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

FORM 10-K

(Mark One)

**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: 001-37960

POLAR POWER, INC.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	33-0479020 (I.R.S. Employer Identification Number)
249 E. Gardena Blvd., Gardena, California (Address of principal executive offices)	90248 (Zip Code)

Registrant's telephone number, including area code: **(310) 830-9153**

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

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

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 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

Non-Accelerated Filer

Accelerated Filer

Smaller Reporting Company

Emerging Growth Company

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 Act). Yes No

The aggregate market value of the registrant’s voting common equity held by non-affiliates as of the last business day of the registrant’s most recently completed second quarter was \$19,125,724.

The number of shares outstanding of the Registrant’s common stock, \$0.0001 par value, as of March 31, 2023 was 12,949,550.

DOCUMENTS INCORPORATED BY REFERENCE

None

TABLE OF CONTENTS

	<u>Page</u>
<u>PART I</u>	
Item 1. Business	1
Item 1A. Risk Factors	18
Item 1B. Unresolved Staff Comments.	36
Item 2. Properties.	36
Item 3. Legal Proceedings.	36
Item 4. Mine Safety Disclosures.	36
<u>PART II</u>	
Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.	36
Item 6. [RESERVED].	36
Item 7. Management Discussion and Analysis of Financial Condition and Results of Operations.	37
Item 7A. Quantitative and Qualitative Disclosures About Market Risk.	45
Item 8. Financial Statements and Supplementary Data.	45
Item 9. Changes and Disagreements with Accountants on Accounting and Finance Disclosure.	45
Item 9A. Controls and Procedures.	45
Item 9B. Other Information.	46
Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.	46
<u>PART III</u>	
Item 10. Directors, Executive Officers and Corporate Governance.	46
Item 11. Executive Compensation.	51
Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.	63
Item 13. Certain Relationships and Related Transactions, and Director Independence.	65
Item 14. Principal Accountant Fees and Expenses.	67
<u>PART IV</u>	
Item 15. Exhibits, Financial Statement Schedules.	68
Item 16. Form 10-K Summary.	68
Index to Consolidated Financial Statements	F-1

FORWARD LOOKING AND CAUTIONARY STATEMENTS

All statements included or incorporated by reference in this Annual Report on Form 10-K, other than statements or characterizations of historical fact, are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Examples of forward-looking statements include, but are not limited to, statements concerning projected net sales, costs and expenses and gross margins; our accounting estimates, assumptions and judgments; the demand for our products; the effect and consequences of the novel coronavirus, or COVID-19, pandemic on matters including U.S., local and foreign economies, wars and international conflicts including the current military actions involving the Russian Federation and Ukraine, our business operations, the ability of financing and the health and productivity of our employees; the competitive nature of and anticipated growth in our industry; production capacity and goals; our ability to consummate acquisitions and integrate their operations successfully; and our prospective needs for additional capital. These forward-looking statements are based on our current expectations, estimates, approximations and projections about our industry and business, management's beliefs, and certain assumptions made by us, all of which are subject to change. Forward-looking statements can often be identified by words such as "anticipates," "expects," "intends," "plans," "predicts," "believes," "seeks," "estimates," "may," "will," "should," "would," "could," "potential," "continue," "ongoing," similar expressions and variations or negatives of these words. These statements are not guarantees of future performance and are subject to risks, uncertainties and assumptions that are difficult to predict. Therefore, our actual results could differ materially and adversely from those expressed in any forward-looking statements as a result of various factors, some of which are listed under "Risk Factors" in Item 1A of this Annual Report on Form 10-K. These forward-looking statements speak only as of the date of this Annual Report on Form 10-K. We undertake no obligation to revise or update publicly any forward-looking statement for any reason, except as otherwise required by law.

References in this Annual Report on Form 10-K to "Polar," the "Company," "we," "us," and "our" refer to Polar Power, Inc., a Delaware corporation, and its consolidated subsidiaries.

FINANCIAL PRESENTATION

All dollar amounts in this Annual Report on Form 10-K are presented in thousands, except share and per share data and where otherwise noted.

PART I

Item 1. Business

Overview

We design, manufacture, and sell DC power generators, renewable energy and cooling systems for applications primarily in the telecommunications market and, to a lesser extent, in other markets, including military, electric vehicle, marine and industrial. We are continuously diversifying our customer base and are selling our products into non-telecommunication markets and applications at an increasing rate. The changes in customer diversity are reported in the financial section.

Within the various markets we service, our DC power systems provide reliable and low-cost DC power to service applications that do not have access to the utility grid (i.e., prime power and mobile applications) or have critical power needs and cannot be without power in the event of utility grid failure (i.e., back-up power applications).

It's more efficient to build power systems around the DC generator because it's simpler to integrate with battery storage and solar photovoltaics which also operate on DC. Many applications in communications, water pumping, lighting, vehicle and vessel propulsion, security systems operate on DC power only. Many micro-grids and energy storage are DC based and use inverters to convert the DC to AC.

Serving these various markets, we offer the following configurations of our DC power systems, with output power ranging from 5 kW to 50 kW:

- **Base power systems.** These stationary systems integrate a DC generator and automated controls with remote monitoring, which are typically contained within an environmentally regulated enclosure.
- **Hybrid power systems.** These systems incorporate lithium-ion batteries (or other advanced battery chemistries) with our proprietary battery management system into our standard DC power systems.
- **DC solar hybrid power systems.** These stationary systems incorporate photovoltaic and other sources of renewable energy into our DC hybrid power systems.
- **Mobile power systems.** These are very light weight and compact power systems used for EV charging, robotics, communications, security.

Our DC power systems are available in diesel, natural gas, LPG / propane and renewable fuel formats, with diesel, natural gas and propane gas being the predominant formats.

We were incorporated in 1979 in the State of Washington as Polar Products, Inc., and in 1991 we reincorporated in the State of California under the name Polar Power, Inc. In December 2016, Polar Power, Inc. reincorporated in the State of Delaware. Our internet website address is <https://polarpower.com/>.

Recent Business Events

The COVID-19 pandemic has negatively impacted business and industries all over the world since March 2020. The pandemic has had a significant negative impact on our overall operations including revenues, productivity, gross margins and liquidity. The pandemic has resulted in labor shortages, disruptions in the chain of supply, and higher material costs. During 2022, supply chain constraints that affected timely delivery of raw materials required to complete our DC power systems and labor shortages resulted in approximately \$3,500 of expected shipments to be postponed to the first half of 2023. We believe that Covid-19 will be an ongoing challenge for years to come and to adapt will require us to further globalize our vendors, engineering, and customers.

In April and May of 2022, we received purchase orders totaling \$6.2 million from a telecommunications customer in the South Pacific Islands for our DC power generators for off-grid applications. This order is part of a growing program to develop broadband services in the South Pacific region. During 2022, 59% of the order was shipped and included in net sales in the statements of operation in this Annual Report on Form 10-K. The remaining 41% is expected to ship in the first half of 2023.

In September 2022, we renewed our master service agreement with our largest customer. The agreement included price adjustments to our products which we believe will help offset the effects of inflation and improve our gross margins. During 2022, 66% of our total net sales were derived from our largest customer, compared to 67% in 2021.

In November 2022, we received purchase orders from another customer in the South Pacific region totaling \$1.1 million for our solar hybrid power systems. Our solar hybrid power systems, which integrate solar energy storage with natural gas/LPG (propane) powered generators, are ideal for off-grid (i.e., areas where wireless towers are not connected to an electrical grid) and bad-grid (i.e., areas where wireless towers are connected to an electrical grid that loses power for more than eight hours) applications.

We also continue to work on diversifying our customer base and are selling into non-telecommunication markets and applications at an increasing rate. In March 2022, we received EPA certification on our 4Y Toyota engine project aimed at expanding the power range to 35 kW on natural gas and LPG. Polar's EPA certification of 1KS and 4Y Toyota engines brings to the market (non-diesel) engines with very low maintenance and high fuel efficiency. In addition to meeting the telecommunications need for larger and more compact generators our larger models have high interest from micro-grids, peak power shaving, and EV charging.

We believe military actions of the Russian Federation and its invasion of Ukraine have added considerable to our shipping costs due to diesel fuel costs. However, we believe the resulting geopolitical uncertainty should increase our military contracts.

The implementation of 5G networks by Tier-1 telecommunication customers in the U.S. has also resulted in a significant increase in orders of our DC power systems. Approximately 72% of our net sales during 2022 were of our DC power systems to support 5G networks and 47% of our backlog as of December 31, 2022 are purchase orders of our DC power systems to support 5G networks.

Our growing backlog and shipments have demonstrated that our customers are viable and moving forward with orders. The headwind to a more rapid sales growth is a labor and supply chain issue. We anticipate that our component suppliers will normalize their backlogs sometime during the 4th quarter in 2023. In the meantime, our strategy will be to maintain large inventories of engines and electronic components to offset disruptions.

Our sales backlog as of December 31, 2022, was \$12,001, with 47% of that amount being attributable to our largest U.S. telecommunications customer, 16% represented purchases from other telecommunications customers in the U.S., 32% represented purchases from telecommunications customers outside the U.S., 1% represented purchase from customers in the marine industry, 1% represented purchases from customers in the military markets, and 3% represented purchases from customer in other markets.

For the three-year period prior to the pandemic, we experienced high double-digit sales growth which resulted in us making strategic investments to increase our production capacity to \$50 million annual revenue through an increase in plant space and the addition of automation equipment. The unanticipated drop in sales during in the first three years after the pandemic caused a disproportionate distribution of fixed and semi-fixed overhead costs across much lower revenues. During 2022, labor shortages and supply chain constrains caused a decrease in product shipments resulting in an increase in our cost of sales as a percentage of total net sales. This was primarily because of decreased labor efficiencies and decreased absorption of manufacturing overhead resulting from lower volume in net sales. We believe our investments in state-of-the-art equipment, additions to manufacturing plant space, and employee training will yield improvements in our gross margins as sales volumes increase and as the economy normalizes from the impact of the pandemic and other known and unknown factors affecting the global economy.

Markets

We primarily operate within the telecommunications market and, to a lesser extent, in other markets, including military, electric vehicle charging, marine and industrial. We are continuously diversifying our customer base and are selling our products into non-telecommunication markets and applications at an increasing rate.

Telecommunications

We provide power generation equipment for the telecommunications markets. Our equipment provides backup power to grid connected mobile tower sites during power outages resulting from severe weather like hurricanes, wildfires, and floods. Most telecommunications towers are equipped with battery backup for short term power outages. Our DC power generators are installed to address longer-term disruptions in power. We also deliver products that provide prime power for off-grid telecommunications tower sites installed in remote and rural areas where reliability of the power grid is suspect. Since 2012, the telecommunications market is our largest market segment and has contributed over 87% of our annual revenues.

Since 2012, we developed products and configurations that target telecommunications applications with key features like high fuel efficiency, light weight and compact design when compared to our competitors' products. These features allow our telecommunications customers to install equipment requiring a smaller footprint on building roof tops and compact commercial sites while also requiring less fuel storage due to the fuel efficiency of our products. In the past eight years, we have gained approval and certifications from four top Tier-1 telecommunications operators in the U.S. market. With over 90% of the world's telecommunication towers located in non-U.S. territories, we decided to establish international sales offices in Poland, Romania, Australia, U.A.E., Dominican Republic and South Africa to provide long term growth. In 2017, we began investments into international markets and have recorded a steady increase in sales every year since.

In the U.S. market, over 95% of the telecommunications towers are connected to a power grid, thereby only requiring backup power generation in equipment in case of an emergency loss of power, while in the emerging markets of Africa and Asia, a significant percentage of telecommunications towers are not connected to the grid thereby requiring fuel-efficient prime power equipment to provide power by charging the batteries. Most prime power sites also require integration with solar and storage batteries to utilize renewable energy during the day while generators and batteries provide power during nights and/or on cloudy days. In the U.S., telecommunications companies have focused their efforts on adding generators to provide backup power at existing sites, while in the international market telecommunications companies are in expansion phase of adding new sites to the infrastructure to provide coverage in rural and remote areas.

During 2019, the telecommunications infrastructure in the U.S. and other developed nations was known to have sufficient capacity to satisfy the needs of average smart phone users. However, the advent of 5G technology has resulted in a digital revolution within both the commercial and consumer sectors leading to an exponential increase in data usage. We believe that the need for backup power equipment in the telecommunications services industry which consists of digital infrastructure (e.g., fiber, telecommunications towers, active networks and data centers), operators (e.g., mobile and fixed broadband, data centers and cloud computing) and applications (e.g., broadband connections, telephones, video streaming and e-commerce), holds promising growth opportunities as 5G use expands in the near and long term.

The next generation of wireless network capabilities offer potential revolutionary applications far beyond smart phones and mobile devices. The 5G mobile network is intended to converge connectivity, intelligent edge and Internet of Things (IoT) technologies which is expected to result in an increase in telecommunications tower sites in both the U.S. and abroad. In the near term, 5G will deliver broadband-like services such as high-definition streaming video to a cell phone. Businesses will benefit from using 5G for data monitoring and cloud-native 5G networks to compute and store data locally. All of these applications dramatically scale up data usage which requires an increase in infrastructure and an increase in power and backup generators.

The pervasiveness of 5G, including reliance by users on, among other things, local weather, traffic conditions, self-driving vehicles, wearable health monitoring devices that automatically informs doctors, stores automatically ordering items sold on virtual carts, farmers automated irrigation system with tracking sensors, will require robust backup equipment at telecommunications sites. We believe higher data usage will require higher reliability backup systems that are fuel efficient and are located in proximity to the point of use. In urban environments, roof-top space, weight of the equipment and the amount of fuel storage are critical factors in the selection of backup equipment. As one of the leading providers of DC power generation equipment, we have demonstrated these benefits to telecommunications providers for decades and we are therefore encouraged with the prospect of infrastructure expansion in this space that requires fuel efficient and lower emission power generation equipment.

Military

Since 1979, we have been developing and marketing products to the U.S. military and large defense contractors in the U.S. and international markets. The need for low voltage DC power generation systems are vital for military operations and commonly used to charge storage batteries, provide backup emergency power, or provide startup power for aircrafts or weapon systems. During the past decade, digitization of the military accelerated exponentially to support modern information, communication, and weapon systems. The need to process information rapidly has led to digitization of command, control, communications, computers and intelligence across both combat support and service support. This expansion in data transfer and storage has led to an increase in energy needs, which requires efficient power generation equipment that can charge batteries or directly power these systems.

A digitized battlefield includes sensors, information processing, data distribution, electronic countermeasures, all requiring with few exceptions, 28 volts DC or 48 volts energy at point of use. Our DC generators designed for military applications provide:

- enhanced mobility, reliability and maintainability;
- improved fuel efficiency;
- reduced system size and weight;
- reduced infrared and acoustic signatures;
- increased survivability in rugged combat operations; and
- reduced total cost of ownership.

In 2016, the military began the Advanced Medium Mobile Power Sources, or AMMPS, a U.S. Department of Defense program to develop and deliver 5 kW-50 kW output ranging generators in either a skid, trailer mounted, or microgrid configurations to replace legacy standalone AC generators. The new generation of mobile power generators combined with solar and wind power can function as sustainable sources of DC and AC power in remote areas. The new generation of AMMPS power systems are required to provide 21% higher fuel efficiency, lower noise, weight, 90% reliability and be capable of performing in extreme environments. During 2020, we directly and jointly partnered with defense contractors, provided DC hybrid power systems, with integrated controls providing higher fuel efficiency than legacy AC generators currently in use.

Improvements in sensors, navigation and communication technologies have led to increased integration of situational awareness systems that allow all combat assets to communicate and coordinate both defensive and offensive efforts during combat. In earlier combat vehicle designs, these surveillance systems were powered by the main auxiliary vehicle battery, which required the vehicle's main engine to continue operating to power auxiliary battery systems. A decade ago, we began delivering compact 3 kW – 15 kW DC auxiliary batteries to power these communication and reconnaissance systems thereby improving fuel efficiency of the combat and vehicles when deployed. During the decade we have delivered several configurations of these auxiliary power units to the military, which vary in function from battery charging to supplying power to weapon systems.

We are currently in the process of development of next-generation higher output power DC power system. After conclusion of the testing of this higher power DC power system, we plan to introduce a configuration of this product to the residential and commercial microgrid market in emerging markets. We believe 50 kW standalone DC power system, powered by natural gas or LPG would be ideal for rural communities in emerging markets such as Africa and Asia. The capacity of 50 kW is sufficiently large enough to power a small rural hospital, dairy farm and a cluster of houses in a small village. The ease of connecting our DC power system with solar, battery packs or any other source of energy like wind can introduce a sustainable cost-effective solution in emerging markets.

The 50 kW generator can also provide roadside emergency charging services for electric vehicles.

Electric Vehicle Charging

According to Precedence Research, a market research company, the global electric vehicle market size accounted for USD 205.58 billion in 2022 and is expected to reach USD 1,716.83 billion by 2032, growing at a compound annual growth rate (CAGR) of 23.1% during the forecast period 2023 to 2032. The primary growth factors driven by significant number of government incentives such as tax rebates, subsidies, and grants. This increase will require more than 29 million additional charging stations globally to support the cumulative growth of electric vehicles. The global electric vehicle charging station market is poised to grow at a CAGR of 31.5% from 2022 to 2030.

A 2018 article by McKinsey & Company entitled “*The potential impact of electric vehicles on global energy systems*” stated that although a modest increase in electric vehicle sales of 5% will not lead to a shortage in electricity since most new capacity can be delivered by renewables like solar, wind, and gas-powered generation. This modest increase in sales may have a significant impact on peak loads, especially in concentration points of electric vehicle charging and during the evening peak times when most electric vehicle users connect their vehicles for charging. The report claims unmanaged peak load increases due to electric vehicle charging will require increases in costly sub-station upgrades. We believe that the more cost-effective option will be investing into battery storage at the utility level to manage the peak loads or flexible electricity costs for electric vehicle charging to discourage peak load charging.

Regardless of how the peak charging issue is resolved, most homes have not been designed to allow for fast charging of electric vehicles. In order to address this issue, in 2020 we completed the design of our natural gas-powered electric vehicle charger and backup generator. Our electric vehicle chargers, being independent of the grid, are designed to automatically fast charge connected electric vehicles at home on a daily basis while providing backup power during power outages. In addition, the heat generated while charging is captured and delivered to heat the home, heat water for laundry, or heat the pool.

Our electric vehicle charger was initially designed in 2009 as a diesel-fueled mobile charger for EV manufacturers to aid in testing their vehicles in the field. We have supplied these mobile chargers to five of the leading automakers in the USA. We are presently improving this product by replacing the diesel engine with a heavy duty 60,000-hour plus lifetime Toyota natural gas or propane engine. This product targets residential customers that own or are expected to own electric vehicles.

With the anticipated stress on utility grids due to an increase in the number of electric vehicles that require charging, combined with the fact that most homes are unable to provide fast charging, we believe that an independent natural gas-powered electric vehicle charger would be ideal and cost effective. Currently, many electric vehicle owners exceed the base power usage at home resulting in peak hour usage penalties which diminishes anticipated cost savings of using electric vehicles. Our residential natural gas-powered EV charger eliminates these costs while also providing backup power in case of emergencies.

The benefits of fast charging with a natural gas generator, as opposed to using the electric grid, includes avoids peak rate charges, a reduced carbon footprint and the opportunity to provide heating and air conditioning, through combined heat and power or CHP systems that utilize waste heat from the generator/charger which we believe is a compelling market opportunity for our new product.

Residential and Commercial Power – Mini-Grid

Increased use of electricity worldwide is directly related to humanity's improvement in the quality of life. Increased global urbanization has resulted in many governments investing in power plants and providing infrastructure to satisfy the growing demand for electricity. Similar needs of the rural populations have been largely ignored worldwide due to the isolation, low density and population spread over vast areas resulting in an increased cost of infrastructure. Even in rural areas where the infrastructure was built to deliver electricity, frequent blackout and infrastructure failures are commonplace and often not repaired for long periods.

According to recent World Bank data, approximately 733 million, 9%, of the world's population still lack electricity compared to 25% in 1994. While 42% of the world's population still lives in rural areas, about 12% of those living in rural areas lack electricity. Approximately 69% of the population living without electricity are in sub-Saharan Africa while approximately 29% are located in South Asia and 2% in other areas.

During the past decade, developments in renewable energy and battery storage have provided an alternate method to resolve this energy inequity between rural and urban populations worldwide. However, due to weather and costs of such systems and technologies are still at an early stage of mass adoption. We envision a hybrid system with natural gas or LPG integrated with a solar and battery system to generate power during peaks and valleys of demand that we believe would be more cost effective and reliable than the current systems in place. These "Mini-Grid" hybrid systems would generate between 5kW – 25kW of power on 24/7 basis and provide electricity for a small housing unit, commercial facility or a school building.

Our Mini-Grid system uses natural gas or LPG as primary fuel source, the same fuel as cooking fuel in rural and remote regions worldwide. For decades, many governments have been allocating resources to eliminate solid fuels like wood, solid waste as cooking fuels from rural and remote communities. Significant progress has been made by providing economic subsidies for use of natural gas or LPG as cooking fuel to reduce pollution. In 2017, we established sales offices near the emerging growth countries of Australia and U.A.E. setup to develop strategic alliances with distributors to promote our residential solutions to communities living in bad-grid and off-grid areas.

Our Competitive Strengths

We have over a 40-year history and have developed a reputation as a proven supplier of reliable and advanced proprietary technology products to customers within the telecommunications, military, commercial, industrial and marine markets. We have invested significant capital and engineering expertise to develop power generation systems that are environmentally friendly and fuel-efficient. We further believe our success will be based on the following key competitive strengths:

- ***Proprietary Technologies.*** Our decades of research and development has led to the development of DC power systems with output ranging from 5 kW – 50 kW. Our DC power systems integrates our proprietary DC alternator with electronic controls to monitor and control the power being outputted to the equipment, which is then coupled to an engine assembly and cooling systems. Our DC power system output voltage can be configured between 12 V – 800 VDC to match the precise application needs (e.g., telecom equipment, robotic propulsion drives, electric drives for marine vessels, electric vehicle chargers, etc.). Over the past decades we have developed proprietary charge algorithms for most commercially available batteries and match charge algorithms to battery model or chemistry prior to initiating a charge cycle. Unlike AC power systems, our DC power systems are directly connected to the battery source and therefore optimized for efficiently and safely charging a particular battery chemistry. AC power systems are indirectly connected to commercially available battery chargers that convert the AC output to DC voltage making it less efficient, higher in cost, and require considerably more space.

- **Engineering Expertise.** Over the past four decades we have strategically constructed a product portfolio that focuses on improving energy efficiency by developing DC power output-based equipment where all major components and technologies are developed in-house, and proprietary manufacturing processes created in-house to ensure product reliability and long life. Our leading competitors approached the need for DC equipment in the telecom, military, and industrial markets by modifying legacy AC generators with conversion equipment resulting in significantly lower efficiency when compared to DC power systems. Being one of the first companies to develop DC generators for telecommunications, we developed proprietary components ranging from alternators, control systems and charging algorithms for various battery chemistries. We have focused on providing the lowest cost of ownership with demonstrated long life of our equipment during the past thirty years. Lowest cost of ownership is complemented with the best fuel economy, best in class weather resistance provided by aluminum enclosures and customized algorithms matching battery chemistries and operational profiles.
- **Manufacturing Competitiveness.** We believe that our vertical integration approach to manufacturing lowers our production costs and improves our overall operational efficiency. In addition, vertically integrated manufacturing of our proprietary technologies such as DC alternators, charge controls and battery management systems, provides us with a greater control and protection over our intellectual property. We believe our modular approach to manufacturing provides us with the lowest manufacturing costs for our proprietary technologies while giving us the ability to deliver customized solutions to our Tier-1 wireless telecommunications customers.
- **Strong Customer Base.** Our customer base consists of large telecommunications companies, military sub-contractors and industrial companies. Tier-1 telecommunications customers have represented 62% to 91% of our aggregated sales for the past five years. Initial demand of our products by telecommunications customers was primarily based on the need to provide backup power during electricity outages and for off grid remote locations. While our competitors provided and continue to provide legacy AC generators with DC conversion devices, we elected to invest significant time and capital in the research and development of products with a lowest cost of ownership. Certification of our products by Tier-1 telecommunications customers was time intensive and takes upwards of three years of field trials to receive final product acceptance. This thorough approach to vendor selection reduces the number of vendors selected by our telecommunications customers and has dramatically reduced the number of competitors in the U.S. markets. Currently, a significant percentage of our U.S. sales are to national Tier-1 telecommunications providers with multiple facilities. Since 2021, we increased our efforts to diversify our sales efforts to include Tier-2 telecommunications customers, off-grid remote area products and residential charging. In the international markets, our customers are regional Tier-1 telecommunications providers. We have established sales offices in emerging markets like U.A.E., Australia, Poland and the Dominican Republic. Our sales team directly markets to Tier-1 telecommunications companies in their regions.
- **Experienced Management Team.** Our Chief Executive Officer and key engineers combined have over 100 years of engineering and production experience in the design and manufacturing of power systems. Our engineers have equipment design experience, as well as hands-on skills to build prototypes. A key factor demonstrating our management's abilities and our engineering aptitude can be found in our successful track record over the last 25 years of executing research, design and engineering contracts, with an average of four projects per year.

Business Strategy

For the past three decades we have been promoting the use of DC power systems where DC power is the primary power in use. The telecommunications tower application is the largest user of DC power, in both grid and off-grid connected sites. Furthermore, we believe that the growth in wireless telecommunications infrastructure in the U.S. and international markets has led to a rapid rise in the need for DC backup power systems.

With over 40 years of experience and reputation within the DC power systems market, we are working to increase awareness, availability and affordability of more efficient DC-based products as a backup power and charging sources within the telecommunications industry. Because of the increased power outages during emergencies and natural disasters, existing and new wireless installations need to be upgraded to provide reliable operations during times of emergency. The primary elements of our business strategy include:

- ***Further develop U.S. mobile telecommunications market.*** We continue to invest capital into our sales and marketing efforts to demonstrate our DC power systems to the top Tier-1 wireless telecommunications providers and more than 500 small wireless and cable operators in the U.S. Our goal is to further diversify our customer base. We believe the rapid transition towards 5G will result in an increase in demand for back-up power generators and that our new LPG / natural gas DC power systems will allow us to better compete on an economic basis with our competitors that provide AC power systems.
- ***Expand global sales to bad-grid or off-grid markets.*** The increase in telecommunications subscriber base in rural and remote areas in emerging countries has increased the deployment of telecommunications sites in off-grid and bad-grid areas. During 2022, approximately 72% of our DC power systems sales were to U.S. telecommunications customers, which we believe represents only 4.7% of the total global telecommunications market. We believe that the lack of a stable electric infrastructure in rural regions of many developing nations provides significant opportunity for our products in both off-grid and bad-grid location. During 2022, we demonstrated our products to several prospects in need of off-grid and/or bad-grid solutions which resulted in several initial orders.
- ***Further develop our new LPG and natural gas DC power systems.*** With the increased growth in off-grid and bad-grid telecommunications sites, emissions generated by telecommunications towers is beginning to be a major contributor of pollution and greenhouse gases. Since 2019, we have developed lower emission LPG and natural gas DC power generators for use in rural off-grid and bad-grid sites. We initiated this development by partnering with world's largest natural gas engine manufacturer, Toyota Engines, located in Japan. Subsequently, we integrated engine control systems utilizing control technology from Bosch, located in Germany, and concluded by receiving certification from the EPA in December 2019 to sell our new product in all 50 states in the U.S. Upon certification, we began marketing this low emission natural gas solution to telecommunications customers worldwide and in the midst of the COVID-19 pandemic we secured several orders for natural gas configured backup and prime power applications. During 2020, we began shipments of our DC natural gas generators to several domestic and international Tier-1 telecommunications customers. In 2023, we plan to expand our sales and service network for our natural gas generators, targeting residential and telecommunications customers in the U.S. while also targeting Tier-1 telecommunications customers in emerging nations with solar hybrid natural gas generators for off-grid markets.
- ***Expand renewable solar energy product offerings.*** Developing regions like Africa, South East Asia and Latin America lack an electric utility infrastructure to support the installation of grid connected telecommunications towers in remote areas. Due to these challenges, telecommunications companies are installing hybrid power generation systems that consist of solar panels, batteries and fossil fuel powered generators. Installing fuel inefficient generators combined with solar and batteries without any integration is proving to be cost prohibitive. Several local government programs to subsidize the adoption of solar and battery storage along with generators in off-grid telecommunications towers have failed due to lack of quality components and integration. We believe our hybrid systems using natural gas fuel powered generators integrated with solar and battery storage offer an ideal solution for this market.

Our Technologies

Starting in 1979, Polar began manufacturing and exporting solar PV vaccine refrigerator/freezers as part of the WHO Cold Chain projects. We developed solar refrigeration and air conditioning systems that operated directly with DC batteries, along with solar photovoltaic charge controls. Our DC power and refrigeration technologies drew the attention of various military projects. We manufactured packaged remote home power systems for Arizona Public Service who in turn provided them to remote customers. The use of remote home power systems drew our attention to the need for DC generator sets.

In the early 1990's, we began introducing DC generators to provide backup and prime power for off-grid and bad-grid applications. Our initial products were predominantly designed for military applications and used as auxiliary power for vehicles, battlefield tanks and radar sites. In the late 1990s, we introduced our DC power systems for commercial applications like mobile telecommunications towers, solar refrigerators and oil field applications.

We introduced our 6200 PMHH alternator, which combines the attributes of homopolar alternator technology with a permanent magnet. When mounted on an engine and operated at either a fixed or variable speed, the model 6200 PMHH generates a precise amount of regulated voltage and current. The DC output can then be used to power electronics or charge batteries.

We developed our own proprietary DC alternator to improve system efficiency, reduce costs and lower weight. Our design replaced a conventional 4-pole, three-phase designs with a light weight, low cost 12-pole incorporating either 6 or 3 phases. Another unique aspect of the design of our DC alternators is the elimination of bearings, internal wiring connections, and an exciter (i.e., a device which supplies the magnetizing current to generate working flux) to provide a longer life cycle than conventional motor designs in the marketplace.

In 2006, we introduced our next generation 8000 Series alternators designed for higher power and voltage applications, which features our proprietary 32-pole permanent magnet alternator technology. The 8000 Series offers high efficiency at a lower cost while integrating our proprietary digital control system, Supra Controller™, that manages and optimizes alternator output. Our Supra Controller™ networks all components via CAN bus communications and software and has the ability to control, analyze, monitor, record and communicate all key system parameters to ensure efficiency, safety and reliability of the overall system. The ability to remotely monitor and calibrate each system parameter, receive system alarms and auto-reset the system when a fault is corrected are the key differentiating factors of our DC power systems.

In telecommunications tower backup applications, backup generators are used to provide power during grid outages or to charge batteries to provide longer run times during emergencies. Due to battery costs and availability issues, many telecommunications providers are known to use various types of chemistries or capacities as storage sources. During the past decade, we have successfully integrated various battery chemistry charge algorithms into our Supra Controller™ software.

In 2011, we added charge algorithms for various lithium battery chemistries and integrated our proprietary battery management system, or BMS, with our Supra Controller™ software. In 2013, we further expanded the integration of storage and renewable energy such as solar and wind into our Supra Controller™ software resulting in the shipment of twenty off-grid telecommunications tower power systems to Australia.

In 2017 and 2018, we demonstrated our DC hybrid power systems to telecommunications providers in South East Asia and Africa. We believe that the integration of renewable energy and storage batteries are ideal for off-grid remote locations in rural areas worldwide. During 2023, we plan to continue our research and development efforts to further enhance these integrations for remote telecommunications towers in South East Asia and Africa.

In 2018, we developed our next generation BMS that enhances our current technology to more accurately measure, monitor, control and integrate battery performance data with our Supra Controller™. In addition, we enhanced the user interface to allow us the ability to update or develop new charging algorithms in the field which can be remotely programmed or uploaded.

In 2018, we introduced our Toyota natural gas / propane engine across our product line. The Toyota product is a more advanced engine used in heat pump applications. We have negotiated a supply agreement with Toyota for the engine and with Bosch for the ignition control. In December 2019, we received our certificate of conformity from the EPA. These new generators provide power outputs between 5 kW to 15 kW and incorporate a 60,000- to 90,000-hour life engine with our proprietary control system. We are presently marketing these stationary generators within the telecommunications, commercial and residential markets.

In 2021, we began development of a higher power natural gas-powered DC backup power system utilizing larger engines and improved emission control systems. The implementation of 5G networks by Tier-1 telecommunication customers currently have significantly higher power requirements at cell sites than the previous 4G networks. In addition, use of 5G technology in IoT, video streaming, and data analytics applications requires cell sites to be operational 100% of the time which, in turn, increases the demand for reliable and fuel-efficient power generation backup systems. We believe increased power usage of 5G networks and higher fuel prices enhances market opportunities for our fuel-efficient DC power systems as compared to lower efficiency AC power systems. In March 2022, we received our EPA certification on our 4Y Toyota engine, which is a larger engine model for used on our 20 to 30 kW DC power systems. We believe being an approved supplier for the three largest Tier-1 telecommunication providers in the U.S. provides us with additional growth opportunities during the current rapid 5G expansion in the largest urban centers in the U.S.

Products and Services

DC Base Power Systems

Our DC base power systems are designed for use in prime power and backup power applications. All of our DC power systems are designed to last 20 years or more in backup applications and meet all UL2200 standards. To maximize operational life, we incorporate (over and above our competition) the following:

- all aluminum, powder coated, enclosure with stainless hardware, which is lightweight and corrosion resistant;
- 105 C rated signal wire, tinned copper strands;
- stainless steel braided covering hoses for fuel and coolant lines;
- Class 220 C magnet wire for alternator windings;
- watertight connectors in place of terminal strips and other non-sealed connectors; and
- our proprietary Supra Controller™ modules that are environmentally sealed.

We believe that the number one reliability issue with a generator set is the failure to start. To improve the reliability of our generators, we remove the engine's starting battery and replace it with a super capacitor. The super capacitor has a 15- to 20-year service life, greater cold cranking amps and withstands greater temperature extremes than conventional starting batteries.

To reduce maintenance and help ensure that there is always adequate oil, we increase the engine's oil capacity to provide for a 4,300-hour (natural gas / propane) or 1,500-hour (diesel) maintenance interval. Standard oil intervals for typical generators range from 200 to 500 hours.

DC Hybrid Power Systems

In most off-grid or bad-grid outdoor applications where DC loads are required, such as telecommunications towers in rural or remote areas, generator fuel cost can account for more than 60% of the total operating costs.

In most backup applications, such as telecommunications and uninterruptable power supply systems, lead acid batteries are used for providing transitional power prior to the backup generator start-up. In most of our prime power applications (including telecommunications) the goal is to reduce maintenance and fuel costs. Our Supra Controller™ automatically cycles the generator off when the loads are small and cycles it on again when the load increases or the battery charge is depleted. This cycling reduces engine maintenance and saves significant quantities of fuel.

Additional fuel savings are realized by using lithium-ion batteries in place of lead acid batteries. Lead acid batteries, when compared with lithium-ion batteries, have high internal resistance, are inherently inefficient during charging or discharging in cyclic load applications and therefore require longer to charge, resulting in higher fuel costs. In 2011, we completed the design and testing of a hybrid power system, where our DC power system was integrated with lithium-ion batteries to provide a longer life and higher fuel efficiency for cyclic DC power applications such as telecommunications towers. In 2019, we implemented our next generation BMS for our lithium battery storage system. This next generation BMS enhances battery charging accuracy, integrates with engine controls and provides additional protection for the lithium batteries.

Our DC hybrid power systems can monitor the charge/discharge cycle of various battery chemistries, including lithium-ion and lead acid batteries. Our Supra Controller™ system incorporates a CAN bus communications capability that provides communication and control between the battery and the DC hybrid power system. Each cell in the battery pack is individually monitored for voltage and temperature, ensuring the safety and longevity of the battery bank. These power systems include enclosures, a lithium-ion battery pack, our proprietary BMS and our proprietary Supra Controller™ system that controls engine output, battery charging algorithms, cooling system and power control circuits that optimize DC load outputs.

DC Solar Hybrid Power Systems

Our DC solar hybrid power system combines our DC hybrid power system with solar photovoltaic modules and a custom engineered multi power point tracking charge controller. In most off-grid or bad-grid outdoor applications, such as telecommunications towers in rural or suburban areas, the fuel costs of operating a generator can account for more than half of the total operating costs. We believe that incorporating renewable energy sources, such as solar, with our DC hybrid power systems is ideal solution for numerous off-grid and bad-grid applications worldwide. Our DC solar hybrid power systems incorporate the following features:

- *Hybrid power panel.* We produce distribution panel assemblies that make use of punched and plated buss bars to make the heavy current connections between appliances. The industry standard is using labor intensive hand crimped wires and lugs which are accomplished in the field.
- *Photovoltaic Arrays.* Our telecommunications customers request photovoltaic array structures to withstand winds of 150 mph and 200 mph exceeding the industry standard of 120 mph.
- *Shelter.* We provide an all-weather light-weight aluminum walk-in shelter that is easy to transport by truck or helicopter.
- *Lightning protection.* We provide the highest degree of lightning protection through the use of air-coil type inductors designed by us.
- *Air-Conditioning.* We provide DC air-conditioning if required in very hot weather environments. We also provide cooling systems using ambient air.

During 2019, we developed an environmentally friendly solar hybrid power system based on a combination of solar with LPG and propane power sources which we believe lowers both capital expenditures and operating expenditures. These new generators have been specifically designed to run in residential applications and will provide power outputs between 5 kW to 22 kW and which incorporate a 30,000- to 90,000-hour life engine with our proprietary control system. Our natural gas generators when integrated with battery storage and solar are ideal microgrids for off-grid and bad grid residential and commercial applications.

Service and Support

Global Network Management Tools

We offer global network management services through our telematics tool, which consists of our Supra Controller™ technology integrated with monitoring software. This hardware is integrated into each DC power system and collects critical data from the equipment and transmits this data back to the customer and our service department. This capability allows us and our customers to monitor system performance remotely and to remotely update the equipment with new revision software in the field.

Our telematics capabilities and services include:

- automated and continuous remote monitoring with auto alerts and notifications that can be transmitted via email or text messaging;
- maintenance management, which provides ability to schedule preventative maintenance based on actual equipment usage; and
- real-time, bi-directional communication capability for remote upgrades, testing and troubleshooting.

Our telematics tools also provide information to our customers on specific equipment utilization that provides the abilities to determine the functional status of the equipment and proactively schedule maintenance. We believe these tools assist in reducing equipment downtime, thereby reducing the overall cost of ownership. In addition, we plan to use these tools to monitor and provide accurate billing for our rental equipment deployed at customer facilities.

Aftermarket and Service Parts

We offer extensive aftermarket and service parts programs. We maintain an extensive inventory of aftermarket parts and sell parts directly to customers or through our qualified network of service providers. In addition, we require our regional service providers to maintain sufficient quantities of aftermarket parts in their inventory to ensure minimum downtime upon product failure.

We maintain accurate records of bill of materials for each serial number shipped and service our products well beyond their recommended lives. In the marketplace, our products are known for their long life and durability.

Product and Warranty Support

We utilize a nationwide network of dealers and service providers to perform installation and warranty services for our customers. Through our dealers we offer product commissioning as an added service to all our customers and require the purchase of such services as a condition for acceptance of any warranty claims in the future. We offer installation of the equipment, preliminary testing, integration of equipment with other assets located at the site and introductory maintenance and safety training. We offer various levels of fee-based services to support our products in the field. In addition, we have trained product and application engineers that deliver high quality, responsive lifetime technical support to all our customers worldwide.

We further support our customers by using qualified regional independent service providers to perform warranty and aftermarket service and repair on our products. Our regional service providers are factory trained and certified prior to being authorized to repair or service our equipment. We generally reimburse regional service providers for the warranty services they perform on our systems.

Sales and Marketing

Our sales strategy focuses on using our direct sales force to market our DC backup power products to telecommunications providers in the U.S. We use local regional sales managers in the U.S. market to demonstrate our products to Tier-1 telecommunications providers. Our products are purchased by regional centers operated by our telecommunications customers, thereby expanding our overall market into regions we may not have covered previously.

We have established a sales and service infrastructure in international markets. We established regional sales offices in Australia, U.A.E., Poland and Dominican Republic and established sales and aftermarket service locations in Australia and Romania to manage the South East Asia and EMEA regions, respectively. Due to a general lack of a reliable power grid, many emerging markets continue to expand their telecommunications infrastructures at a high rate. We believe that this lack of a reliable power grid, together with our knowledge of integrating renewables with generators, provides us with an opportunity to enter these emerging markets with our hybrid storage and renewable energy solutions.

We also market our products through our web site and by exhibiting our products at industry trade shows globally. Our primary sales are generated through product demonstrations and short-term rentals to demonstrate the capabilities of our products and value proposition to large mobile network providers worldwide. We believe this strategy of demonstrating our products and technologies to prospective customers expedites the sales process for our DC power systems.

We market our products to a large global customer base through actual product demonstrations. In 2020, the spread of COVID-19 led to various government travel restrictions which resulted in the inability of our sales team to meet with existing or new customers to demonstrate our products. In addition, our service staff and engineers have generally been unable to travel to customer locations to setup demonstrations and assist in the integration and optimization of our products to specific customer application needs. During 2021 and 2022, we experienced a modest resumption of sales activity with our U.S. Tier-1 telecommunications customers as their construction activities resume. Given the daily developments of the COVID-19 pandemic and the global responses to curb its spread, we are not able to accurately estimate all of the long-term effects of the COVID-19 pandemic on our business.

Distribution and Service

We service our products through various service partners that provide initial product installation and maintenance services. The promotion of our natural gas powered Mini-Grid product, targeting off-grid and bad grid rural areas, will be undertaken by certified independent dealers. We believe expansion of our dealer network will also provide additional opportunities for our DC power systems in the U.S. and other countries.

We utilize a combination of factory trained technicians and independent service providers to provide installation, maintenance, service and training at customer locations throughout the U.S.

In the international markets, we utilize local service partners to perform installation and service on our equipment. We have hired trained personnel in Australia, Romania, and South Africa to assist in regional training of technicians and also in product demonstrations.

Competition

Within the telecommunications power generation market, we compete with a few manufacturers of AC and DC generators that offer generators with an output power of 5 kW to 50 kW. In the U.S. market, our competitors are global manufacturers of AC generators designed primarily for the residential and industrial off-grid power markets. Internationally, our competitors include regional manufacturers of both AC and DC generators.

In the U.S. market, our competitors are large volume manufacturers of AC generators with a primary focus on emergency power backup generation for the residential marketplace. These AC generators are constructed using steel enclosures and are therefore heavier and can rust more easily in outdoor applications as compared to our products which generally have a smaller footprint and are constructed using aluminum enclosures. Due to the inherent design of AC motors, their units are approximately 40% larger in size than our DC generators. In order to monetize on our positives, we targeted telecommunications markets where generators are used to provide backup power during power outages. Due to the lighter weight and smaller size of our products as compared to AC products, we specifically target customers with the telecommunications towers located on roof-tops in urban areas. We believe that the smaller size, lighter weight and higher fuel efficiency of our products are performance parameters that offset the lower price alternative of AC generators. In addition, we believe that our recently introduced long-life (90,000 hours), natural gas-powered DC generator product line significantly increases our competitive advantage in densely populated urban markets.

Increased digitization of our lives has resulted in the need for more power usage in both residential and commercial applications. In the telecommunications tower market, the majority of the outdoor power needs are DC power since most components are DC powered. Historically, AC generator companies have utilized conversion technologies to convert AC output to DC output. This conversion results in an approximately 40% loss in energy. Meanwhile, our DC generators supply DC power directly to the telecommunications tower systems increasing the system's overall efficiency. These efficiencies are further enhanced in off-grid and bad-grid applications where more power is being used from the generators due to the lack of grid power.

Below are our primary competitors across these applications:

DC Power: 3Tech Corporate Limited, Ascot Industrial srl, Ausonia srl, and Controllis.

AC Power: Generac Power Systems, Inc., Kohler Co., Onan, FG Wilson and many other companies.

Manufacturing and Assembly

A significant percentage of our business comes from multinational global corporations seeking configured product solutions ready to be field deployed with a minimum installation time. Our manufacturing process begins with our direct sales force and engineering team defining customer application needs and concludes with the production of a custom configured product solution. We believe our ability to have total control over the sales and manufacturing process is a key competitive differentiator in the markets we serve.

By implementing vertical integration throughout our manufacturing process, we believe that we reduce overall manufacturing costs, thereby increasing profitability and market competitiveness. Our production processes encompass all aspects of production of our DC power systems, which includes alternators, aluminum enclosures, engine configurations, control electronics, cooling systems, wiring harnesses, exhaust systems and final assembly. Manufacturing of our proprietary technologies requires proprietary automated equipment that ensures total control and agility in our production processes. Over the past decade, we have made significant investments in highly specialized manufacturing tooling, jigs and fixtures that allow us to manufacture products at lower cost while maintaining the highest quality.

Our production assembly lines are designed to be flexible, and we utilize advanced manufacturing planning software to predict, monitor and control demand levels and product mix to provide the shortest delivery time to our customers. We utilize 3-D CAD software to product design and document assembly instructions throughout our production process. All our products are 100% tested to customer specific application requirements prior to shipment.

Throughout our operations we utilize computerized ERP software that integrates all our processes from lead generation to product shipment and aftermarket support. Our focus on safety, quality and on-time delivery is supported by employee training and information systems that monitor process and product quality and communicate trends and findings to senior management on a real-time basis.

Design Engineering/Research and Development

Our research and development efforts are market driven and are focused on the development of new technologies and product improvements, as well as reducing costs and improving product quality and reliability. The primary focus of our research and development activities is the development of lighter-weight, more compact and lower cost DC power generation systems for our Tier-1 wireless provider customers in the U.S. and international markets. Over the years, we have expended significant resources in enhancing our system controls like our Supra Controller™ and BMS.

A significant part of our research and development effort has focused on the development of control software that integrates engine controls, power management and battery algorithms to fully optimize fuel consumption in both prime power and backup power generation applications. We use a high level of integration with a single control and communication module, our Supra Controller™, rather than competitive system designs with a number of independent control modules controlling a single function. Our integrated approach ensures software compatibility, reduces complexity in wiring, increases reliability and reduces cost. We maintain an in-house design, prototyping, testing and application engineering capabilities including expertise in 3-D solid modeling and finite element analysis, computer-based modeling and testing, rapid prototyping, design verification testing and document publication, which includes manufacturing assembly instructions, supplier drawings and product manuals. In addition, we utilize third party testing laboratories to certify our products' compliance with current applicable UL standards.

Our research and development efforts are key to meeting customer demand and ever-changing power requirements. In 2023, we plan to gradually increase our team of engineers and continue investing into new product development as part of our strategy to diversify our product lines. However, it is not possible for us to predict the duration or magnitude of the adverse results of the outbreak and its effects on our ability to continue our design engineering and research development projects during the remainder of 2023 and perhaps beyond.

Intellectual Property

We possess a broad intellectual property portfolio comprised of electronics, software, engines, alternators, thermal systems and production techniques. We rely on trademark, copyright and trade secret laws to protect our intellectual property. Currently, we rely on common law rights to protect our “Polar Power, Inc.” trade name. We protect our trade secrets and other proprietary information by requiring confidentiality agreements from our employees, consultants and third parties that have access to such information. Despite these efforts, there can be no assurance that others will not gain access to our trade secrets, or that we can meaningfully protect our technology. In addition, effective trademark, copyright and trade secret protection may be unavailable or limited in certain foreign countries.

We consider our manufacturing process to be a trade secret and have non-disclosure agreements with our employees to protect the trade secrets held by us. However, such methods may not afford complete protection, and there can be no assurance that others will not independently develop similar know-how or obtain access to our know-how and manufacturing concepts. We may register patents and trademarks in future to protect our intellectual property rights and enhance our competitive position.

Suppliers

We attempt to mitigate the adverse effect of component shortages in our business through detail material planning and by qualifying multiple vendor sources for key components and outside processes. We conduct supplier audits of all major suppliers for initial qualification and to ensure reliability, quality, and sustainability of critical components. To meet our customer demands, we forecast the supply of our long lead time items such as engines, castings and electronic components through use of sales forecasting tools and ERP system.

Our suppliers are extensively surveyed and audited; and field or process generated non-conformities communicated with our Suppliers to continuously improve quality. To improve our costs and deliveries, our ERP system invites for all qualified suppliers to participate in relevant bids to ensure best proposals are selected.

The outbreak of COVID-19 has taken a toll on the global economy and has disrupted raw material supply chains all over the world. We have experienced material shortages and delays due to the pandemic; more in 2022 than in 2021. We are actively sourcing the domestic supply chain for key components to avoid or reduce the risk of future delays or interruptions to our operations or our ability to service customers. We have also experience price increases on certain materials and freight services. Although we believe we can mitigate a portion of material price increases by passing through some cost increases to our customers, we believe a fair portion can be mitigated through increases in efficiency.

Quality Control

Our quality control is established to maintain the highest level of quality in the manufacturing of our DC power systems, spare parts, and services. The foundation of our quality control was initially set in the early 1980s, much of which was required by our customers at the time, including NASA and Hughes Aircraft. In the late 1980s, we implemented the MIL-I-45208A quality control system monitored by U.S. Department of Defense, to meet prime source requirements for a contract we received from the U.S. Army Picatinny Arsenal to design and manufacture an advanced battery and monitoring system for a security device used in nuclear munitions depots around the world. We are currently in the process of obtaining an ISO 9000 certification.

Certifications

Our DC generator systems comply with UL2200 safety standards. Our products also comply with applicable regulatory emission standards of the Environmental Protection Agency, and the California Air Quality Management District.

Product Warranties

The Company provides limited warranties for parts and labor at no cost to its customers within a specified time period after the sale. Our standard warranty on new products is two years from the date of delivery to the customer. We offer a limited extended warranty of up to five years on our certified DC power systems based on application and usage. Our warranties are of an assurance-type and come standard with all of our products to cover repair or replacement should a product not perform as expected. Under our standard warranty, provisions for estimated expenses related to product warranties are made at the time products are sold. These estimates are established using historical information about the nature, frequency and average cost of warranty claim settlements as well as product manufacturing and recovery from suppliers.

Information Systems

We utilize integrated information systems (i.e., ERP) that link our lead management, sales planning, order entry, purchasing, engineering, production control, manufacturing, inventory and accounting systems. During the past five years we have made significant investments to upgrade and customize our information systems to improve productivity and our ability to accurately forecast inventory and manpower requirements. We plan to invest additional capital in software and information systems to integrate aftermarket sales and service with our ERP system to improve post sales customer experience with our products and services.

Government Regulations and Environmental Matters

Our business operations are subject to certain federal, state, local and foreign laws and regulations. For example, our products, services and technologies are subject to regulations relating to building codes, public safety, electrical connections, security protocols, and local and state licensing requirements. The regulations to which we are subject may change, additional regulations may be imposed, or existing regulations may be applied in a manner that creates special requirements for the implementation and operation of our products or services that may significantly impact or even eliminate some of our revenues or markets. In addition, we may incur material costs or liabilities in complying with any such regulations. Furthermore, some of our customers must comply with numerous laws and regulations, which may affect their willingness and ability to purchase our products, services and technologies.

Additionally, we are subject to laws, regulations and other governmental actions instituted in response to the COVID-19 outbreak.

The modification of existing laws and regulations or interpretations thereof or the adoption of future laws and regulations could adversely affect our business, cause us to modify or alter our methods of operations and increase our costs and the price of our products, services and technology. In addition, we cannot provide any assurance that we will be able, for financial or other reasons, to comply with all applicable laws and regulations. If we fail to comply with these laws and regulations, we could become subject to substantial penalties or restrictions that could materially and adversely affect our business.

Human Capital

Our experienced employees and management team are our most valuable resources, and we are committed to attracting, motivating, and retaining top professionals to service our customers. As of March 31, 2023, we had 113 full time employees, which includes 104 employees in the U.S. and 9 employees outside the U.S. None of our employees are represented by labor unions. We consider our relationships with our employees to be generally satisfactory. In addition, from time to time, we utilize outside consultants or contractors for specific assignments.

We believe our success is directly related to the satisfaction, growth, and development of our employees. We strive to offer a work environment where employee unique characteristics and opinions are valued and one that provides our employees the opportunities to use and augment their professional skills. To achieve our human capital goals, we intend to remain focused on providing our personnel with career development opportunities to expand our business within their areas of expertise and continue to provide our personnel with personal and professional growth. In addition to salaries, we also provide a 401(k)-retirement plan, healthcare and insurance benefits, health savings accounts, paid time off, and various services and tools to support our employees' health and wellness. Our leaders, managers, and eligible employees are provided an opportunity to participate in our stock option plans. We emphasize a number of measures and objectives in managing our human capital assets, including, among others, employee safety and wellness, talent acquisition and retention, employee engagement, development, and training, diversity and inclusion, and compensation and pay equity.

Employee Engagement, Development, and Training. We provide all employees with the opportunity to share their opinions and feedback on our culture which helps enhance the employee experience, promote employee retention, drive change, and leverage the overall success of our organization. We provide all employees a wide range of professional development experiences, both formal and informal, at all stages in their careers.

Diversity and Inclusion and Ethical Business Practices. We are committed to fostering work environments that value and promote diversity and inclusion, including our Diversity and Inclusion Program which focuses on initiatives to increase the diversity of our workforce and promote an environment of trust where employees feel safe to express their opinions and perspectives without fear of repercussion. This commitment includes providing equal access to, and participation in, equal employment opportunities, programs, and services without regard to race, religion, color, national origin, disability, sex, sexual orientation, gender identity, stereotypes or assumptions based thereon. We pride ourselves in the development and fair treatment of our workforce, including healthcare and benefit programs for our employees, equal employment hiring practices and policies, anti-harassment, workforce safety, and anti-retaliation policies. We welcome and celebrate our teams' differences, experiences, and beliefs, and we are investing in a more engaged, diverse, and inclusive workforce.

COVID-19 and Employee Safety and Wellness. We are actively monitoring the global situation related to the pandemic and how it affects our financial condition, operations, suppliers, industry, and workforce. Given the daily developments of the pandemic and the global responses to curb its spread, we are unable to estimate the effects of the pandemic at this time. If the COVID-19 pandemic continues, it may have an adverse effect on our ability to source qualified employees during the remainder of 2023 and perhaps beyond.

We foster a strong corporate culture that promotes high standards of ethics and compliance for our businesses, including policies that set forth principles to guide employee, officer, director, and vendor conduct, such as our Code of Business Conduct and Ethics. We maintain a whistleblower policy and anonymous hotline for the confidential reporting of any suspected policy violations or unethical business conduct on the part of our businesses, employees, officers, directors, or vendors and provide training and education to our global workforce with respect to our Code of Business Conduct and Ethics and anti-corruption and anti-bribery policies.

Facilities

Our principal offices are located in Gardena, California, where we lease a 40,000 square foot facility that includes our corporate staff offices, our manufacturing facility, and our research and development center. We also lease a 29,000 square foot facility as our second manufacturing facility and a 20,000 square foot warehouse facility across the street from our corporate offices. We believe that our current facilities are sufficient to accommodate our anticipated production volumes for the next twelve months. If required, additional office and manufacturing space is available within less than three miles from our present location.

Item 1A. Risk Factors

Before deciding to purchase, hold or sell our common stock, you should carefully consider the risks described below in addition to the other information contained in this Annual Report on Form 10-K and in our other filings with the Securities and Exchange Commission, or the SEC, including subsequent reports on Forms 10-Q and 8-K. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business. If any of these known or unknown risks or uncertainties actually occurs with material adverse effects on us, our business, financial condition, results of operations and/or liquidity could be seriously harmed. In that event, the market price for our common stock will likely decline, and you may lose all or part of your investment.

Risks Related to Our Business and Industry

The COVID-19 pandemic has had, and will likely continue to have, a significant negative impact on our business, sales, results of operations and financial condition.

The COVID-19 pandemic has had a widespread and detrimental effect on the global economy, particularly in the U.S., and actions over the past three years by public health and governmental authorities, businesses, other organizations and individuals to address the outbreak, including travel bans and restrictions, quarantines, shelter in place, stay at home or total lock-down orders and business limitations and shutdowns have materially negatively impacted, and could further materially adversely affect, our business, financial condition, results of operations and cash flows. The ultimate impact of the COVID-19 pandemic on our business and results of operations remains unknown and will depend on future developments, which are highly uncertain and cannot be predicted with confidence, including the duration and potential resurgence of the COVID-19 pandemic, repeat or cyclical outbreaks and any additional preventative and protective actions that governments, or we or our customers, may direct, which may result in an extended period of continued business disruption and reduced operations. Any resulting financial impact cannot be reasonably estimated at this time, but we expect it will continue to have a material impact on our business, financial condition and results of operations.

The repercussions of the COVID-19 global pandemic has had and is likely to continue to have, a material and substantial adverse impact on our results of operations, including a decrease in our sales and delays in sourcing raw materials from suppliers. Our business is directly dependent upon, and correlates closely with, the marketing levels and ongoing business activities of our existing customers and suppliers. In the event of a continued economic downturn caused by the COVID-19 pandemic, we will likely experience a reduction in current projects, longer sales and collection cycles, deferral or delay of purchase commitments for our DC power systems, a reduction in our manufacturing productivity, higher than normal inventory levels, delay in receipt of raw materials, a reduction in the availability of qualified labor and increased price competition, all of which could substantially adversely affect our results of operations including our earnings and cash flows.

In response to uncertainties associated with the COVID-19 pandemic, we have made certain modifications to our business, including modifications to employee work locations, cancellation of certain marketing events and the implementation of a cost reduction program to reduce overhead. During 2022, we kept following limited remote work policies for many employees, and the resources available to such employees may not enable them to maintain the same level of productivity and efficiency. Our increased reliance on remote access to our information systems also increases our exposures to potential cybersecurity breaches. We cannot provide any assurance that these actions, or any other mitigating actions we may take, will help mitigate the impact of the COVID-19 pandemic on us.

Furthermore, we cannot provide any assurance that our assumptions used to estimate our liquidity requirements will remain accurate due to the unprecedented nature of the disruption to our operations and the unpredictability of the COVID-19 global pandemic. As a consequence, our estimates of the duration of the pandemic and the severity of the impact on our future earnings and cash flows could change and have a material impact on our results of operations and financial condition. In the event of a sustained market deterioration and continued declines in net sales, we may need additional liquidity. We cannot provide any assurance that we will be able to obtain additional sources of financing or liquidity on acceptable terms, or at all.

The ultimate duration and impact of the COVID-19 pandemic on our business, results of operations, financial condition and cash flows is dependent on future developments, the duration of the COVID-19 pandemic, including repeat or cyclical outbreaks, additional “waves” or the spread of “variant” viruses and the related length of its impact on the global economy, which are uncertain and cannot be predicted at this time. Furthermore, the extent to which our mitigation efforts are successful, if at all, is not presently ascertainable. However, we expect that our results of operations, including revenues, in future periods will continue to be adversely impacted by the COVID-19 pandemic and its negative effects on global economic conditions and that, as a result of such effects, we may continue to be adversely affected even after the COVID-19 pandemic has materially subsided.

Terrorist attacks and threats of war may impact all aspects of our operations, revenues, costs and stock price in unpredictable ways.

The special military actions of the Russian Federation and its invasion of Ukraine and the resulting geopolitical uncertainty are likely to continue to have a significant impact on the European Union, the United Kingdom and other countries, including the U.S. The threat that these military operations may expand beyond Ukraine may have a negative impact as well. Significant increases in the price of oil and natural gas have occurred and are likely to continue putting additional inflationary pressures on central banks, including Federal Reserve System (the “FRB”). It is expected that interest rate hikes already announced by the FRB will occur in 2023, but the amount, timing, and frequency of such increases are not fully known at this time. The Russian Federation has also threatened increased cyberattacks as part of its actions which could affect us and our customers. Additionally, the United States and European nations have imposed very significant financial sanctions on the Russian Republic, including targeted sanctions on Russian banks and wealthy individuals as well as halting certification of the Nord Stream 2 gas pipeline. They have denied Russian banks access the Society for Worldwide Interbank Financial Telecommunications or SWIFT which has slowed international trade and made such transactions costlier to accomplish which could also negatively affect us and our customers. In response to the Russian military actions, many businesses headquartered in the Eurozone and the United States stopped doing business with Russia, which may negatively affect the profitability of those companies. The international turmoil has already had and may continue to have a negative impact on the stock market generally and, in turn, on our stock price. The full impact of the actions by the Russian Federation regarding Ukraine are not known at this time, but they could have a material adverse impact on our business, financial condition, results of operations, and stock price.

We have incurred significant losses in the past and we may incur losses in the future, which may hamper our operations and impede us from expanding our business.

We have incurred significant losses in the past. For the years ended December 31, 2022 and 2021, we incurred net losses of approximately \$5.6 million and \$1.4 million, respectively. For the year ended December 31, 2022, we incurred a gross profit of approximately \$2.3 million, and for the year ended December 31, 2021, we incurred a gross profit of approximately \$3.4 million. We may incur net and gross losses in the future. We expect to rely on cash on hand, cash, if any, generated from our operations, borrowing availability under our line of credit and proceeds from our future financing activities, if any, to fund all of the cash requirements of our business. Additional losses may hamper our operations and impede us from expanding our business.

We are dependent on, and derive substantially all of our revenue from, sales of our DC base power systems to one customer within the U.S. telecommunications market. Our efforts to expand our customer base, our product portfolio or markets within which we operate may not succeed and may reduce our revenue growth rate.

We derive substantially all our revenues from sales of our DC base power systems to one customer within the telecommunications market, AT&T. The volume of sales to them may vary significantly from year to year. Any factor adversely affecting sales of these power systems to this customer or to other customers within this market, including market acceptance, product competition, performance and reliability, reputation, price competition and economic and market conditions, could adversely affect our business and results of operations.

In addition, any unfavorable change in our business relationship with our Tier-1 telecommunications wireless carrier customers, or delays in customer implementation and deployment of our products, could have a material adverse effect on our results of operation and financial condition. Our plans to invest in the development of electric vehicle chargers, residential and commercial power products and higher capacity DC hybrid solar systems may not result in an anticipated growth in sales and may reduce our revenue growth rate.

Many of our DC power systems involve long design and sales cycles, which could have an adverse impact on our results of operations and financial performance.

The design and sales cycle for our DC power systems, from initial contact with our potential customer to the shipments of our product, may be lengthy. Customers generally consider a wide range of factors before making a purchase decision. Prior to purchasing our products, many of our customers often require a significant technical review, tests and evaluations over long periods of time (i.e., three to twenty-four months), assessments of competitive products and approval at a number of management levels within their organization. During the time our customers are evaluating our products, we may incur substantial sales and service, engineering and research and development expenses to customize our products to meet customer's application needs. We may also expend significant management efforts, increase manufacturing capacity, order long-lead-time components or purchase significant amounts of components and other inventory prior to receiving an order. Even after this evaluation process, a potential customer may not purchase our products.

The product development time before a customer agrees to purchase our DC power systems can be considerable. Our process for developing an integrated solution may require use of significant engineering resources, including design, prototyping, modeling, testing and application engineering. The length of this cycle is influenced by many factors, including the difficulty of the technical specification and complexity of the design and the customer's procurement processes. A significant period may elapse between our investment of time and resources in designing and developing a product for a customer and receipt of revenue from sales of that product. The length of this process, combined with unanticipated delays in the development cycles and the effects of COVID-19 on our ability to demonstrate our products to current and potential customers could materially affect our results of operations and financial conditions.

We do not have long-term commitments for significant revenues with most of our customers and may be unable to retain existing customers, attract new customers or replace departing customers with new customers that can provide comparable revenues and profits.

Because we generally do not obtain firm, long-term volume purchase commitments from our customers, most of our sales are derived from individual purchase orders. We remain dependent upon securing new purchase orders in the future in order to sustain and grow our revenues. Accordingly, there is no assurance that our revenues and business will grow in the future. Our failure to maintain and expand our customer relationships could materially and adversely affect our business and results of operations.

The current high concentration of our sales within the telecommunications market could result in a significant reduction in sales and negatively affect our profitability if demand for our DC power systems declines within this market before we are able to make significant inroads with our diversification of markets and customers.

Currently, we are predominately focused on the manufacturing, marketing and sales of DC power systems to telecommunications companies. We may be unable to shift our business focus away from these activities to other potential markets for our products. Accordingly, the emergence of new competing DC power products or lower-cost alternative technologies within the telecommunications market may reduce the demand for our products. A downturn in the demand for our DC power systems within this market could materially and adversely affect our sales and results of operations.

We face inventory risk and may be required to write-off additional inventory in the future.

We value inventories at the lower of cost or net realizable value. If the estimated net realizable value is determined to be less than the recorded cost of the inventory, a provision is made to reduce the carrying amount of the inventory item to the lower net realizable value determination. Determination of the net realizable value may be complex, and therefore, requires management to make assumptions and to apply a high degree of judgment. In order for management to make the appropriate determination of net realizable value, the following items are commonly considered: inventory turnover statistics, inventory quantities on hand in our facilities, unfilled customer order quantities, forecasted consumer demand, current prices, competitive pricing, seasonality factors, consumer trends and performance of similar products or accessories. Subsequent changes in facts or circumstances do not result in the reversal of previously recorded write-downs.

If our estimates regarding net realizable value are inaccurate, including our estimates regarding our inventory, or changes in customer demand for our products in an unforeseen manner, we may experience additional write-downs of our inventory.

The unavailability or shortage, or increase in the cost, of raw materials and components could have an adverse effect on our sales and profitability.

Our operations require raw materials, such as aluminum, copper, engines, electronics, and permanent magnets. Commodities such as aluminum and copper are known to have significant price volatility based on global economic conditions. An increase in global economic outlook may result in significant price increases in the cost of our raw materials. In addition, we use Neodymium permanent magnets in our alternators, for which there are a limited number of global suppliers that can meet our standards. Increase in manufacturing of electric vehicles worldwide can have an adverse effect on the cost or supply of these magnets. At our current production volumes, we are unable to secure large quantities of these commodities at fixed prices; however, we do have multiple sources of supply for our raw materials to meet our near term forecasted needs. Various factors could reduce the availability of raw materials and components and shortages may occur from time to time in the future. An increase in lead times for the supply of raw materials due to a global increase in demand for commodities or other reasons may significantly increase the timing of receipt of such materials and/or increase the material costs of our products. For example, as a result of the COVID-19 pandemic, we are currently experiencing both delays in sourcing, and price increases of, certain key components. As a result of these delays, our standard eight-week delivery time has increased to fourteen weeks. In addition, if production was interrupted due to unavailability or shortage of raw materials and we were not able to find alternate third-party suppliers or re-engineer our products to accommodate different components or materials, we could experience disruptions in manufacturing and operations including product shortages, higher freight costs and re-engineering costs. If our supply of raw materials or components continues to be disrupted or our lead times extended, our business, results of operations or financial condition could be materially adversely affected.

The markets within which we compete are highly competitive. Many of our competitors have greater financial and other resources than we do and one or more of these competitors could use their greater financial and other resources to gain market share at our expense.

If our business continues to develop as expected, we anticipate that we will grow our revenues in the near future. If, due to capital constraints or otherwise, we are unable to fulfill our existing backlog in a timely manner and/or procure and timely fulfill our anticipated future backlog, our customers and potential customers may decide to use competing DC power systems or continue the use of AC power systems. If we are unable to fulfill the demand for products and services in a timely manner, our customers and potential customers may choose to purchase products from our competitors. Some of our larger competitors may be willing to reduce prices and accept lower margins in order to compete with us. In addition, we could face new competition from large international or domestic companies with established industrial brands and distribution networks that enter our end markets. Demand for our products may also be affected by our ability to respond to changes in design and functionality, to respond to downward pricing pressure, and to provide shorter lead times for our products than our competitors. If we are unable to respond successfully to these competitive pressures, we could lose market share, which could have an adverse impact on our results. We cannot assure that we will be able to compete successfully in our markets or compete effectively against current and new competitors as our industry continues to evolve.

Rapid technological changes may prevent us from remaining current with our technological resources and maintaining competitive product and service offerings.

The markets in which we and our customers operate are characterized by rapid technological change, especially within the telecommunications market. Significant technological changes could render our existing and potential new products, services and technology obsolete. Our future success will depend, in large part, upon our ability to:

- effectively identify and develop leading energy efficient technologies;
- continue to develop our technical expertise;
- enhance our current products and services with new, improved and competitive technology; and
- respond to technological changes in a cost-effective and timely manner.

If we are unable to successfully respond to technological change or if we do not respond to it in a cost-effective and timely manner, then our business will be materially and adversely affected. We cannot assure you that we will be successful in responding to changing technology. In addition, technologies developed by others may render our products, services and technology uncompetitive or obsolete. Even if we do successfully respond to technological advances, the integration of new technology may require substantial time and expense, and we cannot assure you that we will succeed in adapting our products, services and technology in a timely and cost-effective manner.

If we are unable to continue to develop new and enhanced products and services that achieve market acceptance in a timely manner, our competitive position and operating results could be harmed.

Our future success will depend on our ability to continue to develop new and enhanced DC power systems and related products and services that achieve market acceptance in a timely and cost-effective manner. The markets in which we and our customers operate are characterized by frequent introductions of new and enhanced products and services, evolving industry standards and regulatory requirements, government incentives and changes in customer needs. The successful development and market acceptance of our products and services depends on a number of factors, including:

- the impact of the COVID-19 pandemic on the global markets;
- the changing requirements and preferences of the potential customers in our markets;

- the accurate prediction of market requirements, including regulatory issues;
- the timely completion and introduction of new products and services to avoid obsolescence;
- the quality, price and performance of new products and services;
- the availability, quality, price and performance of competing products and services;
- our customer service and support capabilities and responsiveness;
- the successful development of our relationships with existing and potential customers; and
- changes in industry standards.

We may experience financial or technical difficulties or limitations that could prevent us from introducing new or enhanced products or services. Furthermore, any of these new or enhanced products and services could contain problems that are discovered after they are introduced. We may need to significantly modify the design of these products and services to correct problems. Rapidly changing industry standards and customer preferences and requirements may impede market acceptance of our products and services.

Development and enhancement of our products and services will require significant additional investment and could strain our management, financial and operational resources. The lack of market acceptance of our products or services or our inability to generate sufficient revenues from this development or enhancement to offset their development costs could have a material adverse effect on our business. In addition, we may experience delays or other problems in releasing new products and services and enhancements, and any such delays or problems may cause customers to forego purchases of our products and services and to purchase those of our competitors.

We cannot provide assurance that products and services that we have recently developed or that we develop in the future will achieve market acceptance. If our new products and services fail to achieve market acceptance, or if we fail to develop new or enhanced products and services that achieve market acceptance, our growth prospects, operating results and competitive position could be adversely affected.

Natural disasters and other events beyond our control could materially adversely affect us.

Natural disasters or other catastrophic events, including the COVID-19 pandemic, may cause damage or disruption to our operations, international commerce and the global economy, and thus could have a strong negative effect on us. Our business operations are subject to interruption by natural disasters, fire, power shortages, pandemics and other events beyond our control. Although we maintain crisis management and disaster response plans, such events could make it difficult or impossible for us to deliver our services to our customers and could decrease demand for our services.

We are dependent on relationships with our key material suppliers, and the partial or complete loss of one of these key suppliers, or the failure to find replacement suppliers or manufacturers in a timely manner, could adversely affect our business.

We have established relationships with third-party engine suppliers and other key suppliers from which we source components for our power systems. We purchase standard configurations of engines for our DC power systems and are substantially dependent on timely supply from our key engine suppliers, Yanmar Engines Company, Perkins Engines Company Ltd, and Toyota Corporation. Engines from Yanmar, Perkins, and Toyota represented approximately 54%, 37%, less than 1% of our total engines sold as a component of our DC power systems during 2022, respectively, and represented approximately 84%, 3%, and 6% of our total engines sold as components of our DC power systems during the same period in 2021, respectively. We also use engines from Isuzu, Kubota and, to a lesser extent, Volvo Penta. In December 2019, we received our certificate of conformity from the EPA with respect to our small spark-ignition Toyota engines which will be used in our new LPG / natural gas generators. The new Toyota engine serves as our primary engine in our new LPG products which were launched in 2020. In January 2022, we applied for EPA certification on our 4Y Toyota engine, which is a larger engine model for used on our 20 to 30 kW DC power systems. We do not have any long-term contracts or commitments with any of these suppliers. If any of these engine suppliers were to fail to provide emissions certified engines in a timely manner or fail to supply engines that meet our quality, quantity or cost requirements, or were to discontinue manufacturing any engines we source from them or discontinue providing any of these engines to us, or the supply chain is interrupted or delayed as a result of the COVID-19 pandemic or unprecedented event, and we were unable to obtain substitute sources in a timely manner or on terms acceptable to us, our ability to manufacture our products could be materially adversely affected.

Price increases in some of the key components in our DC power systems could materially and adversely affect our operating results and cash flows.

The prices of some of the key components of our DC power systems are subject to fluctuation due to market forces beyond our control, including changes in the costs of raw materials incorporated into these components. Such price increases occur from time to time due to spot shortages of commodities, increases in labor costs or longer-term shortages due to market forces. In particular, the prices of engines can fluctuate frequently and often significantly. We do not have any long-term contracts or commitments with our two key engine suppliers. Substantial increases in the prices of raw materials used in components which we source from our suppliers may result in increased prices charged by our suppliers. If we incur price increases from our suppliers for key components in our DC power systems, our production costs will increase. Given competitive market conditions, we may not be able to pass all or any of those cost increases on to our customers in the form of higher sales prices. To the extent our competitors do not suffer comparable component cost increases, we may have even greater difficulty passing along price increases and our competitive position may be harmed. As a result, increases in costs of key components may adversely affect our margins and otherwise adversely affect our operating results and cash flows.

A portion of our key components are sourced in foreign countries, exposing us to additional risks that may not exist in the U.S.

A portion of our key components, such as engines, magnets and cooling systems, are purchased from suppliers located overseas, primarily in Asia. Our international sourcing subjects us to a number of potential risks in addition to the risks associated with third-party sourcing generally. These risks include:

- inflation or changes in political and economic conditions;
- unstable regulatory environments;
- changes in import and export duties;
- currency rate fluctuations;
- trade restrictions;

- labor unrest;
- logistical and communications challenges; and
- other restraints and burdensome taxes.

These factors may have an adverse effect on our ability to source our purchased components overseas. In particular, if the U.S. dollar were to depreciate significantly against the currencies in which we purchase raw materials from foreign suppliers, our cost of goods sold could increase materially, which would adversely affect our results of operations.

The unavailability or shortage, or increase in the cost, of raw materials and components could have an adverse effect on our sales and profitability.

Our operations require raw materials, such as aluminum, copper and permanent magnets. Commodities such as aluminum and copper are known to have significant price volatility based on global economic conditions. An increase in global economic outlook may result in significant price increases in the cost of our raw materials. In addition, we use Neodymium permanent magnets in our alternators, for which there are a limited number of global suppliers that can meet our standards. Increase in manufacturing of electric vehicles worldwide can have an adverse effect on the cost or supply of these magnets. At our current production volumes, we are unable to secure large quantities of these commodities at fixed prices; however, we do have multiple sources of supply for our raw materials to meet our near term forecasted needs. Various factors could reduce the availability of raw materials and components and shortages may occur from time to time in the future. An increase in lead times for the supply of raw materials due to a global increase in demand for commodities outlined may significantly increase material costs of our products. If production was interrupted due to unavailability or shortage of raw materials and we were not able to find alternate third-party suppliers or re-engineer our products to accommodate different components or materials, we could experience disruptions in manufacturing and operations including product shortages, higher freight costs and re-engineering costs. If our supply of raw materials or components is disrupted or our lead times extended, our business, results of operations or financial condition could be materially adversely affected.

We manufacture and assemble a majority of our products at two facilities. Any prolonged disruption in the operations of this facility would result in a decline in our sales and profitability.

We manufacture and assemble our DC power systems at our two production facilities located in Gardena, California. Any prolonged disruption in the operations of our manufacturing and assembly facilities, whether due to the COVID-19 pandemic, equipment or information technology infrastructure failure, labor difficulties, destruction of or damage to one or both of these facilities as a result of an earthquake, fire, flood, other catastrophes, and other operational problems would result in a decline in our sales and profitability. In the event of a business interruption at our facilities, we may be unable to shift manufacturing and assembly capabilities to alternate locations, accept materials from suppliers or meet customer shipment needs, among other severe consequences. Such an event could have a material and adverse impact on our financial condition and results of our operations.

Our business operations are subject to substantial government regulation.

Our business operations are subject to certain federal, state, local and foreign laws and regulations. For example, our products, services and technologies are subject to regulations relating to building codes, public safety, electrical connections, security protocols, and local and state licensing requirements. The regulations to which we are subject may change, additional regulations may be imposed, or existing regulations may be applied in a manner that creates special requirements for the implementation and operation of our products or services that may significantly impact or even eliminate some of our revenues or markets. In addition, we may incur material costs or liabilities in complying with any such regulations. Furthermore, some of our customers must comply with numerous laws and regulations, which may affect their willingness and ability to purchase our products, services and technologies. Additionally, we are subject to laws, regulations and other governmental actions instituted in response to the COVID-19 pandemic.

The modification of existing laws and regulations or interpretations thereof or the adoption of future laws and regulations could adversely affect our business, cause us to modify or alter our methods of operations and increase our costs and the price of our products, services and technology. In addition, we cannot provide any assurance that we will be able, for financial or other reasons, to comply with all applicable laws and regulations. If we fail to comply with these laws and regulations, we could become subject to substantial penalties or restrictions that could materially and adversely affect our business.

Certain of our products are used in critical communications networks which may subject us to significant liability claims.

Because certain of our products for customers in the telecommunications industry are used in critical communications networks, we may be subject to significant liability claims if our products do not work properly. We warrant to our customers that our products will operate in accordance with our product specifications. If our products fail to conform to these specifications, our customers could require us to remedy the failure or could assert claims for damages. The provisions in our agreements with customers that are intended to limit our exposure to liability claims may not preclude all potential claims. In addition, any insurance policies we have may not adequately limit our exposure with respect to such claims. Liability claims could require us to spend significant time and money in litigation or to pay significant damages. Any such claims, whether or not successful, would be costly and time-consuming to defend, and could divert management's attention and seriously damage our reputation and our business.

We could be adversely affected by our failure to comply with the laws applicable to our foreign activities, including the U.S. Foreign Corrupt Practices Act and other similar worldwide anti-bribery laws.

The U.S. Foreign Corrupt Practices Act, or the FCPA, and similar anti-bribery laws in other jurisdictions prohibit U.S.-based companies and their intermediaries from making improper payments to non-U.S. officials for the purpose of obtaining or retaining business. We may pursue opportunities in certain parts of the world that experience government corruption, and in certain circumstances, compliance with anti-bribery laws may conflict with local customs and practices. Our policies mandate compliance with all applicable anti-bribery laws. Further, we require our partners, subcontractors, agents and others who work for us or on our behalf to comply with the FCPA and other anti-bribery laws. Although we have policies and procedures, and have conducted training, designed to ensure that we, our employees, our agents and others who work with us in foreign countries comply with the FCPA and other anti-bribery laws, there is no assurance that such policies, procedures or training will protect us against liability under the FCPA or other laws for actions taken by our agents, employees and intermediaries. If we are found to be liable for FCPA violations (either due to our own acts or inadvertence, or due to the acts or inadvertence of others), we could suffer from severe criminal or civil penalties or other sanctions, which could have a material adverse effect on our reputation, business, results of operations or cash flows. In addition, detecting, investigating and resolving actual or alleged FCPA violations is expensive and could consume significant time and attention of our senior management.

We are exposed to risks related to our international sales, and the failure to manage these risks could harm our business. If we fail to expand our business into international markets, our revenues and results of operations may be adversely affected.

In addition to our sales to customers within the U.S., we may become increasingly dependent on sales to customers outside the U.S. as we pursue expanding our business with customers worldwide. During 2022, and 2021, our sales to international customers accounted for 25% and 8%, respectively, of total revenue. We continue to expect that a significant portion of our future revenues will be from international sales to customers in less developed or developing countries. As a result, the occurrence of any international, political, economic, or geographic event could result in a significant decline in revenue. There are significant risks associated with conducting operations internationally, requiring significant financial commitments to support such operations. These operations present a number of challenges including oversight of daily operating practices in each location, handling employee benefits and employee behavior. In addition, compliance with complex foreign and U.S. laws and regulations that apply to our international operations increases our cost of doing business in international jurisdictions. These numerous and sometimes conflicting laws and regulations include internal control and disclosure rules, data privacy and filtering requirements, anti-corruption laws, such as the FCPA, and other local laws prohibiting corrupt payments to governmental officials, and anti-competition regulations, among others.

Violations of these laws and regulations could result in fines and penalties, criminal sanctions against us, our officers, or our employees, prohibitions on the conduct of our business and on our ability to offer our products and services in one or more countries, and could also materially affect our brand, our international expansion efforts, our ability to attract and retain employees, our business, and our operating results. Although we have implemented policies and procedures designed to ensure compliance with these laws and regulations, there can be no assurance that our employees, contractors, or agents will not violate our policies.

Some of the risks and challenges of conducting business internationally include:

- the impact of COVID-19 on the global markets and the power generation market within the international telecommunications markets;
- requirements or preferences for domestic products or solutions, which could reduce demand for our products;
- unexpected changes in regulatory requirements;
- imposition of tariffs and other barriers and restrictions;
- restrictions on the import or export of critical technology;
- management communication and integration problems resulting from cultural and geographic dispersion;
- the burden of complying with a variety of laws and regulations in various countries;
- difficulties in enforcing contracts;
- the uncertainty of protection for intellectual property rights in some countries;
- application of the income tax laws and regulations of multiple jurisdictions, including relatively low-rate and relatively high-rate jurisdictions, to our sales and other transactions, which results in additional complexity and uncertainty;
- tariffs and trade barriers, export regulations and other regulatory and contractual limitations on our ability to sell products;
- greater risk of a failure of foreign employees to comply with both U.S. and foreign laws, including export and antitrust regulations, the FCPA and any trade regulations ensuring fair trade practices;
- heightened risk of unfair or corrupt business practices in certain geographies and of improper or fraudulent sales arrangements that may impact financial results and result in restatements of, or irregularities in, financial statements;
- potentially adverse tax consequences, including multiple and possibly overlapping tax structures;
- general economic and geopolitical conditions, including war and acts of terrorism;
- lack of the availability of qualified third-party financing; and
- currency exchange controls.

While these factors and the impacts of these factors are difficult to predict, any one or more of them could adversely affect our business, financial condition and results of operations in the future.

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, data centers, cloud data centers, corporate computers, manufacturing systems, and/or access to accounts we have at our suppliers, vendors, and customers. External parties may gain access to our data or our 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 information technology 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. Such disruptions and data loss may adversely impact our ability to fulfill orders and interrupt other processes. Delayed sales or lost customers resulting from these disruptions could adversely affect our financial results, stock price and reputation.

The State of California enacted the California Consumer Privacy Act of 2018, or CCPA, effective on January 1, 2021. Our and our business partners' or contractors' failure to fully comply with the CCPA and other laws could lead to significant fines and require onerous corrective action. In addition, data security breaches experienced by us or our business partners or contractors could result in the loss of trade secrets or other intellectual property, public disclosure of sensitive commercial data, and the exposure of personally identifiable information (including sensitive personal information) of our employees, customers, suppliers, contractors and others.

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.

Risks Related to Our Intellectual Property

If we fail to adequately protect our intellectual property rights, we could lose important proprietary technology, which could materially and adversely affect our business.

Our success and ability to compete depends, in substantial part, upon our ability to develop and protect our proprietary technology and intellectual property rights to distinguish our products, services and technology from those of our competitors. The unauthorized use of our intellectual property rights and proprietary technology by others could materially harm our business.

Historically, we have relied primarily on a combination of trademark, copyright and trade secret laws, along with non-competition and confidentiality agreements, contractual provisions, licensing arrangements and proprietary software and manufacturing processes, to establish and protect our intellectual property rights. Although we hold several unregistered copyrights in our business, we believe that the success of our business depends more upon our proprietary technology, information, processes and know-how than on patents or trademark registrations. In addition, much of our proprietary information and technology may not be patentable; if we decided to apply for patents and/or trademarks in the future, we might not be successful in obtaining any such future patents or in registering any marks.

Despite our efforts to protect our intellectual property rights, existing laws afford only limited protection, and our actions may be inadequate to protect our rights or to prevent others from claiming violations of their proprietary rights. Unauthorized third parties may attempt to copy, reverse engineer or otherwise obtain, use or exploit aspects of our products and services, develop similar technology independently, or otherwise obtain and use information that we regard as proprietary. We cannot assure you that our competitors will not independently develop technology similar or superior to our technology or design around our intellectual property. In addition, the laws of some foreign countries may not protect our proprietary rights as fully or in the same manner as the laws of the U.S.

We may need to resort to litigation to enforce our intellectual property rights, to protect our trade secrets, and to determine the validity and scope of other companies' proprietary rights in the future. However, litigation could result in significant costs and in the diversion of management and financial resources. We cannot assure you that any such litigation will be successful or that we will prevail over counterclaims against us. Our failure to protect any of our important intellectual property rights or any litigation that we resort to in order to enforce those rights could materially and adversely affect our business.

If we face claims of intellectual property infringement by third parties, we could encounter expensive litigation, be liable for significant damages or incur restrictions on our ability to sell our products and services.

Although we are not aware of any present infringement of our products, services or technology on the intellectual property rights of others, we cannot be certain that our products, services and technologies do not or in the future will not infringe on the valid intellectual property rights held by third parties. In addition, we cannot assure you that third parties will not claim that we have infringed their intellectual property rights.

In recent years, there has been a significant amount of litigation in the U.S. involving patents and other intellectual property rights. In the future, we may be a party to litigation as a result of an alleged infringement of others' intellectual property. Successful infringement claims against us could result in substantial monetary liability, require us to enter into royalty or licensing arrangements, or otherwise materially disrupt the conduct of our business. In addition, even if we prevail on these claims, this litigation could be time-consuming and expensive to defend or settle and could result in the diversion of our time and attention and of operational resources, which could materially and adversely affect our business. Any potential intellectual property litigation also could force us to do one or more of the following:

- stop selling, incorporating or using our products and services that use the infringed intellectual property;
- obtain from the owner of the infringed intellectual property right a license to sell or use the relevant technology, which license may not be available on commercially reasonable terms, or at all; or
- redesign the products and services that use the technology.

If we are forced to take any of these actions, our business may be seriously harmed. Although we carry general liability insurance, our insurance may not cover potential claims of this type or may not be adequate to indemnify us for all liability that may be imposed.

Risks Related to Our Common Stock

Our operating results can fluctuate significantly from period to period, which makes our operating results difficult to predict and can cause our operating results in any particular period to be less than comparable periods and expectations from time to time.

Our operating results have fluctuated significantly from quarter-to-quarter, period-to-period and year-to-year during our operating history and are likely to continue to fluctuate in the future due to a variety of factors, many of which are outside of our control. Certain factors that may affect our operating results include, without limitation, those set forth under “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies” in this Annual Report on Form 10-K.

Because we have little or no control over many of these factors, our operating results are difficult to predict. Any adverse change in any of these factors could negatively affect our business and results of operations.

Our revenues, net income and other operating results are heavily dependent upon the size and timing of customer orders and projects, and the timing of the completion of those projects. The timing of our receipt of large individual orders, and of project completion, is difficult for us to predict. Because our operating expenses are based on anticipated revenues over the mid- and long-term and because a high percentage of our operating expenses are relatively fixed, a shortfall or delay in recognizing revenues can cause our operating results to vary significantly from quarter-to-quarter and can result in significant operating losses or declines in profit margins in any particular quarter. If our revenues fall below our expectations in any particular quarter, we may not be able, or it may not be prudent for us, to reduce our expenses rapidly in response to the revenue shortfall, which can result in us suffering significant operating losses or declines in profit margins in that quarter.

Due to these factors and the other risks discussed in this Annual Report on Form 10-K, you should not rely on quarter-to-quarter, period-to-period or year-to-year comparisons of our results of operations as an indication of our future performance. Quarterly, period and annual comparisons of our operating results are not necessarily meaningful or indicative of future performance. As a result, it is likely that, from time to time, our results of operations or our revenue backlog could fall below historical levels or the expectations of public market analysts and investors, which could cause the trading price of our common stock to decline significantly.

Our Chairman, President and Chief Executive Officer owns a significant percentage of our common stock and will exercise significant influence over matters requiring stockholder approval, regardless of the wishes of other stockholders.

Our Chairman, President, Chief Executive Officer and Secretary, Arthur D. Sams, beneficially owns approximately 44% of our outstanding shares of common stock. Mr. Sams therefore has significant influence over management and significant control over matters requiring stockholder approval, including the annual election of directors and significant corporate transactions, such as a merger or other sale of our company or our assets, for the foreseeable future. This concentrated control may limit stockholders’ ability to influence corporate matters and, as a result, we may take actions that our stockholders do not view as beneficial. As a result, the market price of our common stock could be adversely affected.

The price of our shares of common stock is volatile, and you could lose all or part of your investment.

The trading price of our shares of common stock is volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control, including limited trading volume. In addition to the factors discussed in the “Risk Factors” section and elsewhere in this Annual Report on Form 10-K, these factors include, without limitation:

- competition from existing technologies and products or new technologies and products that may emerge;
- the loss of significant customers, including AT&T and Verizon Wireless;

- actual or anticipated variations in our quarterly operating results;
- failure to meet the estimates and projections of the investment community or that we may otherwise provide to the public;
- our cash position;
- announcement or expectation of additional financing efforts;
- issuances of debt or equity securities;
- our inability to successfully enter new markets or develop additional products;
- actual or anticipated fluctuations in our competitors' operating results or changes in their respective growth rates;
- sales of our shares of common stock by us, or our stockholders in the future;
- trading volume of our shares of common stock on The Nasdaq Capital Market;
- market conditions in our industry;
- overall performance of the equity markets and general political and economic conditions;
- introduction of new products or services by us or our competitors;
- additions or departures of key management, scientific or other personnel;
- publication of research reports about us or our industry or positive or negative recommendations or withdrawal of research coverage by securities or industry analysts;
- changes in the market valuation of similar companies;
- disputes or other developments related to intellectual property and other proprietary rights;
- changes in accounting practices;
- significant lawsuits, including stockholder litigation; and
- other events or factors, many of which are beyond our control.

Furthermore, the public equity markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political and market conditions such as recessions, interest rate changes or international currency fluctuations, may negatively impact the market price of our shares of common stock.

A decline in the price of our common stock could affect our ability to raise further working capital, which could adversely impact our ability to continue operations.

A prolonged decline in the price of our common stock could result in a reduction in the liquidity of our common stock and a reduction in our ability to raise capital. We may attempt to acquire a significant portion of the funds we need in order to conduct our planned operations through the sale of equity securities; thus, a decline in the price of our common stock could be detrimental to our liquidity and our operations because the decline may adversely affect investors' desire to invest in our securities. If we are unable to raise the funds we require for all of our planned operations, we may be forced to reallocate funds from other planned uses and may suffer a significant negative effect on our business plan and operations, including our ability to develop new products or services and continue our current operations. As a result, our business may suffer, and we may be forced to reduce or discontinue operations. We also might not be able to meet our financial obligations if we cannot raise enough funds through the sale of our common stock and we may be forced to reduce or discontinue operations.

We do not anticipate paying cash dividends, and accordingly, stockholders must rely on stock appreciation for any return on their investment.

We have never declared or paid cash dividends on our capital stock. We intend to retain a significant portion of our future earnings, if any, to finance the operations, development and growth of our business. Any future determination to declare dividends will be made at the discretion of our board of directors, subject to applicable laws, and will depend on number of factors, including our financial condition, results of operations, capital requirements, contractual restrictions, general business conditions and other factors that our board of directors may deem relevant. As a result, only appreciation of the price of our common stock, which may never occur, will provide a return to stockholders.

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

The trading market for our shares of common stock depends, in part, on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. If no securities or industry analysts undertake coverage of our company, the trading price for our shares of common stock may be negatively impacted. If we obtain securities or industry analyst coverage and if one or more of the analysts who covers us downgrades our shares of common stock, changes their opinion of our shares or publishes inaccurate or unfavorable research about our business, our share price would likely decline. If one or more of these analysts ceases coverage of us or fails to publish reports on us regularly, demand for our shares of common stock could decrease and we could lose visibility in the financial markets, which could cause our share price and trading volume to decline.

We are not subject to the provisions of Section 203 of the Delaware General Corporation Law, which could negatively affect your investment.

We elected in our certificate of incorporation to not be subject to the provisions of Section 203 of the Delaware General Corporation Law, or Section 203. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. A "business combination" includes a merger, asset sale or other transaction resulting in a financial benefit to the interested stockholder. An "interested stockholder" is a person who, together with affiliates and associates, owns (or, in certain cases, within three years prior, did own) 15% or more of the corporation's voting stock. Our decision not to be subject to Section 203 will allow, for example, Arthur D. Sams, our Chairman, President, Chief Executive Officer and Secretary (who beneficially owns approximately 44% of our common stock) to transfer shares in excess of 15% of our voting stock to a third-party free of the restrictions imposed by Section 203. This may make us more vulnerable to takeovers that are completed without the approval of our board of directors and/or without giving us the ability to prohibit or delay such takeovers as effectively.

Some provisions of our charter documents and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders, and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our certificate of incorporation and bylaws, as well as provisions of Delaware law, could make it more difficult for a third party to acquire us or increase the cost of acquiring us, even if doing so would benefit our stockholders. These provisions include:

- a requirement that special meetings of stockholders be called only by the board of directors, the president or the chief executive officer;
- advance notice requirements for stockholder proposals and nominations for election to our board of directors; and
- the authority of the board of directors to issue preferred stock on terms determined by the board of directors without stockholder approval and which preferred stock may include rights superior to the rights of the holders of common stock.

These anti-takeover provisions and other provisions in our certificate of incorporation and bylaws could make it more difficult for stockholders or potential acquirers to obtain control of our board of directors or initiate actions that are opposed by the then-current board of directors and could also delay or impede a merger, tender offer or proxy contest involving us. These provisions could also discourage proxy contests and make it more difficult for you and other stockholders to elect directors of your choosing or cause us to take other corporate actions you desire. Any delay or prevention of a change of control transaction or changes in our board of directors could cause the market price of our common stock to decline.

Our certificate of incorporation designates the Court of Chancery of the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or other employees.

Our certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, our certificate of incorporation or our bylaws, or (iv) any action asserting a claim against us governed by the internal affairs doctrine.

For the avoidance of doubt, the exclusive forum provision described above does not apply to any claims arising under the Securities Act of 1933, as amended, or the Securities Act, or the Securities Exchange Act of 1934, as amended, or the Exchange Act. Section 27 of the Exchange Act creates exclusive federal jurisdiction over all suits brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder, and Section 22 of the Securities Act creates 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.

The choice of forum provision in our bylaws may limit our stockholders' ability to bring a claim in a judicial forum that they find favorable for disputes with us or our directors, officers, employees or agents, which may discourage such lawsuits against us and our directors, officers, employees and agents even though an action, if successful, might benefit our stockholders. The applicable courts may also reach different judgments or results than would other courts, including courts where a stockholder considering an action may be located or would otherwise choose to bring the action, and such judgments or results may be more favorable to us than to our stockholders. With respect to the provision making the Delaware Court of Chancery the sole and exclusive forum for certain types of actions, stockholders who do bring a claim in the Delaware Court of Chancery could face additional litigation costs in pursuing any such claim, particularly if they do not reside in or near Delaware. Finally, if a court were to find this provision of our bylaws inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could have a material adverse effect on us.

If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud. As a result, stockholders could lose confidence in our financial and other public reporting, which would harm our business and the trading price of our common stock.

Effective internal controls over financial reporting are necessary for us to provide reliable financial reports and, together with adequate disclosure controls and procedures, are designed to prevent fraud. Any failure to implement required new or improved controls, or difficulties encountered in their implementation could cause us to fail to meet our reporting obligations. In addition, any testing by us conducted in connection with Section 404 of the Sarbanes-Oxley Act, or any subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal controls over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our financial statements or identify other areas for further attention or improvement. Inferior internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our common stock.

We are required to disclose changes made in our internal controls and procedures on a quarterly basis and our management is required to assess the effectiveness of these controls annually. However, for as long as we are a “non-accelerated filer” under SEC rules, our independent registered public accounting firm will not be required to attest to the effectiveness of our internal controls over financial reporting pursuant to Section 404. An independent assessment of the effectiveness of our internal controls could detect problems that our management’s assessment might not. Undetected material weaknesses in our internal controls could lead to financial statement restatements and require us to incur the expense of remediation.

We incur significant costs as a result of operating as a public company and our management expects to devote substantial time to public company compliance programs.

As a public company, we incur significant legal, accounting and other expenses due to our compliance with regulations and disclosure obligations applicable to us, including compliance with the Sarbanes-Oxley Act as well as rules implemented by the SEC and Nasdaq. The SEC and other regulators have continued to adopt new rules and regulations and make additional changes to existing regulations that require our compliance. In July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, was enacted. There are significant corporate governance and executive compensation related provisions in the Dodd-Frank Act that have required the SEC to adopt additional rules and regulations in these areas. Stockholder activism, the current political environment, and the current high level of government intervention and regulatory reform may lead to substantial new regulations and disclosure obligations, which may lead to additional compliance costs and impact, in ways we cannot currently anticipate, the manner in which we operate our business. Our management and other personnel devote a substantial amount of time to these compliance programs and monitoring of public company reporting obligations and, as a result of the new corporate governance and executive compensation related rules, regulations, and guidelines prompted by the Dodd-Frank Act and further regulations and disclosure obligations expected in the future, we will likely need to devote additional time and costs to comply with such compliance programs and rules. These rules and regulations cause us to incur significant legal and financial compliance costs and make some activities more time-consuming and costly.

To comply with the requirements of being a public company, we may need to undertake various activities, including implementing new internal controls and procedures and hiring new accounting or internal audit staff. The Sarbanes-Oxley Act requires that we maintain effective disclosure controls and procedures and internal control over financial reporting. We are continuing to develop and refine our disclosure controls and other procedures that are designed to ensure that information required to be disclosed by us in the reports that we file with the SEC is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and that information required to be disclosed in reports under the Exchange Act, is accumulated and communicated to our principal executive and financial officers. Our current controls and any new controls that we develop may become inadequate and weaknesses in our internal control over financial reporting may be discovered in the future.

Any failure to develop or maintain effective controls could adversely affect the results of periodic management evaluations and annual independent registered public accounting firm attestation reports regarding the effectiveness of our internal control over financial reporting which we may be required to include in our periodic reports we will file with the SEC under Section 404 of the Sarbanes-Oxley Act, harm our operating results, cause us to fail to meet our reporting obligations, or result in a restatement of our prior period financial statements. In the event that we are not able to demonstrate compliance with the Sarbanes-Oxley Act, that our internal control over financial reporting is perceived as inadequate or that we are unable to produce timely or accurate financial statements, investors may lose confidence in our operating results and the price of our common stock could decline. In addition, if we are unable to continue to meet these requirements, we may not be able to remain listed on the Nasdaq Capital Market.

We are not currently required to comply with the SEC rules that implement Section 404 of the Sarbanes-Oxley Act, and are therefore not yet required to make a formal assessment of the effectiveness of our internal control over financial reporting for that purpose. However, we are required to comply with certain of these rules, which require management to certify financial and other information in our quarterly and annual reports and provide an annual management report on the effectiveness of our internal control over financial reporting commencing with our next annual report. This assessment will need to include the disclosure of any material weaknesses in our internal control over financial reporting identified by our management or our independent registered public accounting firm. We are just beginning the costly and challenging process of compiling the system and processing documentation needed to comply with such requirements. We may not be able to complete our evaluation, testing and any required remediation in a timely fashion. During the evaluation and testing process, if we identify one or more material weaknesses in our internal control over financial reporting, we will be unable to assert that our internal control over financial reporting is effective.

Raising additional capital, including through future sales and issuances of our common stock, the exercise of warrants or the exercise of rights to purchase common stock pursuant to our equity incentive plan could result in additional dilution of the percentage ownership of our stockholders, could cause our share price to fall and could restrict our operations.

We expect that significant additional capital will be needed in the future to continue our planned operations, including any potential acquisitions, purchasing of capital equipment, hiring new personnel, and continuing activities as an operating public company. To the extent we seek additional capital through a combination of public and private equity offerings and debt financings, our stockholders may experience substantial dilution. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our existing stockholders may be diluted, and the terms may include liquidation or other preferences that adversely affect the rights of our stockholders. Debt and receivables financings may be coupled with an equity component, such as warrants to purchase shares of our common stock, which could also result in dilution of our existing stockholders' ownership. The incurrence of indebtedness would result in increased fixed payment obligations and could also result in certain restrictive covenants, such as limitations on our ability to incur additional debt and other operating restrictions that could adversely impact our ability to conduct our business. A failure to obtain adequate funds may cause us to curtail certain operational activities, including sales and marketing, in order to reduce costs and sustain the business, and would have a material adverse effect on our business and financial condition.

Under our 2016 Omnibus Stock Incentive Plan, as amended, or 2016 Plan, we may grant equity awards covering up to 1,754,385 shares of our common stock. As of December 31, 2022, we had granted options to purchase an aggregate of 140,000 shares of common stock and issued 161,347 shares of common stock as stock-based compensation to officers, employees and consultants under the 2016 Plan. Sales of shares issued upon exercise of options or granted under our 2016 Plan may result in material dilution to our existing stockholders, which could cause our share price to fall.

Our issuance of shares of preferred stock could adversely affect the market value of our common stock, dilute the voting power of common stockholders and delay or prevent a change of control.

Our board of directors has the authority to cause us to issue, without any further vote or action by the stockholders, up to 5,000,000 shares of preferred stock in one or more series, to designate the number of shares constituting any series, and to fix the rights, preferences, privileges and restrictions thereof, including dividend rights, voting rights, rights and terms of redemption, redemption price or prices and liquidation preferences of such series.

The issuance of shares of preferred stock with dividend or conversion rights, liquidation preferences or other economic terms favorable to the holders of preferred stock could adversely affect the market price for our common stock by making an investment in the common stock less attractive. For example, investors in the common stock may not wish to purchase common stock at a price above the conversion price of a series of convertible preferred stock because the holders of the preferred stock would effectively be entitled to purchase common stock at the lower conversion price causing economic dilution to the holders of common stock.

Further, the issuance of shares of preferred stock with voting rights may adversely affect the voting power of the holders of our other classes of voting stock either by diluting the voting power of our other classes of voting stock if they vote together as a single class, or by giving the holders of any such preferred stock the right to block an action on which they have a separate class vote even if the action were approved by the holders of our other classes of voting stock. The issuance of shares of preferred stock may also have the effect of delaying, deferring or preventing a change in control of our company without further action by the stockholders, even where stockholders are offered a premium for their shares.

Item 1B. Unresolved Staff Comments.

None.

Item 2. Properties.

Our principal offices are located in Gardena, California, where we lease a 40,000 square foot facility that includes our corporate staff offices, our manufacturing facility, and our research and development center. We also lease a 29,000 square foot manufacturing facility and a 20,000 square foot storage facility near our principal offices. We believe that our current facilities are sufficient to accommodate our anticipated production volumes for the next twelve months. If required, additional office and manufacturing space is available within less than three miles from our present location.

Item 3. Legal Proceedings.

From time to time, we may be involved in general commercial disputes arising in the ordinary course of our business. We are not currently involved in legal proceedings that could reasonably be expected to have material adverse effect on our business, prospects, financial condition or results of our operation.

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

Shares of our common stock trade on The Nasdaq Capital Market under the symbol "POLA."

As of March 31, 2023, we had 12,949,550 shares of common stock outstanding held of record by approximately 21 stockholders. These holders of record include depositories that hold shares of stock for brokerage firms which, in turn, hold shares of stock for numerous beneficial owners.

Recent Sales of Unregistered Securities

None.

Item 6. [RESERVED].

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

You should read the following discussion and analysis of our financial condition and results of operations together with our financial statements and the related notes and other financial information included elsewhere in this Annual Report on Form 10-K. In addition to historical information, this discussion and analysis contains forward-looking statements that involve risks, uncertainties, and assumptions. Our actual results may differ materially from those discussed below. Factors that could cause or contribute to such differences include, but are not limited to, those identified below, and those discussed in the section titled “Risk Factors” and elsewhere in this Annual Report on Form 10-K. Our historical results are not necessarily indicative of the results to be expected for any future period, and results for any interim period are not necessarily indicative of the results to be expected for the full year.

Overview

We design, manufacture, and sell DC power generators, renewable energy and cooling systems for applications primarily in the telecommunications market and, to a lesser extent, in other markets, including military, electric vehicle charging, marine and industrial. We are continuously diversifying our customer base. We are selling our products into non-telecommunication markets and applications at an increasing rate.

Within the various markets we service, our DC power systems provide reliable and low-cost DC power to service applications that do not have access to the utility grid (i.e., prime power applications) or have critical power needs and cannot be without power in the event of utility grid failure (i.e., back-up power applications).

During the years ended December 31, 2022 and 2021, 96% and 89%, respectively, of our total net sales were within the telecommunications market. In 2022, our two largest customers represented 66% and 23% of our total net sales, respectively, one being a Tier-1 telecommunications customer in the U.S. and one being a telecommunications customer outside the U.S. In 2021, we had 67% of our total net sales derived from our largest customer, which is a Tier-1 telecommunications customer in the U.S. There was no other revenue from customers in excess of 10% of total net sales in either period. During those periods, the majority of our sales were of our DC base powers systems. During 2022 and 2021, sales to international customers accounted for 25% and 8% of total revenue, respectively. Sales to military customers during 2022 and 2021 accounted for 1% and 6% of total revenues, respectively. During 2022 and 2021, sales to other markets accounted for 3% and 5% of total revenue, respectively.

Advance Mobility applications require power to charge batteries and appliances within a vehicle. Our DC power systems are smaller in size, lighter in weight, and operate with greater efficiency than AC power systems, making our product ideal for these applications.

We have supplied our DC generators to many automotive manufactures in support of their remote field testing of electric vehicles. We are presently in development of natural gas CHP home chargers as a solution to many homes that are not able to support fast charging using the electric grid. We believe we can compete with the electric utility rates for home and office charging by using natural gas and making use of surplus heat from the generator in certain bad grid and remote area applications. Our DC mobile EV charging systems can operate with diesel or propane and are ideal for emergency road service to rapid charge EV's stranded without a charge. Our DC mobile EV charging systems offer convenience, faster charging, and lower cost than towing an EV on a flatbed to a charging station. We have shipped DC mobile EV charging systems used to extend range for specialty vehicles used in applications requiring low emissions. Our DC mobile EV charging systems provide direct charging to an electric vehicle's battery.

We also developed DC power systems for medium to large solar PV applications to provide energy service for irrigation, refrigerated storage of meat and produce, and micro grid. By combining the energy of solar PV and propane or natural gas, our DC power systems can provide constant energy 24 hours a day without using expensive energy storage. Propane or natural gas fueled DC power systems are connected in parallel with the solar array (also a DC energy source) greatly simplifying the means of combining multiple energy sources. This process is more efficient and lowers both the CAPEX and OPEX of the Solar systems by eliminating battery storage and / or connection to the grid. Currently, the most popular technologies used in these applications are either grid power, diesel only, or a combination of grid and solar with a large battery bank. Our proposed technology is more environmentally friendly and lowers the cost of food processing. Currently, we have sold a limited number of our DC power systems that are undergoing field trials.

We expect that opportunities in the bad-grid (i.e., areas where wireless towers are connected to an electrical grid that loses power for more than eight hours), and off-grid (i.e., areas where wireless towers are not connected to an electrical grid) applications, which include telecommunications towers, commercial and residential backup power, electric vehicle charging, “mini-grid” and various other power applications, will help to expand the market for our natural gas/LPG (propane) product lines domestically and internationally. We plan to develop new configurations of DC power system, battery storage and solar products to optimize the match between our solutions and various application needs.

Serving these various markets, we offer the following three configurations of our DC power systems, with output power ranging from 5 kW to 50 kW:

- **DC base power systems.** These stationary systems integrate a DC generator and automated controls with remote monitoring, which are typically contained within an environmentally regulated enclosure.
- **DC hybrid power systems.** These systems incorporate lithium-ion batteries (or other advanced battery chemistries) with our proprietary battery management system into our standard DC power systems.
- **DC solar hybrid power systems.** These stationary systems incorporate photovoltaic and other sources of renewable energy into our DC hybrid power system.
- **Mobile power systems.** These stationary systems incorporate photovoltaic and other sources of renewable energy into our DC hybrid power system.

Our DC power systems are available in diesel, natural gas, LPG / propane and renewable formats, with diesel, natural gas and propane gas being the predominate formats.

Critical Accounting Policies

We believe that the following critical accounting policies, among others, affect our more significant judgment and estimates used in the preparation of our financial statements:

Revenue Recognition. We recognize revenue in accordance with Financial Accounting Standards Board Accounting Standards Codification 606, *Revenue from Contracts with Customers* (“ASC 606”). ASC 606 requires entities to recognize revenue through the application of a five-step model, which includes: identification of the contract; identification of the performance obligations; determination of the transaction price; allocation of the transaction price to the performance obligations; and recognition of revenue as the entity satisfies the performance obligations.

Substantially all of our revenue is derived from product sales. Product revenue is recognized when performance obligations under the terms of a contract are satisfied, which occurs for us upon shipment or delivery of products or services to our customers based on written sales terms, which is also when control is transferred. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring the products or services to a customer. We determine whether delivery has occurred based on when title transfers and the risks and rewards of ownership have transferred to the customer, which usually occurs when we place the product with the customer’s carrier or deliver the product to a customer’s location. We regularly review our customers’ financial positions to ensure that collectability is reasonably assured.

We also recognize revenue from the rental of equipment. Our rental revenues have not been significant to date and have accounted for less than one percent of total revenues for the years ended December 31, 2022 and 2021.

Warranty Costs. We provide limited warranties for parts and labor at no cost to our customers within a specified time period after the sale. Our standard warranty on new products is two years from the date of delivery to the customer. We offer a limited extended warranty of up to five years on our certified DC power systems based on application and usage. Our warranties are of an assurance-type and come standard with all of our products to cover repair or replacement should product not perform as expected. Provisions for estimated expenses related to product warranties are made at the time products are sold. These estimates are established using historical information about the nature, frequency and average cost of warranty claim settlements as well as product manufacturing and recovery from suppliers. Management actively studies trends of warranty claims and takes action to improve product quality and minimize warranty costs. We estimate the actual historical warranty claims coupled with an analysis of unfulfilled claims to record a liability for specific warranty purposes.

Inventory. Inventories are stated at the lower of cost or net realizable value, with cost determined on a first-in, first-out (“FIFO”) basis. We record adjustments to our inventory based on an estimated forecast of the inventory demand, taking into consideration, among others, inventory turnover, inventory quantities on hand, unfilled customer order quantities, forecasted demand, current prices, competitive pricing, and trends and performance of similar products. If the estimated net realizable value is determined to be less than the recorded cost of the inventory, the difference is recognized as a loss in the period in which it occurs. Once inventory has been written down, it creates a new cost basis for inventory that may not subsequently be written up.

Stock-Based Compensation. We periodically issue stock-based compensation to officers, directors, employees, and consultants for services rendered. Such issuances vest and expire according to terms established at the issuance date.

Stock-based payments to officers, directors, employees, and for acquiring goods and services from nonemployees, which include grants of employee stock options, are recognized in the financial statements based on their grant date fair values in accordance with ASC 718, *Compensation-Stock Compensation*. Stock option grants to officers, directors, employees, and consultants, which are generally time vested, are measured at the grant date fair value and depending on the conditions associated with the vesting of the award, compensation cost is recognized on a straight-line or graded basis over the vesting period. Recognition of compensation expense for non-employees is in the same period and manner as if we had paid cash for the services. The fair value of stock options granted is estimated using the Black-Scholes option-pricing model, which uses certain assumptions related to risk-free interest rates, expected volatility, expected life, and future dividends. The assumptions used in the Black-Scholes option pricing model could materially affect compensation expense recorded in future periods.

Effects of Inflation

The impact of inflation and changing prices during 2022 has not been significant on the financial condition or results of operations of our company. Rapid changes in the global economy may cause significant spikes in inflation which may have an impact in our financial condition during 2023 and beyond. Because some of our contracts are at a fixed price, we face the risk that cost overruns or inflation may exceed, erode or eliminate our expected profit margin, or cause us to record a loss on certain projects. We are taking actions to manage the potential impacts of these matters and we will continue to assess the actual and expected impacts and the need for further action.

Impact of Recent Accounting Pronouncements

See “Note 1 – Organization and Summary of Significant Accounting Policies – Recent Accounting Pronouncements” of the Notes to Financial Statements commencing on page F-7 of this Annual Report on Form 10-K for management’s discussion as to the impact of recent accounting pronouncements.

Financial Performance Summary – Year Ended December 31, 2022

Our net sales for the year ended December 31, 2022, were \$16,056, as compared to \$16,896 for the year ended December 31, 2021. We reported a net loss of \$5,584 for 2022, as compared to net loss of \$1,414 for 2021. Our revenues during these periods are primarily due to our telecommunications customers increasing their investments in back-up power generators primarily to support expansion of their network infrastructure.

Labor shortages caused by COVID-19 and supply chain constraints that affected timely delivery of raw materials required to complete our DC power systems resulted in approximately \$3,500 of expected shipments to be postponed from 2022 to the first half of 2023.

During 2022, our international sales increased 211% to \$3,983, as compared to \$1,279 during 2021. The increase in international sales is primarily due to a new telecommunications customer in the South Pacific Islands.

Our sales backlog as of December 31, 2022, was \$12,001, with 47% of that amount being attributable to our largest U.S. telecommunications customer, 16% represented purchases from other telecommunications customers in the U.S., 32% represented purchases from telecommunications customers outside the U.S., 1% represented purchase from customers in the marine industry, 1% represented purchases from customers in the military markets, and 3% represented purchases from customer in other markets.

We plan to continue to expand our customer base in all market segments. We also anticipate that our sales will increase as we overcome supply chain and labor issues. We plan to continue to take proactive steps to manage our operations and mitigate the financial impacts of higher costs and supply chain issues. However, the full impact on our financial and operating performance of the COVID-19 pandemic along with geopolitical factors and increasing inflation concerns will depend significantly on the duration and severity of these factors, the actions taken to mitigate their impact, disruption to our supply chain, and the pace with which our clients return to more normalized purchasing behavior, among others factors beyond our knowledge or control. See “Risk Factors” commencing on page 18 of this Annual Report on Form 10-K for additional considerations.

Results of Operations

The tables presented below, which compare our results of operations from one period to another, present the results for each period, the change in those results from one period to another in both dollars and percentage change, and the results for each period as a percentage of net revenues. The columns present the following:

- The first two data columns in each table show the absolute results for each period presented.
- The columns entitled “Dollar Variance” and “Percentage Variance” shows the change in results, both in dollars and percentages. These two columns show favorable changes as a positive and unfavorable changes as negative. For example, when our net revenues increase from one period to the next, that change is shown as a positive number in both columns. Conversely, when expenses increase from one period to the next, that change is shown as a negative in both columns.
- The last two columns in each table show the results for each period as a percentage of net revenues.

Comparison of the Years Ended December 31, 2022 and 2021 (in thousands)

	<u>Year Ended</u>		<u>Dollar</u>	<u>Percentage</u>	<u>Results as a</u>	
	<u>December 31,</u>		<u>Variance</u>	<u>Variance</u>	<u>Percentage</u>	
	<u>2022</u>	<u>2021</u>	<u>Favorable</u>	<u>Favorable</u>	<u>of Net</u>	
			<u>(Unfavorable)</u>	<u>(Unfavorable)</u>	<u>Revenues</u>	
					<u>for the</u>	
					<u>Year Ended</u>	
					<u>2022</u>	<u>2021</u>
					<u>December 31,</u>	
Net sales	\$16,056	\$16,896	\$ (840)	(5)%	100.0%	100.0%
Cost of sales	13,931	13,451	(480)	(4)%	86.8%	79.6%
Gross profit	2,125	3,445	(1,320)	(38)%	13.2%	20.4%
Sales and marketing expenses	1,471	1,488	17	1%	9.2%	8.8%
Research and development expenses	1,460	1,986	526	26%	9.1%	11.8%
General and administrative expenses	4,727	3,069	(1,658)	(54)%	29.4%	18.2%
Total operating expenses	7,658	6,543	(1,115)	(17)%	47.7%	38.7%
Loss from operations	(5,533)	(3,098)	(2,435)	(79)%	(34.5)%	(18.3)%
Interest and finance costs	(58)	(60)	2	3%	(0.4)%	(0.4)%
Gain from PPP loan forgiveness	—	1,715	(1,715)	—%	—%	—%
Other income (expense), net	7	29	(22)	(76)%	0.0%	0.2%
Loss before income taxes	(5,584)	(1,414)	(4,170)	(295)%	(34.8)%	(8.4)%
Income tax	—	—	—	—%	—	—%
Net loss	\$ (5,584)	\$ (1,414)	\$ (4,170)	(295)%	(34.8)%	(8.4)%

Net Sales. Net sales decreased by \$840, or 5%, to \$16,056 for the year ended December 31, 2022, as compared to \$16,896 for the year ended December 31, 2021. During 2022 we experienced labor shortages caused by COVID-19 and delays in receiving key components as a result of supply chain constraints.

Our revenue from telecommunications customers, accounted for 96% of total net sales during 2022 and 89% of total net sales during 2021. Our largest customers during 2022 represented 66% and 23% of our total net sales, respectively, one being a U.S. Tier-1 telecommunications customer and one being a telecommunications customer outside the U.S. In 2021, our largest customer, a Tier-1 telecommunications customer in the U.S., represented 67% of our total net sales. There was no other revenue from customers in excess of 10% of total net sales in either period.

During 2022 and 2021, sales to international customers accounted for 25% and 8% of total revenue, respectively. Sales to military customers during 2022 and 2021 accounted for 1% and 6% of total revenues, respectively. Sales to other markets during 2022 and 2021 accounted for 3% and 5% of total revenue, respectively. Most of our sales were of our DC base powers systems during the two years.

Cost of Sales. Cost of sales increased by \$480, or 4%, to \$13,931 during 2022, compared to \$13,451 during 2021. Cost of sales as a percentage of net sales increased from 79.6% in 2021 to 86.8% in 2022 as a result of a decrease in factory overhead absorption due to under-utilization of the production capacity as a result of labor shortages and supply chain constraints. We believe we will achieve significant reductions in the cost of sales as a percentage of net sales as supply chain constraints decrease and production increases to normal levels.

Our cost of sales for 2021 includes a \$1,300 credit to salaries and benefits expense related to the Employee Retention Credit (“ERC”), a refundable tax credit recorded in accounts receivable. The ERC assisted business owners and their employees by providing an incentive to keep workers on the payroll and eligible businesses received a tax credit for a percentage of each eligible employee’s wage.

Gross Profit. We recognized a gross profit of \$2,125 during 2022, as compared to a gross profit of \$3,445 during 2021, which represents a decrease in gross profit of \$1,320 or 38%. Gross profit as a percentage of net sales decreased to 13.2% in 2022, as compared to 20.4% in 2021. The decrease in gross profit during 2022 was primarily attributable to a decrease in factory overhead absorption resulting from lower sales primarily during the third quarter of 2022.

Sales and Marketing Expenses. Sales and marketing expenses decreased \$17 to \$1,471 during 2022, as compared to \$1,488 during 2021. The decrease was attributable to a slight decrease in sales support staff during 2022 as compared the same period in 2021. We plan to increase our sales force and increase our marketing and tradeshow activities in 2023 to support our diversification strategy and expand our customer base in all market segments.

Research and Development Expenses. During 2022, research and development expenses decreased by \$526 to \$1,460, as compared to \$1,986 during 2021. The decrease in 2022 is attributed to a decrease in engineering staff during 2022 as compared to 2021. Our research and development efforts during 2022 focused on developing our new 27 kW D.C. power system, our new 4Y Toyota engine control system, and on product design and customization for our international customers. We plan to recruit additional engineers during 2023 to support new product developments and our customer diversification efforts.

General and Administrative Expenses. Our general and administrative expenses increased by \$1,658 to \$4,727 during 2022, as compared to \$3,069 during 2021. The increase was primarily due to \$515 in stock-based compensation to officers, employees and consultants, an increase of \$168 in legal and consulting fees, and smaller increases to insurance, rent, and utilities.

Our general and administrative expenses for 2021 include a \$700 credit to salaries and benefits expense related to the ERC, a refundable tax credit recorded in accounts receivable. The ERC assisted business owners and their employees by providing an incentive to keep workers on the payroll and eligible businesses received a tax credit for a percentage of each eligible employee's wage.

Interest and Finance Costs. Our interest expense was \$58 in 2022, as compared to \$60 in 2021. In 2022, our equipment financing expense decreased by \$11, bank fees related to our line of credit with Pinnacle Bank increased by \$9.

Gain from PPP Loan Forgiveness. In September 2021, we recognized a non-cash gain of \$1,715 within Other income (expense) on the consolidated statement of operations on the forgiveness of our PPP loan.

Other Income (Expense), Net. During 2022, other income was \$7, as compared to \$29 during 2021, an decrease of \$22. The decrease was primarily attributable to refunds of general liability insurance paid during 2021.

Net Loss. As a result of the factors identified above, we generated a net loss of \$5,584, or (\$0.43) per basic and diluted share, for 2022, as compared to net loss of \$1,414, or (\$0.11) per basic and diluted share, for 2021, an increase loss of \$4,170. The increase in net loss is primarily attributed to a decrease in net sales of \$840 due to labor shortages and supply chain constraints during 2022, an increase in operating expenses of \$1,115, coupled with the gain from forgiveness of the PPP loan in 2021.

Liquidity and Capital Resources

Sources of Liquidity

During the year ended December 31, 2022, we funded our operations primarily from cash on hand. These funds were also used to increase our engineering and production staff and inventory to support higher production. As of December 31, 2022, we had working capital of \$17,367, as compared to working capital of \$21,760 at December 31, 2021. This \$4,393 decrease in working capital is primarily attributable to a \$4,890 decrease in cash and cash equivalents resulting from net cash of \$6,507 used in operating activities, net cash used in investing activities of \$25 for the acquisition of new property and equipment, and net cash from financing activities of \$1,642 which includes net proceeds of \$1,884 from our credit facility and \$242 in repayments of equipment financing.

On December 31, 2022, and December 31, 2021, our net trade receivables totaled \$2,230 and \$4,243, respectively. On December 31, 2022, \$2,006 (90%) represented the largest open customer account balance, while \$3,131 (74%) and \$624 (15%) represented the two largest open customer account balances on December 31, 2021.

At December 31, 2021, we recognized \$2,000 related to the ERC for salaries and benefits expenses incurred during 2021 resulting in a refundable tax credit. The ERC assist business owners and their employees by providing an incentive to keep workers on the payroll and eligible businesses received a tax credit for a percentage of each eligible employee's wage. As of December 31, 2022, the ERC is still being processed by the IRS.

Our available capital resources on December 31, 2022, consisted primarily of \$211 in cash and cash equivalents, as compared to \$5,101 as of December 31, 2021. We expect our future capital resources will consist primarily of cash on hand, cash generated by operations, drawdowns on our credit facility with Pinnacle Bank, funds from the ERC, and future debt or equity financings, if any.

Credit Facility

Effective September 30, 2020, we entered into a Loan and Security Agreement, or Loan Agreement, with Pinnacle. The Loan Agreement was amended by the First Modification to Loan and Security Agreement on October 7, 2020. The Loan Agreement's initial term ended on September 30, 2022. On November 3, 2022, we executed the Second Modification to Loan and Security Agreement with Pinnacle for a two-year term with an expiration date of September 30, 2024. The Loan Agreement, as amended, provides for a revolving credit facility under which Pinnacle may, in its sole discretion upon our request, make advances to us in an amount, subject to certain limitations and adjustments, of up to (a) 85% of the aggregate net face amount of our accounts receivable and other contract rights and receivables, plus (b) the lesser of (i) 35% of the lower of cost or wholesale market value of certain of our inventory or (ii) \$2,500. In no event will the aggregate amount of the outstanding advances under the revolving credit facility be greater than \$4,000.

Interest accrues on the daily balance at a rate of 1.25% above the prime rate, or the Standard Interest Rate, but in no event will the Standard Interest Rate be less than 3.75% per annum. Interest on the portion of the daily balance consisting of advances against inventory accrues interest at a rate of 2.25% above the prime rate per annum, or the Inventory Interest Rate, but in no event will the Inventory Interest Rate be less than 4.75% per annum. The Loan Agreement also contains a financial covenant requiring us to attain an effective tangible net worth, defined as our total assets, excluding all intangible assets, less our total liabilities plus loans to us from our officers, stockholders or employees that have been subordinated to our obligations to Pinnacle, greater than \$6,000 as determined by Pinnacle as of the end of each fiscal quarter.

We have an outstanding balance of \$1,884 under the Loan Agreement at December 31, 2022. As of December 31, 2022, we had availability under the Loan Agreement of \$1,137 and we believe that we are in compliance with the terms and conditions of the Loan Agreement.

Paycheck Protection Program Loan

On May 4, 2020, we entered into a loan with Citibank, N.A. in an aggregate principal amount of \$1,715, or the PPP Loan, pursuant to the Paycheck Protection Program, or the PPP, under the Coronavirus Aid, Relief and Economic Security Act, or the CARES Act.

The PPP Loan is evidenced by a promissory note dated May 4, 2020. The PPP Loan matures two years from the disbursement date and bears interest at a rate of 1% per annum. We filed our application for a full loan forgiveness to Citibank on July 30, 2021 and the application is under the bank's review. Interest accrues during the time between the disbursement of the PPP Loan and SBA remittance of the forgiveness amount. We are responsible for paying the accrued interest on any amount of the loan that is not forgiven. Principal and interest are payable monthly commencing on loan amounts not forgiven and may be prepaid by us at any time prior to maturity with no prepayment penalties. We applied ASC 470, *Debt*, to account for the PPP Loan.

Under the terms of the CARES Act, recipients of PPP loans can apply for and be granted forgiveness for all or a portion of loans granted under the PPP. The Company filed its application for a full loan forgiveness to Citibank in July 2021. On September 28, 2021, the Company received notice from Citibank indicating that the SBA rendered final decision approving loan forgiveness in the amount of \$1,715. As a result, we recognized a non-cash gain of \$1,715 within Other income (expense) on the statement of operations.

Cash Flow

The following table sets forth the significant sources and uses of cash for the periods set forth below (in thousands):

	Year Ended December 31,	
	2022	2021
Net Cash Provided By (Used In):		
Operating Activities	\$ (6,507)	\$ (9,380)
Investing Activities	\$ (25)	\$ (71)
Financing Activities	\$ 1,642	\$ 12,906
Net increase (decrease) in cash	\$ (4,890)	\$ 3,455

Operating Activities

Net cash used in operating activities for 2022 was \$6,507, as compared to \$9,380 for the same period in 2021. This increase in net cash used in 2022 was primarily due to a net loss of \$5,584, a decrease in accounts receivable of \$2,013, a decrease in prepaid expenses of \$1,377, an increase in inventories of \$6,443, and an increase in customer deposits of \$1,229.

At December 31, 2021, we recognized \$2.0 million related to the ERC for salaries and benefits expenses incurred during 2021 resulting in a refundable tax credit. Of this amount, cost of sales was reduced by \$1.3 million as a result of the ERC, and general & administrative expenses was reduced by \$0.7 million as a result of the ERC. The ERC assist business owners and their employees by providing an incentive to keep workers on the payroll and eligible businesses received a tax credit for a percentage of each eligible employee's wage.

Investing Activities

Net cash used in investing activities for 2022 totaled \$25, as compared to \$71 for 2021, an increase of \$46. The net cash used in investing activities in 2022 was attributable to in new manufacturing equipment.

Financing Activities

Net cash provided by financing activities totaled \$1,642 for 2022, as compared to \$12,906 provided by financing activities during 2021, a decrease of \$11,264. This decrease was primarily due to the issuance and sale of 750,000 shares of our common stock in a firm commitment underwritten public offering on February 10, 2021. We received net proceeds of approximately \$12,466 from the sale of the shares after deducting underwriting discounts and commissions and other offering expenses payable by us. During 2022, we received \$1,884 in proceeds from advances from our credit facility at Pinnacle Bank and repaid \$242 on our equipment financing notes payable..

Backlog

As of December 31, 2022, we had a backlog of \$12,001. The amount of backlog represents revenue that we anticipate recognizing in the future, as evidenced by purchase orders and other purchase commitments received from customers, but on which work has not yet been initiated or with respect to which work is currently in progress. Backlog at December 31, 2022, was comprised of the following elements: 63% in purchases of DC power systems by telecommunications customers in the U.S., 32% in purchases by telecommunications customers outside the U.S., 1% in purchases by customers in the marine industry, 1% in purchases in military markets, and 3% in purchases by customers in other markets. Due to overall shortage of commodities worldwide caused by COVID, our largest customers have placed orders with delivery dates up to nine months in the future. We believe this provides us better control on operational efficiencies and inventory management. We believe the majority of our backlog will be shipped within the next twelve months. However, there can be no assurance that we will be successful in fulfilling such orders and commitments in a timely manner or that we will ultimately recognize as revenue the amounts reflected in our backlog.

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

Not applicable.

Item 8. Financial Statements and Supplementary Data.

Reference is made to the financial statements, which begin at page F-1 of this Annual Report on Form 10-K.

Item 9. Changes in and Disagreements with Accountants on Accounting and Finance Disclosure.

None.

Item 9A. Controls and Procedures.***Evaluation of Disclosure Controls and Procedures***

Our management, with the participation of our principal executive officer and our principal financial officer, evaluated, as of the end of the period covered by this Annual Report on Form 10-K, the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). Based on that evaluation, our principal executive officer and principal financial officer have concluded that as of December 31, 2022, our disclosure controls and procedures were effective at the reasonable assurance level. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting as such term is defined in Rule 13a-15(f) under the Exchange Act. Internal control over financial reporting is a process designed under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, 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. Our internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; (ii) provide reasonable assurance transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, (b) our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (c) regarding the prevention or timely detection of the unauthorized acquisition, use or disposition of assets that could have a material effect on our financial statements.

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

As of December 31, 2022, our management conducted an evaluation of the effectiveness of our internal control over financial reporting using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control - Integrated Framework (2013). Based on this evaluation, our management concluded that, as of December 31, 2022, our internal control over financial reporting was effective.

This Annual Report on Form 10-K does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by our registered public accounting firm pursuant to rules of the Securities and Exchange Commission that permit us to provide only management's report in this Annual Report on Form 10-K.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the quarter ended December 31, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

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.

Executive Officers and Directors

The following table sets forth the names, ages and positions of our executive officer and directors as of the date of this Annual Report on Form 10-K.

<u>Name</u>	<u>Age</u>	<u>Positions Held</u>
Executive Officers		
Arthur D. Sams	71	Chairman of the Board, President, Chief Executive Officer and Secretary
Luis Zavala	53	Chief Financial Officer
Non-Employee Directors		
Keith Albrecht	72	Director
Peter Gross	72	Director
Katherine Koster	60	Director

Executive Officers and Employee Director

Arthur D. Sams has served as our President, Chief Executive Officer and Chairman of our Board since August 1991 and as our Secretary since October 2016. Under his leadership, we have grown to be a leading brand name in the design and manufacturing of DC power systems for the telecommunications, military, automotive, marine and industrial markets. He specializes in the design of thermodynamics and power generation systems. During his early career, he gained vast industry experience while working as a machinist, engineer, project manager, chief technical officer and consultant for various Fortune 500 companies and the U.S. Department of Defense and the U.S. Department of Energy. Mr. Sams studied at California State Polytechnic University Pomona and the University California at Irvine with a dual major in biology and engineering.

In nominating Mr. Sams, our Board considered his Board and executive level leadership, broad international exposure, and extensive global experience in engineering and manufacturing as key attributes in his selection. The Board believes that through his experience in product development and international operations over the past three decades he can provide our company with particular insight into global opportunities and new markets for our current and planned future product lines.

Luis Zavala has served as our Chief Financial Officer since April 2018 and previously served as our Vice President Finance from August 2009 to April 2018 and as our Acting Chief Financial Officer from March 2016 to March 2018. Prior to that, Mr. Zavala served as the President of Sky Limited Enterprises, a general contractor, from June 2006 to August 2009. Prior thereto, Mr. Zavala worked as Director of Finance for Legacy Long Distance International, a telecommunications operator service provider company, from March 2001 to May 2006. Mr. Zavala also has over 25 years of experience managing accounting and finance departments in various industries, including banking and telecommunications. Mr. Zavala has a Bachelor of Arts degree in Business Administration from the California State University, Northridge and an MBA from the Keller Graduate School of Management, Long Beach.

Rajesh Masina served as our Chief Operating Officer from April 2018 until January 2022 and previously served as our Vice President Operations from August 2009 to April 2018. On January 10, 2022, Rajesh Masina notified us of his resignation from the position of our Chief Operating Officer, effective January 21, 2022. Mr. Masina's resignation from the Company was not a result of any disagreement with the Company on any matter related to its operations, policies or practices.

Non-Employee Directors

Keith Albrecht has served as a member of our Board since May 2016 and serves as a member of each of our Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee. Mr. Albrecht has extensive experience as a commercial real estate appraiser for commercial banks and local governments. Mr. Albrecht was an appraiser for commercial buildings for the County of Orange, California, from 1996 to 2007, where he was responsible for the assessment of property values of shopping malls, office buildings, hotels and apartment buildings. Prior thereto, Mr. Albrecht was an appraiser for Security Pacific and Bank of America, from 1985 to 1996. Mr. Albrecht is currently retired and invests in startups and small cap companies. In nominating Mr. Albrecht, our Board considered his commercial real estate appraisal experience, which our Board believes gives him particular insight into analysis of income statements and balance sheets, debt analysis and audits of large commercial institutions.

In nominating Mr. Albrecht, our Board considered his Board and executive level leadership, high level financial expertise, and extensive expertise in risk management as key attributes in his selection. The Board believes Mr. Albrecht can provide our Company particular insight into analysis of financial statements, debt analysis, and risk oversight.

Peter Gross has served as a member of our Board since December 2018 and serves as a member of each of our Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee. Mr. Gross is a technology and energy internationally recognized expert whose career spans over three decades. He has been the managing partner of PMG Associates, a consulting and advisory firm since August 2019. In addition, he sits on several boards of directors and boards of advisors for public, private and not-for-profit companies. Prior to PMG Associates, Mr. Gross served as the Vice President of Mission Critical Systems at Bloom Energy, a fuel cell power systems company located in Sunnyvale, California. Mr. Gross holds a master's degree in Electrical Engineering from Polytechnic Institute of Bucharest and an MBA from California State University at Dominguez Hills. Mr. Gross is also a member of the Advisory Board of UCLA's Institute of Environment and Sustainability and a member of Southern Methodist University's Data Center System Engineering Board of Advisors. In nominating Mr. Gross, our Board considered his significant engineering experience in the power systems industry, especially for data center and telecommunications applications. Our Board believes that Mr. Gross will provide critical leadership as we expand our DC power systems within the data and military markets.

In nominating Mr. Gross, our Board considered his Board and executive level leadership, his extensive energy industry expertise, and experience with global publicly traded companies as key attributes in his selection. Our Board believes that Mr. Gross will provide critical leadership as we expand our DC power systems within the data and military markets.

Katherine Koster has served as a member of our Board since December 2019 and serves as a member of each of our Audit Committee and Nominating and Corporate Governance Committee. Ms. Koster has been in the field of public finance for over 28 years and is a managing director in Debt Capital Markets for Hilltop Securities, LLC, where she assists municipalities and developers in accessing the capital markets to fund critical infrastructure since February 2022. Ms. Koster was a managing director of public finance at D.A. Davidson from February 2021 to February 2022 and with Piper Sandler Companies from June 2008 to February 2021. Ms. Koster holds a Bachelor of Arts Degree in Theater/Business Administration from Pepperdine University and has completed the “Women in Governance: Preparing for Board Membership” corporate governance program at the UCLA Anderson School of Management. Ms. Koster holds the SIE, Series 7, and Series 79TO licenses issued by the Financial Industry Regulatory Authority, Series 50, 52TO and Series 53 licenses issued by the Municipal Securities Rulemaking Board and a Series 63 certificate issued by the North American Securities Administrators Association.

In nominating Ms. Koster, our Board considered her Board and executive level leadership, extensive experience with capital markets, and high level financial expertise as key attributes in her selection. Our Board believes that Ms. Koster’s investment banking experience and her high level of financial literacy and expertise and experience in capital raising activities will provide strategic insight to financial decisions for future Company initiatives.

Election of Officers; Family Relationships

Our executive officers are appointed by, and serve at the discretion of, our board of directors. There are no family relationships among any of our directors or executive officers.

Board Composition

Our board of directors currently consists of four members: Arthur D. Sams, Keith Albrecht, Peter Gross, and Katherine Koster. Our directors hold office until their successors have been elected and qualified or until the earlier of their resignation or removal.

Our certificate of incorporation and bylaws provide that the authorized number of directors may be changed only by resolution of the entire Board. Our certificate of incorporation and bylaws also provide that any vacancy on our Board, including a vacancy resulting from an expansion of our Board, may be filled only by vote of a majority of our directors then in office, although less than a quorum or by a sole remaining director.

We recognize the value of diversity on the Board. Although our priority in selection of board members is identification of members who will further the interests of our stockholders through his or her established record of professional accomplishment, the ability to contribute positively to the collaborative culture among board members, knowledge of our business and understanding of the competitive landscape, we are currently focusing on female candidates and candidates from underrepresented communities.

Independence of our Board of Directors and Board Committees

Rule 5605 of the Nasdaq Listing Rules requires a majority of a listed company’s board of directors to be comprised of “independent directors,” as defined in such rule, subject to specified exceptions. In addition, the Nasdaq Listing Rules require that, subject to specified exceptions: each member of a listed company’s audit, compensation and nominating committees be independent as defined under the Nasdaq Listing Rules; audit committee members also satisfy independence criteria set forth in Rule 10A-3 under the Securities Exchange Act of 1934, as amended (the “Exchange Act”); and compensation committee members also satisfy an additional independence test for compensation committee members under the Nasdaq Listing Rules.

Our Board has evaluated the independence of its members based upon the rules of the Nasdaq Stock Market and the Securities and Exchange Commission. Applying these standards, our Board determined that none of the directors, other than Mr. Sams, have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director and that each of those directors is “independent” as that term is defined under Rule 5605(a)(2) of the Nasdaq Listing Rules. Mr. Sams is not considered independent because he is an officer of Polar. As such, a majority of our Board is comprised of “independent directors” as defined under the Nasdaq Listing Rules.

Role of Board in Risk Oversight Process

One of the key functions of our Board is informed oversight of our risk management process. Our Board does not have a standing risk management committee, but rather administers this oversight function directly through the Board as a whole, as well as through its standing committees that address risks inherent in their respective areas of oversight. In particular, our Board is responsible for monitoring and assessing strategic risk exposure. Our Audit Committee is responsible for reviewing and discussing our major financial risk exposures and the steps our management has taken to monitor and control these exposures, including guidelines and policies with respect to risk assessment and risk management. Our Audit Committee also monitors compliance with legal and regulatory requirements and reviews related party transactions, in addition to oversight of the performance of our external audit function. Our Board monitors the effectiveness of our corporate governance guidelines. Our Compensation Committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking. The Board believes its leadership structure is consistent with and supports the administration of its risk oversight function.

Board Committees and Meetings

Our board of directors has established standing committees in connection with the discharge of its responsibilities. These committees include an Audit Committee, a Compensation Committee and a Nominating and Corporate Governance Committee. The composition and responsibilities of each committee are described below. Members serve on committees until their resignation or until otherwise determined by our board of directors. Each of these committees has adopted a written charter that satisfies the applicable standards of the SEC and the Nasdaq Listing Rules, which we have posted on the investor relations section of our website.

Audit Committee

The members of our Audit Committee are Messrs. Albrecht and Gross and Ms. Koster. Mr. Albrecht is the chair of the Audit Committee. Each member of the Audit Committee satisfies the heightened audit committee independence requirements under the Nasdaq Listing Rules and Rule 10A-3 of the Exchange Act. In addition, our board of directors has determined that Mr. Albrecht qualifies as an audit committee financial expert, as that term is defined under SEC rules, and possesses the requisite financial sophistication, as defined under the Nasdaq Listing Rules. Our Audit Committee assists our board of directors in its oversight of our accounting and financial reporting process and the audits of our financial statements.

Under its charter, our Audit Committee is responsible for, among other things:

- overseeing accounting and financial reporting process;
- selecting, retaining and replacing independent auditors and evaluating their qualifications, independence and performance;
- reviewing and approving scope of the annual audit and audit fees;
- discussing with management and independent auditors the results of annual audit and review of quarterly financial statements;
- reviewing adequacy and effectiveness of internal control policies and procedures;
- approving retention of independent auditors to perform any proposed permissible non-audit services;
- overseeing internal audit functions and annually reviewing audit committee charter and committee performance;
- preparing the audit committee report that the Securities and Exchange Commission requires in our annual proxy statement; and
- reviewing and evaluating the performance of the Audit Committee, including compliance with its charter.

Compensation Committee

The members of our Compensation Committee are Messrs. Gross and Albrecht. Mr. Gross is the chair of the Compensation Committee. Each member of our Compensation Committee is independent as defined under the Nasdaq Listing Rules and satisfies Nasdaq's additional independence standards for compensation committee members. Messrs. Gross and Albrecht are non-employee directors within the meaning of Rule 16b-3 under the Exchange Act and outside directors as defined by Section 162(m) of the Internal Revenue Code. Our Compensation Committee assists our Board in the discharge of its responsibilities relating to the compensation of our executive officers.

Under its charter, our Compensation Committee is responsible for, among other things:

- developing and maintaining an executive compensation policy and monitor the results of that policy;
- recommending to our board of directors for approval compensation and benefit plans;
- reviewing and approving annually corporate and personal goals and objectives to serve as the basis for the CEO's compensation, evaluating the CEO's performance in light of those goals and objectives and determining the CEO's compensation based on that evaluation;
- determining and approving the annual compensation for other executive officers;
- retaining or obtaining the advice of a compensation consultant, outside legal counsel or other advisor;
- approving any grants of stock options, restricted stock, performance shares, stock appreciation rights, and other equity-based incentives to the extent provided under our equity compensation plans;
- reviewing and making recommendations to our board of directors regarding the compensation of non-employee directors; and
- reviewing and evaluating the performance of the Compensation Committee, including compliance with its charter.

Nominating and Corporate Governance Committee

The members of our Nominating and Corporate Governance Committee are Messrs. Gross and Albrecht and Ms. Koster. Mr. Gross is the chair of the Nominating and Corporate Governance Committee. Each member of our Nominating and Corporate Governance Committee is independent as defined under the Nasdaq Listing Rules. Under its charter, our Nominating and Corporate Governance Committee is responsible for, among other things:

- considering and reviewing periodically the desired composition of our board of directors;
- establishing any qualifications and standards for individual directors;
- identifying, evaluating and nominating candidates for election to our board of directors;
- ensuring that the members of our board of directors satisfy SEC and Nasdaq independence and other requirements relating to membership on our board of directors and committees;
- making recommendations to our board of directors regarding the size of the board of directors, the tenure and classifications of directors, and the composition of the committees of the board of directors;
- considering other corporate governance and related matters as requested by our board of directors; and
- reviewing and evaluating the performance of the Nominating and Corporate Governance Committee, including compliance with its charter.

Compensation Committee Interlocks and Insider Participation

Since July 2016, all officer compensation and bonuses for executive officers has been determined by our Compensation Committee which is comprised of two independent directors.

None of our executive officers serves, or in the past has served, as a member of our Board or Compensation Committee, or other committee serving an equivalent function, of any entity that has one or more executive officers serving as members of our Board or our Compensation Committee. None of the members of our Compensation Committee is or has been an officer or employee of Polar.

Code of Business Conduct and Ethics

We have adopted a written code of business conduct and ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. A copy of the code is available on the investor relations section of our website, which is located at <https://polarpower.com/>. If we make any substantive amendments to, or grant any waivers from, the code of business conduct and ethics for any officer or director, we will disclose the nature of such amendment or waiver on our website or in a current report on Form 8-K.

Item 11. Executive Compensation.

For 2022, our Compensation Committee established an executive compensation plan for our President and Chief Executive Officer, Chief Financial Officer and Chief Operating Officer, whom we refer to collectively as our “executive officers,” with the following objectives:

- attract, retain, motivate and reward our executive officers who are responsible for our success;
- align and strengthen the mutual interests of our executive officers, our company and our stockholders;
- deliver compensation that reflects our financial and operational performance, while at the same time providing the opportunity for our executive officers to earn above-targeted total compensation for exceptional individual and company performance; and
- provide total compensation to each executive officer that is internally equitable, competitive and influenced by company and individual performance.

During 2022, compensation of our executive officers was comprised of base salary, non-equity incentives in the form of cash bonuses, and long-term equity incentives. The cash bonus amounts paid to our executive officers during 2022, as set forth below in “– Summary Compensation Table,” were approved by our Compensation Committee and were based on a variety of factors regarding our performance during 2022.

Compensation Philosophy

Our compensation philosophy and objectives are as follows:

- to align the interests of our executive officers with those of our stockholders and incent our executive officers to attain our short- and long-term financial and business goals;
- to ensure that our executive compensation structure and total compensation is fair, reasonable and competitive in the marketplace so that we can attract and retain highly qualified personnel in key positions; and
- to provide an executive compensation structure and total compensation that are internally equitable based upon each executive officer’s role and responsibilities.

Our Compensation Committee seeks to make executive compensation decisions that embody this philosophy and that are directed towards attaining these objectives.

In implementing our compensation philosophy and objectives, our Compensation Committee reviews and analyzes each executive position, including the importance and scope of the role and how the position compares to other Polar executive officers. With respect to setting base salaries, our Compensation Committee also compares these positions to similar positions at a number of publicly traded companies listed on the New York Stock Exchange and Nasdaq that are engaged in the power manufacturing and design industry.

We believe that structuring our executive officer compensation program to align the interests of our executive officers with our interests and those of our stockholders, and properly incenting our executive officers to attain our short- and long-term business goals, best serves the interests of our stockholders and creates stockholder value. We believe this occurs through motivating our executive officers to attain our short- and long-term business goals and retaining these executive officers by providing compensation opportunities that are competitive in the marketplace.

Compensation Governance Practices

Listed below are some key examples of our compensation governance practices that are intended to align the interests of our executive officers with our stockholders, incent the attainment of short- and long-term business objectives and retain highly qualified executive officers:

- *Pay for performance.* A substantial portion of our compensation is tied to meeting specified company and individual objectives. We structure total compensation with significant annual cash incentives and a long-term equity component, thereby making a substantial portion of each executive officer's targeted total compensation dependent upon company and individual performance as well as the performance of our stock price.
- *Retention through long-term equity awards.* We employ long-term equity awards through grants of options that vest in the future. These equity awards are designed to aid in our retention of key personnel in important positions and align the interests of our executive officers with those of our stockholders.
- *Long vesting periods.* Our equity awards to our executive officers generally vest in annual installments over a three-year period.
- *Linkage of annual cash incentive compensation plan to our performance.* Our annual cash incentive compensation plan links a majority of targeted and potential payouts to our financial performance.
- *Prohibition on hedging and pledging common stock* Our executive officers, together with all our employees, are prohibited from engaging in hedging, pledging or similar transactions with respect to our common stock.
- *No perquisites.* Our executive officers are not provided with any perquisites or special benefits other than benefits such as healthcare, vacation and sick days available to other full-time employees of Polar.
- *Change in control.* All executive officers' unvested equity grants accelerate upon any change in control of Polar.
- *No option re-pricing.* Our 2016 Plan does not permit options or stock appreciation rights to be repriced to a lower exercise price without the approval of our stockholders, except in connection with certain changes to our capital structure.
- *Clawback policy* If we are required as the result of misconduct to restate our financial results due to our material noncompliance with any financial reporting requirements under the federal securities laws, our Chief Executive Officer and Chief Financial Officer may be legally required to reimburse us for any bonus or incentive-based or equity-based compensation they receive.

Role of our Compensation Committee

Our Compensation Committee, with input from our management and one or more independent compensation consultants, establishes, updates and administers our executive compensation program. Our Compensation Committee establishes our compensation philosophy and objectives; oversees the design and administration of our executive compensation program; establishes the elements and mix of total compensation; sets the parameters and specific target metrics of our performance-based incentive compensation plan; and determines the target compensation of our executive officers. Our Compensation Committee has the authority to retain independent counsel, advisors and other experts to assist it in the compensation-setting process and receives adequate funding to engage those service providers.

Role of Management

Our Chief Executive Officer and other executive officers attend Compensation Committee meetings as requested by the Compensation Committee. These individuals are not present during executive sessions of Compensation Committee meetings except at the invitation of the Compensation Committee.

Comparable Company Analysis

Our Compensation Committee sets base salary compensation of our executive officers using compensation market data as a reference to assist it in understanding the competitive pay positioning of total compensation and each element of compensation. For 2022, the target for base salary compensation for our executive officers remained the same as in 2019 and was based on data collected from our peer group of companies. The peer group of companies selected and used for compensation comparisons is comprised of Nasdaq or NYSE traded power manufacturing and design companies with revenues below \$100 million. The overall composition of the peer group reflects companies of similar complexity and size to us. As such, we believe that these peer group of companies are reflective of our market for executive talent. Set forth below is the list of the peer group of companies for 2022:

<u>Company Name</u>	<u>Description</u>
Espey Manufacturing – ESP (NYSE)	Power electronics design and manufacturing company, products include power supplies, power converters, power distribution equipment.
Wireless Telecommunications– WTT (NYSE)	Designs and manufactures radio frequency and microwave based products for wireless and advance telecommunications industry
Fuel Cell Energy – FCEL(Nasdaq)	Designs and manufactures power generation systems for mobile and stationary power applications.

The Compensation Committee reviews the appropriateness of the comparison group used for assessing the compensation of our executive officers on an annual basis. The data used from our peer group was collected directly from filings made by the peer group of companies with the SEC.

Elements of Total Compensation

During 2022, our executive officers' compensation program included three major elements:

- Base Salary
- Non-Equity Incentives
- Long-term Equity Incentives.

Base Salary

Our Compensation Committee reviews the base salary levels for our executive officers annually and makes such adjustments as it deems appropriate after taking into account the officer's level and scope of responsibility and experience, company and individual performance, competitive market data, and internal pay equity considerations.

Outlined below is the base salary data of the peer group of companies outlined above. For 2022, the Compensation Committee kept the same base salary structure as in 2019. In determining base salary, the Compensation Committee tabulated the average base salary for the executive officers in the peer group of companies.

The Compensation Committee determined on April 2, 2018 that, commencing April 1, 2018, the base salary of our President and Chief Executive officer be set at approximately 70% of the average base salaries of the peer group of companies and that the base salaries for our Chief Financial Officer and the Chief Operating Officer be set at approximately 60% of the average base salaries of the peer group of companies, all of which is reflected in the table set forth below:

Executive	Min	Max	Average	2018	2018 to Avg.
CEO (in \$,000)	386	600	400	275	69%
CFO/COO (in \$,000)	220	391	300	175	58%

Non-Equity Incentives

Annual non-equity incentive compensation for our executive officers consists of cash awards. Participants are eligible for annual cash incentive compensation based upon our attainment of pre-established financial and business performance goals. The Compensation Committee believes that these goals will best incent our executive officers to attain our short- and long-term financial and other business goals.

For 2022, the Compensation Committee determined that each executive officer could earn up to 100% of such executive officer's base salary based upon the attainment by us of the five financial and other business performance goals set forth below. The minimum and maximum payout for each performance goal (measured as a percentage of base salary) are set forth immediately below. The specific pre-established performance goals are set forth in the table following the table set forth immediately below. Participants are eligible to receive awards at each level of participation (i.e., Minimum Level, Target Level and Maximum Level) to the extent Polar achieves such level. In the event our performance falls short of a specific performance level, participants will not be eligible to receive an award at that level. In addition, executive officers had to achieve a minimum of two performance elements in order to qualify for an award in the level. For example, if at conclusion of 2022 the total revenues were \$36 million and none of the additional elements qualified, then the executive officer would not be eligible for a performance award of 25% of base salary as outlined in the table below.

Company Performance Element	Minimum Level	Target Level	Maximum Level
Revenue	20%	25%	30%
Gross Margin	5%	10%	15%
EBITDA	5%	10%	15%
Customer Concentration	8%	15%	23%
International Sales	7%	12%	17%
Total	50%	75%	100%

Company Performance Element	Minimum Level	Target Level	Maximum Level	2022 Actual
Revenue (\$ million)	\$ 30	\$ 36	\$ 42	\$ 16.0
Gross Margin (% of revenue)	31%	32%	33%	14.5%
EBITDA (% of revenue)	5%	7%	9%	(30.1)%
Customer Concentration (% of total sales)	55%	45%	35%	66%
International Sales (% of total sales)	15%	20%	25%	25%

Long-term Equity Incentives

Long-term equity incentive compensation for our executive officers, generally consists of awards of stock options under our 2016 Plan. We believe that these equity awards offer a balanced and competitive equity compensation arrangement for our executive officers.

The Compensation Committee approves equity awards for our executive officers in connection with the annual review of their individual performance and overall compensation. The annual awards are typically made near the end of the first quarter of the following year. Each award is designed primarily as a retention tool, typically requiring the executive to remain with Polar for at least one year to receive the benefit of one-third of the award on partial vesting and at least three years to receive the full benefit of the award on full vesting. We believe our equity incentive compensation aligns the interests of our executive officers with those of our stockholders and provides each executive officer with a significant incentive to manage Polar from the perspective of an owner with an equity stake in the business by tying significant portions of the recipients' compensation to the market price of our common stock.

In making long-term equity incentive awards, our Compensation Committee sets a target value for the award for each executive officer based on its judgment about the factors used in setting executive officer total compensation described under "Compensation Philosophy" above as well as our Compensation Committee's judgment regarding the desired mix of base salary, annual non-equity incentives and long-term equity incentives. Our Compensation Committee also considers outstanding vested and unvested equity awards to executive officers, the stock ownership levels of executive officers and the potential dilutive effect on our stockholders.

Summary Compensation Table

The table and discussion below present compensation information for our following executive officers, which we refer to as our "named executive officers" (dollar amounts in thousands):

- Arthur D. Sams, our President, Chief Executive Officer, Secretary and Chairman of the Board;
- Rajesh Masina, our former Chief Operating Officer; and
- Luis Zavala, our Chief Financial Officer.

Name and Principal Position	Year	Salary (\$)	Option Awards (\$)	Stock Compensation (\$)	Total (\$)
Arthur D. Sams, President, Chief Executive Officer and Secretary	2022	275	—	55	330
	2021	275	—	—	275
Rajesh Masina, Former Chief Operating Officer	2022	175	—	—	175
	2021	175	—	—	175
Luis Zavala, Chief Financial Officer	2022	175	—	35	210
	2021	175	—	—	175

Employment Agreements

Arthur D. Sams

Our Amended and Restated Executive Employment Agreement with Arthur D. Sams, dated as of July 8, 2016, provides for at-will employment of Mr. Sams as our President and Chief Executive Officer, at an annual base salary of \$200. On April 2, 2018, we increased Mr. Sams' annual base salary to \$275 effective as of April 1, 2018. Mr. Sams is eligible to receive an annual discretionary cash bonus to be paid based upon performance criteria set by our Compensation Committee, as more fully described above, and is eligible to participate in all of our employee benefit programs including our 2016 Plan.

Upon termination by Polar without cause or resignation by Mr. Sams for good reason, Mr. Sams is entitled to receive (i) a lump sum cash payment equal to 200% of his then-current base salary, (ii) a lump sum cash payment equal to 200% of the amount of average incentive bonus paid to Mr. Sams during the two calendar years preceding the termination, and (iii) continued health insurance coverage for eighteen months. If Mr. Sams is terminated without cause or resigns for good reason within three months before or twelve months after a change in control, Mr. Sams is entitled to (a) a lump sum cash payment equal to 200% of his then-current base salary, (b) a lump sum cash payment equal to 200% of the amount of average incentive bonus paid to Mr. Sams during the two calendar years preceding the termination, and (c) continued health insurance coverage for eighteen months. If Mr. Sams becomes disabled, Mr. Sams is entitled to receive a lump sum cash payment equal to 100% of his then-current base salary and continued health coverage for twelve months.

The term “for good reason” is defined in the Amended and Restated Executive Employment Agreement as (i) the assignment to Mr. Sams of any duties or responsibilities that result in the material diminution of Mr. Sams’ authority, duties or responsibility, (ii) a material reduction by Polar in Mr. Sams’ annual base salary, except to the extent the base salaries of all other executive officers of Polar are accordingly reduced, (iii) a relocation of Mr. Sams’ place of work, or Polar’s principal executive offices if Mr. Sams’ principal office is at these offices, to a location that increases Mr. Sams’ daily one-way commute by more than fifty miles, or (iv) any material breach by Polar of any material provision of the Amended and Restated Executive Employment Agreement.

The term “cause” is defined in the Amended and Restated Executive Employment Agreement as (i) Mr. Sams’ indictment or conviction of any felony or of any crime involving dishonesty, (ii) Mr. Sams’ participation in any fraud or other act of willful misconduct against Polar, (iii) Mr. Sams’ refusal to comply with any lawful directive of Polar, (iv) Mr. Sams’ material breach of his fiduciary, statutory, contractual, or common law duties to Polar, or (v) conduct by Mr. Sams which, in the good faith and reasonable determination of our board of directors, demonstrates gross unfitness to serve; provided, however, that in the event that any of the foregoing events is reasonably capable of being cured, Polar shall, within twenty days after the discovery of the event, provide written notice to Mr. Sams describing the nature of the event and Mr. Sams shall thereafter have ten business days to cure the event.

A “change in control” of Polar is deemed to have occurred if, in a single transaction or series of related transactions (i) any person (as the term is used in Section 13(d) and 14(d) of the Exchange Act), or persons acting as a group, other than a trustee or fiduciary holding securities under an employee benefit program, is or becomes a “beneficial owner” (as defined in Rule 13-3 under the Exchange Act), directly or indirectly of securities of Polar representing a majority of the combined voting power of Polar, (ii) there is a merger, consolidation or other business combination transaction of Polar with or into another corporation, entity or person, other than a transaction in which the holders of at least a majority of the shares of voting capital stock of Polar outstanding immediately prior to the transaction continue to hold (either by the shares remaining outstanding or by their being converted into shares of voting capital stock of the surviving entity) a majority of the total voting power represented by the shares of voting capital stock of Polar (or the surviving entity) outstanding immediately after the transaction, or (iii) all or substantially all of our assets are sold.

Rajesh Masina

Our Executive Employment Agreement with Rajesh Masina, dated as of July 8, 2016, provided for at-will employment as our Vice President Operations at an annual base salary is \$120. On April 2, 2018, we appointed Mr. Masina as our Chief Operating Officer and increased his annual base salary to \$175 effective as of April 1, 2018. Mr. Masina was eligible to receive an annual discretionary cash bonus to be paid based upon performance criteria set by our Compensation Committee, as more fully described above, and was eligible to participate in all of our employee benefit programs including our 2016 Plan.

On January 12, 2022, Rajesh Masina notified the Company of his resignation, effective January 21, 2022. Mr. Masina’s resignation from the Company was not a result of any disagreement with the Company on any matter related to its operations, policies or practices.

Luis Zavala

Our Executive Employment Agreement with Luis Zavala, dated as of July 8, 2016, provides for at-will employment as our Vice President Finance at an annual base salary of \$120. On April 2, 2018, we appointed Mr. Zavala as our Chief Financial Officer and increased his annual base salary to \$175 effective as of April 1, 2018. Mr. Zavala is eligible to receive an annual discretionary cash bonus to be paid based upon performance criteria set by our Compensation Committee, as more fully described above, and is eligible to participate in all of our employee benefit programs including our 2016 Plan. The general terms of Mr. Zavala's Executive Employment Agreement are identical to the terms of Mr. Masina's Executive Employment Agreement.

2016 Omnibus Incentive Plan

On July 8, 2016 our board of directors and stockholders adopted the 2016 Plan. The material terms of the 2016 Plan, as amended, are summarized below.

Summary of the Material Terms of the 2016 Plan

Purpose. We established the 2016 Plan to attract, retain and motivate our employees, officers and directors, to promote the success of our business by linking the personal interests of our employees, officers, consultants, advisors and directors to those of our stockholders and to encourage stock ownership on the part of management. The 2016 Plan is intended to permit the grant of stock options (both incentive stock options, or ISOs and non-qualified stock options, or NQSOs or, collectively, Options), stock appreciation rights, or SARS, restricted stock awards, or Restricted Stock Awards, restricted stock units, or RSUs, incentive awards, or Incentive Awards, other stock-based awards, or Stock Based Awards, dividend equivalents, or Dividend Equivalents, and cash awards, or Cash Awards.

Administration. The 2016 Plan is administered by our Compensation Committee. Our Compensation Committee may act through subcommittees or, with respect to awards granted to individuals who are not subject to the reporting and other provisions of Section 16 of the Exchange Act and who are not members of our board of directors or the board of directors of our Affiliates (as defined by the 2016 Plan), delegate to one or more officers all or part of its duties with respect to such awards. Our Compensation Committee may, at its discretion, accelerate the time at which any award may be exercised, become transferable or nonforfeitable or become earned and settled including without limitation (i) in the event of the participant's death, disability, retirement or involuntary termination of employment or service (including a voluntary termination of employment or service for good reason) or (ii) in connection with a Change in Control (as defined in the 2016 Plan).

Authorized Shares. Under the 2016 Plan, we may issue a maximum aggregate of 1,754,385 shares of common stock, all of which may be issued pursuant to Options, SARs, Restricted Stock Awards, RSUs, Incentive Awards, Stock-Based Awards or Dividend Equivalents. Each share issued in connection with an award will reduce the number of shares available under the 2016 Plan by one, and each share covered under a SAR will reduce the number of shares available under the 2016 Plan by one, even though the share is not actually issued upon settlement of the SAR. Shares relating to awards that are terminated by expiration, forfeiture, cancellation or otherwise without issuance of shares of common stock, settled in cash in lieu of shares, or exchanged prior to the issuance of shares for awards not involving shares, will again be available for issuance under the 2016 Plan. Shares not issued as a result of net settlement of an award, tendered or withheld to pay the exercise price, purchase price or withholding taxes of an award or shares purchased on the open market with the proceeds of the exercise price of an award will not again be available for issuance under the 2016 Plan.

Award Limits. In any calendar year, no participant may be granted awards that relate to more than 350,877 shares of our common stock. For these purposes, an Option and its corresponding SAR will be counted as a single award. For any Cash Awards that are intended to constitute annual incentive awards, the maximum amount payable to any one participant with respect to any 12-month period is \$5,000. Award limits that are expressed as a number of shares are subject to the adjustment provisions of the 2016 Plan as described below.

A non-employee director may not be granted awards during any single calendar year that, taken together with any cash fees paid to such non-employee director during such calendar year in respect of the non-employee director's service as a member of the board during such year, exceeds \$500 in total value (calculating the value of any such awards based on the grant date fair value of such awards for financial accounting purposes). Notwithstanding the foregoing, the board may make exceptions to the foregoing limit (up to twice such limit) for a non-executive chair of the board or, in extraordinary circumstances, for other individual non-employee directors, as the board may determine, provided that the non-employee director, receiving such awards may not participate in the decision to make such awards.

Written Agreements. All awards granted under the 2016 Plan will be governed by separate written agreements between the participants and us. The written agreements will specify the terms of the particular awards.

Transferability. Generally, an award is non-transferable except by will or the laws of descent and distribution, and during the lifetime of the participant to whom the award is granted, the award may only be exercised by, or payable to, the participant. However, the Compensation Committee may provide that awards, other than ISOs or a Corresponding SAR (as defined in the 2016 Plan) that is related to an ISO, may be transferred by a participant to immediate family members or trust or other entities on behalf of the Participant and/or family members for charitable donations. Any such transfer will be permitted only if (i) the participant does not receive any consideration for the transfer and (ii) the Compensation Committee expressly approves the transfer. The holder of the transferred award will be bound by the same terms and conditions that governed the award during the period that it was held by the participant, except that such transferee may only transfer the award by will or the laws of descent and distribution.

Maximum Award Period. No award shall be exercisable or become vested or payable more than ten years after the date of grant.

Compliance With Applicable Law. No award shall be exercisable, vested or payable except in compliance with all applicable federal and state laws and regulations (including, without limitation, tax and securities laws), any listing agreement with any stock exchange to which we are a party, and the rules of all domestic stock exchanges on which our shares may be listed.

Payment. The exercise or purchase price of an award, and any taxes required to be withheld with respect to an award, may be paid in cash or, if the written agreement so provides, the Compensation Committee may allow a participant to pay all or part of the exercise or purchase price, and any required withholding taxes, by tendering shares of common stock, through a broker-assisted cashless exercise, by means of "net exercise" procedure, or any other specified medium of payment.

Stockholder Rights. No participant shall have any rights as our stockholder as a result of issuance of an award until the award is settled by the issuance of common stock (other than a Restricted Stock Award or RSUs for which certain stockholder rights may be granted).

Forfeiture Provisions. Awards do not confer upon any individual any right to continue in our employ or service or in the employ or service of our Affiliates. All rights to any award that a participant has will be immediately forfeited if the participant is discharged from employment or service for "Cause" (as defined in the 2016 Plan).

Types of awards

Options. Both ISOs and NQSOs may be granted under the 2016 Plan. Our Compensation Committee will determine the eligible individuals to whom grants of Options will be made, the number of shares subject to each option, the exercise price per share, the time or times at which the option may be exercised, whether any performance or other conditions must be satisfied before a participant may exercise an option, the method of payment by the participant, the method of delivery of shares to a participant, whether the Option is an ISO or a NQSO, and all other terms and conditions of the award. However, the exercise price of an Option may not be less than the fair market value of a share of common stock on the date the Option is granted. No participant may be granted ISOs that are first exercisable in any calendar year for shares of common stock having an aggregate fair value (determined on the date of grant) that exceeds \$100,000. With respect to an ISO granted to a participant who is a Ten Percent Shareholder (as defined in the 2016 Plan), the exercise price per share may not be less than 110% of the fair market value of the common stock on the date the Option is granted. At the Compensation Committee's discretion, an Option may be granted with or without a Corresponding SAR (as defined below).

SARs. A SAR entitles the participant to receive, upon exercise, the excess of the fair market value on that date of each share of common stock subject to the exercised portion of the SAR over the fair market value of each such share on the date of the grant of the SAR. A SAR can be granted alone or in tandem with an Option. A SAR granted in tandem with an Option is called a Corresponding SAR and entitles the participant to exercise the Option or the SAR, at which time the other tandem award expires with respect to the number of shares being exercised. The Compensation Committee is authorized to determine the eligible individuals to whom grants of SARs will be made, the number of shares of common stock covered by the grant, the time or times at which a SAR may be exercised and all other terms and conditions of the SAR. However, no participant may be granted Corresponding SARs that are related to ISOs which are first exercisable in any calendar year for shares of common stock having an aggregate fair market value (determined on the date of grant) that exceeds \$100,000.

Restricted Stock Awards and RSUs. A Restricted Stock Award is the grant or sale of shares of common stock, which may be subject to forfeiture for a period of time or subject to certain conditions. A RSU entitles the participant to receive, upon vesting, shares of our common stock. We will deliver to the participant one share of common stock for each RSU that becomes earned and payable. With regard to Restricted Stock Awards, the Compensation Committee is authorized to determine the eligible individuals to whom grants will be made, the number of shares subject to such grants, the purchase price, if any, to be paid for each share subject to the award of restricted stock, the time or times at which the restrictions will terminate, and all other terms and conditions of the restricted stock. With regard to RSUs, the Compensation Committee is authorized to determine the eligible individuals to whom grants will be made, the number of shares subject to such grants and the vesting conditions entitling a participant to settlement of the RSUs.

Incentive Awards. An Incentive Award entitles the participant to receive cash or common stock when certain conditions are met. The Compensation Committee has the authority to determine the eligible individuals to whom grants will be made and all other terms and conditions of the Incentive Award.

Stock-Based Awards. Stock-Based Awards may be denominated or payable in, valued by reference to or otherwise based on shares of common stock, including awards convertible or exchangeable into shares of common stock (or the cash value thereof) and common stock purchase rights and awards valued by reference to the fair market value of the common stock. The Compensation Committee has the authority to determine the eligible individuals to whom grants will be made and all other terms and conditions of Stock-Based Awards. However, the purchase price for the common stock under any Stock-Based Award in the nature of a purchase right may not be less than the fair market value of a share of common stock as of the date the award is granted. Cash awards, as an element of or supplement to any other award under the 2016 Plan, may also be granted.

Our Compensation Committee is authorized under the 2016 Plan to grant shares of common stock as a bonus, or to grant shares of common stock or other awards in lieu of any of our obligations or of our affiliates to pay cash or to deliver other property under the 2016 Plan or under any other of our plans or compensatory arrangements or any of our affiliates.

Dividend Equivalents. Our Compensation Committee may also grant Dividend Equivalents under the 2016 Plan. A Dividend Equivalent is an award that entitles the participant to receive cash, shares of common stock, other awards or other property equal in value to all or a specified portion of dividends paid with respect to shares of our common stock. The Compensation Committee is authorized to determine the eligible individuals to whom grants will be made and all other terms and conditions of the Dividend Equivalents. However, no Dividend Equivalents may be awarded with an Option, SAR or Stock-Based Award in the nature of purchase rights.

Cash Awards. Cash Awards will also be authorized under the 2016 Plan. Cash Awards may be granted as an element of or a supplement to any other award under the 2016 Plan or as a stand-alone Cash Award. The Compensation Committee will determine the terms and conditions of any such Cash Awards.

Performance Criteria. Our Compensation Committee has the discretion to establish objectively determinable performance conditions for when awards will become vested, exercisable and payable. These performance conditions may be based on one or any combination of metrics related to our financial, market or business performance. The form of the performance conditions also may be measured on a company, affiliate, division, business unit or geographic basis, individually, alternatively or in any combination, subset or component thereof. Performance goals may reflect absolute entity performance or a relative comparison of entity performance to the performance of a peer group of entities or other external measure of the selected performance conditions. Profits, earnings and revenues used for any performance condition measurement may exclude any extraordinary or nonrecurring items. The performance conditions may, but need not, be based upon an increase or positive result under the aforementioned business criteria and could include, for example and not by way of limitation, maintaining the status quo or limiting the economic losses (measured, in each case, by reference to the specific business criteria). An award that is intended to become exercisable, vested or payable on the achievement of performance conditions means that the award will not become exercisable, vested or payable solely on mere continued employment or service. However, such an award, in addition to performance conditions, may be subject to continued employment or service by the participant. The performance conditions may include any or any combination of the following: (a) revenue, (b) earnings before interest, taxes, depreciation and amortization, or EBITDA, (c) cash earnings (earnings before amortization of intangibles), (d) operating income, (e) pre-or after-tax income, (f) earnings per share, (g) net cash flow, (h) net cash flow per share, (i) net earnings, (j) return on equity, (k) return on total capital, (l) return on sales, (m) return on net assets employed, (n) return on assets or net assets, (o) share price performance, (p) total stockholder return, (q) improvement in or attainment of expense levels, (r) improvement in or attainment of working capital levels, (s) net sales, (t) revenue growth or product revenue growth, (u) operating income (before or after taxes), (v) pre-or after-tax income (before or after allocation of corporate overhead and bonus), (w) earnings per share; (x) return on equity, (y) appreciation in and/or maintenance of the price of the shares of common stock, (z) market share, (aa) gross profits, (bb) comparisons with various stock market indices; (cc) reductions in cost, (dd) cash flow or cash flow per share (before or after dividends), (ee) return on capital (including return on total capital or return on invested capital), (ff) cash flow return on investments; (gg) improvement in or attainment of expense levels or working capital levels, (hh) stockholder equity and/or (ii) other criteria selected by the Compensation Committee.

Our Compensation Committee has the discretion to select one or more periods of time over which the attainment of one or more of the foregoing performance conditions will be measured for the purpose of determining when an award will become vested, exercisable or payable. The Compensation Committee has the authority to adjust goals and awards in the manner set forth in the 2016 Plan.

Change in Control. In the event of a “Change in Control” (as defined in the 2016 Plan) and, with respect to awards that are subject to Section 409A of the Internal Revenue Code of 1986, as amended, or the Code, and such awards, 409A Awards, only to the extent permitted by Section 409A of the Code, our Compensation Committee in its discretion may, on a participant-by-participant basis (a) accelerate the vesting of all unvested and unexercised Options, SARs or Stock-Based Awards in the nature of purchase rights and/or terminate such awards, without any payment therefore, immediately prior to the date of any such transaction after giving the participant at least seven days written notice of such actions; (b) fully vest and/or accelerate settlement of any awards; (c) terminate any outstanding Options, SARs or Stock-Based Awards in the nature of purchase rights after giving the participant notice and a chance to exercise such awards (to the extent then exercisable or exercisable upon the change in control); (d) cancel any portion of an outstanding award that remains unexercised or is subject to restriction or forfeiture in exchange for a cash payment to the participant of the value of the award; or (e) require that the award be assumed by the successor corporation or replaced with interests of an equal value in the successor corporation.

Amendment and Termination. The 2016 Plan will expire 10 years after its effective date, unless terminated earlier by our board of directors. Any award that is outstanding as of the date the 2016 Plan expires will continue in force according to the terms set out in the award agreement. Our board of directors may terminate, amend or modify the 2016 Plan at any time. However, stockholder approval may be required for certain types of amendments under applicable law or regulatory authority. Except as may be provided in an award agreement or the 2016 Plan, no amendment to the 2016 Plan may adversely affect the terms and conditions of any existing award in any material way without the participant’s consent.

An amendment will be contingent on approval of our stockholders, to the extent required by law, by the rules of any stock exchange on which our securities are then traded or if the amendment would (i) increase the benefits accruing to participants under the 2016 Plan, including without limitation, any amendment to the 2016 Plan or any agreement to permit a re-pricing or decrease in the exercise price of any outstanding awards, (ii) increase the aggregate number of shares of common stock that may be issued under the 2016 Plan, or (iii) modify the requirements as to eligibility for participation in the 2016 Plan.

Material U.S. federal income tax consequences of awards under the 2016 Plan

The following discussion summarizes the principal federal income tax consequences associated with awards under the 2016 Plan. The discussion is based on laws, regulations, rulings and court decisions currently in effect, all of which are subject to change.

ISOs. A participant will not recognize taxable income on the grant or exercise of an ISO (although the excess of the fair market value of the common stock over the exercise price will be included for alternative minimum tax purposes). A participant will recognize taxable income when he or she disposes of the shares of common stock acquired under the ISO. If the disposition occurs more than two years after the grant of the ISO and more than one year after its exercise, the participant will recognize long-term capital gain (or loss) to the extent the amount realized from the disposition exceeds (or is less than) the participant's tax basis in the shares of common stock. A participant's tax basis in the common stock generally will be the amount the participant paid for the stock. If common stock acquired under an ISO is disposed of before the expiration of the ISO holding period described above, the participant will recognize as ordinary income in the year of the disposition the excess of the fair market value of the common stock on the date of exercise of the ISO over the exercise price. Any additional gain will be treated as long-term or short-term capital gain, depending on the length of time the participant held the shares. Special rules apply if a participant pays the exercise price by delivery of common stock. We will not be entitled to a federal income tax deduction with respect to the grant or exercise of an ISO. However, in the event a participant disposes of common stock acquired under an ISO before the expiration of the ISO holding period described above, we generally will be entitled to a federal income tax deduction equal to the amount of ordinary income the participant recognizes.

NQSOs. A participant will not recognize any taxable income on the grant of a NQSO. On the exercise of a NQSO, the participant will recognize as ordinary income the excess of the fair market value of the common stock acquired over the exercise price. A participant's tax basis in the common stock is the amount paid plus any amounts included in income on exercise. Special rules apply if a participant pays the exercise price by delivery of common stock. The exercise of a NQSO generally will entitle us to claim a federal income tax deduction equal to the amount of ordinary income the participant recognizes.

SARs. A participant will not recognize any taxable income at the time SARs are granted. The participant at the time of receipt will recognize as ordinary income the amount of cash and the fair market value of the common stock that he or she receives. We generally will be entitled to a federal income tax deduction equal to the amount of ordinary income the participant recognizes.

Restricted Stock Awards and RSUs. With regard to Restricted Stock Awards, a participant will recognize ordinary income on account of a Restricted Stock Award on the first day that the shares are either transferable or not subject to a substantial risk of forfeiture. The ordinary income recognized will equal the excess of the fair market value of the common stock on such date over the price, if any, paid for the stock. However, even if the shares under a Restricted Stock Award are both nontransferable and subject to a substantial risk of forfeiture, the participant may make a special "83(b) election" to recognize income, and have his or her tax consequences determined, as of the date the Restricted Stock Award is made. The participant's tax basis in the shares received will equal the income recognized plus the price, if any, paid for the Restricted Stock Award. We generally will be entitled to a federal income tax deduction equal to the ordinary income the participant recognizes. With regard to RSUs, the participant will not recognize any taxable income at the time RSUs are granted. When the terms and conditions to which the RSUs are subject have been satisfied and the RSUs are paid, the participant will recognize as ordinary income the fair market value of the common stock he or she receives. We generally will be entitled to a federal income tax deduction equal to the ordinary income the participant recognizes.

Incentive Awards. A participant will not recognize any taxable income at the time an Incentive Award is granted. When the terms and conditions to which an Incentive Award is subject have been satisfied and the award is paid, the participant will recognize as ordinary income the amount of cash and the fair market value of the common stock he or she receives. We generally will be entitled to a federal income tax deduction equal to the amount of ordinary income the participant recognizes.

Stock-Based Awards. A participant will recognize ordinary income on receipt of cash or shares of common stock paid with respect to a Stock-Based Award. We generally will be entitled to a federal tax deduction equal to the amount of ordinary income the participant recognizes.

Dividend Equivalents. A participant will recognize as ordinary income the amount of cash and the fair market value of any common stock he or she receives on payment of the Dividend Equivalents. To the extent the Dividend Equivalents are paid in the form of other awards, the participant will recognize income as otherwise described herein.

Limitation on Deductions. The deduction for a publicly-held corporation for otherwise deductible compensation to a “covered employee” generally is limited to \$1,000,000 per year. An individual is a covered employee if he or she is the chief executive officer or one of the three highest compensated officers for the year (other than the chief executive officer or chief financial officer) or was a covered employee for any preceding year beginning after December 31, 2016.

Other Tax Rules. The 2016 Plan is designed to enable our Compensation Committee to structure awards that will not be subject to Section 409A of the Code, which imposes certain restrictions and requirements on deferred compensation. However, our Compensation Committee may grant awards that are subject to Section 409A of the Code. In that case, the terms of such 409A Award will be (a) subject to the deferral election requirements of Section 409A of the Code; and (b) may only be paid upon a separation from service, a set time, death, disability, a change in control or an unforeseeable emergency, each within the meanings of Section 409A of the Code. Our Compensation Committee shall not have the authority to accelerate or defer a 409A Award other than as permitted by Section 409A of the Code. Moreover, any payment on a separation from service of a “Specified Employee” (as defined in the 2016 Plan) will not be made until six months following the participant’s separation from service (or upon the participant’s death, if earlier) as required by Section 409A of the Code.

Non-Employee Director Compensation

Our non-employee directors received a quarterly cash retainer of \$7,500 during 2022. In addition, we reimburse all non-employee directors for travel and other necessary business expenses incurred in the performance of director services and extend coverage to them under our directors’ and officers’ indemnity insurance policies. During 2022, each of Messrs. Albrecht and Gross and Ms. Koster received total compensation in the amount of \$30,000.

Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law, or the DGCL, provides that a corporation may indemnify directors and officers as well as other employees and individuals against expenses (including attorneys’ fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with any threatened, pending or completed actions, suits or proceedings in which such person is made a party by reason of such person being or having been a director, officer, employee or agent to the corporation. The DGCL provides that Section 145 is not exclusive of other rights to which those seeking indemnification may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise. Sections of our certificate of incorporation and our bylaws provide for indemnification by us of our directors, officers, employees and agents to the fullest extent permitted by the DGCL.

Article X of our certification of incorporation eliminates the liability of a director or stockholder for monetary damages for breach of fiduciary duty as a director, except to the extent such exemption from liability or limitation thereof is not permitted under Delaware law. Under Section 102(b)(7) of the DGCL, a director shall not be exempt from liability for monetary damages for any liabilities arising (i) from any breach of the director’s duty of loyalty to the corporation or its stockholders, (ii) from acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the DGCL, or (iv) for any transaction from which the director derived an improper personal benefit.

We have entered into agreements to indemnify our directors and officers as determined by our board of directors. These agreements provide for indemnification of related expenses including attorneys' fees, judgments, fines and settlement amounts incurred by any of these individuals in any action or proceeding. We believe that these indemnification agreements are necessary to attract and retain qualified persons as directors and officers. We also maintain directors' and officers' liability insurance.

The limitation of liability and indemnification provisions in our certificate of incorporation and our bylaws may discourage stockholders from bringing a lawsuit against our directors for breach of their fiduciary duty. They may also reduce the likelihood of derivative litigation against our directors and officers, even though an action, if successful, might benefit us and other stockholders. Furthermore, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage awards against directors and officers as required by these indemnification provisions.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons under the foregoing provisions of our certificate of incorporation or our bylaws, or otherwise, we have been informed that in the opinion of the SEC, this indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

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

The following table sets forth information regarding beneficial ownership of our common stock as of March 31, 2023 by:

- each person, or group of affiliated persons, known by us to beneficially own more than 5% of our shares of common stock;
- each of our directors;
- each of our named executive officers; and
- all of our directors and executive officers as a group.

The table is based on information provided to us by our directors, executive officers and principal stockholders. Beneficial ownership is determined in accordance with the rules of the SEC, and generally means that a person has beneficial ownership of a security if he, she or it possesses sole or shared voting or investment power of that security, including stock options and warrants that are exercisable within 60 days of March 31, 2023. To our knowledge, except as indicated by footnote, and subject to community property laws where applicable, the persons named in the table below have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them. Shares of common stock underlying derivative securities, if any, that are currently exercisable or exercisable within 60 days after March 31, 2023 are deemed to be outstanding in calculating the percentage ownership of the applicable person or group but are not deemed to be outstanding as to any other person or group. Percentage of beneficial ownership is based on 12,949,550 shares of common stock outstanding as of the date of the table.

Unless otherwise indicated, the address of each beneficial owner listed in the table below is c/o Polar Power, Inc., 249 E. Gardena Boulevard, Gardena, California 90248.

Name and Address of Beneficial Owner ⁽¹⁾	Title of Class	Amount and Nature of Beneficial Ownership	Percent of Class
Arthur D. Sams ⁽²⁾	Common	5,643,600	43.4%
Luis Zavala ⁽³⁾	Common	88,139	*
Keith Albrecht ⁽⁴⁾	Common	10,000	*
Peter Gross ⁽⁵⁾	Common	10,000	*
Katherine Koster	Common	—	—
All directors and executive officers as a group (5 persons) ⁽⁶⁾	Common	5,751,739	44.1%

* Less than 1%.

(1) Messrs. Sams Albrecht and Gross, and Ms. Koster are directors of Polar. Messrs. Sams and Zavala are named executive officers of Polar.

(2) Includes 50,000 shares of common stock issuable upon exercise of options.

(3) Includes 30,000 shares of common stock issuable upon exercise of options.

(4) Includes 10,000 shares of common stock issuable upon exercise of options.

(5) Amount represents 10,000 shares of common stock issuable upon exercise of options.

(6) Includes 100,000 shares issuable upon exercise of options.

Equity Compensation Plan Information

The following table provides information about our common stock that may be issued upon the exercise of options, warrants and rights under all our existing equity compensation plans as of December 31, 2022.

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants or Rights	Weighted-Average Exercise Price 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:			
2016 Plan	140,000	\$ 5.22	1,453,038

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

The following is a summary of transactions since January 1, 2018 to which we have been a participant, in which:

- the amount involved exceeded or will exceed \$120 (in thousands); and
- any of our directors (and director nominees), executive officers, or holders of more than 5% of our voting securities, or immediate family member or affiliate of such persons, had or will have a direct or indirect material interest, other than compensation and other arrangements that are described under “Executive Compensation” above, or that were approved by our Compensation Committee.

All of the related person transactions described below have been approved by a majority of the independent and disinterested members of our board of directors. We believe that each of the transactions described below were on terms no less favorable to us than terms we would have obtained from unaffiliated third parties.

It is our intention to ensure that all future transactions, if any, between us and related persons are approved by our audit committee or a majority of the independent and disinterested members of our board of directors (except for compensation arrangements, which are approved by our compensation committee), and are on terms no less favorable to us than those that we could obtain from unaffiliated third parties. See “Policies and Procedures for Related Person Transactions” below.

Transactions with Stockholders, Officers and Directors

On March 1, 2014, we entered into a Subcontractor Installer Agreement with Smartgen Solutions, Inc., or Smartgen, a company engaged in business of equipment rental and providing maintenance, repair and installation services to mobile telecommunications towers in California. Rajesh Masina, our former Chief Operating Officer, owns 40% of the share capital of Smartgen and 30% is owned by his brother. On July 8, 2016, our board of directors reviewed the terms and conditions of, and ratified, the Subcontractor Installer Agreement.

Under the terms of the agreement, Smartgen has been appointed as a non-exclusive, authorized service provider for the installation, repair and service of Polar products in Southern California. The agreement has a term of three years from the date of execution and automatically renews for additional one-year periods if not terminated. All transactions involving this agreement have been monitored by our audit committee.

During 2022 and 2021, Smartgen performed \$0 and \$88 in field services, respectively, the cost of which is included in cost of goods sold.

On January 2, 2023, we provided written notice to Smartgen to terminate all agreements between the two companies. The termination was effective January 31, 2022.

Employment Agreements

We have entered into amended employment agreement with each of Arthur D. Sams, our President, Chief Executive Officer and Secretary; Rajesh Masina, our former Chief Operating Officer; and Luis Zavala, our Chief Financial Officer; providing for, without limitation, certain payments upon termination and change in control. See “Executive Compensation–Employment Agreements” in this Annual Report on Form 10-K for a further discussion of these agreements.

Indemnification of Officers and Directors

Our certificate of incorporation and our bylaws provide that we will indemnify our directors and officers with respect to certain liabilities, expenses and other accounts imposed upon them because of having been a director or officer, except in the case of willful misconduct or a knowing violation of criminal law. In addition, we have entered into indemnification agreements with each of our directors and executive officers.

Policies and Procedures for Related Person Transactions

Our board of directors has adopted a written policy with respect to related person transactions. This policy governs the review, approval or ratification of covered related person transactions. The Audit Committee of our board of directors manages this policy.

For purposes of the policy, a “related person transaction” is a transaction, arrangement or relationship (or any series of similar transactions, arrangements or relationships) in which we were, are or will be a participant, and the amount involved exceeds the applicable dollar threshold set forth under Item 404 of Regulation S-K and in which any related person had, has or will have a direct or indirect material interest. As defined in Item 404 of Regulation S-K, “related person” generally includes our directors (and director nominees), executive officers, holders of more than 5% of our voting securities, and immediate family members or affiliates of such persons.

The policy generally provides that we may enter into a related person transaction only if:

- the Audit Committee pre-approves such transaction in accordance with the guidelines set forth in the policy,
- the transaction is on terms comparable to those that could be obtained in arm’s length dealings with an unrelated third party and the Audit Committee (or the chairperson of the Audit Committee) approves or ratifies such transaction in accordance with the guidelines set forth in the policy,
- the transaction is approved by the disinterested members of the board of directors, or
- the transaction involves compensation approved by the Compensation Committee of the board of directors.

In the event a related person transaction is not pre-approved by the Audit Committee and our management determines to recommend such related person transaction to the Audit Committee, such transaction must be reviewed by the Audit Committee. After review, the Audit Committee will approve or disapprove such transaction. If our Chief Executive Officer, in consultation with our Audit Committee, determines that it is not practicable or desirable for us to wait until the next Audit Committee meeting, the chairperson of the Audit Committee will possess delegated authority to act on behalf of the Audit Committee. The Audit Committee (or the chairperson of the Audit Committee) may approve only those related person transactions that are in, or not inconsistent with, our best interests and the best interests of our stockholders, as the Audit Committee (or the chairperson of the Audit Committee) determines in good faith. All approvals made by chairperson of the Audit Committee will be ratified by the full Audit Committee at the next regularly scheduled meeting or within 120 days from approval by chairperson.

Our Audit Committee has determined that the following transactions, even if the amount exceeds the applicable dollar threshold set forth under Item 404 of Regulation S-K in the aggregate, will be deemed to be pre-approved by the Audit Committee:

- any employment of certain named executive officers that would be publicly disclosed;
- director compensation that would be publicly disclosed;
- transactions with other companies where the related person’s only relationship is as a director or owner of less than ten percent of such company (other than a general partnership), if the aggregate amount involved does not exceed the greater of \$200 (in thousands) or five percent of that company’s consolidated gross revenues
- transactions where all stockholders receive proportional benefits;
- transactions involving competitive bids;

- transactions with a related person involving the rendering of services at rates or charges fixed in conformity with law or governmental authority; and
- transactions with a related person involving services as a bank depository of funds, transfer agent, registrar, trustee under a trust indenture or similar services.

In addition, the Audit Committee will review the policy at least annually and recommend amendments to the policy to the board of directors from time to time.

The policy provides that all related person transactions will be disclosed to the Audit Committee, and all material related person transactions will be disclosed to the board of directors. Additionally, all related person transactions requiring public disclosure will be properly disclosed, as applicable, on our various public filings.

The Audit Committee will review all relevant information available to it about the related person transaction. The policy will provide that the Audit Committee may approve or ratify the related person transaction only if the Audit Committee determines that, under all of the circumstances, the transaction is in, or is not inconsistent with, our best interests and the best interests of our stockholders. The policy will also provide that the Audit Committee may, in its sole discretion, impose such conditions as it deems appropriate on us or the related person in connection with approval of the related person transaction.

Item 14. Principal Accounting Fees and Expenses.

The following table presents fees for professional audit services rendered by Weinberg & Company, P.A. for 2022 and 2021 (in thousands).

	2022	2021
Audit Fees	\$ 198	\$ 222
Audit-Related Fees	3	2
Tax Fees	46	57
Total	<u>\$ 247</u>	<u>\$ 281</u>

Audit Fees. Consist of amounts billed for professional services rendered for the audit of our annual consolidated financial statements included in this Annual Report on Form 10-K.

Audit-Related Fees. Audit-Related Fees consist of fees billed for professional services that are reasonably related to the performance of the audit or review of our consolidated financial statements but are not reported under “Audit Fees.”

Tax Fees. Tax Fees consist of fees for professional services for tax compliance activities, including the preparation of federal and state tax returns and related compliance matters.

All Other Fees. Consists of amounts billed for services other than those noted above.

Our Audit Committee considered all non-audit services provided by Weinberg & Company, P.A. and determined that the provision of such services was compatible with maintaining such firm’s audit independence.

Audit Committee Pre-Approval Policy

Our Audit Committee is responsible for approving all audit, audit-related, tax and other services. The Audit Committee pre-approves all auditing services and permitted non-audit services, including all fees and terms to be performed for us by our independent auditor at the beginning of the fiscal year. Non-audit services are reviewed and pre-approved by project at the beginning of the fiscal year. Any additional non-audit services contemplated by us after the beginning of the fiscal year are submitted to the Chairman of our Audit Committee for pre- approval prior to engaging our independent auditor for such services. These interim pre-approvals are reviewed with the full Audit Committee at its next meeting for ratification.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

(a)(1) Financial Statements

Reference is made to the financial statements listed on and attached following the Index to Financial Statements contained on page F-1 of this report.

(a)(2) Financial Statement Schedules

None.

(a)(3) Exhibits

Reference is made to the exhibits listed on the Index to Exhibits immediately preceding the signature page of this report.

Item 16. Form 10-K Summary.

None.

INDEX TO FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm (PCAOB Firm ID: 572)	F-2
Balance Sheets as at December 31, 2022 and 2021	F-4
Statements of Operations for the Years Ended December 31, 2022 and 2021	F-5
Statements of Stockholders' Equity for the Years Ended December 31, 2022 and 2021	F-6
Statements of Cash Flows for the Years Ended December 31, 2022 and 2021	F-7
Notes to Financial Statements	F-8

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of Polar Power, Inc.
Gardena, California

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Polar Power, Inc. (the “Company”) as of December 31, 2022 and 2021, the related statements of operations, stockholders’ equity, and cash flows for the years then ended, 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 the years then ended, 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 consolidated financial statements that were communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Inventory Valuation

As discussed in Note 1 to the financial statements, the Company’s inventories are stated at the lower of cost or net realizable value, with cost determined on first-in, first-out (“FIFO”) basis. As of December 31, 2022, the Company held inventories of \$15.46 million. In determining net realizable value, management considers historical usage, forecasted demand in relation to inventory on hand, market conditions, and other factors.

We identified the evaluation of management's estimate of the net realizable value of certain inventory as a critical audit matter, because of the significant judgments made by management in estimating future demand and market conditions which are used to arrive at the net realizable value. This required a high degree of auditor judgment and increased auditor effort in auditing such assumptions.

The primary procedures we performed to address this critical audit matter included:

- We evaluated management's product demand forecast for reasonableness considering historical sales by product, and whether they were consistent with the historical data and evidence obtained in other areas of the audit.
- We developed an independent expectation of the net realizable value of inventory using historic inventory activity and compared our independent expectation to the amount recorded in the financial statements.

Assessment of the Company's Ability to Continue as a Going Concern

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As disclosed in Note 1 to the financial statements, for the year ended December 31, 2022, the Company recorded a net loss of \$5.6 million, used cash in operations of \$6.5 million, and at December 31, 2022, had an accumulated deficit of \$19.1 million. Management evaluated the Company's liquidity within one year after the date of issuance of the consolidated financial statements to determine if there is substantial doubt about the Company's ability to continue as a going concern. Management has concluded that, based on its current plans and projections, the Company will be able to satisfy its liquidity requirements for more than one year from when these financial statements were issued. In the preparation of the liquidity assessment, management applied judgment to estimate the projected cash flows of the Company, including the following: (i) projected cash outflows, (ii) projected cash inflows, and (iii) excess availability levels under the Company's existing line of credit financing.

We identified management's evaluation of the Company's ability to continue as a going concern and related disclosures as a critical audit matter due to the significant judgments and assumptions used by management in preparing the Company's forecasted cash flows and the risk of bias in management's judgments and assumptions in estimating these cash flows. Auditing these judgments and assumptions required a high degree of auditor judgment and increased auditor effort required to address these matters.

The primary procedures we performed to address this critical audit matter included:

- We obtained management's cash flow forecasts covering the going concern assessment period to March 2024 and evaluated the reasonableness of the cash flow forecast by comparing it to historical operating results.
- We performed sensitivity analyses on the projected revenue and operating margins used in the Company's cash flow projections to evaluate the impact on the conclusions reached by management.
- We evaluated the adequacy of management's disclosure in the financial statements regarding the Company's liquidity by comparing to other audit evidence obtained to determine whether such information is consistent with the Company's liquidity disclosure

We have served as the Company's auditor since 2016.

/s/ Weinberg & Company, P.A.
Los Angeles, California
March 31, 2023

POLAR POWER, INC.
BALANCE SHEETS
(in thousands, except share and per share data)

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
ASSETS		
Current assets		
Cash and cash equivalents	\$ 211	\$ 5,101
Accounts receivable	2,230	4,243
Employee retention credit receivable	2,000	2,000
Inventories, net	15,460	9,017
Prepaid expenses	2,629	4,006
Income taxes receivable	787	787
Total current assets	<u>23,317</u>	<u>25,154</u>
Other assets:		
Operating lease right-of-use assets, net	240	914
Property and equipment, net	538	1,019
Deposits	93	93
Total assets	<u>\$ 24,188</u>	<u>\$ 27,180</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Accounts payable	\$ 230	\$ 328
Customer deposits	2,126	897
Accrued liabilities and other current liabilities	1,231	1,206
Current portion of operating lease liabilities	268	721
Current portion of notes payable	211	242
Line of credit	1,884	—
Total current liabilities	<u>5,950</u>	<u>3,394</u>
Notes payable, net of current portion	57	268
Operating lease liabilities, net of current portion	—	268
Total liabilities	<u>6,007</u>	<u>3,930</u>
Commitments and Contingencies		
Stockholders' Equity		
Preferred stock, \$0.0001 par value, 5,000,000 shares authorized, no shares issued and outstanding	—	—
Common stock, \$0.0001 par value, 50,000,000 shares authorized, 12,967,027 shares issued and 12,949,550 shares outstanding on December 31, 2022, and 12,805,680 shares issued and 12,788,203 shares outstanding on December 31, 2021	1	1
Additional paid-in capital	37,331	36,816
Accumulated deficit	(19,111)	(13,527)
Treasury Stock, at cost (17,477 shares)	(40)	(40)
Total stockholders' equity	<u>18,181</u>	<u>23,250</u>
Total liabilities and stockholders' equity	<u>\$ 24,188</u>	<u>\$ 27,180</u>

The accompanying notes are an integral part of these financial statements.

POLAR POWER, INC.
STATEMENTS OF OPERATIONS
(in thousands, except share and per share data)

	Years Ended December 31,	
	2022	2021
Net sales	\$ 16,056	\$ 16,896
Cost of Sales	13,931	13,451
Gross profit	2,125	3,445
Operating Expenses		
Sales and marketing	1,471	1,488
Research and development	1,460	1,986
General and administrative	4,727	3,069
Total operating expenses	7,658	6,543
Loss from operations	(5,533)	(3,098)
Other income (expenses)		
Interest expense and finance costs	(58)	(60)
Gain on forgiveness of PPP loan payable	—	1,715
Other income (expenses), net	7	29
Total other income (expenses), net	(51)	1,684
Net Loss	\$ (5,584)	\$ (1,414)
Net loss per share, basic and diluted	\$ (0.43)	\$ (0.11)
Weighted average shares outstanding, basic and diluted	12,878,350	12,720,499

The accompanying notes are an integral part of these financial statements.

POLAR POWER, INC.
STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands, except share data)

	<u>Common Stock,</u>		<u>Additional</u>	<u>(Accumulated</u>	<u>Treasury</u>	<u>Total</u>
	<u>Number</u>	<u>Amount</u>	<u>paid-in</u>	<u>Deficit)</u>	<u>Stock</u>	<u>Stockholders'</u>
			<u>capital</u>			<u>Equity</u>
Balances, December 31, 2020	11,768,158	\$ 1	\$ 23,643	\$ (12,113)	\$ (40)	\$ 11,491
Shares of common stock issued with warrants for cash	750,000	—	12,466	—	—	12,466
Common stock issued upon exercise of warrants	287,522	—	707	—	—	707
Net loss	—	—	—	(1,414)	—	(1,414)
Balances, December 31, 2021	12,805,680	1	36,816	(13,527)	(40)	23,250
Stock-based compensation	161,347	—	515	—	—	515
Net loss	—	—	—	(5,584)	—	(5,584)
Balances, December 31, 2022	<u>12,967,027</u>	<u>\$ 1</u>	<u>\$ 37,331</u>	<u>\$ (19,111)</u>	<u>\$ (40)</u>	<u>\$ 18,181</u>

The accompanying notes are an integral part of these financial statements.

POLAR POWER, INC.
STATEMENTS OF CASH FLOW
(in thousands)

	Years Ended December 31,	
	2022	2021
Cash flows from operating activities:		
Net loss	\$ (5,584)	\$ (1,414)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	507	549
Stock-based compensation	515	—
Gain from forgiveness of PPP loan payable	—	(1,715)
Changes in operating assets and liabilities		
Accounts receivable	2,013	(3,052)
Employee retention credit receivable	—	(2,000)
Inventories	(6,443)	77
Prepaid expenses	1,377	(3,648)
Income taxes receivable	—	1,570
Decrease in operating lease right-of-use asset	674	649
Accounts payable	(98)	16
Customer deposits	1,229	194
Accrued expenses and other current liabilities	25	65
Decrease in lease liability	(722)	(671)
Net cash used in operating activities	(6,507)	(9,380)
Cash flows from investing activities:		
Acquisition of property and equipment	(25)	(71)
Net cash used in investing activities	(25)	(71)
Cash flows from financing activities:		
Proceeds from sale of common stock, net of offering costs	—	12,466
Proceeds from exercise of warrants	—	707
Repayment of notes payable	(242)	(267)
Proceeds from advances from credit facility	1,884	—
Net cash provided by financing activities	1,642	12,906
Increase (decrease) in cash and cash equivalents	(4,890)	3,455
Cash and cash equivalents, beginning of period	5,101	1,646
Cash and cash equivalents, end of period	\$ 211	\$ 5,101

The accompanying notes are an integral part of these financial statements.

POLAR POWER, INC.
NOTES TO FINANCIAL STATEMENTS
FOR THE YEARS ENDED DECEMBER 31, 2022 AND 2021
(In thousands, except for share and per share data and where otherwise noted)

NOTE 1 – ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The Company

Polar Power, Inc. was incorporated in the State of Washington as Polar Products, Inc. and in 1991 reincorporated in the State of California under the name Polar Power, Inc. In December 2016, Polar Power, Inc. reincorporated in the State of Delaware (the “Company”). The Company designs, manufactures and sells direct current, or DC, power systems to supply reliable and low-cost energy to off-grid, bad-grid and backup power, electric vehicle (EV) charging, and nano-grid applications. The Company’s products integrate DC generator, proprietary electronic control systems, lithium batteries and solar photovoltaic (PV) technologies to provide low operating cost and emissions for telecommunications, defense, automotive, nano-grid, EV charging and industrial markets.

Liquidity

The accompanying financial statements have been prepared under the assumption that the Company will continue as a going concern. For the year ended December 31, 2022, the Company recorded a net loss of \$5,584 and used cash in operations of \$6,507. The Company’s management evaluated whether there are conditions or events considered in the aggregate, that raise substantial doubt about the Company’s ability to continue as a going concern within one year after the date the financial statements are issued.

Notwithstanding the net loss for 2022, management concluded that the Company will have adequate cash flow from operations and available line of credit in 2023 so that it is probable that the Company will be able to fund its current operating plan and satisfy its liquidity requirements within one year from the date the Company’s 2022 financial statements are issued.

As of December 31, 2022, the Company had a cash balance of \$211, with borrowing capacity of \$1,137, stockholders’ equity of \$18,181 and a working capital of \$17,367. The Company has taken action to improve its margins, and is continuing to build a strong back log, and expects to continue investing in product development and sales and marketing activities. The long-term continuation of the Company’s business plan is dependent upon the generation of sufficient revenues from its products to offset expenses. In the event that the Company does not generate sufficient cash flows from operations and is unable to obtain funding, the Company will be forced to delay, reduce, or eliminate some or all of its discretionary spending, which could adversely affect the Company’s business prospects, ability to meet long-term liquidity needs or ability to continue operations.

COVID-19

The global outbreak of the novel coronavirus (Covid-19) in early 2020 led to disruptions in general economic activities throughout the world as businesses and governments implemented broad actions to mitigate this public health crisis. The Company’s financial results for the twelve months ended December 31, 2022 have been affected by COVID-19 including, among others, a decrease in the Company’s sales and delays in sourcing of raw materials from suppliers. The Company’s business is directly dependent upon, and correlates closely with, the marketing levels and ongoing business activities of its existing customers and suppliers. The extent to which COVID-19 may impact the Company’s business activities and capital raising efforts will depend on future developments, which are uncertain and cannot be predicted.

Inflation

The impact of inflation and changing prices during 2022 has not been significant on the financial condition or results of operations of our company. Rapid changes in the global economy may cause significant spikes in inflation which may have an impact in our financial condition during 2023 and beyond. Because some of our contracts are at a fixed price, we face the risk that cost overruns or inflation may exceed, erode or eliminate our expected profit margin, or cause us to record a loss on certain projects. We are taking actions to manage the potential impacts of these matters and we will continue to assess the actual and expected impacts and the need for further action.

Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Material estimates relate to the assumptions made in determining reserves for uncollectible receivables, inventory net realizable value, impairment analysis of long-term assets, valuation allowance on deferred tax assets, accruals for potential liabilities and warrant reserves, assumptions made in valuing equity instruments issued for services, and assumptions used in the determination of the Company's liquidity. Actual results may differ from those estimates.

Revenue Recognition

The Company recognizes revenue in accordance with Accounting Standards Codification ("ASC") 606, Revenue from Contracts with Customers ("ASC 606"). The underlying principle of ASC 606 is to recognize revenue to depict the transfer of goods or services to customers at the amount expected to be collected. ASC 606 creates a five-step model that requires entities to exercise judgment when considering the terms of contract(s), which includes (1) identifying the contract(s) or agreement(s) with a customer, (2) identifying the Company's performance obligations in the contract or agreement, (3) determining the transaction price, (4) allocating the transaction price to the separate performance obligations, and (5) recognizing revenue as each performance obligation is satisfied.

Substantially all of the Company's revenue is derived from product sales. Product revenue is recognized when performance obligations under the terms of a contract are satisfied, which occurs for the Company upon shipment or delivery of products or services to its customers based on written sales terms, which is also when control is transferred. Revenue is measured as the amount of consideration the Company expects to receive in exchange for transferring the products or services to a customer. The Company determines whether delivery has occurred based on when title transfers and the risks and rewards of ownership have transferred to the customer, which usually occurs when the Company places the product with the customer's carrier or delivers the product to a customer's location. The Company regularly reviews its customers' financial positions to ensure that collectability is reasonably assured.

The Company also recognizes revenues from engineering services, technical support, and sale of accessories that support the Company's direct current, or DC, power systems. Revenue is recognized when transfer of control to the customer has been made and the Company's performance obligation has been fulfilled. The Company's revenue from engineering services, technical support services, and product accessories are clearly defined in each transaction with its customers and have not been significant to date.

The Company also recognizes revenues from the rental of equipment. The Company's rental revenues have not been significant to date and have accounted for less than one percent of total revenues for the years ended December 31, 2022 and 2021. The Company's rental contracts are fixed price contracts for fixed durations of time and include freight and delivery charges and are recognized on a straight-line basis over the rental period.

Disaggregation of Net Sales

The following table shows the Company's disaggregated net sales by product type (in thousands):

	Years Ended December 31,	
	2022	2021
DC power systems	\$ 15,219	\$ 16,291
Engineering & Tech Support Services	589	390
Accessories	248	215
Total net sales	<u>\$ 16,056</u>	<u>\$ 16,896</u>

The following table shows the Company's disaggregated net sales by customer type (in thousands):

	Years Ended December 31,	
	2022	2021
Telecom	\$ 15,357	\$ 14,953
Government/Military	38	995
Marine	205	76
Other (backup DC power to various industries)	456	872
Total net sales	<u>\$ 16,056</u>	<u>\$ 16,896</u>

The following tables shows the Company's net sales by the respective geographical regions of our customers (in thousands):

	Years Ended December 31,	
	2022	2021
United States	\$ 12,073	\$ 15,617
Canada	87	86
Mexico	—	4
South Pacific Islands	3,678	—
Japan	16	565
Other Asia Pacific	74	533
Europe and Middle East	128	91
Total net sales	<u>\$ 16,056</u>	<u>\$ 16,896</u>

For the years ended December 31, 2022 and 2021, international sales totaled \$3,983 and \$1,279, respectively.

Product Warranties

The Company provides limited warranties for parts and labor at no cost to its customers within a specified time period after the sale. The Company's standard warranty on new products is two years from the date of delivery to the customer. The Company offers a limited extended warranty of up to five years on its certified DC power systems based on application and usage. The Company's warranties are of an assurance-type and come standard with all Company products to cover repair or replacement should the product not perform as expected. Provisions for estimated expenses related to product warranties are made at the time products are sold. These estimates are established using historical information about the nature, frequency and average cost of warranty claim settlements as well as product manufacturing and recovery from suppliers. Management actively studies trends of warranty claims and takes action to improve product quality and minimize warranty costs. The Company estimates the actual historical warranty claims coupled with an analysis of unfulfilled claims to record a liability for specific warranty purposes, which are included in accrued liabilities and other current liabilities in the accompanying balance sheets. As of December 31, 2022 and 2021, the Company had accrued a liability for warranty reserve of \$600 and \$600, respectively, which are included in other accrued liabilities in the accompanying balance sheets. Management believes that the warranty accrual is appropriate; however, actual claims incurred could differ from original estimates, requiring adjustments to the accrual.

The following is a tabular reconciliation of the product warranty liability, excluding the deferred revenue related to the Company's warranty coverage (in thousands):

	Years End December 31,	
	2022	2021
Changes in estimates for warranties		
Balance at beginning of the period	\$ 600	\$ 600
Payments	(508)	(658)
Provision for warranties	508	658
Balance at end of the period	<u>\$ 600</u>	<u>\$ 600</u>

Shipping Costs

Amounts billed to a customer in a sales transaction related to shipping and handling are reported as revenue. Costs incurred by the Company for shipping and handling are considered fulfillment costs and reported as cost of sales.

Cash and cash equivalents

The Company considers all highly liquid investments with an original maturity of 90 days or less when purchased to be cash equivalents. Cash primarily consists of bank demand deposits maintained by a major financial institution. The Company's policy is to maintain its cash balances with financial institutions with high credit ratings and in accounts insured by the Federal Deposit Insurance Corporation (the "FDIC"). The Company may periodically have cash balances in financial institutions in excess of the FDIC insurance limit of \$250,000 per account per institution. The Company has not experienced any losses to date resulting from this policy.

At December 31, 2022 and 2021, cash denominated in Australian Dollar with a U.S. Dollar equivalent of \$8 and \$9, respectively, was held in an account at a financial institution located in Australia. At December 31, 2022 and 2021, cash denominated in Romanian Leu with a U.S. Dollar equivalent of \$23 and \$23, respectively, was held in an account at a financial institution located in Romania.

Accounts Receivable

Trade receivables are recorded at net realizable value consisting of the carrying amount less an allowance for uncollectible accounts, as needed. The Company uses the allowance method to account for uncollectible trade receivable balances. Under the allowance method, if needed, an estimate of uncollectible customer balances is made based upon specific account balances that are considered uncollectible. Factors used to establish an allowance include the credit quality and payment history of the customer. The Company did not deem it necessary to provide an allowance for doubtful accounts as of December 31, 2022 and 2021.

Inventories

Inventories are stated at the lower of cost or net realizable value, with cost determined on a first-in, first-out ("FIFO") basis. The Company records adjustments to its inventory based on an estimated forecast of the inventory demand, taking into consideration, among others, inventory turnover, inventory quantities on hand, unfilled customer order quantities, forecasted demand, current prices, competitive pricing, and trends and performance of similar products. If the estimated net realizable value is determined to be less than the recorded cost of the inventory, the difference is recognized as a loss in the period in which it occurs. Once inventory has been written down, it creates a new cost basis for inventory that may not be subsequently written up. For the year ended December 31, 2022, there were no write-downs of inventory.

As of December 31, 2022 and 2021, inventories consisted of the following (in thousands):

	Years Ended December 31,	
	2022	2021
Raw materials	\$ 12,277	\$ 6,607
Finished goods	3,183	2,410
Inventories	\$ 15,460	\$ 9,017

Property and Equipment

Property and equipment are recorded at cost less accumulated depreciation and amortization. Additions, improvements, and major renewals or replacements that substantially extend the useful life of an asset are capitalized. Repairs and maintenance expenditures are expensed as incurred. Depreciation and amortization of property and equipment is computed using the straight-line method over the estimated useful life. Estimated useful lives of the principal classes of assets are as follows:

	Estimated life
Production tooling, jigs, fixtures	3-5 years
Shop equipment and machinery	5 years
Vehicles	3-5 years
Leasehold improvements	Shorter of the lease term or estimated useful life
Office equipment	5 years
Software	5 years

Management regularly reviews property, equipment and other long-lived assets for possible impairment. This review occurs annually or more frequently if events or changes in circumstances indicate the carrying amount of the asset may not be recoverable. Based upon management's annual assessment, there were no indicators of impairment of the Company's property and equipment and other long-lived assets as of December 31, 2022, or December 31, 2021.

Leases

The Company accounts for its leases in accordance with the guidance of ASC 842, *Leases*. The Company determines whether a contract is, or contains, a lease at inception. Right-of-use assets represent the Company's right to use an underlying asset during the lease term, and lease liabilities represent the Company's obligation to make lease payments arising from the lease. Right-of-use assets and lease liabilities are recognized at lease commencement based upon the estimated present value of unpaid lease payments over the lease term. The Company uses its incremental borrowing rate based on the information available at lease commencement in determining the present value of unpaid lease payments.

Stock-Based Compensation

The Company periodically issues stock-based compensation to officers, directors, and consultants for services rendered. Such issuances vest and expire according to terms established at the issuance date.

Stock-based payments to employees, directors, and for acquiring goods and services from nonemployees, which include grants of employee stock options, are recognized in the financial statements based on their grant date fair values in accordance with ASC 718, *Compensation-Stock Compensation*. Stock option grants to employees, which are generally time vested, are measured at the grant date fair value and depending on the conditions associated with the vesting of the award, compensation cost is recognized on a straight-line or graded basis over the vesting period. Recognition of compensation expense for non-employees is in the same period and manner as if the Company had paid cash for the services. The fair value of stock options granted is estimated using the Black-Scholes option-pricing model, which uses certain assumptions related to risk-free interest rates, expected volatility, expected life, and future dividends. The assumptions used in the Black-Scholes option pricing model could materially affect compensation expense recorded in future periods.

Income Taxes

The Company accounts for income taxes using the asset and liability method whereby deferred tax assets are recognized for deductible temporary differences, and deferred tax liabilities are recognized for taxable temporary differences. Temporary differences are the differences between the reported amounts of assets and liabilities and their tax bases. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized before the Company is able to realize their benefits, or that future deductibility is uncertain.

Tax benefits from an uncertain tax position are recognized only if it more likely than not that the tax position will be sustained on examination by the taxing authorities based on technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has greater than 50 percent likelihood of being realized upon ultimate resolution. Deferred tax assets and liabilities are adjusted for the effects of changes in tax laws and rates on the date of enactment.

Research and Development Costs

Research and development costs are expensed as incurred and consist primarily of salaries and other expenses relating to the design, development, and testing of the Company's products. For the years ended December 31, 2022 and 2021, research and development expenditures totaled \$1,460 and \$1,986, respectively.

Net Loss Per Share

Basic net income (loss) per share is computed by dividing net income (loss) by the weighted average number of shares of common stock outstanding for the period. Diluted earnings per share is computed by dividing the net income applicable to common stockholders by the weighted average number of shares of common stock outstanding plus the number of additional shares of common stock that would have been outstanding if all dilutive potential shares of common stock had been issued using the treasury stock method. Potential shares of common stock are excluded from the computation when their effect is antidilutive. The dilutive effect of potentially dilutive securities is reflected in diluted net income per share if the exercise prices were lower than the average fair market value of shares of common stock during the reporting period.

The following potentially dilutive shares were excluded from the shares used to calculate diluted earnings per share as their inclusion would be anti-dilutive:

	December 31,	
	2022	2021
Options	140,000	140,000
Warrants	24,122	24,122
Total	164,122	164,122

Financial Assets and Liabilities Measured at Fair Value

The Company uses various inputs in determining the fair value of its financial assets and liabilities. Financial assets recorded at fair value in the balance sheets are categorized by the level of objectivity associated with the inputs used to measure their fair value.

Authoritative guidance provided by the Financial Accounting Standards Board ("FASB") defines the following levels directly related to the amount of subjectivity associated with the inputs to fair valuation of these financial assets:

Level 1 Quoted prices in active markets for identical assets or liabilities.

Level 2 Inputs, other than the quoted prices in active markets, that is observable either directly or indirectly.

Level 3 Unobservable inputs based on the Company's assumptions.

The carrying amounts of financial assets and liabilities, such as cash and cash equivalents, accounts receivable, accounts payable and accrued expenses, approximate their fair values because of the short maturity of these instruments. The carrying values of notes and loans payable approximate their fair values due to the fact that the interest rates on these obligations are based on prevailing market interest rates.

Segments

The Company operates in one segment for the manufacture and distribution of its products. In accordance with the "Segment Reporting" Topic of the ASC, the Company's chief operating decision maker has been identified as the Chief Executive Officer and President, who reviews operating results to make decisions about allocating resources and assessing performance for the entire Company. Existing guidance, which is based on a management approach to segment reporting, establishes requirements to report selected segment information quarterly and to report annually entity-wide disclosures about products and services, major customers, and the countries in which the entity holds material assets and reports revenue. All material operating units qualify for aggregation under "Segment Reporting" due to their similar customer base and similarities in: economic characteristics; nature of products and services; and procurement, manufacturing and distribution processes. Since the Company operates in one segment, all financial information required by "Segment Reporting" can be found in the accompanying financial statements.

Concentrations

Revenues. For the year ended December 31, 2022, 66% and 23%, respectively, of our revenue was generated from the Company's two largest customers, one being a Tier-1 telecommunications customer in the U.S. and one being a telecommunications customer outside the U.S. In 2021, 67% of revenue was generated from the Company's largest customer, a Tier-1 telecommunications customer in the U.S. In 2022 and 2021, sales to telecommunications customers accounted for 96% and 89% of total revenue, respectively. In 2022 and 2021, sales to international customers accounted for 25% and 8% of total revenue, respectively.

Accounts receivable. At December 31, 2022, the Company's largest receivable account represented 90% of the Company's total accounts receivable. At December 31, 2021, 74% and 15% of the Company's accounts receivable was from the Company's two largest receivable accounts. There was no other customer that accounted for more than 10% of the Company's accounts receivable as of the years ended December 31, 2022 and 2021.

Accounts payable. On December 31, 2022, the three largest accounts payable accounts to the Company's vendors represented 51%, 3%, and 3%, respectively. On December 31, 2021, the three largest accounts payable accounts to the Company's largest vendors represented 16%, 9%, and 9%, respectively.

Recent Accounting Pronouncements

In September 2016, the FASB issued ASU No. 2016-13, Credit Losses - Measurement of Credit Losses on Financial Instruments ("ASC 326"). The standard significantly changes how entities will measure credit losses for most financial assets, including accounts and notes receivables. The standard will replace today's "incurred loss" approach with an "expected loss" model, under which companies will recognize allowances based on expected rather than incurred losses. Entities will apply the standard's provisions as a cumulative-effect adjustment to retained earnings as of the beginning of the first reporting period in which the guidance is effective. The standard is effective for interim and annual reporting periods beginning after December 15, 2023. The adoption of ASU 2016-13 is not expected to have a material impact on the Company's financial position, results of operations, and cash flows.

In August 2021, the FASB issued ASU No. 2021-06 (“ASU 2021-06”) “Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity’s Own Equity (Subtopic 815-40).” ASU 2021-06 reduces the number of accounting models for convertible debt instruments by eliminating the cash conversion and beneficial conversion models. As a result, a convertible debt instrument will be accounted for as a single liability measured at its amortized cost as long as no other features require bifurcation and recognition as derivatives. By removing those separation models, the effective interest rate of convertible debt instruments will be closer to the coupon interest rate. Further, the diluted net income per share calculation for convertible instruments will require the Company to use the if-converted method. For contracts in an entity’s own equity, the type of contracts primarily affected by this update are freestanding and embedded features that are accounted for as derivatives under the current guidance due to a failure to meet the settlement conditions of the derivative scope exception. This update simplifies the related settlement assessment by removing the requirements to (i) consider whether the contract would be settled in registered shares, (ii) consider whether collateral is required to be posted, and (iii) assess shareholder rights. ASU 2021-06 is effective January 1, 2024, for the Company and the provisions of this update can be adopted using either the modified retrospective method or a fully retrospective method. Early adoption is permitted, but no earlier than January 1, 2022, including interim periods within that year. Effective January 1, 2022, the Company early adopted ASU 2021-06 and that adoption did not have an impact on its financial statements and the related disclosures.

The Company’s management does not believe that there are other recently issued but not yet effective authoritative guidance, if currently adopted, would have a material impact on the Company’s financial statement presentation or disclosures.

NOTE 2 – PROPERTY AND EQUIPMENT

Property and equipment consist of the following (in thousands):

	December 31, 2022	December 31, 2021
Shop equipment and machinery	\$ 3,371	\$ 3,350
Production tooling, jigs, fixtures	71	71
Vehicles	177	180
Leasehold improvements	390	390
Office equipment	185	181
Software	106	106
Total property and equipment, cost	4,300	4,278
Less: accumulated depreciation and amortization	(3,762)	(3,259)
Property and equipment, net	<u>\$ 538</u>	<u>\$ 1,019</u>

Depreciation and amortization expense on property and equipment for the years ended December 31, 2022 and 2021 was \$507 and \$549 respectively. During the years ended December 31, 2022 and 2021, \$489 and \$530, respectively, of depreciation expense was included in cost of sales for the years then ended.

NOTE 3 – NOTES PAYABLE

Notes payable consist of the following (in thousands):

	December 31, 2022	December 31, 2021
Total Notes Payable	\$ 268	\$ 510
Less: Current Portion	211	242
Notes Payable, Noncurrent portion	<u>\$ 57</u>	<u>\$ 268</u>

The Company has entered into several financing agreements for the purchase of equipment in prior years. The terms of these financing arrangements are for a term of 2 years to 5 years, with interest rates ranging from 1.9% to 6.9% per annum, secured by the purchased equipment, and mature between September 2023 and July 2024. The aggregate monthly payments of principal and interest of the outstanding notes payable as of December 31, 2022 is approximately \$22.

As of December 31, 2021, the balance of notes payable was \$510. During 2022, the Company paid down the notes payable by \$242, and at December 31, 2022, the balance of notes payable was \$268.

Annual future principal payments under the outstanding note agreements as of December 31, 2022 are as follows (in thousands):

Years ending December 31:

2023	\$	211
2024		57
Total	\$	<u>268</u>

NOTE 4 – LINE OF CREDIT

Effective September 30, 2020, the Company entered into a Loan and Security Agreement (the “Loan Agreement”) with Pinnacle Bank (“Pinnacle”). At December 31, 2022, the outstanding balance under the line of credit was \$1,884 and the Company had availability under the line of credit in the amount of \$1,137. The Loan Agreement initially expired on September 30, 2022, and on November 3, 2022, the Loan Agreement was amended to expire on September 30, 2024.

The Loan Agreement, as amended, provides for a revolving credit facility under which Pinnacle may make advances to the Company, subject to certain limitations and adjustments, of up to (a) 85% of the aggregate net face amount of the Company’s accounts receivable and other contract rights and receivables, plus (b) the lesser of (i) 35% of the lower of cost or wholesale market value of certain inventory of the Company or (ii) \$2,500. In no event shall the aggregate amount of the outstanding advances under the revolving credit facility be greater than \$4,000. Interest accrues on the daily balance at a rate of 1.25% above the prime rate, but in no event less than 3.75% per annum. Interest on the portion of the daily balance consisting of advances against inventory accrues interest at a rate of 2.25% above the prime rate, but in no event less than 4.75% per annum.

Pinnacle may terminate the Loan Agreement, as amended, at any time upon sixty days prior written notice and immediately upon the occurrence of an event of default. Under the Loan Agreement, the Company granted Pinnacle a security interest in all presently existing and thereafter acquired or arising assets of the Company. The Loan Agreement also contains a financial covenant requiring the Company to attain an effective tangible net worth, as defined, which the Company attained as of December 31, 2022.

The Loan Agreement obligates the Company to pay Pinnacle a yearly facility fee in an amount equal to 1.125% of the sum of the advance limit.

NOTE 5 – PPP LOAN PAYABLE

On May 4, 2020, the Company entered into a loan (the “PPP Loan”) with Citibank, N.A. in an aggregate principal amount of \$1,715, pursuant to the Paycheck Protection Program (the “PPP”) under the Coronavirus Aid, Relief, and Economic Security Act (“CARES Act”).

The PPP Loan matures two years from the disbursement date and bears interest at a rate of 1% per annum. The Company applied ASC 470, Debt, to account for the PPP Loan. The PPP loan and accrued interest were forgivable after December 31, 2020, as long as the borrower used the loan proceeds for qualifying expenses, including payroll, benefits, rent and utilities, and maintains its payroll levels. Management believes the entire loan amount has been used for qualifying expenses.

The Company filed its application for a full loan forgiveness to Citibank in July 2021. On September 28, 2021, the Company received notice from Citibank indicating that the SBA approved the forgiveness of the PPP loan payable in the amount of \$1,715. Accordingly, for the year ended December 31, 2021, the Company recognized the forgiveness of the PPP loan as “Gain on forgiveness of PPP loan payable” in the accompanying statements of operations.

NOTE 6 – OPERATING LEASES

The Company has two operating lease agreements for its warehouse and office spaces both with remaining lease terms at December 31, 2022, under a year. Leases with an initial term of 12 months or less are not recorded on the balance sheet. The Company accounts for the lease and non-lease components of its leases as a single lease component. Rent expense is recognized on a straight-line basis over the lease term. The Company also has another storage facility on a twelve-month lease term. Leases with an initial term of 12 months or less are not recorded on the balance sheet.

Operating lease right-of-use (“ROU”) assets and liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. ROU assets represent the Company’s right to use an underlying asset for the lease term and lease liabilities represent the Company’s obligation to make lease payments arising from the lease. Generally, the implicit rate of interest in arrangements is not readily determinable and the Company utilizes its incremental borrowing rate in determining the present value of lease payments. The Company’s incremental borrowing rate is a hypothetical collateralized borrowing rate based on its understanding of what its credit rating would be. The operating lease ROU asset includes any lease payments made and excludes lease incentives.

The components of rent expense and supplemental cash flow information related to leases for the period are as follows:

	Years Ended December 31,	
	2022	2021
<u>Lease Cost (in thousands)</u>		
Operating lease cost (of which \$98 is included in general and administration and \$601 is included in cost of sales in the Company’s statement of operations as of December 31, 2022, and \$98 is included in general and administration and \$601 is included in cost of sales in the Company’s statement of operations as of December 31, 2021)	\$ 699	\$ 699
<u>Other Information</u>		
Weighted average remaining lease term – operating leases (in years)	0.4	1.4
Average discount rate – operating leases	3.75%	3.75%

The supplemental balance sheet information related to leases for the period is as follows:

	At December 31, 2022	At December 31, 2021
<u>Operating leases (in thousands)</u>		
Long-term right-of-use assets, net of accumulated amortization of \$2,577 and \$1,903, respectively	\$ 240	\$ 914
Current portion of operating lease liabilities	\$ 268	\$ 721
Noncurrent portion of operating lease liabilities	—	268
Total operating lease liabilities	\$ 268	\$ 989

Maturities of the Company's lease liabilities are as follows:

Year Ending (in thousands)	Operating Leases
2023	\$ 280
Total lease payments	280
Less: Imputed interest/present value discount	(12)
Present value of lease liabilities	\$ 268

Rent expense for the twelve months ended December 31, 2022 and 2021 was \$975 and \$903, respectively (including short-term and other rentals).

NOTE 7 – STOCKHOLDERS' EQUITY

Common Stock

- Issuance of common stock during 2022 for services

In August 2022, the Company issued an aggregate of 161,347 shares of common stock to its officers, employees and consultants as part of the Company's Employee Retention Program and the Company's 2016 Omnibus Incentive Plan. The shares of common stock had an aggregate grant date fair value of \$515 based on the closing price of the Company's common stock on the grant date of the awards, which was recorded as stock-based compensation expense of \$515 during 2022.

- Underwritten Public Offering of Common Stock

On February 10, 2021, and the Company issued and sold 750,000 shares of common stock in an underwritten public offering. The Company received at the closing of the offering net proceeds of approximately \$12,466 after deducting underwriting discounts and commissions and other offering expenses payable by the Company. The Company is using the net proceeds from the Offering for general corporate purposes.

- Issuance of common stock upon exercise of warrants

During the year ended December 31, 2021, warrants to purchase an aggregate of 225,878 shares of common stock were exercised, and the Company received net proceeds of \$707 upon such exercise. In addition, warrants exercisable into 120,000 shares of common stock were converted under a cashless exercise option into 61,644 shares of the Company's common stock.

Preferred Stock

The Company's board of directors is authorized to issue up to 5,000,000 shares of preferred stock in one or more series and to fix the rights, preferences, privileges, qualifications, limitations and restrictions thereof, including dividend rights and rates, conversion rights, voting rights, terms of redemption, redemption prices, liquidation preferences and the number of shares constituting any series or the designation of such series, without any vote or action by the Company's stockholders. Any preferred stock to be issued could rank prior to the Company's common stock with respect to dividend rights and rights on liquidation. The Company's board of directors, without stockholder approval, may issue preferred stock with voting and conversion rights which could adversely affect the voting power of holders of common stock and discourage, delay or prevent a change in control of the Company.

Treasury Stock

At December 31, 2022 and 2021, the Company had 17,477 shares of common stock held as treasury stock at a cost of \$40.

NOTE 8 – STOCK OPTIONS

The following table summarizes stock option activity:

	Number of Options	Weighted Average Exercise Price
Outstanding, December 31, 2020	140,000	\$ 5.22
Granted	—	—
Exercised	—	—
Cancelled	—	—
Outstanding, December 31, 2021	140,000	\$ 5.22
Granted	—	—
Exercised	—	—
Outstanding and exercisable, December 31, 2022	<u>140,000</u>	<u>\$ 5.22</u>

Effective July 8, 2016 the Company's board of directors approved the Polar Power 2016 Omnibus Incentive Plan (the "2016 Plan"), authorizing the issuance of up to 1,754,385 shares of common stock as incentives to employees and consultants to the Company with awards limited to a maximum of 350,877 shares to any one participant in any calendar year.

At December 31, 2022 and 2021, the Company had total outstanding options of 140,000, which are fully vested, exercise prices ranging from \$4.84 to \$5.09, and with 30,000 option shares set to expire in December 2027 and the remaining 110,000 option shares set to expire in April 2028.

There was no intrinsic value of the outstanding options at December 31, 2022.

NOTE 9 – STOCK WARRANTS

The following table summarizes warrant activity:

	Number of Warrants	Weighted Average Exercise Price
Outstanding, December 31, 2020	370,000	\$ 8.75
Issued	—	—
Exercised	(345,878)	4.07
Outstanding, December 31, 2021	24,122	\$ 3.13
Issued	—	—
Exercised	—	—
Outstanding, December 31, 2022	<u>24,122</u>	<u>\$ 3.13</u>
Exercisable, December 31, 2022	<u>24,122</u>	<u>\$ 3.13</u>

During year ended December 31, 2021, warrants to purchase 225,878 shares of common stock were exercised at \$3.13 exercise price per share or total net proceeds to the Company of \$707 upon exercise. Also during 2021, warrants exercisable into 120,000 shares of the Company's common stock were exercised under a cashless exercise option into 61,644 shares of the Company's common stock.

There was no intrinsic value of the outstanding and exercisable warrants at December 31, 2022.

NOTE 10 – INCOME TAXES

The reconciliation of the effective income tax rate to the federal statutory rate is as follows:

	Years Ended December 31,	
	2022	2021
Federal income tax rate	(21)%	(21)%
State tax, net of federal benefit	(7)%	(7)%
Carryback net operating loss	—%	—%
Change in valuation allowances	28%	28%
Effective income tax rate	-%	-%

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial statement purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets and liabilities at December 31, 2022 and 2021 are as follows (in thousands):

	December 31, 2022	December 31, 2021
Deferred tax assets:		
Inventory valuation	\$ 1,462	\$ 1,373
Accrued liabilities and other reserves	254	257
Operating lease liability	75	277
Net operating loss carryforwards	3,262	3,158
Gross deferred tax assets	5,053	5,065
Valuation allowance	(4,863)	(4,701)
Total deferred tax assets	190	364
Deferred tax liabilities:		
Operating lease right-of-use asset, net	(67)	(128)
Depreciation	(123)	(236)
Total deferred tax liabilities	(190)	(364)
Net deferred tax asset (liability)	\$ —	\$ —

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act (“CARES Act”) was enacted and signed into law in response to the COVID-19 pandemic. Under the CARES Act, net operating loss (“NOL”)s carryforwards arising in tax years beginning after December 31, 2017, and before January 1, 2021 (e.g., NOLs incurred in 2018, 2019, or 2020 by a calendar-year taxpayer) may be carried back to each of the five tax years preceding the tax year of such loss. Since the enactment of the Tax Cuts and Jobs Act of 2017 (TCJA), NOLs generally could not be carried back but could be carried forward indefinitely. Further, the TCJA limits NOL absorption to 80% of taxable income. At December 31, 2022 and 2021, the Company had income taxes receivable of \$787 related to the NOL carrybacks.

At December 31, 2022, the Company had available Federal and state NOLs carryforwards to reduce future taxable income of approximately \$10.6 million and \$14.8 million, respectively. The Federal NOL can be carried forward indefinitely, but can only offset 80% of taxable income in future years. The state carryforward expires in 2039 through 2042.

Authoritative guidance issued by the ASC Topic 740 – Income Taxes requires that a valuation allowance be established when it is more likely than not that all or a portion of deferred tax assets will not be realized. The Company considers all evidence available when determining whether deferred tax assets are more likely-than-not to be realized, including projected future taxable income, scheduled reversals of deferred tax liabilities, prudent tax planning strategies, and recent financial operations. The evaluation of this evidence requires significant judgement about the forecast of future taxable income is consistent with the plans and estimates we are using to manage the underlying business. Based on their evaluation, the Company determined that their net deferred tax assets do not meet the requirements to be realized, and as such, the Company has provided a full valuation allowance against them.

The Company follows FASB guidelines that address the determination of whether tax benefits claimed or expected to be claimed on a tax return should be recorded in the financial statements. Under this guidance, the Company may recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position should be measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon ultimate settlement. This guidance also provides guidance on derecognition, classification, interest and penalties on income taxes, accounting in interim periods and requires increased disclosures. At December 31, 2022 and 2021, the Company did not have a liability for unrecognized tax benefits, and no adjustment was required at adoption.

The Company files income tax returns in the U.S. federal jurisdiction and various states. The Company is subject to U.S. federal or state income tax examinations by tax authorities for tax years after 2017.

The Company's policy is to record interest and penalties on uncertain tax provisions as income tax expense. As of December 31, 2022 and 2021, the Company had no accrued interest or penalties related to uncertain tax positions. Additionally, tax years 2017 through 2022 remain open to examination by the major taxing jurisdictions to which the Company is subject.

NOTE 11 - EMPLOYEE RETENTION CREDITS

The Consolidated Appropriations Act, passed in December 2021, expanded the employee retention credit ("ERC") program through December 2021. The credits cover 70% of qualified wages, plus the cost to continue providing health benefits to our employees, subject to a \$7 cap per employee per quarter. Due to revenue declines we have experienced, we qualified for approximately \$2,000 of employee retention credits ("ERC") during the year ended December 31, 2021. The Company believes that there is reasonable assurance that it has complied with the ERC eligibility requirements and has elected an accounting policy to present government assistance as a reduction of the related expense. For the year ended December 31, 2021, the ERC refund was recorded as an offset to certain payroll expenses in cost of sales of \$1,300 and operating expenses of \$700 in the accompanying statement of operations. As of December 31, 2022 and 2021, the balance of \$2,000 is presented as employee retention credit receivable in the accompanying balance sheet.

NOTE 12 – DISTRIBUTION AGREEMENT WITH A RELATED ENTITY

On March 1, 2014, the Company entered into a subcontractor installer agreement with Smartgen Solutions, Inc. ("Smartgen"), a related entity that is engaged in business of equipment rental and provider of maintenance, repair and installation services to mobile telecommunications towers in California. Under the terms of the agreement, Smartgen has been appointed as a non-exclusive, authorized service provider for the installation, repair and service of the Company's products in Southern California. The agreement has a term of three years from the date of execution and automatically renews for additional one-year periods if not terminated.

During the years ended December 31, 2022 and 2021, Smartgen performed \$88 and \$129 in field services, respectively, the cost of which is included in cost of goods sold.

On January 2, 2023, we provided written notice to Smartgen to terminate all agreements between the two companies. The termination was effective January 31, 2023.

NOTE 13 – COMMITMENTS AND CONTINGENCIES.

From time to time, the Company may be involved in general commercial disputes arising in the ordinary course of our business. The Company is not currently involved in legal proceedings that could reasonably be expected to have material adverse effect on its business, prospects, financial condition or results of operations. In the opinion of management of the Company, adequate provision has been made in the Company's financial statements at December 31, 2022 with respect to such matters. See also Notes 6 and 10.

NOTE 14 – SUBSEQUENT EVENTS.

In January 2015, the Company began leasing a manufacturing facility located in Gardena, CA, under a non-cancellable operating lease with initial term of 4 years through February 2019. In February 2019, the lease was amended to extend the lease term for another 4 years through February 2023 (“First Amendment to Lease”). On January 31, 2023, the lease was amended to extend the lease for another 3 years through February 2026 (“Second Amendment to Lease”). The base rent of the for Second Amendment to Lease will be \$58,096 per month in the first year, \$74,122 per month in the second year, and \$84,139 per month in the third year, resulting in aggregate monthly lease payments over the lease term of approximately \$2.6 million. The extension agreement is a “Net Lease” requiring the Company to pay real property taxes associated to this facility.

INDEX TO EXHIBITS

Exhibit Number	Description*	Where Located				
		Form	File Number	Exhibit Number	Filing Date	Filed Herewith
3.1	Certificate of Incorporation	10-K	001-37960	3.1	3/10/17	
3.2	Bylaws	10-K	001-37960	3.2	3/10/17	
4.1	Description of Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934					X
4.2	Form of Common Stock Purchase Warrant	8-K	001-37960	4.1	7/8/2021	
10.1	Polar Power, Inc. 2016 Omnibus Incentive Plan and forms of agreements thereunder#	S-1	333-213572	10.1	9/9/2016	
10.2	Amended and Restated Executive Employment Agreement dated July 8, 2016 between the Registrant and Arthur D. Sams#	S-1	333-213572	10.2	9/9/2016	
10.3	Amended and Restated Executive Employment Agreement dated July 8, 2016 between the Registrant and Rajesh Masina#	S-1	333-213572	10.3	9/9/2016	
10.4	Amended and Restated Executive Employment Agreement dated July 8, 2016 between the Registrant and Luis Zavala#	S-1	333-213572	10.4	9/9/2016	
10.5	Form of Indemnification Agreement between the Registrant and each of its Executive Officers and Directors#	S-1	333-213572	10.5	11/18/2016	
10.6	Loan and Security Agreement dated as of August 14, 2015 between the Registrant and Gibraltar Business Capital	S-1	333-213572	10.6	9/9/2016	
10.7	Memorandum of Understanding dated as of December 30, 2014 between the Registrant and Richard J. Ulinski	S-1	333-213572	10.7	9/9/2016	
10.8	Lease Agreement dated November 7, 2014 between the Registrant and Two Bros L.P.	S-1	333-213572	10.8	9/9/2016	
10.9	First Amendment to Lease Agreement dated February 5, 2019 between the Registrant and Two Bros L.P.					X

Exhibit Number	Description*	Where Located				
		Form	File Number	Exhibit Number	Filing Date	Filed Herewith
10.10	Second Amendment to Lease Agreement dated January 31, 2023 between the Registrant and Two Bros L.P.					X
10.11	Form of Representative's Warrant	10-K	001-37960	10.9	3/10/2017	
10.12	Amendment No. 1 to Polar Power, Inc. 2016 Omnibus Incentive Plan	10-K	001-37960	10.10	4/1/2019	
10.13	Supplier Agreement between Polar Power, Inc. and Citibank, N.A. dated effective as of June 4, 2019	8-K	001-37960	10.1	6/6/2019	
10.14	Securities Purchase Agreement dated July 2, 2020 between Polar Power, Inc. and each purchaser identified on the signature pages thereto	8-K	001-37960	10.1	7/8/2020	
10.15	Registration Rights Agreement dated July 2, 2020 between Polar Power, Inc. and each purchaser identified on the signature pages thereto	8-K	001-37960	10.2	7/8/2020	
10.16	Loan and Security Agreement dated August 31, 2020 between Pinnacle Bank and Polar Power, Inc.	8-K	001-37960	10.1	10/9/2020	
10.17	First Modification to Loan and Security Agreement dated October 7, 2020 by and between Polar Power, Inc. and Pinnacle Bank	8-K	001-37960	10.2	10/9/2020	
10.18	Second Modification to Loan and Security Agreement dated November 3, 2022 by and between Polar Power, Inc. and Pinnacle Bank	10-Q	001-37960	10.1	11/14/2022	
14.1	Code of Ethics	10-K	001-37960	14.1	3/10/2017	
21.1	Subsidiaries of the Registrant	10-K	001-37960	21.1	3/10/2017	
23.1	Consent of Independent Registered Public Accounting Firm					X
31.1	Certification Required by Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					X

Exhibit Number	Description*	Where Located				
		Form	File Number	Exhibit Number	Filing Date	Filed Herewith
31.2	Certification Required by Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002					X
32.1	Certification of Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002					X
101.INS	Inline XBRL Instance Document					X
101.SCH	Inline XBRL Taxonomy Extension Schema					X
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase					X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase					X
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase					X
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase					X
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)					X

(#) A contract, compensatory plan or arrangement to which a director or executive officer is a party or in which one or more directors or executive officers are eligible to participate.

(*) Certain of the agreements filed as exhibits contain representations and warranties made by the parties thereto. The assertions embodied in such representations and warranties are not necessarily assertions of fact, but a mechanism for the parties to allocate risk. Accordingly, investors should not rely on the representations and warranties as characterizations of the actual state of facts or for any other purpose at the time they were made or otherwise.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized on this 31st day of March 2023.

POLAR POWER, INC.

By: /s/ Arthur D. Sams

Arthur D. Sams,
President, Chief Executive Officer and Secretary

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

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Arthur D. Sams</u> Arthur D. Sams	Chief Executive Officer, President, Secretary and Chairman of the Board of Directors (principal executive officer)	March 31, 2023
<u>/s/ Luis Zavala</u> Luis Zavala	Chief Financial Officer (principal financial and accounting officer)	March 31, 2023
<u>/s/ Keith Albrecht</u> Keith Albrecht	Director	March 31, 2023
<u>/s/ Peter Gross</u> Peter Gross	Director	March 31, 2023
<u>/s/ Katherine Koster</u> Katherine Koster	Director	March 31, 2023

DESCRIPTION OF SECURITIES

The following description summarizes the material terms and provisions of Polar Power, Inc.'s common stock and preferred stock. The following description of our capital stock does not purport to be complete and is subject to, and qualified in its entirety by, our certificate of incorporation, which we refer to as the certificate of incorporation, and our bylaws, as may be amended, which we refer to as the bylaws. The terms of our common stock and preferred stock may also be affected by Delaware law.

Common Stock

We are authorized to issue up to a total of 50,000,000 shares of common stock, par value \$0.0001 per share. Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of our stockholders. Holders of our common stock have no cumulative voting rights. Further, holders of our common stock have no preemptive, conversion, redemption or subscription rights and there are no sinking fund provisions applicable to our common stock. Upon our liquidation, dissolution or winding-up, holders of our common stock are entitled to share ratably in all assets remaining after payment of all liabilities and the liquidation preferences of any of our outstanding shares of preferred stock. Subject to preferences that may be applicable to any outstanding shares of preferred stock, holders of our common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of our assets which are legally available.

As of March 31, 2023, we had 12,949,550 shares of common stock issued and outstanding and 17,477 shares of common stock held in treasury. There were 21 holders of record of our common stock. These holders of record include depositories that hold shares of stock for brokerage firms which, in turn, hold shares of stock for numerous beneficial owners.

Preferred Stock

Our board of directors is authorized to issue up to 5,000,000 shares of preferred stock, par value \$0.0001 per share, in one or more series and to fix the rights, preferences, privileges, qualifications, limitations and restrictions thereof, including dividend rights and rates, conversion rights, voting rights, terms of redemption, redemption prices, liquidation preferences and the number of shares constituting any series or the designation of such series, without any vote or action by our stockholders. Any preferred stock to be issued could rank prior to our common stock with respect to dividend rights and rights on liquidation. Our board of directors, without stockholder approval, may issue preferred stock with voting and conversion rights which could adversely affect the voting power of holders of our common stock and discourage, delay or prevent a change in control of our company.

Qualification and Election of Directors

Our bylaws provide that to be eligible to be a nominee for election to our board of directors, a person must submit a written questionnaire regarding his or her background and qualifications and must agree to other representations as set forth in our bylaws. In addition, we have adopted a director resignation policy. The director resignation policy is incorporated into our bylaws and Corporate Governance Guidelines and provides that any nominee for director in an uncontested election who receives a greater number of votes “withheld” from his or her election than votes “for” his or her election must tender his or her resignation to the board of directors for consideration in accordance with the procedures set forth in our Corporate Governance Guidelines. The Nominating and Corporate Governance Committee will then evaluate the best interests of our company and our stockholders and will recommend to the board of directors the action to be taken with respect to the tendered resignation. Following the board of directors’ determination, we will promptly publicly disclose the board of directors’ decision of whether or not to accept the resignation and an explanation of how the decision was reached, including, if applicable, the reasons for rejecting the resignation.

Anti-Takeover Provisions of Delaware Law, our Certificate of Incorporation and our Bylaws

The provisions of Delaware law, our certificate of incorporation and our bylaws discussed below could discourage or make it more difficult to accomplish a proxy contest or other change in our management or the acquisition of control by a holder of a substantial amount of our voting stock. It is possible that these provisions could make it more difficult to accomplish, or could deter, transactions that stockholders may otherwise consider to be in their best interests or in our best interests. These provisions are intended to enhance the likelihood of continuity and stability in the composition of our board of directors and in the policies formulated by our board of directors and to discourage certain types of transactions that may involve an actual or threatened change of our control. These provisions are designed to reduce our vulnerability to an unsolicited acquisition proposal and to discourage certain tactics that may be used in proxy fights. Such provisions also may have the effect of preventing changes in our management.

Advance Notification of Stockholder Nominations and Proposals

Our bylaws provide that, for nominations to our board of directors or for other business to be properly brought by a stockholder before a meeting of stockholders, the stockholder must first have given timely notice of the proposal in writing to our Chief Executive Officer. For an annual meeting, a stockholder's notice generally must be delivered not less than 90 days nor more than 120 days prior to the anniversary of the mailing date of the proxy statement for the previous year's annual meeting. For a special meeting, the notice must generally be delivered not earlier than the 90th day prior to the meeting and not later than the later of (i) the 60th day prior to the meeting or (ii) the 10th day following the day on which public announcement of the meeting is first made. Detailed requirements as to the form of the notice and information required in the notice are specified in the bylaws. If it is determined that business was not properly brought before a meeting in accordance with our bylaw provisions, such business will not be conducted at the meeting. These provisions may preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our annual meeting of stockholders if the proper procedures are not followed. We expect that these provisions may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company.

Board Vacancies; Removal

Our bylaws provide that any vacancy occurring on our board of directors may be filled by a majority of directors then in office, even if less than a quorum. Our certificate of incorporation provides that directors may be removed only for cause by affirmative vote of the holders of a majority of the voting power of the outstanding shares of common stock entitled to vote. Furthermore, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board of directors, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum. In addition, the number of directors constituting our board of directors is permitted to be set only by a resolution adopted by our board of directors. These provisions prevent a stockholder from increasing the size of our board of directors in order to gain control of our board of directors by filling the resulting vacancies with its own nominees. This makes it more difficult to change the composition of our board of directors but promotes continuity of management.

Special Meetings of Stockholders

Our bylaws and certificate of incorporation provide that only our board of directors may call a special meeting, and that stockholders may only conduct business at special meetings of stockholders that was specified in the notice of the meeting. This provision limits the ability of a stockholder to call a special meeting of the stockholders.

Issuance of Undesignated Shares of Preferred Stock

Our board of directors has the authority, without further action by the stockholders, to issue up to 5,000,000 shares of undesignated preferred stock with rights, preferences and privileges, including voting rights, designated from time to time by our board of directors. The existence of authorized but unissued shares of preferred stock enables our board of directors to render more difficult or to discourage an attempt to obtain control of our company by means of a merger, tender offer, proxy contest or other means.

Exclusive Forum

Our certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, our certificate of incorporation or our bylaws, or (iv) any action asserting a claim against us governed by the internal affairs doctrine. This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and other employees.

Limitation on Liability and Indemnification of Directors and Officers

Our certificate of incorporation and bylaws contain provisions that eliminate, to the maximum extent permitted by the General Corporation Law of the State of Delaware, or the DGCL, the personal liability of our directors and executive officers for monetary damages for breach of their fiduciary duties as directors or officers. Our certificate of incorporation and bylaws provide that we must indemnify our directors and executive officers and may indemnify our employees and other agents to the fullest extent permitted by the DGCL.

Sections 145(a) and 102(b)(7) of the DGCL empower a corporation to indemnify any director, officer, employee or agent, or former director, officer, employee or agent, who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation), by reason of such person's service as a director, officer, employee or agent of the corporation, or such person's service, at the corporation's request, as a director, officer, employee or agent of another corporation or enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding; *provided* that such director, officer employee or agent acted in good faith and in a manner reasonably believed to be in or not opposed to the best interests of the corporation; and, with respect to any criminal action or proceeding, *provided* that such director, officer employee or agent had no reasonable cause to believe his conduct was unlawful.

Section 145(b) of the DGCL empowers a corporation to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that such person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another enterprise, against expenses (including attorneys' fees) actually and reasonably incurred in connection with the defense or settlement of such action or suit; *provided* that such director, officer, employee or agent acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification may be made in respect of any claim, issue or matter as to which such director, officer, employee or agent shall have been adjudged to be liable to the corporation unless and only to the extent that the Delaware Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such director, officer, employee or agent is fairly and reasonably entitled to indemnity for such expenses that the court shall deem proper.

We have also entered into indemnification agreements with our directors and executive officers, in addition to the indemnification provided for in our certificate of incorporation and bylaws, and we intend to enter into indemnification agreements with any new directors and executive officers in the future.

We have purchased and currently intend to maintain directors' and officers' liability insurance.

Transfer Agent and Registrar

Our transfer agent and registrar for our common stock is VStock Transfer, LLC, 18 Lafayette Place, Woodmere, New York 11598. Its telephone number is 855-9VSTOCK.

Listing

Our common stock is listed on The Nasdaq Capital Market under the symbol "POLA."

**FRIST AMENDMENT TO STANDARD
INDUSTRIAL/COMMERCIAL SINGLE-TENANT LEASE-GROSS**

THIS FIRST AMENDMENT TO AIR COMMERCIAL REAL ESTATE ASSOCIATION STANDARD INDUSTRIAL/COMMERCIAL LAND LEASE- -GROSS (this “Amendment”) is entered into as of the February 5, 2019, by and between TWO BROS L.P., (“Lessor”) and POLAR POWER INC., (“Lessee”), with reference to the following facts:

RECITALS

A. Lessor and Lessee entered into that certain AIR Commercial Real Estate Association Standard Industrial/Commercial Land Lease-Gross dated for reference purposes only as November 7, 2014, (collectively referred to herein with all amendments and addendums as the “**Lease**”) for the premises commonly known as 249 E. Gardena Blvd., Carson California

B. Lessee and Lessor desire to make certain amendments to the Lease, and hereby agree to the changes as provided hereinbelow.

NOW THEREFORE, in consideration of the foregoing Recitals and the mutual covenants contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. Extension of Term. The term of the Lease is hereby extended beginning March 1, 2019 for four (4) years, with the new Expiration Date of February 28, (the “**Extended Period**”),

3. **Base Rent.** The monthly Base Rent for the Extended Period shall be as follows:

- (i) commencing on March 1, 2019 and continuing through February 28, 2020 Base Rent payable by Lessee for the Premises shall be \$31,652.14 per month;
- (ii) commencing on March 1, 2020 and continuing through February 28, 2021, Base Rent payable by Lessee for the Premises shall be \$34,456.76 per month;
- (iii) commencing on March 1, 2021, and continuing through February 28, 2022, Base Rent payable by Lessee for the Premises shall be \$35,835.03 per month;
- (iv) commencing on March 1, 2022 and continuing through February 28, 2023 the Expiration Date the Base Rent payable by Lessee for the Premises shall be \$37,261.38 per month.

4. **Net Lease.** The parties intend for the Lease to be a NET LEASE. Lessee hereby agrees to be responsible for the cost of all insurance in Paragraph 8 of the Lease and any other insurance required to be provided by either party under the terms of the Lease. Paragraph 10 is hereby deleted in its entirety and replaced with the language in Exhibit “A” attached hereto and made a part hereof becoming the new Paragraph 10.

5. **Credits for Repairs and Improvements.** Landlord shall credit tenant in the amounts provided for below for agreed upon repairs and improvements

- a. An amount of up to \$12,395.00 for the upgrade of air condition controls, as provided for in the bid from Control Komfort System, attached hereto as **Exhibit “C”**
- b. An amount not to exceed \$25,014 for repair of the floor area as provided for in **Exhibit “D”** attached hereto
- c. An amount not to exceed \$2,500. for removal and replacement of partitions required to repair the floor as provided for in paragraph b. above.

Lessee shall submit contractor invoices for the completed work in items 5a to 5c above, thereafter Lessor shall promptly inspect the completed work, and once approved by Lessor, Lessor shall pay the contractor performing the work, in amount not to exceed the amounts provided for each item of work to be done.

6. **Repairs to be done by Lessor.** Lessor shall within 60 days of the commencement of the Extended Period perform the following at Lessor's sole cost and expense.

a. Repaint the front fence along Gardena Blvd. and gates.

7. **Estoppel.** Lessee represents and warrants that (i) it has been in possession of the Premises since January 1, 2015; and (ii) as of the date of this First Amendment, to the best of Lessee's knowledge, Lessor has performed all obligations required of Lessor under the Lease; no offsets, counterclaims, claims of breach or defenses of Lessee under the Lease exist against Lessor; and no events have occurred that, with the passage of time or the giving of notice, would constitute a basis for offsets, counterclaims, claims of breach or defenses against Lessor.

8. **Counterparts.** This Amendment may be executed in one or more counter parts, each of which shall be deemed original, and all of which together shall constitute one and the same instrument.

9. **No Further Modifications.** Except as set forth in this Amendment, all the terms and provisions of the Lease shall apply and shall remain unmodified and in full force and effect.

IN WITNESS WHEREOF, this Amendment is hereby executed as of the day and year first above written.

LESSOR:
Two BrosL.P.

LESSEE:
Polar Power Inc.
s/ Arthur D. Sams

2/05/2019

EXHIBIT "A"

10. Real Property Taxes.

10.1 Definition. As used herein, the term "**Real Property Taxes**" shall include any form of assessment; real estate, general, special, ordinary or extraordinary, or rental levy or tax (other than inheritance, personal income or estate taxes); improvement bond; and/or license fee imposed upon or levied against any legal or equitable interest of Lessor in the Premises or the Project, Lessor's right to other income therefrom, and/or Lessor's business of leasing, by any authority having the direct or indirect power to tax and where the funds are generated with reference to the Building address. Real Property Taxes shall also include any tax, fee, levy, assessment or charge, or any increase therein: (i) imposed by reason of events occurring during the term of this Lease, including but not limited to, a change in the ownership of the Premises, and (ii) levied or assessed on machinery or equipment provided by Lessor to Lessee pursuant to this Lease.

10.2 Payment of Taxes. In addition to Base Rent, Lessee shall pay to Lessor an amount equal to the Real Property Tax installment due at least 20 days prior to the applicable delinquency date. If any such installment shall cover any period of time prior to or after the expiration or termination of this Lease, Lessee's share of such installment shall be prorated. In the event Lessee incurs a late charge on any Rent payment, Lessor may estimate the current Real Property Taxes, and require that such taxes be paid in advance to Lessor by Lessee monthly in advance with the payment of the Base Rent. Such monthly payments shall be an amount equal to the amount of the estimated installment of taxes divided by the number of months remaining before the month in which said installment becomes delinquent. When the actual amount of the applicable tax bill is known, the amount of such equal monthly advance payments shall be adjusted as required to provide the funds needed to pay the applicable taxes. If the amount collected by Lessor is insufficient to pay such Real Property Taxes when due, Lessee shall pay Lessor, upon demand, such additional sum as is necessary. Advance payments may be intermingled with other moneys of Lessor and shall not bear interest. In the event of a Breach by Lessee in the performance of its obligations under this Lease, then any such advance payments may be treated by Lessor as an additional Security Deposit.

10.3 Joint Assessment. If the Premises are not separately assessed, Lessee's liability shall be an equitable proportion of the Real Property Taxes for all of the land and improvements included within the tax parcel assessed, such proportion to be conclusively determined by Lessor from the respective valuations assigned in the assessor's work sheets or such other information as may be reasonably available.

10.4 Personal Property Taxes. Lessee shall pay, prior to delinquency, all taxes assessed against and levied upon Lessee Owned Alterations, Utility Installations, Trade Fixtures, furnishings, equipment and all personal property of Lessee. When possible, Lessee shall cause its Lessee Owned Alterations and Utility Installations, Trade Fixtures, furnishings, equipment and all other personal property to be assessed and billed separately from the real property of Lessor. If any of Lessee's said property shall be assessed with Lessor's real property, Lessee shall pay Lessor the taxes attributable to Lessee's property within 10 days after receipt of a written statement setting forth the taxes applicable to Lessee's property

EXHIBIT "B"

CONTROL KOMFORT SYSTEMS, INC
HEATING - VENT/LA TION - AIR CONDITIONING



(20:#745195

November 21, 2018

VIA E-mail: Nick@Triadmanagementinc.com

Mr. Nick J. Virzi

Triad Management

21201 Victory Blvd., Suite 255

Canoga Park, CA 91303

RE: **Gluck, (Not to exceed price)**, 249 E. Gardena Blvd., CA Dear

Mr. Virzi,

Thank-you for giving us the opportunity to give you a Not-To-Exceed price to repair the hot and cold spots for the project referenced above. We are pleased to submit the following for your consideration.

WORK INCLUDES:

Remove four (4) existing duct smoke detectors and furnish and install four (4) new duct smoke detectors.

Correctly program the existing Carrier V.V.T. system.

Air balance the interior office space per the engineered drawing that we received from Triad Management.

BUDGET INCLUDES: Materials, labor and applicable sales tax.

NOTES:

1. This price is based on regular hours. (Excludes overtime hours.)
2. This price is based on us having complete access to the office space and roof, and that we will not be asked to leave and come back later, so that they can have lunch or for any other reason.

EXCLUSIONS:

All high voltage wire, all conduit, cutting, patching, painting, framing, roofing, coring, saw cutting, condensate drain(s), smoke detectors, fire dampers, life safety, filters for the existing A/C equipment, pressure testing the duct work and/or HER's testing, LEED certification, commissioning the A/C system, damage to the existing tee-bar and/or tile, structural engineering and/or calculations, engineered drawing(s), cleaning and/or painting the existing supply and/or return grilles and/or grilles, trash bin for the trash and demo, plan check, prevailing wage, and overtime hours. Repairs to the existing A/C equipment, VAV boxes, and/or the existing thermostats.

TOTAL BUDGET: — \$ 1,213,950.00 (L:Vic::o::;id=-a.:ft.:er:-3::;0:::d=-av&,;s .J'— I
Progressive as billed.

Please feel free to call if you have any questions.

Sincerely,

U.R.Y

Bob R. Youngsma

Operations Manager

6840 Orangethorpe Avenue #H, Buena Park, CA 90620
Phone 714/ 994-4232 Fax 714/ 994-4587

EXHIBIT "C"

From: Luis Zavala <LZavala@polarpowerinc.com>
Sent: Thursday, August 23, 2018 3:42 PM
To: Nick J. Virzi <nick@triadmanagementinc.com>
Cc: Sanford Lee Shadrow <sandy888@mac.com>
Subject: RE: 249

Nick,

Any updates from your vendors?

Below is the quote from our floor contractor:

Hello Arthur, In regards to the office areas the prices are as follows
Main business offices with moisture issues 249 e Gardena blvd.

demo disposal prep	2787.00
install	6131.00
rubber base	1278.00
glue	1400.00
vapor barrier	4800.00
material	6646.99
tax	631.46
p&o	1339.60
Total	25014.05
Floor Total	\$ 25,014

**SECOND AMENDMENT TO STANDARD
INDUSTRIAL/COMMERCIAL SINGLE-TENANT LEASE-GROSS**

THIS SECOND AMENDMENT TO AIR COMMERCIAL REAL ESTATE ASSOCIATION STANDARD INDUSTRIAL/COMMERCIAL LAND LEASE- -GROSS (this “**Second Amendment**”) is entered into as of the 31st day of January 2023, by and between **TWO BROS L.P.**, (“**Lessor**”) and **POLAR POWER INC.**, (“**Lessee**”), with reference to the following facts:

R E C I T A L S

A. Lessor and Lessee entered into that certain AIR Commercial Real Estate Association Standard Industrial/Commercial Land Lease-Gross dated for reference purposes only November 7, 2014, as amended by that First Amendment to Lease dated March 25, 2019, for the premises commonly known as 249 E. Gardena Blvd., Carson, California 90248
(collectively referred to herein with all amendments and addendums as the “**Lease**”)

B. Lessee and Lessor desire by this Second Amendment to extend the Lease term and make further amendments to the Lease, and hereby agree to the changes as provided hereinbelow.

NOW THEREFORE, in consideration of the foregoing Recitals and the mutual covenants and promises contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

1. **Extension of Term.** The term of the Lease is hereby extended commencing March 1, 2023, for three (3) additional years, expiring February 28, 2026 (the “**Extended Period**”),

2. **Base Rent.** The monthly Base Rent for the Extended Period shall be as follows:

- (i) commencing on March 1, 2023 and continuing through February 28, 2024, Base Rent payable by Lessee for the Premises shall be **\$58,096.00** per month;
- (ii) commencing on March 1, 2024 and continuing through February 28, 2025, Base Rent payable by Lessee for the Premises shall be **\$74,122.00** per month;
- (iii) commencing on March 1, 2025, and continuing through February 28, 2026, Base Rent payable by Lessee for the Premises shall be **\$84,139.00** per month;

3. **Credits for Repairs and Improvements.** Lessor shall provide Lessee a rent credit in an amount not to exceed \$27,900.00 (the “**Rent Credit**”) for the following repairs and improvements which shall be the obligation and responsibility of the Lessee to cause to be performed and completed:

- a. An amount not to exceed \$24,000 for the labor and materials to install Led fixtures and lights in the Premises.
- b. An amount not to exceed \$3,900.00 to purchase and replace the parking gate motor.

As a condition of Lessor’s providing any of the Rent Credit to Lessee, Lessee shall prior to entering into any contract or commencing the work as described in 3a. and 3b. above (i) obtain at least two estimates for the work to be performed from reputable licensed contractors and (ii) provide copies of the estimates and contracts for the materials and work to be performed to Lessor for Lessor’s prior written approval.

Upon satisfactory completion of the work approved by Lessor to be performed, Lessee shall submit to Lessor proof of payment to the contractor's and or suppliers for the completed work in items 3 a. and 3 b. above, thereafter Lessor shall promptly inspect the completed work, and once approved by Lessor, Lessor shall credit Lessee the amount paid by Lessee to the contractor or supplier performing the work in amount not to exceed the amounts provided above for each item of work in 3a and 3b agreed to be performed.

Notwithstanding anything to the contrary herein Lessor reserves the right to obtain estimates for the work to be performed in 3a and 3b above and may at its option require its contractor to perform the work. Lessor intends to pursue reimbursement from Southern California Edison as well through other agencies offering subsidies for the work described in 3a., Lessee agrees to cooperate with Lessor in investigating and pursuing these possible sources to subsidize the cost and expense.

6. **Estoppel.** Lessee represents and warrants that (i) it has been in possession of the Premises since January 1, 2015; and (ii) as of the date of this Second Amendment, Lessor has performed all obligations required of Lessor under the Lease; no offsets, counterclaims, claims of breach or defenses of Lessee under the Lease exist against Lessor; and no events have occurred that, with the passage of time or the giving of notice, would constitute a basis for offsets, counterclaims, claims of breach or defenses against Lessor.

7. **Counterparts.** This Amendment may be executed in one or more counter parts, each of which shall be deemed original, and all of which together shall constitute one and the same instrument.

8. **No Further Modifications.** Except as set forth in this Amendment, all the terms and provisions of the Lease as amended shall apply and shall remain unmodified and in full force and effect.

IN WITNESS WHEREOF, this Amendment is hereby executed as of the day and year first above written.

LESSOR:

Two Bros L.P.
/s/ Sandy Shadrow
Managing Partner

LESSEE:

Polar Power Inc.
/s/ Arthur D. Sams
Arthur D. Sams, CEO
02/07/2023

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-252196), Form S-1 (No. 333-240134), and Form S-8 (No. 333-215056) of Polar Power, Inc. of our report dated March 31, 2023, relating to the financial statements of Polar Power, Inc. as of December 31, 2022 and 2021, and for the years then ended, which appear in the Company's Annual Report on Form 10-K for the year ended December 31, 2022, filed with the Securities and Exchange Commission on March 31, 2023.

/s/ Weinberg & Company, P.A.
Los Angeles, California
March 31, 2023

CERTIFICATION

I, Arthur D. Sams, certify that:

1. I have reviewed this Annual Report on Form 10-K of Polar Power, 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 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 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 31, 2023

/s/ Arthur D. Sams

Arthur D. Sams
President, Chief Executive Officer and Secretary
(Principal Executive Officer)

CERTIFICATION

I, Luis Zavala, certify that:

1. I have reviewed this Annual Report on Form 10-K of Polar Power, 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 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 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 31, 2023

/s/ Luis Zavala

Luis Zavala
Chief Financial Officer
(Principal Financial Officer)

**CERTIFICATIONS OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report on Form 10-K of Polar Power, Inc. (the “Company”) for the fiscal year ended December 31, 2022, as filed with the Securities and Exchange Commission on the date hereof (the “Report”), the undersigned hereby certify in their capacities as the Chief Executive Officer and the Chief Financial Officer of the Company, respectively, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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

Dated: March 31, 2023

/s/ Arthur D. Sams

Arthur D. Sams
President and Chief Executive Officer
(Principal Executive Officer)

/s/ Luis Zavala

Luis Zavala
Chief Financial Officer
(Principal Financial Officer)

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signatures that appear in typed form within the electronic version of this written statement required by Section 906, 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.

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