

ITEM 1. Business

Introduction

We are a leading provider of an optimized inverter solution that changed the way power is harvested and managed in photovoltaic (also known as PV) systems. Our direct current, or DC, optimized inverter system maximizes power generation while lowering the cost of energy produced by the PV system for improved return on investment, or ROI. Additional benefits of the DC optimized inverter system include: comprehensive and advanced safety features, improved design flexibility, efficient integration (DC coupled) with SolarEdge storage solutions, and improved operation and maintenance, or O&M, with remote monitoring at the module-level. The typical SolarEdge optimized inverter system consists of inverters, Power Optimizers, a communication device which enables access to a cloud-based monitoring platform and, in many cases, a battery and additional smart energy management solutions. Our solutions address a broad range of solar market segments, from residential to commercial and small utility scale solar installations. Since we began commercial shipments in 2010, we have shipped approximately 40.0 gigawatts ("GW") of our DC optimized inverter systems and our products have been installed in solar PV systems in 133 countries.

Since introducing the optimized inverter solution in 2010, SolarEdge has expanded its activity to other areas of smart energy technology, both through organic growth and through acquisitions. By leveraging world-class engineering capabilities and with a relentless focus on innovation, SolarEdge now offers energy solutions which also include energy storage systems, or ESS, home backup systems, electric vehicle, or EV, components and charging capabilities, home energy management, grid services and virtual power plants, or VPPs, and lithium-ion batteries.

We primarily sell our products indirectly to thousands of solar installers through large distributors and electrical equipment wholesalers and directly to large solar installers and engineering, procurement, and construction firms, or EPCs. Our customers include leading providers of solar PV systems to residential and commercial end users, key solar distributors, and electrical equipment wholesalers, as well as several PV module manufacturers that offer PV modules integrated with our Power Optimizers referred to as "smart modules".

The PV industry is surveyed by IHS Markit (S&P Global), an analytics company that ranked SolarEdge as the top PV inverter supplier worldwide by revenues, as of their published "IHS PV Inverter Market Tracker - Fourth Quarter 2022". As of December 31, 2022, we have shipped in the aggregate approximately 107.6 million power optimizers and 4.5 million inverters. More than 3.1 million PV installations, many of which may include multiple inverters, are currently connected to and monitored through our cloud-based monitoring platform.

The SolarEdge Solution. Our DC optimized inverter system maximizes power generation at the individual PV module level while lowering the cost of energy produced by the solar PV system, providing module-level visibility, and enabling advanced, multilayer safety features. Our solution consists of inverters, Power Optimizers, a communication device which enables access to our cloud-based monitoring platform to address a broad range of solar market segments, from residential solar to commercial and small utility-scale solar installations. Additional smart energy features and hardware that can be added to our solution include a battery pack for energy storage and a home energy automation system, which enables greater savings for the system owner.

The key advantages of our solution over a traditional string inverter PV system include:

- **Maximized PV module power output.** Our Power Optimizers provide module-level Maximum Power Point Tracking or MPPT, and real-time adjustments of current and voltage to the optimal performance level of each individual PV module. This enables each PV module to continuously produce its maximum power potential independent of other modules in the same string, minimizing module mismatch and partial shading losses. By performing these adjustments at a very high rate, our Power Optimizers also solve the dynamic power losses associated with traditional inverters.
- **Optimized architecture with economies of scale.** Our system shifts certain functions of the traditional inverter to our Power Optimizers while keeping the DC to AC function and grid interaction in our inverter. As a result, our inverter is smaller, more efficient, more reliable and less expensive than inverters used in traditional PV systems. The cost savings that we have achieved on the inverter enable our system to be priced at a cost per watt that is comparable with traditional inverter systems of other leading manufacturers. As a PV system grows in size, our inverter benefits from economies of scale, making our technology viable for large commercial and utility-scale applications.

- **Enhanced system design flexibility.** Unlike a traditional inverter system that requires each string to be the same length, use the same type of PV modules and be positioned at the same angle toward the sun, our system allows significant design flexibility by enabling the installer to place PV modules in uneven string lengths and on multiple roof facets. This design flexibility:
 - Increases the amount of the available roof that can be utilized for power production. As a result, our system is significantly less prone to wasted roof space resulting from rooftop asymmetries and obstructions.
 - Reduces the number of field change orders. For example, some installers use remote tools to estimate the size and configuration of an installation in connection with the customer acquisition process. This is especially common for high-volume residential arrays, where an exhaustive survey of rooftop obstructions would be uneconomical. In some cases, installers discover that their preliminary design, based on remote tools, cannot be implemented due to unexpected shading or other obstructions. With traditional inverter system designs, an obstructed module may require a significant system redesign and a modification of the customer contract to accommodate the changed system design. Our DC optimized inverter solution enables an installer to compensate or adjust for most obstructions without materially changing the original design or requiring a modification to the customer contract.
- **Reduced balance of system costs.** Our DC optimized inverter system allows significantly longer strings to be connected to the same inverter (as compared to a traditional inverter system). This minimizes the cost of cabling, fuse boxes and other ancillary electric components. These factors result in easier installations with shorter design times and a lower initial cost per watt, while enabling larger installations per rooftop.
- **Continuous monitoring and control to reduce operation and maintenance costs.** Our cloud-based monitoring platform provides full data visibility at the module, string, inverter and system level. The data can be accessed remotely by any web-enabled device, allowing comprehensive analysis, immediate fault detection and alerts. These monitoring features reduce O&M costs for the system owner by identifying and locating faults, enabling remote testing and reducing field visits.
- **Enhanced safety.** We have incorporated module-level safety mechanisms in our system to protect installers, electricians and firefighters. Each Power Optimizer is configured to reduce output to 1 volt unless the Power Optimizer receives a fail-safe signal from a functioning inverter. As a result, if the inverter is shut down (e.g., for system maintenance, due to malfunction, in the event of a fire or otherwise), the DC voltage throughout the system is reduced to a safe level. Our DC optimized inverters comply with the applicable safety requirements of the regions in which they are sold, providing incremental cost savings to installers by eliminating the need for additional hardware such as DC breakers, switches or fire-proof ducts required by traditional inverter systems. In the U.S., the SolarEdge SafeDC feature is compliant with NEC 2014 & NEC 2017 Rapid Shutdown functionality, section 690.12. SolarEdge inverters also have a built-in safety feature designed to mitigate the effects of some arcing faults that may pose a risk of fire, in compliance with the UL1699B arc detection standard.
- **High reliability.** Solar PV systems are typically expected to operate for at least 25 years under harsh outdoor conditions. High reliability is critical and is facilitated by systems and components that have low heat generation, solid and stable materials, and an absence of moving parts. We have designed our system to meet these stringent requirements. Our Power Optimizers dissipate much less heat than microinverters because no DC-AC inversion occurs at the module level. As a result, less heat is dissipated beneath the PV module, which improves lifetime expectancy and the reliability of our power optimizers. Our Power Optimizers' high switching frequency allows the use of ceramic capacitors with a low, fixed rate of aging and a proven life expectancy in excess of 25 years. Furthermore, we use automotive-grade, application-specific integrated circuits ("ASICs") that embed many of the required electronics. This reduces the number of components and consequently the potential points of failure.

- **Energy Storage.** Our DC optimized inverter system allows solar energy to be directly stored in batteries without any conversion, thereby eliminating energy losses that are associated with such conversions and improving the ROI of PV battery systems.
- **Energy Management.** Strategically located at the intersection between PV modules, home usage, and the grid, inverters are well positioned to act as smart energy managers. Our smart inverters incorporate the management of PV energy, battery storage, smart devices, and grid interaction. By leveraging the smart energy management in our inverter, system owners can not only store solar energy but also optimize their PV energy consumption in order to increase their energy independence, take advantage of lower time-of-use rates, reduce electricity bills, and improve overall system ROI.
- **Distributed Energy Generation.** As the electric grid transitions from centralized power stations to a network of distributed, renewable energy sources, our inverter acts as a local control system that can manage the energy resources underlying such a distributed network. Our inverters are therefore a key part of developing a distributed and interactive grid that can help support grid stability. One such example is inverter-enabled charging and discharging of batteries as part of a virtual power plant to help manage the load on the grid and support grid stability.

Our PV Solar Products Offering

SolarEdge began its commercial sales with a product offering of simplified inverters, Power Optimizers, and cloud-based monitoring platform. As the solar energy industry has evolved, SolarEdge has developed innovative solutions to further enhance smart energy technology, including inverters that include compatibility with batteries for increased self-consumption and storage, inverters that support EV charging, smart meters, smart energy devices (sockets, water heater controllers, load controllers, wireless relay) and smart PV modules. This product expansion has enabled us to increase average revenue per installation, or ARPI.

SolarEdge Power Optimizer. Our DC Power Optimizer is a highly reliable and efficient DC-to-DC converter which is either connected by installers to each PV module or embedded by PV module manufacturers into their modules as part of the manufacturing process of Smart Modules. Our Power Optimizer increases energy output from the PV module to which it is connected by continuously tracking the Maximum Power Point or MPP of each module and controlling its output voltage enabling the inverter's input voltage to remain fixed under a large variety of string configurations. This feature enhances flexibility in PV system design, enabling use of different string lengths in a single PV system connected to the same inverter, use of PV modules situated on multiple orientations connected to the same inverter and mixing different PV module types and brands in the same string. In addition, our Power Optimizers monitor the performance of each PV module and communicate this data to our inverter using our proprietary power line communication. In turn, the inverter transmits this information to our monitoring server.

Our Power Optimizers are designed to withstand high temperatures and harsh environmental conditions and contain multiple bypass features that localize faults and enable continued system operation in the vast majority of cases of Power Optimizer failure. Our Power Optimizers are compatible with the vast majority of modules on the market today and carry a 25-year product warranty. Our Power Optimizers are designed to be used with our inverters to provide power optimization. Monitoring and safety features can also be achieved with third party inverters by adding supplemental communications hardware. During the year ended December 31, 2022, the year ended December 31, 2021 and the year ended December 31, 2020, revenues derived from the sale of power optimizers represented 36.5%, 42.2% and 42.9% of total revenues, respectively.

SolarEdge Inverter. Our DC-to-AC inverters contain sophisticated digital control technology with efficient power conversion architecture resulting in superior solar power harvesting and high reliability, and are designed to work exclusively with our DC Power Optimizers. A proprietary power line communication receiver is integrated into each inverter, receiving data from our power optimizers, storing this data and transmitting it to our monitoring server when an internet connection exists. Since each string which is equipped with our power optimizers provides fixed input voltage to our inverter, the inverter is able to operate at its highest efficiency at all times and therefore is more cost effective, energy efficient and reliable.

Like our power optimizers, our inverters are designed to withstand harsh environmental conditions. Since the power rating of an inverter determines how many PV modules it can serve, larger installations require inverters with higher power ratings. We currently offer a single-phase inverter designed to address the residential market (1 kilowatt (“kW”) to 11.4 kW) which is based on our HD-Wave technology and a three-phase inverter designed to address the residential market in certain European countries and Australia, as well as the commercial market (4 kW to 120 kW). Our single-phase inverters support a range of smart energy capabilities. In 2020, we launched the SolarEdge Energy Hub inverter and home backup solution for the U.S. residential market. The SolarEdge Energy Hub inverter contains built-in consumption monitoring, embedded revenue-grade production metering, integrated arc fault protection, rapid shutdown and is battery ready. In 2021, we launched the new SolarEdge Energy Hub inverter models ranging from 7.6 kW up to 11.4 kW PV power and 10.3 kW backup power. Both the SolarEdge Energy Hub inverter and the SolarEdge Home Battery, described below, are part of the new SolarEdge full residential solution, the “SolarEdge Home”, an intelligent smart energy management system that allows homeowners to better manage and monitor solar energy production, consumption and backup storage in real time.

Our product offering also includes our commercial three-phase up to 120kw inverter with Synergy technology and enhanced power capabilities, which is designed to enable quick and easy installation and inventory management for the commercial market.

The vast majority of our inverters are sold with a 12 year warranty that is extendable to 20 or 25 years for an additional cost. During the year ended December 31, 2022, the year ended December 31, 2021 and the year ended December 31, 2020 revenues derived from the sale of inverters represented 36.6%, 42.2% and 44.0% of total revenues, respectively.

EV Charging Inverter. SolarEdge’s EV charging inverter offers homeowners the ability to charge electric vehicles up to six times faster than a standard Level 1 charger through an innovative solar boost mode that utilizes grid and PV charging simultaneously. This inverter is the world’s first EV charger with an integrated PV inverter. Reducing the burden of installing separately a standalone EV charger and a PV inverter, the EV charging inverter eliminates the need for additional wiring, conduit and a breaker installation. By installing an inverter that has an integrated EV charge, no additional dedicated circuit breaker is needed, saving space and eliminating the need for a potential upgrade to the main distribution panel.

Storage Solutions. In 2021, we launched our residential battery, the SolarEdge Home Battery a 10 kW single phase battery and, in 2022, we launched the 5 kW, three phase Home Battery. Both batteries integrate with our SolarEdge Home Hub family of inverters. The SolarEdge Home Battery gives homeowners the ability to power their homes even when the grid is off. The battery also works in tandem with the SolarEdge energy management system to optimize the use of solar energy in places where the feed-in tariffs are less favorable, maximizing self-consumption. The SolarEdge Home Battery connects with the SolarEdge inverter through DC-coupling, which minimizes the number of DC to AC conversions which are typical in competing technologies, saving energy and enabling higher efficiency. The solution is based on a single inverter for both solar PV and storage. To optimize self-consumption, the battery is charged and discharged to meet consumption needs and reduce the amount of power acquired from the grid. Also, with the SolarEdge backup solution, unused solar PV power is stored in a battery and used during a power outage, powering essential sources such as refrigerators and freezers, communication devices, lighting, and AC outlets. Our proprietary monitoring platform provides visibility into the battery’s status, solar PV production, and self-consumption, while offering easy maintenance with remote access to inverter and battery software. Multiple batteries can be connected to a single SolarEdge Home Hub inverter, adding more available power to backup additional significant loads, such as air-conditioners, water heaters and EV chargers. In addition, SolarEdge inverters can be connected to third party batteries via the SolarEdge StorEdge solution, where batteries can perform both maximum self- consumption and backup functions.

Some existing SolarEdge systems can be upgraded with a storage solution for both backup or on-grid maximum self-consumption use.

SolarEdge Software. We offer a variety of professional software tools to support the complete PV planning, installation, monitoring and maintenance processes:

Our Designer platform is a free web-based tool that helps solar professionals plan, build and validate our residential and commercial systems from inception to installation.

Our “Mapper app” provides SolarEdge installers with an efficient, streamlined process for registering the physical layout of new PV sites in the SolarEdge monitoring platform. Installers use the Mapper app to scan SolarEdge Power Optimizer and inverter barcodes, creating a virtual map of the PV site in the monitoring platform to help facilitate remote diagnostics.

Making installations quick and simple, our “SetApp” is used to activate and configure SolarEdge inverters during commissioning directly through a smartphone.

In 2021, we launched the mySolarEdge application version 2.0 which enables system owners to easily track their real-time system production and household energy consumption, view their inverter and battery status for quick troubleshooting, and control the battery's back-up capabilities, all from the convenience of their mobile phones.

Our cloud-based monitoring platform collects power, voltage, current and system data sent from our inverters and Power Optimizers and allows users to view the data at the module level, string level, inverter level and system level from most browsers or from most smart phones and tablets. The monitoring software continuously analyzes data and flags potential problems. The monitoring software includes features which are used on a routine basis by integrators, installers, maintenance staff, and system owners to improve a solar PV system’s performance by maximizing solar power harvesting and reducing O&M costs by increasing system up-time and detecting PV module performance issues more effectively. Connection to the monitoring server is completed during installation by the installer. The installer then receives full access to system data through the monitoring software and can select the amount of data to be shared with the system owner.

Smart Energy Management. There are two separate energy technology industries that exist today: solar energy production and automation technology. Inverters are taking on an expanded role in energy management and automation and to address these market needs, we are developing and providing automation products. This line of products, when used with the SolarEdge PV solution, is designed to allow system owners to increase self-consumption by shifting energy usage to match peak solar PV production as well as offer a convenient, wireless control option over various building and/or home devices. An example of this solution would be using excess solar PV energy to heat water or the ability to remotely turn on/off certain power sources such as lighting or electrical appliances. The introduction of these products is dependent upon certification and region-specific needs and as such, these products are not yet available in all of the regions in which SolarEdge operates.

Grid Services. As the use of PV and storage continues to proliferate around the world, energy production is transitioning from a centralized system to a distributed network model, where energy is produced close to the location in which it is consumed and stored. This model creates an opportunity for new interconnected and decentralized energy networks offering improved grid reliability and stability, new energy services, and the reduction of grid infrastructure costs. SolarEdge grid services deliver near real-time aggregative control and data reporting, enabling the pooling of distributed energy resources — PV systems, battery storage, electric vehicle chargers, and loads — in the cloud for the creation of virtual power plants ("VPP"). SolarEdge grid services and VPP solution provide sophisticated management platforms to enable real-time, aggregated control of available energy resources to meet ever-changing supply needs and demand. Our distributed energy resources management system or DERMS application and application program interfaces ("APIs") are used by utilities for countering peak demand events. In 2022, SolarEdge continued to generate revenues from selling grid services in the U.S., Europe and Australia, including services provided to independent system operators, energy retailers, national installers and others.

Product Roadmap

Our products reflect the innovation focus and capabilities of our technology departments as well as the importance we place on creating value for our customers. Our core solar product roadmap is divided into five categories: Power Optimizers, inverters, software, energy storage, and smart energy management.

Power Optimizers. We currently sell our third and fourth generations of Power Optimizers (P-Series and S-Series, respectively) which were designed for fully automated assembly and are based on our third and fourth generation ASICs, respectively. A key element of our reliability strategy and a significant differentiator relative to our competitors, is our use of proprietary ASICs to control, among other things, our Power Optimizer's power conversion, safety features, and PV module monitoring. Instead of using large numbers of discrete components, our Power Optimizers uses a single proprietary ASIC, reducing the total number of components in an electrical circuit and improving reliability. In 2021, we launched our fourth generation Power Optimizers which uses fourth generation ASIC that provides higher efficiency and incorporates a new safety mechanism for PV systems called "the SolarEdge Sense Connect", that provides connector level fault detection. In 2022, we announced the launch of our next generation Commercial S-series Power Optimizers. Each new ASIC generation reduces the number of components required for any given functionality, adds more functions to the Power Optimizers, and meaningfully improves its efficiency. The efficiency improvement reduces the energy losses which in turn reduces the amount of heat dissipation. This enables design of a more cost-effective and usually smaller enclosure and also keeps the electronics cooler, thereby improving the Power Optimizer's reliability. Our research and development teams continuously work to further improve our ASICs and release new generations of this innovative technology.

Inverters. Our inverter roadmap includes both new products as well as additional capabilities for existing inverters. Our inverter roadmap is intended to serve four purposes: (i) expand addressable markets by developing new and larger inverters designed specifically for larger commercial installations and utility-scale projects; (ii) improve the electronics to increase the total power throughput while minimally changing the existing enclosure, thereby reducing the actual cost per watt and increasing economies of scale; (iii) improve ease of installation by integrating additional functionality required in certain installations in order to reduce costs of additional hardware and subcontractors' labor costs; and (iv) improve the inverter's functionality to serve as a hub for home energy management, integrating, controlling and optimizing the main home energy sources and loads.

Software. We continue to expand our software offering by introducing new tools and features. This includes both professional web-based software and system owner applications such as the fleet management platform, the site designer tool, the mySolarEdge consumer app, and installer applications.

Our cloud-based monitoring platform is continuously growing by the amount of data aggregated. We are continuously developing tools to accommodate our growth and further enhance our service offering. We plan to continue developing algorithms that detect and pinpoint problems that can impact power production in installed systems. We further plan to add more capabilities through our public API to allow users to integrate our system into their own systems and build and share useful applications based on monitoring data gathered by our software.

Energy Storage. Our residential storage solution, launched in 2021, is designed to integrate with our single-phase and three-phase inverters to provide optimal energy management, maximum efficiency, longer backup times and ease of use for the homeowners. Our DC-coupled SolarEdge Home Battery are currently available in North America, Europe and Australia and are expected to be introduced to additional global markets. We expect to continue to expand our storage solutions to cover more applications, improve battery management, efficiency and integration with energy management systems.

Smart Energy Management. Our smart energy management offering manages and controls PV production, home consumption, storage, and home generator and grid interaction. It is designed to automatically use excess PV power to increase self-consumption of solar energy, and reduce energy bills and carbon footprints. The offering controls electrical loads such as, pool pumps, fans, lighting and other home appliances by using our smart energy devices such as smart sockets, smart switch relays and more, and is able to divert excess solar energy to heat water. We are developing new features and capabilities for the smart energy suite which is constantly evolving. Specifically, we have current plans to add the ability to control additional energy loads and are developing capabilities for the commercial segment. We also plan on expanding the availability of our smart energy products, including smart energy management devices, to new geographies and use cases.

Products from Non-Solar Businesses

Since introducing our DC optimized inverter solution in 2010, we have expanded our activity to other areas of smart energy solutions, both through organic growth and through acquisitions. These include product offerings in the areas of energy storage systems or ESS and backup including our own lithium-ion cells and electric vehicle also known as EV components. More specifically, in 2022, we continued to supply full electrical powertrain units and batteries for the production of the "E-Ducato" light commercial vehicle in Europe. In addition, we began producing and shipping cells from Sella 2, our own Li-Ion cell and battery factory in Korea in the end of 2022. The factory is expected to reach full manufacturing capacity during 2023. Our non-solar businesses allow us to offer a variety of products and solutions in addition to the SolarEdge solution, in adjacent markets.

New Products or Product Categories

We continuously evaluate opportunities to expand our product offerings and services to our customers. We may from time to time develop new products or services that are a natural extension of our existing business, or may engage in acquisitions of businesses or product lines with the potential to strengthen our market position, enable us to enter attractive markets, expand our technological capabilities, or provide synergistic opportunities.

Sales and Marketing Strategy

Our solar business strategy is to focus on penetrating new geographic regions and increasing our market share. More specifically, we focus on markets where electricity prices, irradiance and government policies make solar PV installations economically viable. Our solar products have been installed in 133 countries.

We target our sales and marketing efforts to the largest distributors, electrical equipment wholesalers, EPC contractors and installers in each of the countries where we operate. We anticipate that an increasing percentage of solar PV equipment sales will also occur through electrical equipment wholesalers who sell to a broad range of electrical contractors, and we are focused on cultivating these global relationships. As of December 31, 2022, based on the number of installer accounts on our monitoring portal, over 53,000 installers around the world have installed SolarEdge solar PV systems. We also sell our Power Optimizers pre-installed onto several PV modules for manufacturers that offer Smart Modules to ease and accelerate installation.

Additionally, as further detailed below, we have a number of programs focused on educating installers and other industry professionals about our technology, and we use a combination of road shows, webinars, and partner trainings to educate them how best to design, sell, and implement our technology in their projects. Most of these activities were converted to online platforms since the start of the Covid-19 pandemic to enable continued training, education and marketing.

Our battery business strategy focuses on utilizing our storage division's battery technology in our residential and commercial solar products and using any remaining manufacturing capacity for generating revenues from the sale of battery cells, modules and systems to other applications including ESS, UPS, marine and other applications. In the future we intend to further integrate our batteries into other applications.

Our Customers

We derive a significant portion of our revenues from key solar distributors, electrical equipment wholesalers and large installers in the U.S. and worldwide. In 2022, one of our customers, Consolidated Electrical Distributors Inc. (CED) represented 18.5% of our revenues. None of our other customers accounted for more than ten percent of our revenues in the year ended December 31, 2022.

Training and Customer Support

We offer our installer base a comprehensive package of customer support and training services which include pre-sales support, ongoing trainings, and technical support before, during, and after installation. We also provide customized support programs to PV module manufacturers, large installers and distributors to help prioritize and track support issues, thereby enabling short cycle times for issue resolution.

In 2022 we launched our new online customer training platform, Edge Academy. The platform is an advanced Learning Management System, capable of hosting thousands of online training sessions each month, allowing a self-paced, training approach. During 2022, the Edge Academy hosted over 124,000 learners.

In 2022, we also enhanced our installer certification by allowing more installers to access the certification program on the new Edge Academy platform, as well as increasing accessibility by adding more languages for the content such that installers in more regions in which we operate can benefit from the content. During 2022, over 13,000 installers completed our certification program. We also launched the SolarEdge battery certification program which was completed by more than 2,900 installers world-wide.

In addition to the above, we support our commercial system customers with design consulting throughout their sales process and installation.

Our technical support organization includes local expert teams, tech centers, an online service portal and live chat service. Our toll-free call and live chat centers are open Monday through Friday at least from 9:00 a.m. to 6:00 p.m. in every region in which we sell our products. In addition, customers can open and track support cases 24/7 utilizing our online portal. All support cases are monitored via a customer relationship management system in order to provide service, track closure of all customer issues and further improve our customer service. Our call centers have access to our cloud-based monitoring platform database, which enables real-time remote diagnostics.

Customer service and satisfaction continues to be a key component of our business offering and we consider it integral to our continued success. We maintain high levels of customer engagement through our call centers in California, Australia, Japan, Israel, India and Bulgaria. During 2022, we added additional call centers in Brazil, Taiwan, Thailand and South Africa. In addition to our call centers, we have field service engineers located in the geographies where we are active, and support our customers with commissioning of large projects, introduction of new technologies and features and on-the-job training of new installers. As of December 31, 2022, our customer support and training organization consisted of 609 employees worldwide.

Our Technology

We have drawn on our expertise in the fields of power electronics, magnetic design, mechanical and heat dissipation, control loops and algorithms, power line communications and lithium-ion battery technology to design and develop what we believe to be the most advanced commercial solutions for harvesting power from solar PV, storage and energy management solutions for residential and commercial applications. These technologies are explained in more detail below.

As part of our growth strategy, we have acquired companies that have technologies that can leverage our expertise in power electronics and power optimization. By combining acquired resources with our current research and development teams, we are expanding our activities into other areas such as e-Mobility, and energy storage systems.

Power Optimizers

Our Power Optimizers are DC/DC step up/step down (buck boost) converters designed and developed to operate in harsh outdoor environments at very high conversion efficiency. Our Power Optimizers include proprietary power electronics customized to efficiently convert power from the PV module to the inverter.

A key factor in the performance of our Power Optimizer is determined by the digital control algorithms and closed-loop control mechanism. The Power Optimizer's control is built into our advanced ASIC which is responsible for all critical digital control functions of the power optimizer, including detailed power analysis, digital control of the power conversion subsystem, power line communications and networking. Since each Power Optimizer handles the power and voltage of either a single or two modules, we are able to reach a high degree of semiconductor integration by leveraging low cost silicon in standard semiconductor packages. As a result, much of the of our Power Optimizer functionality can be integrated into a standard ASIC instead of requiring discrete electronic components, resulting in lower costs and higher reliability.

The ASIC performs the critical power analysis and power conversion control functions of the Power Optimizer. The power analysis functions process the state and working parameters at the Power Optimizer's input and output and, together with advanced digital control and state machine logic, control the power conversion function. In addition, our digital control system uses technology that allows the solar PV installation to anticipate and adapt to changing operating conditions, and to protect itself against system anomalies. In 2021, we incorporated our fourth generation ASIC in our new generation of Power Optimizers (S-series). In addition, we added cable temperature monitoring functionality, called the Sense Connect, to this new generation to improve their safety capabilities.

Each Power Optimizer in the array is connected to the inverter by a power line communications networking link. Our power line communications link uses a proprietary networking technology that we developed, utilizing the existing DC wiring between the Power Optimizers and the inverter to transmit and receive data between these devices.

Inverters

Most of our inverters are designed for single-stage DC/AC conversion. Using our inverter in combination with the Power Optimizers allows the inverter control loop to maintain a regulated DC voltage level at its input, thereby enabling the inclusion of long, uneven, and multi-faceted strings of solar modules while also enabling custom, cost efficient, and reliable inverter design and component selection. All of the power components, as well as the main magnetic components for our inverters, can then be optimized for DC/AC inversion at high efficiency.

Our inverters' digital control algorithms are implemented using programmable digital signal processors which allow for flexibility and adaptation of control loops for various grids and for the requirements and standards of different grid operators across geographies. We have already implemented the control mechanisms necessary to support advanced grid codes and standards that are required to support high penetration of solar energy into utility grids. We continue to develop and manufacture our own DSP (ASIC) in our inverters which enables us to improve our control loops, increase our cost savings and be less dependent on third party suppliers in our manufacturing process. The DSP (ASIC) performs the critical power analysis and power conversion control functions of the inverter. The power analysis functions process the state and working parameters at the power inverter's input and output, and together with advanced digital control and state machine logic controls the power conversion function. In addition, our digital control system uses technology that allows the inverter to anticipate and adapt to changing operating conditions, and to protect itself against system anomalies as well as comply with applicable regulations in the different regions in which we operate.

Our DSP (ASIC) is also in charge of the power line communications ("PLC") networking link. Our PLC uses a proprietary networking technology that we developed, utilizing the existing DC wiring between the Power Optimizers and the inverter to transmit and receive data between these devices.

We have developed and continue to develop in-house design and manufacturing capabilities for magnetic components in order to decrease dependence on suppliers, reduce costs and have better control over our production processes.

Batteries

In 2021, we released our first lithium-ion residential batteries for sale in the U.S. and Europe through our solar distribution channels. Our batteries are composed of lithium cells, a battery management system ("BMS"), bi-directional DC/DC high efficiency converter that allows charge and discharge of the battery, as well as user interface. Our DC/DC converter uses digital control algorithms, which are implemented using a programmable digital signal processor. Therefore, both the battery and Power Optimizers are connected to the same DC bus, allowing the battery to be directly charged by the DC current generated by the Power Optimizers and bypassing the AC conversion.

Our efficient DC-coupled battery is designed to connect with our inverters (up to three batteries per inverter). Our batteries can be connected to our cloud-based monitoring platform, reporting information on the battery status, solar production, and self-consumption data.

In 2022, we launched the 5 kW three phase Home Battery for the European market.

Manufacturing

We have designed our manufacturing processes to produce high quality products at competitive costs. The strategy is threefold: outsource, automate, and localize. We currently contract to have our solar products manufactured by two of the world's leading global electronics manufacturing service providers, Jabil Circuit, Inc. ("Jabil") and Flex Ltd. ("Flex"). By using contract manufacturers, we are able to access advanced manufacturing equipment, processes, skills and capacity on a relatively "capital light" budget. Our contract manufacturers are responsible for funding the capital expenses incurred in connection with the manufacture of our products, except with regard to end-of-line testing equipment and other specific manufacturing equipment utilized in assembling our products or sub-components which are financed and owned by the Company. We expect to continue this funding arrangement in the future, with respect to any expansions to such existing lines save for circumstances where the direct purchase by us of non-specific manufacturing equipment will result in a substantial reduction in costs in which case we will consider financing such non-specific manufacturing equipment ourselves. Further, contracting with global providers, such as Jabil and Flex, gives us added flexibility to manufacture certain products in China and Vietnam, closer to target markets in Asia and the North American west coast, as well as other products in Hungary, closer to target markets in Europe and the North American east coast, in each case, potentially increasing responsiveness to customers while reducing costs and delivery times. In addition, as part of our manufacturing regionalization efforts, we are expanding our manufacturing capabilities with a new manufacturing site in Mexico, which is expected to finalize its ramp-up phase in the first half of 2023. Once ramped, we believe this site will significantly increase our capacity and give us further flexibility to manage growing demand. In light of recent Inflation Reduction Act legislation in the United States which incentivizes the local manufacturing of renewable energy products by providing benefits to installers for the purchase and installation of US-manufactured products, as well as by incentivizing manufacturers of such products domestically, we are planning to establish manufacturing capabilities in the United States either by using contract manufacturers or by establishing our own manufacturing facility or a combination of both.

During 2021, we reached full manufacturing capacity in our manufacturing facility located in the North of Israel “Sella 1”, from which we began commercial shipments to the U.S. of optimizers and inverters in 2020. The proximity of Sella 1 to our R&D team and labs enables us to accelerate new product development cycles as well as define equipment and manufacturing processes of newly developed products which can then be adopted by our contract manufacturers worldwide.

During 2023, we plan to expand the manufacturing capacity of Sella 1 to add an additional inverter line.

We have developed propriety automated assembly lines for the manufacturing of our power optimizers. These assembly lines, currently operating in all of our manufacturing facilities, enable the manufacturing of more than 6,000 optimizers per manufacturing line per day. We invest resources in additional automated assembly lines as well as in automated machinery for subassembly and self-manufacturing of certain components used in our products, and we own and are responsible for funding all of the capital expenses related thereto. The current and expected capital expenses associated with these automated assembly lines and other machinery is funded out of our cash flows.

We source our raw materials through various component manufacturers and invest resources in continued cost-reduction efforts as well as verifying second and third sources so as to limit dependence on sole suppliers.

Our Korean subsidiary (formerly Kokam), has a manufacturing facility for lithium-ion cells and batteries that has the capacity to manufacture up to 150 MWh per annum. In 2020, we began construction of “Sella 2”, a 2GWh Li-Ion battery factory in Korea. The new factory was constructed to meet the growing global demand for Li-Ion batteries, specifically in the energy storage system (ESS) market. Sella 2 began producing and shipping cells in the end of 2022 and is expected to reach full manufacturing capacity during 2023.

SolarEdge e-Mobility has a manufacturing and assembly facility in Umbertide, Italy, for our e-Mobility division.

Reliability and Quality Control

Our power optimizers are either connected to each PV module by installers, or embedded in each PV module by PV module manufacturers. Our power optimizers are designed to be as reliable as the PV module itself and capable of withstanding the same operating and environmental conditions.

Our reliability methodology includes a multi-level plan with design analysis, sub-system testing of critical components by Accelerated Life Testing, and integrative testing of design prototypes by Highly Accelerated Life Testing and large sample groups. As part of our reliability efforts, we subject components to industry standard conditions and tests including in accelerated life chambers that simulate burn-in, thermal cycling, damp-heat, and other stresses. We also conduct out of box audits (OBA) on our finished products. In addition, online reliability tests (ORT) are conducted on our optimizers and we test complete products in stress tests and in the field. Our rigorous testing processes have helped us to develop highly reliable products.

In order to verify the quality of each of our products when it leaves the manufacturing plant, each component, sub-assembly, and final product are tested multiple times during production. These tests include Automatic Optical Inspection, In-Circuit Testing, Board- Functional Testing, Safety Testing, and Integrative Stress Testing. We employ a serial number-driven manufacturing process auditing and traceability system that allows us to control production line activities, verify correct manufacturing processes and to achieve item-specific traceability.

As a part of our quality and reliability approach, failed products from the field are returned and subjected to root cause analysis, the results of which are used to improve our product and manufacturing processes and design and further reduce our field failure rate.

Certifications

Our products and systems comply with the applicable regulatory requirements of the jurisdictions in which they are sold as well as all other major markets around the world. These include safety regulations, electromagnetic compatibility standards and grid compliance.

Research and Development

We devote substantial resources to research and development with the objective of developing new products and systems, adding new features and reducing unit costs of our products and systems. Our development strategy is to identify software and hardware features, products, and systems that reduce the cost and improve the effectiveness of our solutions for our customers. We measure the effectiveness of our research and development by metrics including product unit cost, efficiency, reliability, power output, and ease of use.

We have a strong research and development team with wide ranging experience in power electronics, semiconductors, power line communications and networking, chemical, mechanical and software engineering. In addition, many members of our research and development team have expertise in solar technologies. As of December 31, 2022 our research and development organization had a headcount of 1,428 employees.

Intellectual Property

The success of our business depends, in part, on our ability to maintain and protect our proprietary technologies, information, processes, and know-how. We rely primarily on patent, trademark, copyright and trade secrets laws in the U.S. and similar laws in other countries, confidentiality agreements and procedures and other contractual arrangements to protect our technology. As of December 31, 2022, SolarEdge had 444 issued patents worldwide and 462 patent applications pending for examination. A majority of our patents relate to DC power optimization and DC to AC conversion for alternative energy power systems, power system monitoring and control, battery technology and management systems. Our issued patents are scheduled to expire between 2023 and 2041.

We continually assess opportunities to seek patent protection for those aspects of our technology, designs, and methodologies and processes that we believe provide significant competitive advantages.

We rely on trade secret protection and confidentiality agreements to safeguard our interests with respect to proprietary know-how that is not patentable and processes for which patents are difficult to enforce. We believe that many elements of our manufacturing processes involve proprietary know-how, technology, or data that are not covered by patents or patent applications, including technical processes, test equipment designs, algorithms, and procedures.

All of our research and development personnel are required to enter into confidentiality and proprietary information agreements with us. These agreements address intellectual property protection issues and require our employees to assign to us all of the inventions, designs, and technologies they develop during the course of employment with us.

Our customers and business partners are required to enter into confidentiality agreements before we disclose any sensitive aspects of our technology or business plans.

Competition

The markets for our solar products are competitive, and we compete with manufacturers of traditional inverters, as well as manufacturers of other MLPE systems. The principal areas in which we compete with other companies include:

- product and system performance and features;
- total cost of ownership;
- reliability and duration of product warranty;
- customer service and support;
- breadth of product line;
- local sales and distribution capabilities;
- compliance with applicable certifications and grid codes;
- size and financial stability of operations; and
- size of installed base.

Recent market trends show an increased focus on safety features in rooftop installations, and the emergence of standards that are evolving to address such concerns. In particular, the arc fault detection and interruption (AFDI) and rapid shutdown (RSD) standards in the US market, have led to the introduction of module-level rapid-shutdown devices from our competitors. We believe the existence of rapid shutdown capabilities built into our Power Optimizers positions us well in this regard, and could serve as a competitive advantage. Additionally, in 2020 we have seen PV module manufacturers introduce larger PV modules with higher power levels reaching over 600W. This market trend, which comes as a result of PV cell manufacturers introducing larger cell sizes such as M10 and M12 as well as different module build configurations, leads to market interest in higher power rating Power Optimizers, micro inverters, and other MLPE devices. The increasing demand for storage and battery solutions is an additional noteworthy market trend which is expected to increase the attachment rate of storage to PV installations in the coming years.

Our DC optimized inverter system competes principally with products from traditional inverter manufacturers, such as SMA Solar Technology AG, ABB Ltd. and Huawei Technologies Co. Ltd. as well as from other Chinese inverter manufacturers. In the North American residential market, we compete with traditional inverter manufacturers, as well as microinverter manufacturers such as Enphase Energy, Inc. In addition, several new entrants to the MLPE market, including low-cost Asian manufacturers, have recently announced plans to ship or have already shipped similar products. We believe that our DC optimized inverter system offers significant technology and cost advantages that reflect a competitive differentiation over traditional inverter systems and microinverter technologies.

The markets for our energy storage division products are competitive as well, and we compete with global cell and battery manufacturers in the ESS market. Our energy storage solutions compete with products from global manufactures such as LG Energy Solutions, Samsung SDI, CATL, BYD and Panasonic.

Our residential lithium-ion batteries compete with global manufacturers of both lithium-ion and other residential battery storage solutions such as Tesla, LG Energy solutions, BYD and Enphase Energy.

The vehicle e-Mobility component market is dominated primarily by manufacturers such as Robert Bosch GmbH, ZF Friedrichshafen AG, Dana Incorporated and Magna International. As the global e-Mobility market expands, major automotive manufacturers, such as Toyota, Honda, Tesla, General Motors, and Ford, have increased their investments in the electric and hybrid vehicle components in order to increase their market share.

Government Incentives

U.S. federal, state, and local government bodies as well as non-U.S. government bodies, provide incentives to owners, end users, distributors, and manufacturers of solar PV systems to promote solar electricity in the form of rebates, tax credits, lower VAT rate and other financial incentives such as system performance payments, payments for renewable energy credits associated with renewable energy generation, and exclusion of solar PV systems from property tax assessments. The market for on grid applications, where solar power is used to supplement a customer's electricity purchased from the utility network or sold to a utility under tariff, often depends in large part on the availability and size of these government subsidies and economic incentives, which vary from time to time by geographic market.

In August 2022, the U.S. government enacted the Inflation Reduction Act of 2022 (the "IRA"), which includes several incentives intended to promote clean energy, battery and energy storage, electrical vehicles, and other solar products and is expected to impact our business and operations. As part of such incentives the IRA, will among other things, extend the investment tax credit ("ITC") through 2034 and is therefore expected to increase the demand for solar products. The IRA is expected to further incentivize residential and commercial solar customers and developers due to the inclusion of a tax credit for qualifying energy projects of up to 30%. Since these regulations are new and their implementation is still pending administrative guidance from the Internal Revenue Service and U.S. Treasury Department, we will be examining the benefits that may be available to us, such as the availability of tax credits for domestic manufacturers, in the coming months. We have also announced our plans to establish manufacturing capabilities in the United States during 2023. To the extent that tax benefits or credits may be available to competing technology and not to our technology, our business could be adversely disadvantaged.

Import Tariffs

Escalating trade tensions between the United States and China have led to increased tariffs and trade restrictions, including tariffs applicable to some of our products. As of June 2019, the U.S. trade representative ("USTR") imposed import tariffs of 25% on a long list of products imported from China, including inverters and power optimizers. On January 15, 2020, the United States and China entered into an initial trade deal, which preserves the initial tariffs from 2018 and indicates additional sanctions may be imposed if China breaches the terms of the deal.

In order to mitigate the negative effect of increased tariffs, we increased our manufacturing capabilities at our Vietnam manufacturing facility. We reached full manufacturing capacity in our manufacturing facility in Israel, Sella 1, and are manufacturing in Mexico where achievement of full manufacturing capacity is expected in the first half of 2023. In addition, as mentioned above, we are planning to establish manufacturing capabilities in the United States. For the year ended December 31, 2022, the majority of our products being imported to the U.S. were manufactured in Mexico, Vietnam, Israel and Hungary and were therefore not subject to the aforementioned tariffs.

Seasonality

The solar energy market is subject to seasonal and quarterly fluctuations affected by weather. For example, during the winter months in Europe and the northeastern U.S. where the climate is particularly cold and snowy, it is typical to see a decline in PV installations and this decline can impact the timing of orders for our products.

Sustainable, Responsible and Transparent Business Practices

During 2022, we continued making progress in our Environmental, Social and Governance ("ESG") performance and disclosure. Our ESG practices are guided by our social purpose: "To power the future of energy so we can all enjoy better living and a cleaner, greener future" and our social mission: "Shaping the future of sustainable energy production, energy storage and e-mobility through innovation". We have crafted a comprehensive sustainability strategy with 2025 targets in several areas. Our fourth annual Sustainability Report, published in 2022, meets the requirements of leading global sustainability disclosure standards, GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board) aligning our disclosure with leading corporations around the world and with the expectations of investors and other stakeholders. Our sustainability strategy, includes the following pillars:

- **Powering Clean Energy:** Accelerating the uptake of clean energy, delivering new smart energy, innovative solutions and improving the lifecycle impacts of our products. As a business founded upon the acceleration of clean energy, we strive to reduce our climate impact by minimizing GHG (greenhouse gas) emissions and transitioning to renewable electricity usage in our facilities. We have completed a lifecycle analysis for three of our key products, examining the carbon footprint of all product life stages and following the examination of the results of such analysis were able to highlight possible reduction opportunities. Furthermore, we have set a target of reducing 30% of our Scope 1+2 GHG emissions per revenue, by 2025 (compared with the 2020 basis). We have set another target of achieving near-zero e-waste to landfill by 2025. In 2021, a total of 71% of all waste at our owned and operated sites, was either recycled or recovered to energy.
- **Powering People:** Maintaining leading responsible employment practices, upholding human rights and investing in communities. In 2022, we continued to expand our workforce to support SolarEdge's business growth, and maintained responsible employment practices, including an enhanced focus on safety and on employee growth and development. We set quantitative targets and formulated multi-year programs to enhance gender equality within our workforce and to strengthen its inclusiveness (see further details in "Human Capital" below). Also in 2022, we enhanced our community engagement program. Our updated program focuses on the advancement of renewable energy for environmental community value, encouraging STEM education and youth innovation and strengthening diverse populations.
- **Powering Business:** Maintaining and reinforcing ethical conduct throughout our value chain, advancing climate resilience, improving the efficiency of our resource consumption and ethical sourcing of raw materials and components.

Our supplier code of conduct ("SCoC"), which includes provisions regarding, among others, ethics, safety, environmental protection, human rights, and fair employment. As of December 31, 2022, over 175 key suppliers have signed their acknowledgment of the SCoC terms. To date, we also conducted on-site audits of four contract manufacturers and two major raw material suppliers in connection with their compliance with the SCoC requirements, and are aiming to expand these efforts in 2023. In addition, our conflict-minerals practices involve engaging our suppliers to evaluate the traceability of their upstream sources.

We believe that our sustainability strategy aligns directly with 10 United Nations Sustainable Development Goals (SDGs), and our products and activities are most critical to achievement of SDG #7, Affordable Clean Energy.

Human Capital

We believe our success depends on our ability to attract and retain outstanding employees at all levels of our business. As of December 31, 2022, we had 4,926 employees (full time and part time). Of these employees, 1,428 were engaged in research and development, 649 in sales and marketing, 2,383 in operations, production, Q&R, and support, and 466 in general and administrative capacities. Of our employees, 2,702 were based in Israel, 699 were based in Europe, 591 were based in Korea, 318 were based in the U.S and 616 were based in the remaining countries in which we operate including China, Vietnam, Mexico and others.

Except for our SolarEdge Automation Machines employees and the employees of SolarEdge e-Mobility, none of our employees are represented by a labor union. We have not experienced any employment-related work stoppages, and we consider relations with our employees to be good.

Recruitment: As a rapidly growing business, we rely on the success of our recruitment efforts to attract and retain technically skilled people who can support our ongoing innovation and expansion. We aim to be inclusive in our hiring practices, focusing on the best talent for the role, welcoming all genders, nationalities, ethnicities, abilities and other dimensions of diversity.

Employee benefits: We aim to provide our employees with competitive salary and benefits that enable them to achieve a good quality of life and plan for the future. Our benefits differ according to local norms and market preferences, but typically include all salary and social benefits required by local law (including retirement saving programs, paid vacation and sick leave) and many additional benefits that go beyond legal requirements in local markets.

Leadership, Training and Development: We aim to provide our employees with advanced professional and development skills, so that they can perform effectively in their roles and build their capabilities and career prospects for the future. We maintain a leadership program for managers and team leaders and deliver advanced professional training for sales, research and development and other functional teams as part of our extensive training program each year. Furthermore, we partner with local educational resources to offer formal learning programs on a variety of subjects for the personal development and advancement of our workforce.

Diversity, Equity and Inclusion: During the past three years, we have increased the total number of women in our organization by over 75%. We are striving to increase the presence of women in executive and management positions as part of our 2025 target to promote gender parity and equal pay.

We are taking active steps to increase the diversity of our workforce and inclusiveness of our employee base. For example, we engaged in several partnerships with social organizations in Israel, designed to increase our recruitment of candidates from the Arab-Israeli population, ultra-orthodox women, and individuals with disabilities. Additionally, as part of our commitment to enhance gender equality within our workforce, we created designated development programs for female managers and women in tech roles. Over 50 female participants have successfully completed these programs in 2022.

Workplace safety and health: We believe that all accidents and injuries at work are preventable and we strive to achieve a zero-injury culture across our offices and operations. We comply with applicable occupational health and safety regulations and are certified to Occupational Health and Safety Quality Management Standard ISO 45001:2018. Our safety practices include: nominated safety officers at each of our manufacturing or R&D sites, mandatory annual safety training for all employees, mandatory job-specific training for all employees in relevant roles (e.g., for those working in high-voltage labs), comprehensive safety, fire, and emergency drill programs to ensure our employees are well-versed with emergency procedures and root-cause assessments of incidents and corrective actions.

Corporate Information

We were incorporated in Delaware in 2006. Our principal executive offices are located at 1 HaMada Street, Herzliya Pituach 4673335, Israel and our telephone number at this address is 972 (9) 957-6620. Our website is www.solaredge.com.

We file annual, quarterly and current reports, proxy statements and other documents with the Securities and Exchange Commission (the “SEC”), pursuant to the Securities Exchange Act of 1934 (the “Exchange Act”). Our reports, proxy statements and other documents filed electronically with the SEC are available at the website maintained by the SEC at www.sec.gov.

We use the Investor Relations portion of our website at www.solaredge.com, as a routine channel of distribution of important information such as press releases, analyst presentations, corporate governance practices and corporate responsibility information, financial information including our annual, quarterly, and current reports, our proxy statements, and, if applicable, amendments to those reports, filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file such reports with, or furnish them to, the SEC. All such postings and filings are available on our Investor Relations website free of charge.

Information contained on our website is not incorporated by reference into this Annual Report, and you should not consider information contained on our website as part of this Annual Report.

ITEM 1A. Risk Factors

Risk Factors Summary

The following summarizes the principal factors that make an investment in our company speculative or risky, all of which are more fully described in the Risk Factors section below. This summary should be read in conjunction with the Risk Factors section and should not be relied upon as an exhaustive summary of the material risks facing our business. The order of presentation is not necessarily indicative of the level of risk that each factor poses to us.

We face risks related to our business and our industry, including those related to:

- Our ability to maintain our current level of profitability.
- The rapidly evolving and competitive nature of the solar industry.
- Demand for solar energy solutions.
- The dependence of our e-Mobility business on orders from a leading automotive manufacturer.
- The impact of declines in the retail price of electricity derived from the utility grid or from alternative energy sources.
- The impact of increases in interest rates or tightening of the supply of capital on the ability of end-users to finance the cost of a solar PV system.
- The impact of increased competition as new and existing competitors introduce power optimizers, inverters, solar PV system monitoring and other smart energy products.
- Developments in alternative technologies or improvements in distributed solar energy generation.
- The cyclical nature of the solar industry.
- Defects or performance problems in our products.
- Our dependence on a small number of outside contract manufacturers.
- Any delays, disruptions, or quality control problems in our manufacturing operations.
- Our dependence on a limited number of suppliers for key components and raw materials in our products to adequately meet anticipated demand.
- Disruptions to our global supply chain and rising prices of oil and raw materials due to the conflict between Russia and Ukraine.
- Our reliance on distributors and large installers to assist in selling our products.
- Mergers in the solar industry among our current or potential customers.
- Our planned expansion into new geographic markets or new product lines or services.
- Our ability to build our non-solar businesses and manage future growth effectively.
- Our ability to raise the funds necessary to settle conversion of our Convertible Senior Notes or Notes in cash or to repurchase the Notes upon a fundamental change.
- Any unauthorized access to, disclosure, or theft of personal information we gather, store, or use.
- Attempts by third parties, our employees, or our vendors to gain unauthorized access to our network or seek to compromise our products and services.
- Our entry into business engagements with military bodies as our customers.

- Our ability to successfully execute future acquisitions or be effective in integrating such acquisitions.
- Any damage or injury caused by Lithium-Ion used in our battery cells and packs.
- Conditions in Israel that may affect our operations.
- Difficulties in enforcing a judgment of a U.S. court against our officers and directors, to assert U.S. securities laws claims in Israel, or to serve process on our officers and directors.
- The ongoing Covid-19 pandemic.
- Our dependence on ocean transportation to deliver our products in a timely and cost efficient manner.
- Fluctuations in currency exchange rates.
- Issues related to corporate social responsibility.
- Complications with the design or implementation of our new ERP system could adversely impact our business.

We face risks related to legal, compliance and regulatory matters, including those related to:

- Any reduction, elimination or expiration of government subsidies and economic incentives for on-grid solar electricity.
- Any unfavorable regulatory treatment, or guidance related to the Inflation Reduction Act of 2022.
- Changes to net metering policies.
- Technical and economic barriers to the purchase and use of solar PV systems resulting from current or future regulations.

We face risks related to intellectual property, including those related to:

- Our ability to protect our intellectual property and other proprietary rights.
- Any claims by third parties that we are infringing upon their intellectual property rights.
- Any claims for remuneration or royalties for assigned service invention rights by our employees.
- The impairment of our goodwill or other intangible assets.

We face risks related to the ownership of our common stock, including those related to:

- Volatility of our stock price.
- Provisions in our certificate of incorporation and by-laws that may have the effect of delaying or preventing a change of control or changes in our management.
- The forum selection clause contained in our certificate of incorporation.
- Our lack of plans to pay any cash dividends on our common stock in the foreseeable future.

The summary risk factors described above should be read together with the text of the full risk factors in the Risk Factors sections and the other information set forth in this Annual Report on Form 10-K, including our consolidated financial statements and the related notes, as well as in other documents that we file with the SEC. The risks summarized above or described in full below are not the only risks that we face. Additional risks and uncertainties not precisely known to us, or that we currently deem to be immaterial may also materially adversely affect our business, financial condition, results of operations and future growth prospects.

Risk Factors

You should carefully consider the risks described below together with the other information set forth in this report, which could materially affect our business, financial condition and future results. The risks described below are not the only risks facing our company. Risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition and operating results.

Risks related to Our Business and Our Industry

We cannot be certain that we will sustain our current level of profitability in the future.

We achieved a net profit of \$93.8 million and \$169.2 million for the years ended December 31, 2022 and 2021 respectively. A high growth rate in profitability may not be sustainable over time. For example, our revenue and profitability for the year ended December 31, 2020 did not grow as we previously anticipated mainly due to the adverse effects of Covid-19 on demands for our products, and on the global economy in general. In 2021, we experienced an increase in revenues and profitability when compared to the same period in 2020 and in 2022 our revenues grew when compared to the same period in 2021 while our net profit decreased due to reasons detailed in the Management's Discussion and Analysis Section of this report. In the future, our revenues from both solar and non-solar business may not grow at the pace we anticipate, or may decline for a number of reasons, many of which are outside our control, including a decline in demand for our products, increased competition, a decrease in the growth of the solar industry, the short term and long term effects of Covid-19 on our industry and business and industry trends including component shortages and supply chain disruptions due to ocean freight capacity, shipping times and port congestions as well as other macroeconomic conditions in our domestic and international markets, inflation concerns, rising interest rates and recessionary concerns , or our failure to continue to capitalize on growth opportunities. If we fail to maintain sufficient revenue to support our operations, we may not be able to sustain profitability.

In addition, we expect to incur additional costs and expenses related to the continued development and expansion of our business, including in connection with recent or future acquisitions as well as ongoing marketing and developing our products, development of our own manufacturing facilities, expanding into new product markets and geographies, maintaining and enhancing our research and development operations and hiring additional personnel. We do not know whether our revenues will grow rapidly enough to absorb these costs, or the extent of these expenses or their impact on our results of operations.

The rapidly evolving and competitive nature of the solar industry makes it difficult to evaluate our future prospects. Our entry into other adjacent markets through recent acquisitions is new and highly competitive and it is difficult to evaluate our future in these new markets as well.

The rapidly evolving and competitive nature of the solar industry makes it difficult to evaluate our current business and future prospects. In addition, we have limited insight into emerging trends that may adversely affect our business, financial condition, results of operations and prospects. Our non-solar businesses in adjacent markets, such as storage and e-Mobility are highly competitive markets in which we will need to compete. We have encountered and will continue to encounter risks and difficulties frequently experienced by growing companies in rapidly changing industries, including unpredictable and volatile revenues and increased expenses as our business continues to grow. The viability and demand for our products may be affected by many factors beyond our control, including:

- cost competitiveness, reliability and performance of solar PV systems compared to conventional and non-solar renewable energy sources and products;
- competing new technologies at more competitive prices than those we offer for our products;
- availability and amount of government subsidies and incentives to support the development and deployment of solar energy solutions;
- the extent of deregulation in the electric power industry and broader energy industries to permit broader adoption of solar electricity generation;
- prices of traditional carbon-based energy sources;
- levels of investment by end-users of solar energy products, which tend to decrease when economic growth slows; and
- the emergence, continuance or success of, or increased government support for, other alternative energy generation technologies and products.

If demand for solar energy solutions does not continue to grow or grows at a slower rate than anticipated, our business and results of operations will suffer.

Our revenues are primarily derived from products utilized in solar PV installations. Thus, our future success depends on continued demand for solar energy solutions and the ability of vendors to meet this demand. The solar industry is an evolving industry that has experienced substantial changes in recent years, and we cannot be certain that consumers, businesses, or utilities will adopt solar PV systems as an alternative energy source at levels sufficient to grow our business. If demand for solar energy solutions fails to continue to develop sufficiently, demand for our products will decrease, resulting in an adverse impact on our ability to increase our revenue and grow our business.

The current revenues generated from our e-Mobility business are dependent on orders from a leading automotive manufacturer. The automotive industry is facing significant shortages of components for their assembly and their slowdown in manufacturing could delay orders of our powertrain kits.

Shortages in components in the automotive industry, including semiconductors, due in large part to strong cross-industry demand, have presented challenges and global production disruptions. Many leading automotive manufacturers have announced that these shortages will remain constrained and could extend into 2023. As a result, during 2021, our leading customer announced temporary suspensions of its manufacturing due to component shortages. These suspensions occurred again in 2022 and caused delays of orders for our powertrain units. Additional delays or suspensions may have an adverse effect on our revenues, profitability and other financial results from this business.

Additionally, projects in the automotive industry are long term and involve a long qualification process. Our e-Mobility business currently does not have additional substantial projects in the pipeline beyond the project with Stellantis, which was announced in February 2021. Our inability to enter into additional projects may have an adverse effect on our revenues, profitability and other financial results from the e-Mobility business. In 2022, we impaired goodwill and intangible assets related to our e-Mobility business (see Notes 8 and 9 of the financial statements for additional information).

A drop in the retail price of electricity derived from the utility grid or from alternative energy sources may harm our business, financial condition, results of operations, and prospects.

Decreases in the retail prices of electricity from the utility grid, or other renewable energy resources, would make the purchase of solar PV systems less economically attractive and would likely lower sales of our products. The price of electricity derived from the utility grid could decrease as a result of:

- construction of a significant number of new power generation plants, including plants utilizing natural gas, nuclear, coal, renewable energy, or other generation technologies;
- relief of transmission constraints that enable local centers to generate energy less expensively;
- reductions in the price of natural gas, or alternative energy resources other than solar;
- utility rate adjustment and customer class cost reallocation;
- energy conservation technologies and public initiatives to reduce electricity consumption;
- development of smart-grid technologies that lower the peak energy requirements of a utility generation facility;
- development of new or lower-cost energy storage technologies that have the ability to reduce a customer's average cost of electricity by shifting load to off-peak times; and
- development of new energy generation technologies that provide less expensive energy.

Moreover, technological developments in the solar components industry could allow our competitors and their customers to offer electricity at costs lower than those that can be offered by us to our customers, which could result in reduced demand for our products. If the cost of electricity generated by solar PV installations incorporating our systems is high relative to the cost of electricity from other sources, our business, financial condition, and results of operations may be harmed.

An increase in interest rates or tightening of the supply of capital in the global financial markets could make it difficult for end-users to finance the cost of a solar PV system and could reduce the demand for smart energy products and thus demand for our products.

Many end-users depend on financing to fund the initial capital expenditure required to develop, build, or purchase a solar PV system. As a result, an increase in interest rates or a reduction in the supply of project debt financing or tax equity investments, could reduce the number of solar projects that receive financing or otherwise make it difficult for our customers or the end-users to secure the financing necessary to develop, build, purchase, or install a solar PV system on favorable terms, or at all, and thus lower demand for our products which could limit our growth or reduce our net sales. In addition, we believe that a significant percentage of end-users install solar PV systems as an investment, funding the initial capital expenditure through financing. An increase in interest rates could lower such end-user's return on investment on a solar PV system, increase equity return requirements or make alternative investments more attractive relative to solar PV systems, and, in each case, could cause such end-users to seek alternative investments.

The market for our products is highly competitive and we expect to face increased competition as new and existing competitors introduce power optimizers, inverters, solar PV system monitoring and other smart energy products, which could negatively affect our results of operations and market share.

The market for solar PV solutions is highly competitive. We principally compete with traditional inverter manufacturers as well as microinverter manufacturers. Currently, our DC optimized inverter system competes with products from traditional inverter manufacturers, microinverter manufacturers, as well as emerging technology companies offering alternative MLPE products. Over the past few years, several new entrants to the inverter and MLPE market, including low-cost Asian manufacturers, have announced plans to ship or have already shipped products in markets in which we sell our products, including, with respect to sales in the United States, Australia and in Europe. We expect competition to intensify as new and existing competitors enter the market. In addition, there are several new entrants that are proposing solution to the rapid shutdown functionality which has become a regulatory requirement for PV rooftop solar systems in the United States. If these new technologies are successful in offering a price competitive and technological attractive solution to the residential solar PV market, this could make it more difficult for us to maintain market share.

Several of our existing and potential competitors have the financial resources to offer competitive products at aggressive or below-market pricing levels, which could cause us to lose sales or market share or require us to lower prices for our products in order to compete effectively. If we have to reduce our prices by more than we anticipated, or if we are unable to offset any future reductions in our average selling prices by increasing our sales volume, reducing our costs and expenses or introducing new products, our revenues and gross profit would suffer.

In addition, competitors may be able to develop new products more quickly than us, may partner with other competitors to provide combined technologies and competing solutions and may be able to develop products that are more reliable or that provide more functionality than ours.

Developments in alternative technologies or improvements in distributed solar energy generation may have a material adverse effect on demand for our offerings.

Significant developments in alternative technologies, such as advances in other forms of distributed solar PV power generation, storage solutions, such as batteries, the widespread use or adoption of fuel cells for residential or commercial properties or improvements in other forms of centralized power production, may have a material adverse effect on our business and prospects. Any failure by us to adopt new or enhanced technologies or processes, or to react to changes in existing technologies, could result in product obsolescence, the loss of competitiveness of our products, decreased revenue and a loss of market share to competitors.

The solar industry has historically been cyclical and experienced periodic downturns.

Our future success partly depends on continued demand for solar PV systems in the end-markets we serve, including the residential and commercial sectors in the United States and Europe. The solar industry has historically been cyclical and has experienced periodic downturns which may affect demand for our products. The solar industry has undergone challenging business conditions in past years, including downward pricing pressure for PV modules, mainly as a result of overproduction, and reductions in applicable governmental subsidies, contributing to demand decreases. Therefore, there is no assurance that the solar industry will not suffer significant downturns in the future, which will adversely affect demand for our solar products and our results of operations.

Defects or performance problems in our products could result in loss of customers, reputational damage, and decreased revenue, and we may face warranty, indemnity, and product liability claims arising from defective products.

Although our products meet our stringent quality requirements, they may contain undetected errors or defects, especially when first introduced or when new generations are released. Errors, defects, or poor performance can arise due to design flaws, defects in raw materials or components or manufacturing difficulties, which can affect both the quality and the yield of the product. Any actual or perceived errors, defects, or poor performance in our products could result in the replacement or recall of our products or components thereof, shipment delays, rejection of our products, damage to our reputation, lost revenue, diversion of our personnel from our product development efforts, and increases in customer service and support costs, all of which could have a material adverse effect on our business, financial condition, and results of operations.

Furthermore, defective components may give rise to warranty, indemnity, or product liability claims against us that exceed any revenue or profit we receive from the affected products. In most cases, we offer a minimum 12-year limited warranty for our inverters, extendable to twenty-five years for an additional cost, a 25-year limited warranty for our power optimizers and a 10-year limited warranty for our residential energy bank battery. Our limited warranties cover defects in materials and workmanship of our products under normal use and service conditions; therefore, we bear the risk of warranty claims long after we have sold products and recognized revenue. While we do have accrued reserves for warranty claims, our estimated warranty costs for previously sold products may change to the extent future products are not compatible with earlier generation products under warranty. Our warranty accruals are based on our assumptions and we do not have a long history of making such assumptions. As a result, these assumptions could prove to be materially different from the actual performance of our systems, causing us to incur substantial unanticipated expenses to repair or replace defective products in the future or to compensate customers for defective products. Our failure to accurately predict future claims could result in unexpected volatility in, and have a material adverse effect on, our financial condition. In particular, our residential energy hub battery is new on the market and we do not have the experience in servicing this product yet.

If one of our products were to cause injury to someone or cause property damage, or in the event that a claim is made alleging false or misleading advertisement, unfair competition or other consumer related claims, we could potentially be exposed to product liability claims and lawsuits which could result in significant costs and liabilities if damages are awarded against us. Further, any product liability claim we face could be expensive to defend and could divert management's attention. Even in litigation where we believe our liability is remote, there is a risk that a negative finding or decision in a matter involving multiple plaintiffs or a purported class action could have a material adverse effect on our competitive position, results of operations or financial condition.

For example, we provide warranty for the products sold by our e-Mobility division that are installed in vehicles. If such products contain design or manufacturing defects that cause them not to perform as expected, they may cause injury or damage to property and we may experience product recalls, product liability and significant warranty and other expenses. The successful assertion of a product liability claim against us could result in potentially significant monetary damages, penalties or fines, subject us to adverse publicity, damage our reputation and competitive position, and adversely affect sales of our products. In addition, product liability claims, injuries, defects, or other problems experienced by other companies in the residential solar industry could lead to unfavorable market conditions for the industry as a whole.

We depend upon a small number of outside contract manufacturers. Our operations could be disrupted if we encounter problems with these contract manufacturers.

While we are manufacturing a portion of our products in Israel, we still heavily rely upon our contract manufacturers to manufacture most of our products. We mainly rely on two contract manufacturers. Any change in our relationship or contractual terms with our contract manufacturers, or changes in our contract manufacturers' ability to comply with their contractual obligations could adversely affect our financial condition and results of operations. Our reliance on a small number of contract manufacturers makes us vulnerable to possible capacity constraints and reduced control over component availability, delivery schedules, manufacturing yields and costs. Even though we have commenced manufacturing in our facility in Israel, the expected production volumes will not be sufficient to relieve our significant dependence on our contract manufacturers. In addition, we remain heavily dependent on suppliers of the components needed for our manufacturing.

The revenues that our contract manufacturers generate from our orders represent a relatively small percentage of their overall revenues. Therefore, fulfilling our orders may not be considered a priority in the event of constrained ability to fulfill all of their customer obligations in a timely manner. In addition, the facilities in which our products are manufactured are located outside of the U.S., currently in China, Vietnam, Israel, Hungary and Mexico, where the ramping up process is expected to be completed in the first half of 2023. The location of our facilities outside of key markets such as the U.S. increases shipping time, thereby causing a long lead time between manufacturing and delivery.

If either of our contract manufacturers were unable or unwilling to manufacture our products in required volumes and at high quality levels or continue to supply under existing terms, we would have to identify, qualify, and select acceptable alternative contract manufacturers, which may not be available to us when needed or may be unable to satisfy our quality or production requirements on commercially reasonable terms. Any significant interruption in manufacturing would require us to reduce our supply of products to our customers or increase our shipping costs to make up for delays in manufacturing, which in turn could reduce our revenues, harm our relationships with our customers, subject us to liquidated damages for late deliveries, and damage our reputation with local installers and potential end-users, all of which will cause us to forego potential revenue opportunities. Further, the ramp of a new contract manufacturer is time consuming and draining on the resources of our operations team.

We may experience delays, disruptions, or quality control problems in our manufacturing operations.

Our product development, manufacturing, and testing processes are complex and require significant technological and production process expertise involving several precise steps from design to production. Any change in our processes could cause one or more production errors, requiring a temporary suspension or delay in our production line until the errors can be identified and properly rectified. This may occur particularly as we introduce new products, modify our engineering and production techniques, and/or expand our capacity. In addition, our failure to maintain appropriate quality assurance processes could result in increased product failures, loss of customers, increased warranty reserve, increased costs and delays, all of which could have a material adverse effect on our business, financial condition, and results of operations.

We depend on a limited number of suppliers for key components and raw materials in our products to adequately meet anticipated demand. Due to the limited number of such suppliers, any changes or shortages in raw materials or key components we use could result in sales delays, higher costs associated with air shipments, cancellations, and loss of market share.

We depend on limited or single source suppliers for certain key components and raw materials used to manufacture our products, making us susceptible to quality issues, shortages and price changes. Any of these limited or single source suppliers could stop supplying, or offering at commercially reasonable prices, our components or raw materials, cease operations or be acquired by, or enter into exclusive arrangements with our competitors. Because there are a few suppliers of raw materials used to manufacture our products, it may be difficult to timely identify and/or qualify alternate suppliers on commercially reasonable terms; therefore, our ability to satisfy customer demand may be adversely affected. Transitioning to a new supplier or redesigning a product to accommodate a new component manufacturer would result in additional costs and delays that could harm our business or financial performance.

Managing our supplier and contractor relationships is particularly difficult when we are introducing new products. For example, as we began to ramp assembly and production of powertrain kits for the automotive industry, we became heavily reliant on new third-party suppliers that needed to be approved through rigorous testing and validation processes for use in our supply chain. Once selected, it is time consuming and costly to replace such vendors. The same is true for our residential Home Battery for which we rely on a single source for supply of the lithium ion cells. Any delay or shortage of supply or inability to deliver the components to our manufacturing facilities could harm our business or financial performance.

Any interruption in the supply of limited source components or raw materials for our products would adversely affect our ability to meet scheduled product deliveries to our customers and could result in lost revenue or higher expenses associated with increased air shipments required to meet customer demand in a timely manner and would harm our business. For example, we continue to experience raw material shortages due to increased lead time which may affect our ability to timely receive certain components within the previously expected lead times. These shortages may result in a delay in sales, higher costs associated with air shipments, cancellations of orders by customers, liquidated damages for late deliveries and loss of market share.

Disruption in our global supply chain and rising prices of oil and raw materials as a result of the conflict between Russia and Ukraine may adversely affect our businesses and results of operations.

The conflict that began between Russia and Ukraine in late February 2022, may significantly amplify already existing disruptions to our supply-chain and logistics. Specifically, the conflict may disrupt the transit of goods by train from China to Europe, resulting in an increase in prices of certain raw materials sourced in Russia (such as nickel and aluminum) that we use in the manufacture of our products as well as increase oil prices that will in turn cause overall shipping costs to rise. In addition, the governments of the United States, the European Union, Japan and other jurisdictions have announced sanctions on certain industry sectors and parties in Russia and the regions of Donetsk and Luhansk, as well as enhanced export controls on certain products and industries. These and any additional sanctions, as well as any counter responses by the governments of Russia or other jurisdictions, could adversely affect the global financial markets generally and levels of economic activity as well as increase financial markets volatility., and any additional measures or sanctions, as well as the resulting rise in prices of oil and certain raw materials sourced in Russia may disrupt our business and results of operations and/or adversely affect the pricing of our products.

We rely on distributors and large installers to assist in selling our products, and the failure of these customers to perform as expected could reduce our future revenues.

Our customers' decisions to purchase our products are influenced by several factors outside of our control. The agreements we have with some of our largest customers do not have long-term purchase commitments and are generally cancellable by either party after a relatively short notice period. The loss of, or events affecting, one or more of these customers could have a material adverse effect on our business, financial condition, and results of operations (see Note 2aa to our consolidated financial statements).

In addition, we do not have exclusive arrangements with our third-party distributors and large installers, many of which also market and sell products from our competitors. These distributors and large installers may terminate their relationships with us at any time and with little or no notice. Further, these distributors and large installers may fail to devote resources necessary to sell our products at the prices, in the volumes, and within the time frames that we expect, or may focus their marketing and sales efforts on products of our competitors. Termination of agreements with current distributors or large installers, failure by these distributors or large installers to perform as expected, or failure by us to cultivate new distributor or large installer relationships, could hinder our ability to expand our operations and harm our revenue and results of operations.

Mergers in the solar industry among our current or potential customers may adversely affect our competitive position.

There has been an increase in consolidation activities among distributors, large installers, and other strategic partners in the solar industry. For example, in October 2020, Sunrun, a leading provider of residential solar, battery storage and energy services, acquired Vivint Solar. If this consolidation continues, it will further increase our reliance on a small number of customers for a significant portion of our sales and may negatively impact our competitive position in the solar market.

Our planned expansion into new geographic markets or new product lines or services could subject us to additional business, financial, and competitive risks.

We have in the past, and may in the future, evaluate opportunities to expand into new geographic markets and introduce new product offerings and services. We also may from time to time engage in acquisitions of businesses or product lines with the potential to strengthen and expand our market position, technological capabilities, or provide synergy opportunities. For example, we intend to continue to introduce new products targeted at large commercial and utility-scale installations and to continue to expand into other international markets.

Our successful operation in these new markets, or any acquired business, will depend on a number of factors, including our ability to develop solutions to address the requirements of the large commercial and utility-scale solar PV markets, timely certification of new products for large commercial and utility-scale solar PV installations, acceptance of power optimizers in solar PV markets in which they have not traditionally been used, and our ability to manage increased manufacturing capacity and production and to identify and integrate any acquired businesses.

Further, we expect these new solar PV markets and additional markets we have entered, or may enter, into to have different characteristics from the markets in which we currently sell our products. Our success will depend on our ability to properly adapt to these differences, which include differing regulatory requirements, such as tax laws, trade laws, labor regulations, tariffs, export quotas, customs duties, or other trade restrictions, limited or unfavorable intellectual property protection, international, political or economic conditions, restrictions on the repatriation of earnings, longer sales cycles, warranty expectations, product return policies and cost, and performance and compatibility requirements. In addition, expanding into new geographic markets will increase our exposure to existing risks, such as fluctuations in the value of foreign currencies and increased expenses in complying with U.S. and foreign laws, regulations and trade standards, including the Foreign Corrupt Practices Act of 1977, as amended (the “FCPA”).

Failure to successfully develop and introduce these new products, successfully integrate acquired businesses, or to otherwise manage the risks and challenges associated with our potential expansion into new product and geographic markets, could adversely affect our revenues and our ability to sustain profitability.

If we fail to build our non-solar businesses and future growth effectively, we may be unable to execute our business plan, maintain high levels of customer service, or adequately address competitive challenges.

We have experienced significant growth in recent periods with our annual product sales growing rapidly from approximately 152,500 inverters and approximately 3.6 million power optimizers in the fiscal year ending June 30, 2015, to annual product sales exceeding 1.0 million inverters and 23.6 million power optimizers in the year ended December 31, 2022. We intend to continue to expand our business significantly within existing and new markets. This growth has placed, and any future growth may place, a significant strain on our management, operational, and financial infrastructure. In particular, we will be required to expand, train, and manage our growing employee base and scale and otherwise improve our IT infrastructure in tandem with such headcount growth. Our management will also be required to maintain and expand our relationships with customers, suppliers, and other third parties and attract new customers and suppliers, as well as manage multiple geographic locations.

Our current and planned operations, personnel, customer support, IT, information systems, and other systems and procedures might be inadequate to support our future growth and may require us to make additional unanticipated investment in our infrastructure. Our success and ability to further scale our business will depend, in part, on our ability to manage these changes in an efficient manner. If we cannot manage our growth, we may be unable to take advantage of market opportunities, execute our business plans or strategies, or respond to competitive pressures. This could also result in declines in quality or customer satisfaction, increased costs, difficulties in introducing new offerings, or other operational difficulties. Any failure to effectively manage growth could adversely impact our business and reputation.

Conversely, the global pandemic and resulting economic downturn in many regions require our ability to be flexible and decrease expenses where growth has slowed down. Our ability to timely react to market conditions is not always in our control and any inability to do so could also adversely impact our business.

We may not have the ability to raise the funds necessary to settle conversion of our Convertible Senior Notes or Notes in cash or to repurchase the Notes upon a fundamental change, and our future debt may contain limitations on our ability to pay cash upon conversion of the Notes or to repurchase the Notes.

Holders of the Notes have the right to require us to repurchase all or a portion of their Notes upon the occurrence of a fundamental change (as defined in the Indentures governing their respective Notes) at a repurchase price equal to 100% of the principal amount of the Notes to be repurchased, plus accrued and unpaid special interest, if any. In addition, upon conversion of the Notes, unless we elect to deliver solely shares of our common stock to settle such conversion (other than paying cash in lieu of delivering any fractional share), we will be required to make cash payments in respect of the Notes being converted. We may not have enough available cash or be able to obtain financing at the time we are required to make repurchases of Notes surrendered or Notes being converted. In addition, our ability to repurchase the Notes or to pay cash upon conversions of the Notes may be limited by law, regulatory authority or agreements governing our future indebtedness. Our failure to repurchase Notes at a time when the repurchase is required by the indenture governing such Notes or to pay cash upon conversion of the Notes as required by such indenture would constitute a default under such indenture. A default under the indenture governing the Notes or the fundamental change itself could also lead to a default under agreements governing our future indebtedness. If the payment of the related indebtedness were to be accelerated after any applicable notice or grace periods, we may not have sufficient funds to repay the indebtedness and repurchase the Notes or make cash payments upon conversion of the Notes.

Any unauthorized access to, disclosure, or theft of personal information we gather, store, or use could harm our reputation and subject us to claims or litigation.

Our business and operations may be impacted by data security breaches and cybersecurity attacks, including attempts to gain unauthorized access to confidential data. We receive, store, and use certain personal information of our employees, customers, and the end-users of our customers' solar PV systems. We take steps to protect the security, integrity, and confidentiality of the personal information we process; however, we have been subject to cybersecurity attacks and other information technology system disruptions in the past and there is no guarantee that inadvertent or unauthorized access, use or disclosure will not occur despite our efforts. Because techniques used to obtain unauthorized access or sabotage systems change frequently and generally are not identified until after they are launched against a target, we and our suppliers or vendors may be unable to anticipate these techniques or to implement adequate preventative or mitigatory measures.

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, particularly in light of the European General Data Protection Regulation, the California Consumer Privacy Act, and China Personal Information Protection Law (PIP) which came into effect November 1, 2021. If any such unauthorized use or disclosure of, or access to, such personal information were 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.

Third parties, our employees, or our vendors might gain unauthorized access to our network or seek to compromise our products and services.

Occasionally, we face attempts by others, including our own employees or vendors, to access our networks, to gain unauthorized access through the Internet, introduce malicious software to our information technology (IT) systems, or corrupt the processes of hardware and software products that we manufacture and services we provide. We or our products may be a target of computer hackers, organizations or malicious attackers who attempt to gain access to our network or data centers or those of our customers or end users; steal proprietary information related to our business, products, employees, and customers; or interrupt our systems or those of our customers or others. Occasionally, we encounter intrusions or attempts at gaining unauthorized access to our network. To date, none have resulted in any material adverse impact to our business or operations, although there can be no guarantee that such impacts will not be material in the future. While we seek to detect and investigate all unauthorized attempts and attacks against our network and products, and to prevent their recurrence where practicable, we remain potentially vulnerable to additional known or unknown threats. In addition to intentional third-party cyber-security breaches, the integrity and confidentiality of Company and customer data may be compromised as a result of human error, product defects, or technological failures. Cyber-security breaches, whether successful or unsuccessful, and other IT system interruptions, including those resulting from human error and technological failures, could subject us to significant costs arising from, among others, rebuilding internal systems, reduced inventory value, providing modifications to our products and services, defending against litigation, responding to official inquiries or actions, paying damages, or taking other remedial steps with respect to third parties.

Our entry into business engagements with military bodies as our customers in the lithium-ion battery and energy storage business embodies a risk for potentially large-scale and uncapped liability.

As a result of the acquisition of our Korean subsidiary (formerly Kokam), we sell a small portion of our products to customers who integrate our storage systems or cells and then sell these products to military customers. Our sales to military customers often involve standard form contracts, which may not be subject to negotiation. In particular, certain of these contracts involve unlimited damages provisions that could result in large-scale liabilities.

Our business could be materially adversely affected as a result of the risks associated with acquisitions and investments. In particular, we may not succeed in future acquisitions or be effective in integrating such acquisitions.

As part of our growth strategy, we have made a number of acquisitions, and may continue to make acquisitions and investments in the future. We frequently evaluate the tactical or strategic opportunities available related to complementary businesses, products or technologies. There can be no assurance that we will be successful in making additional acquisitions. Even if we are successful in making additional acquisitions, integrating an acquired company's business into ours or investing in new technologies may result in unforeseen operating difficulties and large expenditures and absorb significant management attention that would otherwise be available for the ongoing development of our business, both of which may result in the loss of key customers or personnel and expose us to unanticipated liabilities. Further, we may not be able to retain the key employees that may be necessary to operate the businesses we acquire and we may not be able to attract, in a timely manner, new skilled employees and management to replace them.

We may not be able to consummate acquisitions or investments that we have identified as crucial to the implementation of our strategy for other commercial or economic reasons. Further, we may not be able to obtain the necessary regulatory approvals, including those of competition authorities and foreign investment authorities, in countries where we seek to consummate acquisitions or make investments. For those and other reasons, we may ultimately fail to consummate an acquisition, even if we announce the intended acquisition.

Lithium-Ion used in our battery cells and packs can potentially catch fire or vent smoke and cause damage or injury.

The battery cells and packs produced by our subsidiary, and the SolarEdge Home Battery, make use of lithium-ion cells. We regularly test our products and take safety measures when manufacturing, selling and installing battery cells and packs. However, due to the high energy density of lithium-ion cells, mishandling, inappropriate storage or delivery, non-compliance with safety instructions or field failures can potentially cause a battery cell to rapidly release its stored energy, which may in turn cause a thermal event that can ignite nearby materials, including other lithium-ion cells. As the use of lithium-ion batteries becomes more widespread, these events may occur more often, causing damage to property, injury, lawsuits and adverse publicity, which may adversely affect our reputation, results of operations or financial condition.

Conditions in Israel affect our operations and may limit our ability to develop, produce and sell our products.

Our headquarters and research and development center are located in Israel. Accordingly, political, economic, and military conditions in Israel directly affect us. Israel has been involved in a number of armed conflicts and is the target of terrorist activity, including threats from Hezbollah militants in Lebanon, Iranian militia in Syria, and others. Ongoing state of hostility, varying in degree such as rocket fire from the Gaza Strip, has occurred on an irregular basis, disrupting day-to-day civilian activity and negatively affecting business conditions. We cannot predict whether or when such armed conflicts or attacks may occur or the extent to which such events may impact us. Any future armed conflict, political instability or violence in the region may impede our ability to manage our business effectively, operate our manufacturing plant in northern Israel, engage in research and development, or otherwise adversely affect our business or operations. In the event of war, we may be forced to cease operations, which may cause delays in the distribution and sale of our products. Some of our directors, executive officers, and employees in Israel are obligated to perform annual reserve duty in the Israeli military and are subject to being called for additional active duty under emergency circumstances. In the event that our principal executive office is damaged as a result of hostile action, or hostilities otherwise disrupting the ongoing operation of our offices, our ability to operate could be materially adversely affected.

Additionally, several countries principally in the Middle East, restrict doing business with Israeli companies, and additional countries and groups may impose similar restrictions if hostilities in Israel or political instability in the region continue or increase. If instability in neighboring states results in the establishment of fundamentalist Islamic regimes or governments more hostile to Israel, or if Egypt, Turkey, or Jordan abrogates its respective peace treaty with Israel, Israel could be subject to additional political, economic, and military confines, and our operations and ability to sell our products to countries in the region could be materially adversely affected.

Any hostilities involving Israel or the interruption or curtailment of trade between Israel and its present trading partners, or significant downturn in the economic or financial condition of Israel, could have a material adverse effect on our business, financial condition, and results of operations.

Additionally, the newly elected Israeli government has announced plans to significantly reduce the Israeli Supreme Court's judicial oversight, including reducing its ability to strike down legislation that it deems unreasonable, and plans to increase political influence over the selection of judges. These plans have prompted protests of Israeli citizens and criticism of leading Israeli business leaders as well as some foreign leaders. If such government plans are eventually enacted, they may cause operational challenges for us since we are headquartered in Israel and approximately half of our employees are located in Israel. In addition, if foreign policy is negatively impacted with regard to Israel, this could impact our business with suppliers and customers which could in turn adversely impact our reputation, results of operations or financial condition.

The tax benefits that are available to us under Israeli law require us to meet various conditions and may be terminated or reduced in the future, which could increase our costs and taxes.

Our Israeli subsidiary was eligible for certain tax benefits provided to "Benefited Enterprises" under the Israeli Law for the Encouragement of Capital Investments, 1959 (the "Investments Law"). Beginning in January 2019, and with respect to its taxable results from 2019 onwards, our Israeli subsidiary further elected to apply the terms of the Investments Law as per "Preferred Enterprise" ("PE") or "Preferred Technological Enterprise" ("PTE"). In order to remain eligible for the tax benefits for "Benefited Enterprises" with respect to our Israeli subsidiary's taxable results until 2018 and with respect to its taxable results from 2019 for PE or PTE, we must continue to meet certain conditions stipulated in the Investments Law and its regulations, as amended. If these tax benefits are reduced, cancelled, or discontinued, or if we are held to have violated the conditions stipulated in the Law, our Israeli taxable income would be subject, in whole or in part, to regular Israeli corporate tax rates and we may be required to refund any tax benefits that we have already received, plus interest and penalties thereon. The statutory corporate tax rate for Israeli companies is 23% as of January 1, 2018 and onward. Additionally, if we increase our activities outside of Israel through acquisitions or otherwise through our Israeli subsidiary, our existing or expanded activities might not be eligible for inclusion in existing or future Israeli tax benefit programs. The Israeli government may furthermore independently determine to reduce, phase out or eliminate entirely the benefit programs under the Investments Law, regardless of whether we then qualify for benefits under those programs at the time, which would also adversely affect our global tax rate and our results of operations.

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

Many of our directors and executive officers, their assets, and most of our assets are located outside of the U.S. Consequently, a judgment obtained against any of these persons, including a judgment based on the civil liability provisions of the U.S. federal securities laws, may not be collectible in the U.S. It also may be difficult to effect service of process on these persons in the U.S. or to assert U.S. securities law claims in original actions instituted in Israel. Israeli courts may refuse to hear a claim based on an alleged violation of U.S. securities laws on the grounds of *forum non conveniens*. In addition, even if an Israeli court hears a claim, it may determine that Israeli law and not U.S. law is applicable to the claim. If U.S. law is found to be applicable, the content of applicable U.S. law must be proven as a fact by expert witnesses, which can be a lengthy and costly process. Further, an Israeli court may not enforce a judgment awarded by a U.S. or other non-Israeli court. Certain matters of procedure will also be governed by Israeli law. There is little binding case law in Israel that addresses these matters. As a result of the difficulty associated with enforcing a judgment against any of these persons in Israel, judgment against many of our directors and executive officers may be unachievable or unenforceable.

The ongoing Covid-19 pandemic, and global measures taken in response thereto have adversely impacted, and may continue to adversely impact, our operations and financial results.

The Covid-19 pandemic has had, and may continue to have, a material adverse impact on our results of operations including its impact on our supply chain and inflationary pressures.

The full extent the effects Covid-19 will have on our business depends on numerous evolving factors that we may not be able to currently accurately predict, including: the duration and scope of the pandemic; governmental, business and individual responses to the pandemic; the effect on our customers and customer demand for our products, disruptions or restrictions on our employees' ability to work and travel and potential disruptions to our manufacturing capacity, similar to the restrictions experienced by our manufacturing facility in Vietnam in the third quarter of 2021, which would limit our ability to meet customer demand and impact our operating results.

More generally, the Covid-19 pandemic raises the possibility of an extended global economic downturn and has caused volatility in financial markets, which may continue to adversely affect demand for our products and could adversely affect our results and financial condition in subsequent quarters. For example, some of our suppliers may experience delivery delays or financial difficulties, resulting in supply constraints and increased costs or delays to our productions. Furthermore, we may experience delays in timely delivery of our products to our customers, exposing us to cancellations of orders and/or potential liquidated damages resulting from our inability to timely delivery our products.

The unprecedented and continuously evolving nature of Covid-19, other pandemics or epidemics, could also have the effect of amplifying many of the other risks described in this Item 1A, *Risk Factors*.

We are dependent on ocean transportation to deliver our products in a timely and cost efficient manner. If we are unable to use ocean transportation to deliver our products, our business and financial condition could be materially and adversely impacted.

We rely on ocean transportation for the delivery of most of our products to our customers, and when unavailable, incompatible with customer delivery time requirements, or when we are unable to accommodate accelerated delivery times due to growing customer volume demands, we rely on alternative, more expensive air transportation. Our ability to deliver our products via ocean transportation could be adversely impacted by shortages in available cargo capacity, changes by carriers and transportation companies in policies and practices, such as scheduling, pricing, payment terms and frequency of service or increases in the cost of fuel, taxes and labor, disruptions to ports and other shipping facilities as a result of the Covid-19 or other epidemics and other factors not within our control. If we are unable to use ocean transportation and are required to substitute more expensive air transportation, our financial condition and results of operations could be materially and adversely impacted.

While we have witnessed a reduction in shipment rates in the fourth quarter of 2022, during the year ended December 31, 2022, we experienced an increase in the cost of goods sold due to an increase in shipping rates that resulted from a reduction in ocean freight capacity and the reduction in the availability of air freight that increased the demand for ocean freight. We also experienced disruptions to our logistics supply chain caused by constraints in the global transportation system including limited availability of local ground transportation coupled with congestion in ports and borders.

Fluctuations in currency exchange rates may negatively impact our financial condition and results of operations.

Although our financial results are reported in U.S. dollars, 60.1% of our revenues in the year ended December 31, 2022 were generated in currencies other than the U.S. Dollar. In addition, a significant portion of our operating expenses are accrued in New Israeli Shekels (primarily related to payroll), the Euro and, to a lesser extent, the South Korean Won ("KRW") and other currencies. As detailed in the Foreign Currency Exchange Risk under Item 7A -Quantitative and Qualitative Disclosures About Market Risk, our profitability is affected by movements of the U.S. dollar against the Euro, and, to a lesser extent, the New Israeli Shekel, KRW and other currencies in which we generate revenues, incur expenses and maintain cash balances. Foreign currency fluctuations may also affect the prices of our products which are denominated primarily in U.S. dollars. If there is a devaluation of a particular currency, the prices of our products will increase relative to the local currency and may be less competitive. Despite our efforts to minimize foreign currency risks, primarily by maintaining cash balances in New Israeli Shekels, significant long-term fluctuations in relative currency values, in particular a significant change in the relative values of the Euro and, New Israeli Shekel, KRW and other currencies, against the U.S. dollar could have an adverse effect on our profitability and financial condition.

Occasionally, we may enter into derivative financial instruments to hedge the exchange rates impacts on our assets and liabilities denominated in Israeli Shekels, Euro, KRW and other currencies.

Our hedging activities may also contribute to increased losses as a result of volatility in foreign currency markets. If foreign exchange currency markets continue to be volatile, such fluctuations in foreign currency exchange rates could materially and adversely affect our profit margins and results of operations in future periods, and may make it difficult to hedge our foreign currency exposures effectively.

We are subject to risks related to corporate social responsibility.

We are facing increasing scrutiny related to our environmental, social and governance (“ESG”) practices and requested disclosures by institutional and individual investors who are increasingly using ESG screening criteria in making investment decisions. Our disclosures on these matters or a failure to satisfy evolving stakeholder expectations for ESG practices and reporting may potentially harm our reputation and impact relationships with investors. Certain market participants including major institutional investors use third-party benchmarks or scores to measure our ESG practices in making investment decisions. Furthermore, some of our customers and suppliers evaluate our ESG practices or request that we adopt certain ESG policies as a condition of awarding contracts. In addition, our failure or perceived failure to pursue or fulfill our goals, targets and objectives or to satisfy various reporting standards within the timelines we announce, or at all, could expose us to government enforced actions and/or private litigation. As ESG best-practices, reporting standards and disclosure requirements continue to develop, we may incur increasing costs related to ESG monitoring and reporting.

Complications with the design or implementation of our new ERP system could adversely impact our business and operations.

We rely extensively on information systems and technology to manage our business and summarize operating results. We are in the process of a multi-year implementation of a new global enterprise resource planning (“ERP”) system. This ERP system will replace our existing operating and financial systems. The ERP system is designed to accurately maintain the Company’s financial records, enhance operational functionality and provide timely information to the Company’s management team related to the operation of the business. The ERP system implementation process has required, and will continue to require, the investment of significant personnel and financial resources. We may not be able to successfully implement the ERP system without experiencing delays, increased costs and other difficulties. If we are unable to successfully design and implement the new ERP system as planned, our financial positions, results of operations and cash flows could be negatively impacted. Additionally, if we do not effectively implement the ERP system as planned or the ERP system does not operate as intended, the effectiveness of our internal control over financial reporting could be adversely affected or our ability to assess those controls adequately could be delayed.

Risks Related to Legal, Compliance and Regulations

The reduction, elimination or expiration of government subsidies and economic incentives for on-grid solar electricity applications could reduce demand for solar PV systems and harm our business.

Federal, state, local and foreign government bodies provide incentives to promote solar electricity in the form of rebates, tax credits or exemptions and other financial incentives. The market for on-grid applications, where solar power is used to supplement a customer’s electricity purchased from the utility network or sold to a utility under tariff, often depends in large part on the availability and size of government and economic incentives. Because our customers’ sales are typically into the on-grid market, the reduction, elimination or expiration of government subsidies and incentives for on-grid solar electricity may negatively affect the desirability of solar electricity and could harm or halt the growth of the solar electricity industry and our business. For example, in 2015 the U.S. congress passed a multi-year extension to the solar Investment Tax Credit (ITC), and such extension helped grow the U.S. solar market. The Inflation Reduction Act of 2022 extended the term of the ITC through 2034. However future reduction in the ITC could reduce the demand for solar energy solutions in the U.S. which would have an adverse effect on our business, financial condition, and results of operations.

In general, subsidies and incentives may expire on a particular date, end when the allocated funding is reduced or terminated due to, *inter alia*, legal challenges, adoption of new statutes or regulations or the passage of time, they often occur without warning.

In addition, several jurisdictions have adopted renewable portfolio standards, mandating that a certain portion of electricity delivered by utilities to customers come from a set of eligible renewable energy resources, such as solar, by a certain compliance date. Under some programs, a utility can receive a “credit” for renewable energy produced by a third party by either purchasing the electricity directly from the producer or paying a fee to obtain the right to renewable energy generated but used or sold by the generator. A renewable energy credit allows the utility to add this electricity to its renewable portfolio requirement without actually expending the capital for generating facilities. However, there can be no assurances that such policies will continue. Reduction or elimination of renewable portfolio standards or successful efforts to meet current standards could harm or halt the growth of the solar PV industry and our business.

Unfavorable regulatory treatment under the Inflation Reduction Act of 2022 may harm our business.

On August 16, 2022, the Inflation Reduction Act of 2022 (the “IRA”) was signed into federal law. The IRA provides for, among other things, certain incentives, including certain tax credits, intended to promote clean energy. Given that the IRA is a complex new piece of legislation, additional guidance on the regulatory treatment of the IRA is expected from the Internal Revenue Service and U.S. Treasury Department. It is currently uncertain the extent to which all of our products will qualify for such incentives. Any unfavorable regulatory treatment, or guidance, including any tax benefits being made available to competing technology and not to our technology, could adversely impact our business and financial condition.

Changes to net metering policies may reduce demand for electricity from solar PV systems and harm our business.

Our business benefits from favorable net metering policies in most U.S. states and some European countries, that allow a solar PV system owner to pay his or her electric utility only for power usage net of production from the solar PV system. System owners receive credit for the energy that the solar installation generates to offset energy usage at times when the solar installation is not generating energy. Under a net metering program, the customer typically pays for the net energy used or receives a credit against future bills if more energy is produced than consumed.

Most U.S. states have adopted some form of net metering. Yet, net metering programs have recently come under regulatory scrutiny in some U.S. states due to allegations that net metering policies inequitably shift costs onto non-solar ratepayers, by allowing solar ratepayers to sell electricity at rates that are too high for utilities to recoup their fixed costs. For example, in 2019, Louisiana Public Service Commissions adopted net metering policies aiming at lowering the solar customers’ savings. In December 2022, the California Public Utilities Commission voted to approve lowering current net energy metering tariffs in addition to imposing a new grid-connection fee on new rooftop solar users the tariff cuts are intended to become effective in April of 2023. We cannot assure you that these programs will not be significantly modified going forward.

If the value of the credit that customers receive for net metering is reduced, end-users may be unable to recognize the current level of cost savings associated with net metering. The absence of favorable net metering policies or of net metering entirely, or the imposition of new charges that only or disproportionately affect end-users that use net metering would significantly limit demand for our products and could have a material adverse effect on our business, financial condition, results of operations and future growth.

Existing electric utility industry regulations and changes to regulations, may present technical, regulatory, and economic barriers to the purchase and use of solar PV systems, that may significantly reduce demand for our products or harm our ability to compete. In addition, determinations of various regulatory bodies regarding lack of compliance with certifications or other regulatory requirements, could harm our ability to sell our products in certain countries.

Federal, state, local and foreign government regulations and policies concerning the electric utility industry, and internal policies and regulations promulgated by electric utilities, heavily influence the market for electricity generation products and services, and could deter purchases of solar PV systems sold by our customers, significantly reducing the potential demand for our products. For example, utilities commonly charge fees to larger, industrial customers for disconnecting from the electric grid or for having the capacity to use power from the electric grid for back-up purposes. These fees could increase the cost to use solar PV systems sold by our customers and make them less desirable, thereby harming our business, prospects, financial condition and results of operations. In addition, depending on the region, electricity generated by solar PV systems competes most effectively with expensive peak-hour electricity from the electric grid, rather than the less expensive average price of electricity. Modifications to the utilities’ peak hour pricing policies or rate design, such as to a flat rate, could require the price of solar PV systems and their component parts to be lower in order to compete with the price of electricity from the electric grid.

Changes in current laws or regulations applicable to us or the imposition of new laws and regulations in the U.S., Europe, or other jurisdictions in which we do business could have a material adverse effect on our business, financial condition and results of operations. Any changes to government or internal utility regulations and policies that favor electric utilities could reduce the competitiveness of solar PV systems sold by our customers, and causing a significant reduction in demand for our products and services. In addition, changes in our products or changes in export and import laws and implementing regulations may delay the introduction of new products in international markets, prevent our customers from deploying our products internationally or, in some cases, prevent the export or import of our products to certain countries altogether, resulting in a material adverse effect on our business, financial condition, and results of operations.

Compliance with various regulatory requirements and standards is a prerequisite for placing our products on the market in most countries in which we do business. We have all such certifications but there are at times, challenges by local administrative telecommunications, consumer board or other authorities that can place sales bans on products. For example, in December 2021, the Swedish Electrical Safety Board announced that certain models of our power optimizers are subject to a sales ban alleging that they do not meet the EMC Directive. While we disagree with this finding and maintain our position that all current SolarEdge products are tested, approved and compliant with the EMC Directive and other EU regulations, any such rulings can have a negative impact on our business and reputation. In this specific incident, we have already begun transitioning into our next generation optimizers and do not expect any impact on our business in Sweden or elsewhere.

Risks Related To Intellectual Property

If we fail to protect, or incur significant costs in defending our intellectual property and other proprietary rights, our business and results of operations could be materially harmed.

Our success depends to a significant degree on our ability to protect our intellectual property and other proprietary rights. We rely on a combination of patents, trademarks, copyrights, trade secrets, and unfair competition laws, as well as confidentiality and license agreements and other contractual provisions with our customers, suppliers, employees, and others, to establish and protect our intellectual property (IP) and other proprietary rights. Our ability to enforce these rights is subject to litigation risks, as well as uncertainty as to the enforceability of our IP rights in various countries, specifically claims that our IP rights are invalid or unenforceable. Our assertion of IP rights may result in another party seeking to assert claims against us, which could harm our business. Our inability to enforce our IP rights under any of these circumstances can harm our competitive position and business.

We have applied for patents in the U.S., Europe China, some of which have been issued. We cannot guarantee that any of our pending applications will be approved or that our existing and future intellectual property rights will be sufficiently broad to protect our proprietary technology. Any failure to obtain such approvals or finding that our intellectual property rights are invalid or unenforceable could force us to, among other things, rebrand or re-design our affected products. In countries where we have not applied for patent protection or where effective intellectual property protection is not available to the same extent as in the U.S., we may be at greater risk that our proprietary rights will be misappropriated, infringed, or otherwise violated.

Our intellectual property may be stolen or infringed upon. In fact, as further detailed in Item 3 – “Legal Proceedings” we are engaged in several legal proceedings related to intellectual property. Litigation proceedings are inherently uncertain, and adverse rulings may occur, including monetary damages, injunction stopping us from manufacturing or selling certain products, or requiring other remedies. These lawsuits are intended to protect our significant investment in our intellectual property but they also may consume management and financial resources for long periods of time and may not result in favorable outcome for us, which may adversely affect our business, results of operations or financial condition.

Third parties may assert that we are infringing upon their intellectual property rights, which could divert management’s attention, cause us to incur significant costs, and prevent us from selling or using the technology to which such rights relate.

Our competitors and other third parties hold numerous patents related to technology used in our industry. Occasionally, we may also be subject to claims of intellectual property right infringement and related litigation, and, as we gain greater recognition in the market, we face a higher risk of being the subject to claims of violation of others’ intellectual property rights. For example, in July, 2022, we were served with a complaint by Ampt LLC filed with the International Trade Commission pursuant to Section 337 of the Tariff Act of 1930, as amended and the District Court for the District of Delaware alleging patent infringement against the Company and its subsidiary SolarEdge Technologies Ltd. Please see Item 3 - Legal Proceedings for additional information.

Responding to such claims can be time consuming, divert management’s attention and resources and may cause us to incur significant expenses in litigation or settlement. While we believe that our products and technology do not infringe in any material respect upon any valid third-party IP rights, we cannot be certain of successfully defending against any such claims. If we do not successfully defend or settle an IP claim, we could be liable for significant monetary damages and could be prohibited from continuing to use certain technology, business methods, content, or brands. To avoid a prohibition, we could seek a license from the applicable third party, which could require us to pay significant royalties, increasing our operating expenses. If a license is unavailable at all or unavailable on reasonable terms, we may be required to develop or license a non-violating alternative, either of which could require significant effort and expense. If we cannot license or develop a non-violating alternative, we could be forced to modify, limit or, in extreme cases, stop manufacturing and sales of our affected products in the relevant country and may be unable to effectively compete. Any of these results could adversely affect our business, financial condition, and results of operations.

We may become subject to claims for remuneration or royalties for assigned service invention rights by our employees, which could result in litigation and adversely affect our business.

We enter into agreements with our employees pursuant to which they agree that any inventions created in the scope of their employment or engagement are assigned to us or owned exclusively by us, depending on the jurisdiction, without the employee retaining any rights. A significant portion of our intellectual property has been developed by our employees in the course of their employment for us. Under the Israeli Patent Law, 5727-1967 (the “Patent Law”), inventions conceived by an employee during the scope of his or her employment with a company are regarded as “service inventions,” which belong to the employer, absent a specific agreement between the employee and employer giving the employee service invention rights. The Patent Law also provides that if there is no such agreement between an employer and an employee, the Israeli Compensation and Royalties Committee (the “Committee”), a body constituted under the Patent Law, shall determine whether the employee is entitled to remuneration for his or her inventions. Case law clarifies that the right to receive consideration for “service inventions” can be waived by the employee and that in certain circumstances, such waiver does not necessarily have to be explicit. The Committee will examine, on a case-by-case basis, the general contractual framework between the parties, using interpretation rules of the general Israeli contract laws. Further, the Committee has not yet determined the method for calculating this Committee-enforced remuneration, but rather uses the criteria specified in the Patent Law. Although our employees have agreed that any rights related to their inventions are owned exclusively by us, we may face claims demanding remuneration in consideration for such acknowledgement. As a consequence of such claims, we could be required to pay additional remuneration or royalties to our current and/or former employees, or be forced to litigate such claims, which could negatively affect our business.

If our goodwill or other intangible assets become impaired, our financial condition and results of operations could be negatively affected.

Due to our latest acquisitions and following the impairment recorded during 2022, goodwill and other intangible assets totaled approximately \$51.1 million, or approximately 1.2% of our total assets, as of December 31, 2022. We test our goodwill for impairment at least annually, or more frequently if an event occurs indicating the potential for impairment, and we assess on an as-needed basis whether there have been impairments in our other intangible assets, which include complex, and often subjective, assumptions and estimates. These assumptions and estimates can be affected by a variety of external factors such as industry and economic trends, and internal factors such as changes in our business strategy or our internal forecasts. To the extent that the factors described above change, we could be required to record additional non-cash impairment charges in the future, which could negatively affect our financial condition and results of operations (see Notes 8 and 9 of the financial statements for additional information).

Risks Related to the Ownership of Our Common Stock

We cannot assure you that our stock price will not decline or not be subject to significant volatility.

Our common stock price during the year ended December 31, 2022, ranged from \$190.15 to \$375.90 per share. As further detailed in the Performance Graph in Item 5 below, the price of our Common Stock in 2022 was highly volatile and may fluctuate in response to our results of operations in future periods or due to other factors, including factors specific to companies in our industry, many of which are beyond our control. As a result, our share price may experience significant volatility and may not necessarily reflect the value of our expected performance. Among other factors that could affect our stock price are:

- the addition or loss of significant customers;
- changes in laws or regulations applicable to our industry, products or services;
- speculation about our business in the press or the investment community;
- price and volume fluctuations including due to general macro-economic and geopolitical changes and developments in the overall stock market;
- volatility in the market price and trading volume of companies in our industry or companies that investors consider comparable;
- share price and volume fluctuations attributable to inconsistent trading levels of our shares;
- our ability to protect our intellectual property and other proprietary rights;
- sales of our common stock by us or our significant stockholders, officers and directors;
- the expiration of contractual lock-up agreements;
- success of competitive products or services;
- the public's response to press releases or other public announcements by us or others, including our filings with the Securities and Exchange Commission (the "SEC"), announcements relating to litigation or significant changes to our key personnel;
- the effectiveness of our internal controls over financial reporting;
- changes in our capital structure, such as future issuances of debt or equity securities;
- our entry into new markets;
- tax developments in the U.S., Europe, or other markets;
- conversion of all or portion of the Notes;
- strategic actions by us or our competitors, such as acquisitions or restructurings; and
- changes in accounting principles.

Further, the stock markets have experienced extreme price and volume fluctuations unrelated or disproportionate to the operating performance of affected companies. In addition, the stock prices of many renewable energy companies have experienced wide fluctuations that have often been unrelated 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, changes in U.S. regulations and policies with respect to renewable energy, interest rate changes, or international currency fluctuations, may cause the market price of our common stock to decline. In the past, many companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation, of which we may be the target in the future. Securities litigation against us could result in substantial cost and divert our management's attention from other business concerns, which could seriously harm our business.

Provisions in our certificate of incorporation and by-laws may have the effect of delaying or preventing a change of control or changes in our management.

Our certificate of incorporation and by-laws contain provisions that could depress the trading price of our common stock by discouraging, delaying, or preventing a change of control of our Company or changes in our management that the stockholders of our Company may believe advantageous. These provisions include:

- authorizing “blank check” preferred stock that our board of directors could issue to increase the number of outstanding shares to discourage a takeover attempt;
- providing for a classified board of directors with staggered, three-year terms, which could delay the ability of stockholders to change the membership of a majority of our board of directors;
- not providing for cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- limiting the ability of stockholders to call a special stockholder meeting;
- prohibiting stockholders from acting by written consent;
- establishing advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted upon by stockholders at stockholder meetings;
- the removal of directors only for cause and only upon the affirmative vote of the holders of at least 662/3% in voting power of all the then-outstanding shares of common stock of the Company entitled to vote thereon, voting together as a single class;
- providing that our board of directors is expressly authorized to amend, alter, rescind or repeal our by-laws; and
- requiring the affirmative vote of holders of at least 662/3% of the voting power of all of the then outstanding shares of common stock, voting as a single class, to amend provisions of our certificate of incorporation relating to the management of our business, our board of directors, stockholder action by written consent, advance notification of stockholder nominations and proposals, calling special meetings of stockholders, forum selection and the liability of our directors, or to amend, alter, rescind, or repeal our by-laws.

In addition, we are governed by the provisions of Section 203 of the Delaware General Corporation Law (“DGCL”), which generally prohibits a Delaware corporation from engaging in a broad range of business combinations with any “interested” stockholder for a period of three years following the date on which the stockholder becomes an “interested” stockholder.

Our certificate of incorporation includes a forum selection clause, which could limit our stockholders’ ability to obtain a favorable judicial forum for disputes with us.

Our certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the sole and exclusive forum for any stockholder (including any beneficial owner) to bring (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 employees to us or to our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the DGCL or our certificate of incorporation or by-laws, or (iv) any action asserting a claim governed by the internal affairs doctrine, will be a state court located within the State of Delaware (or, if no state court located within the State of Delaware has jurisdiction, the federal district court for the District of Delaware); in all cases subject to the court’s having personal jurisdiction over the indispensable parties named as defendants. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock is deemed to have notice of and consented to the foregoing provisions. This forum selection provision may limit our stockholders’ ability to obtain a favorable judicial forum for disputes with us. It is also possible that, notwithstanding the forum selection clause that is included in our certificate of incorporation, a court outside of Delaware could rule that such a provision is inapplicable or unenforceable.

We do not intend to pay any cash dividends on our common stock in the foreseeable future.

We have never declared or paid any dividends on our common stock and currently intend to retain any future earnings and do not expect to pay any dividends in the foreseeable future. Any future determination to declare cash dividends will be made at the discretion of our board of directors, subject to applicable laws and organizational documents. As a result, capital appreciation in the price of our common stock, if any, may be your only source of gain on an investment in our common stock.

ITEM 1B. Unresolved Staff Comments.

Not applicable.

ITEM 2. Properties

Our corporate headquarters are located in Herziliya Pituach, Israel.

Leased Offices and R&D Laboratories

As of December 31, 2022, we lease office, testing, and product design facilities in Israel. In May, 2021, we signed a long-term lease agreement for the development of a 38,000 square meter campus, to be built on 16.5 acres of land, in the central area of Israel. The campus, which is scheduled to be completed in the first half of 2025, will replace our current headquarters in Herziliya, Israel.

In addition to our leased properties in Israel, we lease offices and lab facilities in California, Nevada, Germany, Netherlands, Italy, France, Australia, UK, Japan, Turkey, India, Bulgaria, Belgium, Taiwan, Korea, Brazil, Mexico and China as well as an R&D and call center in Bulgaria.

Manufacturing

We outsource most of our manufacturing to our manufacturing partners. We have our own manufacturing facility, Sella 1, in the North of Israel. We also have a factory in which we manufacture lithium-ion batteries for our storage business operations, through our Korean subsidiary (formerly Kokam), and have completed the construction of Sella 2, our second lithium-ion cell and battery factory in Korea. For our e-Mobility and Automation Machines divisions, we have manufacturing facilities in Umbria, Italy for the assembly of batteries and other components for light commercial vehicles.

Owned Properties

In addition to our leased properties, we also own manufacturing facilities in Italy, manufacturing facilities in South Korea and an office space in the U.K.

We believe that our existing properties are in good condition and are sufficient and suitable for the conduct of our business for the foreseeable future. To the extent our needs change as our business grows, we expect that additional space and facilities will be available on commercially reasonable terms.

ITEM 3. Legal Proceedings

In September, 2018, our German subsidiary, SolarEdge Technologies GmbH, received a complaint filed by a competitor, SMA Solar Technology AG (“SMA”). The complaint, filed in the District Court Düsseldorf, Germany, alleges that SolarEdge's 12.5kW - 27.6kW inverters infringed on two of the plaintiff's patents. In its complaints, *inter alia*, an injunction, rendering account about past sales, a recall of products and a determination for a claim for damages for sales in Germany. SMA asserted a value in dispute of 5.5 million Euros (approximately \$5.9 million) for both patents. We challenged the validity of both patents. In December 2019 the District Court of Düsseldorf found one of the two patents to be infringed upon and we appealed this decision to the Appeals Court Düsseldorf. In the parallel nullity proceedings regarding this patent, in October 2020, the German Patent Court rendered the SMA patent invalid; this invalidity was appealed by SMA and in January 2023, the German Supreme Court upheld the finding of invalidity. With respect to the second patent, in November 2019 the first instance court stayed the infringement proceedings since it considered it to be highly likely that the patent would also be invalid. In August 2021, the German Patent Court rendered this patent invalid as well, and this invalidity has been appealed by SMA. We believe that we have meritorious defenses to these claims and intend to vigorously defend against this lawsuit.

On July 28, 2022, we were served with a complaint by Ampt LLC filed with the International Trade Commission (the “Commission”) pursuant to Section 337 of the Tariff Act of 1930, as amended in the District Court for the District of Delaware alleging patent infringement against the Company and its subsidiary SolarEdge Technologies Ltd. On October 24, 2022, the complaint filed in the District Court of Delaware was administratively stayed until the Commission's action is resolved. We believe that we have meritorious defenses to the complaints and intend to vigorously defend against them.

On November 3, 2022, we received notice that a class action lawsuit was filed in the U.S District Court of the Southern District of New York against us, our subsidiary SolarEdge Technologies Ltd., our CEO and our CFO, by a purported stockholder of the Company, alleging violations of the Federal Securities Act in connection with complaints filed against us by Ampt LLC, as described in the preceding paragraph. On February 14, 2023, the lawsuit was voluntarily withdrawn by the plaintiffs and subsequently dismissed by the court.

In addition, in the normal course of business, we may from time to time be named as a party to various legal claims, actions and complaints (including as a result of initiating such legal claims, actions or complaints on behalf of the Company). It is impossible to predict with certainty whether any resulting liability would have a material adverse effect on our financial position, results of operations or cash flows.

ITEM 4. Mine Safety Disclosures.

Not applicable.