the base rate is \$15,469 per month, with an annual increase of 3% through January 2024, with a security deposit of \$24,166. On August 19, 2021, American Robotics amended their lease to reduce their space to approximately 10,450 square feet. The amendment reduced their annual base rent to \$8,802 per month, with an annual increase of 3% through January 2024.

On October 8, 2021, American Robotics entered into an 86-month operating lease for space in Waltham, MA. The Waltham Lease commenced on March 1, 2022 and is scheduled to terminate on April 30, 2029, wherein the base rate is \$39,375 per month, increasing 3% annually, with a security deposit in the amount of \$104,040. These facilities also serve as Ondas corporate headquarters.

We determine if an arrangement is a lease, or contains a lease, at the inception of the arrangement. If we determine the arrangement is a lease, or contains a lease, at lease inception, we then determine whether the lease is an operating lease or finance lease. Operating and finance leases result in recording a right-of-use ("ROU") asset and lease liability on our consolidated balance sheets. ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at the commencement date based on the present value of lease payments over the lease term. For purposes of calculating operating lease ROU assets and operating lease liabilities, we use the non-cancellable lease term plus options to extend that we are reasonably certain to take. Lease expense for operating lease payments is recognized on a straight-line basis over the lease term. Our leases generally do not provide an implicit rate. As such, we use our incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments. This rate is generally consistent with the interest rate we pay on borrowings under our credit facilities, as this rate approximates our collateralized borrowing capabilities over a similar term of the lease payments. We have elected not to recognize ROU assets and lease liabilities that arise from short-term (12 months or less) leases for any class of underlying assets. We have elected not to separate lease and non-lease components for any class of underlying asset.

Lease Costs

	Years ended December 31,	
	2022	2021
Components of total lease costs:		
Operating lease expense	\$ 1,151,453	\$ 522,012
Common area maintenance expense	103,691	42,738
Short-term lease costs ⁽¹⁾	48,870	45,498
Total lease costs	<u><u>\$ 1,304,014</u></u>	<u><u>\$ 610,248</u></u>

(1) Represents short-term leases with an initial term of 12 months or less, which are immaterial.

Lease Positions as of December 31, 2022 and 2021

ROU lease assets and lease liabilities for our operating leases were recorded in the consolidated balance sheet as follows:

	December 31,	
	2022	2021
Assets:		
Operating lease assets	\$ 2,930,996	\$ 836,025
Total lease assets	<u><u>\$ 2,930,996</u></u>	<u><u>\$ 836,025</u></u>
Liabilities:		
Operating lease liabilities, current	\$ 580,593	\$ 550,525
Operating lease liabilities, net of current	2,456,315	241,677
Total lease liabilities	<u><u>\$ 3,036,908</u></u>	<u><u>\$ 792,202</u></u>

Other Leases Information

	Years ended December 31,	
	2022	2021
Operating cash flows for operating leases	\$ 878,627	\$ 525,938
Weighted average remaining lease term (in years)- operating lease	5.86	1.48
Weighted average discount rate – operating lease	5.78%	10.93%

Undiscounted Leases Cash Flows

Future lease payments included in the measurement of lease liabilities on the consolidated balance sheet on December 31, 2022, as follows:

Years ending December 31,	
2023	\$ 730,592
2024	508,208
2025	513,900
2026	529,320
2027	545,250
Thereafter	752,490
Total future minimum lease payments	\$ 3,579,760
Lease imputed interest	(542,852)
Total	\$ 3,036,908

Net Loss Per Common Share

Basic net loss per share is computed by dividing net loss by the weighted average shares of common stock outstanding for each period. Diluted net loss per share is the same as basic net loss per share since the Company has net losses for each period presented.

The following potentially dilutive securities for the years ended December 31, 2022 and 2021 have been excluded from the computation of diluted net loss per share because the effect of their inclusion would have been anti-dilutive.

	Years Ended December 31,	
	2022	2021
Warrants to purchase common stock	1,901,802	3,305,854
Options to purchase common stock	2,412,286	687,448
Potential shares issuable under 2022 Convertible Promissory Notes	24,177,835	-
Restricted stock units	1,111,617	1,958,172
Total potentially dilutive securities	29,603,540	5,951,474

Concentrations of Credit Risk

Financial instruments that potentially subject us to concentrations of credit risk consist of cash and accounts receivable. Cash is deposited with a limited number of financial institutions. The balances held at any one financial institution may be in excess of Federal Deposit Insurance Corporation (FDIC) insurance limits. As of December 31, 2022, the Company was approximately \$29,268,291 in excess of federally insured limits.

Credit is extended to customers based on an evaluation of their financial condition and other factors. We generally do not require collateral or other security to support accounts receivable. We perform ongoing credit evaluations of our customers and maintains an allowance for credit losses.

Concentration of Customers

Because we have only recently invested in our customer service and support organization, a small number of customers have accounted for a substantial amount of our revenue. Revenue from significant customers, those representing 10% or more of total revenue, was composed of one customer accounting for 89% of the Company's revenue for the year ended December 31, 2022. Two customers accounted for 55% and 41% of the Company's revenue for the year ended December 31, 2021, respectively.

Accounts receivable from significant customers, those representing 10% or more of the total accounts receivable, were composed of two customers accounting for 67% and 33%, respectively, of the Company's accounts receivable balance as of December 31, 2022. Two customers accounted for 54% and 36% of the Company's accounts receivable balance as of December 31, 2021, respectively.

Recently Adopted Accounting Pronouncements

In May 2021, the Financial Accounting Standards Board ("FASB") issued accounting standards update ("ASU") 2021-04—Earnings Per Share (Topic 260), Debt—Modifications and Extinguishments (Subtopic 470-50), Compensation—Stock Compensation (Topic 718), and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40): Issuer's Accounting for Certain Modifications or Exchanges of Freestanding Equity-Classified Written Call Options, to clarify and reduce diversity in an issuer's accounting for modifications or exchanges of freestanding equity-classified written call options (for example, warrants) that remain equity classified after modification or exchange. The amendments in this ASU are effective for public and nonpublic entities for fiscal years beginning after December 15, 2021, and interim periods with fiscal years beginning after December 15, 2021. Early adoption was permitted, including adoption in an interim period. The adoption of this pronouncement during the year ended December 31, 2022 had no impact on our accompanying consolidated financial statements.

In August 2020, the FASB issued ASU No. 2020-06, Accounting for Convertible Instruments and Contracts in an Entity's Own Equity ("ASU 2020-06"), which simplifies an issuer's accounting for convertible instruments by reducing the number of accounting models that require separate accounting for embedded conversion features. ASU 2020-06 also simplifies the settlement assessment that entities are required to perform to determine whether a contract qualifies for equity classification and makes targeted improvements to the disclosures for convertible instruments and earnings-per-share (EPS) guidance. This update will be effective for the Company's fiscal years beginning after December 15, 2023, and interim periods within those fiscal years. Early adoption is permitted, but no earlier than fiscal years beginning after December 15, 2020, and interim periods within those fiscal years. Entities can elect to adopt the new guidance through either a modified retrospective method of transition or a fully retrospective method of transition. The Company has elected to adopt the standard early using the modified retrospective method of transition with effect from January 1, 2022. At the time of adoption this did not have a material impact on the consolidated financial statements. However, ASU 2020-06 precluded the Company from having to record a derivative liability for convertible notes entered into during the year ended December 31, 2022.

In December 2019, the FASB issued ASU 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes, which removes certain exceptions for recognizing deferred taxes for investments, performing intra-period tax allocation and calculating income taxes in interim periods. ASU 2019-12 is applicable to all entities subject to income taxes. ASU 2019-12 provides guidance to minimize complexity in certain areas by introducing a policy election to not allocate consolidated income taxes when a member of a consolidated tax return is not subject to income tax and guides whether to relate a step-up tax basis to a business combination or separate transaction. ASU 2019-12 changes the current guidance of making an intraperiod allocation, determining when a tax liability is recognized after a foreign entity investor transition to or from equity method of accounting, accounting for tax law changes and year-to-date losses in interim periods, and determining how to apply income tax guidance to franchise taxes. The amendments from ASU 2019-12 are effective for all public business entities for fiscal years beginning after December 15, 2020 and include interim periods. The guidance is effective for all other entities for fiscal years beginning after December 15, 2021 and for interim periods beginning after December 15, 2022. Early adoption was permitted. The adoption of this pronouncement during the year ended December 31, 2021 had no impact on our accompanying consolidated financial statements.

Recently Issued Accounting Pronouncements Not Yet Adopted

On June 30, 2022, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2022-03, which (1) clarifies existing guidance when measuring the fair value of an equity security subject to contractual restrictions that prohibit the sale of an equity security and (2) introduces new disclosure requirements for equity securities subject to contractual sale restrictions. The ASU clarifies that a contractual restriction on the sale of an equity security is not considered part of the unit of account of the equity security. Instead, the contractual sale restriction is a characteristic of the reporting entity. Accordingly, an entity should not consider the contractual sale restriction when measuring the equity security's fair value. Additionally, the ASU clarifies that an entity cannot, as a separate unit of account, recognize and measure a contractual sale restriction. For public business entities, the amendments in this Update are effective for fiscal years beginning after December 15, 2023, and interim periods within those fiscal years. The Company has evaluated the effects of the adoption of ASU No. 2022-03, and it will have no impact on its consolidated financial statements.

In March 2022, FASB issued Accounting Standards Update (ASU) No. 2022-02, Financial Instruments—Credit Losses: Troubled Debt Restructurings and Vintage Disclosures, as an amendment to ASU No. 2016-13 Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments. Regarding Troubled Debt Restructurings by Creditors, this amendment eliminates the accounting guidance for TDRs by creditors in Subtopic 310-40, Receivables—Troubled Debt Restructurings by Creditors, while enhancing disclosure requirements for certain loan refinancings and restructurings by creditors when a borrower is experiencing financial difficulty. Regarding Vintage Disclosures—Gross Writeoffs, this amendment requires that an entity disclose current-period gross writeoffs by year of origination for financing receivables and net investments in leases within the scope of Subtopic 326-20, Financial Instruments—Credit Losses—Measured at Amortized Cost. For entities that have not yet adopted the amendments in Update 2016-13, ASU No. 2022-02 is effective for fiscal years beginning after December 15, 2022. The Company has evaluated the effects of the adoption of ASU No. 2022-02, and it will have no impact on its consolidated financial statements.

On September 29, 2022, FASB issued Accounting Standards Update (ASU) No. 2022-04, Liabilities—Supplier Finance Programs (Subtopic 405-50): Disclosure of Supplier Finance Program Obligations, which enhances the transparency about the use of supplier finance programs for investors and other allocators of capital. Under the new ASU, a company that uses a supplier finance program in connection with the purchase of goods or services will be required to disclose sufficient information about the program to allow a user of financial statements to understand the program's nature, activity during the period, changes from period to period, and potential magnitude. ASU No. 2022-04 is effective for fiscal years, including interim periods within those fiscal years, beginning after December 15, 2022, except for the roll forward of the supplier finance program obligations, which is effective for fiscal years beginning after December 15, 2023. Early adoption is permitted. The Company is currently evaluating the effects of the adoption of ASU No. 2022-03 on its consolidated financial statements.

In October 2021, the FASB issued ASU 2021-08, Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers, which requires contract assets and contract liabilities (i.e., deferred revenue) acquired in a business combination to be recognized and measured by the acquirer on the acquisition date in accordance with ASC 606, Revenue from Contracts with Customers, as if it had originated the contracts. The new guidance creates an exception to the general recognition and measurement principles of ASC 805, Business Combinations. The new guidance should be applied prospectively and is effective for all public business entities for fiscal years beginning after December 15, 2022 and include interim periods. The guidance is effective for all other entities for fiscal years beginning after December 15, 2023, including interim periods within those fiscal years. Early adoption is permitted. The Company has evaluated the effects of the adoption of ASU No. 2021-08, and it will have no impact on its consolidated financial statements.

In June 2016, FASB issued ASU 2016-13, Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, which replaces the incurred loss methodology with an expected loss methodology that is referred to as the current expected credit loss (“CECL”) methodology. The CECL model utilizes a lifetime expected credit loss measurement objective for the recognition of credit losses for loans and other receivables at the time the financial asset is originated or acquired. The expected credit losses are adjusted each period for changes in expected lifetime credit losses. This model replaces the multiple existing impairment models previously used under U.S. generally accepted accounting principles, which generally require that a loss be incurred before it is recognized. The new standard also applies to financial assets arising from revenue transactions such as contract assets and accounts receivables. For public business entities that meet the definition of an SEC filer, excluding entities eligible to be SRCs as defined by the SEC, ASU No. 2016-13 is effective for fiscal years beginning after December 15, 2019. All other entities, ASU No. 2016-13 is effective for fiscal years beginning after December 15, 2022. The Company has evaluated the effects of the adoption of ASU No. 2016-13, and it did not have a material impact on its consolidated financial statements.

Reclassification

Certain amounts reported in the prior year financial statements have been reclassified to conform to the current year presentation.

NOTE 3 – OTHER CURRENT ASSETS

Other current assets consist of the following:

	Years Ended December 31,	
	2022	2021
	\$	\$
Prepaid insurance	\$ 782,538	\$ 1,026,212
Other prepaid expenses	957,388	423,398
Other receivables	9,687	-
Total other current assets	\$ 1,749,613	\$ 1,449,610

NOTE 4 – PROPERTY AND EQUIPMENT

Property and equipment consist of the following:

	Years Ended December 31,	
	2022	2021
	\$	\$
Vehicles	\$ 149,916	\$ 149,916
Computer equipment	348,408	183,869
Furniture and fixtures	461,352	141,053
Software	161,284	88,284
Leasehold improvements	2,093,812	37,401
Development equipment	342,142	56,275
Base stations	-	117,850
Drones	-	54,969
Construction in progress	330,541	627,044
Less: accumulated depreciation	(787,568)	(424,662)
Total property and equipment	\$ 3,099,887	\$ 1,031,999

Depreciation expense for the years ended December 31, 2022 and 2021 was \$449,458 and \$116,231, respectively. For the years ended December 31, 2022 and 2021, due to obsolescence, Base station and Drone assets with a net-book value totaling \$382,060 and \$0, respectively, were written off.

NOTE 5 – GOODWILL AND BUSINESS ACQUISITION

We account for acquisitions in accordance with FASB ASC 805, “Business Combinations” (“ASC 805”), and goodwill in accordance with ASC 350, “Intangibles — Goodwill and Other” (“ASC 350”). The excess of the purchase price over the estimated fair value of net assets acquired in a business combination is recorded as goodwill.

American Robotics

On May 17, 2021, the Company entered into an Agreement and Plan of Merger (the “Agreement”) with Drone Merger Sub I Inc., a Delaware corporation and a direct wholly owned subsidiary of the Company (“Merger Sub I”), Drone Merger Sub II Inc., a Delaware corporation and a direct wholly owned subsidiary of the Company (“Merger Sub II”), American Robotics, and Reese Mozer, solely in his capacity as the representative of American Robotics’ Stockholders (as defined in the Agreement).

On August 5, 2021 (the “Closing Date”), the Company’s stockholders approved the issuance of shares of the Company’s common stock, including shares of common stock underlying Warrants (as defined below), in connection with the acquisition of American Robotics.

On the Closing Date, American Robotics merged with and into Merger Sub I (“Merger I”), with American Robotics continuing as the surviving entity, and American Robotics then subsequently and immediately merged with and into Merger Sub II (“Merger II” and, together with Merger I, the “Mergers”), with Merger Sub II continuing as the surviving entity and as a direct wholly owned subsidiary of the Company. Simultaneously with Merger II, Merger Sub II was renamed American Robotics, Inc.

Pursuant to the Agreement, American Robotics stockholders and certain service providers received (i) cash consideration in an amount equal to \$7,500,000, less certain indebtedness, transaction expenses and other expense amounts as described in the Agreement; (ii) 6,750,000 shares of the Company’s common stock (inclusive of 26 fractional shares paid in cash as set forth in the Agreement); (iii) warrants exercisable for 1,875,000 shares of the Company’s common stock (the “Warrants”) (inclusive of 24 fractional shares paid in cash and the equivalent of Warrants for 309,320 shares representing the value of options exercisable for 211,038 shares issued under the Company’s incentive stock plan and reducing the aggregate amount of Warrants as set forth in the Agreement); and (iv) the cash release from the PPP Loan Escrow Amount (as defined in the Agreement). Each of the Warrants entitle the holder to purchase a number of shares of the Company’s common stock at an exercise price of \$7.89. Each of the Warrants shall be exercisable in three equal annual instalments commencing on the one-year anniversary of the Closing Date and shall have a term of ten years. 59,544 of the stock options were issued fully vested to employees who did not exercise their American Robotics options prior to the Closing Date and had no ongoing service requirements and therefore they were included in the purchase consideration. The remaining 151,494 stock options issued vest over four years and are contingent on ongoing employment by the employee and are recorded as compensation expense over the service period.

During the year ended December 31, 2021, the Company incurred approximately \$1,644,000 in transaction costs for professional fees and expenses, which are included in General and administration operating expenses on the Consolidated Statements of Operations.

Also, on the Closing Date, the Company entered into employment agreements and issued 1,375,000 restricted stock units (“RSUs”) under the Company’s incentive stock plan to key members of American Robotics’ management. These RSUs vest in equal installments on the next three anniversaries of the Closing Date and vesting is contingent on the individuals remaining employed by the Company. These RSUs are not included in purchase consideration and are expensed ratably over the service period. They were valued at the closing market price on the Closing Date. The compensation expense recognized for the years ended December 31, 2022 and 2021, in respect of these restricted stock units, was \$3,554,748 and \$1,452,385, respectively. As of December 31, 2022 and 2021 the unrecognized compensation expense was \$5,690,367 and \$9,245,115, respectively.

The following table summarizes the consideration paid for American Robotics and the final allocation of the purchase consideration to the estimated fair value of the assets acquired and liabilities assumed at the acquisition date.

Consideration:

Fair value of total consideration transferred	\$ 69,311,577
Fair value of assets acquired:	
Cash	\$ 920,011
Other current assets	148,043
Property and equipment	61,430
Intangible assets	26,180,000
Right of use asset	463,252
Other long-term assets	87,217
Total assets acquired	27,859,953
Fair value of liabilities assumed:	
Accounts payable	129,541
Deferred revenue	32,992
Accrued payroll and rent	42,617
Lease liabilities	447,827
Deferred tax liability	2,921,982
Total liabilities assumed	3,574,959
Total net assets acquired	24,284,994
Goodwill	45,026,583
Total	\$ 69,311,577

The intangible assets acquired include the trademarks, FAA waiver, developed technology, non-compete agreements, and customer relationships (see note 6). The deferred tax liability represents the tax effected timing differences relating to the acquired intangible assets to the extent they are not offset by acquired deferred tax assets.

The goodwill represents the assembled workforce, acquired capabilities, and future economic benefits resulting from the acquisition. No portion of the goodwill is deductible for tax purposes.

Our results for the year ended December 31, 2022 and 2021 include results from American Robotics between August 6, 2021 and December 31, 2022. The following unaudited pro forma information presents the Company's results of operations as if the acquisition of American Robotics had occurred on January 1, 2021. The pro forma results do not purport to represent what the Company's results of operations actually would have been if the transactions had occurred on January 1, 2021 or what the Company's operating results will be in future periods.

	(Unaudited) Year Ended December 31, 2021
Revenue, net	\$ 2,967,591
Net loss	\$ (23,974,346)
Basic Earnings Per Share	\$ (0.56)
Diluted Earnings Per Share	\$ (0.56)

We acquired American Robotics in order to broaden the industrial data solutions Ondas is able to provide to customers. The drone is the ultimate data gathering device at the edge of field area operations and American Robotics' Scout System is a world class drone platform. We believe that combining the technical and industry expertise of Ondas Networks and American Robotics will be highly valued by our customers.

Airobotics Ltd

On January 23, 2023, the Company acquired Airobotics, Ltd. See Note 16 - Subsequent Events for further information regarding the Airobotics acquisition.

Promissory Note

During the year ended December 31, 2022, the Company made a loan to Airobotics in the aggregate amount of \$2,000,000 million. The note carries interest at a rate of 6% per annum. The principal and any accrued and unpaid interest were due on February 15, 2023. On February 15, 2023, the note was extended until March 31, 2023. As of and for the year ended December 31, 2022, the Company recorded \$25,542 of interest receivable and interest income related to the note in the Consolidated Balance Sheets and Consolidated Statements of Operations, respectively.

Goodwill Impairment

The Company has goodwill acquired as part of the American Robotics acquisition in 2021. The changes in the carrying amount of goodwill for the years ended December 31, 2022 and 2021, are as follows:

	American Robotics
Balance as of January 1, 2021	\$ -
Goodwill acquired during the year	45,026,583
Balance as of December 31, 2021	<u>45,026,583</u>
Impairment loss	(19,419,600)
Balance as of December 31, 2022	<u>\$ 25,606,983</u>

Goodwill is tested for impairment in the fourth quarter after the annual forecasting process. The Company initially carried out a qualitative analysis and determined that because of changes in market conditions as well as a slower increase in revenue than previously forecast, it was more likely than not that goodwill was impaired. The Company engaged a third-party service provider to carry out a valuation of the American Robotics entity. Using a discounted cash flow analysis and revised forecasts for revenue and cash flows that are lower than the previous valuation, it was determined that the fair value of the entity was lower than the carrying value as of December 31, 2022, and an impairment of \$19,419,600 was recognized in operating expenses in the Consolidated Statements of Operations for the year ending December 31, 2022.

NOTE 6 – INTANGIBLE ASSETS

The components of intangible assets, all of which are finite lived, were as follows:

	December 31, 2022			December 31, 2021			Useful Life
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	
Patents	\$ 82,431	\$ (27,331)	\$ 55,100	\$ 75,266	\$ (13,077)	\$ 62,189	10
Patents in process	119,760	-	119,760	89,767	-	89,767	N/A
Licenses	241,909	(65,665)	176,244	241,909	(41,472)	200,437	10
Trademarks	3,230,000	(453,242)	2,776,758	3,230,000	(130,242)	3,099,758	10
FAA waiver	5,930,000	(832,113)	5,097,887	5,930,000	(239,113)	5,690,887	10
Developed technology	23,270,614	(2,752,353)	20,518,261	16,120,000	(650,000)	15,470,000	10
Non-compete agreements	840,000	(840,000)	-	840,000	(338,710)	501,290	1
Customer relationships	60,000	(16,839)	43,161	60,000	(4,839)	55,161	5
	<u>\$ 33,774,714</u>	<u>\$ (4,987,543)</u>	<u>\$ 28,787,171</u>	<u>\$ 26,586,942</u>	<u>\$ (1,417,453)</u>	<u>\$ 25,169,489</u>	

Amortization expense for years ended December 31, 2022 and 2021 was \$3,570,091 and \$1,396,364, respectively.

We recognized losses on intellectual property of \$12,343 and \$97,789 due to expiration of patent applications for the years ended December 31, 2022 and 2021, respectively.

On March 20, 2022, the Company entered into a Purchase Agreement to acquire the assets of Ardenna, Inc., a leading provider of image processing and machine learning software solutions for rail infrastructure monitoring and inspections. The consideration for the acquisition was \$900,000 in cash and 780,000 shares of the Company's common stock (the "Ardenna Consideration Shares"). In connection of the acquisition, the parties entered into a Registration Rights and Lock-Up Agreement, which required the Company to file a resale registration statement covering the resale of the Ardenna Consideration Shares no later than ninety (90) days after the closing date and restricted the holder from transferring the Ardenna Consideration Shares for 180 days from the closing date, subject to certain exceptions. On April 5, 2022, the Company completed the acquisition. As a result of this transaction, the Company recognized developed technology in the amount of \$6,843,600. The Company filed the registration statement Form S-3 on July 1, 2022, and it was declared effective on July 15, 2022.

On August 31, 2022, the Company entered into the asset purchase agreement with Field of View LLC, a North Dakota limited liability company. The total purchase consideration consisted of \$250,000 of cash payable in monthly instalments over twelve months, and \$75,520 shares of the Company's common stock, representing 16,000 shares ("FOV Consideration Shares"). The asset purchase agreement restricts the holder from transferring the FOV Consideration Shares for 180 days from the closing date, subject to certain exceptions. The Company acquired computer and research and development equipment amounting to \$18,506 and intangibles for developed technology for \$307,014. As of December 31, 2022, the equity was issued in full and cash paid amounted to \$104,167 the balance payable of \$145,333 being accounted for as accrued purchase consideration included in accrued expenses and other current liabilities payable over twelve months

Estimated amortization expense for the next five years for the intangible costs currently being amortized is as follows:

Year Ending December 31,	Estimated Amortization
2023	\$ 3,287,497
2024	\$ 3,287,497
2025	\$ 3,287,497
2026	\$ 3,282,658
2027	\$ 3,275,497
Thereafter	\$ 12,366,528
Total	\$ 28,787,171

NOTE 7 – LONG-TERM EQUITY INVESTMENT

On October 5, 2021, Ondas Holdings irrevocably subscribed and agreed to purchase 3,141,098 shares of Series A-1 Preferred Stock of Dynam.AI, Inc. ("Dynam"), a tech-enabled services provider for critical or complex artificial intelligence and machine learning projects, par value \$0.00001 for the aggregate price of \$500,000 representing subscription price of \$0.15918 per share by way of a non-brokered private placement for approximately 11% ownership in Dynam. In addition to the equity investment, Ondas Holdings' wholly owned subsidiary, American Robotics, Inc., entered into a development, services and marketing agreement with Dynam.AI on October 1, 2021. The agreement allows American Robotics to expand and enhance its IP library and analytics capabilities with artificial intelligence using physics-based algorithms and allows Dynam to further the development of Vizlab™, Dynam's proprietary AI/ML platform, an advanced developer toolkit for data scientists.

On July 15, 2022, Ondas Holdings irrevocably subscribed and agreed to purchase 3,357,958 shares of Series Seed Preferred Stock of Dynam for the aggregate price of \$1,000,000 representing a subscription price of \$0.2978 per share by way of a non-brokered private placement for approximately 8% ownership in Dynam. This brings Ondas Holdings investment in Dynam to 6,499,056 shares or approximately 19% ownership.

This long-term equity investment consists of an equity investment in a private company through preferred shares, which are not considered in-substance common stock, that is accounted for at cost, with adjustments for observable changes in prices or impairments, and is classified as long-term equity investment on our consolidated balance sheets with adjustments recognized in other (expense) income, net on our consolidated statements of operations. The Company has determined that the equity investment does not have a readily determinable fair value and elected the measurement alternative. Therefore, the equity investment's carrying amount will be adjusted to fair value at the time of the next observable price change for the identical or similar investment of the same issuer or when an impairment is recognized. Each reporting period, the Company performs a qualitative assessment to evaluate whether the investment is impaired. The assessment includes a review of recent operating results and trends, recent sales/acquisitions of the investee securities, and other publicly available data. If the investment is impaired, the Company writes it down to its estimated fair value. As of December 31, 2022 and 2021 the long-term equity investment had a carrying value of \$1,500,000 and \$500,000, respectively.

Our CEO Eric Brock is a director of Dynam. An officer and a director of the Company have invested an aggregate of \$35,000 in Dynam as of December 31, 2022.

NOTE 8 – ACCRUED EXPENSES AND OTHER CURRENT LIABILITIES

Accrued expenses and other current liabilities consist of the following:

	Years Ended December 31,	
	2022	2021
Accrued payroll and other benefits	\$ 390,698	\$ 269,725
D&O insurance financing payable	516,619	719,313
Accrued professional fees	792,367	117,008
Accrued purchase consideration	145,833	-
Other accrued expenses and payables	1,246,847	43,861
Total accrued expenses and other current liabilities	\$ 3,092,364	\$ 1,149,907

NOTE 9 – SECURED PROMISSORY NOTES

Steward Capital Holdings LP

On March 9, 2018, we entered into a loan and security agreement (the “Agreement”) with Steward Capital Holdings LP (the “Steward Capital”) wherein Steward Capital made available to us a loan in the aggregate principal amount of up to \$10,000,000 (the “Loan”). On March 9, 2018, the Company and Steward Capital, pursuant to the Agreement, entered into a Secured Term Promissory Note for \$5,000,000, having a maturity date of September 9, 2019 (“Tranche A”). The Note bore interest at a per annum rate equal to the greater of (a) 11.25% or (b) 11.25% plus the Prime Rate, less 3.25%. The Agreement also included payments of \$25,000 in loan commitment fees and \$100,000 (1%) of the funding in loan facility charges. The loan commitment fees and \$50,000 in loan facility charges associated with Tranche A were recorded as debt discount and amortized over the life of the Loan. There was also an end of term charge of \$250,000. The end of term charge was being recorded as accreted costs over the term of the Loan. The Note was secured by substantially all of the assets of the Company.

On October 9, 2018, the Company and Steward Capital, pursuant to the Agreement, entered into a second Secured Term Promissory Note for \$5,000,000 having a maturity date of April 9, 2020 (the “Second Note”) to complete the Agreement for \$10,000,000. The Second Note bore interest at a per annum rate equal to the greater of (a) 11.25% or (b) 11.25% plus the Prime Rate, less 3.25%. Pursuant to the terms of the Agreement, the Company was required to pay a \$50,000 loan facility charge.

On June 18, 2019, the Company and Steward Capital entered into a letter of agreement to amend the Agreement (the “First Amendment”) to (i) extend and amend the maturity date, as defined in Section 1.1 of the Agreement, to read in its entirety “means September 9, 2020” (the “Maturity Date”); (ii) waive the repayment requirement to Steward Capital under Section 2.3 of the Agreement, in connection with the then proposed public offering of the Company as described in the Company’s Registration Statement on Form S-1, as amended, originally filed on April 12, 2019, and (iii) waive the restriction by Steward Capital on the prepayment of Indebtedness under Section 7.4 of the Agreement. In connection with the waivers, extension and amendment, the Company agreed to pay to Steward Capital, upon the earlier of (a) the completion of the public offering as set forth in Section 2.3 of the Agreement and (b) ten (10) days following the Company’s receipt of Steward’s written demand therefor, a fee equal to three percent (3%) of the current outstanding principal balance of the Loan (as defined in the Agreement), neither of which have occurred at the time of this filing. The Company concluded that the modifications created by the First Amendment resulted in a troubled debt restructuring under Accounting Standard Codification—Debt (Topic 470) as it was determined that a concession was granted by Steward Capital. However, as the future payments to be made subsequent to the modification were greater than the carrying value at the time of the modification, no gain or loss was required to be recognized on the troubled debt restructuring. As the difference between the effective interest rate method and the straight-line method was deemed immaterial, the Company continued to amortize the deferred loan costs using the straight-line method over the remaining term of the Loan.

On October 28, 2019, the Company and Steward Capital entered into a letter of agreement to amend the Agreement, as amended (the “Second Amendment”) wherein the parties agreed to (i) extend and amend the due date for all accrued and unpaid interest starting September 2, 2019 to the Maturity Date and (ii) extend and amend the due date for the 3% fee payable to Steward Capital in connection with the First Amendment and waiver dated June 2019 to be payable on the Maturity Date. In connection with the extensions and amendments, the Company issued Steward Capital 120,000 shares of the Company’s common stock valued at \$300,000 on December 15, 2019. The value was recorded as debt discount and amortized over the life of the Loan. The Company concluded that the modifications created by the Second Amendment resulted in a troubled debt restructuring under Accounting Standard Codification—Debt (Topic 470) as it was determined that a concession was granted by Steward Capital. However, as the future payments to be made subsequent to the modification were greater than the carrying value at the time of the modification, no gain or loss was required to be recognized on the troubled debt restructuring. As the difference between the effective interest rate method and the straight-line method was deemed immaterial, the Company continued to amortize the deferred loan costs using the straight-line method over the remaining term of the Loan.

The Agreement also contained covenants which included certain restrictions with respect to subsequent indebtedness, liens, loans and investments, asset sales and share repurchases and other restricted payments, subject to certain exceptions. The Agreement also contained financial reporting obligations. An event of default under the Agreement included, but was not limited to, breach of covenants, insolvency, and occurrence of any default under any agreement or obligation of the Company. In addition, the Agreement contained a customary material adverse effect clause which stated that in the event of a material adverse effect, an event of default would occur, and the lender had the option to accelerate and demand payment of all or any part of the loan. A material adverse effect was defined in the Agreement as a material change in our business, operations, properties, assets or financial condition or a material impairment of its ability to perform all obligations under its Agreement.

On September 4, 2020, the Company and Steward Capital entered into the Second Amendment to the Loan and Security Agreement (the “Second Amendment”) to (i) extend the Maturity Date to September 9, 2021 (the “Extended Maturity Date”) and agree to convert all accrued interest into the note, resulting in a new principal balance of \$11,254,236, (ii) make all accrued and unpaid interest from September 9, 2020 through the date of maturity due on the Extended Maturity Date, (iii) on or before October 1, 2020, Company were to issue 40,000 shares of Company’s stock to Steward valued at \$9.75 per share, or total of \$390,000 (issued on September 30, 2020) and (iv) make the fee of 3% of the outstanding principal balance of the loan, or \$300,000 (as defined in the First Amendment) due at the updated maturity date of September 9, 2021. The Company concluded that the modifications created by the Second Amendment resulted in a troubled debt restructuring under Accounting Standard Codification—Debt (Topic 470) as it was determined that a concession was granted by Steward Capital. However, as the future payments to be made subsequent to the modification were greater than the carrying value at the time of the modification, no gain or loss was required to be recognized on the troubled debt restructuring.

On April 14, 2021, the Company requested Steward Capital’s waiver of Section 7 (Covenants of Borrower), in connection with the acquisition of American Robotics, Inc (“American Robotics”). In connection with the waiver, the Company agreed to, upon consummation of the proposed acquisition, pay Steward Capital an additional \$280,000, and upon the consummation of the proposed acquisition, Steward and the Company would amend the Agreement to modify the defined term “collateral” to include the intellectual property of American Robotics; however, the Company made a final payment to Steward Capital before closing of the acquisition.

On December 9, 2020, the Company made a \$5,000,000 payment to Steward Capital, applying \$4,679,958 to principal and \$320,042 to accrued interest. On December 31, 2020, the principal balance was \$7,003,568, net of debt discount of \$120,711 and accrued cost of \$550,000. On June 25, 2021, the Company made a final payment of \$7,044,750 to Steward Capital, applying \$6,574,278 to principal, \$404,729 in interest and other fees, and \$65,743 in early payment penalties. The agreement was terminated on July 1, 2021. Interest expense for the years ended December 31, 2022 and 2021 was \$0 and \$426,448, respectively.

NOTE 10 – LONG-TERM NOTES PAYABLE

2017 Convertible Promissory Note

On September 14, 2017, the Company and an individual entered into a convertible promissory note with unilateral conversion preferences by the individual (the “2017 Convertible Promissory Note”). On July 11, 2018, the Company’s Board approved certain changes to the 2017 Convertible Promissory Note wherein the conversion feature was changed from unilateral to mutual between the individual and the Company.

The Company may at any time on or after a qualified public offering convert any unpaid repayment at the IPO conversion price. The conversion price is the lesser of the (i) price per share of Common Stock sold in the Qualified Public Offering, discounted by 20%, and (ii) the price per share of Common Stock based on a pre-money Company valuation of \$50 million on a Fully Diluted Basis.

On both December 31, 2022 and 2021, the total outstanding balance of the 2017 Convertible Promissory Note was \$300,000. The maturity date of the 2017 Convertible Promissory Note is based on the payment of 0.6% of quarterly gross revenue until 1.5 times the amount of the Note is paid. Accrued interest on December 31, 2022 and 2021 was \$40,965 and \$40,152, respectively. Interest expense for both years ended December 31, 2022 and 2021 was \$15,000.

2022 Convertible Promissory Notes

On October 28, 2022, the Company entered into a securities purchase agreement (the “Purchase Agreement”) with certain investors pursuant to which we issued convertible notes (“2022 Convertible Promissory Notes”) in the principal amount of \$34.5 million, with a debt discount of \$4.5 million and issuance costs of \$2.3 million. The net amount of proceeds to us from the 2022 Convertible Promissory Notes after deducting the placement agent’s fees and transaction expenses (issuance costs) were approximately \$27,703,000. The Company intends to use the net proceeds of the 2022 Convertible Promissory Notes for general corporate purposes, including funding capital, expenditures, or the expansion of its business and providing working capital.

As of December 31, 2022, the total outstanding principal on the 2022 Convertible Promissory Notes was \$30,048,135, net of debt discount and issuance costs of \$3,251,865.

For the year ended December 31, 2022, we recognized interest expense of \$176,629 and amortization expense of \$2,358,871 and \$1,186,972 related to the debt discount and issuance costs, respectively. The remaining unamortized debt discount of \$2,141,129 and issuance costs of \$1,110,736 will be amortized via the straight-line method through the maturity date. This method is materially consistent with the interest method under ASC 835. Interest expense and amortization expense of the debt discount and issuance costs are included in Interest expense on the Consolidated Statements of Operations.

The 2022 Convertible Promissory Notes bears interest at the rate of 3% per annum. The 2022 Convertible Promissory Notes are payable in monthly installments beginning on November 1, 2022 through the maturity date of February 28, 2023 (each such date, an “Installment Date”). On each Installment Date, we will make monthly payments by converting the applicable “Installment Amount” (as defined below) into shares of our common stock (an “Installment Conversion”), subject to satisfaction of certain equity conditions, including a minimum \$1.50 share price, \$500,000 minimum daily volume, and maintaining continued Nasdaq listing requirements among other conditions. If these conditions are not met, installments can be requested in cash. In 2022, we issued 415,161 common shares as a result of Installment Conversion. At each Installment Date the note holder may defer some or all of the amount due until the subsequent Installment Date. In between Installment Dates, the note holder also has the option to accelerate certain portions of principal due. At each Installment Date the price used to exchange outstanding notes into common stock is based on an 8% discount to the lowest volume weighted average price (“VWAP”) of the respective previous five trading days. The maximum conversion price is \$4.25 per share.

The “Installment Amount” will equal:

- (i) for all Installment Dates other than the maturity date, the lesser of (x) the Holder Pro Rata Amount of \$1,437,500 and (y) the principal amount then outstanding under the Note; and
- (ii) on the maturity date, the principal amount then outstanding under the Note.

Each month, the note holders may accelerate a portion of the note due up to five times the minimum Installment Amount of \$1,437,500.

The 2022 Convertible Promissory Notes were issued with a maturity date of February 28, 2023. See Exchange Note in Note 16 - Subsequent Events for a description of an amendment to the 2022 Convertible Promissory Notes executed in January 2023, which includes an extension of the maturity date to October 28, 2024.

A full summary of the 2022 Convertible Promissory Notes, including a full text of the related agreements, are available on the Form 8-K dated October 28, 2022.

Paycheck Protection Program Loan

On May 4, 2020, the Company applied for a loan pursuant to the Paycheck Protection Program under the Coronavirus Aid, Relief, and Economic Security Act (the “CARES Act”), as administered by the U.S. Small Business Administration (the “SBA”). The loan, in the principal amount of \$666,091 (the “PPP Loan”), was disbursed by Wells Fargo Bank, National Association (“Lender”) on May 6, 2020, pursuant to a Paycheck Protection Program Promissory Note and Agreement (the “Note and Agreement”).

The program was later amended by the Paycheck Protection Flexibility Act of 2020 whereby debtors were granted a minimum maturity date of the five-year anniversary of the funding date and a deferral of ten months from the end of the covered period. The PPP Loan bore interest at a fixed rate of 1.00% per annum. Monthly principal and interest payments, less the amount of any potential forgiveness (discussed below), were to commence after the sixteen-month anniversary of the funding date. The Company did not provide any collateral or guarantees for the PPP Loan, nor did the Company pay any facility charge to obtain the PPP Loan. The Note and Agreement provided for customary events of default, including those relating to failure to make payment, bankruptcy, breaches of representations and material adverse effects. The Company could prepay the principal of the PPP Loan at any time without incurring any prepayment charges.

All or a portion of the PPP Loan could be forgiven by the SBA upon application to the Lender by the Company within 10 months after the last day of the covered period. The Lender would have 90 days to review borrower’s forgiveness application and the SBA had an additional 60 days to review the Lender’s decision as to whether the borrower’s loan could be forgiven. Under the CARES Act, loan forgiveness was available for the sum of documented payroll costs, covered rent payments, and covered utilities, and certain covered mortgage interest payments during the twenty-four-week period beginning on the date of the first disbursement of the PPP Loan. For purposes of the CARES Act, payroll costs excluded compensation of an individual employee earning more than \$100,000, prorated annually. Not more than 40% of the forgiven amount could be for non-payroll costs. Forgiveness was reduced if full-time headcount declines, or if salaries and wages for employees with salaries of \$100,000 or less annually were reduced by more than 25%. On May 4, 2021, the Company submitted an application to the lender with supporting detail requesting forgiveness of the loan. On May 26, 2021, the Company received full forgiveness for both the principal and accrued interest, which is included in other income on the Company’s accompanying consolidated statements of operations.

NOTE 11 – STOCKHOLDERS’ EQUITY

Common Stock

As of December 31, 2022 and 2021, the Company had 116,666,667 shares of common stock, par value \$0.0001 (the “Common Stock”), authorized for issuance, of which 44,108,661 and 40,990,604 shares of our Common Stock were issued and outstanding, respectively.

Preferred Stock

As of December 31, 2022 and 2021, the Company had 10,000,000 shares of preferred stock, par value \$0.0001, authorized, of which 5,000,000 shares are designated as Series A Convertible Preferred Stock ("Series A Preferred") and 5,000,000 shares are non-designated ("blank check") shares. As of December 31, 2022 and 2021, the Company had no preferred stock outstanding.

The Company evaluated its Series A Preferred to determine if those instruments or embedded components of those instruments qualify as derivatives to be accounted for separately. The Preferred Shares include an embedded contingent automatic conversion option which is bifurcated from the Preferred Shares and recorded separately as a derivative liability, creating a discount to the Preferred Shares. The fair value of the embedded derivative is recorded as a liability and marked-to-market each balance sheet date, with the change in fair value recorded as other income (expense) in the Company's accompanying consolidated statement of operations. The discount arising from the identification of the embedded conversion feature will not be accreted or amortized as the Series A Preferred has been classified in equity.

Form S-3

On January 29, 2021, the Company filed a shelf Registration Statement on Form S-3 for up to \$150,000,000 with the SEC (the "Form S-3") for shares of its Common Stock; shares of its preferred stock, which the Company may issue in one or more series or classes; debt securities, which the company may issue in one or more series; warrants to purchase its Common Stock, preferred stock or debt securities; and units. The Form S-3 was declared effective by the SEC on February 5, 2021. In connection with the 2022 Convertible Promissory Notes, on October 26, 2022, the Company filed a Registration Statement on Form S-3MEF to register an additional \$11,696,000 aggregate maximum amount of the Company's securities. This registration statement became effective upon filing.

2021 Public Offering

On June 8, 2021, the Company entered into an underwriting agreement (the "2021 Underwriting Agreement") with Oppenheimer & Co. Inc., acting as the representative for the underwriters identified therein (the "Underwriters"), relating to the Company's public offering (the "2021 Public Offering") of 6,400,000 shares (the "2021 Firm Shares") of the Company's Common Stock. Pursuant to the 2021 Underwriting Agreement, the Company also granted the Underwriters a 30-day option to purchase up to an additional 960,000 shares of Common Stock (the "2021 Option Shares," and together with the 2021 Firm Shares, the "2021 Shares") to cover over-allotments.

The Underwriters agreed to purchase the 2021 Firm Shares from the Company with the option to purchase the 2021 Option Shares at a price of \$6.51 per share. The 2021 Shares were offered, issued, and sold pursuant to the Form S-3 and accompanying prospectus filed with the SEC under the Securities Act.

On June 11, 2021, pursuant to the 2021 Public Offering, the Company issued 7,360,000 shares of Common Stock (2021 Firm Shares and 2021 Option Shares) at a public price of \$7.00 for net proceeds to the Company of \$47,523,569 after deducting the underwriting discount and offering fees and expenses payable by the Company.

The Underwriting Agreement included customary representations, warranties, and agreements by the Company, customary conditions to closing, indemnification obligations of the Company and the Underwriters, including for liabilities under the Securities Act, other obligations of the parties and termination provisions. The representations, warranties and covenants contained in the 2021 Underwriting Agreement were made only for purposes of such agreement and as of specific dates, were solely for the benefit of the parties to the agreement and were subject to limitations agreed upon by the contracting parties.

The table below details the net proceeds of the 2021 Public Offering.

Gross Proceeds:	
Initial Closing	\$ 44,800,000
Over-allotment Closing	6,720,000
	<hr/>
	51,520,000
Offering Costs:	
Underwriting discounts and commissions	(3,806,400)
Other offering costs	(190,031)
Net Proceeds	\$ 47,523,569

The Company will use the net proceeds of the 2021 Public Offering for working capital and general corporate purposes, which includes further technology development, increased spending on marketing and advertising and capital expenditures necessary to grow the Ondas Holdings business.

ATM Offering

On March 22, 2022, the Company, entered into an Equity Distribution Agreement (the “ATM Agreement”) with Oppenheimer. (the “Sales Agent”). Pursuant to the terms of the ATM Agreement, the Company could offer and sell (the “ATM Offering”) from time to time through the Sales Agent, as the Company’s sales agent, up to \$50 million of shares Common Stock, (the “ATM Shares”). Sales of the ATM Shares, if any, may be made in sales deemed to be “at the market offerings” as defined in Rule 415 promulgated under the Securities Act. The Sales Agent is not required to sell any specific number or dollar amount of ATM Shares but will act as a sales agent using commercially reasonable efforts consistent with its normal trading and sales practices and applicable state and federal laws, rules, and regulations and the rules of the Nasdaq Stock Market, on mutually agreed terms between the Sales Agent and the Company. The Sales Agent will receive from the Company a commission of 3.0% of the gross proceeds from the sales of ATM Shares by the Sales Agent pursuant to the terms of the Agreement. Net proceeds from the sale of the ATM Shares will be used for general corporate purposes.

On October 26, 2022, Ondas entered into Amendment No. 1 to the Equity Distribution Agreement, dated March 22, 2022 (“Amendment No. 1”), the Sales Agent. Amendment No. 1 provides for the reduction of the aggregate offering price from up to \$50 million to up to \$40 million of shares of Common Stock.

The offering of ATM Shares pursuant to the ATM Agreement will terminate upon the earliest of (i) the sale of all ATM Shares subject to the ATM Agreement, and (ii) the termination of the ATM Agreement pursuant to its terms.

The ATM Shares are issued pursuant to the Form S-3 and the prospectus supplement thereto dated March 22, 2022.

During 2022, the Company sold (1) 852,679 ATM Shares through the Sales Agent at an average price of \$7.29 with the net proceeds of \$6.03 million; (2) 11,995 ATM Shares through the Sales Agent at an average price of \$5.62 with the net proceeds of \$65 thousand. In connection with the sale of these ATM Shares, the compensation paid by the Company to the Sales Agent was \$227,116.

Stock Issued for Convertible Debt

On December 1, 2022 and November 1, 2022, the Company issued 212,450 and 202,711 shares of its common stock, respectively, to the lenders in lieu of cash payments for the outstanding interest and principal on the 2022 Convertible Promissory Notes (See NOTE 10 for further details).

Warrants to Purchase Common Stock

We use the Black-Scholes-Merton option model (the “Black-Scholes Model”) to determine the fair value of warrants to purchase Common Stock of the Company (“Warrants”). The Black-Scholes Model is an acceptable model in accordance with the GAAP. The Black-Scholes Model requires the use of a number of assumptions including volatility of the stock price, the weighted average risk-free interest rate, and the weighted average term of the Warrant.

The risk-free interest rate assumption is based upon observed interest rates on zero coupon U.S. Treasury bonds whose maturity period is appropriate for the term of the Warrants. Estimated volatility is a measure of the amount by which our stock price is expected to fluctuate each year during the expected life of the award. Our estimated volatility is an average of the historical volatility of peer entities whose stock prices were publicly available over a period equal to the expected life of the awards. We used the historical volatility of peer entities due to the lack of sufficient historical data of our stock price.

As of December 31, 2022, we had Warrants outstanding to purchase an aggregate of 1,901,802 shares of Common Stock with a weighted-average contractual remaining life of approximately 7.47 years, and exercise prices ranging from \$0.03 to \$7.89 per share, resulting in a weighted average exercise price of \$7.63 per share.

Warrants Granted During 2021

As of December 31, 2021, we had Warrants outstanding to purchase an aggregate of 3,305,854 shares of Common Stock with a weighted-average contractual remaining life of approximately 5.24 years, and exercise prices ranging from \$0.03 to \$9.75 per share, resulting in a weighted average exercise price of \$8.53 per share.

On August 8, 2021 the Company issued warrants to purchase an aggregate of 1,565,656 shares of Common Stock with an exercise price of \$7.89 per share as consideration in the acquisition of American Robotics. These warrants vest in three equal installments on the next three anniversaries of their issuance.

The assumptions used in the Black-Scholes Model are set forth in the table below.

	2021
Stock price	\$ 7.78
Risk-free interest rate	1.23%
Volatility	46.91%
Expected life in years	10
Dividend yield	0.00%

No warrant holders exercised their rights during the year ended December 31, 2022. During the year ended December 31, 2021, certain warrant holders exercised their right to purchase an aggregate of 139,605 shares of the Company's Common Stock at an exercise price of \$9.75 totaling \$13,689,507, all of which was received by the Company as of December 31, 2021.

A summary of our Warrants activity and related information follows:

	Number of Shares Under Warrant	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life
Balance on January 1, 2021	1,879,803	\$ 9.16	2.20
Issued	1,565,656	\$ 7.89	4.50
Exercised	(139,605)	\$ 9.75	
Balance on December 31, 2021	3,305,854	\$ 8.53	5.20
Expired	(1,404,052)	\$ 9.75	
Balance on December 31, 2022	<u>1,901,802</u>	<u>\$ 7.63</u>	<u>7.47</u>

Equity Incentive Plan

In 2018, our stockholders adopted the 2018 Equity Incentive Plan (the "2018 Plan") pursuant to which 3,333,334 shares of our Common Stock has been reserved for issuance to employees, including officers, directors and consultants. The 2018 Plan shall be administered by the Board, provided however, that the Board may delegate such administration to the compensation committee (the "Committee"). Subject to the provisions of the 2018 Plan, the Board and/or the Committee shall have authority to grant, in its discretion, incentive stock options, or non-statutory options, stock awards or restricted stock purchase offers ("Equity Awards").

At the 2021 Annual Meeting of Stockholders of the Company held on November 5, 2021, stockholders of the Company approved, among other matters, the Ondas Holdings Inc. 2021 Stock Incentive Plan (the “Plan”). The Compensation Committee of the Board of Directors of the Company adopted the Plan on September 30, 2021, subject to stockholder approval. The purpose of the Plan is to enable the Company to attract, retain, reward, and motivate eligible individuals by providing them with an opportunity to acquire or increase a proprietary interest in the Company and to incentivize them to expend maximum efforts for the growth and success of the Company, so as to strengthen the mutuality of the interests between the eligible individuals and the shareholders of the Company. The Plan provides for the issuance of awards including stock options, stock appreciation rights, restricted stock, restricted stock units, and performance awards. The Plan provides for a reserve of 6,000,000 shares of the Company’s common stock.

Stock Options to Purchase Common Stock

The Company awards stock options to certain employees, directors, and consultants, which represent the right to purchase common shares on the date of exercise at a stated exercise price. Stock options granted to employees generally vest over a two to four-year period and are contingent on ongoing employment. Compensation expenses related to these awards is recognized straight-line over the applicable vesting period. Stock options granted to consultants are subject to the attainment of pre-established performance conditions. The actual number of shares subject to the award is determined at the end of the performance period and may range from zero to 100% of the target shares granted depending upon the terms of the award. Compensation expenses related to these awards is recognized when the performance conditions are satisfied.

On August 5, 2021, the Company issued 211,038 Stock Options to employees of American Robotics in connection with the merger. Of these Stock Options 50,543 were issued as fully vested with no further service obligations and were included in the purchase consideration. The remaining 151,495 vest over a four-year period and are contingent on ongoing employment. They are included in compensation expense.

As of December 31, 2022, we had Stock Options outstanding to purchase an aggregate of 2,412,286 shares of Common Stock with a weighted-average contractual remaining life of approximately 7.58 years, and exercise prices ranging from \$3.51 to \$6.79 per share, resulting in a weighted average exercise price of \$5.77 per share.

As of December 31, 2021, we had Stock Options outstanding to purchase an aggregate of 687,448 shares of Common Stock with a weighted-average contractual remaining life of approximately 8.20 years, and exercise prices ranging from \$1.37 to \$12.92 per share, resulting in a weighted average exercise price of \$6.79 per share.

The assumptions used in the Black-Scholes Model are set forth in the table below.

	2022	2021
Stock price	\$3.81 - \$6.55	\$7.50 - \$12.92
Risk-free interest rate	1.82 - 3.95%	0.35 - 0.87%
Volatility	46.42 - 48.96%	45.53 - 53.99%
Expected life in years	5.80 - 6.30	3.00 - 5.89
Dividend yield	0.00%	0.00%

A summary of our Option activity and related information follows:

	Number of Shares Under Option	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life
Balance on January 1, 2021	568,006	\$ 7.39	9.40
Granted	336,038	\$ 4.91	
Exercised	(47,846)	\$ 2.09	
Canceled	(168,750)	\$ 6.39	
Balance on December 31, 2021	687,448	\$ 6.79	8.20
Granted	2,094,000	\$ 5.17	
Exercised	(31,057)	\$ 2.09	
Forfeited	(168,105)	\$ 2.77	
Canceled	(170,000)	\$ 6.43	
Balance on December 31, 2022	2,412,286	\$ 5.77	7.58
Vested and Exercisable at December 31, 2022	635,288	\$ 7.88	5.78

As of December 31, 2022, total unrecognized compensation expense related to non-vested Options was \$2,631,636 which is expected to be recognized over a weighted-average period of 2.21 years.

Total stock-based compensation expense for stock options for the years ended December 31, 2022 and 2021 is as follows:

	Years Ended December 31,	
	2022	2021
	\$ 536,269	\$ 306,055
General and administrative		
Sales and marketing	\$ 509,789	-
Research and development	720,554	-
Total stock-based expense related to options	\$ 1,766,612	\$ 306,055

Restricted Stock Units

The Company awards Restricted Stock Units (“RSUs”) to certain employees, directors, which represent a right to receive common stock for each RSU that vests. RSUs granted to employees generally vest in two to four successive equal annual installments with the first vesting date commencing on the first anniversary of the award date and are contingent on continuing employment. RSUs granted to directors generally vest in four to eight successive equal quarterly installments with the first vesting date commencing on the first day of the next calendar quarter, provided that such director is a director of the Company on the applicable vesting dates. Compensation expenses related to these awards is recognized straight-line over the applicable vesting period. As of December 31, 2022 and 2021 the unrecognized compensation expense for RSUs was \$6,125,626 and \$9,734,567, respectively.

A summary of our RSUs activity and related information follows:

	RSUs	Weighted Average Grant Date Fair Value	Weighted Average Vesting Period (Years)
Unvested balance at January 1, 2021	625,000	\$ 2.80	1.25
Granted	1,458,172	\$ 7.98	
Vested	(526,250)	\$ 3.75	
Cancelled	(125,000)	\$ 2.80	
Unvested balance at December 31, 2021	<u>1,431,922</u>	<u>\$ 12.12</u>	2.5
Granted	190,860	\$ 2.52	
Vested	(512,755)	\$ 8.06	
Unvested balance at December 31, 2022	<u>1,110,027</u>	<u>\$ 6.89</u>	1.52

As of December 31, 2022, there were 1,590 RSUs that vested, but were not yet issued as common stock. Total stock-based compensation expense for RSUs for the years ended December 31, 2022 and 2021 is as follows:

	Years Ended December 31,	
	2022	2021
General and administrative	\$ 3,259,648	\$ 2,947,585
Sales and marketing	24,632	-
Research and development	806,543	-
Total stock-based expense related to RSUs	<u>\$ 4,090,823</u>	<u>\$ 2,947,585</u>

NOTE 12 – SEGMENT INFORMATION

Operating segments are defined as components of an entity for which discrete financial information is available and is regularly reviewed by the Chief Operating Decision Maker (“CODM”) in making decisions regarding resource allocation and performance assessment. The Company’s CODM is its Chief Executive Officer. The Company determined it has two reportable segments: Ondas Networks and Ondas Autonomous Systems, which only includes the results of American Robotics for the year ended December 31, 2022 and 2021, as the CODM reviews financial information for these two businesses separately. The Company has no inter-segment sales. The following table presents segment information for years ended December 31, 2022 and 2021:

	Year Ended December 31, 2022			Year Ended December 31, 2021		
	Ondas Networks	Ondas Autonomous Systems	Total	Ondas Networks	Ondas Autonomous Systems	Total
	\$ 1,931,677	\$ 194,140	\$ 2,125,817	\$ 2,840,154	\$ 66,617	\$ 2,906,771
Revenue, net	1,915,557	5,649,834	7,565,391	126,728	1,385,866	1,512,594
Depreciation and amortization	12,771	12,771	25,542	10,399	1,179	11,578
Interest income	1,294,863	1,279,863	2,574,726	574,889	796	575,685
Interest expense	1,188,217	4,669,218	5,857,435	1,642,507	1,611,083	3,253,590
Stock based compensation	-	19,419,600	19,419,600	-	-	-
Goodwill impairment	-	-	-	-	2,921,982	2,921,982
Benefit from income taxes	-	-	-	-	-	-
Net loss	(14,361,407)	(58,880,398)	(73,241,805)	(7,888,588)	(7,135,254)	(15,023,842)
Goodwill	-	25,606,983	25,606,983	-	45,026,583	45,026,583
Capital expenditure	97,853	2,783,047	2,880,900	123,854	799,864	923,718
Total assets	34,227,117	63,718,129	97,945,245	45,226,925	72,211,650	117,438,575

NOTE 13 – INCOME TAXES

The provision (benefit) from income taxes was as follows:

	December 31,	
	2022	2021
Current		
U.S. Federal	\$ —	\$ —
State and local	—	—
	<hr/>	<hr/>
Deferred		
U.S. Federal	\$ —	\$ (2,360,923)
State and local	—	(561,059)
	<hr/>	<hr/>
Total		
U.S. Federal	\$ —	\$ (2,360,923)
State and local	—	(561,059)
	<hr/>	<hr/>

The tax effects of temporary differences that give rise to significant portions of the deferred tax assets and deferred tax liabilities are as follows:

	December 31,	
	2022	2021
Deferred Tax Assets:		
Tax benefit of net operating loss carry-forward	\$ 27,478,875	\$ 17,577,952
Accrued liabilities	96,363	69,525
Stock based compensation	949,089	1,630,004
Depreciation	91,639	—
Inventory Reserve	27,321	—
Operating Lease Liabilities	827,607	159,558
R&D Capitalization	5,683,784	—
R&D Credit	751,488	1,046,841
Total deferred tax assets	<hr/> 35,906,166	<hr/> 20,483,880
Deferred Tax Liabilities:		
Depreciation	—	(12,706)
Amortization	(3,078)	(5,331)
Intangibles	(5,885,385)	(5,743,441)
Deferred Rent	(798,745)	(193,482)
Total deferred tax liabilities	<hr/> (6,687,208)	<hr/> (5,954,960)
Total net deferred tax assets	<hr/> 29,218,958	<hr/> 14,528,920
Valuation allowance for deferred tax assets	(29,218,958)	(14,528,920)
Deferred tax assets, net of valuation allowance	<hr/> \$ -	<hr/> \$ -

The change in the Company's valuation allowance is as follows:

	Years Ended December 31,	
	2022	2021
Beginning of the year	\$ 14,528,920	\$ 16,655,023
Change in valuation account	14,690,038	(2,126,103)
End of the year	<u>\$ 29,218,958</u>	<u>\$ 14,528,920</u>

A reconciliation of the provision for income taxes with the amounts computed by applying the Federal income tax rate to income from operations before the provision for income taxes is as follows:

	Years Ended December 31,	
	2022	2021
U.S. federal statutory rate	(21.0)%	(21.0)%
Federal True Ups	0.40%	0.5%
State taxes, net of federal benefit	(7.61)%	14.01%
Change in valuation allowance	20.06%	(11.85)%
Goodwill Impairment	5.57%	—%
Stock Compensation	2.02%	—%
Nondeductible Expenses	0.56%	2.01%
R&D Credit	—%	0.05%
Effective income tax rate	<u>—%</u>	<u>(16.28)%</u>

In assessing the realization of deferred tax assets, including the net operating loss carryforwards (NOLs), the Company assesses the available positive and negative evidence to estimate if sufficient future taxable income will be generated to utilize its existing deferred tax assets. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the period when those temporary differences become deductible. Based on its assessment, the Company has provided a full valuation allowance against its net deferred tax assets as their future utilization remains uncertain at this time. The December 31, 2022 change in valuation allowance is mainly related to the acquisition of ARI.

As of December 31, 2022 and 2021, the Company had approximately \$102 million and \$79 million, respectively, of Federal NOLs available to offset future taxable income. The Federal NOLs of \$15 million generated in 2007 through 2017 will begin to expire in 2027 through 2037. The Federal NOLs of \$87 million generated in 2018 through 2022 have no expiration. As of December 31, 2022 and 2021, the Company had approximately \$105 million and \$70 million, respectively, of State NOLs available to offset future taxable income expiring from 2028 through 2042. As of December 31, 2022 and 2021, the Company had approximately \$752,000 and \$1,047,000, respectively of Federal research and development credits available to offset future tax liability expiring from 2038 through 2040. The Company's Federal income tax returns for the 2019 to 2021 tax years remain open to examination by the IRS. Upon utilization of Federal NOLs in the future, the IRS may examine records from the year the loss occurred, even if outside the three-year statute of limitations. The Company's State tax returns also remain open to examination.

In accordance with Section 382 of the Internal Revenue code, the usage of the Company's Federal Carryforwards could be limited in the event of a change in ownership. As of December 31, 2021, the Company completed an analysis and determined that there were multiple ownership changes. Provided sufficient taxable income is generated the annual base limitation plus increased limitation calculated pursuant to IRS Notice 2003-65 will allow the Company to utilize all existing losses within the carryover periods.

The Company applies the FASB's provisions for uncertain tax positions. The Company utilizes the two-step process to determine the amount of recognized tax benefit. For tax positions meeting the more-likely-than-not threshold, the amount recognized in the consolidated financial statements is the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement with the relevant tax authority. The Company recognizes interest and penalties associated with uncertain tax positions as a component of income tax expense.

As of December 31, 2022, management does not believe the Company has any material uncertain tax positions that would require it to measure and reflect the potential lack of sustainability of a position on audit in its financial statements. The Company will continue to evaluate its uncertain tax positions in future periods to determine if measurement and recognition in its financial statements is necessary. The Company does not believe there will be any material changes in its unrecognized tax positions over the next year.

NOTE 14 – COMMITMENTS AND CONTINGENCIES

Legal Proceedings

We may be involved in legal proceedings, claims and assessments arising in the ordinary course of business. Such matters are subject to many uncertainties, and outcomes are not predictable with assurance. There are no such loss contingencies that are included in the financial statements as of December 31, 2022.

Operating Leases

On October 30, 2018, Ondas Networks entered into a Sublease with Texas Instruments Sunnyvale Incorporated, regarding the sublease of approximately 21,982 square feet of rentable space at 165 Gibraltar Court, Sunnyvale, CA 94089 (the "Gibraltar Sublease"), constituting the entire first floor of the premises (except the lobby and two stairwells), as defined under that certain Lease dated April 12, 2004, as amended by the First Lease Amendment dated March 15, 2005, a Second Amendment to Lease dated November 30, 2005, and a Third Amendment to Lease dated November 30, 2010 between Gibraltar Sunnyvale Holdings LLC and Texas Instruments Sunnyvale Incorporated. The Sublease began on November 1, 2018 and ended on February 28, 2021 at a base monthly rent of \$28,577. A security deposit of \$28,577 was paid upon execution of the Sublease and refunded during the year ended December 31, 2021. Rent expense for the years ended December 31, 2022 and 2021 was \$0 and \$80,627, respectively.

The lease for our offices and facilities for Ondas Networks at 165 Gibraltar Court, Sunnyvale, CA expired on February 28, 2021 and was verbally extended to March 31, 2021 under the same terms. On January 22, 2021, we entered into a 24-month lease (effective April 1, 2021) with Google LLC, the owner and landlord, wherein the base rate is \$45,000 per month and including a security deposit in the amount of \$90,000. Rent expense for the years ended December 31, 2022 and 2021 was \$540,000 and \$405,000, respectively.

On August 5, 2021, the Company acquired American Robotics and their Lease (American Robotics Lease), wherein the base rate is \$15,469 per month, with an annual increase of 3% through January 2024, with a security deposit of \$24,166. On August 19, 2021, American Robotics amended their lease to reduce their space. The amendment reduced their annual base rent to \$8,802 per month, with an annual increase of 3% through January 2024. Rent expense for the years ended December 31, 2022 and 2021 was \$109,155 and \$45,050, respectively.

On October 8, 2021, American Robotics entered into an 86-month operating lease for space in Waltham, MA. Lease is scheduled to commence on March 1, 2022 and terminate on April 30, 2029, wherein the base rate is \$39,375 per month, increasing 3% annually, with a security deposit due in the amount of \$104,040. In conjunction with this new lease, American Robotics is leasing a short-term temporary space at \$8,500 per month, until their primary space is available, which is targeted for May 1, 2022. Rent expense for the year ended December 31, 2022 was \$502,298.

NOTE 15 – RELATED PARTY TRANSACTIONS

On March 14, 2020, Mr. Brock waived accrued payroll amounts in the amount of \$141,667. Between January 1 and December 15, 2020 we accrued \$131,494 for salary owed during 2020 to Mr. Brock. On January 29, 2021, Mr. Brock was paid \$64,344 of the accrued amount and the remaining \$67,150 was paid on April 15, 2021.

On March 14, 2020, Stewart Kantor, President of Ondas Networks, waived accrued payroll amounts in the amount of \$8,334. As of December 31, 2020, Ondas Networks accrued an additional \$2,850 for salary owed during 2020 to Mr. Kantor, which was paid on April 15, 2021.

Between June 2 and December 31, 2020, we accrued \$115,385 for salary owed to Thomas V. Bushey, then President of the Company. On January 19, 2021, Mr. Bushey waived the accrued payroll amounts in the amount of \$115,385. Pursuant to the terms of a Separation Agreement and General Release (the “Separation Agreement”) dated January 19, 2021 (the “Effective Date”), between Mr. Bushey and the Company, Mr. Bushey agreed to waive his entitlement to accrued salary in the amount of \$125,256 and accrued vacation in the amount of \$9,846 as of the Effective Date. At the time of Mr. Bushey’s resignation as President in January 2021, Mr. Bushey had the right to receive 500,000 RSU Shares (375,000 vested as of December 31, 2020 and 125,000 of which the Compensation Committee accelerated vesting), which will be issued on June 3, 2022 pursuant to Mr. Bushey’s deferral election. The remaining 500,000 RSU Shares were canceled. As part of the Separation Agreement, Mr. Bushey and the Company entered into a Consulting Agreement dated January 19, 2021 (the “Consulting Agreement”). Pursuant to the Consulting Agreement, Mr. Bushey provided services to the Company at the direction of the Company’s Chief Executive Officer. The Consulting Agreement terminated on July 19, 2021. Mr. Bushey was paid \$7,500 per month for these services.

The Company has a long-term equity investment in Dynam with a carrying value of \$1,500,000 and \$500,000 as December 31, 2022 and 2021, respectively. See Note 7 – Long-Term Equity Investment. In addition to the equity investment, the Company paid Dynam for services of \$2,026,400 and \$275,200 during the years ended December 31, 2022 and 2021, respectively. As of December 31, 2022 and 2021, amounts owed to Dynam were \$0 and \$151,893, respectively, which are included in Accounts payable on the Consolidated Balance Sheets.

As of December 31, 2022, the Company owed \$359,159 to independent directors, which is included in Accrued expenses and other current liabilities on the Consolidated Balance Sheets.

NOTE 16 – SUBSEQUENT EVENTS

Management has evaluated subsequent events as of March 14, 2023, the date the consolidated financial statements were available to be issued according to the requirements of ASC Topic 855.

Exchange Note

On January 20, 2023, the Company entered into an Amendment No. 1 to Securities Purchase Agreement (“Amended SPA”) to that certain Purchase Agreement. The Amended SPA amends the notes attached as exhibits to the Purchase Agreement.

Pursuant to the terms of the Purchase Agreement, on January 20, 2023, the Company exchanged the 2022 Convertible Promissory Notes, on a dollar-for-dollar basis, into 3% Senior Convertible Notes Due 2024 (the “2022 Convertible Exchange Notes”).

The 2022 Convertible Exchange Notes are identical in all material respects to the 2022 Convertible Promissory Notes, except that they (i) are issued pursuant to the Base Indenture (as defined below) and the First Supplemental Indenture (as defined below); (ii) have a maturity date of October 28, 2024; (iii) allow for the Acceleration of Installment Amounts not to exceed eight (8) times the Installment Amount with respect to the Installment Date related to the Current Acceleration; and (iv) modify the Acceleration Conversion Price. Capitalized terms used but not otherwise defined herein have the respective meanings set forth in the 2022 Convertible Exchange Notes attached as an exhibit to this report.

The 2022 Convertible Exchange Notes were issued pursuant to the first supplemental indenture (the “First Supplemental Indenture”), dated as of January 20, 2023, between the Company and Wilmington Savings Fund Society, FSB, as trustee (the “Trustee”). The First Supplemental Indenture supplements the indenture entered into by and between the Company and the Trustee, dated as of January 20, 2023 (the “Base Indenture” and, together with the First Supplemental Indenture, the “Indenture”). The Indenture has been qualified under the Trust Indenture Act of 1939, and the terms of the 2022 Convertible Exchange Notes include those set forth in the Indenture and those made part of the Indenture by reference to the Trust Indenture Act.

Subsequent to December 31, 2022, the Company issued approximately 2,105,000 shares as a result of Installment Conversion.

Airobotics Transaction

On January 23, 2023, the Company, completed the acquisition of Airobotics, pursuant to the Agreement of Merger, dated as of August 4, 2022 (the “Original Airobotics Agreement”), and that certain Amendment to Agreement of Merger, dated November 13, 2022 (the “Airobotics Amendment,” and together with the Original Airobotics Agreement, the “Airobotics Agreement”), by and among the Company, Talos Sub Ltd., an Israeli company and a wholly owned subsidiary of the Company (“Merger Sub”), and Airobotics. In accordance with the terms of the Airobotics Agreement, Merger Sub merged with and into Airobotics (the “Merger”), with Airobotics continuing as the surviving company of the Merger and as a wholly owned subsidiary of the Company.

At the effective time of the Merger (the “Effective Time”), each ordinary share of Airobotics, par value NIS 0.01 per share (the “Airobotics Ordinary Shares”), issued and outstanding (other than shares owned by Airobotics or its subsidiaries (dormant or otherwise) or by the Company or Merger Sub) was converted into, and exchanged for 0.16806 (the “Exchange Ratio”) fully paid and nonassessable shares of common stock of the Company common stock, without interest and subject to applicable tax withholdings (“Merger Consideration”). All fractional shares of the Company common stock that would have otherwise been issued to a holder of Airobotics Ordinary Shares as part of the Merger Consideration were rounded up to the nearest whole share based on the total number of shares of the Company’s common stock issued to such holder of Airobotics Ordinary Shares. Holders of Airobotics Ordinary Shares received approximately 2.8 million shares as consideration (excluding approximately 1.7 million shares underlying equity awards to be outstanding following the Merger).

As provided in the Airobotics Agreement, each outstanding option, warrant or other right, whether vested or unvested, to purchase Airobotics Ordinary Shares (each, an “Airobotics Stock Option,” and collectively, the “Airobotics Stock Options”) issued pursuant to the Airobotics Ltd. 2015 Israeli Share Option Plan and 2020 Incentive Equity Plan (the “Airobotics Plans”), was assumed by Ondas and converted as of the Effective Time into an option, warrant or right, as applicable, to purchase shares of Company common stock. Subject to the terms of the relevant Airobotics Stock Option, each Airobotics Stock Option is deemed to constitute an option, warrant, or other right, as applicable, to purchase, on substantially the same terms and conditions as were applicable under such Airobotics Stock Option, a number of shares of Company common stock equal to the number of shares of Company common stock (rounded up to the nearest whole share) that the holder of such Airobotics Stock Option would have been entitled to receive pursuant to the Merger had such holder exercised such option, warrant, or right to purchase full Airobotics Ordinary Shares immediately prior to the Effective Time at a price per share of Company common stock (rounded down to the nearest whole cent) equal to (i) the former per share exercise price for Airobotics Ordinary Shares otherwise purchasable pursuant to such Airobotics Stock Option, divided by (ii) the Exchange Ratio.

As a result of the Merger, the Company will be dual listed on The Nasdaq Stock Market and the Tel Aviv Stock Exchange (“TASE”). The first trading day of the Company’s shares on TASE was January 26, 2023.

The following table summarizes the preliminary allocation of the purchase price based on the estimated fair value of the acquired assets and assumed liabilities as of January 23, 2023 (in thousands, except share amounts):

Purchase price consideration

Parent loan	\$ 2,000
Common Stock – 2,844,291 Shares	5,262
Vested Stock Options – 605,349 Shares	925
Warrants – 586,440 Shares	-
Total purchase price consideration	\$ 8,187

Estimated fair value of assets:

Cash and cash equivalents and restricted cash	\$ 1,050
Accounts receivable	112
Inventory	1,495
Other current assets	836
Property, plant and equipment	2,624
Right of use asset	340
Intangible assets	3,565
Other long-term assets	63
	10,085

Estimated fair value of liabilities assumed:

Accounts payable	969
Customer Prepayments	1,603
Government grant liability	1,783
Other payables	1,156
Lease liabilities	385
Loan from related party	3,131
	9,027
Net Assets Acquired	\$ 1,058
Goodwill	\$ 7,129

The final purchase price allocation will be determined when the Company has completed the detailed valuations and necessary calculations. The final allocation could differ materially from the preliminary allocation. The final allocation may include (1) changes in fair values of property, plant and equipment, (2) changes in valuation of intangible assets such as trade names, customer relationships, and technology, as well as goodwill and (3) other changes to assets and liabilities.

The table below estimates the financial results of the Company had both the American Robotics and Airobotics acquisitions occurred on January 1, 2021. All numbers except loss per shares are in thousands.

	(Unaudited) Year Ended December 31,	
	2022	2021
Revenue, net	\$ 2,874	\$ 7,214
Net loss	\$ (87,092)	\$ (43,663)
Basic Earnings Per Share	\$ (1.93)	\$ (1.02)
Diluted Earnings Per Share	\$ (1.93)	\$ (1.02)

Iron Drone Asset Acquisition

As previously disclosed, on October 19, 2022, Airobotics entered into an Asset Purchase Agreement, as amended, to acquire all of the intellectual property, technical systems, and operations of Iron Drone Ltd. (“Iron Drone”), an Israeli-based company specializing in the development of autonomous counter-drone systems (the “Iron Drone Transaction”). The consideration for the Iron Drone Transaction was (i) \$135,000 in cash, (ii) 46,129 shares of the Company’s common stock, (iii) warrants exercisable for 26,553 shares of the Company’s commons stock with an exercise price of \$11.95, which shall be exercisable if, during the 48 month period following the closing, the average price per share of the Company’s common stock exceeds \$52.38 for a period of at least 90 consecutive trading days, (iv) a right to acquire 35,377 shares of the Company’s common stock if during the 48 month period after the closing, the average price per share of the Company’s common stock exceeds \$18.25 for a period of at least 90 consecutive trading days, and (v) a right to acquire 70,753 shares of the Company’s common stock if during the 48 month period after the closing, the average price per share of Company’s common stock exceeds \$20.27 for a period of at least 90 consecutive trading days. On March 6, 2023, the Company completed the Iron Drone Transaction.

Ondas Autonomous Systems

On February 14, 2023, the Company announced the formation of Ondas Autonomous Systems, a new business unit to manage the combined drone operations of wholly owned subsidiaries American Robotics and Airobotics.

As part of the integration of American Robotics and Airobotics to form Ondas Autonomous Systems and focus on a single product platform, the Company undertook certain restructuring actions:

- A reduction in workforce of 45 full time employees at American Robotics was implemented that results in a one-time restructuring charge of approximately \$264,000 that will be recognized in the quarter ending March 31, 2023.
- A contract entered into on August 29, 2022, with a third party for development, that committed the Company to 24 monthly payments, of which the first twelve months were non-cancellable, was renegotiated. The original contract had a minimum commitment of \$4,995,833 of which \$3,633,332 was outstanding as of December 31, 2022. The company ended all development efforts and agreed to a termination fee of \$1,589,585 payable over nine months from March 15, 2023. The full cost of the termination fee will be recorded in the quarter ending March 31, 2023.

Silicon Valley Bank Failure

On March 10, 2023, Silicon Valley Bank failed and was taken into receivership by the FDIC. Federal Deposit Insurance Corporation (FDIC). The Company held \$361,813 in excess of federally insured limits with Silicon Valley Bank as of March 10, 2023. However, on March 12, 2023, the federal government announced they will back all customer deposits at Silicon Valley Bank.

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosures.

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

The Company's management, with the participation of the Company's Chief Executive Officer and Chief Financial Officer, have evaluated the effectiveness of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of December 31, 2022. Based on that evaluation, the Company's Chief Executive Officer and the Company's Chief Financial Officer have concluded that as of the period ended December 31, 2022 the Company's disclosure controls and procedures were effective.

Management's Annual Report on Internal Control Over Financial Reporting

Our senior management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) promulgated under the Exchange Act as a process designed by, or under the supervision of, our principal executive and principal financial officers, or persons performing similar functions, and effected by our Board, senior 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 U.S. GAAP.

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. We continue to review our internal control over financial reporting and may from time to time make changes aimed at enhancing their effectiveness and to ensure that our systems evolve with our business.

Under the supervision and with the participation of management, including the Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in “Internal Control — Integrated Framework (2013)” issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on the results of this evaluation, our senior management has concluded that the Company’s controls over financial reporting were effective for the period ending December 31, 2022, and the material weakness identified for the period ending December 31, 2021 has been remediated.

Remediation of Material Weakness

A material weakness is a deficiency, or a combination of deficiencies, in internal controls over financial reporting, such that there is a reasonable possibility that a material misstatement of the Company’s annual or interim financial statements will not be prevented or detected on a timely basis. Management determined that the material weakness described below that was identified for the period ending December 31, 2021 was remediated during the period ending December 31, 2022.

Inadequate review of stock-based compensation issued in connection with the acquisition of American Robotics

The Company has completed the remediation plan that includes the following:

- Implemented a third-party equity management software to calculate stock compensation expense relating to all equity awards
- Restructured working papers and added an additional review process to ensure that stock compensation expense is correctly calculated.

Changes in internal control over financial reporting

Our assessment of internal controls included American Robotics’ for the year ending December 31, 2022. It was excluded for the year ending December 31, 2021, because it was the first year of the acquisition.

Other than the matters set forth above, there were no changes in our internal control over financial reporting identified in management’s evaluation pursuant to Rules 13a-15(d) or 15d-15(d) of the Exchange Act during the year ended December 31, 2022 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on Effectiveness of Controls and Procedures

In designing and evaluating the disclosure controls and procedures and internal control over financial reporting, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures and internal control over financial reporting must reflect the fact that there are resource constraints, and that management is required to apply judgment in evaluating the benefits of possible controls and procedures relative to their costs.

Item 9B. Other Information.

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

Not applicable.

PART III

Item 10. Directors, Executive Officers, and Corporate Governance.

Directors and Executive Officers

The following table sets forth information on our executive officers and directors as of the filing of this Report. The terms of service for each of our directors expires at our next annual meeting of shareholders or until their successors are duly elected and qualified.

Name	Age	Position
Eric A. Brock	52	Chairman and Chief Executive Officer
Derek Reisfield	60	Director, Chief Financial Officer, Treasurer and Secretary
Reese Mozer	31	President
Thomas V. Bushey	43	Director
Richard M. Cohen	72	Director
Randall P. Seidl	59	Director
Richard H. Silverman	82	Director
Jaspreet Sood	49	Director

Family Relationships

There are no family relationships between our executive officers and members of our Board.

Business Experience of Directors and Executive Officers

Information About Our Executive Officers

Eric A. Brock - Chairman of the Board and Chief Executive Officer

Mr. Brock was appointed as one of our directors and as our President, Chief Executive Officer, Chief Financial Officer, Secretary and Treasurer on June 28, 2018. On September 28, 2018, following the completion of the reverse acquisition transaction to acquire Ondas Networks Inc. (the “Acquisition”), he was appointed Chairman of the Board and resigned from the positions of Chief Financial Officer, Secretary and Treasurer. Mr. Brock also serves as Chairman of the Board and Chief Executive Officer of Ondas Networks Inc. since September 28, 2018. Since October 2021, Mr. Brock has served as a member of the Board of Directors of Dynam.AI. Mr. Brock is an entrepreneur with over 20 years of global banking and investing experience. He served as a founding Partner and Portfolio Manager with Clough Capital Partners, a Boston-based investment firm from 2000 to 2017. Prior to Clough, Mr. Brock was an investment banker at Bear, Stearns & Co. and an accountant at Ernst & Young, LLP. Mr. Brock holds an MBA from the University of Chicago and a BS from Boston College. Our Board believes that Mr. Brock’s experience in the public markets makes him well qualified to serve on our Board.

Derek Reisfield - Director, President, Chief Financial Officer, Treasurer and Secretary

Mr. Reisfield was appointed as one of our directors on September 28, 2018, and as our Chief Financial Officer, Treasurer and Secretary on December 9, 2021. Mr. Reisfield also serves as Chief Financial Officer, Treasurer and Secretary of Ondas Networks Inc. since December 9, 2021. Also, Mr. Reisfield served as our President from December 9, 2021 to February 14, 2023. Previously, he had served as a member of the Board of Ondas Networks Inc. from April 2016 to September 2018. From December 2020 to the present, he has served as the President and Chief Executive Officer of Thetis Business Solutions, LLC. From 2018 to 2020, he served as an independent business consultant. From 2015 to December 2018, Mr. Reisfield served as Vice President, Strategy and Business Development of MetaRail, Inc. (formerly, Wayfare Interactive Technologies, Inc.), a company that provides commerce search capabilities to digital publishers and marketers. In 2008, Mr. Reisfield co-founded BBN Networks, LLC, formerly known as BBN Networks, Inc., a digital advertising and marketing solutions company focused on the B2B sector, where he served as Chief Executive Officer until 2014 and as Chairman until 2015. Mr. Reisfield was Executive Vice President and Chief Financial Officer of Fliptrack, Inc., a social mobile gaming company, from 2007 to 2008. He was an independent consultant from 2002 to 2007 working with digital startups and large consumer-oriented companies facing digital threats and opportunities. He was Co-Founder and Managing Principal of i-Hatch Ventures, LLC from 1999-2001, Co-Founder, Vice Chairman and Executive Vice President of Luminant, Inc., a digital consulting firm, from 1999-2000, Co-Founder and Chairman of Marketwatch, a financial and business news and information company, from 1997-1998, President CBS New Media from 1997-1998, Vice President, Business Development of CBS from 1996-1997, Director of Strategic Management CBS and its predecessor Westinghouse Electric Corporation, Inc. from 1996-1997. Prior to that, Mr. Reisfield was the Co-Founder of the Media and Telecommunications Practice of Mitchell Madison Group, LLC, a management consultancy and a leader of the Media and Telecommunications practice of McKinsey & Company, Inc. a management consultancy. He has served on several public corporation boards. Mr. Reisfield is a director emeritus of the San Francisco Zoological Society. Mr. Reisfield holds a BA from Wesleyan University, and an AM in Communications Management from the Annenberg School of Communications of USC in 1986. We believe Mr. Reisfield's experience in senior leadership positions at both privately held and publicly traded technology companies, including holding board positions in corporate governance, make him a well-qualified candidate to serve on our Board.

Reese Mozer – President

Mr. Mozer was appointed President of the Company effective February 14, 2023 and is the CEO and Co-Founder of American Robotics since 2015, the developer of FAA-approved fully-automated drone systems that provide ultra-high resolution aerial data to enterprise customers. Prior to founding American Robotics, Mr. Mozer worked for the Association for Unmanned Vehicle Systems International (AUVSI) from 2010 to 2014 researching the uses, markets, and technology gaps for drones in the commercial sector, as well as Palm Ventures from 2010 to 2011, a private equity firm analyzing and evaluating both early stage and growth capital businesses. Mr. Mozer is a member of several industry standards bodies and associations, including the Board of the Commercial Drone Alliance (CDA), FAA Center of Excellence for UAS Research (ASSURE), the Association for Unmanned Vehicle Systems International (AUVSI), and the Massachusetts Technology Leadership Council (MassTLC).

Non-Management Directors

Thomas V. Bushey - Director

Mr. Bushey was appointed as one of our directors effective June 3, 2020. Mr. Bushey served as our President from June 2, 2020 to January 19, 2021. Mr. Bushey has served as our consultant from January 19, 2021 to July 19, 2021. Mr. Bushey has served as a director and Chief Executive Officer of Newbury Street Acquisition Corporation (NASDAQ: NBST) since November 2020. Mr. Bushey has been Chief Executive Officer of Sunderland Capital, an investment management firm, since 2015. Prior to founding Sunderland Capital in 2015, Mr. Bushey was a portfolio manager at Blackrock. Previously he worked as an investment banker at Credit Suisse, as a private equity professional at Thayer Capital, and as a hedge fund analyst at Millennium Partners. Mr. Bushey earned a B.S. in Economics from the Wharton School of the University of Pennsylvania. We believe that Mr. Bushey's investment banking and private equity background and experience make him well qualified to serve on our Board.

Richard M. Cohen - Director

Mr. Cohen was appointed as one of our directors on September 28, 2018. Previously, he had served as a member of the Board of Ondas Networks Inc. from April 2016 to September 2018. He has been the President of Richard M Cohen Consultants since 1995, a company providing financial consulting services to both public and private companies. He has served as a director of Great Elm Capital Corp. (NASDAQ: GECC) since March 2022, Direct Digital Holdings, Inc. (NASDAQ: DRCT) since November 2021, and Smart For Life, Inc. (NASDAQ: SMFL) from February 2022 to October 2022. From March 2012 to July 2015, he was the Founder and Managing Partner of Chord Advisors, a firm providing outsourced CFO services to both public and private companies. From May 2012 to August 2013, he was the Interim CEO and member of the Board of Directors of CorMedix Inc. (NYSE: CRMD). From July 2008 to August 2012, Mr. Cohen was a member of the Audit Committee of Rodman and Renshaw, an investment banking firm. From July 2001 to August 2012, he was a partner with Novation Capital until its sale to a private equity firm. Mr. Cohen holds a BS with honors from the University of Pennsylvania (Wharton), an MBA from Stanford University and a CPA from New York State. He is considered an expert to Chair the Audit Committee of a publicly traded company. We believe that Mr. Cohen's educational background and financial experience supporting publicly traded companies including as a CEO and Board member of a public traded company on the New York Stock Exchange makes him well qualified to serve on our Board.

Randall P. Seidl - Director

Randall P. Seidl was appointed as one of our directors on November 16, 2020. In September 2020, he founded and continues to serve as Chief Executive Officer of Sales Community, a sales social network with a mission to add value to technology sales professionals. In 2016, he founded and continues to serve as Chief Executive Officer of Top Talent Recruiting, a boutique contingency-based recruiting business. In 2013, he founded and continues to serve as Chief Executive Officer of Revenue Acceleration to help tech companies accelerate revenue growth. From 2009 to 2013, Mr. Seidl served as Sr. Vice President/General Manager of Hewlett Packard's Americas and U.S. Enterprise Group. From 2006 to 2009, he served as Sr. Vice President/General Manager of Sun Microsystems' North America business and as Vice President/General Manager for its Financial Services Area. From 2004 to 2006, he served as Vice President/General Manager of East Region at StorageTek. From 2003 to 2004, he served as Chief Executive Officer and director at Permabit, from 2000 to 2003 was co-founder and Executive Vice President of GiantLoop, and from 1996 to 1999 was Chairman and Chief Executive Officer of Workgroup Solutions. He began his career at EMC Corporation, holding various positions including Vice President of Open Systems Sales for North America from 1985 to 1996. Since 2015, Mr. Seidl has served as director of Data Dynamics, a privately held company, a leader in intelligent file management solutions. Since 2014, he has served as director of Clouddgenera, a privately held company, a leading supplier of vendor agnostic IT analytics that arm organizations with the business cases needed to optimize technology spend. He previously served as director of Datawatch Corporation (2015-2018, Nasdaq: DWCH, acquired by Altair). He continues to serve on the advisory boards or consults with DataRobot, Trilio, WekalO, ISG, CXO Nexus, Corent, DecisionLink, Dooly, Sendoso, Emissary, and CaptivateIQ. Mr. Seidl is a graduate of Boston College's Carroll School of Management. Mr. Seidl serves as a trustee on Boston College's Board of Trustees, on the Board of Trustees of St. Sebastian's School, and is active with other charities. We believe Mr. Seidl's experience in senior leadership positions at private/public technology companies and his private/public board experience makes him well-qualified to serve on our board of directors.

Richard H. Silverman – Director

Mr. Silverman was appointed as one of our directors on September 28, 2018. Previously, he had served as a member of the Board of Ondas Networks Inc. from April 2016 to September 2018. Mr. Silverman is a well-recognized and respected professional in the energy industry in Arizona and on a national level. He is past Chair of the board of directors for the Electric Power Research Institute; past Chair and former steering committee member of the Large Public Power Council; and former executive committee member of the board of directors for the American Public Power Association. Since August 2011, Mr. Silverman has been Of Counsel at Jennings, Strouss & Salmon, PLC, where he focuses his practice on energy law. Prior to joining the firm, he served as General Manager of Salt River Project from 1994 to 2011. Mr. Silverman holds a Juris Doctor from the University of Arizona and B.A. in Business from the University of Arizona. We believe Mr. Silverman's prior experience as general manager of Salt River Project, one of the nation's largest public power utilities serving approximately one million customers in the Phoenix metropolitan area, will help the Company navigate strategic issues in the rapidly changing electric utility industry with specific knowledge of the impact of renewables like solar energy on the electric grid and makes him well qualified to serve on our Board.

Jaspreet (Jas) Sood – Director

Ms. Sood was appointed as one of our directors on January 19, 2021. Ms. Sood is a seasoned executive who has strategic expertise in the areas of sales, product management, P&L management, operational transformation and go to market strategies. Since August 2021, Ms. Sood serves as Senior Vice President of Sales — US Enterprise for Palo Alto Networks (NYSE: PANW). Prior to joining Palo Alto Networks, Ms. Sood held a variety of executive level positions with Hewlett Packard Enterprise (NYSE: HPE) and its predecessor companies in the areas of business operations, strategy, product management, and finance. Ms. Sood was employed by Hewlett Packard Enterprise and its predecessor companies for twenty-five years. Ms. Sood holds an MBA with an emphasis in Technology Management from Pepperdine University and a bachelor's degree in Economics from the University of California, Irvine. In 2018, 2019, 2020, and 2021, she was honored as a "CRN Power 100 Woman of the Channel" and is routinely featured as a guest speaker at various technology industry events. We believe Ms. Sood's business experience makes her well qualified to serve on our board of directors.

Other Directorships

Other than as indicated within this section under the caption titled *Business Experience of Directors and Executive Officers*, none of our directors hold or have been nominated to hold a directorship in any company with a class of securities registered pursuant to Section 12 of the Securities Exchange Act of 1934, as amended, (the "Exchange Act") or subject to the requirements of Section 15(d) of the Securities Act of 1933, as amended, or any company registered as an investment company under the Investment Company Act of 1940.

Committees of the Board

Audit Committee

Our audit committee reviews our internal accounting procedures and consults with and reviews the services provided by our independent registered public accountants. Our audit committee consists of three directors, Messrs. Cohen and Silverman and Ms. Sood, and our Board has determined that each of them is independent within the meaning of listing requirements of The Nasdaq Stock Market ("Nasdaq") and the independence requirements contemplated by Rule 10A-3 under the Exchange Act. Mr. Cohen is the chairman of the audit committee, and our Board has determined that Mr. Cohen is an "audit committee financial expert" as defined by SEC rules and regulations implementing Section 407 of the Sarbanes-Oxley Act. Our Board has determined that the composition of our audit committee meets the criteria for independence under, and the functioning of our audit committee complies with, the applicable requirements of the Sarbanes-Oxley Act, Nasdaq listing requirements and SEC rules and regulations. We intend to continue to evaluate the requirements applicable to us and to comply with the future requirements to the extent that they become applicable to our audit committee. The principal duties and responsibilities of our audit committee include:

- overseeing the accounting and financial reporting processes of the Company, internal systems of control of the Company and audits of the Company's consolidated financial statements;
- overseeing the Company's relationship with its independent auditors, including appointing or changing the Company's auditors and ensuring their independence;
- providing oversight regarding significant financial matters, including the Company's tax planning, treasury policies, dividends and share issuance and repurchases;
- overseeing the Code of Conduct (as defined below); and
- reviewing and approving all transactions with related persons for potential conflict of interest situations on an ongoing basis.

Compensation Committee

Our compensation committee reviews and determines the compensation of all our executive officers. Our compensation committee consists of three directors, Messrs. Cohen, Seidl, and Silverman, each of whom is a non-employee member of our Board as defined in Rule 16b-3 under the Exchange Act and independent within the meaning of listing requirements of Nasdaq. Mr. Seidl is the chairman of the compensation committee. Our Board has determined that the composition of our compensation committee satisfies the applicable independence requirements under, and the functioning of our compensation committee complies with the applicable listing requirements of Nasdaq and SEC rules and regulations. We intend to continue to evaluate and intend to comply with all future requirements applicable to our compensation committee. The principal duties and responsibilities of our compensation committee include:

- establishing, overseeing and administering the Company's employee compensation policies and programs;
- reviewing and approving compensation and incentive programs and awards for the Company's CEO, all other executive officers of the Company and the non-employee members of the Company's Board; and
- administering the Company's equity compensation plans.

Nominating and Corporate Governance Committee

The nominating and corporate governance committee consists of three independent directors, Messrs. Cohen, Seidl, and Silverman. Mr. Cohen is the chairman of the nominating and corporate governance committee.

Our Board has determined that the composition of our nominating and corporate governance committee satisfies the applicable independence requirements under, and the functioning of our nominating and corporate governance committee complies with the applicable listing requirements of Nasdaq and SEC rules and regulations. We will continue to evaluate and will comply with all future requirements applicable to our nominating and corporate governance committee. The nominating and corporate governance committee's responsibilities include:

- assisting the Board in identifying individuals qualified to become Board members, consistent with criteria approved by the Board;
- recommending for the Board's approval the slate of nominees to be proposed by the Board to stockholders for election to the Board;
- developing, updating and recommending to the Board the governance principles applicable to the Company;
- overseeing the evaluation of the Board and management;
- recommending to the Board the directors who will serve on each committee of the Board; and
- addressing any related matters required by the federal securities laws.

Code of Business Conduct and Ethics and Committee Charters

We have adopted a Code of Business Conduct and Ethics (the "Code of Conduct"), applicable to all of our employees, executive officers and directors. The audit committee of our Board is responsible for overseeing the Code of Conduct and our Board must approve any waivers of the Code of Conduct for employees, executive officers and directors. All of our directors, executive officers and employees are required to certify in writing their understanding of and intent to comply with the Code.

Our Board adopted charters for the Audit Committee, Compensation Committee, and Nominating and Corporate Governance Committee of the Board describing the authority and responsibilities delegated to each committee.

We post on our website www.ondas.com the charters of each of our board committees and our Code of Business Conduct, and all disclosures that are required by law concerning any amendments or waivers thereto applicable to our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions; and any other corporate governance materials contemplated by the Nasdaq listing requirements and SEC regulations. These documents are also available in print, without charge, to any stockholder requesting a copy in writing from our Secretary at our executive offices set forth in this Report.

Delinquent Section 16(a) Reports

Section 16(a) of the Exchange Act requires directors, officers and greater than 10 percent beneficial owners of our common shares to file reports concerning their ownership of, and transactions in, such common shares.

Based solely on our review of these reports filed by the Company's officers, directors and shareholders, and written representations from our executive officers and directors that they filed such reports, we believe that our officers, directors, and shareholders complied with all filing requirements under Section 16(a) of the Exchange Act on a timely basis during fiscal year 2022, except each of Messrs. Reisfield, Bushey, Seidl, and Silverman and Ms. Sood untimely filed a Form 4 to report the delivery of shares underlying restricted stock units and the sale of shares to fund tax liability attributable to the vesting of the restricted stock units.

Item 11. Executive Compensation.

Summary Compensation Table

The following table provides the compensation earned by our principal executive officer and other executive officers whose total compensation exceeded \$100,000 for the fiscal years ended December 31, 2022 and 2021.

Name and Principal Position	Year	Salary (\$)	Bonus (\$) ⁽¹⁾	Stock Awards (\$)	Option Awards (\$)	Non-Equity Incentive Plan Compensation (\$)	Nonqualified Deferred Compensation Earnings (\$)	All Other Compensation (\$)	Total (\$)
Eric A. Brock⁽²⁾ (CEO)	2022	\$ 200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 28,451	\$ 228,451
	2021	\$ 200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30,661	\$ 230,661
Derek Reisfield⁽³⁾ (CFO, Treasurer and Secretary)	2022	\$ 200,000	\$ -	\$ -	\$ 332,800	\$ -	\$ -	\$ 37,847	\$ 570,287
	2021	\$ 8,333	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30,661	\$ 38,994

(1) On November 23, 2021, Mr. Brock was granted cash bonuses of \$125,000 but informed the Compensation Committee that he would forego his bonus.

(2) In 2020, Mr. Brock's salary of \$131,494 was accrued. On January 29, 2021, Mr. Brock was paid \$64,344 of the accrued amount and the remaining \$67,150 was paid on April 15, 2021, which is not included in the salary compensation for 2021 presented above. All Other Compensation for 2022 and 2021 includes health insurance premiums paid on Mr. Brock's behalf.

(3) Mr. Reisfield was appointed as President, Chief Financial Officer, Treasurer and Secretary of the Company on December 10, 2021. All Other Compensation for 2022 includes health insurance premiums paid on Mr. Reisfield's behalf totaling \$27,487 and employer matching of 401(k) totaling \$10,000.

Outstanding Equity Awards at Fiscal Year End

The following table provides the outstanding equity awards for our principal executive officer and other executive officers as of the year ended December 31, 2022 and 2021.

Name and Principal Position	Grant Date	Option Awards				
		Number of securities underlying unexercised options (#) exercisable	Number of securities underlying unexercised options (#) unexercisable	Number of securities underlying unexercised unearned options (#)	Option exercise price (\$)	Option expiration date
Eric A. Brock ⁽¹⁾ (CEO)	-	-	-	-	-	-
Derek Reisfield (CFO, Treasurer and Secretary)	01/25/2021 02/07/2022	30,000 -	- 160,000(2)	-	\$ 12.72 \$ 4.78	01/25/2031 02/07/2032

(1) As of December 31, 2022, Mr. Brock had no outstanding equity awards.

(2) The stock option vests in two successive equal annual installments with the first vesting date commencing on the first anniversary of the grant date.

Employment Agreements with Executive Officers

Eric Brock serves as our Chief Executive Officer pursuant to an employment agreement entered into on September 28, 2018 (the “Brock Agreement”). The Brock Agreement provides for a continuous term and may be terminated by either party at any time. Pursuant to the Brock agreement, Mr. Brock will receive an initial salary of \$200,000 per annum, subject to annual review by our Board. Mr. Brock is eligible to participate in benefit plans generally available to our employees. During 2020, in response to COVID-19 employee furloughs, Mr. Brock accepted a pay reduction of 90% for the period from March 21 to May 19, 2020 and a 35% pay reduction from May 20 to December 15, 2020. Mr. Brock’s salary was returned to 100% effective December 16, 2020.

Derek Reisfield serves as our Chief Financial Officer, Secretary and Treasurer pursuant to an employment agreement entered into on December 10, 2021 (the “Reisfield Agreement”). The Reisfield Agreement provides for a continuous term and may be terminated by either party at any time. Pursuant to the Reisfield Agreement, Mr. Reisfield will receive an initial salary of \$200,000 per annum, subject to annual review by our Board. Mr. Reisfield is eligible to participate in benefit plans generally available to our employees.

As part of the terms of the Brock and Reisfield Agreements, each of Messrs. Brock and Reisfield entered into an Employment, Non-Competition, Confidential Information and Intellectual Property Assignment Agreement (the “Supplemental Agreements”). As part of the Supplemental Agreements, each of Messrs. Brock and Reisfield agreed (i) not to engage in Competitive Business (as defined in the Supplemental Agreements) during his term of employment with us and for a period of 12 months following termination; (ii) not to disclose Confidential Information (as defined in the Supplemental Agreements), subject to certain customary carve-outs; and (iii) to assign to the Company any Intellectual Property (as defined in the Supplemental Agreements) developed using the Company’s resources or related to the Company’s business within the scope of and during the period of employment.

Messrs. Brock and Reisfield are entitled to severance compensation from the Company if his employment is terminated (i) without cause or (ii) due to “constructive termination” or (iii) due to disability, with these causes of termination being defined in the Brock and Reisfield Agreement. The severance compensation would consist of (i) accrued and vested benefits, and (ii) continued payment of the executive base salary and benefits as follows: (i) for a period of six (6) months following Messrs. Brock’s and Reisfield’s separation.

Director Compensation

On January 25, 2021, the Compensation Committee (the “Compensation Committee”) of the Board approved the Director Compensation Policy (the “Policy”). The Policy is applicable to all directors that are not employees or compensated consultants of the Company. Pursuant to the Policy, the cash compensation to non-employee directors will be the following: (i) quarterly board retainer - \$2,500; (ii) additional Board Chair retainer - \$2,000; (iii) additional Audit Committee Chair retainer - \$2,000; (iv) additional Compensation Committee Chair retainer - \$3,000; and (v) additional Nominating Committee Chair retainer - \$1,000. Also, pursuant to the Policy, the annual equity award to non-employee directors will be restricted stock units representing \$60,000. Also, pursuant to the Policy, non-employee directors will be reimbursed for reasonable out-of-pocket business expenses incurred in connection with business related to the Board of Directors.

Name	Fees Earned or Paid in Cash (\$)	Stock awards (\$) ⁽¹⁾	Option awards (\$) ⁽¹⁾	Non-equity incentive plan compensation (\$)	Nonqualified deferred compensation earnings (\$)	All other compensation (\$)	Total (\$)
Thomas V. Bushey	10,000	59,026	-	-	-	-	69,026
Richard M. Cohen	22,000	59,026	-	-	-	-	81,026
Randall P. Seidl	18,000	59,026	-	-	-	-	77,026
Richard H. Silverman	10,000	59,026	-	-	-	-	69,026
Jaspreet Sood	10,000	59,026	-	-	-	-	69,026

(1) The amounts reflected in this column represent the aggregate grant date fair value of the awards made during each respective year, as computed in accordance with FASB ASC Topic 718. For additional information related to the measurement of stock-based compensation awards, see Note 11 of the accompanying Consolidated Financial Statements.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

Beneficial Security Ownership Table

As of March 10, 2023, the following table sets forth certain information with respect to the beneficial ownership of our common stock by (i) each stockholder known by us to be the beneficial owner of more than five percent (5%) of our common stock, (ii) by each of our current executive officers, named executive officers, and directors as identified herein, and (iii) all of our directors and executive officers as a group. Each person has sole voting and investment power with respect to the shares of common stock, except as otherwise indicated. Beneficial ownership is determined in accordance with the rules of the SEC and generally includes voting or investment power with respect to securities. Shares of common stock, options, restricted stock units, and common stock purchase warrants (“Warrants”) that are currently exercisable or convertible into shares of our common stock within sixty (60) days of the date of this document, are deemed to be outstanding and to be beneficially owned by the person holding such securities for the purpose of computing the percentage ownership of the person, but are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Unless otherwise noted, the address for all officers and directors listed below is 411 Waverley Oaks Road, Waltham, MA 02452.

Name	Amount and Nature of Beneficial Ownership ⁽¹⁾	Percent of Class
Directors and Executive Officers		
Eric A. Brock (Chairman of the Board and Chief Executive Officer) ⁽²⁾	1,891,206	3.85%
Derek Reisfield (Director, Chief Financial Officer, Treas. and Sec.) ⁽³⁾	149,546	*
Reese Mozer (President) ⁽⁴⁾	1,675,447	3.40%
Thomas V. Bushey (Director) ⁽⁵⁾	343,858	*
Richard M. Cohen (Director) ⁽⁶⁾	78,383	*
Randall P. Seidl (Director) ⁽⁷⁾	32,735	*
Richard H. Silverman (Director) ⁽⁸⁾	78,618	*
Jaspreet Sood (Director) ⁽⁹⁾	31,463	*
All Executive Officers & Directors as a Group (8 persons) ⁽¹⁰⁾	2,605,809	5.28%
5% or Greater Stockholders		
Energy Capital, LLC⁽¹¹⁾	5,092,248	10.38%

* Represents beneficial ownership of less than 1%.

(1) Unless otherwise noted, we believe that all shares are beneficially owned and that all persons named in the table have sole voting and investment power with respect to all shares of common stock owned by them. Applicable percentage of ownership is based on 49,062,030 shares of common stock currently outstanding, as adjusted for each stockholder.

- (2) Mr. Brock exercises sole voting and dispositive power over the 1,891,206 shares of common stock.
- (3) Mr. Reisfield exercises sole voting and dispositive power over 39,546 shares of common stock (including 2,250 shares held by his son), and 110,000 shares of common stock issuable upon exercise of options.
- (4) Mr. Mozer exercises sole voting and dispositive power over 1,506,518 shares of common stock, 50,000 shares of common stock issuable upon exercise of an option, and 118,929 shares of common stock issuable upon exercise of warrants.
- (5) Mr. Bushey exercises sole voting and dispositive power over 327,642 shares of common stock, 8,108 shares of common stock issuable upon the vesting of RSUs, and 8,108 shares of common stock underlying RSUs that have vested and are pending delivery.
- (6) Mr. Cohen exercises sole voting and dispositive power over 32,167 shares of common stock, 30,000 shares of common stock issuable upon exercise of an option, 8,108 shares of common stock issuable upon the vesting of RSUs, and 8,108 shares of common stock underlying RSUs that have vested and are pending delivery.
- (7) Mr. Seidl exercises sole voting and dispositive power over 16,519 shares of common stock, 8,108 shares of common stock issuable upon the vesting of RSUs, and 8,108 shares of common stock underlying RSUs that have vested and are pending delivery.
- (8) Mr. Silverman exercises sole voting and dispositive power over 32,402 shares of common stock, 30,000 shares of common stock issuable upon exercise of an option, 8,108 shares of common stock issuable upon the vesting of RSUs, and 8,108 shares of common stock underlying RSUs that have vested and are pending delivery.
- (9) Ms. Sood exercises sole voting and dispositive power over 15,247 shares of common stock, 8,108 shares of common stock issuable upon the vesting of RSUs, and 8,108 shares of common stock underlying RSUs that have vested and are pending delivery.
- (10) Includes 220,000 shares of common stock issuable upon exercise of options, 118,929 shares of common stock issuable upon the exercise of warrants, 40,540 shares of common stock issuable upon vesting of RSUs, and 40,540 shares of common stock underlying RSUs that have vested and are pending delivery.
- (11) Based on Amendment No. 1 to Schedule 13D filed on January 27, 2020, the address for Energy Capital, LLC (“Energy Capital”) is 13650 Fiddlesticks Blvd., Suite 202-324, Ft. Myers, FL 33912. Robert J. Smith is the sole owner of Energy Capital and exercises sole voting and dispositive power over the 5,092,248 shares of common stock.

Equity Compensation Plan Information

The following table summarizes the equity compensation plans under which our securities may be issued as of December 31, 2022.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price per share of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans
Equity compensation plans approved by security holders:			
2018 Incentive Stock Plan (1)	2,693,461	\$ 6.52	\$ 639,873
2021 Incentive Stock Plan (2)	2,072,860	\$ 4.85	3,927,140
Equity compensation plans not approved by security holders			

- (1) The 2018 Incentive Stock Plan was approved by stockholders in September 2018. The number of securities to be issued upon exercise of outstanding options, warrants and rights consist of 609,189 shares underlying outstanding options and 2,084,272 shares underlying outstanding restricted stock units granted pursuant to the 2018 Incentive Stock Plan.
- (2) The 2021 Incentive Stock Plan was approved by stockholders in November 2021. The number of securities to be issued upon exercise of outstanding options, warrants and rights consist of 1,882,000 shares underlying outstanding options and 190,860 shares underlying outstanding restricted stock units granted pursuant to the 2021 Incentive Stock Plan.

Item 13. Certain Relationships and Related Transactions and Director Independence.

Related Party Transactions Policy

Under its written charter, the Audit Committee of our Board of Directors is responsible for reviewing and approving any transaction between our company and a related person (as defined in Item 404 of Regulation S-K). Our management is responsible for bringing any such transaction to the attention of the Audit Committee. In approving or rejecting any such transaction, the Audit Committee considers the relevant facts and circumstances, including the material terms of the transaction, risks, benefits, costs, availability of other comparable services or products and, if applicable, the impact on a director's independence.

Related Party Transactions

On March 14, 2020, Mr. Brock waived accrued payroll amounts in the amount of \$141,667. Between January 1 and December 15, 2020 we accrued \$131,494 for salary owed during 2020 to Mr. Brock. On January 29, 2021, Mr. Brock was paid \$64,344 of the accrued amount and the remaining \$67,150 was paid on April 15, 2021.

On March 14, 2020, Stewart Kantor, President of Ondas Networks, waived accrued payroll amounts in the amount of \$8,334. As of December 31, 2020, Ondas Networks accrued an additional \$2,850 for salary owed during 2020 to Mr. Kantor, which was paid on April 15, 2021.

Between June 2 and December 31, 2020, we accrued \$115,385 for salary owed to Thomas V. Bushey, then President of the Company. On January 19, 2021, Mr. Bushey waived the accrued payroll amounts in the amount of \$115,385. Pursuant to the terms of a Separation Agreement and General Release (the "Separation Agreement") dated January 19, 2021 (the "Effective Date"), between Mr. Bushey and the Company, Mr. Bushey agreed to waive his entitlement to accrued salary in the amount of \$125,256 and accrued vacation in the amount of \$9,846 as of the Effective Date. At the time of Mr. Bushey's resignation as President in January 2021, Mr. Bushey had the right to receive 500,000 RSU Shares (375,000 vested as of December 31, 2020 and 125,000 of which the Compensation Committee accelerated vesting), which will be issued on June 3, 2022 pursuant to Mr. Bushey's deferral election. The remaining 500,000 RSU Shares were canceled. As part of the Separation Agreement, Mr. Bushey and the Company entered into a Consulting Agreement dated January 19, 2021 (the "Consulting Agreement"). Pursuant to the Consulting Agreement, Mr. Bushey provided services to the Company at the direction of the Company's Chief Executive Officer. The Consulting Agreement terminated on July 19, 2021. Mr. Bushey was paid \$7,500 per month for these services.

Director Independence

A majority of our Board is independent under the rules of Nasdaq. Our Board has undertaken a review of the independence of our directors and considered whether any director has a material relationship with us that could compromise his ability to exercise independent judgment in carrying out his responsibilities. As a result of this review, our Board has determined that Messrs. Cohen, Seidl, Silverman and Ms. Sood are “independent directors” as defined under the rules of Nasdaq.

Item 14. Principal Accountant Fees and Services.

Rosenberg Rich Baker Berman, P.A. (“RRBB”) has served as the Company’s independent registered public accounting firm since June 28, 2018.

Aggregate fees billed to the Company for the years ended December 31, 2022 and 2021 by RRBB were as follows:

	For the years ended December 31,	
	2022	2021
Audit Fees	\$ 241,665	\$ 192,400
Audit-Related Fees	-	-
Tax Fees	19,800	12,500
All Other Fees	26,500	16,098
	\$ 287,965	\$ 220,998

Audit fees consist of fees associated with the annual audit, including the reviews of our quarterly reports. Tax fees include the preparation on our tax returns. All other fees consist of fees associated with services provided related to all other filings with the SEC as well as consents.

On September 28, 2018, the Audit Committee of our Board adopted a policy and related procedures requiring its pre-approval of all audit and non-audit services to be rendered by its independent registered public accounting firm. These policies and procedures are intended to ensure that the provision of such services do not impair the independent registered public accounting firm’s independence. These services may include audit services, audit related services, tax services and other services. All services provided by RRBB during the years ended December 31, 2022 and 2021 were approved by the Audit Committee.

PART IV

Item 15. Exhibits and Financial Statement Schedules.

Exhibit No.	Name of Document
2.1	<u>Agreement and Plan of Merger, dated as of May 17, 2021, by and among Ondas Holdings Inc., Drone Merger Sub I Inc., Drone Merger Sub II Inc., American Robotics, Inc., and the Company Stockholder's Representative (incorporated herein by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed on May 17, 2021 (File No. 001-39761)).</u>
2.2	<u>Agreement of Merger, dated August 4, 2022 (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on August 8, 2022 (File No. 001-39761)).</u>
2.3	<u>Amendment to Agreement of Merger, dated November 13, 2022 (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on November 14, 2022 (File No. 001-39761)).</u>
3.1	<u>Amended and Restated Articles of Incorporation of the Registrant, dated September 28, 2018 (incorporated herein by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on October 4, 2018 (File No. 333-205271)).</u>
3.2	<u>Amended and Restated Bylaws of the Registrant, dated September 28, 2018 (incorporated herein by reference to Exhibit No. 3.2 to the Company's Current Report on Form 8-K filed on October 4, 2018 (File No. 333-205271)).</u>
3.3	<u>Certificate of Designation (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on August 17, 2020 (File No. 000-56004)).</u>
3.4	<u>Certificate of Change (incorporated herein by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on November 13, 2020 (File No. 000-56004)).</u>
4.1	<u>Form of Common Stock Certificate (incorporated herein by reference to Exhibit No. 4.1 to the Company's Registration Statement on Form S-3 filed on January 29, 2021 (File No. 333-252571)).</u>
4.2	<u>Form of Warrant (incorporated by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K filed on October 1, 2019 (File No. 000-56004)).</u>
4.3	<u>Form of Warrant (included as Exhibit E to Exhibit 2.1 and incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed on May 17, 2021 (File No. 001-39761)).</u>
4.4	<u>Form of 3% Series A Senior Convertible Note Due 2023 (see Exhibit A-1 to the Securities Purchase Agreement filed as Exhibit 10.1 to the Current Report on Form 8-K (File No. 001-39761)).</u>
4.5	<u>Form of 3% Series B-1 Senior Convertible Note (see Exhibit A-2 to the Amendment No. 1 to Securities Purchase Agreement filed as Exhibit 10.1 to this Current Report on Form 8-K (File No. 001-39761)).</u>
4.6	<u>Form of 3% Series B-2 Senior Convertible Note (see Exhibit A-2 to the Amendment No. 1 to Securities Purchase Agreement filed as Exhibit 10.1 to this Current Report on Form 8-K (File No. 001-39761)).</u>
4.7	<u>Base Indenture, dated January 20, 2023, between Ondas Holdings Inc. and Wilmington Savings Fund Society, FSB (incorporated by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on January 23, 2023 (File No. 001-39761)).</u>
4.8	<u>Supplemental Indenture, dated January 20, 2023, between Ondas Holdings Inc. and Wilmington Savings Fund Society, FSB (incorporated by reference to Exhibit 4.4 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on January 23, 2023 (File No. 001-39761)).</u>
4.9	<u>Description of Registrant's Securities (incorporated by reference to Exhibit 4.5 to the Company's Annual Report on Form 10-K for the year ended December 31, 2021 (File No. 000-56004)).</u>

10.1	Form of Warrant Agreement (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on May 7, 2020 (File No. 000-56004)).
10.2#	Amended and Restated Employment Agreement, dated June 3, 2020, between Ondas Holdings Inc. and Eric Brock. (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed on June 3, 2020 (File No. 000-56004)).
10.3#	2018 Equity Incentive Plan (incorporated herein by reference to Exhibit 10.7 to the Company's Current Report on Form 8-K filed on October 4, 2018 (File No. 333-205271)).
10.4#	Form of Stock Option Agreement (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed on May 7, 2020 (File No. 000-56004)).
10.5#	Form of Restricted Stock Unit Agreement. (incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K filed on June 3, 2020 (File No. 000-56004)).
10.6	Form of Nonstatutory Stock Option Agreement.# (incorporated by reference to Exhibit 10.6 to the Company's Current Report on Form 8-K filed on June 3, 2020 (File No. 000-56004)).
10.7	Form of Securities Purchase Agreement (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed on August 17, 2020 (File No. 000-56004)).
10.8	Form of Securities Purchase Agreement (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on September 1, 2020 (File No. 000-56004)).
10.9	Ondas Holdings Inc. 2021 Director Compensation Policy (incorporated herein by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the SEC on January 29, 2021)).
10.10#	Ondas Holdings Inc. 2021 Stock Incentive Plan (incorporated herein by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on November 5, 2021 (File No. 001-39761)).
10.11#	Ondas Holdings, Inc. 2021 Incentive Stock Israeli Appendix (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on January 13, 2023 (File No. 001-39761)).
10.12#	Airobotics Ltd. 2015 Israeli Share Option Plan (incorporated by reference to Exhibit 10.1 to the Company's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on January 25, 2023 (File No. 001-269418)).
10.13#	2020 Incentive Equity Plan (incorporated by reference to Exhibit 10.2 to the Company's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on January 25, 2023 (File No. 001-269418)).
10.14#	Employment Agreement, dated December 10, 2021, between Ondas Holdings Inc. and Derek Reisfield. (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 13, 2021 (File No. 001-39761)).
10.15#	Employment Agreement, dated August 5, 2021, between Ondas Holdings Inc. and Reese Mozer (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on February 15, 2023 (File No. 001-39761)).
10.16	Equity Distribution Agreement, dated March 22, 2022.(incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 22, 2022 (File No. 001-39761)).

10.17	Amendment No. 1 to Equity Distribution Agreement, dated October 26, 2022 (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 26, 2022 (File No. 001-39761)).
10.18	Form of Securities Purchase Agreement, dated October 26, 2022, between Ondas Holdings Inc. and the Investors (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 26, 2022 (File No. 001-39761)).
10.19	Form of Amendment No. 1 to Securities Purchase Agreement, dated January 20, 2023, between Ondas Holdings Inc. and the Investors (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on January 23, 2023 (File No. 001-39761)).
10.20	Placement Agent Agreement, dated October 26, 2022, between Ondas Holdings Inc. and Oppenheimer & Co., Inc. (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 26, 2022 (File No. 001-39761)).
21	<u>Subsidiaries of the Registrant*</u>
23.1	<u>Consent of Rosenberg Rich Baker Berman, P.A.*</u>
31.1	<u>Certification of Chief Executive Officer of Periodic Report pursuant to Rule 13a-14a and Rule 15d-14(a) dated March 14, 2023*</u>
31.2	<u>Certification of Chief Financial Officer of Periodic Report pursuant to Rule 13a-14a and Rule 15d-14(a) dated March 14, 2023*</u>
32.1	<u>Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350 dated March 14, 2023**</u>
32.2	<u>Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350 dated March 14, 2023**</u>
101.INS	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 Label 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).*

* Filed herewith.

** This certification is being furnished and shall not be deemed “filed” with the SEC for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, and shall not be deemed to be incorporated by reference into any filing under the Securities Act or the Exchange Act, except to the extent that the Registrant specifically incorporates it by reference.

Management contract or compensatory plan or arrangement.

Item 16. Form 10-K Summary.

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Company has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

DATE: March 14, 2023

ONDAS HOLDINGS INC.

By: /s/ Eric A. Brock
Eric A. Brock
Chief Executive Officer
(Principal Executive Officer)

By: /s/ Derek Reisfield
Derek Reisfield
Chief Financial Officer
(Principal Financial Officer)
Principal Accounting Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ Eric A. Brock</u> Eric A. Brock	Chairman and Chief Executive Officer	March 14, 2023
<u>/s/ Derek Reisfield</u> Derek Reisfield	Director, Chief Financial Officer, Treasurer and Secretary	March 14, 2023
<u>/s/ Thomas V. Bushey</u> Thomas V. Bushey	Director	March 14, 2023
<u>/s/ Richard M. Cohen</u> Richard M. Cohen	Director	March 14, 2023
<u>/s/ Randall P. Seidl</u> Randall P. Seidl	Director	March 14, 2023
<u>/s/ Richard H. Silverman</u> Richard H. Silverman	Director	March 14, 2023
<u>/s/ Jaspreet Sood</u> Jaspreet Sood	Director	March 14, 2023

SUBSIDIARIES OF THE REGISTRANT

As of March 14, 2023

Ondas Networks Inc., a Delaware corporation, a wholly-owned subsidiary.

American Robotics, Inc., a Delaware corporation, a wholly-owned subsidiary.

Airobotics Ltd., a company organized under the laws of the State of Israel, a wholly-owned subsidiary.

Airobotics Pte Ltd., a company organized under the laws of Singapore, an indirect wholly-owned subsidiary.

Airobotics, Inc., a Delaware corporation, an indirect wholly-owned subsidiary.

Airobotics Gulf DMCC, a company organized under the laws of Dubai, an indirect wholly-owned subsidiary.

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in Registration Statements (No. 333-268014, 333-266011, 333-260450, 333-252571 and 333-235373) on Form S-3, the Registration Statement (No. 333-267565) on Form S-4, and the Registration Statements (No. 333-237485, 333-260845 and 333-269418) on Form S-8 of Ondas Holdings, Inc. of our report dated March 14, 2023, relating to the consolidated financial statements of Ondas Holdings Inc., appearing in this Annual Report on Form 10-K of Ondas Holdings Inc. for the year ended December 31, 2022.

/s/ Rosenberg Rich Baker Berman, P.A.

Somerset, New Jersey

March 14, 2023

**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO
SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002**

I, Eric A. Brock, certify that:

1. I have reviewed this Annual Report on Form 10-K of Ondas Holdings Inc.;
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 registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant 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 registrant, 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 registrant'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 registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant'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 registrant'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 registrant's internal control over financial reporting.

Date: March 14, 2023

/s/ Eric Brock

Eric Brock
Chairman and Chief Executive Officer
(Principal Executive Officer)

**CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO
SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002**

I, Derek Reisfield, certify that:

1. I have reviewed this Annual Report on Form 10-K of Ondas Holdings Inc.;
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 registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant 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 registrant, 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 registrant'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 registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant'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 registrant'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 registrant's internal control over financial reporting.

Date: March 14, 2023

/s/ Derek Reisfield
Derek Reisfield
 Chief Financial Officer
 (Principal Financial and Accounting 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 of Ondas Holdings Inc. (the "Company") on Form 10-K for the year ended December 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Eric A. Brock, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

- (1) The Report fully complies with the requirement of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: March 14, 2023

/s/ Eric A. Brock

Eric A. Brock
Chairman and Chief Executive Officer
(Principal Executive Officer)

A signed original of this certification has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request. This certification shall not be deemed filed by the Company for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to liability under that section, and will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent that the Company specifically incorporates it by reference.

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 of Ondas Holdings Inc. (the "Company") on Form 10-K for the year ended December 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Derek Reisfield, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

- (1) The Report fully complies with the requirement of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: March 14, 2023

/s/ Derek Reisfield
Derek Reisfield
Chief Financial Officer
(Principal Financial and Accounting Officer)

A signed original of this certification has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request. This certification shall not be deemed filed by the Company for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to liability under that section, and will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent that the Company specifically incorporates it by reference.